The CPB World Trade Monitor: Technical description (update)

The CPB World Trade Monitor (WTM) brings together, aggregates, and summarizes worldwide monthly data on international trade and industrial production. Its purpose is to report monthly developments in trade and production at the earliest possible date, covering a sample of countries as large as possible.

The CPB Netherlands Bureau for Economic Policy Analysis publishes the outcomes on its website every month. The text at hand provides a technical description of the WTM.

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1.1   Introduction

The CPB World Trade Monitor (WTM) is an instrument for bringing together, aggregating, and summarizing worldwide monthly data on international trade and industrial production. Its purpose is to report monthly developments in trade and production at the earliest possible date, covering a sample of countries as large as possible. Country coverage is sufficient to identify monthly movements at the global level as well as at that of major economic regions. The CPB Netherlands Bureau for Economic Policy Analysis publishes the outcomes on its website every month. The text at hand provides a technical description of the system that has been developed at the CPB to compile the WTM.

1.2   System design

The CPB World Trade Monitor (WTM) is two monitors in one: a monitor for developments in global international trade and another for developments in global industrial production. The lag between real events and the publication of preliminary estimates of trade growth and production growth is usually two months.

The system channels the two flows of data (on trade and on production) from the collection of data from a variety of sources to the compilation of monthly time series at the country level and the presentation of regionally aggregated results. Time series start in January 2000. In the WTM, 'trade' is trade in goods (also referred to as 'merchandise trade'). 'Production' is industrial production, that is: value added in mining, manufacturing, and utilities (also referred to as 'industry excluding construction').

The two-part nature of the WTM is reflected in the formal setup of the system, which consists of two sets of programs that are contained in their own directory and that are run separately. Shared procedures that are used in both branches of the WTM for carrying out specific computational tasks are stored in a common library. Both processes of compiling trade time series and compiling production time series consist of the same four steps:

1. Standardization of data collected from internet sources.
2. Selection of source time series at the country level and compilation of country-level time series.
3. Regional aggregation.
4. Summarization of the results in the form of tables and charts for the purpose of publication.

These steps are called, rather predictably, WTM 1, WTM 2, WTM 3, and WTM 4. Each step is described in some detail here.

WTM 1- standardization
Time series downloaded from internet sources and stored in Excel format are read into the system. The system assigns standardized variable names that identify, among other things, economic category (import, export, production, etc.), geographic entity (country or region), dimension (unit of measurement, denomination, level versus change et cetera), as well as the data source. The data includes monthly, quarterly, and yearly time series. (Yearly time series are collected only as background information.)

WTM 2 – country-level computations
So-called 'generic' monthly series are compiled from selected source series for each country. Among other things, this entails the standardization of frequency (monthly), denomination (US dollar), indexation, and seasonal adjustment. For trade, this step includes the compilation of consistent country-level time series of values, prices, and volumes. In addition, various techniques are used at the country level to fill in missing observations for the most recent month or months. For many countries, secondary source series are used to supplement the primary source series with the most recent observations.

WTM 3 – regional aggregation
Country data are aggregated regionally. This includes filling in country level observations that are still missing at this stage by computing them from the pertinent regional growth rate.

WTM 4 - presentation
Time series undergo final processing for the purpose of publication. This includes, among other things, putting out the data file containing regional outcomes (level time series) that is published monthly at the CPB's website and the charts and tables that are shown in the CPB's monthly brief on developments in world trade and production.

1.3   Methodological issues

Country coverage
The production monitor covers 85 countries worldwide. These countries account for about 97% of global industrial production.[1] The trade monitor covers 81 countries. Coverage of world trade is almost 99%.[2] For details on the country classification applied in the WTM, see chapter 2.

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[1] This number is for 2005. Sources: United Nations Statistics Division, National Accounts Estimates of Main Aggregates, supplemented with value added figures for Taiwan from National Statistics Republic of China (Taiwan).
[2] This number is for 2005. Sources: International Trade and Commodity Statistics (ITCS), Organisation of Economic Cooperation and Development / United Nations.

Consistency: industrial production

In the production data, one consistency issue concerns industrial classification. The source series used for most countries relate to industrial production, which is value added in mining, manufacturing, and utilities. For 14 oil producing countries, oil production is used as a proxy for industrial production, as industrial production data is not available for all of these countries and where it is, it is considered less reliable than the oil production data. In another 3 cases, series for manufacturing production are used as a proxy for lack of a better alternative.

Another consistency issue is seasonal adjustment. Most country source series that are input into WTM 1 have been adjusted for seasonal fluctuation. Where this is not the case, the WTM system adjusts for seasonal fluctuation by applying the so-called X12 procedure. From processing stage WTM 2 onward, all production series are seasonally adjusted. They also have the same base year.

Consistency: international trade

The remarks above also apply to the trade data: where necessary the WTM system adjusts source series for seasonal fluctuation. An additional adjustment is made to January and February trade data pertaining to countries where the celebration of the Chinese New Year significantly affects economic activity.[3] From processing stage WTM 2 onward, all trade series put out are seasonally adjusted.

In the context of trade data, consistency concerns also the arithmetic relationship between values, volumes, and prices. This arithmetic consistency is ensured at both the country level and the regional level by either computing volume from value and price or by computing price from value and volume.

From processing stage WTM 2 onward, trade series have the same base year. This applies to value series in base year prices (the actual measure of volume) and price indices, both at the country level and at the regional level.[4] Also from WTM 2 onward, all series are in dollars (value series, both those in current and those in base year prices, and prices series).[5]

Finally, consistency requires the equality of world imports and world exports (value, volume, and price). In fact, this equality does not hold in the WTM. There are several explanations for this. First, not all of the world's imports and world exports are covered. But considering the high level of country coverage, this is only a minor source of distortion. The major source is measurement errors and incompleteness of the data, particularly in the most recent months of the monitoring period. It is not unusual to find diverging movements in the preliminary estimates of the world totals for the most recent one or two months. Looking further back in time, consistency generally improves in the sense that monthly imports and export tend to

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[3] The system adjusts the series for China, Hong Kong, Korea, Singapore, and Taiwan.

[4] Value series in current prices obviously do not have a base year.

[5] The WTM system separately compiles a data set for delivery to the Directorate General of Economic and Monetary Affairs of the Economic Commission in Brussels. This data is in Euros.

move more closely together. Figure 1.1 shows that in terms of global value and price levels a discrepancy builds up from 2010 which has persisted since. As import values are above export values and import prices are above export prices, import volume and export volume coincide relatively well.

Figure 1.1   World import and export value, volume, and price
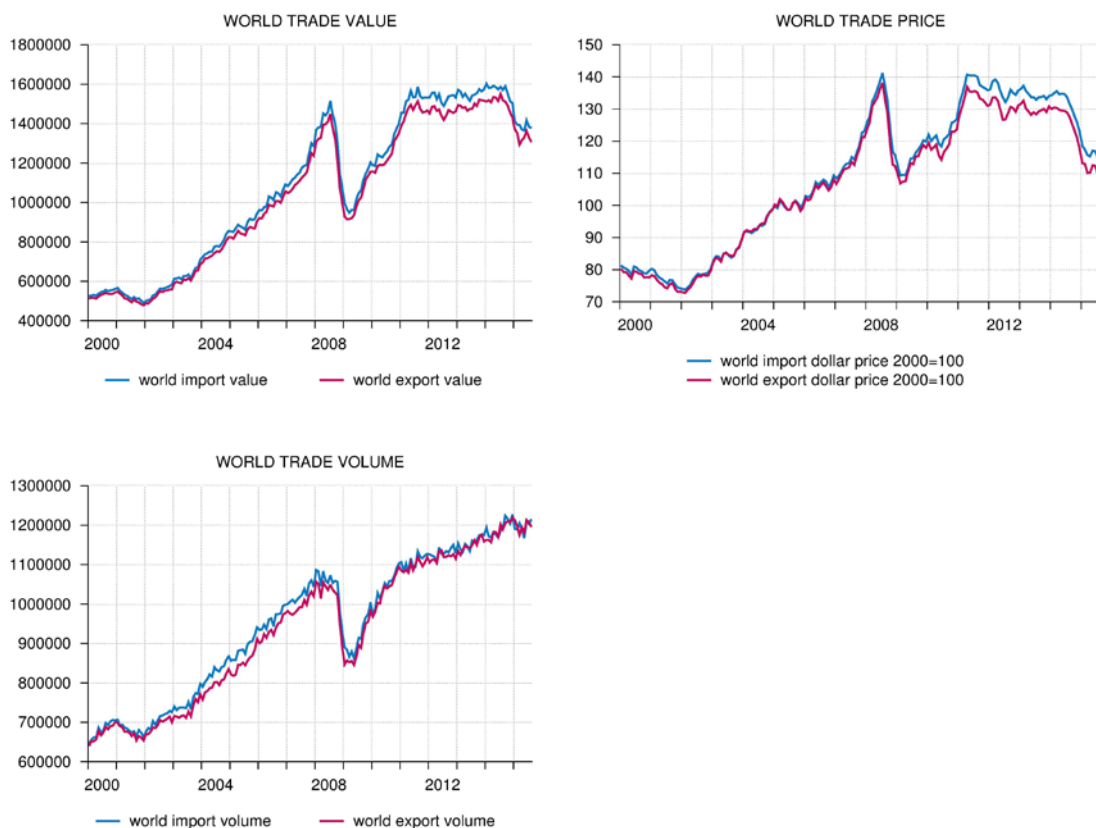
Choice of data sources

Not all data collected in WTM 1 is used. WTM 2 makes a selection from the data available for each country. There are several reasons for this approach. First, it enables the system to supplement missing values in preferred source time series in the last month or months of the monitoring period with recent observations from alternative series. Second, having a relatively broad collection of source data limits the dependency on specific sources in the longer term. Experience teaches that data that is available on the internet today may not be available tomorrow, so having alternative data sources at hand is a safety measure. Third, it enables comparing figures from different sources, which is part of ongoing system maintenance.

Data sources do not always agree. A time series published on one website may look rather different than what is reported to be the same series on another site. This pertains particularly to international trade statistics. Generally, confusion arises from measurement issues and methodological revisions, but the source of disparities is often unclear. Where alternative data sources are available, care is taken to use sources that are relatively well documented and that yield plausible and relatively stable outcomes. Developments over a

longer time period can also be instructive in assessing data quality. The production part of the WTM is relatively straightforward, as for each country just one index series is compiled. In the trade branch however, sources must be found for trade value and either trade volume or trade price, both at the export and import side.

Table 1.1 lists all data sources used in the WTM. A detailed, by-country overview of sources and methods is given in chapter 3.

Table 1.1   Data sources

Industrial production		International trade
Eikon Datastream		Eikon Datastream
Eurostat		Eurostat
International Energy Agency		Hamburg Institute of International Economics
Organisation for Economic Cooperation and Development		Haver Analytics
United Nations Economic Commission for Europe Statistical Database		International Monetary Fund International Financial Statistics
World Bank Global Economic Monitor		Organisation for Economic Cooperation and Development
		United Nations Economic Commission for Europe Statistical Database
		World Bank Global Economic Monitor
National statistical offices of:	Belarus	Bank of Japan
	Israel	South African Reserve Bank
	Japan	Statistics Norway
	Kazakhstan	
	Mexico	

Regional aggregation: industrial production

Aggregating country production series requires the availability of appropriate country weights, as country level production series are index series. Regional production indices are computed using fixed base year weights. The weights are country shares in global nominal, dollar denominated value added in industry.[6]

In the light of the widespread use of chain-linked, rolling weights-based indices, the application of fixed base year weights deserves comment. Apart from the practical consideration that the use of rolling weights requires the availability of nominal production data all through the monitoring period rather than for one year only, the case for preferring chain-linked indices over fixed base indices in the WTM is not too compelling. In the production data, fixed weights are applied to indices, that is: level variables. As a result, the growing relative importance of countries where production growth is relatively high over an extended period of time – as it is in several large emerging economies for instance – is reflected in the increasing value of such countries' indices themselves. Applying rolling weights will give similar aggregate outcomes, as long as real exchange rates in terms of value

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[6] The numbers are shown in Table 2.5.

added prices of industrial production do not change too much. Put the other way round, differences do arise if both volume growth and price rises in one region exceed those in another, with prices being measured in one currency. In the mid-term such swings in real exchange rates tend to be temporary.

Regional aggregation: international trade

In the trade part of the WTM, aggregation is hardly an issue. Country value series may simply be added in order to compile regional aggregates. This applies both to value series in current dollar prices and value series in base year dollar prices. The dollar price series for regional aggregates are computed by dividing value series in current prices by value series in base year prices.

2　Country classification

Countries and regions

Countries covered in the production branch and the trade branch of the WTM are listed respectively in table 2.1 and table 2.2. Within the system, countries are identified using the two-character codes from the international standard 'ISO 3166-1 alpha-2' which is part of *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes and which is maintained by the International Organization for Standardization*.

For country aggregates another set of codes is used, each of which consists of one character and one digit. Country aggregates distinguished in the WTM are listed in table 2.3 and table 2.4. The first list consists of aggregates that appear in CPB publications and aggregates that are used internally (within the WTM system). The second includes all country aggregates that the WTM system compiles, including aggregates that are compiled for compatibility with the nomenclature used at the Directorate General for Economic and Financial Affairs (DG ECFIN) of the European Commission.

In the WTM, country aggregates are static. That is: the composition of country groups does not change over time. The Euro Area for instance comprises the 20 countries that are currently part of the EMU and this applies over the entire monitoring period starting in January 2000.

Country weights

The weights used for aggregating industrial production are listed in table 2.5. They are for 2010, currently the base year in the WTM.

Table 2.1   Countries covered – industrial production

ADVANCED ECONOMIES		EMERGING ECONOMIES							
		Asia excluding Japan		Eastern Europe/CIS		Latin America		Africa and Middle East	
au	Australia	cn	China	am	Armenia	ar	Argentina	dz	Algeria
at	Austria	hk	Hong Kong	by	Belarus	br	Brazil	ao	Angola
be	Belgium	in	India	kz	Kazakhstan	cl	Chile	eg	Egypt
bg	Bulgaria	id	Indonesia	ru	Russian Federation	co	Colombia	ga	Gabon
ca	Canada	kr	Korea (c)	ua	Ukraine	ec	Ecuador	ir	Iran (d)
hr	Croatia	my	Malaysia			mx	Mexico	iq	Iraq
cy	Cyprus	pk	Pakistan			pe	Peru	il	Israel
cz	Czech Republic	ph	Philippines			tt	Trinidad & Tobago	jo	Jordan
dk	Denmark	sg	Singapore			uy	Uruguay	kw	Kuwait
ee	Estonia	tw	Taiwan			ve	Venezuela	ly	Libya (e)
fi	Finland	th	Thailand					ma	Morocco
fr	France							ng	Nigeria
de	Germany							om	Oman
gr	Greece							qa	Qatar
hu	Hungary							sa	Saudi Arabia
is	Iceland							za	South Africa
ie	Ireland							sy	Syria (f)
it	Italy							tn	Tunisia
jp	Japan							ae	UAE (g)
lv	Latvia								
lt	Lithuania								
lu	Luxembourg								
mk	Macedonia (a)								
mt	Malta								
me	Montenegro								
nl	Netherlands								
nz	New Zealand								
no	Norway								
pl	Poland								
pt	Portugal								
ro	Romania								
rs	Serbia (b)								
sk	Slovakia								
si	Slovenia								
es	Spain								
se	Sweden								
ch	Switzerland								
tr	Turkey								
gb	United Kingdom								
us	United States								

(a)	Macedonia, the Former Yugoslav Republic of		(e)	Libyan Arab Jamahiriya
(b)	Serbia, Republic of		(f)	Syrian Arab Republic
(c)	Korea, Republic of		(g)	United Arab Emirates
(d)	Iran, Islamic Republic of			

Table 2.2   Countries covered – international trade

ADVANCED ECONOMIES		EMERGING ECONOMIES							
		Asia excluding Japan		Eastern Europe/CIS		Latin America		Africa and Middle East	
au	Australia	cn	China	by	Belarus	ar	Argentina	dz	Algeria
at	Austria	hk	Hong Kong	kz	Kazakhstan	bo	Bolivia	ir	Iran (c)
be	Belgium	in	India	ru	Russian Federation	br	Brazil	iq	Iraq
bg	Bulgaria	id	Indonesia	ua	Ukraine	cl	Chile	il	Israel
ca	Canada	kr	Korea (b)			co	Colombia	ke	Kenya
hr	Croatia	my	Malaysia			cr	Costa Rica	kw	Kuwait
cy	Cyprus	pk	Pakistan			do	Dominican Republic	ma	Morocco
cz	Czech Republic	ph	Philippines			ec	Ecuador	om	Oman
dk	Denmark	sg	Singapore			gt	Guatemala	qa	Qatar
ee	Estonia	tw	Taiwan			mx	Mexico	sa	Saudi Arabia
fi	Finland	th	Thailand			py	Paraguay	za	South Africa
fr	France	vn	Viet Nam			pe	Peru	tz	Tanzania (d)
de	Germany					uy	Uruguay	ae	UAE (e)
gr	Greece							zm	Zambia
hu	Hungary								
is	Iceland								
ie	Ireland								
it	Italy								
jp	Japan								
lv	Latvia								
lt	Lithuania								
lu	Luxembourg								
mk	Macedonia (a)								
mt	Malta								
nl	Netherlands								
nz	New Zealand								
no	Norway								
pl	Poland								
pt	Portugal								
ro	Romania								
sk	Slovakia								
si	Slovenia								
es	Spain								
se	Sweden								
ch	Switzerland								
tr	Turkey								
gb	United Kingdom								
us	United States								
(a)	Macedonia, the former Yugoslav Republic of								
(b)	Korea, Republic of								
(c)	Iran, Islamic Republic of								
(d)	Tanzania, United Republic Of								
(e)	United Arab Emirates								

Table 2.3   Main country aggregates

Classification used in publications		
Code	**Name**	
i1	Advanced economies	
d1	Emerging economies	
w1	World	w1 = i1 + d1
e6	Euro Area	
r2	Other advanced economies excl. Japan and United States	
a1	Asia excluding Japan ("Emerging Asia")	
t1	Eastern Europe/CIS	
l1	Latin America	
f3	Africa and Middle East	
w1	World	w1 = e6 + r2 + us + jp + a1 + t1 + l1 + f3

Additional classification used within the WTM system		
Code	**Name**	
r1	Other advanced economies incl. Japan and United States	
f1	Sub-Saharan Africa	
f4	Middle East and North-Africa: oil producing economies	
f5	Middle East and North-Africa: other economies	
f2	Middle East and North-Africa	f2 = f4 + f5
f3	Africa and Middle East	f3 = f1 + f2
f6	Middle East	

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Table 2.4   All country aggregates, sorted alphabetically on code

Code	Name	Use
a1	Asia excluding Japan ("Emerging Asia")	CPB public
a4	Other Asia: Asia excl. China, India, Indonesia, Japan, Hong Kong, Korea, Singapore, Taiwan	ECFIN
d1	Emerging economies	CPB public
e2	European Union 27	ECFIN
e6	Euro Area 20	CPB public
e7	European Union candidate countries	ECFIN
f1	Sub-Saharan Africa	CPB internal / ECFIN
f2	Middle-East and North-Africa	CPB internal / ECFIN
f3	Africa and Middle East	CPB public
f4	Middle-East and North-Africa: oil producing economies	CPB internal
f5	Middle-East and North-Africa: other economies	CPB internal
i1	Advanced economies	CPB public
l1	Latin America	CPB public
l2	Other Latin America: Latin America excluding Brazil and Mexico	ECFIN
r1	Other advanced countries incl. Japan and United States	CPB internal
r2	Other advanced countries excl. Japan and United States	CPB public
t1	Eastern Europe/CIS	CPB public
t2	Commonwealth of Independent States	ECFIN
t3	Commonwealth of Independent States excl. Russian Federation	ECFIN
w1	World	CPB public
w2	World excluding European Union	ECFIN
w3	World excluding Euro Area	ECFIN

Table 2.5   Weights used for aggregating industrial production

			Production 2010 (a)	Imports 2010 (b)
			%	%
Advanced	au	Australia	1,72	1,37
economies	at	Austria	0,54	1,01
	be	Belgium	0,53	2,64
	bg	Bulgaria	0,06	0,17
	ca	Canada	2,16	2,67
	hr	Croatia	0,07	0,14
	cy	Cyprus	0,01	0,06
	cz	Czech Republic	0,39	0,85
	dk	Denmark	0,35	0,56
	ee	Estonia	0,03	0,09
	fi	Finland	0,35	0,46
	fr	France	2,24	4,09
	de	Germany	5,53	7,19
	gr	Greece	0,21	0,45
	hu	Hungary	0,20	0,59
	is	Iceland	0,02	0,03
	ie	Ireland	0,35	0,41
	it	Italy	2,49	3,28
	jp	Japan	8,36	4,68
	lv	Latvia	0,03	0,08
	lt	Lithuania	0,05	0,16
	lu	Luxembourg	0,02	0,14
	mk	Macedonia	0,01	0,04
	mt	Malta	0,01	0,04
	me	Montenegro	0,00	0,01
	nl	Netherlands	0,88	2,97
	nz	New Zealand	0,16	0,20
	no	Norway	0,89	0,52
	pl	Poland	0,73	1,17
	pt	Portugal	0,24	0,52
	ro	Romania	0,33	0,42
	rs	Serbia	0,05	0,11
	sk	Slovakia	0,15	0,44
	si	Slovenia	0,07	0,18
	es	Spain	1,56	2,13
	se	Sweden	0,69	1,00
	ch	Switzerland	0,83	1,19
	tr	Turkey	0,99	1,25
	gb	United Kingdom	2,22	4,25
	us	United States	17,20	13,27

Weights used for aggregating industrial production, continued

				Production 2010 (a) %	Imports 2010 (b) %
	sub-total Advanced economies			52,73	60,80
Emerging economies	Asia excluding Japan	cn	China	16,67	10,13
		hk	Hong Kong	0,06	2,97
		in	India	2,58	2,36
		id	Indonesia	1,77	0,92
		kr	Korea, Republic of	2,28	2,87
		my	Malaysia	0,65	1,11
		pk	Pakistan	0,21	0,25
		ph	Philippines	0,37	0,39
		sg	Singapore	0,36	2,09
		tw	Taiwan	0,90	1,72
		th	Thailand	0,88	1,24
	sub-total Asia excluding Japan			26,72	26,06
	Eastern Europe/CIS	am	Armenia	0,01	0,03
		by	Belarus	0,10	0,24
		kz	Kazakhstan	0,34	0,16
		ru	Russian Federation	2,59	1,54
		ua	Ukraine	0,22	0,41
	sub-total Eastern Europe/CIS			3,26	2,37
	Latin America	ar	Argentina	0,71	0,38
		br	Brazil	2,75	1,22
		cl	Chile	0,45	0,40
		co	Colombia	0,49	0,28
		ec	Ecuador	0,12	0,14
		mx	Mexico	2,11	2,03
		pe	Peru	0,30	0,20
		tt	Trinidad And Tobago	0,08	0,04
		uy	Uruguay	0,05	0,06
		ve	Venezuela	1,10	0,22
	sub-total Latin America			8,17	4,97

Weights used for aggregating industrial production, continued

			Production 2010 (a)	Imports 2010 (b)
			%	%
Africa and Middle East	dz	Algeria	0,45	0,28
	ao	Angola	0,28	0,10
	eg	Egypt	0,47	0,36
	ga	Gabon	0,04	0,02
	ir	Iran	1,09	0,37
	iq	Iraq	0,48	0,20
	il	Israel	0,26	0,40
	jo	Jordan	0,04	0,10
	kw	Kuwait	0,51	0,15
	ly	Libya	0,37	0,15
	ma	Morocco	0,13	0,24
	ng	Nigeria	0,57	0,36
	om	Oman	0,24	0,13
	qa	Qatar	0,54	0,16
	sa	Saudi Arabia	1,98	0,72
	za	South Africa	0,62	0,56
	sy	Syrian Arab Republic	0,11	0,12
	tn	Tunisia	0,08	0,15
	ae	United Arab Emirates	0,86	1,22
sub-total Africa and Middle East			9,12	5,79
Advanced economies			52,73	60,80
Emerging economies			47,27	39,20
World			100,00	100,00

(a)   Share in global value added in mining, manufacturing, and utilities. Source: National Accounts Estimates of Main Aggregates, United Nations Statistics Division, supplemented with value added figure for Taiwan from National Statistics Republic of China (Taiwan).

(b)   Share in global merchandise imports. Source: Commodity Trade Statistics Database, United Nations Statistics Division, supplemented with import value figures from Global Economic Monitor, World Bank and World Development Indicators, World Bank.

3 Country-level data sources and methods

3.1 Industrial production

The country-level source time series used in the production part of the WTM are listed in table 3.1. In the production data only one time series is compiled for each country: that of industrial production. Source series are collected in WTM 1. Country-level computations take place in WTM 2. This includes the completion of primary series on the basis of the most recent observations of secondary series. In most cases the source series relate to industrial production. For three countries, manufacturing production is used as a proxy and for 14 oil-producing countries, oil production is used.

3.2 International trade

The country-level source time series used in the production part of the WTM are listed in table 3.2. At the country level, data comprises six time series: value, price, and volume measures at the export and the import side. Either volume series are derived as the quotient of value and price series; or price series are derived as the quotient of value and volume series. These computations take place in WTM 2.

The primary source for exchange rates (not mentioned in table 3.2) is the IMF. For countries for which the IMF does not publish exchange rates, data from the World Bank is used.

Table 3.1   Country-level data sources – industrial production

Country			Primary series: production volume in	Source (a)	Frequency (b)	Secondary series: production volume in	Source (a)	Frequency (b)
1	dz	Algeria	oil	ns	monthly	oil	ie	monthly
2	ao	Angola	oil	ns	monthly	oil	ie	monthly
3	ar	Argentina	industry	ns	monthly			
4	am	Armenia	industry	wb	monthly			
5	au	Australia	industry	oe	quarterly			
6	at	Austria	industry	eu	monthly			
7	by	Belarus	industry	un	monthly	manufacturing	ns	monthly
8	be	Belgium	industry	eu	monthly			
9	br	Brazil	industry	ns	monthly			
10	bg	Bulgaria	industry	eu	monthly			
11	ca	Canada	industry	oe	monthly			
12	cl	Chile	industry	wb	monthly			
13	cn	China	industry	wb	monthly			
14	co	Colombia	industry	wb	monthly			
15	hr	Croatia	industry	eu	monthly			
16	cy	Cyprus	industry	eu	monthly			
17	cz	Czech Republic	industry	eu	monthly			
18	dk	Denmark	industry	eu	monthly			
19	ec	Ecuador	industry	ns	monthly			
20	eg	Egypt	industry	fx	monthly	industry	wb	monthly
21	ee	Estonia	industry	eu	monthly			
22	fi	Finland	industry	eu	monthly			
23	fr	France	industry	eu	monthly			
24	ga	Gabon	oil	ns	monthly	oil	ie	monthly
25	de	Germany	industry	eu	monthly			
26	gr	Greece	industry	eu	monthly			
27	hk	Hong Kong	manufacturing	ns	quarterly			
28	hu	Hungary	industry	eu	monthly			
29	is	Iceland	industry	oe	monthly			
30	in	India	industry	wb	monthly			
31	id	Indonesia	industry	wb	monthly			
32	ir	Iran	oil	ns	monthly	oil	ie	monthly
33	iq	Iraq	oil	ns	monthly	oil	ie	monthly
34	ie	Ireland	industry	eu	monthly			
35	il	Israel	industry	ns	monthly	industry	ns	monthly
36	it	Italy	industry	eu	monthly			
37	jp	Japan	industry	oe	monthly	industry	ns	monthly
38	jo	Jordan	industry	wb	monthly			
39	kz	Kazakhstan	industry	un	monthly	industry	ns	monthly
40	kr	Korea, Republic of	industry	ns	monthly			
41	kw	Kuwait	oil	ns	monthly	oil	ie	monthly
42	lv	Latvia	industry	eu	monthly			
43	ly	Libya	oil	ns	monthly	oil	ie	monthly

Country-level data sources – industrial production, continued

	Country		Primary series: production volume in	Source (a)	Frequency (b)	Secondary series: production volume in	Source (a)	Frequency (b)
44	lt	Lithuania	industry	eu	monthly			
45	lu	Luxembourg	industry	eu	monthly			
46	mk	Macedonia	industry	eu	monthly			
47	my	Malaysia	industry	wb	monthly			
48	mt	Malta	industry	eu	monthly			
49	mx	Mexico	industry	oe	monthly	industry	ns	monthly
50	me	Montenegro	industry	eu	monthly			
51	ma	Morocco	industry	fx	monthly	manufacturing	ns	quarterly
52	nl	Netherlands	industry	eu	monthly			
53	nz	New Zealand	industry	oe	quarterly			
54	ng	Nigeria	oil	ns	monthly	oil	ie	monthly
55	no	Norway	industry	eu	monthly			
56	om	Oman	oil	ns	monthly	oil	ie	monthly
57	pk	Pakistan	industry	wb	monthly			
58	pe	Peru	industry	wb	monthly			
59	ph	Philippines	industry	wb	monthly			
60	pl	Poland	industry	eu	monthly			
61	pt	Portugal	industry	eu	monthly			
62	qa	Qatar	oil	ns	monthly	oil	ie	monthly
63	ro	Romania	industry	eu	monthly			
64	ru	Russian Federation	industry	oe	monthly			
65	sa	Saudi Arabia	oil	ns	monthly	oil	ie	monthly
66	rs	Serbia	industry	eu	monthly			
67	sg	Singapore	industry	wb	monthly			
68	sk	Slovakia	industry	eu	monthly			
69	si	Slovenia	industry	eu	monthly			
70	za	South Africa	manufacturing	ns	monthly			
71	es	Spain	industry	eu	monthly			
72	se	Sweden	industry	eu	monthly			
73	ch	Switzerland	industry	oe	quarterly			
74	sy	Syria	oil	ns	monthly	oil	ie	monthly
75	tw	Taiwan	industry	wb	monthly			
76	th	Thailand	manufacturing	ns	monthly			
77	tt	Trinidad & Tobago	industry	wb	monthly			
78	tn	Tunisia	industry	wb	monthly			
79	tr	Turkey	industry	fx	monthly	industry	eu	monthly
80	ua	Ukraine	industry	un	monthly	industry	ns	monthly
81	ae	UAE (c)	oil	ns	monthly	oil	ie	monthly
82	gb	United Kingdom	industry	eu	monthly			
83	us	United States	industry	ns	monthly			
84	uy	Uruguay	industry	fx	monthly	industry	wb	monthly
85	ve	Venezuela	oil	ns	monthly	oil	ie	monthly

Country-level data sources – industrial production, continued

Notes	
(a)	Codes for identifying sources are listed in table 4.4. Where source is `fx`, historical series that are no longer updated are used. National sources are mostly accessed through Eikon Datastream, otherwise directly.
(b)	Quarterly series are splined mechanically in order to obtain monthly series.
(c)	United Arab Emirates.

Table 3.2   Country-level data sources – international trade

Country			Primary series		Secondary series	
			Source (a)	Frequency (b)	Source (a)	Frequency (b)
1	dz	Algeria				
		value import	FX	monthly	FS	monthly
		price import	NS	quarterly	_	_
		volume import	[computed]			
		value export	[computed]			
		price export	FS: export price for region F6	monthly	_	_
		volume export	oil production	monthly	_	_
2	ar	Argentina				
		value	NS	monthly	_	_
		price	NS	quarterly	if missing in last months: 50% of value change	monthly
		volume	[computed]			
3	au	Australia				
		value	OE	monthly	NS	monthly
		price	NS	quarterly	price for region A1	monthly
		volume	[computed]			
4	at	Austria				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
5	by	Belarus				
		value	NS	monthly	_	_
		price	estimated fit on prices in region T1	monthly	_	_
		volume	[computed]			
6	be	Belgium				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			

Country-level data sources – international trade, continued

Country			Primary series		Secondary series	
			Source (a)	Frequency (b)	Source (a)	Frequency (b)
7	bo	Bolivia				
		value	FS	monthly	_	_
		price import	import price Chile	monthly	_	_
		price export	FS	monthly	_	_
		volume	[computed]			
8	br	Brazil				
		value	OE	monthly	NS	monthly
		price	[computed]			
		volume	FS	monthly	_	_
9	bg	Bulgaria				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
10	ca	Canada				
		value	OE	monthly	NS	monthly
		price	NS	monthly	_	_
		volume	[computed]			
11	cl	Chile				
		value	FS	monthly	NS	monthly
		price	FX	monthly	NS	quarterly
		volume	[computed]			
12	cn	China				
		value	OE	monthly	NS	monthly
		price	FX	monthly	HA	monthly
		volume	[computed]			
13	co	Colombia				
		value	NS	monthly	_	_
		price	NS	monthly	_	_
		volume	[computed]			

Country			Primary series		Secondary series	
			Source (a)	Frequency (b)	Source (a)	Frequency (b)
14	cr	Costa Rica				
		value	FS	monthly	_	_
		price	FX	monthly	price for region L1	monthly
		volume	[computed]			
15	hr	Croatia				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
16	cy	Cyprus				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
17	cz	Czech Republic				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
18	dk	Denmark				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
19	do	Dominican Republic				
		value import	FS	monthly	_	_
		value export	NS	monthly	_	_
		price	FX	monthly	price for region L1	monthly
		volume	[computed]			
20	ec	Ecuador				
		value	NS	monthly	_	_
		price	[computed]			
		volume	FS	monthly	_	_

Country-level data sources – international trade, continued

Country			Primary series Source (a)	Frequency (b)	Secondary series Source (a)	Frequency (b)
21	ee	Estonia				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
22	fi	Finland				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
23	fr	France				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
24	de	Germany				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
25	gr	Greece				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
26	gt	Guatemala				
		value	FS	monthly		
		price	FX	monthly	price for region L1	monthly
		volume	[computed]			
27	hk	Hong Kong				
		value	FS	monthly	NS	monthly
		price	[computed]			
		volume	FS	monthly	NS	monthly

Country			Primary series		Secondary series	
			Source (a)	Frequency (b)	Source (a)	Frequency (b)
28	hu	Hungary				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
29	is	Iceland				
		value	OE	monthly	NS	monthly
		price	price for region E6	monthly	_	_
		volume	[computed]			
30	in	India				
		value	OE	monthly	NS	monthly
		price	FX	monthly	FS / if missing in last months: 50% of value change	monthly
		volume	[computed]			
31	id	Indonesia				
		value	NS	monthly	_	_
		price	NS	monthly	_	_
		volume	[computed]			
32	ir	Iran				
		value import	FS	monthly	_	_
		price import	FX	monthly	FS	monthly
		volume import	[computed]			
		value export	[computed]			
		price export	FS: price for region F6	monthly	_	_
		volume export	oil production	monthly	_	_
33	iq	Iraq				
		value import	FS	monthly	WB	monthly
		price import	FS: price for region F6	monthly	_	_
		volume import	[computed]			
		value export	[computed]			
		price export	FS: price for region F6	monthly	_	_
		volume export	oil production	monthly	_	_

Country-level data sources – international trade, continued

Country			Primary series		Secondary series	
			Source (a)	Frequency (b)	Source (a)	Frequency (b)
34	ie	Ireland				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
35	il	Israel				
		value	FS	monthly	_	_
		price	FS	quarterly	_	_
		volume	[computed]			
36	it	Italy				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
37	jp	Japan				
		value	NS	monthly	_	_
		price	[computed]			
		volume	NS	monthly	_	_
38	kz	Kazakhstan				
		value	NS	monthly	_	_
		price import	UN	yearly	_	_
		price export	export price for Russia	monthly	_	_
		volume	[computed]			
39	ke	Kenya				
		value	FS	monthly	_	_
		price	[computed]			
		volume	smoothed series for South Africa	monthly	_	_
40	kr	Korea, Republic of				
		value	OE	monthly	NS	monthly
		price	NS	monthly	_	_
		volume	[computed]			

Country-level data sources – international trade, continued

Country			Primary series		Secondary series	
			Source (a)	Frequency (b)	Source (a)	Frequency (b)
41	kw	Kuwait				
		value import	FS	monthly	_	_
		price import	FX	monthly	NS	monthly
		volume import	[computed]			
		value export	[computed]			
		price export	FS: export price for region F6	monthly	_	_
		volume export	oil production	monthly	_	_
42	lv	Latvia				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
43	lt	Lithuania				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
44	lu	Luxembourg				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
45	mk	Macedonia				
		value import	WB	monthly	_	_
		value export	FX	monthly	WB	monthly
		price	price for region E6	monthly	_	_
		volume	[computed]			
46	my	Malaysia				
		value	FS	monthly	WB	monthly
		price	FX	monthly	NS	monthly
		volume	[computed]			

Country-level data sources – international trade, continued

Country			Primary series Source (a)	Frequency (b)	Secondary series Source (a)	Frequency (b)
47	mt	Malta				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
48	mx	Mexico				
		value	OE	monthly	NS	monthly
		price	NS	monthly	_	_
		volume	[computed]			
49	ma	Morocco				
		value	FS	monthly	WB	monthly
		price	[computed]			
		volume	NS	monthly	_	_
50	nl	Netherlands				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
51	nz	New Zealand				
		value	OE	monthly	NS	monthly
		price	NS	quarterly	price for region A1	monthly
		volume	[computed]			
52	no	Norway				
		value	OE	monthly	NS	monthly
		price import	NS	quarterly	import price for region E6	monthly
		price export	NS	quarterly	HWWI oil price	monthly
		volume	[computed]			

Country-level data sources – international trade, continued

Country			Primary series		Secondary series	
			Source (a)	Frequency (b)	Source (a)	Frequency (b)
53	om	Oman				
		value import	FS	monthly	_	_
		price import	FS: import price for region F6	monthly	_	_
		volume import	[computed]			
		value export	[computed]			
		price export	FS: export price for region F6	monthly	_	_
		volume export	oil production	monthly	_	_
54	pk	Pakistan				
		value	NS	monthly	_	_
		price	FX	monthly	FS	quarterly
		volume	[computed]			
55	py	Paraguay				
		value import	FS	monthly	_	_
		value export	NS	monthly	_	_
		price	FX	monthly	_	_
		volume	[computed]			
56	pe	Peru				
		value import	NS	monthly	_	_
		value export	FS	monthly	_	_
		price	NS	monthly	_	_
		volume	[computed]			
57	ph	Philippines				
		value	NS	monthly	_	_
		price	NS	monthly	_	_
		volume	[computed]			
58	pl	Poland				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			

Country-level data sources – international trade, continued

Country			Primary series Source (a)	Frequency (b)	Secondary series Source (a)	Frequency (b)
59	pt	Portugal				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
60	qa	Qatar				
		value import	FX	monthly	FS	monthly
		price import	FS: import price for region F6	monthly	_	_
		volume import	[computed]			
		value export	[computed]			
		price export	FS: export price for region F6	monthly	_	_
		volume export	oil production	monthly	_	_
61	ro	Romania				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
62	ru	Russian Federation				
		value	OE	monthly	NS	monthly
		price	[computed]		if missing in last months: 70% of value change	monthly
		volume	OE	quarterly	_	_
63	sa	Saudi Arabia				
		value import	FS	monthly	_	_
		price import	FS: import price for region F6	monthly	_	_
		volume import	[computed]			
		value export	[computed]			
		price export	FS	monthly	_	_
		volume export	oil production	monthly	_	_
64	sg	Singapore				
		value	NS	monthly	_	_
		price	NS	monthly	_	_
		volume	[computed]			

Country-level data sources – international trade, continued

Country			Primary series		Secondary series	
			Source (a)	Frequency (b)	Source (a)	Frequency (b)
65	sk	Slovakia				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
66	si	Slovenia				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
67	za	South Africa				
		value	OE	monthly	NS	monthly
		price	NS	quarterly	if missing in last months: 0% change	monthly
		volume	[computed]			
68	es	Spain				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
69	se	Sweden				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			
70	ch	Switzerland				
		value	OE	monthly	NS	monthly
		price	NS	monthly	if missing in last months: 0% change	monthly
		volume	[computed]			
71	tw	Taiwan				
		value import	NS	monthly	_	_
		price import	[computed]			
		volume import	NS	monthly	_	_
		value export	NS	monthly	_	_
		price export	NS	monthly	_	_
		volume export	[computed]			

Country-level data sources – international trade, continued

Country			Primary series		Secondary series	
			Source (a)	Frequency (b)	Source (a)	Frequency (b)
72	tz	Tanzania				
		value	NS	monthly	_	_
		price	[computed]			
		volume	smoothed series for South Africa	monthly	_	_
73	th	Thailand				
		value	NS	monthly	_	_
		price	NS	monthly	_	_
		volume	[computed]			
74	tr	Turkey				
		value	OE	monthly	_	_
		price	[computed]			
		volume	NS	monthly	_	_
75	ua	Ukraine				
		value	FS	monthly	_	_
		price	[computed]			
		volume	FX	monthly	NS	monthly
76	ae	United Arab Emirates				
		value import	FS	monthly	_	_
		price import	FS: import price for region F6	monthly	_	_
		volume import	[computed]			
		value export	[computed]			
		price export	FS: export price for region F6	monthly	_	_
		volume export	oil production	monthly	_	_
77	gb	United Kingdom				
		value	EU	monthly	_	_
		price	EU	monthly	_	_
		volume	[computed]			

Country-level data sources – international trade, continued

Country			Primary series Source (a)	Frequency (b)	Secondary series Source (a)	Frequency (b)
78	us	United States				
		value	NS	monthly	_	_
		price	NS	monthly	_	_
		volume	[computed]			
79	uy	Uruguay				
		value	NS	monthly	_	_
		price	FX	monthly	NS	_
		volume	[computed]			
80	vn	Viet Nam				
		value	FS	monthly	_	_
		price	FX	monthly	_	_
		volume	[computed]			
81	zm	Zambia				
		value	FS	quarterly	_	_
		price	[computed]			
		volume	smoothed series for South Africa	monthly	_	_

Notes.

(a)   Codes for identifying sources are listed in table 4.4; codes identifying country aggregates (such as A1, L1, and so on) are listed in table 2.4. Where source is FX, historical series that are no longer updated are used up to certain point in time. National sources (NS) are mostly accessed through Eikon Datastream, otherwise directly.

(b)   Quarterly series are splined mechanically in order to obtain monthly series.

4 Nomenclatura

This chapter is principally for internal use at the CPB. It explains the naming conventions applied to time series and other types of variables in the WTM system.

Table 4.1   Variable names: control variables

Code (a)	Meaning
b_	Boolean
n_	number
s_	text
t_	time
v_	name (such as variable name)
(a) First two characters of variable name.	

Table 4.2   Variable names: time series, all positions (1-19)

Position	Symbol	Meaning
1-3	aaa	stem: economic category; see table 4.3
4	_	Separator
5-6	aa	country or country aggregate; see chapter 2
7	_	separator
8	v	value in current prices
	q	value in constant prices or quantity
	p	price
	u	unit value
	r	real price
9	n	denomination: not applicable
	d	denomination: dollars (currency units per dollar in case of exchange rate)
	e	denomination: euros (currency units per euro in case of exchange rate)
	l	denomination: national currency (dollars per unit of currency in case of exchange rate)
10	m	frequency: monthly data
	q	frequency: quarterly data
	y	frequency: yearly data
	r	three months moving average
	w	twelve months moving average
11	u	level: unitary
	t	level: thousands
	m	level: millions
	b	level: billions
	i	index
	p	percentage change on preceding period
	y	percentage change on twelve months ago
12	_	separator
13	n	not working day, not seasonally adjusted
	w	working day, not seasonally adjusted
	t	seasonally, not working day adjusted
	s	seasonally and working day adjusted
14	n	un-weighted / national datum
	p	production weighted regional average
	m	import weighted regional average
15	_	separator
16-17	aa	data source; see table 4.4
18-19	aa	original data source if 16-17 is DS (Eikon Datastream); see table 4.4

Table 4.3   Variable names: time series, stem (positions 1-3)

Symbol	Meaning	
tgz	goods trade (average of world imports of goods and world exports of goods)	
mgz	import of goods, customs or balance of payments basis	
mge	import of goods, customs basis: extra-trade Euro Area countries	
mgi	import of goods, customs basis: intra-trade Euro Area countries	
mgs	import of goods and services, national accounts basis	
xgz	export of goods, customs or balance of payments basis	
xge	export of goods, customs basis: extra-trade Euro Area countries	
xgi	export of goods, customs basis: intra-trade Euro Area countries	
xgs	export of goods and services, national accounts basis	
ipz	industrial production: mining, manufacturing and utilities (a)	
ipu	industrial production: mining and manufacturing	
ipm	industrial production: manufacturing	
ipo	industrial production: crude oil	
hpc	HWWI spot price index: primary commodities (b)	= hfl + hpr
hfl	HWWI spot price index: fuels	
hpr	HWWI spot price index: primary commodities excluding fuels (c)	= hfd + hir
hfd	HWWI spot price index: food	
hir	HWWI spot price index: industrial raw materials	= har + hnf + hos
har	HWWI spot price index: agricultural raw materials	
hnf	HWWI spot price index: non-ferro metals	
hos	HWWI spot price index: iron ore and steel scrap	
erb	nominal bilateral exchange rate	
(a)	Also referred to as 'industry' or 'industry excluding construction'.	
(b)	HWWI: Hamburg Institute of International Economics.	
(c)	Also referred to as 'other raw materials' or 'non-oil commodities'.	

Table 4.4   Variable names: time series, data source (positions 16-19)

Code	Meaning
ds	Eikon Datastream (formerly Thomson Reuter Datastream)
eu	Eurostat
fs	International Monetary Fund International Financial Statistics
ha	Haver Analytics
hw	Hamburg Institute of International Economics
ie	International Energy Agency
ns	National source
oe	Organisation for Economic Cooperation and Development
un	United Nations Economic Commission for Europe
wb	World Bank Global Economic Monitoring System
dsei	Economist Intelligence Unit as published by Eikon Datastream
dseu	Eurostat as published by Eikon Datastream
dsfs	International Monetary Fund International Financial Statistics as published by Eikon Datastream
dsie	International Energy Agency as published by Eikon Datastream
dsns	National source as published by Eikon Datastream
dsoe	Organisation for Economic Cooperation and Development as published by Eikon Datastream
dswb	World Bank as published by Eikon Datastream