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WORKING PAPER 02/2014

Growth and distribution pattern of the world manufacturing output: A statistical profile

INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT

RESEARCH, STATISTICS AND INDUSTRIAL POLICY BRANCH
WORKING PAPER 02/2014

Growth and distribution pattern of the world manufacturing output: A statistical profile

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna, 2014

Acknowledgments

The authors of this paper would like to express their sincere gratitude to Ms. Shohreh Mirzaei for her contribution to the preparation of statistical data as well as a final review of the paper. Anja Sedic prepared the first draft of the chapter on the loss of MVA due to the financial crisis. The paper is based on the data published in the various editions of the International Yearbook of Industrial Statistics compiled by a team of UNIDO statistical staff. The report was formatted and edited by Niki Rodousakis.

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Table of contents

List of figures	iii
List of tables	iv
List of acronyms	iv
1. Introduction	1
2. Global manufacturing landscape	3
2.1 Manufacturing value added	3
2.2 Country groups by stage of development	6
3. World manufacturing growth – Empirical evidence	8
3.1 Growth pattern by country groups	9
3.2 Recent manufacturing growth figures	14
3.3 Leading manufacturing economies	16
4. Changing scenario of world manufacturing, 1990 – 2010	20
4.1 Changes in the global distribution of manufacturing value added	21
4.2 Changes in the distribution of manufacturing value added within country groups	26
5 The Effect of the 2008-2009 financial crisis on world manufacturing	32
6 The impact of MVA redistribution on other variables	36
7 Conclusion	40
References	42
Appendix	43

List of figures

Figure 1 MVA per capita vs. GDP per capita (constant prices)	10
Figure 2 Average annual MVA growth rate (in %)	14
Figure 3 Estimated annual growth rates of world MVA by years	15
Figure 4 Top 15 countries by share in world MVA (in %), at constant 2005 prices	17
Figure 5 Distribution of MVA per capita in the world for 1990, 2000 and 2010	22
Figure 6 Distribution of MVA per capita in industrialized countries	27
Figure 7 Distribution of MVA per capita in emerging industrial economies (EIEs)	28
Figure 8 Distribution of MVA per capita in other developing countries (ODCs)	29
Figure 9 Distribution of MVA per capita in least developed countries (LDCs)	31
Figure 10 Real, zero and sustained growth of MVA	33
Figure 11 Share of manufacturing and financial and business services in GDP in industrialized countries from 2004-2011, at current USD	35

Figure 12	The effect of the financial crisis: Winners and losers, 2007 – 2012	37
Figure 13	Share of manufacturing employment by region, separating China	38
Figure 14	MVA in the scale of number of employees.....	39

List of tables

Table 1	List of countries by quadrant.....	12
Table 2	Manufacturing leaders in selected industries (2005, 2011).....	19
Table 3	Runner and loser economies over the last two decades	24
Table 4	Estimated amount of losses of MVA from 2008 to 2010.....	34

List of acronyms

EIE: Emerging Industrial Economies

EU: European Union

FDI: Foreign Direct Investment

GDP: Gross Domestic Product

GDPpc: Gross Domestic Product per capita

GR: Growth Rate

HDR: Human Development Report

IDR: Industrial Development Report

IND: Industrialized Economies

ISIC: International Standard Industrial Classification of All Economic Activities

LDC: Least Developed Countries

MVA: Manufacturing Value Added

MVApc: Manufacturing Value Added per capita

MVAsh: Manufacturing Value Added share in total GDP

PPP: Purchasing Power Parity

UNIDO: United Nations Industrial Development Organization

1. Introduction

Manufacturing is back - as a driving force of economic growth as well as in policy debates on the development of a country. Its relevance never diminished for developing countries. Industrialized countries, where contributions of manufacturing to the economy have consistently fallen in the last decades, have again come to realize the strategic importance of manufacturing in overall social and economic development. In 2010, the European Commission announced an *Integrated Industrial Policy for the Globalisation Era*¹. The document stated that the financial and economic crisis has refocused attention on the central importance of a strong, competitive and diversified industrial manufacturing value chain for the EU's competitiveness and job creation potential. The communication sets out a strategic framework for a new integrated industrial policy that will stimulate economic recovery and jobs by ensuring a thriving world-class industrial base in the EU. One year later, the United States established the Office of Manufacturing Policy, which published a series of recommendations aimed at reinventing manufacturing in a way that ensures that U.S. competitiveness feeds into the nation's innovation economy and invigorates the domestic manufacturing base². The new policy documents of industrialized countries emphasize the importance of manufacturing not merely in terms of production growth, but more importantly in terms of its innovative direction, its ability to create and supply new technology and its influence on growth and structural changes in other sectors of the economy.

Against the backdrop of renewed interest in manufacturing production, researchers have witnessed the emergence of a global manufacturing renaissance in different contexts with multiple emphases in scientific research as well as in white papers, which have been re-evaluating the importance of manufacturing since 2008. Prior to the onset of the recent economic recession, deindustrialization, loss of strategic manufacturing industries, increasing trade imbalances, decreasing technological dynamism and industrial competitiveness had been major concerns in industrialized economies. The financial freefall of 2008-2009 and the subsequent economic recession further fuelled concerns about the overall impact on national economies of an increasingly rapid process of deindustrialization. Since the onset of the crisis, there has been a substantial loss of jobs and a redistribution of manufacturing production globally with devastating effects on social welfare. Middle-income countries in the catch-up phase have witnessed a relative deceleration of their economies as a result of the contraction in global demand. Accordingly, many governments had to step in to rescue distressed

¹ European Commission: An Integrated Industrial Policy for the Globalisation Era, Brussels, 2010.

² Report to the President on Capturing domestic competitive advantage in advanced manufacturing, Executive Office of the President, White House, July 2012.

manufacturing firms and to protect national champions as well as to expand the monetary supply in an effort to counterbalance the credit crunch. The restructuring of the automotive industry and the subsequent efforts by various governments to reinforce domestic production are examples of this renewed scope for public action.

Meanwhile, governments of many developing countries began questioning the sustainability of a development model that focuses predominantly on the extraction of natural resources. Governments of middle income countries in particular have been concerned about the imbalance in the global distribution of production and trade in favour of a few emerging large economies. At the onset, the economic recession only had a mild effect on many developing countries, as there was no domestic determinant of recession. However, its impact gradually spread through commodity exchange, capital flow and labour migration. Due to reduced demand in the external market, the export of manufactured goods from developing countries fell consistently. Unfavourable conditions in the world market compounded with home-grown problems related to the cost of production, slow pace of technological endowment, fluctuating interest rates and inflation induced the decline of industrial production. Thus, deindustrialization has, to a certain degree, also taken place in developing economies.

Renewed interest in manufacturing has raised the expectation of many nations to change their course on the path of inclusive and sustainable industrial growth. It has redefined development models, incorporated new dimensions into industrial policy and addressed the challenges related to the impact of industrialization on the environment. These developments have created new opportunities and challenges for UNIDO as a world body dedicated to the promotion of industrialization. At a time when many governments are revisiting and reformulating their industrial plans and policies, UNIDO plays an indispensable role in assisting nations to define new strategies based on reliable empirical evidence. UNIDO maintains an international industrial statistics database and disseminates various statistical products worldwide. The statistical information made available by the organization offers a unique opportunity for countries to assess the current trends of world manufacturing, analyse the competitive industrial performance of nations and formulate new directions of industrial development.

The *International Yearbook of Industrial Statistics*, UNIDO's major statistical publication, is a compendium of detailed statistics on the level, structure and growth of world manufacturing. Based on data published in the *Yearbook* as well as on data available in the industrial statistics database maintained by UNIDO, the present report analyses manufacturing trends over the last two decades for the largest possible set of countries, namely nearly 200. The analysis documents the three most relevant stylized facts that characterize the last two decades. Firstly,

the positive relationship linking manufacturing value added per capita and gross domestic product per capita for different country groups; secondly, the process of redistribution of manufacturing value added across different countries and a set of country groups over the period under consideration, and finally, particular emphasis which is given to the two most striking facts underlying the transformation of the current manufacturing landscape: the profound manufacturing loss resulting from the global financial crisis and the strong acceleration the subsequent long wave of economic recession has impressed on the distribution of manufacturing production since 2008. The report presents estimates of the manufacturing loss by country groups and statistics on the different country performances.

2. Global manufacturing landscape

The objective of this paper is to offer an overview of the current global manufacturing landscape based on manufacturing value added (MVA), a measure of a country's level of industrialization. To explore the importance of this indicator in an analysis of manufacturing development to determine the degree of industrialization and manufacturing trends across countries, familiarity with certain concepts is necessary. This section therefore introduces the approach developed by UNIDO for measuring manufacturing value added at the country level as well as for selecting different country comparators according to different country group criteria.

2.1 Manufacturing value added

Manufacturing value added (MVA) of an economy is the total estimate of net output of all resident manufacturing activity units obtained by adding up outputs and subtracting intermediate inputs. Measurement of MVA requires appropriate demarcation of the type of economic activity and of the territory in which the activity takes place. The boundary of manufacturing as an economic activity is defined by the International Standard Industrial Classification of All Economic Activities (ISIC)³. In terms of territory, UNIDO Statistics uses the national account concept of resident units. Data are compiled for an economy rather than a country within its political boundary. Many territories function as a separate economy, occasionally with a different currency from that of the country they belong to in terms of political and administrative sovereignty.

³ Revision 4 is the latest version of ISIC, which is being progressively introduced in national statistical systems around the world. There are regional (such as NACE in Europe and NAICS in North America) and national versions of ISIC which are largely compatible with ISIC.

UNIDO produces value added estimates of manufacturing activities at two levels – the sector level (often termed industry value added) and the aggregated level, referred to in this paper as manufacturing value added.

- i) The value added of a manufacturing industry (industry value added) is a survey concept that refers to the given industry's net output derived from the difference of gross output and intermediate consumption. Value added is calculated without deducing consumption of fixed assets represented by depreciation in economic accounting concepts. The social cost of producing value added is higher than that considered in the existing statistical practice, as it takes the depletion and degradation of natural resources into account.

Depending on the survey method selected, industry value added may often refer to census value added which disregards the margin between the receipt from and payment for non-industrial services. Survey data on industry value added may also disregard the contribution of small and household-based manufacturing units which are often excluded from the regular industrial survey programme. Estimates for such units are made separately for the compilation of national accounts. For these reasons, industry value added is used to measure the growth and structure, but not the level.

The UNIDO Industrial Statistics database presents industry value added at the 2-, 3- and 4-digit level of ISIC. This is the lowest possible industry group level which is, in many cases, almost equivalent to the product group. For example, at the 4-digit level of ISIC Revision 4, data are presented for 151 manufacturing industry groups.

Detailed description of UNIDO's databases INDSTAT2 and INDSTAT4 are provided on the statistics-related pages of UNIDO's website⁴.

- ii) The value added of the entire manufacturing sector (or MVA) is, theoretically, the sum of the value added of all manufacturing activities. However, in practice, MVA cannot simply be derived by adding up all industry value added figures because of the complexity associated with survey methods. Industry value added may not cover all activity units engaged in manufacturing due to the incomplete frame used in the survey. On the other hand, activity units are

⁴ See www.unido.org/statistics

often classified as manufacturing based on their primary activity. This implies that secondary activity can often be of a non-manufacturing nature. Such discrepancies are resolved in the process of compiling national accounts using supply use or input-output tables. Thus, MVA measures an exclusive and exhaustive contribution of manufacturing to GDP.

Statistics from INDSTAT databases are widely used to conduct analyses on structural change and demand supply balances. This paper analyses MVA as a measure of industrialization. Data for this purpose are taken from UNIDO's MVA database⁵.

While GDP provides an important point of reference for analysis of a country's overall economic development, it does not reveal any specific information about sectoral composition and, in particular, the different degrees of industrial development. Countries show profound structural differences which tend to relate to their stage of overall economic development and the difference contribution of the various sectors (agriculture, industry – and manufacturing as part of it – and services) their economic system is composed of. To capture the different levels of countries' industrial development, UNIDO generally uses manufacturing value added (MVA) per capita as the main indicator. In most cases, MVA per capita is used, i.e. a relative value of net manufacturing output to the population size, to measure a country's level of industrialization. The highly service-oriented offshore economies, which have achieved relatively high levels of overall income with a marginal contribution of manufacturing, are an exception.

One of the statistical uses of MVA per capita is classifying country groups according to stage of industrial development. While there is a common standard for country classifications by geographical region⁶, international agencies apply their own country groups that reflect their primary mandate in international development. The World Bank presents data based on gross national income per capita, i.e. three major income categories: low, middle and high income countries. These categories are based on the Bank's operational lending categories. The United Nation's Human Development Report (HDR) uses four country groups based on the human development index. The basic principle of UNIDO's country classification is to differentiate countries based on their stage of industrial development.

⁵ MVA explorer.

⁶ Standard geographical.

2.2 Country groups by stage of development

UNIDO's statistical and research publications have used MVA per capita to differentiate between country groups, however, this approach was not strictly followed due to the problem of a comparable valuation of output in different countries. At the level of an economy as a whole, countries' socio-economic performance can be compared based on GDP at purchasing power parity (PPP), which eliminates the difference between the nominal currency exchange rates and the actual prices of goods and services in different countries. PPP is based on the price of a basket of consumer goods derived from different types of economic activities, and serves as a composite factor of adjustment for exchange rates.

There is, however, no similar price comparator at the level of the manufacturing sector. Therefore, for the purpose of country classification, UNIDO uses an adjusted value of MVA per capita (at PPP), which is obtained as a product of two ratio variables:

$$\text{MVApc (adjusted)}_j = \text{GDP per capita (at PPP)}_j \times s_j ;$$

$$\text{where } s_j = \frac{\text{MVA}_j}{\text{GDP}_j}$$

MVApc (adjusted) is an implicit estimate of MVA per capita at PPP. This is the basic measure underlying the country groups in UNIDO statistics. It corresponds with the results of a UNIDO study which concludes that the share of MVA in GDP does not increase beyond a certain point once the country has reached its highest level of industrialization. GDP per capita at this point is estimated to be 13,000 international dollars (PPP)⁷. The share of MVA in GDP at this particular level of economic development is around 20 percent. Based on these figures, we conclude that an economy is considered 'industrialized' if its adjusted MVA per capita exceeds 2,500 international dollars (PPP).

UNIDO's country groups comprise two main categories: i) industrialized economies and ii) developing and emerging industrial economies. The basic criterion of this classification is MVA per capita. Additional measures were used to include very high-income economies—predominantly off-shore economies—in the group of industrialized economies. The group of developing and emerging industrial economies replaces the former group of developing countries. It consists of four sub-groups: i) emerging industrial economies, ii) China, iii) other developing economies, and iv) least developed countries (LDCs). Details on the country groups

⁷ In Search of General Patterns of Manufacturing Development; Working Paper by Haraguchi & Rezonja; UNIDO, 2010.

used in UNIDO statistics are provided in a separate UNIDO publication as well as in the International Yearbook of Industrial Statistics.⁸

Country groups meet the following requirements of UNIDO's research and statistics activities:

- Setting up the modality of aggregation to monitor changes in the overall pattern of economic growth and structure;
- Enabling international comparisons to determine the leading regions and country groups and those lagging behind;
- Providing a basis for statistical analyses using basic and advanced methods, such as computation of mean value at the aggregated level, margin of variation, outlier detection and distribution pattern.

MVA per capita is a generalized measure. Provided that data is available, it would be more accurate to consider MVA in relation to the total number of employees or, better yet, to the total number of hours worked (UNIDO, 2010). Such a measure would allow us to identify possible inequalities with reference to industrial development on a global scale; possible centres of industrialization (or lack thereof) might be useful for decisions on international aid or other forms of economic cooperation. The production and technological capabilities of countries at different stages of economic development vary. The technologies countries employ in production differ as do their leading industries. This makes country comparability difficult and suggests the need to benchmark countries that are at the same stage of development, in other words, those countries that tend to have similar production/technological structures.

Grouping countries according to their MVA per capita is not the only way to analyse countries' industrial development. Countries could also be grouped using cluster analysis techniques or simply selecting other development indicators. The number of comparators is actually of less importance than the selection criteria adopted. As highlighted in the IDR 2005: "There is no optimal number of comparators, and different countries may be used different purposes. A large number of comparators from across the world may be used (assuming that the data is readily available) to assess performance for broad issues like MVA or export performance, technology structures or inward FDI. A smaller set may be used to assess other variables like skill formation, R&D or risk ratings" (UNIDO, 2005: 9). A classification based on MVA per capita is not the only method applied in UNIDO statistics. UNIDO also groups countries by 'income category' like the World Bank as well as into 'special groups'.

⁸ UNIDO, *International Yearbook of Industrial Statistics*, 2013, Edward Elgar, UK.

The country groups have a regional dimension as well. A regional distribution of MVA makes a focus on the industrial development of countries in a specific geographic area possible. This is of particular interest for countries seeking to benchmark their ‘local’ industrial development and, specifically, to identify comparable countries in their regional area or continent. Regional comparisons also provide information on inequalities within and across regions in the world.

Thus, UNIDO Statistics’ new country groups reflect countries’ stage of industrialization, geographic region and income category. The country groups also include special groups of interest for data users. In this report, we use the first country group based on stage of industrialization, although disaggregated figures are presented so that ad hoc analyses based on geographical or income comparators can also be conducted.

3. World manufacturing growth – Empirical evidence

Since the onset of the 2009 crisis, there has been a proliferation of policy reports, academic contributions, national manufacturing strategies and white papers in all major industrialized economies investigating whether manufacturing still matters⁹. After having lost 41 percent of its manufacturing jobs within 30 years, the U.S. today is among the most active players in shaping a *new pro-manufacturing vision* (see Andreoni and Gregory, 2013). This is rooted in the following key arguments:

- (i) Manufacturing is the main engine of economic growth due to its *higher productivity* and *scope for innovation*.
- (ii) Manufacturing is a crucial source of *high quality employment* (in the period 2008-2010, it was estimated that earnings in manufacturing in the U.S. were around 20 percent higher than earnings in non-manufacturing industries (see Helper et al., 2012)).
- (iii) Producing tradable manufactured goods is essential for maintaining the *trade balance*, given that around two-thirds of world trade is still in manufactured goods (according to UN COMTRADE, this figure was 83.4 percent in 1996, while in 2009, it was 77.4 percent, of which 38 percent was in medium-tech products).

Many of the rationales put forward resemble earlier thinking on industrial growth theory, although they are often supported by new empirical evidence. For example, Rodrik (2009) reports that since 1960, economic growth in developing countries has been strongly associated with the development of modern industrial sectors (both manufacturing industries and agribusiness). Another recent empirical analysis confirms the ‘engine of growth hypothesis’ for

⁹ See, among others, Tasse, 2010; Pisano and Shy, 2009; Bianchi and Labory, 2011.

a sample of 90 countries (21 advanced economies and 69 developing countries) in the period 1950-2005 (Szirmai and Verspagen, 2010). The study shows that the share of manufacturing is positively correlated with economic growth from 1950 to 2005 (in particular, for poorer countries), while services had a significant positive effect only until 1990, with coefficients far lower than those of manufacturing. Interestingly, in the period 1990-2005, the coefficient for services became insignificant.

3.1 Growth pattern by country groups

The present report provides new empirical evidence on the relationship between manufacturing value added (MVA) per capita and the gross domestic product (GDP) per capita by country group. A discussion of the relationship between these two variables is important in that if there is a clearly distinguishable trend, for example, between increasing levels of MVA per capita and of GDP per capita, the implication is that more economic growth leads to increased industrialization and vice versa. Taking MVA per capita (constant price) as an independent and GDP per capita (constant price) as a dependent variable, we obtain a model of order two. An overall positive relationship can be recorded when investigating the graphical output on the facing page, revealing how the growth of GDP per capita goes hand in hand with increases in MVA per capita. Apart from that, a number of distinctive key features can be observed when we analyse the relationship between GDP and MVA per capita by introducing a distinction among different country groups. The graphical output of such a model is illustrated in Figure 1.

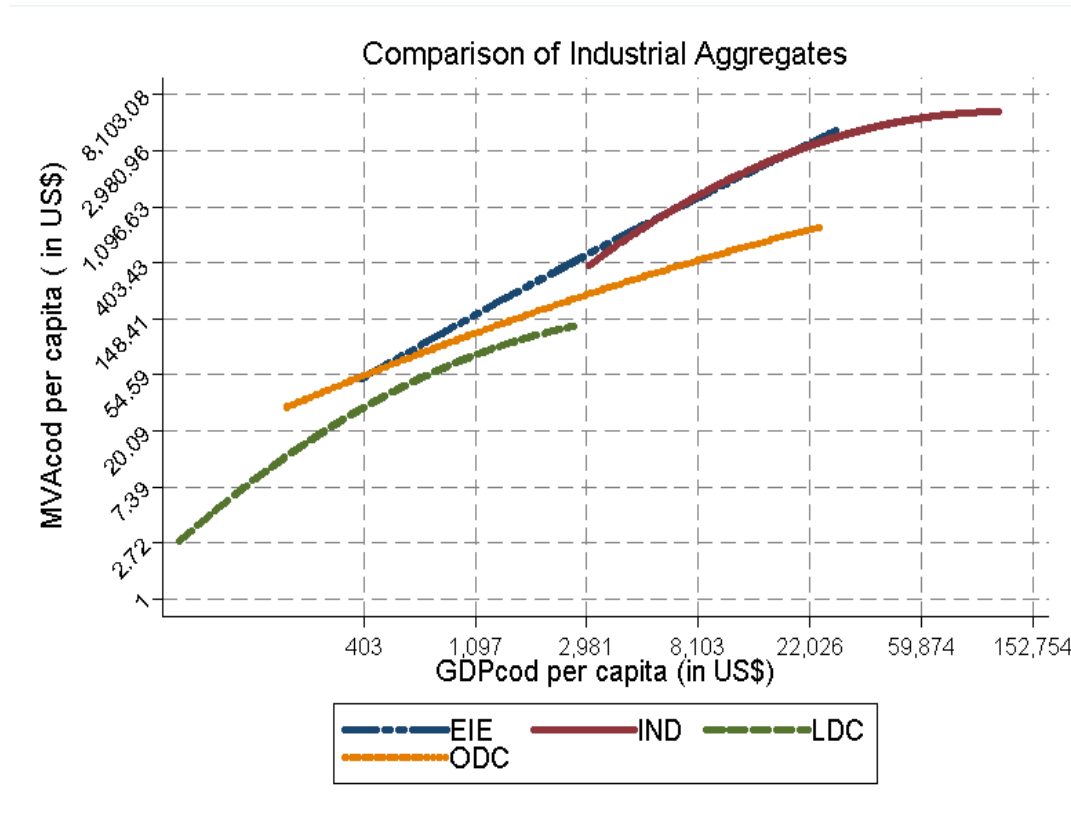
The curve that represents industrialized countries (INDs) exhibits the highest overall MVA per capita level and has the strongest tendency of saturation. That is, economically advanced countries are those with the highest level of industrial development. For this group of countries, the slow-down of MVA contribution to overall income is particularly notable and is reflected in the downturn of its corresponding curve.

The LDCs' curve evolves along the lowest path of industrial development: not only do these countries report the lowest MVA and GDP values; they also rank last when it comes to MVA contribution to country-group income. For example, at an income level of USD 403, LDCs report much lower MVA values than other developing countries (ODCs) or emerging industrial economies (EIEs)¹⁰. Apart from the relatively poor general performance in comparison to the other three aggregates, a general slowdown of MVA contribution to GDP is recorded for LDCs. Even though the same dynamics can be observed for the IND aggregate, this process of

¹⁰ The adoption of an exponential scale partially reduces this effect visually.

saturation takes place at a much earlier stage in LDCs, indicating a weaker influence of manufacturing on overall economic development.

Figure 1 MVA per capita vs. GDP per capita (constant prices)



Source: UNIDO Statistics, 2013

Overall, the aggregates of EIEs and ODCs show comparable dynamics, however, their development path differs with respect to their slope. A higher manufacturing value added contribution for any given income per capita (GDP) level can be recorded for the aggregate of EIEs. Yet, neither aggregate shows any signs of stagnation or saturation. We can therefore conclude that manufacturing remains an important source of growth and driver of economic development for these countries.

When looking at the shape of the curves for the EIEs and ODCs, it remains unclear whether one, both or none of these two aggregates will follow a path that is similar to the one recorded for the IND aggregate. This is attributable to the fact that despite showing highly positive dynamics, they have not yet reached the level at which the slowdown in MVA contribution to overall GDP can be recorded for the aggregate of INDs.

Taking the median MVA per capita and GDP per capita for 2012 into account, we divide the world into four quadrants as shown in the table below:

<p>Quadrant I MVA < median GDP < median</p>	<p>Quadrant II MVA > median GDP < median</p>
<p>Quadrant III MVA > median GDP > median</p>	<p>Quadrant IV MVA < median GDP > median</p>

The first quadrant represents countries that are lagging behind in terms of industrial and economic growth. Both the MVA and GDP per capita values in this quadrant are below the median. The industrial base of these countries is relatively weak, which has prevented them from achieving higher levels of economic growth. Countries in the second quadrant with an MVA per capita above and a GDP per capita below the median represent the considerable weight of the manufacturing sector for development. These countries have developed a strong industrial base whose economic growth potential has not yet fully unfolded. The third quadrant with an MVA and GDP per capita above the median denotes the highest level of manufacturing activity as well as of overall economic development. Industrialization has accorded these countries a high level of economic development. Countries with an MVA per capita below and a GDP per capita above the median are concentrated in the fourth quadrant, indicating that overall GDP is more dependent on other sectors than on manufacturing. The countries within each quadrant are listed in Table 1.

Several developing countries, especially those of the group of LDCs, fall into “Quadrant I” of the table, implying that their economy is characterized by a low level of industrialization.

When looking at the figures of the countries in the second quadrant, we find that they have a relatively high share of manufacturing value added in GDP (see also Figure 1). Three important Asian countries in this quadrant are China, Indonesia and Thailand. These countries have achieved a significant level of industrialization while their level of overall economic development still lies below the median level. For example, following the 2009 crisis, the increase in manufacturing output in Indonesia—now the largest economy in Southeast Asia among this group—was the key driver of growth in the country’s economy. The third quadrant

mainly includes industrialized and emerging industrial economies (see Table 1), which benefit from both high levels of manufacturing activity and wealth. Among these countries are manufacturing leaders such as the U.S., Japan, Germany and the Republic of Korea. The fourth quarter includes countries that are more dependent on other sectors and less so on manufacturing. For instance, the Maldives' major economic activity is tourism; Jamaica's economy is heavily dependent on services, which accounts for more than half of its GDP. Other economies in this quadrant with a relatively high GDP per capita, such as Botswana or Equatorial Guinea, are more dependent on their natural resources.

Table 1 List of countries by quadrant

Quadrant I		Quadrant III	
Afghanistan	Madagascar	Andorra	Libya
Algeria	Malawi	Argentina	Liechtenstein
Angola	Mali	Aruba	Lithuania
Armenia	Marshall Islands	Australia	Luxembourg
Azerbaijan	Mauritania	Austria	Malaysia
Bangladesh	Mongolia	Bahamas	Malta
Benin	Morocco	Bahrain	Mauritius
Bhutan	Mozambique	Barbados	Mexico
Bolivia	Myanmar	Belarus	Monaco
Bosnia and Herzegovina	Nepal	Belgium	Namibia
Burkina Faso	Nicaragua	Bermuda	Netherlands
Burundi	Niger	Brazil	New Caledonia
Cambodia	Nigeria	Brunei Darussalam	New Zealand
Cameroon	Pakistan	Bulgaria	Norway
Cape Verde	Palestine	Canada	Oman
Central African Republic	Papua New Guinea	Chile	Peru
Chad	Paraguay	China (Taiwan)	Poland
Comoros	Philippines	China, Hong Kong SAR	Portugal
Congo	Republic of Moldova	China, Macao SAR	Puerto Rico
Côte d'Ivoire	Rwanda	Colombia	Qatar
Congo	Samoa	Costa Rica	Republic of Korea
Djibouti	Sao Tome and Principe	Croatia	Romania

Ecuador	Senegal	Cyprus	Russian Federation
Egypt	Serbia	Czech Republic	Saint Kitts and Nevis
Eritrea	Sierra Leone	Denmark	San Marino
Ethiopia	Solomon Islands	Dominican Republic	Saudi Arabia
Gambia	Somalia	Estonia	Seychelles
Georgia	Sri Lanka	Finland	Singapore
Ghana	Syrian Arab Republic	France	Slovakia
Guinea	Tajikistan	French Polynesia	Slovenia
Guinea-Bissau	Timor-Leste	Germany	South Africa
Guyana	Togo	Greece	Spain
Haiti	Tonga	Greenland	Suriname
Honduras	Tuvalu	Hungary	Sweden
India	Uganda	Iceland	Switzerland
Iran	Tanzania	Ireland	Trinidad and Tobago
Iraq	Uzbekistan	Israel	Turkey
Kenya	Vanuatu	Italy	United Arab Emirates
Kiribati	Viet Nam	Japan	United Kingdom
Kyrgyzstan	Yemen	Kazakhstan	United States of America
Lao	Zambia	Kuwait	Uruguay
Lesotho	Zimbabwe	Latvia	Venezuela
Liberia		Lebanon	
Quadrant II		Quadrant IV	
Albania	Jordan	Antigua and Barbuda	Jamaica
Belize	Swaziland	Botswana	Maldives
China	Thailand	Cuba	Montenegro
El Salvador	Macedonia	Dominica	Palau
Fiji	Tunisia	Equatorial Guinea	Panama
Guatemala	Ukraine	Gabon	Saint Lucia
Indonesia		Grenada	St Vincent and the Grenadines

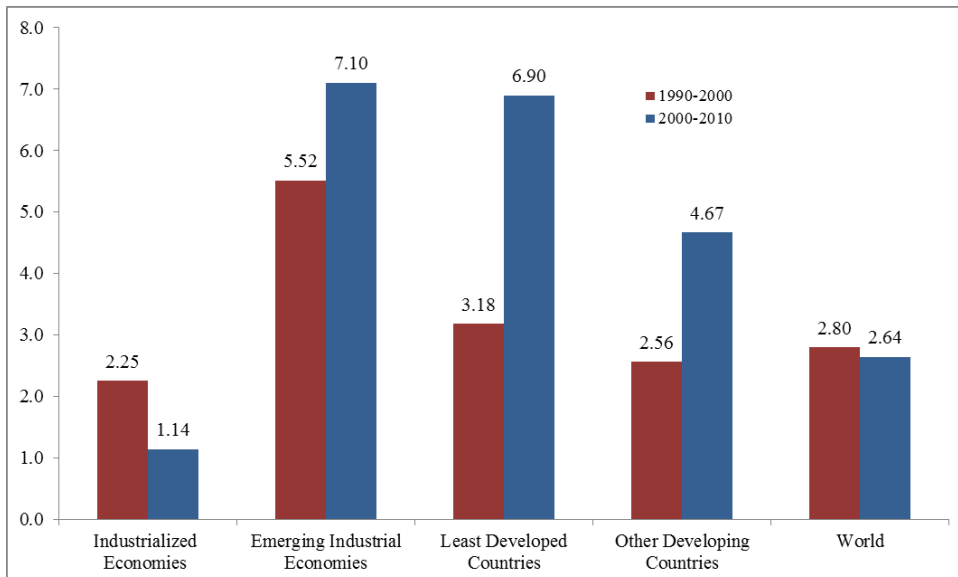
The large number of countries in the first and fourth quadrant reflects the strong correlation between MVA and GDP per capita, which supports the conclusions drawn from the model in Figure 1.

3.2 Recent manufacturing growth figures

Global manufacturing has, over the last two decades, been characterized by a significantly higher pace of growth in developing countries compared to industrialized countries, which is generally explained by domestic and external factors. The low production base, abundance of locally produced raw materials and increasing surplus labour force, domestic investment and pro-growth government policies served as major domestic factors of the expansion of manufacturing in developing countries. The determinant external factors included foreign direct investment together with a strong wave of outsourcing production activities by companies based in industrialized countries and favourable conditions in international trade. By contrast, manufacturing growth slowed in industrialized countries for three reasons. First, growth has slowed considerably as a result of market saturation. Second, the location of production has shifted to developing countries, Third, as income grew, the service sector expanded tremendously and claimed a higher stake in the economy, squeezing the share of manufacturing.

Measurement issues also affect manufacturing growth figures in industrialized economies. As a result of the so-called ‘unbundling’ of the manufacturing process, several types of services which were considered incidental to manufacturing in the past, began to be categorized as primarily service activities. This includes research and design, warehousing and transportation of manufacturing goods as well as ICT-related services.

Figure 2 Average annual MVA growth rate (in %)

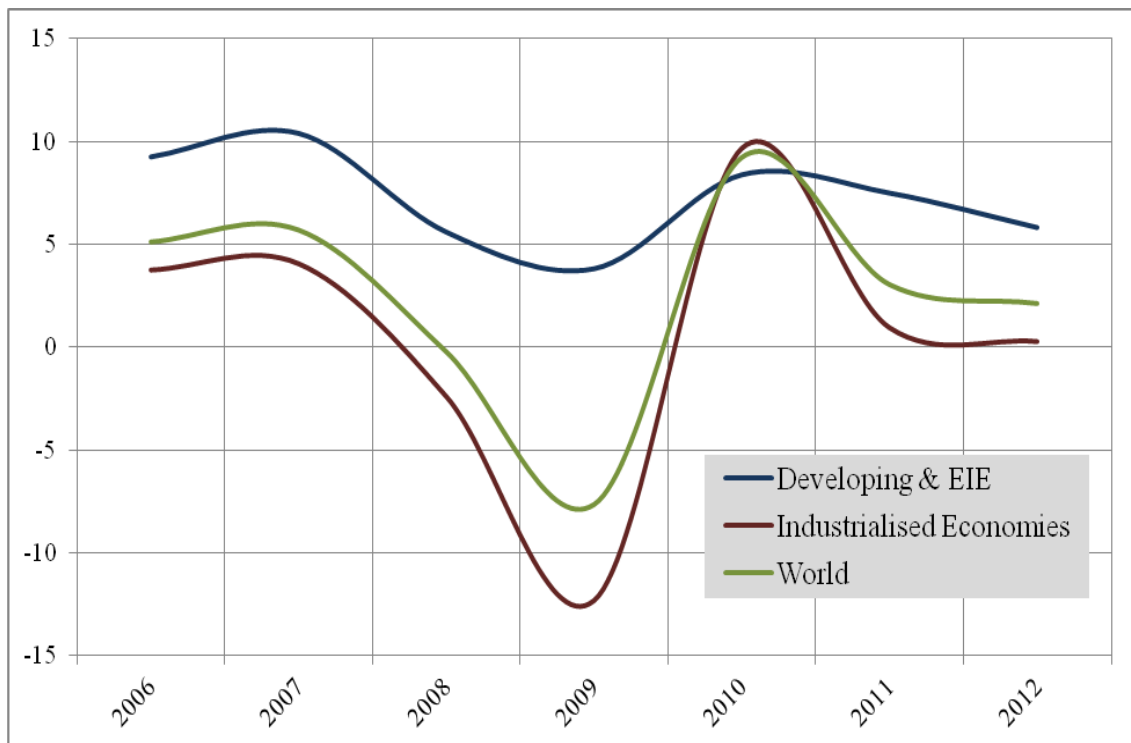


The growth figures for manufacturing products in developing countries have remained quite high in the last two decades, which significantly increased exports from developing countries. Although the share of local value addition was relatively low in the production of export-

oriented goods, the expansion of industrial activities had a huge impact on employment generation, household income and consumption expenditure. Figure 2 provides an overview of the average annual MVA growth rate for a comparison of the last two decades.

The graph illustrates that the manufacturing growth rate significantly accelerated in developing and emerging industrial economies. The average annual growth of emerging industrial economies rose to 7.1 percent in 2000-2010 compared to 1990-2000. The change was even more obvious among LDCs, where average annual growth of MVA doubled in the last decade compared to 1990-2000. This higher growth rate was achieved despite the fact that growth in these countries was relatively lower in the years following the onset of the financial crisis in 2008. For industrialized economies, the trend was reversed, reflecting the effects of crises and saturation on the manufacturing sector.

Figure 3 Estimated annual growth rates of world MVA by years



While the average growth over two decades indicates a positive trend for all economies, a closer look at recent years reveals the grave effects of the financial crisis on manufacturing growth of industrialized countries. As illustrated in Figure 3, the annual growth rates of world MVA dropped considerably in 2008-2009. The crisis hit industrialized economies hard, with decline in production up by about 13 percent. Production reached its lowest level in 2009. The effect of the crisis was fairly mild on developing economies at the onset. However, due to the protracted recession in industrialized countries, exports from developing economies decreased and capital

inflow fell. The impact of these changes on developing economies became more visible after 2011.

The figure suggests that the recession continued to affect manufacturing growth of industrialized countries well beyond 2009. After a period of recovery in 2010, the recession took hold in all country groups. The growth rate began slowing down in 2011 and continued to decelerate in 2012. The instability in the financial markets and government interventions with austerity measures further affected the growth of European industrialized economies with significant job losses, a drop in household income and, consequently, further declines in production.

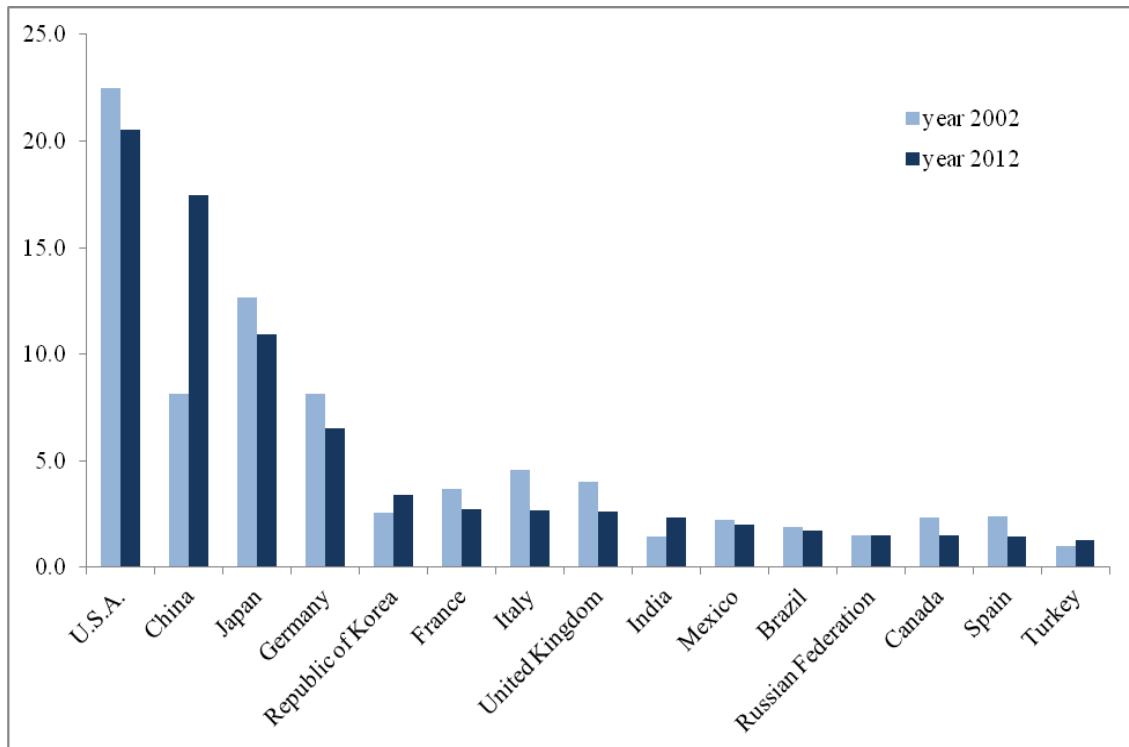
The next section presents some estimates of the loss in world MVA attributable to the financial crisis.

3.3 Leading manufacturing economies

MVA constitutes the base indicator to determine a country's stage, degree and level of industrialization. Hence, MVA is used to benchmark countries' position in the world manufacturing landscape and to track countries' industrialization trajectories. This section presents a benchmarking exercise for leading manufacturing economies in 2012. The table presents MVA data for 183 countries reported in the *International Yearbook of Industrial Statistics*.

Since manufacturing output is a major indicator of industrial performance, the leading manufacturing economies have been identified as the top 15 contributors to world manufacturing value added in 2012 as well as in 2002. As shown in Figure 4, the top 15 manufacturing countries generate nearly 80 percent of manufacturing value added in the world, while more than 60 percent is concentrated in the three leading manufacturers, namely the U.S., China and Japan. During the decade examined here, China witnessed considerable growth in manufacturing value added, doubling its contribution to world MVA. Similarly, the Republic of Korea, India and Turkey also improved their share in world MVA. Five major economies from Europe are among the top 15, with a combined contribution to world MVA of 16 percent in 2012, down from 23 percent in 2002. Within this decade, the Republic of Korea emerged as a fully industrialized country; in 2002, it was still considered a developing economy. Five economies among the top 15, namely Brazil, China, India, Mexico and Turkey, are not yet included in the group of industrialized countries.

Figure 4 Top 15 countries by share in world MVA (in %), at constant 2005 prices



The determining role of manufacturing in economic growth (see section 2.3) is reflected in the fact that 14 out of the 15 leading manufacturing economies are also present in the ranking of the top 15 contributors to world GDP. The three exceptions, Switzerland, Singapore and Netherlands, do not appear in the top 15 leading manufacturing economies only due to their size and despite their MVA per capita (ranked 2nd, 4th and 15th, respectively, in the world). Taken together, the 14 leading manufacturing economies contributed 77 percent of world GDP in 2012, their ranking closely reflecting that in Figure 2 (see also Table A1), at least for the first group of countries at a more similar stage of industrial development (China is the obvious exception, while the United Kingdom's jump in the GDP ranking is the result of its relatively strong service sector).

In Table A1, the selected countries are ranked in terms of total MVA for 2012 as well as MVA per capita. Data on MVA per capita and share of MVA in world MVA are presented for each country. The share each country contributes to world GDP is reported as well. The presentation of the full set of output indicators allows an interpretation of the ranking irrespective of any distortive effects attributable to country size in terms of population or to stage of economic development, as generally reflected by the share of MVA in total GDP. For example, large countries with high population density and high internal demand tend to underperform in terms of their MVA per capita, while their share of MVA in total GDP tends to decline at advanced

stages of economic development, measured by GDP per capita (Japan and Germany are exceptions in this respect). In a sectoral comparison for two reference years, 2005 and 2011, the sectoral share in total MVA reveals that the U.S. and China lead in most manufacturing industries. Japan held a leading position in the production of motor vehicles with a share of 22 percent and 23 percent¹¹ of world production in the years 2005 and 2011, respectively. Among developing and emerging industrial economies, Mexico is a major producer of food and beverages, with a 20 percent and 17 percent share in the total MVA of developing countries and EIEs in 2005 and 2011, respectively. Leading Mexican brands have well-developed national distribution networks and are well positioned in the market. They enjoy high brand awareness among consumers, who are very loyal despite economic variations. The U.S. had a 24 percent and 21 percent share of world total value added in the food and beverages industry in 2005 and 2011, respectively.

Among developing and emerging industrial economies, the top five leading countries in textiles in 2011 were China, India, Turkey, Indonesia and Pakistan. Turkey moved from second place in 2005 to third in the production of textiles in 2011, attributable to an increase in the competitiveness of other countries. The textiles industry in Pakistan is the economy's mainstay and despite the drastic changes that have taken place in the manufacturing pattern over the years, the textiles industry continues to be the major employer of Pakistan's industrial labour force.

In wearing apparel, China, Italy and the U.S. were the leading countries in both 2005 and 2011, while Turkey was the leading country in the manufacture of wearing apparel in the markets of developing countries and EIEs. Mexico, India and Brazil led the ranks in the production of chemicals and chemical products in the reference years among developing countries and EIEs. The U.S. moved from being the top non-metallic producer with 18 percent of world total MVA to second place in 2011, while China replaced the U.S. with a 24 percent contribution to world total VA owing to the tremendous progress China has made in technology use.

¹¹ All shares are based on 2005 constant prices.

Table 2 Manufacturing leaders in selected industries (2005, 2011)

Industrial activity	2005		2011	
	Country	Share ^{a)}	Country	Share
Food and beverages	United States of America	24	United States of America	20.9
Tobacco products	United States of America	27.3	China	41.6
Textiles	China	21.2	China	46.1
Wearing apparel	China	21.5	China	47.4
Leather products and footwear	China	22.6	China	48.9
Wood products	United States of America	25.7	China	17.9
Paper and paper products	United States of America	27.7	China	24.8
Printing and publishing	United States of America	18	United States of America	13.4
Coke, refined petroleum products, nuclear fuel	United States of America	30.1	United States of America	22.3
Chemical products	United States of America	29.3	United States of America	22.9
Rubber and plastic products	United States of America	23.4	United States of America	17.5
Non-metallic mineral products	United States of America	17.8	China	23.9
Basic metals	China	20.9	China	55.3
Fabricated metal products	United States of America	22.5	United States of America	17
Machinery and equipment n.e.c	United States of America	20	China	23.3
Office, accounting and computing machinery	United States of America	27	China	38.8
Electrical machinery and apparatus	United States of America	18.8	China	28.6
Communication equipment	Japan	20.5	China	21.8
Medical, precision and optical instruments	United States of America	41.6	United States of America	38
Motor vehicles, trailers, semi-trailers	Japan	21.7	Japan	23.3
Other transport equipment	United States of America	34.9	United States of America	28.2
Furniture; manufacturing n.e.c.	United States of America	29.5	United States of America	23.8

a) In world total value added at constant prices.

In machinery and equipment, the U.S. dropped from first to fourth position, being surpassed by China, Japan and Germany in both product and process technology. India and Brazil are major producers of machinery and equipment among the developing countries and EIEs. The contribution of Japan to the global total value added of radio, television and communication equipment declined from 21 percent in 2005 to 16 percent in 2011. China and the U.S. are leaders in the industry.

The U.S. ranks first by a significant margin in medical, precision and optical instruments as the world's largest producer.

As noted above, Japan is the top manufacturer of motor vehicles in the world with a share of 22 percent and 23 percent in total activity value added in 2005 and 2011, respectively. China's automobile industry has continued to expand despite the global economic downturn. China surpassed Germany and the U.S. after 2005 to become the second-largest automobile producer in 2011. Mexico, Brazil and India are the major producers of motor vehicles in the group of developing countries and EIEs.

The contribution of industries to world MVA confirms the fact that industrialized countries perform better in high-technology industries while developing and emerging industrial economies perform well in the production of basic consumer goods

In accordance with the figures, the change in pattern of world MVA in ISIC industries from 2005 to 2011 shows that the role of developing and emerging industrial economies is becoming more significant in all economic activities. In 2011, more countries from this group more effectively contributed to the various markets compared to the year 2005, while industrialized countries experienced a decline in the share of total value added in manufacturing industries, perhaps due to saturation in economic development.

4. Changing scenario of world manufacturing, 1990 – 2010

After having provided a snapshot of the current global manufacturing landscape, this section of the report takes a dynamic perspective by focusing on changes in the distribution of MVA per capita at the *global level, across country groups and in selected countries* over the last two decades. The timeframe considered is 1990 – 2010, although three data points are adopted for the analysis: 1990, 2000 and 2010. The final section also provides a snapshot of the impact of such changes in the global distribution of manufacturing on other variables.

4.1 Changes in the global distribution of manufacturing value added

From a global point of view, Figure 5 shows the distribution of MVA per capita in the years 1990, 2000 and 2010 for all countries. The figure shows an uneven distribution of manufacturing output among countries and resulting variations of the overall level of industrialization. Manufacturing output is not at all equally distributed and remained so over the last two decades, albeit some changes were registered. Some countries are characterized by very high levels of industrialization proxied by a very high MVA per capita, while the majority of countries in the same time period did not pass an MVA per capita threshold of USD 2,000. However, the skewness of the distribution curve actually increased from 1990 to 2000, but decreased considerably from 3.4 to 2.35 between 2000 and 2010. This indicates that the level of industrialization was more equally distributed on the global scale in this last decade than in the previous one. The most obvious explanation for this change in the manufacturing distribution curve in this last decade relates to the structural impact of the financial crisis on MVA data (this analysis is further developed in section 3.3). However, it seems that broader transformations in the global manufacturing landscape are responsible for such shifts. If we take a closer look at the data (see Tables A2, A3 and A4 in the appendix), we detect the following patterns:

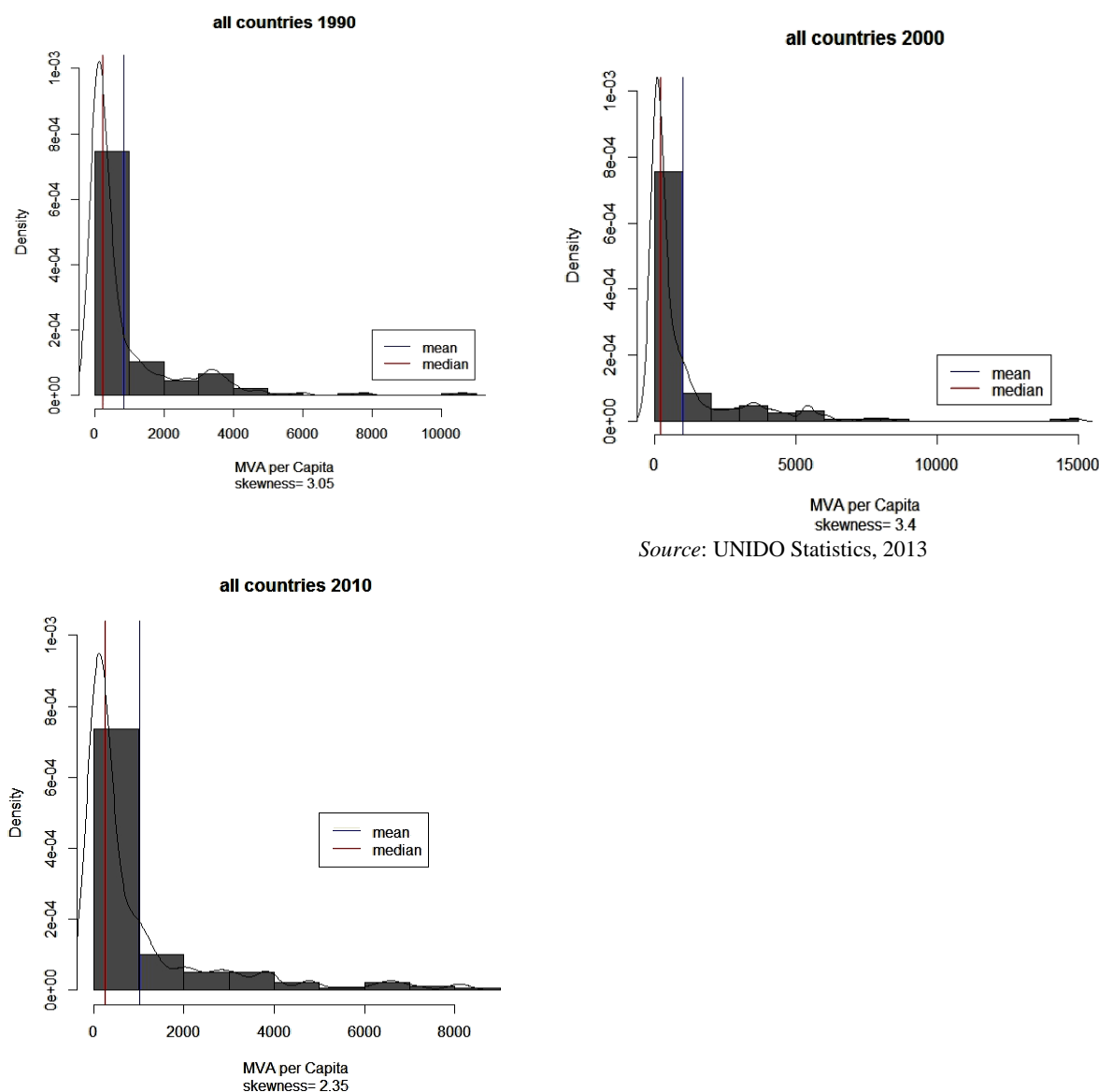
Considering the median MVA per capita in the year 1990 (USD 208), 100 countries in the world had an MVA per capita below this figure. In 2000, this number of countries declined to 96, indicating a slight growth in manufacturing output. In the year 2010, the MVA per capita of 69 of the countries remained below the median MVA per capita. In other words, compared to 1990, 31 countries attained a higher level of industrialization, while the median MVA per capita shifted to USD 497.

In the year 1990, 151 countries registered an MVA per capita below USD 1,000. This number of countries had not changed significantly by the year 2010, but had declined to 125 in 2010, which reflects growth in the level of industrialization primarily in developing countries and emerging industrial markets. Fifteen countries had an MVA per capita of between USD 1,000 and 2,000 in the year 1990. This figure remained unchanged in the year 2000, but increased to 27 countries by the year 2010, indicating the growth in countries benefiting from manufacturing activities.

In 1990, 32 countries had an MVA per capita higher than USD 2,000 of which 13 registered an MVA per capita higher than USD 5,000. As can be seen in Figure 5, the distribution changed in 2010 and became less skewed. The number of countries with an MVA per capita above USD 2,000 increased to 46 countries.

World MVA per capita in 1990 was USD 871, with the group of industrial economies leading with an MVA per capita equal to USD 3,555 in contrast to USD 181 of developing and emerging industrial economies. In 2000, world MVA per capita increased to USD 957; the figures for industrialized economies and developing and emerging industrial economies also increased to USD 4,044 and USD 242, respectively. By 2010, world MVA per capita had increased considerably to USD 1,466, with industrialized economies registering an MVA per capita of USD 5,151 and the manufacturing output of developing and emerging industrial economies grew remarkably and registered an MVA per capita of USD 671, nearly four times higher than the figure recorded for 1990. From the figures it can be inferred that the picture changed dramatically over the last decade. The change in pattern is becoming more obvious as is the fact that manufacturing value added is growing all around the world.

Figure 5 Distribution of MVA per capita in the world for 1990, 2000 and 2010



To sum up, the overall the distribution of MVA per capita is not normal and is strongly positively skewed, i.e. with relatively few high MVA per capita values. Furthermore, the non-normality of the global MVA per capita distribution did not significantly improve during 1990-2010.

The above analysis takes a global perspective on manufacturing distribution while it does not take countries' individual trajectories and their movement across manufacturing distribution into account. In other words, countries may vary within the distribution intervals as well.

On the other hand, as discussed above and shown in Table A5, only a limited number of countries experienced an increase (or decrease) in their MVA per capita that was sufficient to generate a shift in the manufacturing distribution curve, at least in the first decade. If we consider countries that had an MVA per capita above USD 2,000 in 1990, only 4 of 38 countries registered a decrease in MVA per capita from 1990 to 2000, while all other countries witnessed an increase. In the second decade, from 2000 to 2010, the number of countries at the top of the distribution curve with a significant decrease in MVA performance was much higher, while a few outliers like China, the Republic of Korea, Ireland, Poland and Malaysia managed to climb the ladder, registering three-digit increases in MVA per capita performance. This pattern indicates that a country's MVA per capita increase can slow down after the economy reaches a high level of industrialization. Table 3 was extracted from Table A5 in the appendix to discern those 25 countries that registered both the best and the worst performances in improving their MVA per capita over the decade 1990-2000 and 2000-2010. The variation in countries' MVA is calculated by subtracting the MVA value at the end of the decade from the corresponding value in the starting year for each country. Countries with a positive variation in MVA are considered 'runners' and those with a negative growth compared to the beginning of the decade are classified in the so-called 'loser' economies subset.

In 1990-2000, Ireland, Malaysia, Poland and the Republic of Korea registered a high increase in MVA per capita on account of a strong growth performance in production and exports of manufactured goods. During this period, Malaysia and the Republic of Korea moved from the category developing economy to that of fully industrialized economy. A boost in production of communication equipment and other electronics provided Finland, Singapore and Sweden a significant increase in MVA per capita. The U.S., Canada, Italy, France and other leading industrialized economies also achieved significant increases in manufacturing output. By contrast, several countries of Eastern Europe and former Soviet Republics faced a sharp decline in manufacturing output as a result of the Soviet Union's collapse. MVA per capita fell in

Albania, Bulgaria and Romania. MVA per capita dropped by 87 percent in Azerbaijan, 75 percent in Georgia, 60 percent in Ukraine and nearly 40 percent in the Russian Federation.

In the last decade, from 2000 to 2010, the declining growth trend in Eastern European countries and the former Soviet Republics reversed sharply. Among the countries with an impressive growth performance were Belarus, Estonia and Romania. The major Asian manufacturers Japan and the Republic of Korea continued to maintain their growth in MVA per capita in 2000-2010. Despite having the highest population in the world, China made remarkable achievements by increasing its MVA per capita by 1.7 times within 10 years. By contrast, MVA per capita dropped in some of the major industrialized countries such as Canada, Italy, Spain and the United Kingdom. This development shifted the centre of the gravity of industrial growth from Europe/North America to East Asia.

Table 3 Runner and loser economies over the last two decades

Runner economies							
Ranking by MVA pc variation	Country	MVA pc variation from 1990 to 2000	Growth rate	Ranking by MVA pc variation	Country	MVA pc variation from 2000 to 2010	Growth rate
1	Liechtenstein	5843.53	38.76%	1	Liechtenstein	2682.24	12.82%
2	Ireland	4886.29	126.07%	2	Republic of Korea	2493.18	75.32%
3	Puerto Rico	3028.24	48.12%	3	Ireland	2454.25	28.01%
4	Finland	2443.33	62.83%	4	Singapore	2217.43	33.78%
5	Singapore	2367.06	56.40%	5	Czech Republic	1493.57	68.41%
6	Sweden	2343.33	68.93%	6	Finland	1444.70	22.81%
7	United Arab Emirates	2056.23	68.12%	7	Switzerland	1310.68	15.25%
8	San Marino	1934.55	31.37%	8	China, Taiwan Province	1265.84	36.16%
9	Republic of Korea	1733.82	110.01%	9	Slovakia	1180.78	112.58%
10	Luxembourg	1503.43	28.50%	10	Sweden	1101.38	19.18%
11	China, Taiwan Province	1424.03	68.59%	11	Poland	1085.88	109.08%
12	Canada	1361.15	35.26%	12	Austria	947.93	15.42%
13	United States of America	1238.78	30.50%	13	Turkmenistan	851.80	112.83%
14	Austria	1226.13	24.92%	14	Belarus	845.95	165.99%
15	Seychelles	984.64	113.13%	15	Slovenia	805.29	27.93%
16	Netherlands	885.40	22.04%	16	Lithuania	719.80	84.42%
17	Denmark	822.40	15.87%	17	Oman	685.26	113.40%
18	Belgium	801.68	16.98%	18	Monaco	659.02	8.75%
19	Spain	781.96	26.23%	19	Hungary	627.33	38.29%
20	Malta	781.94	38.53%	20	China	614.25	174.13%

21	Malaysia	697.76	100.68%	21	Japan	531.24	7.45%
22	Italy	686.91	14.66%	22	Romania	481.35	68.42%
23	Poland	685.63	221.30%	23	Estonia	465.80	46.78%
24	France	685.02	20.44%	24	Norway	448.47	8.62%
25	Monaco	555.27	7.96%	25	Trinidad and Tobago	443.12	102.01%
Losers economies							
25	Montenegro	-97.49	-27.08%	25	Bahamas	-147.68	-14.61%
24	Turkmenistan	-103.68	-12.08%	24	Saint Kitts and Nevis	-183.56	-26.31%
23	Uruguay	-110.71	-13.88%	23	China, Hong Kong SAR	-184.44	-22.81%
22	Tajikistan	-114.76	-70.63%	22	French Polynesia	-195.81	-11.93%
21	Jamaica	-117.98	-24.90%	21	Belgium	-198.17	-3.59%
20	Suriname	-154.63	-32.35%	20	Portugal	-198.83	-8.47%
19	Colombia	-187.96	-30.98%	19	Aruba	-220.92	-23.67%
18	Romania	-194.33	-21.64%	18	Seychelles	-252.72	-13.62%
17	French Polynesia	-210.34	-11.36%	17	Cyprus	-258.05	-18.56%
16	Albania	-224.26	-55.36%	16	Barbados	-325.88	-35.92%
15	Slovakia	-248.91	-19.18%	15	Denmark	-395.47	-6.59%
14	Ukraine	-271.57	-60.24%	14	Greenland	-401.90	-11.37%
13	Cyprus	-279.42	-16.74%	13	Puerto Rico	-573.80	-6.16%
12	Georgia	-305.45	-75.26%	12	China, Macao SAR	-647.68	-53.42%
11	The f. Yugosl. Rep of Macedonia	-325.26	-45.01%	11	Bermuda	-651.07	-37.36%
10	Russian Federation	-378.38	-38.38%	10	Brunei Darussalam	-652.83	-19.44%
9	New Caledonia	-383.94	-22.25%	9	Qatar	-670.34	-14.51%
8	Azerbaijan	-428.27	-86.96%	8	United Kingdom	-678.37	-14.56%
7	Serbia	-492.26	-56.75%	7	Spain	-684.89	-18.20%
6	Bulgaria	-571.44	-59.79%	6	Malta	-925.83	-32.93%
5	Latvia	-578.43	-52.56%	5	Italy	-1073.69	-19.98%
4	Qatar	-617.19	-11.79%	4	Canada	-1362.22	-26.09%
3	Croatia	-920.94	-42.63%	3	San Marino	-1868.87	-23.07%
2	China, Macao SAR	-1202.43	-49.79%	2	United Arab Emirates	-2028.03	-39.96%
1	China, Hong Kong SAR	-1209.36	-59.93%	1	Luxembourg	-2264.78	-33.41%
Country groups:							
Industrialized Economies				Other Developing Countries (ODCs)			
Emerging Industrial Economies (EIEs)				Least Developed Countries (LDCs)			

Source: UNIDO Statistics, 2013

Table A5 in the appendix presents all variations in MVA per capita for each country from 1990 to 2000 and from 2000 to 2010. Table A5 also ranks countries by MVA per capita in 2010 and clusters them according to their respective country group, namely: industrialized economies, emerging industrial economies, other developing countries and least developed countries.

4.2 Changes in the distribution of manufacturing value added within country groups

To obtain a more visible structure of world manufacturing, data have so far been analysed across country groups. This section examines changes in the distribution of MVA per capita *within* each country group over the last two decades in order to obtain a clearer picture of the development of the composition of MVA over the last two decades.

Industrialized countries

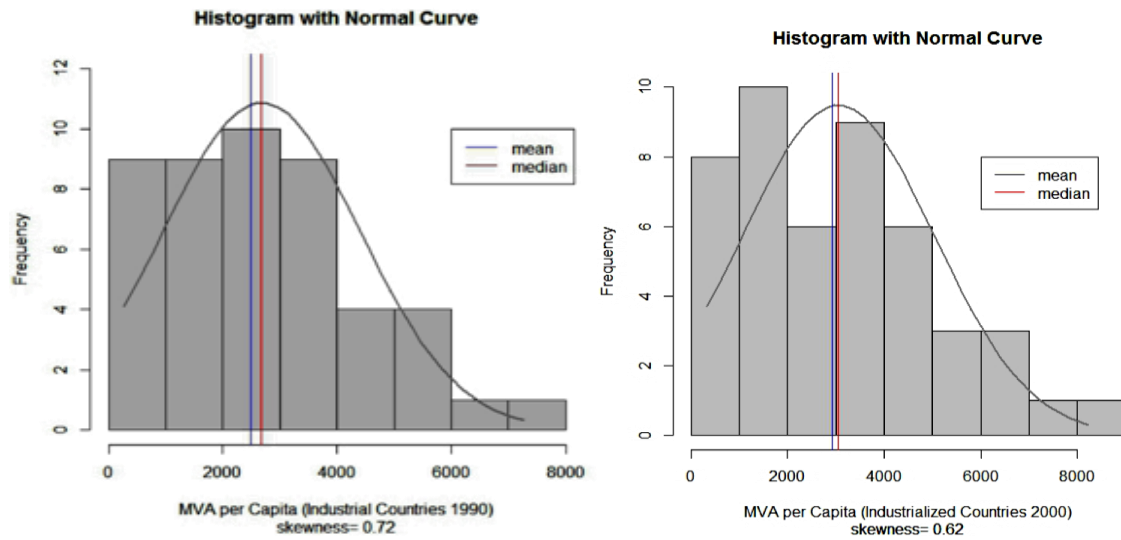
More homogeneity in the level of industrialization within the group of industrialized countries can be expected. This is based on the assumption that all countries in this group have already attained a very high level of industrialization. Therefore, the difference in value added is likely to have a proportionately smaller impact on the industries of the respective economies. Figure 6 illustrates the distribution of MVA in the group of industrialized countries. All the histograms are slightly skewed to the right. There is no major difference between the share of MVA per capita in 1990 and in 2000; the distribution and peaks are almost the same (with a slight increase in the mean and median moving from around 2,500 to 3,000). On the contrary, the histogram for 2010 showed a significant increase in the skewness of density and a concentration of two sub-groups of countries, those with an MVA per capita between USD 2,000 and 4,000 and between USD 4,000 and 6,000.

Graphs of kernel density estimates (see below) illustrate that the MVA distribution for 1990 and 2000 could be a mixture. The corresponding kernel densities both have two peaks (blue and red curves) which show the mixture of the two distributions. The latter could be interpreted as two sub-country groups within this group. The kernel density for 2010 (yellow curve) illustrates that those two subgroups were merged into one and that the density became uni-modal and closer to a normality-shaped density during the second decade. As a result, the share of MVA became more uniformly distributed within the group of industrialized countries. The density is slightly skewed to the right due to the high concentration of MVA per capita within the interval from USD 2,000 to 6,000.

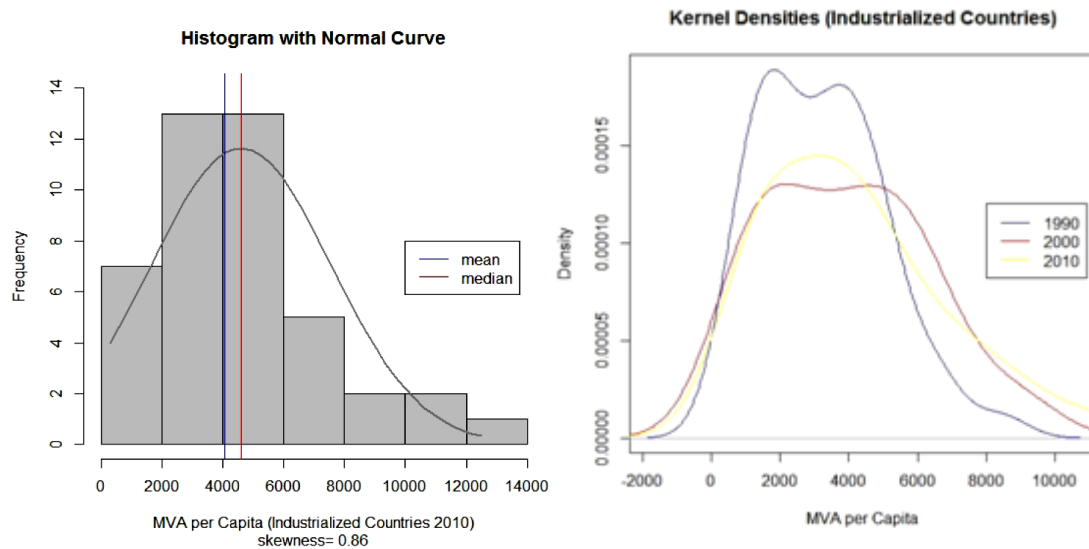
Table A5 offers insights about the main drivers of the changes in the distribution of MVA per capita within the group of industrialized countries. While countries within this group recorded

an increase in MVA per capita during the first decade with virtually no exception, a number of industrialized countries (in particular Italy, United Kingdom and Spain) fell behind in the distribution during the second decade.

Figure 6 Distribution of MVA per capita in industrialized countries



(To reflect the main body of the distribution, some outliers are omitted)



Source: UNIDO Statistics, 2013

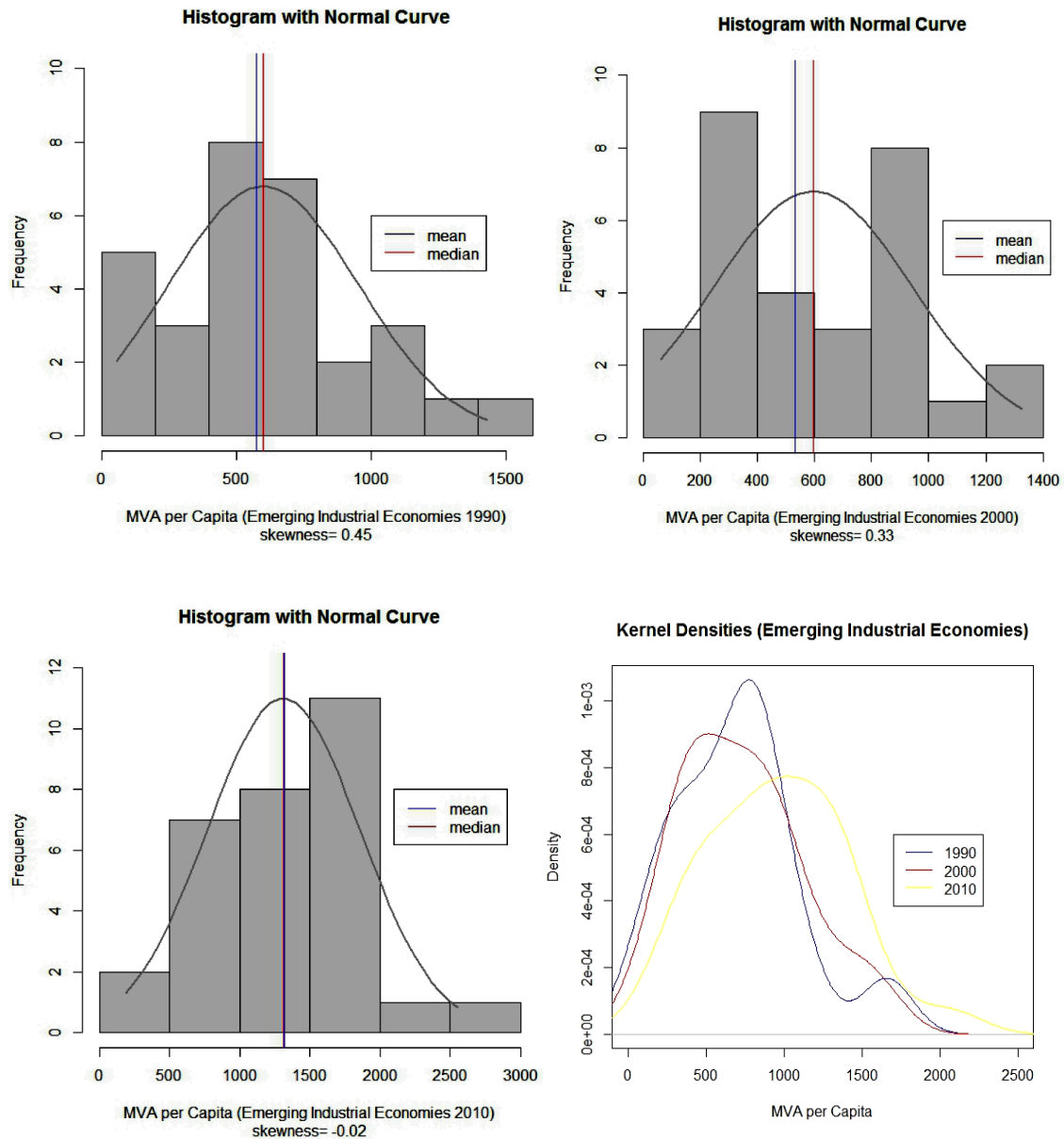
Emerging industrial economies

The distribution of MVA per capita within the group of emerging industrial economies is expected to be more diverse. To reduce skewness and the effect of outliers, some countries with

a very large MVA per capita were excluded from the analysis and are not included in the histograms of MVA per capita. Figure 7 illustrates the distribution of MVA per capita over the three data points considered.

Figure 7 Distribution of MVA per capita in emerging industrial economies (EIEs)

(To reflect the main body of the distribution, some outliers are omitted)



Source: UNIDO Statistics, 2013

There is no major difference between the mean and median values in the histograms of share of MVA per capita for emerging industrial economies (EIEs). This implies that the distribution is not significantly skewed after excluding a few outliers. Rather, the distribution seems more

homogeneous and declined from 0.45 in 1990 to -0.02 in 2010. In 2010, the number of EIEs' with an MVA per capita of less than USD 500 decreased significantly and the shift towards further industrialization is visible. Most countries had an MVA per capita of between USD 500 and USD 2,000. Finally, due to the atypical large value, the histogram for 2010 is slightly skewed to the left, or negatively skewed, demonstrating a tendency of increasing MVA per capita in the majority of the countries. Based on the shape of the histograms, it seems that the best distribution fitting the data would be a lognormal distribution (this assertion was statistically tested and confirmed).

Taking a look at the graphs of kernel density estimates, as time passes (see Figure 7), density spreads and the distribution comes closer to a bell-shaped normal density function for the year 2010. This pattern observed over the three data points considered gives weight to the idea to cluster those countries within the same country group and to identify them as emerging industrial economies. Those countries driving this pattern can immediately be identified in Table A5.

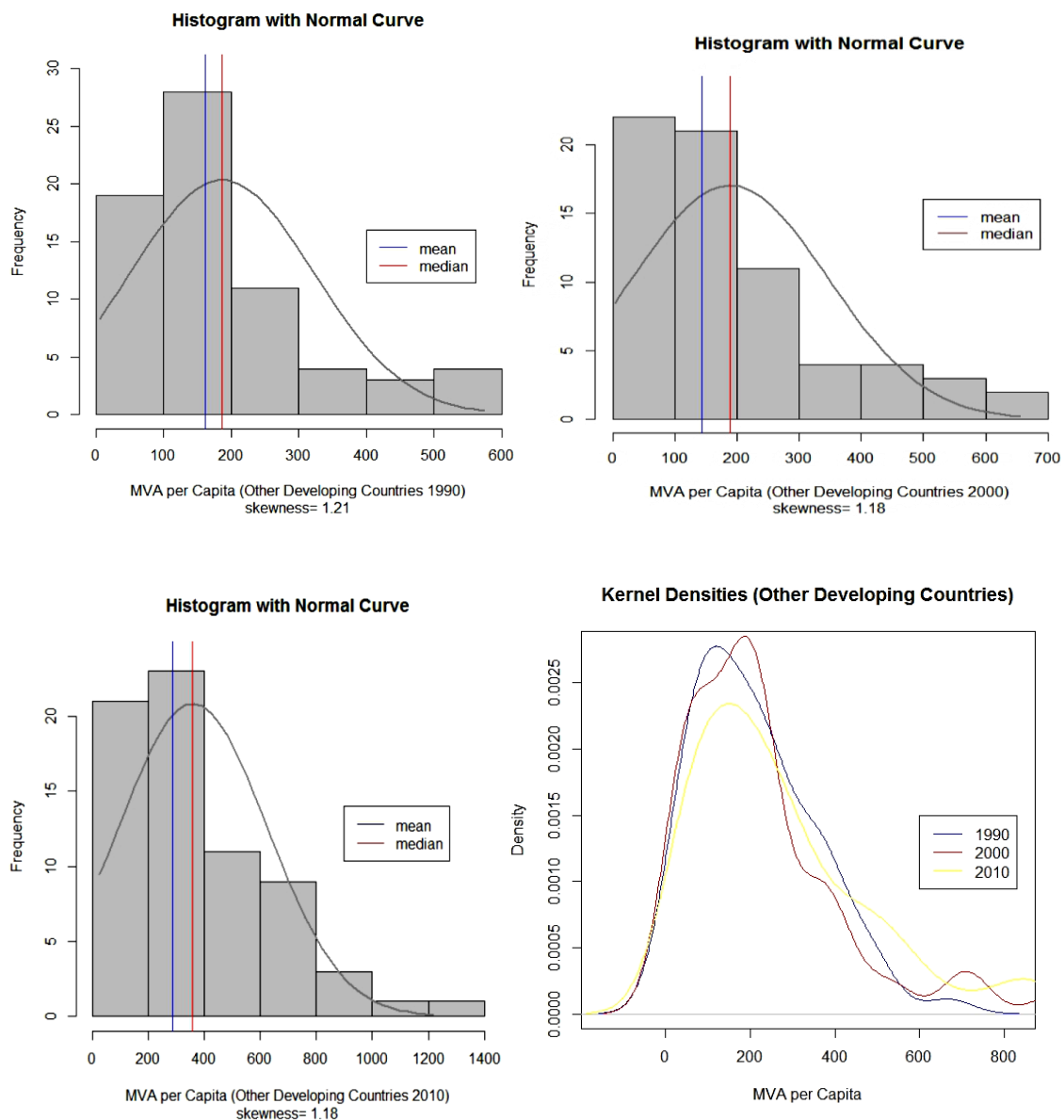
Other developing countries

As for the distribution of MVA per capita within the group of other developing countries, we can expect that the level of industrialization is also not normal. To decrease the skewness and effect of outliers, some countries were not considered. Figure 8 illustrates the distribution of MVA per capita over the three data points examined.

The histograms for other developing countries reveal almost the same pattern for 1990, 2000 and 2010 with a skewness which remains almost the same. Most countries in this group had an MVA per capita of less than USD 200 in 1990 and 2000, and by 2010, most countries had an MVA per capita of less than USD 400. However, the increasing spread of MVA per capita in 2010 shows that in retaining the growth of manufacturing, some countries have the potential to move to the EIE country group. Two fundamental trends within this group, as highlighted as well by the countries' individual changes in MVA per capita over the period, are manifest. Firstly, there is an increasing spread of values over calendar time. Secondly, even if a few countries seem to have entered sustained manufacturing trajectories, the great majority seem to struggle to maintain a sustained path over a long period. Those countries driving this pattern can be immediately identified in Table A5.

Figure 8 Distribution of MVA per capita in other developing countries (ODCs)

(To reflect the main body of the distribution, some outliers are omitted)



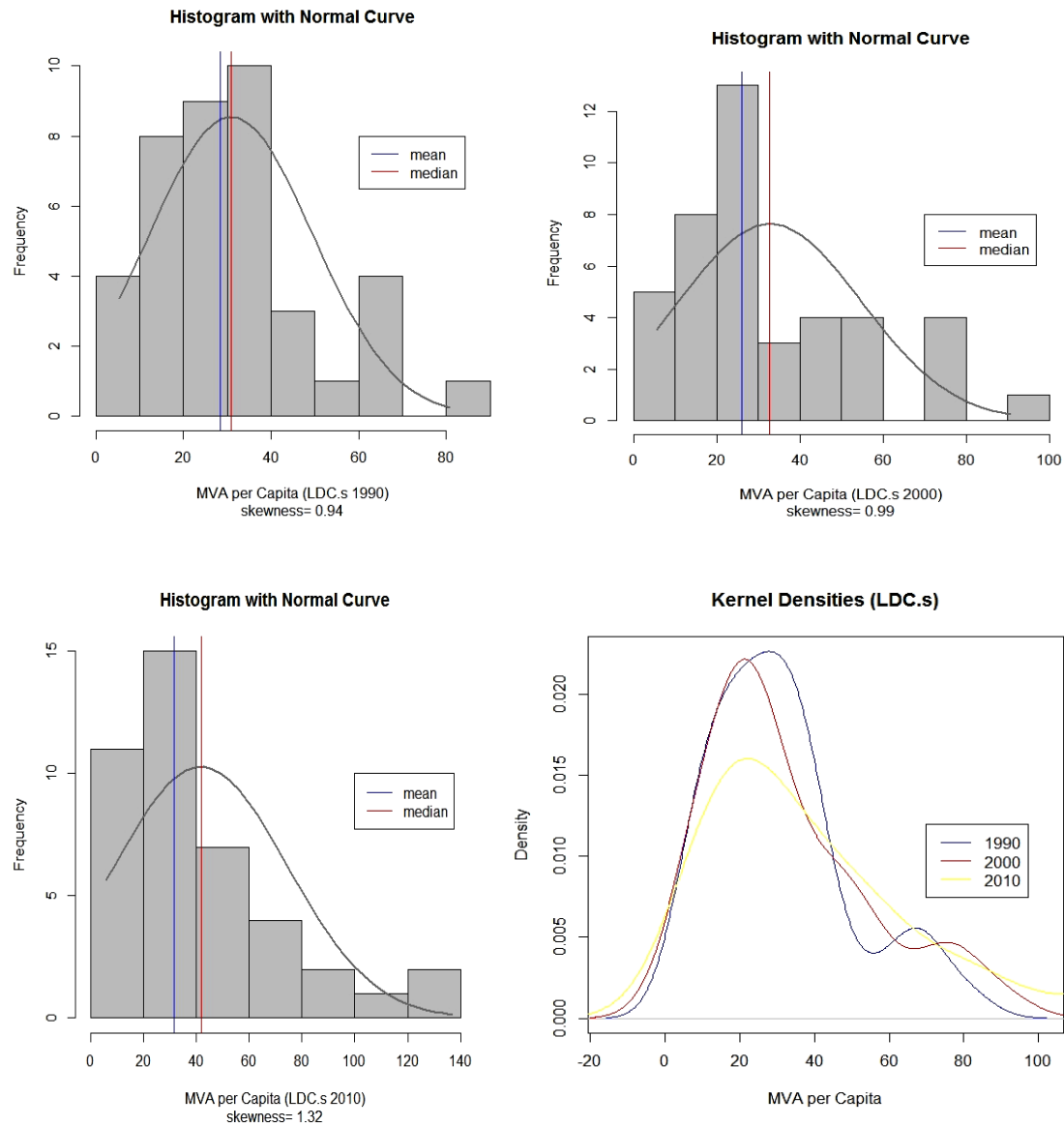
Source: UNIDO Statistics, 2013

Least developed countries

The histograms for the distribution of MVA per capita for LDCs are shown in Figure 9 (again disregarding certain outliers). As expected, there is a huge skewness in the frequency distribution of the share of MVA per capita in the group of least developed countries, which also tended to significantly increase over the second decade. The mean and median values differed significantly and remained that way over the two decades. The range is rather spread and the values are not uniformly distributed.

Figure 9 Distribution of MVA per capita in least developed countries (LDCs)

(To reflect the main body of the distribution, some outliers are omitted)



Source: UNIDO Statistics, 2013

Based on the kernel density graph, the distribution is arguably a mixture of two distributions. This means that this group of countries can be divided into two sub-groups such that each subset has its own distribution function, which would better represent the characteristics of the countries in it. The suggested approach could be a useful method to further investigate the properties of the distribution of industrialization in developing countries.

What the above findings imply is that there are certain countries within the group of least developed countries which had (and maintained) a much greater share of MVA in all three

decades examined. This suggests that there are continuously some least developed countries that benefit from higher levels of industrialization, but still not high enough to allow them to climb the manufacturing ladder, while others experience very low levels of industrialization. In comparison to other country groups, LDCs show very slow movement towards becoming more industrialized. In all three decades, more than 50 percent of all least developed countries had MVA values below USD 40. Least developed countries' individual performance over time is presented in Table A5.

5 The Effect of the 2008-2009 financial crisis on world manufacturing

As the first signs of a crisis became apparent in the financial markets in the U.S. in 2007, it was not immediately clear whether this condition would spread to the rest of the world and, if so, to what extent. However, already in 2008, it became evident that the financial crisis had been 'exported' outside U.S. borders, as some of the world's leading economies began to suffer significant losses. Although the crisis originated in the financial markets, it had a negative impact on the economy as a whole. It adversely affected the growth of gross domestic product (GDP) and manufacturing value added (MVA).

While most of the political and economic debates have concentrated on different types of rescue packages aimed at minimizing the consequences of the financial crisis (O'Sullivan et al., 2013), less attention has been paid on determining the losses in the world economy as a result of the financial crisis. This section attempts to estimate the loss of world manufacturing output on account of the financial crisis based on statistics available in the UNIDO MVA database. In general, the effect of the financial crisis on the world economy has been mixed. While it caused a severe decline in the manufacturing production of industrialized countries in the last two years, the effect on developing countries differed to some extent, where a positive (albeit slowed) growth of MVA could be observed.

In the statistical analysis conducted to estimate the losses in manufacturing during the peak of the crisis period (from 2008 to 2010), three different scenarios were considered:

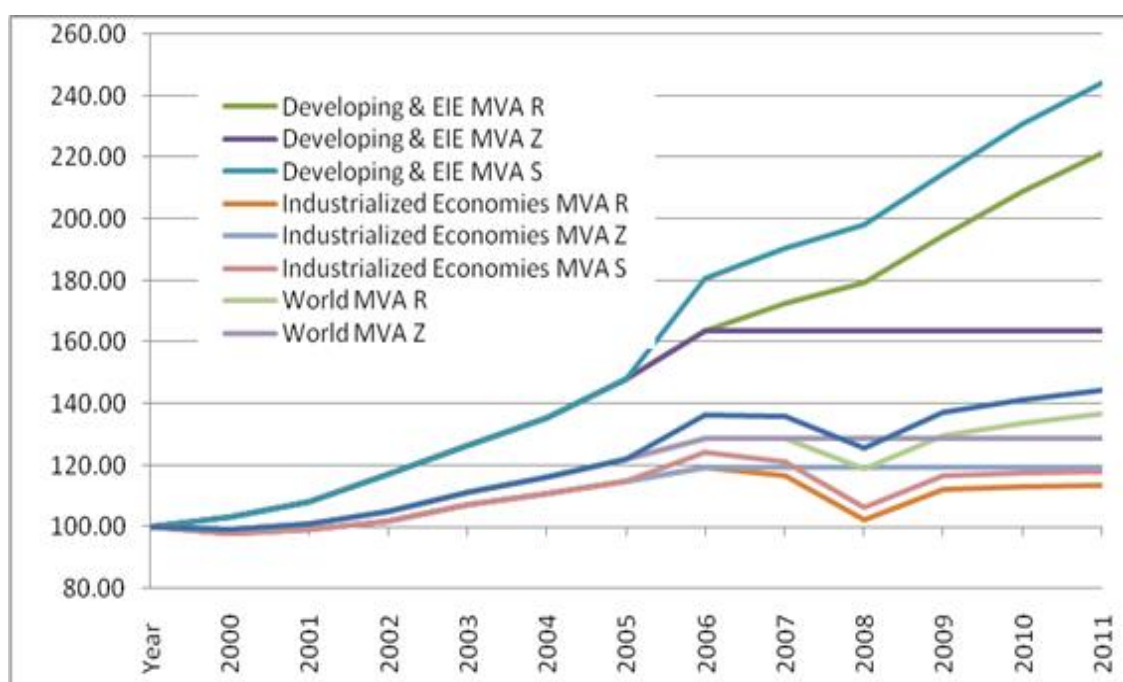
1. Estimated actual MVA;
2. Estimated MVA, assuming zero growth from 2008 to 2010; and
3. Estimated MVA, based on sustained growth.

The sustained growth rate here represents the *status quo ante*, which is the average annual growth rate achieved in the pre-crisis period between 2000 to 2007. All estimates are given at

constant USD 2,000. Growth trends for both country groups in all three scenarios are presented in Figure 10.

The sustained MVA growth rates seem to be higher than the actual growth of both industrialized and developing and emerging industrial economies in 2008-2010. During this period, neither developing nor industrialized countries were able to reach this level. However, once the zero growth scenario is included in the analysis, we observe that developing countries surpassed zero growth, thereby indicating continuous growth of MVA (nevertheless, at a somewhat slower pace than if sustained growth had been reached), while industrialized countries fell short even in this scenario, indicating that they experienced real negative growth of the manufacturing sector during the crisis period.

Figure 10 Real, zero and sustained growth of MVA



Source: UNIDO Statistics, 2013

Estimates have been produced not only for trends, but also for the amount of combined losses of manufacturing output in 2008-2010 (see Table 4).

Table 4 Estimated amount of losses of MVA from 2008 to 2010

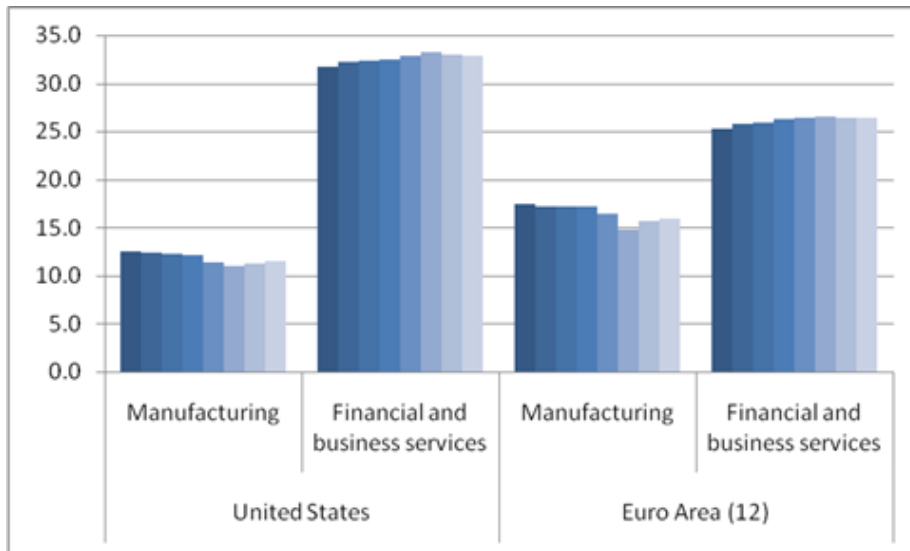
Country group	<i>Scenarios</i>	
	Zero growth	Sustained growth
Developing & EIE	785.5	-798.3
Industrialized economies	1,399.7	-685.4
World	614.3	-1405.1

Source: UNIDO estimates based on MVA data, in billion USD.

The total loss of manufacturing output in the years 2008-2010 under the zero growth assumption, that is, if no financial crisis had occurred and industrial production had remained at the level of 2008, was estimated at USD 361 billion. Under this assumption, developing countries suffered no loss; however, under the same assumption, the loss of MVA in industrialized countries was around USD 670 billion. In comparison to sustained growth rates before the crisis, the loss of MVA in 2008-2009 was estimated at USD 875 billion at 2000 constant prices, which would be more than USD 1 trillion at current prices.

However, it is difficult to determine how much of this loss was triggered by the financial crisis and how much of it was attributable to other factors. On account of their relatively high growth rate, developing countries have significantly increased their share in world industrial output. According to UNIDO estimates (see Table A2, A3 and A4 in the appendix), contributions of developing countries and EIEs to world MVA increased from less than one-fifth in 1990 to almost one-third in 2010. The manufacturing sector in these countries has been the major driving force behind increasing economic growth, and their contribution to GDP jumped on average from 16 percent to 20 percent within two decades. Increasingly over the last decade, MVA grew quite rapidly in larger developing economies. In terms of volume of worldwide manufacturing output, China placed second, right behind the U.S., overtaking countries like Japan and Germany, while in 2009, India became one of the top 10 producers. While the share of MVA has been rising in developing countries, the trend was quite the opposite in industrialized countries. Due to massive outsourcing and transfer of production plants to developing countries, the share of manufacturing has steadily fallen in industrialized countries. The gap has been filled by the increased share of the services sector. For example, finance, real estate and business services make up one-fourth of the economy in the euro zone and almost one third in the U.S. (see Figure 11).

Figure 11 Share of manufacturing and financial and business services in GDP in industrialized countries from 2004-2011, at current USD



Source: US Bureau of Economic Analysis, Eurostat

Some economists interpret the current share of financial and business services in industrialized economies as being dangerously high, because it is supposed to play a supporting, not a leading role in the economy. When financial and business service industries assume a dominant role, a minor financial disorder may trigger a major economic fallout. These industries occupy a much lower share in developing countries, including China and India, which might have saved them this time from falling into an economic recession as a result of the financial crisis. However, a lack of sufficient financial services has also been a barrier to investment in production in many developing countries.

Hence, although it is evident that global manufacturing has been undergoing a profound transformation even before the onset of the financial crisis, a number of structural impacts can be identified by analysing countries' individual trends over the five-year crisis period from 2007 to 2012. Figure 12 presents a selection of 'winners' that showed the most striking positive trends in MVA per capita and the negative performances of the 'losers'. Among those countries that were able to grow during the five-year crisis period from 2007 to 2012, China is by far the outlier. On account of its increase in MVA per capita of 56 percent, China increased its share of world manufacturing value added by nearly 6 percent within five years only. The other giant, India, experienced a growth of MVA per capita of nearly 30 percent, while other best performers from South-East Asia, namely Viet Nam and Bangladesh, registered increases in MVA per capita of over 30 percent. The only European country that managed to record sustained positive results was Poland, while among the major industrialized countries only the Republic of Korea entered the top 25 ranking with an increase of MVA per capita of 22 percent.

As shown in Table A6, all other leading manufacturing economies witnessed a contraction of their MVA per capita, from nearly 6 percent in the U.S. to the dramatic 25 percent in Italy (followed by -24 percent in Spain and -17 percent in both United Kingdom, and Canada and -14 percent in Finland). All other major industrial economies like Germany, Japan and France were able to contain their losses below 10 percent, while relatively smaller sophisticated economies like Ireland, Israel, Singapore and Taiwan registered modest increases in MVA per capita of around 5 percent.

As shown in Figure 12, we mainly find emerging industrial economies (6 countries) among the top 25 winners, the remaining being equally distributed between other developing countries (9) and least developed countries (9). On the contrary, the group of losers includes 9 industrialized economies, 9 countries of the ODC group, only 2 LDCs and, finally, 5 minor emerging industrial economies. Among the other key EIEs (see Table A6), Turkey, Thailand, Indonesia and Argentina increased their MVA per capita between 12 percent and 20 percent, while Malaysia, Mexico, Brazil, the Russian Federation and South Africa contained their losses or displayed relatively slow growth rates of MVA per capita.

To sum up, the five-year crisis had mixed effects, with few EIEs capturing global manufacturing opportunities and traditional industrialized economies witnessing their resilience being compromised by the long contraction of internal demand and increasing competition in international markets.

6 The impact of MVA redistribution on other variables

The profound changes in the global distribution of manufacturing described above began in the 1990s, developed over the following decade and were accelerated by the structural break introduced in the data by the financial crisis and its long wave-impact over the period between 2007 and 2012. As a result, given the pervasive impact of manufacturing trends on the rest of the economy in each country (and region), we can explore several causal chains and correlations with other variables such as GDP per capita or employment levels in manufacturing.

Figure 12 The effect of the financial crisis: Winners and losers, 2007 – 2012

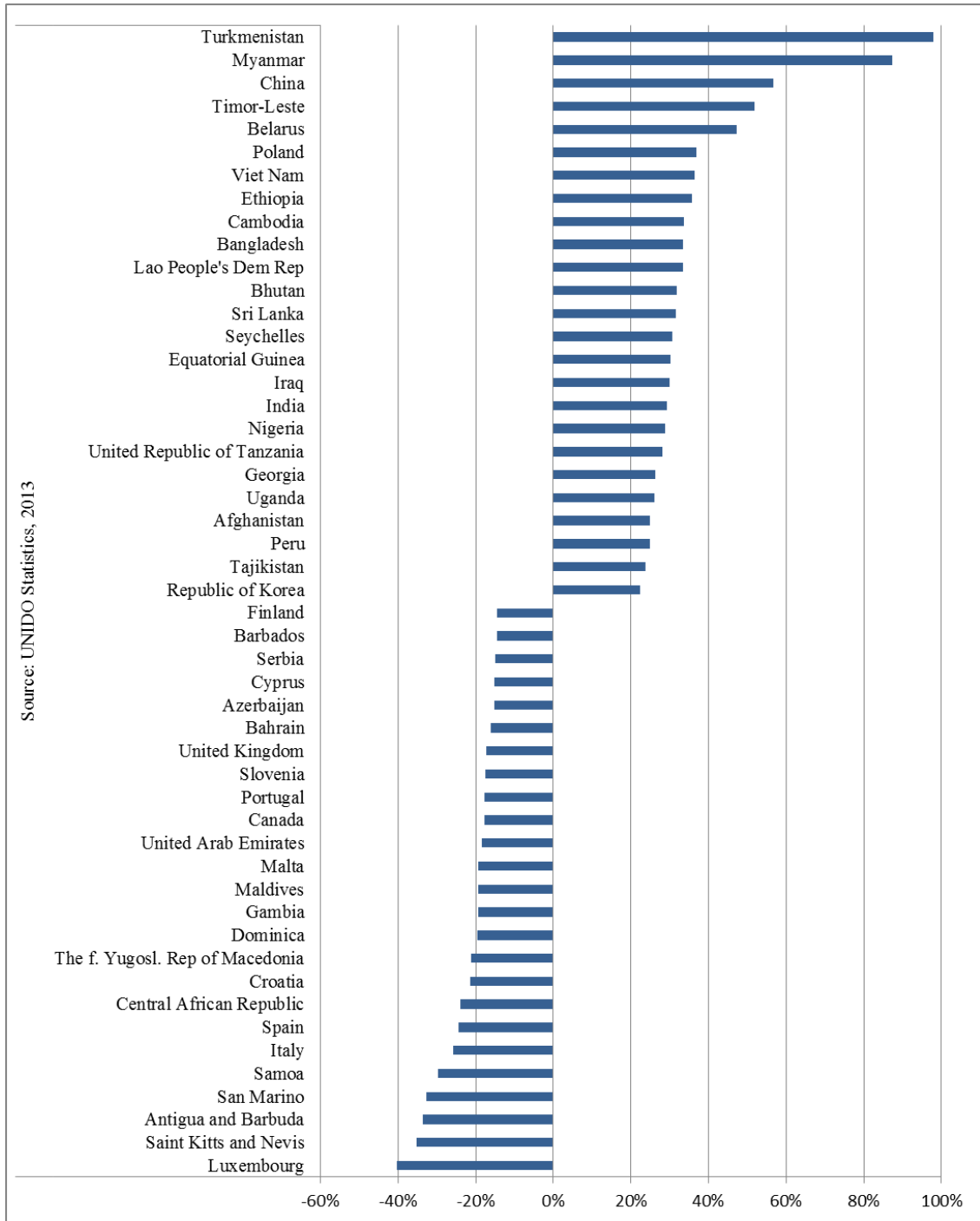
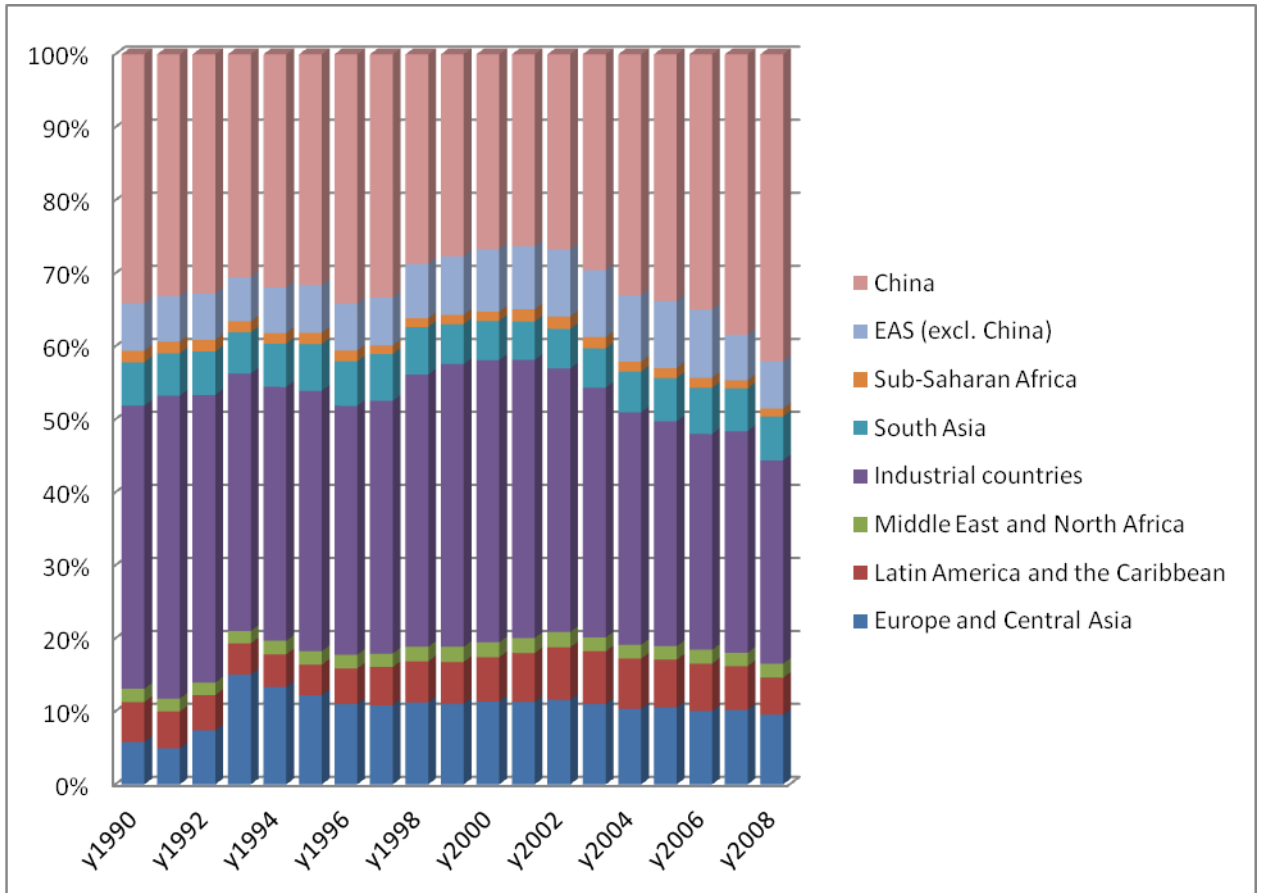


Figure 13 Share of manufacturing employment by region, separating China



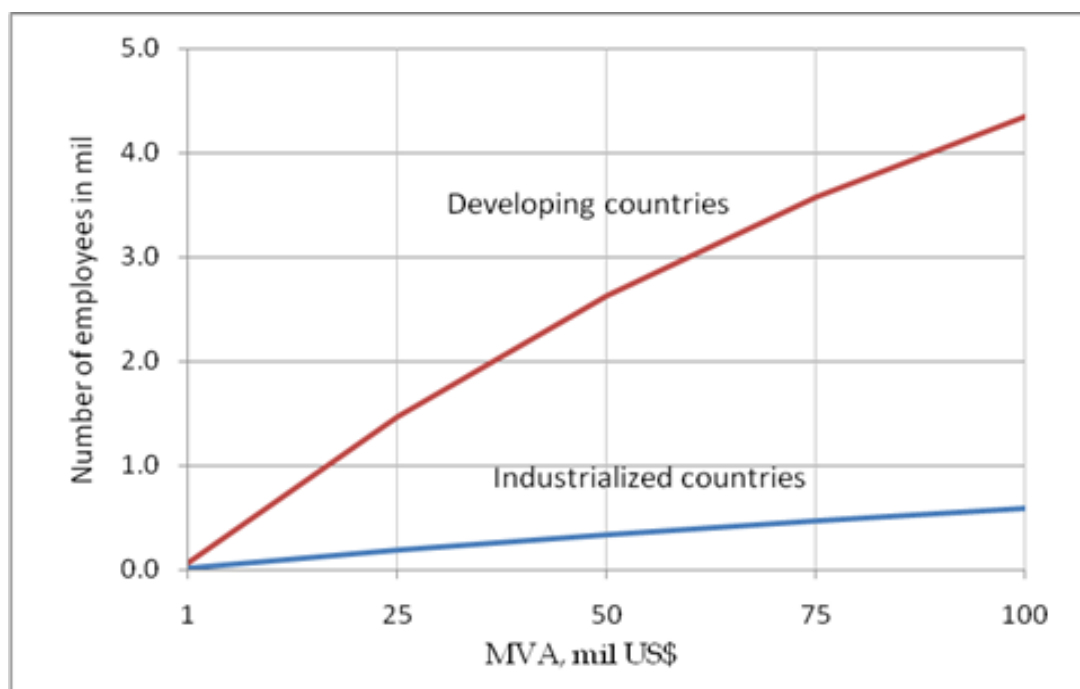
Source: UNIDO Statistics, 2013

With regard to the changes in GDP per capita, Tables A2, A3 and A4 in the appendix present GDP and GDP per capita levels as well as shares of world GDP for each country considered. The strong correlations between MVA and GDP have already been discussed in previous sections. In 1990, world GDP per capita was around USD 5,700 (the MVA per capita being equal to USD 941), with industrialized countries registering a GDP per capita that was almost 19 times higher than that in developing countries and EIEs (their MVA per capita was also 19 times higher). In 2010, world GDP per capita was around USD 7,400 (MVA per capita being equal to USD 1,240). However, the gap between industrialized countries and the rest of the world was drastically reduced: GDP per capita was 13 times higher in industrialized countries, while differences in MVA per capita dropped drastically by half, from 19 times to 10 times higher in industrialized economies. As a result of this dramatic shift driven mainly by emerging industrial economies concentrated in a few regions, the share of manufacturing employment across region and country groups changed significantly (see Figure 13). For example, from 1990 to 2008, China captured nearly 10 percent of world manufacturing employment.

By the end of the period considered above, the economic crisis had caused job losses in manufacturing throughout the world. Due to the drop in demand, manufacturing firms were forced to reduce delivery, cut entire production lines or close factories altogether. Production decline was more significant in industrialized countries, however, its impact on job losses was severe in developing countries. This phenomenon was not always adequately reflected in official statistics (ILO, 2012). Developing countries suffered two forms of setbacks in their labour and income situation due to the external and internal effects of the economic crisis.

The external effect relates to the transmission of the recession from industrialized countries to developing countries through remittances. A large number of migrant workers from developing countries are employed in industrialized countries. During the crisis period, these workers were generally more vulnerable than resident workers to job loss due to the informal nature of their jobs and, often, their insufficiently protected labour contracts. The loss of jobs in recipient countries (industrialized) adds to the unemployed labour force in the country of origin (developing).

Figure 14 MVA in the scale of number of employees



Source: UNIDO estimates based on MVA and INDSTAT databases

The internal effects of the crisis are related to the labour-intensive nature and relatively lower labour productivity of industrial production in developing countries. For the production of the same amount of industrial products, the number of persons employed in developing countries is relatively higher (the labour/capital ratio is higher than in industrialized economies where the

labour force is substituted by capital investments). Subsequently, the loss of the same amount of manufacturing production in the case of developing countries is likely to correspond to more losses of manufacturing jobs than in industrialized countries. This pattern is documented in data produced by UNIDO in MVA and INDSTAT2 databases.

Overall labour productivity of any given economy can be proxied by MVA per employee. This relationship can also provide a rough estimation of the expected number of employees required to produce the given amount of MVA at the different levels of productivity. A calculation made from a sample of industrialized and developing countries has shown that production of MVA equivalent to USD 1 million requires 7.7 employees in industrialized countries, but only 66.7 employees in developing countries. However, the number of required employees tends to diminish as production grows. The relationship between MVA and number of employees is presented below based on these assumptions.

To sum up, Figure 14 shows how the production of the same amount of MVA requires a number of employees in developing countries that is higher than in industrialized countries. On the other hand, this implies that a reduction of industrial production by the same amount will trigger relatively higher job losses in developing countries than in industrialized countries. This is why the number of job losses in the manufacturing sector of industrialized countries was similar to those in developing countries and EIEs, although the former experienced the most drastic contraction of MVA. Based on the methodology provided above, it was estimated that of the 10 million job losses in manufacturing as a result of the financial crisis, half occurred in developing countries.

7 Conclusion

Global manufacturing has changed dramatically over the last two decades, the financial crisis being the apex of this transformation. The present report builds on the MVA dataset from 1990 to 2013 published by UNIDO in the *International Yearbooks of Industrial Statistics*. The analysis of manufacturing trends developed in this report for almost 200 countries over the last two decades has revealed some distinct patterns in global manufacturing. Firstly, manufacturing still matters for a large number of countries across the world. The positive relationship linking manufacturing value added per capita and gross domestic product per capita for different country groups demonstrates that industrial transformation remains the main engine of economic growth. From 1990 to 2010, the gap between industrialized countries and the rest of the world in terms of MVA per capita reduced by half, from a 1 over 20 ratio to a 1 over 10 ratio. Emerging industrial economies managed to climb the manufacturing ladder and unsettling

traditional industrialized economies. Secondly, the process of redistribution of manufacturing value added across different countries and within different country groups over the period considered has been significant, especially among industrialized countries and EIEs. The report also highlights the prevalence of highly unequal distribution of MVA among countries.

Despite the diminishing share of industrialized countries, redistribution is largely taking place at the upper segment of country groups. The emerging industrial economies are gaining higher shares in global industrial production, but the countries at the bottom are stuck in stagnation. Close to 50 countries of the LDC group, which represent around 13 percent of the world population, produce less than 0.5 percent of global industrial production.

Finally, the report presented a unique investigation of the manufacturing losses caused by the global financial crisis across different countries and country groups. The report also presented original estimates of manufacturing losses as well as of the impact of the redistribution of manufacturing on other related variables, namely GDP and manufacturing employment.

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Appendix

Table A1: The UNIDO MVA World Ranking, 2012

Ranking 2012 by MVA total	Ranking 2012 by MVApC	Country	Share in world MVA	MVA per capita	Share of MVA in GDP	Population
1	10	United States of America	20.50%	5785.82	13.49%	315791
2	54	China	17.42%	1147.12	34.35%	1353601
3	5	Japan	10.91%	7692.75	20.94%	126435
4	8	Germany	6.51%	7074.59	18.92%	81991
5	9	Republic of Korea	3.39%	6226.10	27.94%	48588
6	22	France	2.71%	3810.36	10.75%	63458
7	20	Italy	2.66%	3884.76	13.84%	60964
8	24	United Kingdom	2.63%	3730.95	10.02%	62798
9	117	India	2.31%	163.44	14.89%	1258351
10	47	Mexico	1.98%	1522.16	17.77%	116147
11	67	Brazil	1.70%	764.38	13.26%	198361
12	60	Russian Federation	1.52%	946.99	13.76%	142703
13	21	Canada	1.49%	3830.02	10.57%	34675
14	30	Spain	1.46%	2779.90	11.14%	46772
15	46	Turkey	1.28%	1532.53	18.11%	74509
16	17	China, Taiwan Province	1.27%	4856.52	25.39%	23318
17	85	Indonesia	1.22%	444.05	25.49%	244769
18	35	Poland	1.00%	2335.59	21.90%	38317
19	25	Australia	0.95%	3679.67	9.14%	22919
20	53	Thailand	0.93%	1186.06	37.36%	69892
21	15	Netherlands	0.93%	4947.92	12.00%	16714
22	2	Switzerland	0.88%	10190.87	18.63%	7734
23	6	Sweden	0.80%	7488.51	17.01%	9495
24	7	Austria	0.69%	7300.09	18.14%	8429
25	50	Argentina	0.64%	1398.38	20.29%	41119
26	14	Belgium	0.63%	5226.86	13.85%	10788
27	1	Ireland	0.60%	11772.35	26.17%	4579
28	41	Malaysia	0.56%	1715.46	26.68%	29322
29	3	Singapore	0.52%	8800.39	25.56%	5256
30	61	South Africa	0.52%	910.92	15.11%	50738
31	4	Finland	0.48%	7996.79	20.29%	5403
32	48	Saudi Arabia	0.47%	1453.50	10.14%	28705

33	23	Czech Republic	0.45%	3754.87	26.53%	10566
34	95	Philippines	0.36%	330.42	22.31%	96471
35	13	Denmark	0.34%	5421.39	11.60%	5593
36	11	Norway	0.32%	5690.44	8.56%	4960
37	75	Colombia	0.30%	559.18	13.16%	47551
38	125	Pakistan	0.29%	146.14	18.26%	179951
39	52	Romania	0.29%	1205.34	22.27%	21388
40	29	United Arab Emirates	0.29%	3160.80	11.08%	8106
41	28	Israel	0.28%	3191.83	13.90%	7695
42	65	Venezuela (Bolivarian Republic of)	0.27%	803.66	12.49%	29891
43	97	Iran (Islamic Republic of)	0.27%	315.77	10.24%	75612
44	34	Hungary	0.26%	2347.12	21.23%	9950
45	37	Portugal	0.23%	1944.68	11.12%	10699
46	105	Egypt	0.23%	245.11	16.38%	83958
47	108	Viet Nam	0.22%	222.99	24.21%	89730
48	55	Chile	0.21%	1093.91	12.36%	17423
49	72	Peru	0.21%	627.60	14.67%	29734
50	87	Ukraine	0.20%	404.84	18.56%	44940
51	45	Greece	0.20%	1560.02	8.37%	11419
52	128	Bangladesh	0.18%	107.65	17.83%	152409
53	26	New Zealand	0.17%	3473.83	12.33%	4461
54	44	Belarus	0.17%	1569.89	31.70%	9527
55	32	Slovakia	0.15%	2417.02	20.75%	5480
56	96	Morocco	0.12%	322.37	12.90%	32599
57	36	Turkmenistan	0.11%	1962.19	40.22%	5170
58	74	Kazakhstan	0.11%	586.17	10.96%	16381
59	63	Dominican Republic	0.10%	870.72	17.03%	10183
60	18	Qatar	0.09%	4178.78	7.22%	1939
61	92	Sri Lanka	0.08%	347.03	19.17%	21224
62	27	Slovenia	0.08%	3436.73	18.26%	2040
63	33	Kuwait	0.08%	2390.62	6.68%	2892
64	71	Tunisia	0.08%	630.60	16.64%	10705
65	89	Guatemala	0.07%	391.80	17.01%	15138
66	51	Croatia	0.06%	1316.29	12.46%	4387
67	40	Lithuania	0.06%	1749.80	19.37%	3292
68	120	Algeria	0.06%	157.81	4.71%	36486
69	160	Nigeria	0.06%	33.04	3.09%	166629
70	69	Bulgaria	0.05%	660.99	14.43%	7398
71	57	Costa Rica	0.05%	1001.16	17.62%	4794
72	98	Ecuador	0.05%	315.16	9.49%	14865

73	135	Myanmar	0.05%	90.20	19.32%	48724
74	49	Oman	0.05%	1436.18	9.13%	2904
75	70	El Salvador	0.05%	642.35	21.32%	6264
76	78	China, Hong Kong SAR	0.04%	530.82	1.66%	7196
77	91	Serbia	0.04%	348.36	12.17%	9847
78	118	Côte d'Ivoire	0.04%	162.95	17.87%	20595
79	59	Uruguay	0.04%	977.76	13.17%	3391
80	119	Cameroon	0.04%	160.39	15.68%	20469
81	82	Libya	0.03%	462.91	6.18%	6469
82	83	Jordan	0.03%	460.51	16.52%	6457
83	142	Kenya	0.03%	61.79	10.27%	42749
84	38	Bahrain	0.03%	1909.16	13.98%	1359
86	79	Lebanon	0.02%	512.64	7.09%	4292
87	102	Honduras	0.02%	277.22	17.69%	7912
88	43	Estonia	0.02%	1633.77	14.29%	1340
89	129	Angola	0.02%	106.65	3.61%	20163
90	19	Luxembourg	0.02%	4082.73	5.08%	523
91	126	Cambodia	0.02%	140.04	20.46%	14478
92	154	United Republic of Tanzania	0.02%	41.36	8.82%	47656
93	66	Latvia	0.02%	796.25	10.42%	2235
94	77	Albania	0.02%	536.12	15.58%	3227
95	152	Afghanistan	0.02%	49.66	13.09%	33397
96	16	Iceland	0.02%	4926.08	9.30%	328
97	141	Yemen	0.02%	62.69	8.82%	25569
98	123	Bolivia (Plurinational State of)	0.02%	151.62	11.77%	10248
99	148	Uzbekistan	0.02%	53.20	5.98%	28077
100	90	Panama	0.02%	377.15	4.92%	3625
101	131	Senegal	0.02%	102.12	12.18%	13108
102	99	Georgia	0.01%	308.63	14.15%	4304
103	58	Mauritius	0.01%	995.60	15.52%	1314
104	151	Mozambique	0.01%	51.15	11.92%	24475
105	94	Bosnia and Herzegovina	0.01%	333.19	9.61%	3744
106	62	Trinidad and Tobago	0.01%	906.13	6.51%	1351
107	80	Namibia	0.01%	505.89	12.38%	2364
108	153	Ghana	0.01%	46.62	6.51%	25546
109	56	Cyprus	0.01%	1041.72	6.24%	1129
110	115	Paraguay	0.01%	171.35	11.43%	6683
111	137	Zambia	0.01%	81.40	10.17%	13884
112	31	Brunei Darussalam	0.01%	2723.40	10.88%	413

113	161	Uganda	0.01%	30.49	7.24%	35621
114	113	Nicaragua	0.01%	179.22	17.67%	5955
115	146	Burkina Faso	0.01%	56.67	12.52%	17482
116	179	Ethiopia	0.01%	11.32	4.23%	86539
117	132	Azerbaijan	0.01%	99.19	3.17%	9421
118	163	Iraq	0.01%	26.73	1.93%	33703
119	68	Swaziland	0.01%	703.38	30.20%	1220
120	88	The f. Yugosl. Rep of Macedonia	0.01%	401.68	11.29%	2067
121	159	Madagascar	0.01%	36.81	13.33%	21929
122	103	Armenia	0.01%	257.01	12.44%	3109
123	143	Zimbabwe	0.01%	59.80	13.31%	13014
124	101	Jamaica	0.01%	278.97	6.75%	2761
125	130	Tajikistan	0.01%	104.14	20.18%	7079
126	180	Democratic Rep of the Congo	0.01%	10.36	6.67%	69575
127	42	Malta	0.01%	1708.49	10.42%	419
128	170	Nepal	0.01%	22.64	6.39%	31011
129	107	Botswana	0.01%	233.28	3.70%	2053
130	139	Lao People's Dem Rep	0.01%	74.49	10.09%	6374
131	100	Gabon	0.00%	281.27	3.91%	1564
132	162	Malawi	0.00%	27.23	10.06%	15883
133	156	Haiti	0.00%	41.03	8.85%	10256
134	81	Fiji	0.00%	473.48	13.18%	876
135	145	Papua New Guinea	0.00%	57.73	5.39%	7170
136	136	Congo	0.00%	89.92	4.47%	4233
137	157	Benin	0.00%	38.81	6.46%	9352
138	140	Kyrgyzstan	0.00%	65.32	11.01%	5448
139	133	Republic of Moldova	0.00%	97.15	8.91%	3519
140	73	Suriname	0.00%	609.40	13.74%	534
141	124	Lesotho	0.00%	146.23	17.31%	2217
142	64	Bahamas	0.00%	857.85	3.87%	351
143	167	Chad	0.00%	24.79	4.54%	11831
144	166	Rwanda	0.00%	25.14	6.57%	11272
145	134	Mongolia	0.00%	95.06	5.91%	2844
146	174	Niger	0.00%	14.88	4.88%	16644
147	158	Togo	0.00%	38.08	8.80%	6283
148	12	San Marino	0.00%	5452.48	13.85%	32
149	181	Mali	0.00%	10.23	2.52%	16319
150	39	Seychelles	0.00%	1770.67	12.20%	87
151	76	Barbados	0.00%	551.98	5.09%	275

152	155	Mauritania	0.00%	41.12	4.80%	3623
153	175	Guinea	0.00%	14.13	4.16%	10481
154	173	Burundi	0.00%	16.59	9.61%	8749
155	109	Montenegro	0.00%	221.12	4.86%	633
156	86	Belize	0.00%	414.59	10.23%	324
157	121	Bhutan	0.00%	155.52	8.19%	750
158	127	Guyana	0.00%	137.73	5.91%	758
159	172	Central African Republic	0.00%	19.75	5.40%	4576
160	122	Cape Verde	0.00%	154.47	5.28%	505
161	178	Eritrea	0.00%	11.63	5.29%	5581
162	112	Maldives	0.00%	188.60	3.84%	324
163	93	Saint Lucia	0.00%	333.43	6.74%	178
164	176	Liberia	0.00%	13.27	5.95%	4245
165	104	Samoa	0.00%	249.33	10.34%	185
166	164	Guinea-Bissau	0.00%	26.43	6.14%	1580
167	182	Sierra Leone	0.00%	6.80	2.00%	6126
168	169	Gambia	0.00%	22.73	4.87%	1825
169	150	Equatorial Guinea	0.00%	51.71	0.30%	740
170	149	Solomon Islands	0.00%	52.57	4.50%	566
171	106	Saint Vincent and the Grenadines	0.00%	240.88	4.37%	109
172	84	Saint Kitts and Nevis	0.00%	450.83	5.07%	54
173	168	Djibouti	0.00%	24.37	2.27%	923
174	110	Grenada	0.00%	200.82	3.04%	105
175	111	Tonga	0.00%	200.35	7.78%	105
176	138	Vanuatu	0.00%	78.29	3.68%	252
177	165	Comoros	0.00%	25.52	4.56%	773
178	177	Timor-Leste	0.00%	13.11	1.84%	1187
179	116	Antigua and Barbuda	0.00%	167.46	1.84%	91
180	114	Dominica	0.00%	174.08	2.72%	68
181	147	Sao Tome and Principe	0.00%	56.11	5.77%	172
182	144	Kiribati	0.00%	58.78	5.20%	103
183	171	Tuvalu	0.00%	21.20	0.80%	10
Country groups:						
Industrialized Countries			Other Developing Countries ODCs			
Emerging Industrial Economies EIEs			Least Developed Countries LDCs			

Source: UNIDO Statistics, 2013

Table A2: World Manufacturing Value Added, GDP and Population – 1990

Rank MVApC	Rank MVA	Country	MVApC	MVA	MVAsh	GDPpC	GDP	WMVAsh	GDP as a % of World GDP	Population
1	127	Liechtenstein	15075.04	437176	21.80%	69135.76	2004937	0.01%	0.01%	29
2	16	Switzerland	8427.89	56247753	17.92%	47037.28	313926791	1.14%	1.04%	6674
3	143	Monaco	6972.67	216153	6.69%	104177.25	3229495	0.00%	0.01%	31
4	2	Japan	6795.80	830793880	21.90%	31035.09	3794071203	16.79%	12.59%	122251
5	3	Germany	6401.40	506337833	22.85%	28019.08	2216253039	10.23%	7.35%	79098
6	28	Puerto Rico	6292.85	22207466	44.94%	14002.89	49416195	0.45%	0.16%	3529
7	154	San Marino	6167.15	148012	21.22%	29068.61	697647	0.00%	0.00%	24
8	81	Luxembourg	5274.59	2009620	10.40%	50695.83	19315113	0.04%	0.06%	381
9	73	Qatar	5236.39	2482047	16.90%	30989.81	14689170	0.05%	0.05%	474
10	25	Denmark	5182.73	26644433	14.22%	36443.23	187354663	0.54%	0.62%	5141
11	30	Norway	4974.58	21097176	11.22%	44355.99	188113734	0.43%	0.62%	4241
12	21	Austria	4919.33	37736209	17.44%	28209.84	216397718	0.76%	0.72%	7671
13	18	Belgium	4721.44	46973620	16.79%	28127.88	279844293	0.95%	0.93%	9949
14	4	Italy	4686.91	266366316	18.33%	25572.80	1453353232	5.38%	4.82%	56832
15	5	United Kingdom	4388.35	251075168	16.46%	26656.04	1525098542	5.08%	5.06%	57214
16	95	Iceland	4291.65	1094370	10.65%	40301.89	10276981	0.02%	0.03%	255
17	41	Singapore	4196.97	12662249	25.81%	16261.68	49061490	0.26%	0.16%	3017
18	1	United States of America	4061.12	1028840000	12.92%	31430.61	7962600000	20.80%	26.42%	253339
19	15	Netherlands	4017.07	59822250	13.66%	29400.06	437825744	1.21%	1.45%	14892
20	35	Finland	3888.93	19390186	13.83%	28121.18	140212197	0.39%	0.47%	4986
21	40	Ireland	3875.90	13685815	16.55%	23421.21	82700292	0.28%	0.27%	3531
22	10	Canada	3860.58	106941845	14.26%	27070.57	749881928	2.16%	2.49%	27701

23	14	Australia	3545.52	60614189	13.43%	26405.61	451430282	1.23%	1.50%	17096
24	24	Sweden	3399.75	29098452	11.03%	30826.36	263842802	0.59%	0.88%	8559
25	147	Greenland	3384.29	189520	13.88%	24381.07	1365340	0.00%	0.00%	56
26	6	France	3350.72	190012792	11.70%	28635.05	1623836477	3.84%	5.39%	56708
27	47	New Zealand	3265.34	11095620	15.91%	20529.81	69760307	0.22%	0.23%	3398
28	106	Brunei Darussalam	3185.40	802720	11.64%	27355.86	6893677	0.02%	0.02%	252
29	59	United Arab Emirates	3018.59	5460629	6.67%	45286.56	81923379	0.11%	0.27%	1809
30	9	Spain	2980.99	115927746	15.87%	18779.98	730334759	2.34%	2.42%	38889
31	60	Slovenia	2776.42	5350159	21.49%	12919.03	24894964	0.11%	0.08%	1927
32	46	Israel	2565.21	11543466	16.80%	15272.74	68727331	0.23%	0.23%	4500
33	103	China, Macao SAR	2414.83	869340	16.67%	14483.36	5214009	0.02%	0.02%	360
34	48	Croatia	2160.54	9759150	23.17%	9323.26	42113161	0.20%	0.14%	4517
35	20	China, Taiwan Province	2076.25	42358194	30.76%	6750.56	137720190	0.86%	0.46%	20401.305
36	108	Malta	2029.25	746765	21.88%	9272.84	3412405	0.02%	0.01%	368
37	45	China, Hong Kong SAR	2018.01	11692356	11.83%	17062.67	98861134	0.24%	0.33%	5794
38	33	Portugal	2014.25	19991425	14.56%	13830.52	137267960	0.40%	0.46%	9925
39	34	Czech Republic	1885.82	19429622	19.05%	9898.32	101982348	0.39%	0.34%	10303
40	129	French Polynesia	1851.41	361025	9.11%	20326.13	3963595	0.01%	0.01%	195
41	134	New Caledonia	1725.75	293377	8.31%	20773.54	3531502	0.01%	0.01%	170
42	92	Cyprus	1669.50	1280509	13.28%	12570.03	9641215	0.03%	0.03%	767
43	37	Greece	1653.43	16800519	10.75%	15377.90	156254828	0.34%	0.52%	10161
44	67	Kuwait	1632.28	3408200	8.67%	18826.77	39310294	0.07%	0.13%	2088

45	13	Republic of Korea	1576.11	67741045	18.80%	8382.89	360296812	1.37%	1.20%	42980
46	164	Bermuda	1378.32	82699	2.54%	54356.83	3261410	0.00%	0.01%	60
47	54	Slovakia	1297.73	6839040	19.85%	6536.98	34449888	0.14%	0.11%	5270
48	43	Hungary	1211.27	12568131	14.52%	8340.29	86538868	0.25%	0.29%	10376
49	117	Bahrain	1182.31	582881	9.98%	11846.77	5840457	0.01%	0.02%	493
50	12	Mexico	1167.47	98425488	17.97%	6497.69	547800843	1.99%	1.82%	84307
51	71	Latvia	1100.44	2931565	20.36%	5403.76	14395611	0.06%	0.05%	2664
52	136	Bahamas	1061.45	271731	4.74%	22416.90	5738728	0.01%	0.02%	256
53	7	Russian Federation	985.89	146152506	17.31%	5694.49	844173981	2.95%	2.80%	148244
54	50	Bulgaria	955.82	8429346	33.74%	2832.51	24979872	0.17%	0.08%	8819
55	36	Venezuela (Bolivarian Republic of)	951.46	18729548	17.95%	5299.22	104315182	0.38%	0.35%	19685
56	137	Barbados	930.88	242030	9.37%	9934.50	2582970	0.00%	0.01%	260
57	31	Romania	897.82	20835810	24.44%	3674.19	85266832	0.42%	0.28%	23207
58	171	Andorra	896.05	47490	3.56%	25159.95	1333478	0.00%	0.00%	53
59	167	Seychelles	870.39	61797	10.19%	8539.82	606328	0.00%	0.00%	71
60	51	Serbia	867.38	8299992	23.68%	3662.37	35045176	0.17%	0.12%	9569
61	69	Turkmenistan	858.59	3149318	25.53%	3363.45	12337146	0.06%	0.04%	3668
62	39	Saudi Arabia	854.04	13783331	6.88%	12418.26	200418226	0.28%	0.67%	16139
63	91	Estonia	845.72	1326084	13.05%	6481.29	10162664	0.03%	0.03%	1568
64	70	Lithuania	842.52	3113948	12.58%	6698.09	24756144	0.06%	0.08%	3696
65	23	South Africa	836.49	30777952	18.01%	4645.42	170923666	0.62%	0.57%	36794
66	19	Turkey	809.54	43820420	16.25%	4982.15	269683950	0.89%	0.89%	54130
67	26	Argentina	799.20	26087361	24.51%	3260.54	106430632	0.53%	0.35%	32642
68	74	Uruguay	797.54	2479543	20.14%	3960.79	12314111	0.05%	0.04%	3109

69	89	The f. Yugosl. Rep of Macedonia	722.58	1379403	22.72%	3180.11	6070830	0.03%	0.02%	1909
70	49	Chile	716.08	9443627	18.24%	3925.17	51765181	0.19%	0.17%	13188
71	42	Malaysia	693.03	12619323	22.91%	3025.08	55083658	0.26%	0.18%	18209
72	11	Brazil	690.74	103369073	17.27%	3999.31	598496419	2.09%	1.99%	149650
73	119	Swaziland	667.74	576261	33.12%	2016.38	1740133	0.01%	0.01%	863
74	115	Mauritius	634.17	672222	20.90%	3033.97	3216013	0.01%	0.01%	1060
75	32	Colombia	606.71	20144601	21.35%	2841.43	94344136	0.41%	0.31%	33203
76	84	Costa Rica	566.76	1739948	17.73%	3197.06	9814971	0.04%	0.03%	3070
77	186	Saint Kitts and Nevis	504.35	20679	7.14%	7059.80	289452	0.00%	0.00%	41
78	61	Belarus	499.70	5126907	21.61%	2311.95	23720633	0.10%	0.08%	10260
79	64	Azerbaijan	492.47	3551709	29.73%	1656.60	11947381	0.07%	0.04%	7212
80	146	Suriname	478.05	194564	15.32%	3120.07	1269870	0.00%	0.00%	407
81	93	Jamaica	473.73	1120379	13.03%	3636.74	8600899	0.02%	0.03%	2365
82	68	Dominican Republic	461.91	3323414	20.95%	2205.15	15866081	0.07%	0.05%	7195
83	27	Ukraine	450.79	23281237	16.99%	2653.36	137032557	0.47%	0.45%	51645
84	179	Aruba	420.60	26077	2.04%	20616.92	1278249	0.00%	0.00%	62
85	78	Georgia	405.85	2215952	18.47%	2197.92	12000654	0.04%	0.04%	5460
86	90	Albania	405.06	1332252	23.70%	1708.86	5620432	0.03%	0.02%	3289
87	29	Thailand	386.71	22070167	24.82%	1558.10	88923775	0.45%	0.30%	57072
88	66	Guatemala	386.03	3444510	21.99%	1755.15	15661224	0.07%	0.05%	8923
89	63	Cuba	385.13	4070854	10.56%	3646.12	38539453	0.08%	0.13%	10570
90	82	El Salvador	365.77	1950655	20.11%	1819.23	9701935	0.04%	0.03%	5333
91	122	Namibia	364.13	515245	13.02%	2795.79	3956049	0.01%	0.01%	1415
92	102	Panama	361.38	873092	11.42%	3163.54	7643103	0.02%	0.03%	2416

93	142	Montenegro	360.01	219247	7.47%	4819.94	2935344	0.00%	0.01%	609
94	87	Libya	343.11	1487044	5.13%	6693.85	29011157	0.03%	0.10%	4334
95	97	Lebanon	342.26	1008993	10.61%	3225.62	9509125	0.02%	0.03%	2948
96	139	Fiji	314.84	229200	10.84%	2904.71	2114630	0.00%	0.01%	728
97	169	Samoa	313.83	50526	20.02%	1567.57	252378	0.00%	0.00%	161
98	72	Tunisia	313.64	2576556	15.68%	2000.38	16433105	0.05%	0.05%	8215
99	44	Poland	309.82	11790600	6.55%	4733.52	180138961	0.24%	0.60%	38056
100	62	Kazakhstan	307.46	5082233	10.12%	3039.48	50242566	0.10%	0.17%	16530
101	55	Peru	305.76	6630652	15.14%	2019.08	43785699	0.13%	0.15%	21686
102	132	Trinidad and Tobago	280.22	340463	4.24%	6602.81	8022417	0.01%	0.03%	1215
103	175	Saint Lucia	273.42	37731	6.41%	4266.07	588717	0.00%	0.00%	138
104	168	Belize	270.42	51380	10.64%	2540.67	482728	0.00%	0.00%	190
105	123	Oman	267.63	499931	3.02%	8861.45	16553191	0.01%	0.05%	1868
106	38	Philippines	257.04	15841315	25.51%	1007.63	62099470	0.32%	0.21%	61629
107	177	Saint Vincent and the Grenadines	256.86	27484	8.09%	3176.92	339931	0.00%	0.00%	107
108	187	Antigua and Barbuda	253.70	15729	2.58%	9849.03	610640	0.00%	0.00%	62
109	75	Ecuador	240.33	2466046	10.50%	2288.00	23477148	0.05%	0.08%	10261
110	57	Algeria	237.16	5999912	8.80%	2696.21	68211460	0.12%	0.23%	25299
111	141	Gabon	236.22	219452	3.25%	7259.85	6744402	0.00%	0.02%	929
112	183	Tonga	233.70	22201	12.52%	1866.54	177321	0.00%	0.00%	95
113	58	Morocco	230.19	5704234	15.43%	1491.67	36964977	0.12%	0.12%	24781
114	107	Armenia	214.98	762090	18.76%	1146.20	4063285	0.02%	0.01%	3545
115	101	Paraguay	206.91	878111	15.90%	1300.92	5521092	0.02%	0.02%	4244
116	188	Dominica	206.23	14642	5.01%	4113.35	292048	0.00%	0.00%	71

117	112	Jordan	205.74	702818	12.55%	1639.89	5601868	0.01%	0.02%	3416
118	100	Honduras	193.71	947034	16.91%	1145.56	5600647	0.02%	0.02%	4889
119	76	Côte d'Ivoire	181.66	2273974	17.45%	1041.27	13034626	0.05%	0.04%	12518
120	22	Indonesia	175.99	32443003	21.62%	814.19	150092535	0.66%	0.50%	184346
121	80	Cameroon	173.52	2113688	17.52%	990.66	12067204	0.04%	0.04%	12181
122	130	Palestine	169.24	352190	17.51%	966.52	2011334	0.01%	0.01%	2081
123	140	Botswana	164.34	227120	4.99%	3292.26	4549908	0.00%	0.02%	1382
124	105	Tajikistan	162.48	861656	22.98%	707.16	3750065	0.02%	0.01%	5303
125	113	Republic of Moldova	155.11	676884	11.36%	1365.89	5960755	0.01%	0.02%	4364
126	116	Kyrgyzstan	152.10	668489	21.79%	697.92	3067344	0.01%	0.01%	4395
127	99	Haiti	137.09	976751	22.50%	609.25	4340918	0.02%	0.01%	7125
128	88	Zimbabwe	135.75	1421217	20.02%	678.08	7098868	0.03%	0.02%	10469
129	162	Guyana	130.83	94850	12.04%	1086.68	787846	0.00%	0.00%	725
130	191	Grenada	128.94	12378	2.98%	4332.00	415872	0.00%	0.00%	96
131	53	Iran (Islamic Republic of)	125.56	6889421	6.79%	1850.21	101522802	0.14%	0.34%	54871
132	121	Bosnia and Herzegovina	121.80	524712	23.08%	527.76	2273576	0.01%	0.01%	4308
133	8	China	117.01	134003539	25.49%	459.03	525681444	2.71%	1.74%	1145195
134	56	Egypt	115.84	6584433	13.29%	871.33	49528995	0.13%	0.16%	56843
135	174	Cape Verde	115.61	40231	10.35%	1116.51	388547	0.00%	0.00%	348
136	180	Maldives	112.96	24738	6.72%	1681.04	368148	0.00%	0.00%	219
137	83	Sri Lanka	112.28	1946660	16.11%	696.94	12082827	0.04%	0.04%	17337
138	126	Nicaragua	108.15	445703	14.91%	725.42	2989448	0.01%	0.01%	4121
139	114	Bolivia (Plurinational State of)	101.63	676667	11.94%	850.90	5665316	0.01%	0.02%	6658

140	110	Senegal	101.27	733388	14.32%	707.20	5121556	0.01%	0.02%	7242
141	189	Vanuatu	98.25	14442	5.40%	1818.85	267371	0.00%	0.00%	147
142	96	Afghanistan	80.83	1053328	20.96%	385.57	5024698	0.02%	0.02%	13032
143	85	Uzbekistan	73.70	1511969	13.47%	546.98	11221363	0.03%	0.04%	20515
144	52	Pakistan	73.10	8176053	14.01%	521.85	58366456	0.17%	0.19%	111845
145	150	Congo	73.02	174444	4.03%	1811.63	4327992	0.00%	0.01%	2389
146	111	Angola	70.92	733007	4.44%	1596.55	16500338	0.01%	0.05%	10335
147	159	Mauritania	69.29	138309	10.56%	656.02	1309425	0.00%	0.00%	1996
148	185	Solomon Islands	68.41	21206	6.89%	992.97	307821	0.00%	0.00%	310
149	120	Zambia	67.83	533164	10.04%	675.50	5309421	0.01%	0.02%	7860
150	98	Ghana	66.99	990967	18.01%	372.01	5503099	0.02%	0.02%	14793
151	156	Mongolia	66.75	146380	7.92%	842.65	1847931	0.00%	0.01%	2193
152	197	Palau	65.08	976	0.80%	8172.26	122584	0.00%	0.00%	15
153	86	Kenya	64.11	1503103	11.54%	555.31	13020441	0.03%	0.04%	23447
154	109	Yemen	61.40	733634	9.34%	657.67	7857826	0.01%	0.03%	11948
155	17	India	54.94	48002232	13.71%	400.83	350242870	0.97%	1.16%	873785
156	194	Kiribati	53.09	3823	5.41%	980.77	70615	0.00%	0.00%	72
157	104	Iraq	49.99	868546	2.95%	1694.15	29434124	0.02%	0.10%	17374
158	148	Papua New Guinea	45.49	189164	6.25%	727.77	3026049	0.00%	0.01%	4158
159	193	Sao Tome and Principe	41.69	4836	6.29%	662.68	76871	0.00%	0.00%	116
160	181	Djibouti	41.49	23318	3.18%	1304.60	733183	0.00%	0.00%	562
161	124	Madagascar	41.41	467160	12.32%	336.13	3791830	0.01%	0.01%	11281
162	184	Bhutan	38.89	21740	6.40%	608.11	339931	0.00%	0.00%	559
163	166	Lesotho	38.82	63620	7.93%	489.38	802095	0.00%	0.00%	1639

164	125	Syrian Arab Republic	37.03	456388	3.63%	1019.70	12566773	0.01%	0.04%	12324
165	131	Burkina Faso	36.90	344061	14.50%	254.51	2373023	0.01%	0.01%	9324
166	145	Chad	35.02	210494	10.84%	323.16	1942527	0.00%	0.01%	6011
167	160	Togo	34.99	128291	7.96%	439.73	1612033	0.00%	0.01%	3666
168	77	Viet Nam	33.71	2261895	12.74%	264.54	17751369	0.05%	0.06%	67102
169	65	Bangladesh	33.56	3532018	12.20%	275.08	28954131	0.07%	0.10%	105256
170	161	Central African Republic	32.71	96012	7.98%	410.01	1203367	0.00%	0.00%	2935
171	152	Benin	31.77	151626	6.83%	465.02	2219562	0.00%	0.01%	4773
172	133	Malawi	31.37	294251	16.53%	189.75	1780052	0.01%	0.01%	9381
173	94	Democratic Rep of the Congo	30.77	1120220	10.79%	285.26	10385109	0.02%	0.03%	36406
174	190	Comoros	29.06	12730	4.21%	690.57	302468	0.00%	0.00%	438
175	178	Gambia	27.93	26977	6.88%	405.77	391974	0.00%	0.00%	966
176	198	Tuvalu	26.25	236	1.75%	1499.94	13499	0.00%	0.00%	9
177	157	Burundi	25.65	143705	11.74%	218.49	1223989	0.00%	0.00%	5602
178	149	Niger	23.14	180192	7.67%	301.53	2348284	0.00%	0.01%	7788
179	196	Marshall Islands	23.12	1087	0.96%	2400.81	112838	0.00%	0.00%	47
180	118	United Republic of Tanzania	22.71	578559	7.76%	292.56	7454016	0.01%	0.02%	25479
181	79	Nigeria	22.26	2171086	3.42%	650.17	63425863	0.04%	0.21%	97552
182	182	Guinea-Bissau	22.04	22418	4.43%	497.44	505895	0.00%	0.00%	1017
183	153	Rwanda	21.25	151069	8.77%	242.34	1723020	0.00%	0.01%	7110
184	163	Sierra Leone	20.98	83556	8.02%	261.79	1042435	0.00%	0.00%	3982
185	172	Liberia	19.69	41887	7.23%	272.19	578953	0.00%	0.00%	2127
186	155	Mali	16.90	146542	5.58%	302.72	2625456	0.00%	0.01%	8673

187	151	Cambodia	16.48	157045	7.53%	218.83	2085885	0.00%	0.01%	9532
188	144	Mozambique	15.69	212598	8.38%	187.17	2535607	0.00%	0.01%	13547
189	173	Eritrea	12.83	40531	7.53%	170.33	537918	0.00%	0.00%	3158
190	138	Nepal	12.25	233788	5.53%	221.60	4228414	0.00%	0.01%	19081
191	170	Lao People's Dem Rep	11.55	48400	4.36%	264.82	1110108	0.00%	0.00%	4192
192	165	Guinea	11.06	63667	5.13%	215.67	1242018	0.00%	0.00%	5759
193	192	Timor-Leste	10.71	7955	2.34%	458.07	340349	0.00%	0.00%	743
194	128	Ethiopia	9.02	435732	6.35%	142.05	6865812	0.01%	0.02%	48333
195	158	Uganda	7.98	141332	3.98%	200.65	3551509	0.00%	0.01%	17700
196	135	Myanmar	6.93	272003	8.26%	83.87	3293557	0.01%	0.01%	39268
197	195	Equatorial Guinea	6.59	2464	0.75%	880.41	329274	0.00%	0.00%	374
198	176	Somalia	5.39	35565	1.36%	395.45	2609578	0.00%	0.01%	6599
		World	941.08	4947261644	16.42%	5732.32	30134982751	99.99%	99.98%	5257030
		Industrialised Economies	3807.85	4092340025	16.39%	23230.11	24965618467			1074709
		Developing and EIEs	204.41	854921619	16.54%	1236.00	5169364284			4182321

Source: UNIDO Statistics, 2013

Table A3: World Manufacturing Value Added, GDP and Population – 2000

		Country	MVApc	MVA	MVAsh	GDPpc	GDP	MVA as a % of World MVA	GDP as a % of World GDP	Population
1	111	Liechtenstein	20918.57	690313	19.64%	106493.49	3514285	0.01%	0.01%	33
2	26	Puerto Rico	9321.09	35550641	47.87%	19471.45	74264098	0.55%	0.19%	3814
3	29	Ireland	8762.20	33331394	20.86%	42004.73	159785987	0.51%	0.40%	3804
4	19	Switzerland	8597.25	61625058	17.66%	48695.00	349045768	0.95%	0.88%	7168
5	147	San Marino	8101.70	218746	18.73%	43259.72	1168013	0.00%	0.00%	27
6	145	Monaco	7527.94	263478	6.71%	112227.17	3927951	0.00%	0.01%	35
7	2	Japan	7134.74	896979871	21.03%	33930.73	4265771352	13.76%	10.75%	125720
8	76	Luxembourg	6778.02	2948441	9.34%	72574.80	31570039	0.05%	0.08%	435
9	33	Singapore	6564.03	25724428	26.30%	24962.60	97828416	0.39%	0.25%	3919
10	3	Germany	6531.13	537831823	20.03%	32607.61	2685203682	8.25%	6.77%	82349
11	30	Finland	6332.26	32756759	19.06%	33222.55	171860241	0.50%	0.43%	5173
12	23	Austria	6145.46	49194428	17.53%	35055.92	280622634	0.75%	0.71%	8005
13	32	Denmark	6005.13	32067403	13.25%	45336.44	242096564	0.49%	0.61%	5340
14	22	Sweden	5743.08	50883649	15.68%	36626.16	324507757	0.78%	0.82%	8860
15	21	Belgium	5523.12	56203303	16.12%	34259.37	348623365	0.86%	0.88%	10176
16	5	Italy	5373.82	306232364	18.00%	29848.98	1700973783	4.70%	4.29%	56986
17	1	United States of America	5299.90	1497200000	13.42%	39498.26	11158100000	22.96%	28.11%	282496
18	8	Canada	5221.73	160134768	16.01%	32605.87	999924237	2.46%	2.52%	30667
19	35	Norway	5203.07	23366987	8.63%	60265.11	270650617	0.36%	0.68%	4491
20	45	United Arab Emirates	5074.82	15391940	11.06%	45879.00	139151014	0.24%	0.35%	3033

21	16	Netherlands	4902.47	77767854	13.01%	37694.74	597951650	1.19%	1.51%	15863
22	88	Iceland	4790.24	1346058	10.19%	47031.38	13215819	0.02%	0.03%	281
23	6	United Kingdom	4657.56	274209183	13.85%	33619.56	1979318108	4.21%	4.99%	58874
24	77	Qatar	4619.19	2729943	9.45%	48888.97	28893379	0.04%	0.07%	591
25	7	France	4035.75	238302740	12.08%	33414.10	1973035720	3.65%	4.97%	59048
26	11	Spain	3762.95	151601668	15.75%	23888.82	962432682	2.33%	2.42%	40288
27	17	Australia	3747.83	71823353	11.14%	33643.31	644740403	1.10%	1.62%	19164
28	47	New Zealand	3536.93	13645457	14.55%	24306.31	93773763	0.21%	0.24%	3858
29	149	Greenland	3534.15	197912	12.16%	29065.48	1627667	0.00%	0.00%	56
30	15	China, Taiwan Province	3500.38	77974556	24.62%	14217.21	316702578	1.20%	0.80%	22276
31	96	Brunei Darussalam	3358.71	1098299	12.77%	26306.14	8602107	0.02%	0.02%	327
32	9	Republic of Korea	3309.93	152217072	22.44%	14748.84	678269646	2.33%	1.71%	45988
33	40	Israel	3068.23	18455418	15.26%	20101.91	120913013	0.28%	0.30%	6015
34	57	Slovenia	2883.30	5723344	19.14%	15063.25	29900559	0.09%	0.08%	1985
35	95	Malta	2811.19	1116043	19.51%	14410.97	5721155	0.02%	0.01%	397
36	34	Portugal	2346.16	24249958	13.20%	17767.31	183642946	0.37%	0.46%	10336
37	36	Czech Republic	2183.36	22364201	21.01%	10392.01	106445364	0.34%	0.27%	10243
38	156	Seychelles	1855.03	146547	15.53%	11941.98	943417	0.00%	0.00%	79
39	70	Kuwait	1838.71	3568936	6.52%	28184.93	54706942	0.05%	0.14%	1941
40	164	Bermuda	1742.61	109784	2.56%	68042.00	4286646	0.00%	0.01%	63
41	97	Bahrain	1682.06	1073157	10.71%	15702.12	10017952	0.02%	0.03%	638
42	132	French Polynesia	1641.07	390574	7.92%	20727.31	4933100	0.01%	0.01%	238
43	41	Greece	1638.63	18003641	9.14%	17926.53	196958783	0.28%	0.50%	10987
44	42	Hungary	1638.28	16728473	18.60%	8810.03	89959210	0.26%	0.23%	10211
45	10	Mexico	1519.15	151854488	19.70%	7710.43	770734779	2.33%	1.94%	99960
46	31	Malaysia	1390.78	32565214	29.76%	4673.98	109441193	0.50%	0.28%	23415

47	89	Cyprus	1390.08	1310845	9.04%	15374.66	14498300	0.02%	0.04%	943
48	140	New Caledonia	1341.80	284462	6.84%	19610.32	4157387	0.00%	0.01%	212
49	59	Croatia	1239.60	5585638	15.50%	7996.93	36034178	0.09%	0.09%	4506
50	122	China, Macao SAR	1212.40	523757	7.72%	15708.14	6785916	0.01%	0.02%	432
51	37	Saudi Arabia	1115.41	22358493	8.53%	13072.56	262039377	0.34%	0.66%	20045
52	18	Turkey	1050.89	66865803	17.30%	6075.69	386583929	1.03%	0.97%	63628
53	58	Slovakia	1048.82	5668849	15.04%	6974.39	37696581	0.09%	0.09%	5405
54	138	Bahamas	1010.63	301167	4.24%	23822.59	7099131	0.00%	0.02%	298
55	87	Estonia	995.76	1365181	13.87%	7177.88	9840879	0.02%	0.02%	1371
56	25	Poland	995.46	38127920	14.60%	6816.72	261093944	0.58%	0.66%	38302
57	172	Andorra	992.46	64510	3.62%	27423.30	1782515	0.00%	0.00%	65
58	46	Chile	951.11	14666085	15.24%	6240.98	96235946	0.22%	0.24%	15420
59	94	Mauritius	942.63	1127381	20.85%	4520.20	5406156	0.02%	0.01%	1196
60	169	Aruba	933.12	83981	3.92%	23790.89	2141180	0.00%	0.01%	90
61	28	Argentina	924.29	34135138	20.56%	4495.06	166007230	0.52%	0.42%	36931
62	146	Barbados	907.21	243131	8.09%	11218.92	3006671	0.00%	0.01%	268
63	38	Venezuela (Bolivarian Republic of)	856.99	20865962	16.27%	5268.55	128278590	0.32%	0.32%	24348
64	75	Lithuania	852.61	2984148	16.73%	5097.26	17840402	0.05%	0.04%	3500
65	72	Costa Rica	851.67	3337696	20.43%	4169.67	16340941	0.05%	0.04%	3919
66	60	China, Hong Kong SAR	808.65	5485083	3.78%	21403.67	145181125	0.08%	0.37%	6783
67	27	South Africa	782.30	35015882	17.10%	4573.59	204714001	0.54%	0.52%	44760
68	71	Turkmenistan	754.91	3397844	35.04%	2154.67	9698185	0.05%	0.02%	4501
69	55	Dominican Republic	737.61	6337576	22.16%	3327.98	28594000	0.10%	0.07%	8592
70	24	Thailand	708.16	44723939	32.52%	2177.42	137515006	0.69%	0.35%	63155
71	44	Romania	703.49	15611879	20.79%	3384.28	75104051	0.24%	0.19%	22192

72	179	Saint Kitts and Nevis	697.73	32096	7.39%	9436.81	434093	0.00%	0.00%	46
73	108	Swaziland	696.55	741126	31.83%	2188.17	2328210	0.01%	0.01%	1064
74	80	Uruguay	686.83	2279583	13.25%	5183.82	17205113	0.03%	0.04%	3319
75	12	Brazil	680.52	118698859	15.44%	4408.65	768978417	1.82%	1.94%	174425
76	13	Russian Federation	607.52	89157805	15.71%	3866.17	567391987	1.37%	1.43%	146758
77	86	Oman	604.27	1368063	5.26%	11480.91	25992774	0.02%	0.07%	2264
78	73	El Salvador	546.23	3244602	21.32%	2562.14	15219102	0.05%	0.04%	5940
79	91	Latvia	522.01	1244995	11.50%	4537.87	10822813	0.02%	0.03%	2385
80	82	Lebanon	517.24	1935495	10.66%	4850.97	18152348	0.03%	0.05%	3742
81	61	Belarus	509.65	5126022	24.37%	2091.19	21033237	0.08%	0.05%	10058
82	64	Tunisia	474.63	4488057	17.23%	2754.68	26048298	0.07%	0.07%	9456
83	119	Trinidad and Tobago	434.38	561220	5.12%	8480.69	10957049	0.01%	0.03%	1292
84	134	Fiji	419.05	340271	12.76%	3284.57	2667071	0.01%	0.01%	812
85	43	Colombia	418.75	16651341	13.57%	3084.80	122664135	0.26%	0.31%	39764
86	63	Guatemala	401.51	4511751	19.25%	2086.14	23441923	0.07%	0.06%	11237
87	105	The f. Yugosl. Rep of Macedonia	397.32	798210	14.41%	2756.48	5537766	0.01%	0.01%	2009
88	93	Panama	386.92	1143726	9.13%	4236.70	12523684	0.02%	0.03%	2956
89	74	Bulgaria	384.38	3077345	13.90%	2764.37	22131545	0.05%	0.06%	8006
90	68	Serbia	375.12	3801512	19.54%	1920.06	19457893	0.06%	0.05%	10134
91	67	Cuba	368.93	4096618	12.27%	3005.91	33377658	0.06%	0.08%	11104
92	51	Peru	360.56	9324797	14.42%	2499.95	64653625	0.14%	0.16%	25862
93	104	Jamaica	355.76	918566	8.95%	3974.19	10261367	0.01%	0.03%	2582
94	83	Libya	355.33	1858757	5.28%	6727.95	35193885	0.03%	0.09%	5231
95	4	China	352.76	447696496	31.59%	1116.55	1417037465	6.87%	3.57%	1269117
96	112	Namibia	351.58	666587	11.68%	3010.46	5707837	0.01%	0.01%	1896

97	155	Suriname	323.42	151037	11.12%	2908.98	1358496	0.00%	0.00%	467
98	170	Belize	305.84	76765	8.95%	3417.16	857707	0.00%	0.00%	251
99	65	Kazakhstan	295.45	4418978	12.67%	2332.04	34880329	0.07%	0.09%	14957
100	20	Indonesia	288.01	61460047	27.08%	1063.37	226918858	0.94%	0.57%	213395
101	173	Samoa	284.84	50416	15.64%	1821.73	322447	0.00%	0.00%	177
102	39	Philippines	264.39	20439746	24.82%	1065.24	82353494	0.31%	0.21%	77310
103	152	Montenegro	262.52	166175	8.46%	3104.17	1964939	0.00%	0.00%	633
104	53	Morocco	255.01	7342550	15.73%	1621.44	46686018	0.11%	0.12%	28793
105	92	Jordan	253.53	1223767	13.24%	1915.23	9244797	0.02%	0.02%	4827
106	184	Saint Vincent and the Grenadines	250.65	27070	5.85%	4287.39	463038	0.00%	0.00%	108
107	177	Saint Lucia	230.75	36227	4.52%	5101.31	800906	0.00%	0.00%	157
108	85	Honduras	224.91	1398511	18.07%	1244.54	7738563	0.02%	0.02%	6218
109	141	Gabon	224.38	277109	3.48%	6438.52	7951576	0.00%	0.02%	1235
110	66	Sri Lanka	223.80	4195218	20.88%	1071.77	20090397	0.06%	0.05%	18745
111	190	Dominica	217.98	15259	4.50%	4848.36	339385	0.00%	0.00%	70
112	69	Côte d'Ivoire	215.47	3572859	21.83%	986.86	16364073	0.05%	0.04%	16582
113	185	Grenada	211.07	21529	3.44%	6130.49	625310	0.00%	0.00%	102
114	78	Ecuador	210.49	2598515	9.26%	2274.23	28075430	0.04%	0.07%	12345
115	188	Antigua and Barbuda	206.53	16109	1.93%	10683.89	833343	0.00%	0.00%	78
116	186	Tonga	198.79	19482	8.28%	2401.30	235327	0.00%	0.00%	98
117	109	Bosnia and Herzegovina	195.72	723002	8.41%	2326.87	8595476	0.01%	0.02%	3694
118	157	Guyana	193.60	141908	11.17%	1732.44	1269880	0.00%	0.00%	733
119	48	Iran (Islamic Republic of)	188.95	12346451	8.44%	2238.76	146285245	0.19%	0.37%	65342
120	99	Paraguay	185.78	992810	15.07%	1232.48	6586347	0.02%	0.02%	5344
121	120	Albania	180.81	555439	8.62%	2097.09	6442274	0.01%	0.02%	3072

122	49	Egypt	179.39	12135546	16.09%	1114.65	75403514	0.19%	0.19%	67648
123	52	Ukraine	179.23	8762672	14.72%	1217.71	59536498	0.13%	0.15%	48892
124	137	Botswana	171.54	301561	3.80%	4514.67	7936782	0.00%	0.02%	1758
125	62	Algeria	167.59	5117268	6.35%	2639.78	80602957	0.08%	0.20%	30534
126	174	Maldives	161.50	44090	5.81%	2777.78	758334	0.00%	0.00%	273
127	79	Cameroon	160.26	2512613	18.17%	881.95	13827162	0.04%	0.03%	15678
128	171	Cape Verde	155.56	67982	9.09%	1711.73	748027	0.00%	0.00%	437
129	125	Palestine	150.04	479983	11.47%	1308.58	4186156	0.01%	0.01%	3199
130	131	Armenia	132.06	406207	14.74%	895.63	2754946	0.01%	0.01%	3076
131	197	Palau	127.74	2427	1.78%	7168.24	136197	0.00%	0.00%	19
132	113	Nicaragua	122.65	622349	14.92%	822.25	4172113	0.01%	0.01%	5074
133	101	Bolivia (Plurinational State of)	115.01	955357	11.65%	987.29	8201398	0.01%	0.02%	8307
134	194	Marshall Islands	104.51	5434	4.39%	2381.42	123834	0.00%	0.00%	52
135	100	Senegal	103.81	986788	14.22%	729.89	6938358	0.02%	0.02%	9506
136	90	Zimbabwe	103.38	1293175	15.31%	675.31	8447466	0.02%	0.02%	12509
137	126	Georgia	100.40	476520	10.59%	948.42	4501181	0.01%	0.01%	4746
138	187	Vanuatu	90.67	16774	4.49%	2019.79	373661	0.00%	0.00%	185
139	50	Pakistan	82.51	11925152	13.88%	594.37	85899031	0.18%	0.22%	144522
140	14	India	81.36	85750304	14.26%	570.56	601312478	1.32%	1.51%	1053898
141	56	Viet Nam	79.89	6291907	17.08%	467.84	36846114	0.10%	0.09%	78758
142	178	Solomon Islands	79.60	32557	8.29%	960.68	392920	0.00%	0.00%	409
143	148	Mauritania	76.90	203238	11.67%	659.08	1741942	0.00%	0.00%	2643
144	175	Bhutan	74.64	42619	7.62%	980.05	559610	0.00%	0.00%	571
145	159	Lesotho	71.68	140787	11.87%	603.93	1186112	0.00%	0.00%	1964
146	135	Kyrgyzstan	65.53	324682	15.89%	412.28	2042842	0.00%	0.01%	4955

147	144	Republic of Moldova	64.87	266408	12.55%	516.81	2122537	0.00%	0.01%	4107
148	123	Azerbaijan	64.20	520758	7.40%	867.37	7035250	0.01%	0.02%	8111
149	115	Zambia	59.02	602102	10.60%	556.56	5678050	0.01%	0.01%	10202
150	84	Kenya	54.32	1697589	10.83%	501.46	15672687	0.03%	0.04%	31254
151	54	Bangladesh	53.00	6868463	14.84%	357.03	46268657	0.11%	0.12%	129592
152	102	Yemen	52.58	931929	6.84%	769.26	13633617	0.01%	0.03%	17723
153	142	Papua New Guinea	50.82	273371	6.05%	840.53	4521187	0.00%	0.01%	5379
154	110	Angola	50.55	703974	3.76%	1343.94	18715645	0.01%	0.05%	13926
155	196	Kiribati	50.17	4214	4.21%	1191.28	100067	0.00%	0.00%	84
156	139	Tajikistan	47.73	294628	20.63%	231.37	1428235	0.00%	0.00%	6173
157	130	Haiti	47.44	410087	9.60%	493.88	4269612	0.01%	0.01%	8645
158	117	Cambodia	47.11	586355	14.56%	323.50	4026638	0.01%	0.01%	12447
159	98	Uzbekistan	42.34	1048977	9.54%	443.78	10995014	0.02%	0.03%	24776
160	143	Benin	41.84	272718	7.69%	543.86	3544911	0.00%	0.01%	6518
161	160	Congo	41.63	130559	2.62%	1589.57	4984881	0.00%	0.01%	3136
162	193	Sao Tome and Principe	40.93	5771	6.46%	633.46	89318	0.00%	0.00%	141
163	168	Mongolia	39.32	94797	5.14%	764.52	1843267	0.00%	0.00%	2411
164	103	Iraq	38.91	928267	2.18%	1785.09	42586984	0.01%	0.11%	23857
165	107	Ghana	38.78	743190	8.86%	437.50	8384623	0.01%	0.02%	19165
166	127	Burkina Faso	38.54	473751	11.89%	323.97	3982853	0.01%	0.01%	12294
167	118	Madagascar	36.82	565719	12.56%	293.05	4502432	0.01%	0.01%	15364
168	153	Togo	33.69	161499	8.07%	417.43	2001174	0.00%	0.01%	4794
169	154	Lao People's Dem Rep	28.41	151041	7.47%	380.15	2021233	0.00%	0.01%	5317
170	165	Eritrea	27.42	100564	10.39%	263.89	967942	0.00%	0.00%	3668
171	189	Comoros	27.22	15300	4.53%	600.58	337526	0.00%	0.00%	562
172	136	Malawi	27.21	305589	12.24%	222.35	2496767	0.00%	0.01%	11229

173	167	Central African Republic	26.30	97373	6.87%	382.85	1417298	0.00%	0.00%	3702
174	128	Mozambique	25.60	466026	10.81%	236.85	4310942	0.01%	0.01%	18201
175	116	Nepal	24.67	601901	8.75%	282.02	6881622	0.01%	0.02%	24401
176	121	Afghanistan	23.44	535681	17.46%	134.21	3067607	0.01%	0.01%	22856
177	180	Gambia	23.13	29994	5.54%	417.70	541762	0.00%	0.00%	1297
178	150	Chad	22.58	185632	7.63%	295.94	2433234	0.00%	0.01%	8222
179	106	United Republic of Tanzania	22.40	762437	7.58%	295.57	10060678	0.01%	0.03%	34038
180	182	Guinea-Bissau	22.01	27315	4.66%	471.87	585586	0.00%	0.00%	1241
181	198	Tuvalu	20.12	181	0.86%	2336.35	21027	0.00%	0.00%	9
182	124	Uganda	19.88	481337	7.21%	275.86	6679299	0.01%	0.02%	24213
183	191	Djibouti	19.07	13957	2.28%	836.51	612324	0.00%	0.00%	732
184	162	Burundi	18.74	119457	11.91%	157.39	1003173	0.00%	0.00%	6374
185	81	Nigeria	16.67	2061283	2.47%	674.13	83382948	0.03%	0.21%	123689
186	151	Niger	16.53	180556	6.44%	256.57	2802303	0.00%	0.01%	10922
187	163	Rwanda	14.26	115437	6.46%	220.61	1786530	0.00%	0.00%	8098
188	114	Myanmar	13.56	609795	9.36%	144.90	6514411	0.01%	0.02%	44958
189	166	Guinea	11.89	99230	5.36%	221.85	1851111	0.00%	0.00%	8344
190	161	Mali	11.34	128038	3.28%	345.42	3901567	0.00%	0.01%	11295
191	192	Timor-Leste	11.04	9165	2.00%	550.89	457237	0.00%	0.00%	830
192	183	Liberia	9.54	27150	3.72%	256.40	729968	0.00%	0.00%	2847
193	158	Syrian Arab Republic	8.81	140789	0.63%	1388.97	22208235	0.00%	0.06%	15989
194	195	Equatorial Guinea	8.12	4221	0.20%	4149.35	2157660	0.00%	0.01%	520
195	133	Democratic Rep of the Congo	7.85	389732	6.68%	117.64	5838029	0.01%	0.01%	49626
196	181	Sierra Leone	7.09	29356	4.49%	157.71	653400	0.00%	0.00%	4143

197	129	Ethiopia	6.49	425856	4.73%	137.38	9008983	0.01%	0.02%	65578
198	176	Somalia	5.53	40940	2.07%	267.35	1978150	0.00%	0.00%	7399
		World	1075.45	6520000922	16.43%	6547.02	39691894712	99.98%	99.96%	6062592
		Industrialized Economies	4488.83	5111827732	15.92%	28191.74	32104458789			1138790
		Developing & EIEs	374.40	1240462608	20.18%	1855.34	6147063428			3313165

Source: UNIDO Statistics, 2013

Table A4: World Manufacturing Value Added, GDP and Population – 2010

Rank MVApC	Rank MVA	Country	MVApc	MVA	MVAsh	GDPpc	GDP	MVA as a % of World MVA	GDP as a % of World GDP	Population
121	1	Liechtenstein	23600.81	849629	20.14%	117178.39	4218422	#DIV/0!	#DIV/0!	36
27	2	Ireland	11216.45	50137531	24.78%	45262.86	202324983	0.59%	0.40%	4470
22	3	Switzerland	9907.92	75934307	18.45%	53713.04	411656726	0.90%	0.81%	7664
29	4	Singapore	8781.46	44662486	26.43%	33228.32	168999219	0.53%	0.33%	5086
34	5	Puerto Rico	8747.30	32793610	43.29%	20206.68	75754827	0.39%	0.15%	3749
149	6	Monaco	8186.96	286544	5.12%	159992.30	5599730	0.00%	0.01%	35
31	7	Finland	7776.95	41723363	20.17%	38557.00	206858290	0.49%	0.41%	5365
3	8	Japan	7665.98	970022860	21.19%	36183.71	4578541451	11.46%	8.99%	126536
24	9	Austria	7093.39	59541939	18.20%	38980.89	327205573	0.70%	0.64%	8394
23	10	Sweden	6844.46	64201034	16.17%	42332.59	397079703	0.76%	0.78%	9380
4	11	Germany	6760.31	556386817	18.89%	35792.37	2945784039	6.57%	5.79%	82302
156	12	San Marino	6232.83	199451	15.02%	41483.16	1327461	0.00%	0.00%	32
5	13	Republic of Korea	5803.11	279617133	27.48%	21118.41	1017569469	3.30%	2.00%	48184
1	14	United States of America	5681.25	1763370000	13.55%	41938.37	13017000000	20.83%	25.56%	310384
37	15	Norway	5651.54	27596463	8.75%	64565.75	315274554	0.33%	0.62%	4883
35	16	Denmark	5609.66	31133631	12.06%	46503.52	258094535	0.37%	0.51%	5550
25	17	Belgium	5324.95	57040916	14.26%	37333.96	399921419	0.67%	0.79%	10712
18	18	Netherlands	5119.78	85054824	12.42%	41237.68	685081599	1.00%	1.35%	16613
96	19	Iceland	4836.21	1547587	9.44%	51246.23	16398793	0.02%	0.03%	320
15	20	China, Taiwan Province	4766.15	110393455	26.08%	18272.81	423234724	1.30%	0.83%	23162

87	21	Luxembourg	4513.25	2288216	5.54%	81460.16	41300303	0.03%	0.08%	507
6	22	Italy	4300.13	260377309	14.93%	28801.57	1743963879	3.08%	3.42%	60551
7	23	United Kingdom	3979.19	246853165	10.59%	37558.96	2330007773	2.92%	4.58%	62036
62	24	Qatar	3948.85	6946035	7.50%	52634.11	92583393	0.08%	0.18%	1759
8	25	France	3892.31	244386733	11.07%	35176.31	2208615209	2.89%	4.34%	62787
13	26	Canada	3859.51	131288810	10.91%	35390.74	1203886673	1.55%	2.36%	34017
19	27	Australia	3749.08	83484594	9.55%	39270.59	874477547	0.99%	1.72%	22268
61	28	Slovenia	3688.59	7487836	19.18%	19228.74	39034340	0.09%	0.08%	2030
32	29	Czech Republic	3676.94	38582093	25.97%	14159.77	148578508	0.46%	0.29%	10493
53	30	New Zealand	3546.76	15492227	12.77%	27769.72	121298151	0.18%	0.24%	4368
42	31	Israel	3138.00	23277690	14.18%	22126.72	164136018	0.27%	0.32%	7418
157	32	Greenland	3132.25	178538	9.85%	31795.91	1812367	0.00%	0.00%	57
12	33	Spain	3078.06	141827689	12.01%	25623.62	1180659610	1.68%	2.32%	46077
44	34	United Arab Emirates	3046.79	22887521	10.84%	28116.88	211214021	0.27%	0.41%	7512
110	35	Brunei Darussalam	2705.88	1079646	10.96%	24685.97	9849702	0.01%	0.02%	399
45	36	Hungary	2265.61	22619802	20.70%	10943.98	109264714	0.27%	0.21%	9984
56	37	Slovakia	2229.59	12178039	20.23%	11018.75	60184429	0.14%	0.12%	5462
65	38	Kuwait	2215.67	6064283	6.74%	32897.08	90039306	0.07%	0.18%	2737
43	39	Portugal	2147.33	22924939	11.68%	18382.44	196250942	0.27%	0.39%	10676
20	40	Poland	2081.34	79667453	20.81%	9999.76	382760918	0.94%	0.75%	38277
86	41	Bahrain	1899.41	2397058	13.45%	14120.61	17820215	0.03%	0.03%	1262
124	42	Malta	1885.36	786197	11.82%	15953.89	6652773	0.01%	0.01%	417
134	43	New Caledonia	1726.18	433271	7.47%	23113.22	5801419	0.01%	0.01%	251
48	44	Greece	1686.40	19155852	7.88%	21412.95	243229731	0.23%	0.48%	11359
28	45	Malaysia	1611.97	45781696	26.64%	6049.93	171823971	0.54%	0.34%	28401
60	46	Turkmenistan	1606.71	8101027	39.76%	4041.34	20376458	0.10%	0.04%	5042
162	47	Seychelles	1602.31	139401	11.95%	13409.55	1166631	0.00%	0.00%	87

69	48	Lithuania	1572.41	5226694	19.11%	8227.11	27346902	0.06%	0.05%	3324
90	49	Estonia	1461.56	1959949	14.10%	10363.74	13897775	0.02%	0.03%	1341
137	50	French Polynesia	1445.26	391666	6.60%	21890.85	5932420	0.00%	0.01%	271
10	51	Mexico	1439.84	163311525	17.71%	8131.57	922306735	1.93%	1.81%	113423
16	52	Turkey	1378.04	100255000	17.77%	7756.69	564314896	1.18%	1.11%	72752
66	53	Croatia	1360.84	5991788	12.78%	10650.75	46895256	0.07%	0.09%	4403
33	54	Saudi Arabia	1355.86	37215673	10.26%	13209.48	362573880	0.44%	0.71%	27448
55	55	Belarus	1355.59	13006901	30.29%	4475.15	42939088	0.15%	0.08%	9595
26	56	Argentina	1301.00	52575841	20.72%	6278.88	253742159	0.62%	0.50%	40412
78	57	Oman	1289.53	3587469	8.69%	14845.33	41299716	0.04%	0.08%	2782
38	58	Romania	1184.85	25457581	22.75%	5209.02	111921000	0.30%	0.22%	21486
102	59	Cyprus	1132.03	1249765	6.52%	17370.25	19176761	0.01%	0.04%	1104
21	60	Thailand	1105.67	76425822	36.38%	3039.42	210090658	0.90%	0.41%	69122
172	61	Bermuda	1091.53	70950	1.42%	76731.56	4987552	0.00%	0.01%	65
168	62	Andorra	1067.16	90709	3.46%	30872.25	2624141	0.00%	0.01%	85
49	63	Chile	1035.21	17716598	12.77%	8104.66	138703186	0.21%	0.27%	17114
2	64	China	967.01	1297084939	33.80%	2861.32	3837991591	15.32%	7.54%	1341335
103	65	Mauritius	960.80	1248085	15.94%	6027.06	7829147	0.01%	0.02%	1299
72	66	Costa Rica	953.20	4440975	17.80%	5355.74	24952373	0.05%	0.05%	4659
81	67	Uruguay	936.89	3156372	13.71%	6832.27	23017907	0.04%	0.05%	3369
30	68	South Africa	878.90	44061958	15.24%	5766.29	289081226	0.52%	0.57%	50133
105	69	Trinidad and Tobago	877.50	1176728	6.21%	14132.05	18951083	0.01%	0.04%	1341
14	70	Russian Federation	867.22	123976429	13.66%	6350.40	907840979	1.46%	1.78%	142958
148	71	Bahamas	862.95	295993	3.97%	21752.38	7461068	0.00%	0.01%	343
59	72	Dominican Republic	829.98	8239212	17.20%	4824.92	47896984	0.10%	0.09%	9927
46	73	Venezuela (Bolivarian Republic)	776.63	22506685	12.89%	6023.14	174550556	0.27%	0.34%	28980

of)										
11	74	Brazil	775.31	151142977	13.78%	5625.83	1096732533	1.79%	2.15%	194946
94	75	Latvia	738.61	1663341	10.73%	6883.94	15502643	0.02%	0.03%	2252
119	76	Swaziland	735.62	872449	29.88%	2461.62	2919483	0.01%	0.01%	1186
170	77	Aruba	712.21	76206	3.84%	18528.29	1982527	0.00%	0.00%	107
70	78	Bulgaria	681.30	5105671	15.47%	4405.00	33011041	0.06%	0.06%	7494
76	79	El Salvador	624.45	3867207	21.08%	2961.61	18341273	0.05%	0.04%	6193
73	80	China, Hong Kong SAR	624.21	4402544	2.04%	30570.66	215614843	0.05%	0.42%	7053
63	81	Tunisia	596.09	6247668	15.53%	3838.06	40226745	0.07%	0.08%	10481
147	82	Suriname	583.57	306375	14.01%	4165.24	2186751	0.00%	0.00%	525
158	83	Barbados	581.33	158702	5.38%	10797.09	2947606	0.00%	0.01%	273
146	84	China, Macao SAR	564.72	307206	1.49%	37881.42	20607491	0.00%	0.04%	544
51	85	Peru	560.28	16291250	14.52%	3859.83	112232329	0.19%	0.22%	29077
58	86	Kazakhstan	533.73	8553481	11.07%	4820.00	77245319	0.10%	0.15%	16026
93	87	Albania	525.58	1683974	15.70%	3347.43	10725150	0.02%	0.02%	3204
40	88	Colombia	519.00	24027192	13.13%	3951.86	182951227	0.28%	0.36%	46295
184	89	Saint Kitts and Nevis	514.17	26737	5.45%	9427.69	490240	0.00%	0.00%	52
88	90	Lebanon	509.96	2156123	7.19%	7093.59	29991684	0.03%	0.06%	4228
109	91	Namibia	477.29	1089647	12.31%	3877.38	8852067	0.01%	0.02%	2283
138	92	Fiji	450.73	388078	12.84%	3510.31	3022376	0.00%	0.01%	861
83	93	Libya	444.19	2822843	5.21%	8517.98	54131735	0.03%	0.11%	6355
84	94	Jordan	440.51	2725438	16.00%	2753.61	17036599	0.03%	0.03%	6187
165	95	Belize	423.13	132016	10.48%	4035.77	1259160	0.00%	0.00%	312
122	96	The f. Yugosl. Rep of Macedonia	402.26	829057	11.74%	3426.78	7062601	0.01%	0.01%	2061
17	97	Indonesia	395.57	94886334	25.12%	1575.01	377799320	1.12%	0.74%	239871

67	98	Guatemala	394.69	5679139	17.44%	2263.50	32569569	0.07%	0.06%	14389
74	99	Cuba	383.50	4317424	7.81%	4908.66	55261673	0.05%	0.11%	11258
79	100	Serbia	362.73	3575108	12.83%	2827.10	27863887	0.04%	0.05%	9856
104	101	Panama	349.37	1228733	5.31%	6584.11	23156299	0.01%	0.05%	3517
52	102	Ukraine	347.23	15780796	17.44%	1991.07	90490329	0.19%	0.18%	45448
176	103	Saint Lucia	322.12	56049	6.50%	4957.97	862687	0.00%	0.00%	174
41	104	Iran (Islamic Republic of)	320.60	23715723	10.28%	3118.28	230671657	0.28%	0.45%	73974
36	105	Philippines	316.33	29501564	22.50%	1406.06	131130281	0.35%	0.26%	93261
57	106	Morocco	310.26	9913167	13.12%	2364.53	75548949	0.12%	0.15%	31951
106	107	Bosnia and Herzegovina	307.88	1157635	9.03%	3408.45	12815782	0.01%	0.03%	3760
64	108	Sri Lanka	298.42	6225030	18.72%	1594.11	33253082	0.07%	0.07%	20860
75	109	Ecuador	290.72	4205232	9.55%	3043.28	44021093	0.05%	0.09%	14465
123	110	Jamaica	290.00	794899	7.12%	4072.38	11162402	0.01%	0.02%	2741
89	111	Honduras	264.90	2013486	17.47%	1516.26	11525093	0.02%	0.02%	7601
178	112	Samoa	260.39	47652	11.06%	2354.93	430952	0.00%	0.00%	183
108	113	Georgia	255.53	1112086	13.49%	1893.69	8241328	0.01%	0.02%	4352
139	114	Gabon	252.58	380129	3.82%	6613.69	9953608	0.00%	0.02%	1505
185	115	Saint Vincent and the Grenadines	245.07	26713	4.50%	5447.67	593796	0.00%	0.00%	109
47	116	Egypt	238.19	19321911	15.96%	1492.05	121036342	0.23%	0.24%	81121
128	117	Armenia	236.45	731116	12.37%	1912.10	5912216	0.01%	0.01%	3092
133	118	Botswana	225.23	452046	3.82%	5903.45	11848216	0.01%	0.02%	2007
161	119	Montenegro	224.51	141663	5.05%	4443.53	2803866	0.00%	0.01%	631
186	120	Tonga	200.64	20867	7.94%	2526.75	262782	0.00%	0.00%	104
187	121	Grenada	199.61	20759	3.02%	6618.95	688371	0.00%	0.00%	104
50	122	Viet Nam	193.55	17003007	22.89%	845.42	74268079	0.20%	0.15%	87848

173	123	Maldives	183.11	57864	3.90%	4692.11	1482707	0.00%	0.00%	316
191	124	Antigua and Barbuda	180.78	16089	1.85%	9761.96	868815	0.00%	0.00%	89
193	125	Dominica	177.91	12098	2.82%	6316.53	429524	0.00%	0.00%	68
107	126	Paraguay	175.12	1130379	11.60%	1509.77	9745562	0.01%	0.02%	6455
116	127	Nicaragua	166.50	963700	17.32%	961.39	5564520	0.01%	0.01%	5788
80	128	Côte d'Ivoire	166.15	3279393	17.99%	923.45	18227154	0.04%	0.04%	19738
131	129	Palestine	161.81	653548	11.52%	1404.72	5673681	0.01%	0.01%	4039
68	130	Algeria	160.04	5676368	4.87%	3283.54	116460540	0.07%	0.23%	35468
82	131	Cameroon	156.28	3062974	15.96%	979.41	19195478	0.04%	0.04%	19599
9	132	India	149.27	182795351	14.83%	1006.81	1232952035	2.16%	2.42%	1224614
171	133	Cape Verde	146.55	72687	5.39%	2717.41	1347834	0.00%	0.00%	496
99	134	Bolivia (Plurinational State of)	142.91	1419136	11.87%	1203.83	11954060	0.02%	0.02%	9930
39	135	Pakistan	138.53	24048158	17.84%	776.55	134803136	0.28%	0.26%	173593
166	136	Bhutan	136.79	99310	8.07%	1694.56	1230250	0.00%	0.00%	726
167	137	Guyana	129.72	97810	6.06%	2142.24	1615250	0.00%	0.00%	754
151	138	Lesotho	127.69	277208	16.20%	788.38	1711562	0.00%	0.00%	2171
195	139	Marshall Islands	115.67	6246	4.25%	2722.53	147016	0.00%	0.00%	54
95	140	Cambodia	114.39	1617207	18.60%	614.93	8693899	0.02%	0.02%	14138
114	141	Azerbaijan	112.31	1031908	3.64%	3083.16	28328105	0.01%	0.06%	9188
101	142	Senegal	101.75	1265169	12.25%	830.66	10328482	0.01%	0.02%	12434
91	143	Angola	97.61	1862512	3.47%	2811.87	53656165	0.02%	0.11%	19082
129	144	Tajikistan	96.19	661693	20.78%	462.93	3184469	0.01%	0.01%	6879
54	145	Bangladesh	95.18	14151934	17.37%	547.92	81471733	0.17%	0.16%	148692
145	146	Republic of Moldova	91.33	326310	9.32%	980.02	3501624	0.00%	0.01%	3573
144	147	Congo	84.70	342428	4.37%	1940.29	7844572	0.00%	0.02%	4043
189	148	Vanuatu	81.55	19571	3.84%	2120.90	509016	0.00%	0.00%	240

77	149	Myanmar	79.74	3824484	18.83%	423.45	20310072	0.05%	0.04%	47963
115	150	Zambia	76.78	1005026	10.26%	748.62	9798720	0.01%	0.02%	13089
155	151	Mongolia	74.83	206233	5.97%	1253.17	3453733	0.00%	0.01%	2756
143	152	Kyrgyzstan	65.51	349416	11.54%	567.79	3028597	0.00%	0.01%	5334
136	153	Lao People's Dem Rep	63.98	396732	9.86%	648.58	4021825	0.00%	0.01%	6201
98	154	Yemen	61.35	1475742	7.13%	861.03	20710400	0.02%	0.04%	24053
85	155	Kenya	60.24	2440596	10.41%	578.80	23448969	0.03%	0.05%	40513
196	156	Kiribati	58.50	5850	5.25%	1114.86	111486	0.00%	0.00%	100
127	157	Zimbabwe	58.39	734059	14.42%	405.04	5091775	0.01%	0.01%	12571
117	158	Burkina Faso	56.25	926390	13.04%	431.23	7101943	0.01%	0.01%	16469
141	159	Papua New Guinea	54.24	372003	5.68%	955.56	6553204	0.00%	0.01%	6858
194	160	Sao Tome and Principe	54.20	8944	5.86%	924.86	152601	0.00%	0.00%	165
111	161	Syrian Arab Republic	52.23	1065974	2.96%	1765.85	36042759	0.01%	0.07%	20411
100	162	Uzbekistan	51.05	1401168	6.52%	783.06	21491158	0.02%	0.04%	27445
183	163	Solomon Islands	50.81	27337	4.92%	1033.19	555854	0.00%	0.00%	538
97	164	Afghanistan	47.61	1495549	13.14%	362.43	11384670	0.02%	0.02%	31412
182	165	Equatorial Guinea	45.24	31667	0.28%	15971.75	11180223	0.00%	0.02%	700
113	166	Mozambique	44.82	1048307	11.52%	389.19	9103644	0.01%	0.02%	23391
112	167	Ghana	43.13	1051969	7.11%	606.30	14788971	0.01%	0.03%	24392
160	168	Mauritania	41.84	144775	5.10%	820.21	2837937	0.00%	0.01%	3460
142	169	Benin	39.75	351811	6.71%	592.76	5245902	0.00%	0.01%	8850
140	170	Haiti	37.88	378535	8.79%	431.07	4307635	0.00%	0.01%	9993
92	171	United Republic of Tanzania	37.88	1698436	8.61%	439.79	19720449	0.02%	0.04%	44841
125	172	Madagascar	37.73	781633	13.39%	281.78	5836876	0.01%	0.01%	20714
154	173	Togo	34.99	210904	8.55%	409.33	2467433	0.00%	0.00%	6028

197	174	Palau		34.84	697	0.48%	7261.80	145236	0.00%	0.00%	20
71	175	Nigeria		30.09	4766943	3.07%	979.58	155187533	0.06%	0.30%	158423
179	176	Guinea-Bissau		28.26	42809	6.44%	438.44	664242	0.00%	0.00%	1515
135	177	Malawi		27.44	408880	10.35%	265.09	3950123	0.00%	0.01%	14901
118	178	Uganda		27.32	913290	6.67%	409.81	13697890	0.01%	0.03%	33425
190	179	Comoros		25.64	18847	4.56%	562.32	413306	0.00%	0.00%	735
150	180	Chad		25.38	284951	4.81%	527.23	5919225	0.00%	0.01%	11227
126	181	Iraq		23.57	746628	1.92%	1226.39	38842163	0.01%	0.08%	31672
188	182	Djibouti		23.25	20671	2.28%	1019.63	906450	0.00%	0.00%	889
152	183	Rwanda		23.18	246214	6.67%	347.36	3690317	0.00%	0.01%	10624
180	184	Gambia		23.14	39994	4.77%	485.17	838372	0.00%	0.00%	1728
198	185	Tuvalu		22.00	220	0.85%	2590.63	25906	0.00%	0.00%	10
130	186	Nepal		21.83	654123	6.47%	337.24	10103289	0.01%	0.02%	29959
169	187	Central African Republic		19.03	83757	5.38%	353.83	1557208	0.00%	0.00%	4401
164	188	Burundi		16.05	134586	9.67%	166.02	1391767	0.00%	0.00%	8383
153	189	Niger		15.29	237251	5.47%	279.38	4333787	0.00%	0.01%	15512
163	190	Guinea		13.64	136123	4.17%	327.35	3267610	0.00%	0.01%	9982
177	191	Liberia		13.06	52150	6.49%	201.04	802937	0.00%	0.00%	3994
192	192	Timor-Leste		11.33	12740	1.83%	618.22	694878	0.00%	0.00%	1124
174	193	Eritrea		10.74	56444	5.38%	199.83	1049905	0.00%	0.00%	5254
120	194	Ethiopia		10.33	856962	4.25%	242.87	20146343	0.01%	0.04%	82950
159	195	Mali		9.48	145776	2.16%	440.09	6764184	0.00%	0.01%	15370
132	196	Democratic Rep of the Congo		9.14	602667	6.39%	143.09	9438752	0.01%	0.02%	65966
181	197	Sierra Leone		6.30	36974	2.29%	275.68	1617687	0.00%	0.00%	5868

175	198	Somalia	6.03	56231	2.14%	281.59	2627490	0.00%	0.01%	9331
		World	1240.62	8465837036	16.63%	7461.97	50919438719	99.98%	99.94%	6823864
		Industrialized Economies	4734.89	5726962971	15.20%	31143.36	37668614377			1209523
		Developing & EIEs	487.48	2738874065	20.67%	2360.17	13250824342			5614341

Source: UNIDO Statistics, 2013

Table A5: World Manufacturing Value Added per capita: Changes by country, 1990 – 2000 – 2010

		1990	2000	2010	1990-2000		2000-2010	
USD	Country (Rby MVApC 2010)	MVApC	MVApC	MVApC	MVApC var	MVApC % var	MVApC var	MVApC var %
	Liechtenstein	15075.04	20918.57	23600.81	5843.53	38.76%	2682.24	12.82%
	Ireland	3875.9	8762.2	11216.45	4886.29	126.07%	2454.25	28.01%
9000	Switzerland	8427.89	8597.25	9907.92	169.35	2.01%	1310.68	15.25%
	Singapore	4196.97	6564.03	8781.46	2367.06	56.40%	2217.43	33.78%
	Puerto Rico	6292.85	9321.09	8747.3	3028.24	48.12%	-573.8	-6.16%
8000	Monaco	6972.67	7527.94	8186.96	555.27	7.96%	659.02	8.75%
	Finland	3888.93	6332.26	7776.95	2443.33	62.83%	1444.7	22.81%
	Japan	6795.8	7134.74	7665.98	338.94	4.99%	531.24	7.45%
7000	Austria	4919.33	6145.46	7093.39	1226.13	24.92%	947.93	15.42%
	Sweden	3399.75	5743.08	6844.46	2343.33	68.93%	1101.38	19.18%
	Germany	6401.4	6531.13	6760.31	129.73	2.03%	229.18	3.51%
6000	San Marino	6167.15	8101.7	6232.83	1934.55	31.37%	-1868.87	-23.07%
	Republic of Korea	1576.11	3309.93	5803.11	1733.82	110.01%	2493.18	75.32%
	United States of America	4061.12	5299.9	5681.25	1238.78	30.50%	381.35	7.20%
	Norway	4974.58	5203.07	5651.54	228.49	4.59%	448.47	8.62%
	Denmark	5182.73	6005.13	5609.66	822.4	15.87%	-395.47	-6.59%
	Belgium	4721.44	5523.12	5324.95	801.68	16.98%	-198.17	-3.59%
5000	Netherlands	4017.07	4902.47	5119.78	885.4	22.04%	217.31	4.43%
	Iceland	4291.65	4790.24	4836.21	498.59	11.62%	45.97	0.96%
	China, Taiwan Province	2076.25	3500.28	4766.12	1424.03	68.59%	1265.84	36.16%

	Luxembourg	5274.59	6778.02	4513.25	1503.43	28.50%	-2264.78	-33.41%
4000	Italy	4686.91	5373.82	4300.13	686.91	14.66%	-1073.69	-19.98%
	United Kingdom	4388.35	4657.56	3979.19	269.21	6.13%	-678.37	-14.56%
	Qatar	5236.39	4619.19	3948.85	-617.19	-11.79%	-670.34	-14.51%
	France	3350.72	4035.75	3892.31	685.02	20.44%	-143.43	-3.55%
	Canada	3860.58	5221.73	3859.51	1361.15	35.26%	-1362.22	-26.09%
	Australia	3545.52	3747.83	3749.08	202.31	5.71%	1.26	0.03%
	Slovenia	2776.42	2883.3	3688.59	106.88	3.85%	805.29	27.93%
	Czech Republic	1885.82	2183.36	3676.94	297.54	15.78%	1493.57	68.41%
	New Zealand	3265.34	3536.93	3546.76	271.59	8.32%	9.83	0.28%
	Israel	2565.21	3068.23	3138	503.02	19.61%	69.77	2.27%
	Greenland	3384.29	3534.15	3132.25	149.86	4.43%	-401.9	-11.37%
	Spain	2980.99	3762.95	3078.06	781.96	26.23%	-684.89	-18.20%
3000	United Arab Emirates	3018.59	5074.82	3046.79	2056.23	68.12%	-2028.03	-39.96%
	Brunei Darussalam	3185.4	3358.71	2705.88	173.31	5.44%	-652.83	-19.44%
	Hungary	1211.27	1638.28	2265.61	427.01	35.25%	627.33	38.29%
	Slovakia	1297.73	1048.82	2229.59	-248.91	-19.18%	1180.78	112.58%
	Kuwait	1632.28	1838.71	2215.67	206.43	12.65%	376.96	20.50%
	Portugal	2014.25	2346.16	2147.33	331.92	16.48%	-198.83	-8.47%
2000	Poland	309.82	995.46	2081.34	685.63	221.30%	1085.88	109.08%
	Bahrain	1182.31	1682.06	1899.41	499.75	42.27%	217.35	12.92%
	Malta	2029.25	2811.19	1885.36	781.94	38.53%	-925.83	-32.93%
	New Caledonia	1725.75	1341.8	1726.18	-383.94	-22.25%	384.38	28.65%
	Greece	1653.43	1638.63	1686.4	-14.8	-0.90%	47.77	2.92%
	Malaysia	693.03	1390.78	1611.97	697.76	100.68%	221.19	15.90%

	Turkmenistan	858.59	754.91	1606.71	-103.68	-12.08%	851.8	112.83%
	Seychelles	870.39	1855.03	1602.31	984.64	113.13%	-252.72	-13.62%
1500	Lithuania	842.52	852.61	1572.41	10.1	1.20%	719.8	84.42%
	Estonia	845.72	995.76	1461.56	150.04	17.74%	465.8	46.78%
	French Polynesia	1851.41	1641.07	1445.26	-210.34	-11.36%	-195.81	-11.93%
	Mexico	1167.47	1519.15	1439.84	351.69	30.12%	-79.31	-5.22%
	Turkey	809.54	1050.89	1378.04	241.35	29.81%	327.15	31.13%
	Croatia	2160.54	1239.6	1360.84	-920.94	-42.63%	121.24	9.78%
	Saudi Arabia	854.04	1115.41	1355.86	261.38	30.60%	240.45	21.56%
	Belarus	499.7	509.65	1355.59	9.95	1.99%	845.95	165.99%
	Argentina	799.2	924.29	1301	125.1	15.65%	376.7	40.76%
	Oman	267.63	604.27	1289.53	336.64	125.79%	685.26	113.40%
	Romania	897.82	703.49	1184.85	-194.33	-21.64%	481.35	68.42%
	Cyprus	1669.5	1390.08	1132.03	-279.42	-16.74%	-258.05	-18.56%
	Thailand	386.71	708.16	1105.67	321.45	83.13%	397.5	56.13%
	Bermuda	1378.32	1742.61	1091.53	364.29	26.43%	-651.07	-37.36%
	Andorra	896.05	992.46	1067.16	96.42	10.76%	74.7	7.53%
1000	Chile	716.08	951.11	1035.21	235.03	32.82%	84.1	8.84%
	China	117.01	352.76	967.01	235.75	201.47%	614.25	174.13%
	Mauritius	634.17	942.63	960.8	308.45	48.64%	18.18	1.93%
	Costa Rica	566.76	851.67	953.2	284.91	50.27%	101.53	11.92%
	Uruguay	797.54	686.83	936.89	-110.71	-13.88%	250.06	36.41%
	South Africa	836.49	782.3	878.9	-54.19	-6.48%	96.6	12.35%
	Trinidad and Tobago	280.22	434.38	877.5	154.16	55.02%	443.12	102.01%
	Russian Federation	985.89	607.52	867.22	-378.38	-38.38%	259.71	42.75%

	Bahamas	1061.45	1010.63	862.95	-50.82	-4.79%	-147.68	-14.61%
	Dominican Republic	461.91	737.61	829.98	275.71	59.69%	92.37	12.52%
	Venezuela (Bolivarian Republic of)	951.46	856.99	776.63	-94.47	-9.93%	-80.36	-9.38%
	Brazil	690.74	680.52	775.31	-10.22	-1.48%	94.79	13.93%
	Latvia	1100.44	522.01	738.61	-578.43	-52.56%	216.6	41.49%
	Swaziland	667.74	696.55	735.62	28.81	4.31%	39.08	5.61%
	Aruba	420.6	933.12	712.21	512.52	121.85%	-220.92	-23.67%
	Bulgaria	955.82	384.38	681.3	-571.44	-59.79%	296.92	77.25%
	El Salvador	365.77	546.23	624.45	180.46	49.34%	78.22	14.32%
	China, Hong Kong SAR	2018.01	808.65	624.21	-1209.36	-59.93%	-184.44	-22.81%
	Tunisia	313.64	474.63	596.09	160.98	51.33%	121.47	25.59%
	Suriname	478.05	323.42	583.57	-154.63	-32.35%	260.15	80.44%
	Barbados	930.88	907.21	581.33	-23.68	-2.54%	-325.88	-35.92%
	China, Macao SAR	2414.83	1212.4	564.72	-1202.43	-49.79%	-647.68	-53.42%
	Peru	305.76	360.56	560.28	54.8	17.92%	199.72	55.39%
	Kazakhstan	307.46	295.45	533.73	-12.01	-3.91%	238.28	80.65%
	Albania	405.06	180.81	525.58	-224.26	-55.36%	344.78	190.69%
	Colombia	606.71	418.75	519	-187.96	-30.98%	100.25	23.94%
	Saint Kitts and Nevis	504.35	697.73	514.17	193.37	38.34%	-183.56	-26.31%
500	Lebanon	342.26	517.24	509.96	174.97	51.12%	-7.27	-1.41%
	Namibia	364.13	351.58	477.29	-12.56	-3.45%	125.71	35.76%
	Fiji	314.84	419.05	450.73	104.22	33.10%	31.68	7.56%
	Libya	343.11	355.33	444.19	12.22	3.56%	88.86	25.01%
	Jordan	205.74	253.53	440.51	47.78	23.22%	186.99	73.75%
	Belize	270.42	305.84	423.13	35.42	13.10%	117.29	38.35%

400	The f. Yugosl. Rep of Macedonia	722.58	397.32	402.26	-325.26	-45.01%	4.94	1.24%
	Indonesia	175.99	288.01	395.57	112.02	63.65%	107.56	37.35%
	Guatemala	386.03	401.51	394.69	15.48	4.01%	-6.82	-1.70%
	Cuba	385.13	368.93	383.5	-16.2	-4.21%	14.57	3.95%
	Serbia	867.38	375.12	362.73	-492.26	-56.75%	-12.39	-3.30%
	Panama	361.38	386.92	349.37	25.54	7.07%	-37.55	-9.70%
	Ukraine	450.79	179.23	347.23	-271.57	-60.24%	168	93.74%
	Saint Lucia	273.42	230.75	322.12	-42.67	-15.61%	91.38	39.60%
	Iran (Islamic Republic of)	125.56	188.95	320.6	63.39	50.49%	131.64	69.67%
	Philippines	257.04	264.39	316.33	7.34	2.86%	51.95	19.65%
	Morocco	230.19	255.01	310.26	24.83	10.79%	55.25	21.67%
300	Bosnia and Herzegovina	121.8	195.72	307.88	73.92	60.69%	112.16	57.30%
	Sri Lanka	112.28	223.8	298.42	111.52	99.32%	74.61	33.34%
	Ecuador	240.33	210.49	290.72	-29.84	-12.42%	80.23	38.11%
	Jamaica	473.73	355.76	290	-117.98	-24.90%	-65.75	-18.48%
	Honduras	193.71	224.91	264.9	31.21	16.11%	39.98	17.78%
	Samoa	313.83	284.84	260.39	-28.99	-9.24%	-24.45	-8.58%
	Georgia	405.85	100.4	255.53	-305.45	-75.26%	155.13	154.50%
	Gabon	236.22	224.38	252.58	-11.84	-5.01%	28.2	12.57%
	Saint Vincent and the Grenadines	256.86	250.65	245.07	-6.21	-2.42%	-5.57	-2.22%
	Egypt	115.84	179.39	238.19	63.56	54.87%	58.79	32.77%
	Armenia	214.98	132.06	236.45	-82.92	-38.57%	104.4	79.05%
	Botswana	164.34	171.54	225.23	7.2	4.38%	53.7	31.30%
	Montenegro	360.01	262.52	224.51	-97.49	-27.08%	-38.01	-14.48%

200	Tonga	233.7	198.79	200.64	-34.9	-14.93%	1.85	0.93%
	Grenada	128.94	211.07	199.61	82.13	63.69%	-11.46	-5.43%
	Viet Nam	33.71	79.89	193.55	46.18	137.00%	113.66	142.27%
	Maldives	112.96	161.5	183.11	48.54	42.97%	21.61	13.38%
	Antigua and Barbuda	253.7	206.53	180.78	-47.17	-18.59%	-25.75	-12.47%
	Dominica	206.23	217.98	177.91	11.75	5.70%	-40.07	-18.38%
	Paraguay	206.91	185.78	175.12	-21.13	-10.21%	-10.66	-5.74%
	Nicaragua	108.15	122.65	166.5	14.5	13.41%	43.85	35.75%
	Côte d'Ivoire	181.66	215.47	166.15	33.81	18.61%	-49.32	-22.89%
	Palestine	169.24	150.04	161.81	-19.2	-11.34%	11.77	7.84%
	Algeria	237.16	167.59	160.04	-69.57	-29.33%	-7.55	-4.51%
	Cameroon	173.52	160.26	156.28	-13.26	-7.64%	-3.98	-2.48%
	India	54.94	81.36	149.27	26.43	48.11%	67.9	83.45%
	Cape Verde	115.61	155.56	146.55	39.96	34.56%	-9.02	-5.80%
	Bolivia (Plurinational State of)	101.63	115.01	142.91	13.37	13.16%	27.91	24.27%
	Pakistan	73.1	82.51	138.53	9.41	12.88%	56.02	67.89%
	Bhutan	38.89	74.64	136.79	35.75	91.92%	62.15	83.27%
	Guyana	130.83	193.6	129.72	62.77	47.98%	-63.88	-32.99%
	Lesotho	38.82	71.68	127.69	32.87	84.67%	56	78.12%
	Marshall Islands	23.12	104.51	115.67	81.39	351.95%	11.16	10.68%
	Cambodia	16.48	47.11	114.39	30.63	185.93%	67.28	142.82%
	Azerbaijan	492.47	64.2	112.31	-428.27	-86.96%	48.11	74.93%
100	Senegal	101.27	103.81	101.75	2.54	2.51%	-2.06	-1.98%
	Angola	70.92	50.55	97.61	-20.37	-28.73%	47.05	93.08%
	Tajikistan	162.48	47.73	96.19	-114.76	-70.63%	48.46	101.54%

	Bangladesh	33.56	53	95.18	19.44	57.94%	42.18	79.58%
	Republic of Moldova	155.11	64.87	91.33	-90.24	-58.18%	26.46	40.79%
	Congo	73.02	41.63	84.7	-31.39	-42.98%	43.06	103.44%
	Vanuatu	98.25	90.67	81.55	-7.58	-7.71%	-9.12	-10.06%
	Myanmar	6.93	13.56	79.74	6.64	95.81%	66.17	487.88%
	Zambia	67.83	59.02	76.78	-8.81	-12.99%	17.77	30.10%
	Mongolia	66.75	39.32	74.83	-27.43	-41.09%	35.51	90.32%
	Kyrgyzstan	152.1	65.53	65.51	-86.58	-56.92%	-0.02	-0.03%
	Lao People's Dem Rep	11.55	28.41	63.98	16.86	146.04%	35.57	125.22%
	Yemen	61.4	52.58	61.35	-8.82	-14.36%	8.77	16.68%
	Kenya	64.11	54.32	60.24	-9.79	-15.27%	5.93	10.91%
	Kiribati	53.09	50.17	58.5	-2.92	-5.51%	8.33	16.60%
	Zimbabwe	135.75	103.38	58.39	-32.38	-23.85%	-44.99	-43.52%
	Burkina Faso	36.9	38.54	56.25	1.63	4.43%	17.72	45.97%
	Papua New Guinea	45.49	50.82	54.24	5.33	11.71%	3.42	6.73%
	Sao Tome and Principe	41.69	40.93	54.2	-0.76	-1.83%	13.28	32.45%
	Syrian Arab Republic	37.03	8.81	52.23	-28.23	-76.22%	43.42	493.11%
	Uzbekistan	73.7	42.34	51.05	-31.36	-42.55%	8.72	20.58%
	Solomon Islands	68.41	79.6	50.81	11.2	16.37%	-28.79	-36.17%
	Afghanistan	80.83	23.44	47.61	-57.39	-71.00%	24.17	103.14%
	Equatorial Guinea	6.59	8.12	45.24	1.53	23.25%	37.12	457.25%
	Mozambique	15.69	25.6	44.82	9.91	63.15%	19.21	75.03%
	Ghana	66.99	38.78	43.13	-28.21	-42.11%	4.35	11.22%
	Mauritania	69.29	76.9	41.84	7.6	10.97%	-35.05	-45.59%
	Benin	31.77	41.84	39.75	10.07	31.71%	-2.09	-4.99%

	Haiti	137.09	47.44	37.88	-89.65	-65.40%	-9.56	-20.15%
	United Republic of Tanzania	22.71	22.4	37.88	-0.31	-1.36%	15.48	69.10%
	Madagascar	41.41	36.82	37.73	-4.59	-11.08%	0.91	2.48%
	Togo	34.99	33.69	34.99	-1.31	-3.74%	1.3	3.86%
	Palau	65.08	127.74	34.84	62.66	96.29%	-92.9	-72.73%
	Nigeria	22.26	16.67	30.09	-5.59	-25.12%	13.42	80.56%
	Guinea-Bissau	22.04	22.01	28.26	-0.03	-0.15%	6.25	28.38%
	Malawi	31.37	27.21	27.44	-4.15	-13.24%	0.23	0.83%
	Uganda	7.98	19.88	27.32	11.89	148.96%	7.44	37.45%
	Comoros	29.06	27.22	25.64	-1.84	-6.33%	-1.58	-5.81%
	Chad	35.02	22.58	25.38	-12.44	-35.53%	2.8	12.42%
	Iraq	49.99	38.91	23.57	-11.08	-22.17%	-15.34	-39.41%
	Djibouti	41.49	19.07	23.25	-22.42	-54.05%	4.18	21.95%
	Rwanda	21.25	14.26	23.18	-6.99	-32.91%	8.92	62.58%
	Gambia	27.93	23.13	23.14	-4.8	-17.19%	0.02	0.08%
	Tuvalu	26.25	20.12	22	-6.13	-23.36%	1.88	9.33%
	Nepal	12.25	24.67	21.83	12.41	101.32%	-2.83	-11.49%
	Central African Republic	32.71	26.3	19.03	-6.41	-19.59%	-7.27	-27.65%
	Burundi	25.65	18.74	16.05	-6.91	-26.94%	-2.69	-14.33%
	Niger	23.14	16.53	15.29	-6.61	-28.55%	-1.24	-7.48%
	Guinea	11.06	11.89	13.64	0.84	7.57%	1.74	14.67%
	Liberia	19.69	9.54	13.06	-10.16	-51.57%	3.52	36.92%
	Timor-Leste	10.71	11.04	11.33	0.34	3.14%	0.29	2.65%
	Eritrea	12.83	27.42	10.74	14.58	113.62%	-16.67	-60.82%
	Ethiopia	9.02	6.49	10.33	-2.52	-27.97%	3.84	59.09%

	Mali	16.9	11.34	9.48	-5.56	-32.91%	-1.85	-16.33%
	Democratic Rep of the Congo	30.77	7.85	9.14	-22.92	-74.48%	1.28	16.33%
	Sierra Leone	20.98	7.09	6.3	-13.9	-66.23%	-0.78	-11.08%
	Somalia	5.39	5.53	6.03	0.14	2.67%	0.49	8.91%
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Country groups:								
	Industrialized Countries		Other Developing Countries ODCs					
	Emerging Industrial Economies EIEs		Least Developed Countries LDCs					

Source: UNIDO Statistics, 2013

Table A6: The Effect of the financial crisis on the world manufacturing, 2007 – 2012

Ranking 2012 by totMVA	Country	MVA var %	MVApc var %	GDP var %	GDPpc var %	MVAsh var	WMVAsh var	WGDPsh var
1	United States of America	-1.41%	-5.63%	3.01%	-1.40%	-0.61%	-1.56%	-1.19%
2	China	60.45%	56.64%	55.63%	51.94%	1.03%	5.90%	2.60%
3	Japan	-7.64%	-7.58%	-2.31%	-2.25%	-1.21%	-1.62%	-0.91%
4	Germany	-8.57%	-7.99%	3.48%	4.14%	-2.49%	-1.04%	-0.24%
5	Republic of Korea	25.22%	22.42%	15.94%	13.34%	2.07%	0.52%	0.14%
6	France	-6.56%	-9.08%	0.42%	-2.29%	-0.80%	-0.37%	-0.31%
7	Italy	-23.98%	-25.81%	-7.03%	-9.27%	-3.09%	-1.05%	-0.51%
8	United Kingdom	-14.75%	-17.33%	-3.40%	-6.33%	-1.33%	-0.64%	-0.51%
9	India	38.46%	29.17%	38.01%	28.76%	0.05%	0.54%	0.57%
10	Mexico	6.47%	0.12%	8.28%	1.82%	-0.30%	0.01%	0.01%
11	Brazil	3.83%	-0.66%	17.51%	12.44%	-1.75%	-0.04%	0.18%
12	Russian Federation	-1.56%	-1.15%	9.48%	9.94%	-1.54%	-0.12%	0.03%
13	Canada	-13.60%	-17.83%	5.48%	0.32%	-2.33%	-0.34%	-0.05%
14	Spain	-20.82%	-24.49%	-4.13%	-8.57%	-2.35%	-0.50%	-0.27%
15	Turkey	19.60%	12.35%	16.67%	9.60%	0.44%	0.14%	0.09%
16	China, Taiwan Province	6.96%	5.30%	11.14%	9.42%	-0.99%	0.01%	0.02%
17	Indonesia	26.73%	20.36%	32.97%	26.29%	-1.26%	0.20%	0.15%
18	Poland	37.37%	36.91%	18.54%	18.15%	3.00%	0.23%	0.07%
19	Australia	4.44%	-3.76%	12.20%	3.39%	-0.68%	-0.01%	0.07%
20	Thailand	20.48%	16.87%	13.99%	10.57%	2.01%	0.11%	0.02%
21	Netherlands	-6.65%	-8.17%	0.49%	-1.14%	-0.92%	-0.13%	-0.09%

22	Switzerland	3.71%	0.87%	5.77%	2.87%	-0.37%	-0.02%	-0.02%
23	Sweden	-0.52%	-4.02%	4.67%	0.99%	-0.89%	-0.05%	-0.02%
24	Austria	-2.13%	-3.51%	3.43%	1.97%	-1.03%	-0.06%	-0.03%
25	Argentina	24.89%	19.57%	31.26%	25.67%	-1.04%	0.10%	0.09%
26	Belgium	-7.17%	-9.32%	2.14%	-0.22%	-1.39%	-0.09%	-0.04%
27	Ireland	21.30%	13.67%	-8.54%	-14.29%	6.44%	0.08%	-0.07%
28	Malaysia	12.33%	3.63%	21.24%	11.85%	-2.12%	0.03%	0.04%
29	Singapore	23.33%	7.59%	23.74%	7.94%	-0.08%	0.07%	0.04%
30	South Africa	1.49%	-2.30%	11.06%	6.91%	-1.43%	-0.02%	0.02%
31	Finland	-12.66%	-14.49%	-1.13%	-3.20%	-2.68%	-0.10%	-0.04%
32	Saudi Arabia	25.70%	11.68%	23.85%	10.04%	0.15%	0.07%	0.10%
33	Czech Republic	7.76%	5.19%	1.59%	-0.83%	1.52%	0.01%	-0.02%
34	Philippines	19.27%	9.61%	23.52%	13.51%	-0.80%	0.04%	0.03%
35	Denmark	-9.09%	-11.11%	-3.41%	-5.55%	-0.72%	-0.06%	-0.06%
36	Norway	0.81%	-4.03%	3.55%	-1.42%	-0.23%	-0.02%	-0.03%
37	Colombia	11.38%	3.88%	20.87%	12.74%	-1.12%	0.01%	0.04%
38	Pakistan	16.65%	6.60%	17.09%	7.00%	-0.07%	0.03%	0.02%
39	Romania	6.96%	8.24%	1.77%	3.00%	1.08%	0.00%	-0.01%
40	United Arab Emirates	22.38%	-18.38%	12.81%	-24.76%	0.87%	0.04%	0.02%
41	Israel	15.76%	4.10%	18.44%	6.51%	-0.32%	0.02%	0.03%
42	Venezuela (Bolivarian Republic of)	-1.19%	-8.79%	10.59%	2.09%	-1.49%	-0.02%	0.01%
43	Iran (Islamic Republic of)	-0.48%	-5.98%	6.35%	0.47%	-0.70%	-0.02%	-0.01%
44	Hungary	-2.66%	-1.75%	-4.16%	-3.26%	0.33%	-0.02%	-0.03%
45	Portugal	-16.98%	-17.68%	-5.73%	-6.53%	-1.51%	-0.06%	-0.05%

46	Egypt	26.27%	15.72%	22.40%	12.17%	0.50%	0.04%	0.03%
47	Viet Nam	43.89%	36.32%	33.08%	26.07%	1.82%	0.06%	0.03%
48	Chile	1.09%	-3.49%	19.20%	13.79%	-2.21%	-0.01%	0.03%
49	Peru	31.78%	24.83%	36.61%	29.40%	-0.54%	0.04%	0.05%
50	Ukraine	-0.70%	2.27%	-1.73%	1.20%	0.19%	-0.01%	-0.02%
51	Greece	-11.86%	-13.12%	-18.44%	-19.61%	0.62%	-0.04%	-0.13%
52	Bangladesh	41.21%	33.38%	34.53%	27.07%	0.84%	0.05%	0.03%
53	New Zealand	-1.87%	-6.91%	5.71%	0.29%	-0.95%	-0.01%	0.00%
54	Belarus	44.28%	47.33%	30.67%	33.43%	2.99%	0.04%	0.02%
55	Slovakia	-4.51%	-5.36%	11.34%	10.35%	-3.44%	-0.02%	0.00%
56	Morocco	12.03%	6.58%	23.70%	17.67%	-1.34%	0.01%	0.02%
57	Turkmenistan	110.72%	98.04%	64.59%	54.69%	8.80%	0.06%	0.02%
58	Kazakhstan	20.24%	13.59%	27.17%	20.15%	-0.63%	0.01%	0.02%
59	Dominican Republic	16.98%	9.50%	27.55%	19.39%	-1.54%	0.01%	0.02%
60	Qatar	81.48%	10.26%	86.44%	13.27%	-0.20%	0.04%	0.09%
61	Sri Lanka	37.65%	31.48%	36.94%	30.79%	0.10%	0.02%	0.02%
62	Slovenia	-16.35%	-17.49%	-4.97%	-6.27%	-2.48%	-0.02%	-0.01%
63	Kuwait	11.41%	-5.69%	16.72%	-1.20%	-0.32%	0.00%	0.01%
64	Tunisia	20.61%	14.14%	11.94%	5.92%	1.20%	0.01%	0.00%
65	Guatemala	9.00%	-3.81%	14.42%	0.97%	-0.84%	0.00%	0.00%
66	Croatia	-22.14%	-21.45%	-6.19%	-5.36%	-2.55%	-0.02%	-0.01%
67	Lithuania	2.60%	5.31%	-3.28%	-0.72%	1.11%	0.00%	-0.01%
68	Algeria	-3.37%	-10.20%	13.71%	5.67%	-0.83%	-0.01%	0.01%
69	Nigeria	46.00%	28.76%	40.58%	23.98%	0.11%	0.02%	0.08%
70	Bulgaria	-1.61%	1.61%	3.47%	6.85%	-0.74%	0.00%	0.00%
71	Costa Rica	3.27%	-4.08%	16.20%	7.94%	-2.21%	0.00%	0.00%

72	Ecuador	26.57%	17.92%	25.02%	16.49%	0.12%	0.01%	0.01%
73	Myanmar	94.58%	87.36%	50.56%	44.97%	4.37%	0.02%	0.01%
74	Oman	33.69%	17.90%	31.25%	15.75%	0.17%	0.01%	0.02%
75	El Salvador	5.31%	2.57%	2.34%	-0.32%	0.60%	0.00%	0.00%
76	China, Hong Kong SAR	1.13%	-3.41%	13.94%	8.82%	-0.21%	0.00%	0.02%
77	Serbia	-14.94%	-15.06%	2.27%	2.13%	-2.46%	-0.01%	0.00%
78	Côte d'Ivoire	14.99%	4.11%	12.05%	1.45%	0.46%	0.00%	0.00%
79	Uruguay	13.28%	11.44%	30.77%	28.65%	-2.03%	0.00%	0.01%
80	Cameroon	14.83%	2.95%	18.17%	5.94%	-0.46%	0.00%	0.00%
81	Libya	11.02%	3.36%	-5.00%	-11.55%	0.89%	0.00%	-0.01%
82	Jordan	19.34%	4.73%	22.28%	7.32%	-0.41%	0.00%	0.00%
83	Kenya	18.46%	3.88%	20.70%	5.84%	-0.19%	0.00%	0.01%
84	Bahrain	23.20%	-16.05%	19.25%	-18.74%	0.45%	0.00%	0.00%
85	Lebanon	-5.68%	-9.13%	31.34%	26.53%	-2.78%	0.00%	0.01%
86	Honduras	7.76%	-2.50%	12.80%	2.07%	-0.83%	0.00%	0.00%
87	Estonia	-7.89%	-7.68%	-6.86%	-6.65%	-0.16%	0.00%	0.00%
88	Angola	38.14%	20.07%	33.79%	16.29%	0.11%	0.01%	0.02%
89	Luxembourg	-34.34%	-40.24%	-0.34%	-9.29%	-2.63%	-0.01%	-0.01%
90	Cambodia	41.53%	33.63%	29.00%	21.80%	1.81%	0.01%	0.00%
91	United Republic of Tanzania	48.63%	28.09%	38.24%	19.13%	0.62%	0.01%	0.01%
92	Latvia	-6.78%	-4.82%	-13.75%	-11.93%	0.78%	0.00%	-0.01%
93	Albania	13.25%	11.25%	19.20%	17.09%	-0.82%	0.00%	0.00%
94	Afghanistan	43.20%	24.97%	49.91%	30.83%	-0.61%	0.00%	0.01%
95	Iceland	4.81%	-2.22%	-3.83%	-10.28%	0.77%	0.00%	0.00%

96	Yemen	21.22%	4.05%	1.78%	-12.64%	1.41%	0.00%	0.00%
97	Bolivia (Plurinational State of)	22.04%	12.69%	26.16%	16.49%	-0.40%	0.00%	0.00%
98	Uzbekistan	22.19%	15.35%	48.65%	40.32%	-1.29%	0.00%	0.01%
99	Panama	16.19%	7.41%	47.62%	36.46%	-1.33%	0.00%	0.01%
100	Senegal	14.27%	0.04%	17.31%	2.69%	-0.32%	0.00%	0.00%
101	Georgia	23.17%	26.37%	19.20%	22.30%	0.46%	0.00%	0.00%
102	Mauritius	12.75%	9.49%	21.87%	18.34%	-1.26%	0.00%	0.00%
103	Mozambique	27.70%	13.80%	39.97%	24.74%	-1.15%	0.00%	0.00%
104	Bosnia and Herzegovina	0.84%	1.78%	4.48%	5.45%	-0.35%	0.00%	0.00%
105	Trinidad and Tobago	7.58%	5.59%	-1.45%	-3.28%	0.55%	0.00%	0.00%
106	Namibia	18.90%	8.59%	17.87%	7.65%	0.11%	0.00%	0.00%
107	Ghana	24.70%	10.87%	50.71%	33.99%	-1.36%	0.00%	0.01%
108	Cyprus	-9.90%	-15.17%	1.23%	-4.69%	-0.77%	0.00%	0.00%
109	Paraguay	8.91%	-0.28%	20.32%	10.16%	-1.20%	0.00%	0.00%
110	Zambia	35.03%	17.24%	37.29%	19.20%	-0.17%	0.00%	0.00%
111	Brunei Darussalam	-1.88%	-10.20%	3.70%	-5.08%	-0.62%	0.00%	0.00%
112	Uganda	47.99%	26.05%	35.20%	15.16%	0.63%	0.00%	0.01%
113	Nicaragua	17.73%	10.00%	14.81%	7.27%	0.44%	0.00%	0.00%
114	Burkina Faso	22.24%	5.31%	30.98%	12.84%	-0.90%	0.00%	0.00%
115	Ethiopia	51.10%	35.70%	52.43%	36.89%	-0.04%	0.00%	0.01%
116	Azerbaijan	-9.47%	-15.24%	32.23%	23.81%	-1.46%	0.00%	0.01%
117	Iraq	51.22%	29.95%	37.99%	18.58%	0.17%	0.00%	0.02%
118	Swaziland	3.93%	-3.48%	2.85%	-4.48%	0.31%	0.00%	0.00%
119	The f. Yugosl. Rep of Macedonia	-20.52%	-21.25%	10.16%	9.15%	-4.36%	0.00%	0.00%

120	Madagascar	10.41%	-4.44%	7.72%	-6.77%	0.32%	0.00%	0.00%
121	Armenia	15.83%	14.53%	1.79%	0.64%	1.51%	0.00%	0.00%
122	Zimbabwe	-2.97%	-6.94%	9.26%	4.78%	-1.68%	0.00%	0.00%
123	Jamaica	-8.66%	-10.38%	-2.76%	-4.59%	-0.44%	0.00%	0.00%
124	Tajikistan	32.69%	23.79%	53.89%	43.56%	-3.22%	0.00%	0.00%
125	Democratic Rep of the Congo	35.25%	18.14%	33.94%	16.99%	0.06%	0.00%	0.00%
126	Malta	-18.11%	-19.29%	7.78%	6.24%	-3.29%	0.00%	0.00%
127	Nepal	8.40%	-0.82%	26.37%	15.62%	-1.06%	0.00%	0.00%
128	Botswana	9.71%	3.03%	14.39%	7.42%	-0.16%	0.00%	0.00%
129	Lao People's Dem Rep	43.33%	33.37%	47.18%	36.95%	-0.27%	0.00%	0.00%
130	Gabon	18.99%	8.34%	21.70%	10.80%	-0.09%	0.00%	0.00%
131	Malawi	36.92%	17.15%	36.94%	17.16%	0.00%	0.00%	0.00%
132	Haiti	-2.17%	-8.35%	8.27%	1.43%	-0.95%	0.00%	0.00%
133	Fiji	13.26%	7.96%	3.69%	-1.16%	1.11%	0.00%	0.00%
134	Papua New Guinea	22.31%	9.10%	42.56%	27.17%	-0.89%	0.00%	0.00%
135	Congo	32.80%	17.05%	33.90%	18.02%	-0.04%	0.00%	0.00%
136	Benin	13.83%	-1.25%	20.37%	4.42%	-0.37%	0.00%	0.00%
137	Kyrgyzstan	23.29%	16.29%	17.43%	10.77%	0.52%	0.00%	0.00%
138	Republic of Moldova	-4.02%	0.16%	18.93%	24.10%	-2.13%	0.00%	0.00%
139	Suriname	9.25%	4.34%	20.97%	15.54%	-1.47%	0.00%	0.00%
140	Lesotho	20.02%	14.01%	25.26%	18.99%	-0.76%	0.00%	0.00%
141	Bahamas	-4.16%	-10.17%	-3.02%	-9.10%	-0.05%	0.00%	0.00%
142	Chad	11.37%	-2.36%	21.44%	6.46%	-0.41%	0.00%	0.00%
143	Rwanda	36.67%	17.74%	45.11%	25.02%	-0.41%	0.00%	0.00%

144	Mongolia	29.92%	19.91%	51.42%	39.76%	-0.98%	0.00%	0.00%
145	Niger	16.46%	-2.42%	36.21%	14.13%	-0.83%	0.00%	0.00%
146	Togo	17.31%	5.55%	20.71%	8.61%	-0.25%	0.00%	0.00%
147	San Marino	-30.54%	-32.71%	-14.79%	-17.45%	-3.14%	0.00%	0.00%
148	Mali	1.67%	-12.65%	13.90%	-2.14%	-0.30%	0.00%	0.00%
149	Seychelles	33.84%	30.77%	14.99%	12.34%	1.72%	0.00%	0.00%
150	Barbados	-13.55%	-14.49%	-4.41%	-5.45%	-0.54%	0.00%	0.00%
151	Mauritania	8.59%	-3.70%	17.74%	4.41%	-0.40%	0.00%	0.00%
152	Guinea	19.40%	6.79%	16.14%	3.88%	0.11%	0.00%	0.00%
153	Burundi	-0.25%	-12.12%	22.47%	7.90%	-2.19%	0.00%	0.00%
154	Montenegro	-12.71%	-13.40%	6.07%	5.23%	-1.05%	0.00%	0.00%
155	Belize	13.57%	2.71%	11.06%	0.43%	0.23%	0.00%	0.00%
156	Bhutan	43.53%	31.86%	37.96%	26.74%	0.32%	0.00%	0.00%
157	Guyana	6.66%	5.54%	19.31%	18.05%	-0.70%	0.00%	0.00%
158	Central African Republic	-16.44%	-24.02%	15.23%	4.78%	-2.05%	0.00%	0.00%
159	Cape Verde	27.68%	22.11%	26.95%	21.42%	0.03%	0.00%	0.00%
160	Eritrea	12.27%	-3.46%	11.25%	-4.33%	0.05%	0.00%	0.00%
161	Maldives	-14.05%	-19.35%	21.43%	13.93%	-1.58%	0.00%	0.00%
162	Saint Lucia	16.91%	11.00%	-6.76%	-11.47%	1.37%	0.00%	0.00%
163	Liberia	17.77%	-3.54%	38.88%	13.76%	-1.07%	0.00%	0.00%
164	Samoa	-28.17%	-29.72%	-0.38%	-2.54%	-4.00%	0.00%	0.00%
165	Guinea-Bissau	5.78%	-4.66%	12.63%	1.51%	-0.40%	0.00%	0.00%
166	Sierra Leone	7.25%	-4.10%	46.97%	31.42%	-0.74%	0.00%	0.00%
167	Gambia	-7.54%	-19.40%	22.22%	6.55%	-1.57%	0.00%	0.00%
168	Equatorial Guinea	49.59%	30.18%	36.18%	18.51%	0.03%	0.00%	0.00%

169	Solomon Islands	21.81%	6.75%	34.88%	18.20%	-0.48%	0.00%	0.00%
170	Saint Vincent and the Grenadines	-5.87%	-5.87%	-3.45%	-3.45%	-0.11%	0.00%	0.00%
171	Saint Kitts and Nevis	-30.04%	-35.22%	-6.33%	-13.27%	-1.72%	0.00%	0.00%
172	Djibouti	28.44%	16.75%	27.16%	15.59%	0.02%	0.00%	0.00%
173	Grenada	5.57%	3.56%	-4.44%	-6.26%	0.29%	0.00%	0.00%
174	Tonga	7.11%	4.05%	4.99%	1.99%	0.15%	0.00%	0.00%
175	Vanuatu	24.05%	9.28%	19.08%	4.91%	0.15%	0.00%	0.00%
176	Comoros	16.73%	2.53%	9.93%	-3.44%	0.27%	0.00%	0.00%
177	Timor-Leste	69.78%	51.76%	72.16%	53.88%	-0.03%	0.00%	0.00%
178	Antigua and Barbuda	-29.86%	-33.71%	-20.85%	-25.20%	-0.24%	0.00%	0.00%
179	Dominica	-19.57%	-19.57%	8.88%	8.88%	-0.96%	0.00%	0.00%
180	Sao Tome and Principe	22.77%	12.06%	30.04%	18.70%	-0.34%	0.00%	0.00%
181	Kiribati	1.42%	-6.46%	4.37%	-3.74%	-0.15%	0.00%	0.00%
182	Tuvalu	17.62%	17.62%	6.89%	6.89%	0.07%	0.00%	0.00%
	World <YB 2013>	6.09%	0.24%	7.84%	1.90%	-0.28%	0.00%	0.00%
	Industrialized Economies	-4.99%	-7.75%	1.89%	-1.06%	-1.08%	-7.58%	-4.24%
	Developing & EIE	35.45%	27.24%	27.62%	19.88%	1.24%	7.58%	4.24%

Source: UNIDO Statistics, 2013



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