

Notes on UNIDO's activities on SDG indicators

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1. Background

From the very onset of the process to develop a set of sustainable development goals (SDGs) at the UN Conference on Sustainable Development in Rio de Janeiro, UNIDO has strongly advocated the importance of industrial development as one of the objectives of the post-2015 development agenda. Industry encompasses the economic, social and environmental dimensions of sustainable development. It is a universal goal of economic growth that is applicable to both developing as well as industrialized countries. For developing economies, industrial growth implies structural transformation of the economy from a traditional agrarian to a modern industry-based economy. The expansion of manufacturing creates jobs, develops and introduces new technologies and produces essential goods and services for the market. For industrialized countries, the return to manufacturing reduces the imbalance between the production sector and financial intermediation, and restores economic instability. Industrialization offers extensive opportunities for women's employment, creating further demand for skilled workers. It contributes to the development of education and training facilities. Industry plays an indispensable role in environmental protection. On the one hand, industrialization absorbs the increasing labour force from traditional sectors such as agriculture, forestry and mining, thereby reducing the burden on nature; on the other hand, it produces new technologies to increase resource and energy efficiency in the production process.

UNIDO has carried out statistical analyses that provide sound evidence of the relationship between industrialization and the well-being of society. Human development is found to be strongly correlated with the level of a country's industrialization. Human development indicators such as average life expectancy and the enrolment rate are highly dependent on the country's manufacturing value added (MVA) per capita. As the country industrializes, it acquires resources necessary to improve people's living conditions. With an increase of MVA per capita by 1 percent annually, the poverty head count decreases by nearly 2 percent. Similarly, with the growth of MVA per capita by 1 percent, the number of deaths related to armed conflicts falls by 4.5 percent.¹

Recognizing the special role industry plays in the post-2015 development agenda, the UNIDO General Conference held in December 2013 adopted the *Lima Declaration – Towards Inclusive*

¹ UNIDO: How industrial development matters to the well-being of the population – Some statistical evidence http://www.unido.org/fileadmin/user_media/Services/PSD/WP4_2014_Industrialization_and_social_well-being.pdf

and Sustainable Industrial Development, which provided a strong mandate from member states to align the Organization's activities with the path of sustainable industrialization. UNIDO actively participated in the activities of the Open Working Group (OWG) and contributed to the preparation of statistical notes for the issue brief on Sustained and Inclusive Economic Growth and Infrastructure Development and Industrialization². After concluding several sessions, OWG submitted its report to the 68th session of the General Assembly. The report adequately reflects inclusive and sustainable industrial development under Goal 9:

“Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.”

The OWG's proposed goals provide the conceptual foundation for the development of statistical indicators related to industrialization. As the process of the formulation of SDGs gradually shifted from political negotiations to the development of a monitoring framework, UNIDO Statistics became actively involved in defining the indicators. This process involved wide consultation across the Organization, focusing not only on Goal 9 for which UNIDO was assigned as a leading agency, but also on other goals to which UNIDO can contribute. These include Goal 5: Gender equality, especially the gender gap in employment and wages; Goal 8: Economic growth and productive employment; Goal 12: Sustainable consumption and production. All proposed indicators were transmitted to the Technical Support Team (TST).

2. Development of indicators for Goal 9

More recently, TST requested the co-leaders of clusters formed around each goal (UNIDO under Goal 9) to submit a proposal for indicators. At present, the indicators are limited to Goal 9. While industrialization is UNIDO's core mandate, proposals were also brought forth for infrastructure and innovation, and the respective agencies were determined as major data sources.

UNIDO proposes indicators that to a large extent meet the SMART³ criteria. The indicators are specific, measurable and relevant to the development goal. The achievable targets under each goal and the timeframe are mostly pre-defined in the OWG report. While selecting the indicators, preference was given to indicators that are well-established in international statistical practice. Most of these indicators are widely used in national and international official statistics.

² UNSD: Compendium of statistical notes for OWG on Sustainable Development Goals
<https://sustainabledevelopment.un.org/content/documents/3647Compendium%20of%20statistical%20notes.pdf>

³ SMART stands for specific, measurable, achievable, relevant and time-bound.

The indicators were developed in stages based on deductive reasoning. The goal is broken down into different items to arrive at suitable indicators. The single statement of Goal 9 essentially combines three development areas represented by one or more targets. For the purpose of deriving relevant indicators, these targets are summarized as follows based on key words:

Development area	Target
Infrastructure	9.1 Develop quality, reliable, sustainable and resilient infrastructure
Industry	9.2 Promote inclusive and sustainable industrialization; significantly raise industry's share in employment and GDP
	9.3 Increase access of small-scale industrial enterprises to financial services
	9.4 Retrofit industries with increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes
Innovation	9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors; increase the number of research and development workers by 1 million

At the final stage, indicators are derived from key items. Below is an example of selecting indicators for each target. Indicators given in the example below can be compiled from the data available in the UNIDO database.

Target	Indicator
9.2 Significantly raise industry's share in employment and GDP	Manufacturing value added (MVA): 9.2.1. MVA share in GDP, MVA per capita
	Manufacturing employment: 9.2.2. Share of manufacturing in total employment
... ..	
9.4 Increase resource use efficiency, adopt environmentally sound technology	9.4.1 Intensity of material use per unit of value added
	9.4.2 CO ₂ emission per unit of value added
9.5 Upgrade the technological capabilities of industrial sectors	9.5.2 Share of medium and high-tech industry value added in total

The indicators derived from the above-described process are well-balanced between the economic benefits industrial production offers and its impact on the environment. A complete list of targets and indicators for Goal 9 is available in Annex 1.

3. Data source

One of the primary advantages of this process is that UNIDO maintains an international industrial statistical database in accordance with its mandate from the UN Statistics Commission. UNIDO Statistics compiles and disseminates a wide range of industrial data globally. Data related directly to industrial output, employment, resource efficiency and carbon emission per unit of output are either already available in the UNIDO database or can be obtained from national industrial survey results. With regard to innovation, the questionnaire currently being used in national industrial surveys may require moderate adjustment. Data may also be available from separately designed innovation surveys.

There is a lack of a harmonized definition of scales across the countries to group enterprises into small, medium and large. International recommendations for industrial statistics apply the size-class group without taxonomy based on the number of persons engaged. However, in many countries, small-scale or small and medium (SME) enterprises are a legal concept used for the purpose of government incentives and tax waivers. To establish an indicator related to small industries in the SDG indicator framework, it would be necessary to have internationally accepted criteria for grouping enterprises into small, medium and large.

4. Technical assistance programme

UNIDO has a well-established technical assistance programme in the field of industrial statistics. This programme is expected to be aligned to the requirements of NSOs arising from SDG indicators and the necessity for international monitoring. UNIDO has already begun collecting additional data to measure the efficiency of material and energy resources used in industrial production. Energy use from different types of sources is particularly important to estimate the carbon emission. As part of its consultation services, UNIDO is planning to conduct an international industrial statistics seminar with a particular focus on SDG indicators related to industrialization.

5. Strengthening monitoring capacity and initial data compilation

In view of the Organization's expected role in the future SDG monitoring process, UNIDO has approved a project aimed to strengthen its capacity of delivering timely services to NSOs and upgrading the inter-agency cooperation. The project envisages a number of methodological activities in cooperation with national and international agencies.

As part of the preparatory activities, UNIDO Statistics has begun the initial compilation of potential indicators. A sample set of statistical tables is presented in Annex 2.

Annex -1: UNIDO's proposed indicators for Goal 9

Target	Indicator	Source/Remarks
<p>9.1. Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all</p>	<p>Resilient economic infrastructure: 9.1.1. Percentage share of people employed in business infrastructure (consultancy, accounting, IT and other business services) in total employment</p>	9.1.1. Disaggregated by sex
	<p>Regional and trans-border infrastructure: 9.1.2. Transport by air, road and rail (millions of passengers and ton-km and % population with access to all season road) 9.1.3. Container port traffic (number of TEU - twenty-foot equivalent unit) 9.1.4. Number of hours spent in land border crossings and inter-modal connectivity</p>	9.1.2. Disaggregate data by sex, age, and location (urban/rural), where applicable. 9.1.3. Source: World Bank
	<p>Manufacturing value added (MVA): 9.2.1. MVA (share in GDP, per capita, % growth)</p>	9.2.1. Disaggregated by sub-sector. Source: UNIDO Statistical Database
	<p>Manufacturing employment: 9.2.2. Manufacturing employment (share of total employment and % growth)</p>	9.2.2. Disaggregated by gender and sub-sector. Source: UNIDO Statistical Database
<p>9.3. Increase access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets</p>	<p>Access of SMEs to markets: 9.3.1. Percentage share of (M) small-scale industries' value added in total industry</p>	9.3.1. Disaggregated by sub-sector
	<p>Access of SMEs to financial services: 9.3.2. % of (M)SMEs with a loan or line of credit 9.3.3. Percentage share of small-scale industries' credit in total industry credit</p>	9.3.2. World Bank Enterprise Surveys ("micro" may not be available for all countries); adopted as indicators under the G20 Global Partnership for Financial Inclusion. Disaggregated by sector. 9.3.3. Getting credit: Distance to frontier indicator which measures the extent of information barriers in credit markets could also contribute here

9.4. By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	Resource intensity in production: 9.4.1 Intensity of material use per unit of value added (international dollars) 9.4.2. Energy intensity per unit of value added (international dollars)	Disaggregated by sub-sector This indicator is also suggested under 8.4.1. and in relation to SDG 12 indicators Material and energy could be combined into a single ratio of resource intensity, but it would be too aggregate.
	Emission in industrial production: 9.4.2 GHG (CO ₂)-emission per unit of value added	Disaggregated by sub-sector GHG is preferable but CO ₂ is easier in terms of data availability and method of estimation.
9.5. Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and increasing the number of research and development workers per 1 million people by [x] per cent and public and private research and development spending	Research and development: 9.5.1. Research and development expenditure and employment	R&D expenditure as percentage of GDP R&D employment to be measured as R&D workers (per 1 million people)
	Technological progress: 9.5.2. Percentage share of medium- and high-tech industry value added in total value added	9.5.2. Source UNIDO Statistical Database
	Innovative capacity: 9.5.3. Percentage share of the value added of new products in total value added 9.5.4. Global Innovation Index	9.5.3. Source: UNIDO Statistical Database 9.5.4. The Global Innovation Index (GII)

Indicators for means of implementation

9.a. Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries and small island development states	Infrastructure loans: 9.a.1. Annual credit flow to infrastructure projects (in international dollars) 9.a.2. Percentage share of infrastructure loans in total loans	
	Technology transfer expenditure: 9.a.3. Aggregate value of technology transfer mechanisms for infrastructure development (in international dollars, % of GDP)	
9.b. Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities	Support expenditure for technology and innovation: 9.b.1. Aggregate value of all support mechanisms for technology and innovation (in international dollars, % of GDP)	Global Innovation Index (GII) among others
	Conducive policy environment for diversification: 9.b.2. Aggregate value of expenditure on policy-related instruments (in international dollars, % GDP)	
9.c. Significantly increase access to information and communication technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	Access to information and communication technology: 9.c.1. Fixed and mobile broadband quality measured by mean download speed 9.c.2. Subscription to mobile cellular and/or fixed broadband internet (per household/100 people) 9.c.3. Fixed broadband internet prices	c.2. Disaggregated by individuals (sex, age, and location rural/urban) and business Sources: Partnership on Measuring ICT for Development core indicator, endorsed by UNSC and collected by ITU

Annex -2: Presentation of key SDG indicators under Goal 9

MVA per capita

Definition:

The manufacturing value added (MVA) per capita as a relative value of net manufacturing output to the population size indicates the level of industrial development achieved by a country. MVA is estimated as the total of value added of all manufacturing activities in the country. Unlike gross output, MVA is free of double counting as it excludes the cost of intermediate consumption. MVA is measured at basic prices and data can be presented at constant or current prices as well as in international dollars.

Data on the next pages are given at constant 2005 US Dollars.

$$\text{MVA per capita} = \frac{\text{MVA}}{\text{Population}}$$

Source:

UNIDO MVA Database

Developing Economies	2005	2006	2007	2008	2009	2010	2011	2012	2013
Afghanistan	37	38	38	38	39	40	42	44	45
Albania	155	183	210	212	207	233	228	228	229
Algeria	174	176	176	181	189	160	170	170	170
Angola	66	92	118	128	131	141	154	162	170
Antigua and Barbuda	218	242	261	235	257	223	176	170	167
Armenia	216	232	224	228	224	236	252	266	278
Azerbaijan	100	108	117	124	107	112	117	111	106
Bahamas	1,017	1,109	955	872	810	878	851	844	838
Bangladesh	68	74	81	86	90	95	103	110	116
Barbados	659	655	646	631	552	528	498	481	461
Belize	311	397	404	415	454	423	426	431	427
Benin	45	42	42	42	42	42	43	44	44
Bhutan	88	96	118	126	132	156	172	189	199
Bolivia (Plurinational State of)	121	129	135	137	142	143	146	150	155
Bosnia and Herzegovina	264	286	327	349	326	308	310	322	334
Botswana	192	196	227	228	214	225	250	256	262
Burkina Faso	41	36	39	30	29	30	29	29	28
Burundi	18	19	19	17	17	16	16	15	15
Cambodia	84	97	105	107	89	114	131	148	166
Cameroon	163	158	156	158	153	153	153	155	157
Central African Republic	24	25	27	27	27	28	28	29	23
Chad	28	27	25	26	28	30	32	33	33
Comoros	26	25	25	25	26	26	26	26	26
Congo	69	72	77	80	82	85	89	91	96
Cook Islands	394	348	358	376	375	343	373		
Côte d'Ivoire	175	159	157	157	165	152	150	160	169
Cuba	294	304	347	377	377	383	397		
Democratic People's Rep of Korea	104	104	104	107	103	102	102		
Democratic Rep of the Congo	7	6	7	7	7	6	6	7	7
Djibouti	20	20	21	22	23	25	25	25	26
Dominica	211	222	216	190	185	186	165	159	156
Dominican Republic	774	788	795	805	785	830	870	890	898
Ecuador	383	395	405	436	423	428	442	456	466
Egypt	193	200	212	225	230	238	232	234	236
El Salvador	603	614	626	638	616	624	638	650	660
Eritrea	17	16	13	11	11	11	12	12	12
Ethiopia	7	8	8	9	10	10	11	11	12
Fiji	442	471	439	425	412	435	433	442	456
Gabon	260	251	260	271	253	292	287	303	324
Gambia	28	28	28	25	23	23	23	23	23
Georgia	173	213	244	240	225	256	241	261	268
Ghana	43	44	42	43	41	43	48	50	52
Grenada	196	191	194	183	173	180	181	180	181
Guatemala	400	405	407	405	392	395	397	394	392
Guinea	20	20	19	19	19	19	19	20	20
Guinea-Bissau	51	50	47	47	47	48	49	46	45
Guyana	120	125	129	123	128	128	136	142	149
Haiti	44	45	45	44	45	38	44	45	46
Honduras	269	275	284	288	260	265	270	277	281
Iran (Islamic Republic of)	290	314	336	340	353	385	377	360	347
Iraq	24	26	27	27	36	37	36	37	36
Jamaica	319	311	313	310	294	282	286	278	272
Jordan	384	415	440	448	443	441	448	458	471
Kenya	55	57	59	60	59	60	61	61	63
Kiribati	57	56	67	60	50	50	52	52	53
Kyrgyzstan	63	53	56	67	60	66	69	64	68
Lao People's Dem Rep	45	50	56	60	63	64	70	76	82
Lebanon	576	531	564	524	499	539	551	554	557
Lesotho	118	127	128	130	120	136	127	134	141
Liberia	10	13	13	13	14	14	14	15	15
Madagascar	36	36	39	45	40	38	38	37	37
Malawi	18	19	21	25	25	25	24	24	24
Maldives	220	233	241	270	214	197	217	225	235
Mali	12	12	12	10	10	9	11	12	11
Marshall Islands	56	54	63	68	61	53	63	64	64
Mauritania	66	56	43	42	40	41	42	42	42

Developing Economies (continued)	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mongolia	57	63	79	80	72	75	80	84	89
Montenegro	295	315	255	257	233	225	255	249	249
Montserrat	106	120	127	131	118	108	110		
Morocco	286	293	302	306	305	310	314	319	326
Mozambique	44	45	45	46	46	46	47	50	53
Myanmar	33	40	48	57	67	80	77	83	89
Namibia	434	437	466	467	488	491	501	516	533
Nepal	23	23	23	23	22	22	22	23	23
Nicaragua	158	166	178	178	174	183	194	203	211
Niger	14	14	14	14	14	14	14	14	14
Nigeria	23	24	26	27	29	30	31	33	34
Pakistan	121	129	137	141	134	138	140	146	150
Palau	27	26	25	24	28	27	26	29	31
Panama	331	338	351	359	351	349	354	369	374
Papua New Guinea	49	50	52	53	52	58	64	67	70
Paraguay	176	177	172	172	168	175	169	165	170
Peru	430	457	503	543	498	560	584	615	641
Philippines	290	296	301	309	289	316	326	342	359
Republic of Moldova	106	103	97	99	83	92	102	100	102
Rwanda	20	22	21	22	22	23	24	25	25
Saint Kitts and Nevis	715	613	651	703	554	567	582	574	591
Saint Lucia	255	260	290	271	285	273	277	274	273
Saint Vincent and the Grenadines	260	260	249	251	229	239	255	254	253
Sao Tome and Principe	47	49	50	51	49	54	55	55	56
Senegal	105	101	102	97	99	102	106	107	108
Seychelles	957	988	1,010	875	777	829	901	944	996
Solomon Islands	49	50	49	49	47	44	45	44	42
Sri Lanka	240	251	264	274	281	298	319	340	361
State of Palestine	169	141	144	143	140	129	135		
Swaziland	718	720	729	729	696	663	633	602	584
Syrian Arab Republic	39	41	49	49	52	59	52		
Tajikistan	82	84	76	68	63	64	72	74	76
Timor-Leste	13	9	11	13	13	14	14	15	16
Togo	33	36	36	38	33	34	36	38	40
Tonga	193	193	186	183	168	164	174	174	175
Tuvalu	18	20	18	25	21	21	21	21	21
Uganda	22	23	24	25	26	27	27	29	30
United Republic of Tanzania	29	31	32	34	36	38	40	42	44
Uzbekistan	45	45	46	47	49	50	51	53	53
Viet Nam	131	146	164	178	181	194	206	219	234
Yemen	58	59	60	61	61	61	54	53	54
Zambia	67	69	69	69	68	69	71	72	74
Zimbabwe	69	67	64	53	57	68	70	71	71

Emerging Industrial Economies	2005	2006	2007	2008	2009	2010	2011	2012	2013
Argentina	1,012	1,092	1,165	1,207	1,190	1,296	1,426	1,420	1,439
Belarus	875	993	1,066	1,218	1,219	1,336	1,412	1,457	1,513
Brazil	736	736	769	785	710	775	769	745	746
Brunei Darussalam	3,232	3,196	3,033	3,061	2,712	2,706	2,750	2,723	2,710
Bulgaria	514	560	650	667	645	681	747	732	712
Chile	1,026	1,060	1,075	1,081	1,026	1,042	1,112	1,147	1,169
China	561	631	732	797	855	927	1,012	1,086	1,164
Colombia	481	506	535	530	501	503	521	530	537
Costa Rica	908	990	1,043	989	936	954	978	1,013	1,023
Croatia	1,497	1,551	1,669	1,681	1,489	1,453	1,450	1,393	1,362
Cyprus	1,306	1,234	1,228	1,252	1,165	1,130	1,084	1,025	925
Greece	1,827	1,960	1,939	1,689	1,783	1,660	1,494	1,354	1,261
India	103	116	127	130	143	155	157	158	162
Indonesia	345	356	369	378	383	397	417	442	464
Kazakhstan	453	485	516	495	475	534	567	586	606
Latvia	788	843	855	785	648	775	870	912	939
Mauritius	868	895	909	932	946	937	938	948	960
Mexico	1,404	1,469	1,475	1,446	1,287	1,397	1,448	1,485	1,470
Oman	1,032	1,110	1,218	1,301	1,216	1,433	1,396	1,481	1,576
Poland	1,299	1,509	1,706	1,849	1,944	2,045	2,278	2,343	2,384
Romania	1,218	1,318	1,405	1,442	1,417	1,492	1,571	1,579	1,611
Saudi Arabia	1,304	1,392	1,497	1,612	1,614	1,736	1,885	1,980	2,062
Serbia	370	367	385	388	326	329	331	319	319
South Africa	852	897	934	950	846	886	912	926	933
Suriname	600	579	584	631	554	584	625	648	670
Thailand	918	963	1,015	1,047	977	1,106	1,053	1,137	1,181
The f. Yugosl. Rep of Macedonia	434	444	510	485	415	404	415	398	399
Tunisia	510	521	553	565	540	596	597	616	634
Turkey	1,224	1,309	1,364	1,344	1,231	1,381	1,496	1,511	1,559
Ukraine	317	349	396	379	301	347	378	387	396
Uruguay	776	812	877	946	907	933	957	971	981
Venezuela (Bolivarian Republic of)	823	868	881	878	808	777	795	816	798

Industrialized Economies	2005	2006	2007	2008	2009	2010	2011	2012	2013
Andorra	1,195	1,241	1,239	1,256	1,177	1,123	1,079		
Aruba	854	856	893	793	806	728	783		
Australia	3,559	3,488	3,492	3,565	3,323	3,284	3,236	3,245	3,215
Austria	6,483	6,991	7,566	7,804	6,668	7,093	7,680	7,616	7,459
Bahrain	2,367	2,438	2,274	2,148	1,912	1,976	1,960	2,037	2,139
Belgium	5,526	5,533	5,694	5,651	4,803	5,039	5,171	5,040	4,948
Bermuda	1,253	1,219	1,194	1,148	1,147	1,062	1,000		
British Virgin Islands	1,236	1,168	1,041	1,076	1,270	1,290	1,295		
Canada	4,894	4,773	4,623	4,278	3,659	3,864	3,919	3,861	3,795
Cayman Islands	505	485	496	556	505	449	429		
China, Hong Kong SAR	749	761	750	693	630	644	643	589	547
China, Macao SAR	779	796	646	441	302	211	444	395	
China, Taiwan Province	4,260	4,402	4,612	4,227	3,968	4,766	4,887	4,859	4,883
Czech Republic	2,878	3,286	3,569	3,827	3,353	3,677	3,958	3,880	3,872
Denmark	5,709	5,941	6,099	6,294	5,502	5,610	5,668	5,488	5,363
Estonia	1,571	1,768	1,832	1,761	1,315	1,588	1,912	2,034	2,099
Finland	7,585	8,514	9,352	9,301	7,414	7,777	7,902	7,645	7,427
France	4,178	4,152	4,213	4,083	3,612	3,729	3,737	3,630	3,541
French Polynesia	1,278	1,244	1,273	1,268	1,278	1,281	1,289		
Germany	6,911	7,405	7,689	7,381	6,053	6,760	7,336	7,304	7,195
Greenland	1,760	2,073	2,281	2,161	1,809	1,873	2,024		
Hungary	2,081	2,230	2,389	2,381	2,044	2,266	2,352	2,343	2,402
Iceland	4,773	4,895	5,038	5,683	5,473	5,466	5,587	5,613	5,649
Ireland	9,822	10,383	10,837	10,568	11,005	12,228	12,700	12,981	13,321
Israel	2,770	2,934	3,094	3,151	2,955	3,132	3,070	3,071	3,099
Italy	5,031	5,164	5,236	4,955	4,135	4,300	4,336	3,987	3,723
Japan	7,157	7,490	7,939	8,000	6,584	7,872	7,660	7,956	8,264
Kuwait	2,591	2,526	2,269	2,446	2,016	1,883	2,190	2,235	2,128
Liechtenstein	20,116	22,374	24,939	24,429	19,929	22,156	22,556		
Lithuania	1,432	1,576	1,662	1,695	1,449	1,585	1,764	1,850	1,934
Luxembourg	6,773	6,268	6,832	5,881	4,294	4,513	4,821	4,810	4,806
Malaysia	1,515	1,598	1,619	1,605	1,437	1,583	1,632	1,710	1,764
Malta	2,030	2,022	2,117	2,215	1,812	1,885	2,005	1,895	1,787
Monaco	8,504	8,717	8,444	7,745	6,932	7,048	7,161		
Netherlands	4,970	5,116	5,388	5,267	4,789	5,120	5,284	5,093	4,907
New Caledonia	1,550	1,855	2,445	1,447	1,172	1,726	1,495		
New Zealand	3,880	3,709	3,712	3,478	3,255	3,209	3,254	3,259	3,259
Norway	5,260	5,337	5,450	5,586	5,140	5,202	5,257	5,312	5,312
Portugal	2,361	2,382	2,439	2,408	2,194	2,247	2,255	2,143	2,074
Puerto Rico	9,408	9,170	9,590	8,851	9,152	9,284	8,954	9,021	
Qatar	5,173	4,275	3,790	3,803	3,780	4,203	4,245	4,319	4,428
Republic of Korea	4,434	4,770	5,086	5,205	5,101	5,824	6,215	6,373	6,603
Russian Federation	833	890	958	939	802	872	919	955	975
San Marino	16,284	16,129	16,865	16,185	13,629	13,697	13,581	12,874	12,270
Singapore	7,414	8,027	8,180	7,530	6,964	8,781	9,278	9,007	9,115
Slovakia	1,830	2,073	2,315	2,489	2,068	2,884	3,312	3,446	3,511
Slovenia	3,738	4,001	4,302	4,294	3,565	3,839	3,960	3,727	3,505
Spain	3,690	3,705	3,682	3,541	3,032	3,120	3,183	2,984	2,818
Sweden	7,153	7,598	7,802	7,328	5,963	6,844	7,252	7,218	7,167
Switzerland	9,107	9,638	10,099	10,433	9,491	9,980	10,300	10,393	10,593
United Arab Emirates	4,709	4,407	3,873	3,719	2,859	2,825	2,770	2,880	3,020
United Kingdom	4,473	4,530	4,544	4,405	3,953	4,079	4,139	4,015	3,956
United States of America	5,600	5,700	5,909	5,489	4,885	5,196	5,285	5,410	5,398

MVA share in GDP

Definition:

The percentage share of MVA in GDP is one of the most widely used indicators to measure the position of manufacturing in the economy and its contribution to the overall structural change in the economy is. MVA and GDP are measured at basic prices (constant 2005 prices in United States dollars) so it is free of the variation caused by the ever changing rate of commodity taxes. The indicator is computed as:

$$\text{MVA share in GDP} = \frac{\text{MVA}}{\text{GDP}}$$

Source:

UNIDO MVA Database

Developing Economies	Percentage share of MVA in GDP								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Afghanistan	15.6	14.8	13.3	13.3	11.9	12.0	12.4	12.0	12.1
Albania	6.0	6.7	7.3	6.9	6.5	7.1	6.8	6.8	6.7
Algeria	5.6	5.6	5.5	5.7	5.8	4.9	5.1	5.0	4.9
Angola	3.3	4.0	4.3	4.2	4.3	4.6	5.0	5.2	5.3
Anguilla	2.6	2.8	3.6	3.6	3.6	1.9	1.6		
Antigua and Barbuda	1.8	1.8	1.8	1.6	2.1	2.0	1.6	1.6	1.5
Armenia	13.5	12.8	10.9	10.4	11.9	12.4	12.6	12.4	12.5
Azerbaijan	6.5	5.3	4.6	4.5	3.6	3.6	3.8	3.6	3.4
Bahamas	4.2	4.6	3.9	3.7	3.6	4.0	3.8	3.8	3.7
Bangladesh	15.9	16.5	17.0	17.1	17.3	17.4	17.8	18.1	18.4
Barbados	5.9	5.7	5.6	5.5	5.1	4.9	4.6	4.4	4.3
Belize	7.8	9.8	10.0	10.1	11.3	10.5	10.5	10.3	10.2
Benin	7.8	7.3	7.2	7.0	7.0	7.1	7.2	7.2	7.1
Bhutan	7.1	7.4	7.9	8.2	8.2	8.8	9.1	9.3	9.4
Bolivia (Plurinational State of)	11.6	12.0	12.2	11.9	12.1	11.9	11.7	11.7	11.6
Bosnia and Herzegovina	9.1	9.3	10.0	10.1	9.7	9.0	9.0	9.3	9.6
Botswana	3.5	3.4	3.9	3.8	3.8	3.8	4.0	4.0	4.0
Burkina Faso	10.6	9.2	9.7	7.3	7.1	6.8	6.7	6.2	5.9
Burundi	11.9	12.0	11.8	10.4	10.2	9.7	9.2	8.9	8.7
Cambodia	17.8	18.9	18.6	18.0	15.2	18.6	20.2	21.4	22.7
Cameroon	17.3	16.6	16.2	16.3	15.8	15.6	15.4	15.3	15.1
Central African Republic	7.2	7.4	7.7	7.8	7.9	7.8	7.8	7.9	7.6
Chad	5.2	5.2	4.9	5.2	5.8	5.7	6.2	5.9	5.8
Comoros	4.4	4.2	4.3	4.4	4.6	4.6	4.6	4.5	4.5
Congo	4.0	4.1	4.5	4.6	4.5	4.4	4.6	4.6	4.7
Cook Islands	4.1	3.6	3.7	4.1	4.2	3.8	4.0		
Côte d'Ivoire	19.3	17.7	17.4	17.4	18.0	16.5	17.4	17.3	17.3
Cuba	7.8	7.2	7.6	8.0	7.8	7.8	7.9		
Democratic People's Rep of Korea	19.0	19.3	19.7	19.6	19.1	19.2	19.3		
Democratic Rep of the Congo	5.3	5.0	5.0	4.8	4.7	4.5	4.3	4.2	4.1
Djibouti	2.3	2.2	2.2	2.3	2.3	2.5	2.4	2.4	2.3
Dominica	4.0	3.9	3.5	2.9	2.8	2.8	2.5	2.4	2.3
Dominican Republic	21.1	19.7	18.6	18.1	17.3	17.2	17.5	17.4	17.5
Ecuador	12.4	12.4	12.7	13.0	12.7	12.7	12.3	12.3	12.2
Egypt	15.9	15.8	15.9	16.0	15.9	16.0	15.5	15.6	15.7
El Salvador	21.3	21.0	20.7	20.9	21.0	21.1	21.2	21.3	21.4
Eritrea	6.8	6.8	5.5	5.5	5.2	5.5	5.7	5.7	5.7
Ethiopia	4.4	4.4	4.3	4.1	4.3	4.2	4.3	4.2	4.2
Fiji	12.1	12.7	12.1	11.7	11.6	12.4	12.2	12.3	12.4
Gabon	4.1	4.0	4.0	4.2	4.1	4.5	4.2	4.3	4.4
Gambia	6.6	6.8	6.9	5.9	5.4	5.0	5.5	5.3	5.0
Georgia	12.1	13.5	13.7	13.1	12.7	13.5	11.9	12.0	12.0
Ghana	8.7	8.5	7.9	7.5	7.1	7.1	7.0	6.9	6.8
Grenada	2.9	2.9	2.8	2.7	2.7	2.8	2.8	2.8	2.9
Guatemala	18.7	18.4	17.8	17.6	17.4	17.5	17.3	17.1	16.8
Guinea	6.1	6.0	5.9	5.7	5.8	5.8	5.8	5.8	5.8
Guinea-Bissau	12.2	11.9	10.9	10.8	10.1	10.4	10.5	10.1	9.9
Guyana	6.8	6.8	6.6	6.2	6.3	6.1	6.2	6.2	6.2
Haiti	10.0	10.0	9.8	9.7	9.8	8.8	9.9	9.9	9.9
Honduras	19.1	18.7	18.5	18.4	17.3	17.4	17.4	17.5	17.7
Iran (Islamic Republic of)	10.5	10.9	10.9	10.9	11.3	11.8	11.4	11.3	11.1
Iraq	1.8	1.8	1.9	1.9	2.4	2.4	2.2	2.2	2.1
Jamaica	7.7	7.4	7.3	7.4	7.2	7.1	7.1	6.9	6.8
Jordan	16.3	16.8	16.9	16.6	16.0	16.0	16.2	16.5	16.7
Kenya	10.5	10.5	10.5	10.7	10.5	10.4	10.3	10.2	10.1
Kiribati	5.0	5.1	6.0	5.5	4.8	4.8	5.0	5.0	4.9
Kyrgyzstan	12.9	10.7	10.5	11.7	10.3	11.6	11.5	10.9	10.9
Lao People's Dem Rep	9.4	9.8	10.4	10.5	10.3	9.9	10.1	10.3	10.4
Lebanon	10.7	9.9	9.9	8.5	7.5	7.6	7.6	7.6	7.6
Lesotho	17.8	18.5	18.1	17.5	15.8	16.7	15.2	15.5	15.9
Liberia	5.4	6.2	6.2	6.0	6.0	5.9	5.9	5.7	5.6
Libya	5.3	5.2	5.3	5.1	5.3	5.1	3.0	3.3	3.3
Madagascar	12.7	12.5	13.0	14.7	13.8	13.5	13.6	13.6	13.7
Malawi	8.4	8.8	9.4	10.4	10.0	9.6	9.2	9.2	9.0
Maldives	6.5	5.9	5.6	5.7	4.7	4.1	4.3	4.4	4.6

Developing Economies (continued)	Percentage share of MVA in GDP								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mali	2.9	2.7	2.7	2.2	2.2	2.0	2.4	2.7	2.6
Marshall Islands	2.1	2.0	2.3	2.5	2.3	1.9	2.2	2.2	2.2
Mauritania	9.2	6.8	5.2	5.1	5.0	5.0	5.1	4.8	4.6
Mongolia	5.8	6.0	6.9	6.5	6.0	6.0	5.5	5.3	5.0
Montenegro	8.2	8.1	5.9	5.6	5.4	5.1	5.6	5.5	5.4
Montserrat	1.3	1.4	1.4	1.5	1.3	1.2	1.2		
Morocco	14.6	14.0	14.2	13.8	13.2	13.1	12.8	12.8	12.5
Mozambique	14.0	13.6	13.1	12.8	12.3	11.7	11.5	11.6	11.8
Myanmar	12.8	13.8	14.9	16.0	17.3	18.8	17.4	17.6	18.0
Namibia	12.4	11.9	12.3	12.1	13.1	12.6	12.4	12.3	12.4
Nepal	7.6	7.5	7.4	6.9	6.6	6.5	6.4	6.3	6.3
Nicaragua	13.6	13.9	14.3	13.9	14.1	14.5	14.8	15.0	15.2
Niger	5.5	5.4	5.2	4.9	5.2	5.0	5.1	4.7	4.6
Nigeria	2.8	2.9	3.0	3.1	3.1	3.0	3.1	3.1	3.1
Pakistan	17.5	17.9	18.3	18.9	17.6	17.9	17.9	18.2	18.4
Palau	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.4	0.4
Panama	6.9	6.6	6.3	5.9	5.6	5.3	4.9	4.7	4.5
Papua New Guinea	6.1	6.2	6.1	6.1	5.8	6.1	6.3	6.3	6.3
Paraguay	11.9	11.6	10.9	10.4	10.8	10.1	9.6	9.6	9.0
Peru	14.9	14.9	15.2	15.1	13.9	14.5	14.3	14.4	14.4
Philippines	24.1	23.8	23.1	23.1	21.8	22.5	22.7	22.7	22.7
Republic of Moldova	13.3	12.2	11.0	10.4	9.1	9.2	8.5	8.3	8.1
Rwanda	7.0	7.3	6.9	6.5	6.3	6.5	6.4	6.3	6.1
Saint Kitts and Nevis	6.5	5.4	5.6	5.9	5.0	5.1	5.3	5.3	5.4
Saint Lucia	4.6	4.4	4.9	4.4	4.6	4.5	4.5	4.6	4.6
Saint Vincent and the Grenadines	5.1	4.8	4.4	4.4	4.1	4.4	4.7	4.7	4.6
Samoa	15.7	13.1	15.0	11.7	9.8	11.2	9.0	8.8	8.5
Sao Tome and Principe	6.4	6.4	6.4	6.2	5.8	6.2	6.1	6.0	5.9
Senegal	13.2	12.6	12.5	11.8	12.1	12.2	12.8	12.8	12.7
Seychelles	8.6	8.1	7.7	6.8	6.0	6.1	6.3	6.4	6.5
Sierra Leone	2.5	2.8	2.6	2.5	2.3	2.4	2.6	2.4	2.3
Solomon Islands	5.6	5.4	5.0	4.8	4.7	4.3	4.1	3.9	3.7
Somalia	2.2	2.1	2.1	2.1	2.1	2.1	2.1		
Sri Lanka	19.5	19.1	19.1	18.9	18.8	18.7	18.7	18.8	19.0
State of Palestine	13.0	11.7	11.6	11.1	10.3	8.9	8.7		
Sudan	6.7	6.2	5.9	6.2	6.2	6.8	6.8	6.9	6.8
Swaziland	30.7	30.1	29.9	29.7	28.4	27.0	26.0	25.5	25.1
Syrian Arab Republic	2.5	2.6	3.0	2.9	3.0	3.3	3.1		
Tajikistan	22.8	22.3	18.9	16.0	14.4	13.9	14.8	14.4	14.0
Timor-Leste	2.8	2.2	2.3	2.5	2.3	2.3	2.1	2.1	2.1
Togo	8.5	9.1	9.1	9.6	8.2	8.3	8.5	8.6	8.8
Tonga	7.3	7.6	7.6	7.5	6.7	6.4	6.5	6.5	6.4
Tuvalu	0.8	0.8	0.7	1.0	0.9	0.8	0.9	0.8	0.8
Uganda	7.0	6.8	6.6	6.5	6.7	6.7	6.6	6.9	7.2
United Republic of Tanzania	7.9	8.1	8.2	8.4	8.5	8.6	8.7	8.8	9.0
Uzbekistan	8.1	7.7	7.3	6.9	6.7	6.4	6.1	5.9	5.6
Vanuatu	3.8	4.7	2.8	2.5	2.8	5.1	4.6	4.4	4.3
Viet Nam	20.6	21.4	22.4	23.1	22.6	22.9	23.3	23.8	24.3
Yemen	7.1	7.3	7.4	7.5	7.4	7.1	7.2	7.1	7.1
Zambia	10.7	10.7	10.3	9.9	9.6	9.3	9.1	9.0	8.8
Zimbabwe	15.1	15.2	15.0	15.1	15.3	16.8	16.0	15.8	15.6

Emerging Industrial Economies	Percentage share of MVA in GDP								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Argentina	21.4	21.4	21.2	20.8	20.5	20.6	21.0	20.7	20.5
Belarus	28.4	29.2	28.7	29.6	29.5	29.9	29.8	30.2	30.6
Brazil	15.5	15.1	15.0	14.7	13.5	13.8	13.4	13.0	12.8
Brunei Darussalam	12.3	11.9	11.5	12.1	11.1	11.0	11.1	11.1	11.0
Bulgaria	13.8	14.0	15.2	14.6	14.8	15.5	16.6	16.0	15.4
Chile	13.4	13.4	13.1	12.9	12.5	12.1	12.3	12.1	11.9
China	32.5	32.6	33.3	33.3	32.8	32.4	32.5	32.5	32.5
Colombia	14.1	14.1	14.2	13.8	13.0	12.7	12.5	12.4	12.3
Costa Rica	19.6	20.0	19.8	18.6	18.0	17.8	17.7	17.7	17.5
Croatia	14.8	14.6	14.9	14.7	14.0	13.8	13.8	13.5	13.2
Cyprus	7.9	7.3	7.0	7.0	6.7	6.5	6.3	6.1	6.1
Greece	8.5	8.7	8.3	7.3	8.0	7.8	7.6	7.4	7.2
India	14.1	14.8	14.8	14.9	15.3	15.2	14.7	14.6	14.5
Indonesia	27.4	27.2	26.7	26.1	25.5	25.2	25.1	25.3	25.5
Kazakhstan	12.0	11.7	11.6	10.9	10.5	11.1	11.1	11.0	10.9
Latvia	11.4	10.9	10.0	9.5	9.5	11.4	12.1	12.0	11.8
Mauritius	17.4	17.4	16.8	16.4	16.3	15.0	14.6	14.4	14.1
Mexico	17.6	17.7	17.5	17.1	16.4	17.2	17.3	17.3	17.2
Oman	8.1	8.5	9.0	8.7	8.3	9.5	9.4	9.7	10.0
Poland	16.3	17.8	18.9	19.5	20.2	20.4	21.8	22.0	22.1
Romania	26.8	26.8	26.9	25.5	26.8	28.4	29.1	29.0	28.9
Saudi Arabia	9.5	10.0	10.4	10.6	10.7	10.9	11.2	11.4	11.7
Serbia	14.4	13.8	13.7	13.3	11.6	11.6	11.5	11.3	11.1
South Africa	16.5	16.6	16.6	16.4	15.0	15.3	15.4	15.3	15.2
Suriname	16.7	15.7	15.2	16.0	13.7	14.0	14.5	14.4	14.4
Thailand	34.7	35.0	35.3	35.8	34.4	36.4	34.8	35.5	35.9
The f. Yugosl. Rep of Macedonia	14.8	14.4	15.7	14.2	12.3	11.7	11.7	11.2	11.0
Tunisia	15.7	15.3	15.5	15.3	14.4	15.6	16.1	16.2	16.3
Turkey	17.3	17.5	17.7	17.5	17.1	17.8	17.9	17.9	18.0
Ukraine	17.3	17.6	18.4	17.1	15.9	17.4	17.9	18.2	18.5
Uruguay	14.9	15.0	15.2	15.3	14.4	13.7	13.2	12.9	12.7
Venezuela (Bolivarian Republic of)	15.1	14.7	14.0	13.5	13.0	12.9	12.9	12.7	12.5

Industrialized Economies	Percentage share of MVA in GDP								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Andorra	3.7	3.7	3.6	3.7	3.7	3.7	3.7		
Aruba	3.7	3.7	4.0	3.9	4.3	4.1	4.1		
Australia	10.5	10.1	10.0	10.0	9.3	9.2	9.0	8.8	8.6
Austria	17.5	18.3	19.2	19.6	17.4	18.2	19.3	19.0	18.5
Bahrain	12.8	13.8	13.5	13.7	13.1	14.0	14.3	14.5	14.8
Belgium	15.3	15.0	15.1	14.9	13.1	13.5	13.6	13.4	13.1
Bermuda	1.6	1.5	1.5	1.4	1.5	1.4	1.4		
British Virgin Islands	3.1	2.9	2.7	2.7	3.1	3.0	3.0		
Canada	13.9	13.4	12.8	11.9	10.6	10.9	10.9	10.7	10.4
Cayman Islands	0.9	0.8	0.8	0.9	0.9	0.9	0.8		
China, Hong Kong SAR	2.8	2.7	2.5	2.3	2.1	2.1	2.0	1.8	1.7
China, Macao SAR	3.2	2.9	2.1	1.4	1.0	0.6	1.0	0.8	
China, Taiwan Province	26.6	26.5	26.4	24.8	23.6	26.1	25.8	25.4	25.0
Czech Republic	22.6	24.2	25.0	26.2	24.2	26.0	27.6	27.4	27.5
Denmark	12.0	12.1	12.3	12.9	12.0	12.1	12.1	11.8	11.6
Estonia	15.2	15.5	14.9	15.0	13.0	15.2	16.9	17.3	17.6
Finland	20.3	21.9	23.0	22.9	20.1	20.4	20.3	19.9	19.5
France	11.9	11.6	11.6	11.3	10.4	10.6	10.5	10.2	10.0
French Polynesia	6.0	5.8	5.9	5.8	5.9	5.9	5.9		
Germany	20.6	21.3	21.4	20.3	17.6	18.8	19.8	19.5	19.0
Greenland	6.1	6.7	7.2	6.7	5.5	5.6	5.9		
Hungary	19.0	19.6	20.9	20.6	18.9	20.7	21.1	21.3	21.8
Iceland	8.7	8.6	8.5	9.7	10.1	10.7	10.7	10.7	10.7
Ireland	20.1	20.5	20.6	20.9	23.3	26.4	27.4	28.3	29.2
Israel	13.7	14.0	14.3	14.4	13.7	14.0	13.4	13.2	13.1
Italy	16.5	16.7	16.8	16.2	14.4	14.8	14.9	14.1	13.4
Japan	19.8	20.4	21.1	21.5	18.8	21.4	21.0	21.3	21.7
Kuwait	7.3	6.8	6.0	6.4	6.0	5.3	5.9	5.8	5.6
Liechtenstein	19.2	19.6	20.0	20.7	18.9	19.3	19.3		
Lithuania	18.8	19.1	18.3	18.0	17.9	19.2	20.1	20.3	20.4
Luxembourg	8.2	7.4	7.7	6.9	5.3	5.5	5.9	6.0	6.0
Malaysia	27.5	28.0	27.2	26.1	24.2	25.2	25.1	25.3	25.4
Malta	13.9	13.6	13.7	13.8	11.6	11.8	12.4	11.6	10.9
Monaco	7.0	6.8	5.7	4.8	4.8	4.8	4.8		
Netherlands	12.7	12.7	12.9	12.4	11.8	12.4	12.8	12.5	12.2
New Caledonia	7.3	8.4	10.8	6.4	5.2	7.5	6.4		
New Zealand	14.2	13.5	13.2	12.7	11.9	11.9	12.0	11.8	11.7
Norway	8.0	8.0	8.0	8.3	7.9	8.0	8.1	8.0	7.9
Portugal	13.0	12.9	13.0	12.9	12.1	12.2	12.4	12.2	12.0
Puerto Rico	43.0	42.4	44.7	42.0	44.2	45.0	43.5	43.5	
Qatar	9.9	8.2	7.4	7.5	7.6	8.0	7.6	7.5	7.5
Republic of Korea	24.7	25.4	25.9	26.0	25.5	27.5	28.5	28.7	29.0
Russian Federation	15.7	15.5	15.3	14.2	13.2	13.7	13.8	13.9	14.0
San Marino	24.9	24.6	24.8	24.7	23.8	26.0	26.5	26.2	25.8
Singapore	25.6	26.4	25.6	24.1	23.3	26.4	27.0	26.2	25.8
Slovakia	20.7	21.7	21.9	22.3	19.6	26.2	29.2	29.8	30.2
Slovenia	21.0	21.2	21.4	20.7	18.7	20.0	20.5	19.9	19.2
Spain	14.2	13.9	13.5	13.0	11.7	12.2	12.5	12.0	11.5
Sweden	17.4	17.9	17.9	17.1	14.7	16.0	16.4	16.3	16.1
Switzerland	17.6	18.0	18.3	18.7	17.4	17.9	18.2	18.2	18.3
United Arab Emirates	10.6	10.4	10.2	10.9	9.9	10.4	10.3	10.5	10.8
United Kingdom	11.7	11.6	11.3	11.2	10.5	10.7	10.8	10.5	10.3
United States of America	13.2	13.2	13.6	12.8	11.8	12.4	12.5	12.6	12.5

LDCs share in global MVA

Definition:

This indicator is defined as the ratio of the sum of Least Developed Countries' (LDCs) manufacturing value added (MVA) to global MVA. The indicator is computed as:

$$\text{LDCs share in global MVA} = \frac{\text{sum of MVA of LDCs}}{\text{global MVA}}$$

Source:

UNIDO MVA Database

Percentage share of LDC's in global MVA								
2005	2006	2007	2008	2009	2010	2011	2012	2013
0.37	0.37	0.38	0.41	0.46	0.46	0.46	0.48	0.51

Share of countries in total MVA of LDCs

Definition:

This indicator is defined as the ratio of manufacturing value added (MVA) of a Least Developed Country (LDC) to total LDCs MVA. MVA is measured at basic prices (constant 2005 prices in United States dollars) so it is free of the variation caused by the ever changing rate of commodity taxes. The indicator is computed as:

$$\text{LDC's share in LDCs total MVA} = \frac{\text{MVA of LDC}}{\text{sum of MVA of LDCs}}$$

Source:

UNIDO: Manufacturing Value Added (MVA) Database

Least Developed Countries ranked by latest available value	Percentage share of countries in LDCs' total MVA								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Bangladesh	35.2	36.2	36.8	37.2	37.8	37.3	38.6	39.1	39.4
Myanmar	5.6	6.4	7.2	8.0	9.0	10.1	9.3	9.4	9.6
Cambodia	4.1	4.5	4.5	4.4	3.6	4.3	4.7	5.0	5.3
Sudan	6.5	6.2	6.1	6.2	6.1	6.4	5.8	5.4	5.2
United Republic of Tanzania	4.1	4.2	4.2	4.4	4.5	4.5	4.6	4.6	4.7
Afghanistan	3.8	3.6	3.5	3.4	3.4	3.3	3.4	3.5	3.4
Senegal	4.2	3.9	3.7	3.4	3.4	3.3	3.4	3.3	3.2
Yemen	4.4	4.3	4.2	4.1	4.0	3.9	3.3	3.2	3.1
Mozambique	3.4	3.3	3.1	3.1	3.0	2.8	2.8	2.9	2.9
Uganda	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.4	2.4
Ethiopia	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.3
Zambia	2.8	2.8	2.7	2.5	2.5	2.4	2.4	2.4	2.3
Madagascar	2.4	2.3	2.3	2.6	2.3	2.1	2.0	1.9	1.9
Nepal	2.3	2.2	2.1	1.9	1.8	1.8	1.7	1.7	1.6
Lao People's Dem Rep	0.9	1.0	1.1	1.1	1.1	1.0	1.1	1.1	1.2
Burkina Faso	2.1	1.8	1.9	1.4	1.3	1.3	1.2	1.2	1.1
Haiti	1.5	1.5	1.4	1.3	1.3	1.0	1.1	1.1	1.1
Democratic Rep of the Congo	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.0
Benin	1.3	1.1	1.1	1.0	1.0	1.0	1.0	1.0	0.9
Chad	1.0	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.9
Malawi	0.8	0.8	0.9	1.0	1.0	1.0	0.9	0.9	0.9
Lesotho	0.9	0.9	0.9	0.8	0.7	0.8	0.7	0.7	0.7
Rwanda	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.6
Togo	0.7	0.7	0.6	0.7	0.6	0.5	0.5	0.6	0.6
Niger	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5
Guinea	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5
Mali	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4
Mauritania	0.7	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.3
Bhutan	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Burundi	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3
Central African Republic	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2
Guinea-Bissau	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Eritrea	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sierra Leone	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Somalia	0.2	0.2	0.2	0.2	0.2	0.1	0.1		
Liberia	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Gambia	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Samoa	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Djibouti	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Solomon Islands	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Vanuatu	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Comoros	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Timor-Leste	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sao Tome and Principe	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kiribati	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tuvalu	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CO₂ emissions (kg) per unit of value added

Definition:

This indicator is defined as the ratio of total carbon dioxide (CO₂) emissions from fossil fuel combustion in manufacturing industries to the volume of production measured by value added (VA). It measures the impact of industrial production on environment. CO₂ emissions are estimated in tons. Value added are given at constant 2005 prices in thousand United States dollars. The indicator is computed as:

$$\text{CO}_2 \text{ emission per unit of VA} = \frac{\text{CO}_2 \text{ emissions}}{\text{VA}}$$

Sources:

IEA: Detailed CO₂ estimates, IEA CO₂ Emissions from Fuel Combustion Statistics (2014)

UNIDO: Manufacturing Value Added (MVA) Database

Developing Economies	2005	2006	2007	2008	2009	2010	2011	2012
Algeria	1.4	1.5	1.7	1.8	1.2	1.6	1.5	1.6
Angola	0.9	0.6	1.0	0.4	0.4	0.4	0.3	0.3
Armenia	1.5	1.4	1.4	1.4				
Bangladesh	0.7	0.7	0.7	0.6	0.8	0.7	0.7	0.7
Bolivia	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6
Bosnia and Herzegovina		0.9	0.8	0.8		0.9	0.9	0.8
Botswana								1.9
Cuba	1.5	2.0	1.8	1.4	1.9	1.9	1.6	
Dominican Republic	0.1	0.3	0.3	0.3	0.1	0.2	0.1	0.2
Ecuador	0.8	0.7	0.4	0.7	0.7	0.5	0.6	0.6
Egypt	2.7	2.6	2.8	2.4	2.1	2.0	2.0	1.8
El Salvador	0.3	0.3	0.3					
Ethiopia	1.8	1.7	1.5	1.4	1.3	1.2	2.2	2.0
Ghana		1.0	1.0		1.0	0.9	0.8	0.8
Guatemala	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Honduras	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Islamic Republic of Iran	3.1	3.1	3.5	3.7	3.5	3.3	3.7	3.9
Jordan	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.3
Kenya	0.5	0.5	0.4	0.4	0.4	0.8	0.8	0.4
Kyrgyzstan				2.9				2.9
Libya	2.1	1.6	1.5	1.9	2.5	1.8	1.6	2.1
Mongolia		6.1					4.5	4.2
Morocco	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.7
Myanmar	0.7	0.5	0.4	0.4	0.3	0.3	0.3	0.2
Nepal	1.6					1.5	1.5	1.4
Nigeria	1.6	1.2	1.1	1.2	0.5	0.4	1.2	0.9
Pakistan	2.0	2.0	2.0	1.7	1.9	1.7	1.6	1.5
Panama	0.9	0.9	0.8	0.8	0.8	0.8	1.6	1.5
Peru	0.6	0.5	0.6	0.5	0.6	0.4	0.4	0.4
Philippines	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2
Sudan			0.5		0.5	0.8		0.4
Syrian Arab Republic	8.3	9.1	7.5	8.3	4.8	5.8	5.5	
Viet Nam	2.2	2.0	2.0	2.4	2.5	2.4	2.5	2.4
Yemen	1.7	1.6	1.5	2.2	2.1	2.0	2.3	2.2

Share of medium and high-tech industry (MHT) in total MVA

Definition:

This variable captures the technological intensity of manufacturing. A higher share of MHT would mean deepening structural transformation from low-tech resource based activities to high-tech knowledge based industry. Level of technology from low to high is determined by R&D expenditure per unit of output. The share of MHT in total MVA is computed as:

$$\text{Share of MHT in total MVA} = \frac{\text{MVA of MHT}}{\text{total MVA}}$$

Source:

UNIDO INDSTAT Database

Developing Economies	Percentage share of MHT in total MVA							
	2005	2006	2007	2008	2009	2010	2011	2012
Albania	17.0	20.2	19.0	14.1	14.4	6.6	10.5	10.5
Algeria	14.3	14.3	14.3	15.1	30.8	30.3	27.2	27.2
Armenia	7.5	7.6	8.0	7.4	5.9	4.9	4.2	4.2
Azerbaijan	11.9	9.6	10.9	7.3	6.3	8.0	9.9	9.9
Bahamas	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Bangladesh	20.5	18.7	20.5	20.5	20.5	20.5	20.5	20.5
Barbados	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1
Belize	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Bolivia (Plurinational State of)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Bosnia and Herzegovina	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2
Botswana	0.1	0.3	9.0	8.0	8.3	9.7	9.6	17.0
Burkina Faso	2.5	2.5	2.5	2.5				
Burundi	3.4	3.4	3.7	2.2	3.3	3.1	2.8	2.8
Cambodia	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Cameroon	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
Central African Republic	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
Congo	9.9	9.7	9.9	8.2	7.8	9.3	9.3	9.3
Cuba	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
Dominican Republic	6.8	6.8	6.8	6.8	6.8			
Ecuador	8.4	9.0	6.3	8.0	8.1	8.1	8.1	8.1
Egypt	28.5	22.3	25.7	25.7	23.0	22.3	23.0	23.0
El Salvador	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
Eritrea	9.8	14.3	6.6	12.0	7.1	6.1	7.2	7.2
Ethiopia	6.3	6.9	9.6	7.7	9.4	9.4	9.4	9.4
Fiji	8.0	7.4	7.0	6.8	7.7	7.9	6.8	6.8
Gabon	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Gambia	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Georgia	18.6	23.8	17.7	15.7	32.4	17.3	21.9	22.1
Ghana	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Guatemala	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3
Haiti	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Honduras	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Iran (Islamic Republic of)	39.6	41.8	40.9	40.5	46.6	45.0	45.4	45.4
Iraq	7.2	7.2	9.0	7.8	7.2	6.8	7.1	7.1
Jamaica	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8
Jordan	22.1	21.3	23.1	24.3	24.9	24.0	25.8	26.5
Kenya	25.8	24.9	24.1	23.7	25.7	26.3	25.9	6.6
Kyrgyzstan	10.9	6.6	8.9	6.1	4.4	3.4	3.4	3.4
Lebanon	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9
Lesotho	6.0	6.0	6.0	6.0	6.0	6.0		
Madagascar	2.6	3.3	3.5	3.5	3.5	3.5	3.5	3.7
Malawi	6.1	11.2	5.5	11.7	12.5	11.3	11.3	11.3
Mongolia	15.1	5.8	4.2	5.3	4.4	2.2	6.2	6.2
Morocco	22.1	21.7	26.4	28.7	21.6	28.1	28.0	28.0
Mozambique	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
Nepal	9.2	9.1	9.2	1.9	2.1	2.1	2.1	2.1
Nicaragua	9.2	9.2	9.2	9.2	9.2	9.2		
Niger	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8
Nigeria	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6
Pakistan	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
Panama	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Papua New Guinea	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Paraguay	11.2	11.2	13.0	13.0	13.0	13.0	13.0	13.0
Peru	12.9	13.5	14.4	14.2	13.5	12.9	12.1	13.5
Philippines	38.9	45.3	45.7	35.1	41.7	41.7	41.7	41.7

Percentage share of MHT in total MVA								
Developing Economies (continued)	2005	2006	2007	2008	2009	2010	2011	2012
Republic of Moldova	6.9	7.7	7.8	9.8	14.2	13.9	14.9	9.6
Rwanda	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Saint Lucia	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Senegal	13.0	18.9	17.3	19.3	19.5	18.4	19.6	19.6
Sri Lanka	17.6	17.5	7.6	12.1	7.3	9.3	10.7	10.7
State of Palestine	7.5	7.1	5.7	5.7	7.6	5.4	11.2	11.2
Swaziland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Syrian Arab Republic	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Tajikistan	2.5	3.3	1.3	2.4	2.4	2.4	2.4	2.4
Tonga	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Trinidad and Tobago	36.3	39.4	39.5	39.5	39.5	39.5	39.5	39.5
Uganda	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
United Republic of Tanzania	3.7	3.9	3.9	3.4	3.2	3.2	3.2	3.2
Viet Nam	24.0	22.7	23.2	22.5	23.5	23.4	22.7	24.9
Yemen	2.8	2.1	1.8	2.1	2.3	2.3	2.3	2.3
Zambia	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1
Côte d'Ivoire	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5

Percentage share of MHT in total MVA								
Emerging Industrial Economies	2005	2006	2007	2008	2009	2010	2011	2012
Argentina	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8
Belarus	46.3	46.3	46.3	42.0	36.8	40.0	47.1	47.1
Brazil	33.1	33.3	35.0	37.2	36.4	36.6	36.7	37.2
Brunei Darussalam	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Bulgaria	24.2	24.2	24.4	25.0	24.0	24.7	25.4	26.1
Chile	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
China	41.6	41.3	40.7	41.4	41.4	41.4	41.4	41.4
Colombia	20.7	20.1	19.9	20.0	20.8	21.0	20.8	20.9
Costa Rica	16.7	19.7	19.1	17.9	16.2	14.6	14.8	9.5
Croatia	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6
Cyprus	4.2	4.8	5.3	11.9	12.3	13.9	14.7	14.5
Greece	15.9	16.6	17.2	19.6	19.6	19.6	19.6	19.6
India	39.2	36.1	34.1	37.1	39.4	38.1	38.7	38.7
Indonesia	33.1	31.3	25.8	38.4	37.8	39.3	36.9	37.9
Kazakhstan	6.9	6.5	6.8	6.8	6.8	6.8	6.8	6.8
Latvia	14.6	14.6	15.8	20.7	20.8	16.6	20.5	20.4
Mauritius	2.8	2.3	3.0	3.2	3.3	2.7	8.4	7.0
Mexico	39.7	39.5	38.5	37.5	35.5	36.8	37.0	37.0
Oman	15.8	13.1	16.8	14.2	26.6	19.4	19.4	19.4
Poland	27.4	32.5	31.6	33.7	34.5	35.9	35.8	37.6
Romania	24.2	23.9	25.8	24.7	33.9	34.8	35.7	36.5
Saudi Arabia	41.7	41.1	41.2	41.2	41.2	41.2	41.2	41.2
Serbia	24.4	21.4	22.1	21.8	20.9	20.0	19.6	17.4
South Africa	23.1	23.5	22.1	21.2	22.7	24.4	26.5	26.5
Suriname	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
Thailand	46.3	46.2	46.3	46.3	46.3	46.3	46.3	46.3
The f. Yugosl. Rep of Macedonia	14.1	14.1	12.7	13.7	14.6	19.5	15.5	15.5
Tunisia	9.8	9.3	26.1	18.5	18.0	20.0	21.9	21.9
Turkey	29.3	29.8	29.8	30.0	31.7	32.7	32.7	32.7
Ukraine	22.6	22.7	24.0	23.9	20.8	21.7	24.9	24.9
Uruguay	10.7	13.4	13.7	14.5	13.2	13.7	13.7	13.7
Venezuela (Bolivarian Republic of)	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3

Industrialized Economies	Percentage share of MHT in total MVA							
	2005	2006	2007	2008	2009	2010	2011	2012
Australia	22.5	23.0	26.5	26.4	27.0	28.5	27.8	27.8
Austria	41.6	42.1	42.5	43.7	41.6	43.8	44.8	44.8
Bahrain	23.8	19.7	17.4	22.8	20.6	19.0	22.4	22.4
Belgium	43.4	44.8	41.9	43.0	41.9	34.4	40.1	40.1
Bermuda	6.1	6.1	4.9	5.3	5.9	3.9	3.4	3.4
Canada	37.1	37.3	38.2	37.3	30.6	29.9	29.6	30.9
China, Hong Kong SAR	29.6	33.1	29.8	32.7	32.6	38.1	36.1	14.2
China, Macao SAR	2.0	2.3	2.9	2.0	2.6	4.0	1.7	6.4
China, Taiwan Province	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9
Czech Republic	42.3	44.4	44.6	40.5	45.9	44.8	47.9	47.9
Denmark	40.7	42.7	42.9	42.8	46.9	48.1	49.3	49.3
Estonia	18.9	19.4	19.2	28.8	25.6	26.6	27.8	26.6
Finland	44.0	42.9	48.0	47.9	44.3	44.6	49.0	49.0
France	44.5	44.6	45.8	45.9	44.7	45.4	47.1	47.1
Germany	56.5	57.0	58.0	59.4	56.1	58.5	60.1	60.1
Hungary	53.1	53.4	52.4	51.9	52.6	54.6	56.2	56.2
Iceland	14.2	16.6	16.6	16.6	16.6	16.6	16.6	16.6
Ireland	59.6	58.6	60.9	58.2	63.9	59.7	62.9	62.9
Israel	54.4	57.8	59.2	59.5	61.0	62.0	51.7	51.7
Italy	36.2	36.9	36.4	37.8	39.1	41.1	42.6	42.6
Japan	53.9	54.8	55.4	53.5	51.5	53.5	56.1	56.1
Kuwait	19.3	20.6	22.2	24.2	18.1	15.3	21.2	22.6
Lithuania	16.4	18.5	20.2	23.9	16.1	22.8	23.3	27.3
Luxembourg	15.9	15.1	13.8	8.6	10.1	10.4	10.6	10.6
Malaysia	47.4	49.0	46.1	41.8	41.3	40.7	42.5	42.5
Malta	35.3	42.0	45.1	44.9	18.3	31.6	31.6	31.6
Netherlands	42.4	39.7	38.8	40.1	43.5	47.8	46.9	46.9
New Zealand	17.0	16.8	17.0	17.4	16.1	16.7	16.9	16.9
Norway	28.5	30.2	31.0	34.8	49.2	49.1	48.0	48.0
Portugal	24.5	23.8	24.5	25.3	21.5	24.2	26.9	26.9
Qatar	21.8	15.2	26.8	33.0	32.1	25.7	25.8	25.8
Republic of Korea	54.1	55.1	55.3	53.0	57.1	60.1	60.1	60.1
Russian Federation	22.5	21.9	22.4	24.6	23.1	25.0	26.9	28.1
Singapore	76.7	77.8	78.4	74.6	73.4	76.0	76.8	82.3
Slovakia	36.1	40.0	43.1	41.2	41.5	45.8	44.6	44.6
Slovenia	41.8	42.7	42.5	44.4	45.7	46.6	47.4	49.0
Spain	29.6	30.3	30.8	32.0	33.6	34.7	36.5	36.5
Sweden	52.9	52.9	52.2	52.4	39.0	43.0	43.8	43.8
Switzerland	62.1	63.0	64.1	61.1	60.9	61.4	61.7	61.7
United Arab Emirates	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
United Kingdom	41.0	42.3	41.2	43.1	42.7	45.2	46.9	46.9
United States of America	48.1	48.2	49.3	51.5	50.6	50.6	50.6	50.6