

INDUSTRIAL DEVELOPMENT REPORT 2018

BRIEF NO 1

Has manufacturing become more important or less? A re-appraisal from the perspective of demand

Executive summary

Recent global trends have led some observers to conclude that manufacturing is no longer a key sector of the economy. A commonly held view holds that the importance of manufacturing in the global economy has declined leading to the emergence of a ‘post-industrial’ society. This picture, intuitive though it seems, does not stand up to empirical scrutiny. As the IDR 2018 points out, the downward trend in manufacturing is only apparent. It is explained by rapid productivity gains, which dampen the growth of prices for manufacturing goods relative to the rest of the economy. Keeping prices constant, the share of manufacturing in the global economy has, in fact, increased between 1991 and 2014. As a result consumers worldwide enjoy access to ever-greater quantities of goods at declining relative prices.

Key findings

- » The share of manufacturing in real global GDP increased from 14.8 to 16% between 1991 and 2014.
- » Manufacturing is victim of its own success: labour productivity grows faster than in the economy as a whole, and as a result, the share of manufacturing in total global employment shows a declining trend in the last 25 years.
- » At the same time, prices for manufacturing goods grow at a systematically lower rate than overall inflation in the global economy. In 2014, the price of manufacturing goods relative to the total economy was only 70% of what it was in 1991.



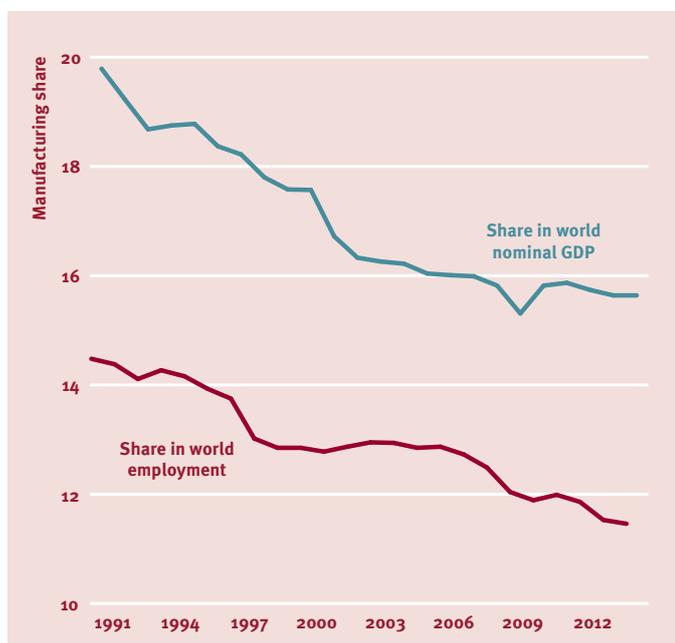
Whither manufacturing?

From various corners, economic observers have been arguing that a process of global de-industrialization is currently undergoing in the world economy¹. The debate on global de-industrialization has important implications for economic policy. Based on this idea, it may be recommended that developing economies shift their focus away from manufacturing and focus on activities perceived to have a higher potential for development, such as services.

The empirical evidence to substantiate the global de-industrialization claim is based on an analysis of the shares of different sectors in nominal gross domestic product (GDP). This metric shows that, indeed, the global share of manufacturing in world GDP has declined, from almost 20% in 1991 to less than 16% in 2014 (see Figure 1).

Moreover, the share of manufacturing in total global employment has also declined—from 14.5% in 1991 to 11.5% in 2014. Technological advances, such as the automation of production processes, may have reduced the need for manufacturing workers in some segments of global production. But has manufacturing really become less important over time, at the global level?

Figure 1 – The evidence of global de-industrialization is based on declines in manufacturing’s nominal share of world GDP, and in its share of workers in total employment



Source: UNIDO IDR 2018 Figures 1.1 and 1.2, page 29

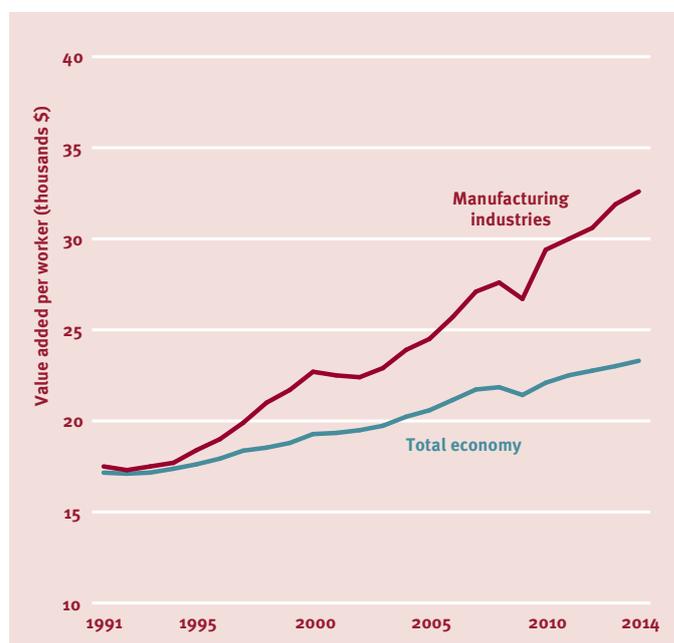
Explaining global de-industrialization in three charts: the role of productivity:

Productivity and employment

To understand whether the global economy is experiencing a process of de-industrialization, and what its causes may be, we must look at trends in productivity. Manufacturing offers greater scope for productivity growth relative to the other sectors, owing to its higher capital and R&D intensity. Globally, manufacturing workers are more productive than workers in the rest of the economy—a difference that has increased since 1991 (see Figure 2).

Productivity differentials between manufacturing and the rest of the economy account for the declining share in total employment one sees in Figure 1. Higher productivity lowers the need for workers per unit of value-added produced in manufacturing, restricting the sector’s potential to continuously generate new employment. The decrease is only relative, however. In absolute terms, global manufacturing employment has kept increasing over the past two decades, driven primarily by rapid growth in developing and emerging industrial economies².

Figure 2 – Differences in labour productivity between manufacturing and the rest of the economy have increased, globally, since 1991



Source: UNIDO IDR 2018 Figure 1.3, page 29

1. According to a widely used definition, de-industrialization consists of a sustained decline in the share of manufacturing in total employment and in the share of manufacturing in GDP (Tregenna, 2009).

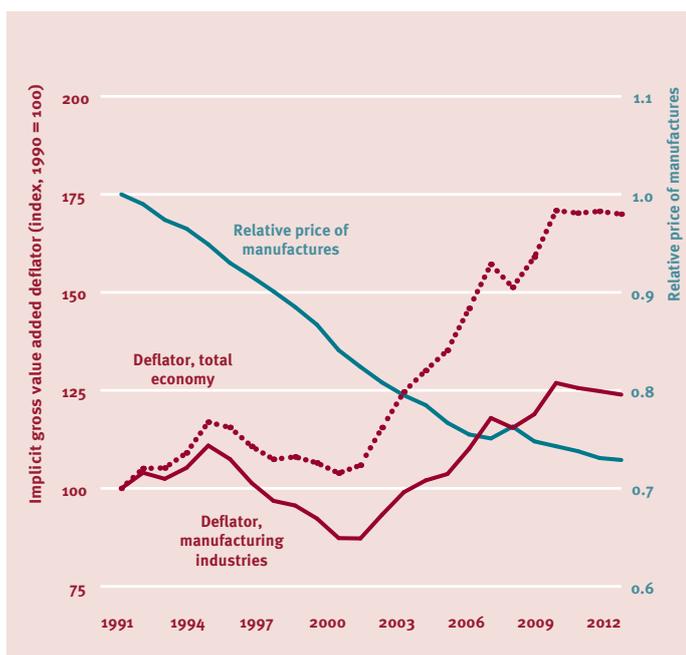
2. Haraguchi et al (2017)

Productivity and prices

The effects of productivity are not limited to employment. Faster gains in manufacturing productivity also translate into lower prices for manufacturing products relative to prices in the rest of the economy. Indeed, increases in manufacturing prices have been systematically lower than overall inflation in the global economy—particularly since 2002. As a result of these trends, the relative prices of manufacturing products have been falling systematically in the last 25 years. In 2014, the price of manufacturing goods relative to the total economy was only 70% of what it was in 1991 (see Figure 3).

This implies that most commonly-used manufacturing products are much less expensive today than they were when first introduced on the market. This is the case for the vast majority of household appliances, as well as for computers and mobile phones. Globally, today's consumers enjoy access to ever-greater quantities of goods at increasingly affordable prices. From the perspective of those who demand and consume manufactured products then, the importance of manufacturing appears to be stable, if not on the increase.

Figure 3 – The prices of manufacturing goods have declined relative to the rest of the economy since 1991



Note: implicit gross value added deflator is calculated as the ratio between world value added at current prices and at constant prices of 2010. The relative price of manufactures is calculated as the relationship between the deflator of manufacturing industries and the total economy. Source: UNIDO IDR 2018 Figure 1.4, page 30

Global de-industrialization: a reappraisal from the perspective of demand

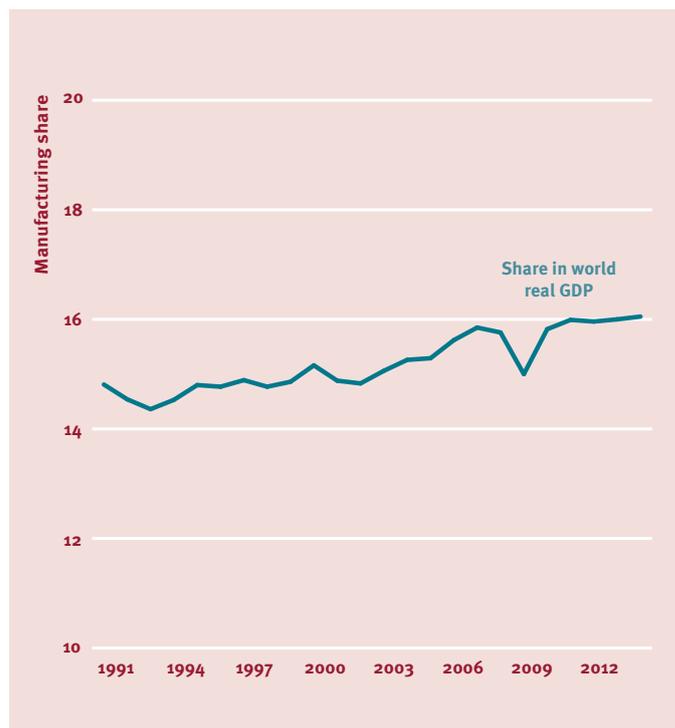
In view of these trends, the sharp decline in the nominal share of manufacturing in world GDP is hardly surprising. The downward trends in Figure 1 are ultimately the outcome of faster productivity gains, which determine downward pressures on the

employment share and on relative prices. If one were to examine the relative importance of manufacturing using real values—that is, keeping prices constant (see Box 1)—there would be no evidence of global de-industrialization.

When one looks at the evolution of the share of manufacturing in world GDP keeping prices constant at the 2010 level, the share of manufacturing increases by more than 1 percentage point between 1991 and 2004 (see Figure 4). If we were to look at real values using 1991 rather than 2010 as the base price year, the share of manufacturing would be even higher—at approximately 20% of the global GDP.

If manufacturing appears to be less important today than it did 20 years ago, it is largely because of its success. Manufacturing firms provide increasing volumes of new and vastly improved goods to consumers, employing fewer workers per unit of value-added relative to firms in other sectors. Equally important is they do so at prices which increase at a much slower pace over time, when compared to prices in other sectors.

Figure 4 – When the share of manufacturing in world GDP is seen in real terms, there is no evidence of global de-industrialization



Source: UNIDO IDR 2018 Figure 1.5, page 30

Box 1. Explainer: nominal vs. real GDP

The main difference between looking at GDP in nominal and in real terms lies in the fact that real values are adjusted for inflation, nominal values are not. Real GDP isolates the effect of price changes, providing a more accurate picture of changes in the output level of any economy.

Conclusions

- » The apparent trend towards global de-industrialisation can be explained by looking at the evolution of productivity across sectors. Higher productivity in manufacturing translates into a falling share of manufacturing employment in global total employment, and in lower relative prices. Keeping prices constant, however, there is no evidence of de-industrialization.
- » Even though the share of manufacturing in nominal GDP has fallen, the importance of manufacturing in terms of the volume of goods produced and the number of consumers who can afford to buy them has, in fact, increased over the past decades.

References and suggestions for further reading

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