The Importance of the Manufacturing Sector in the Romanian Economy

Emilia Herman

Abstract

A series of recent research [5, 15, 16, 27] highlight the fundamental idea that the manufacturing sector represents a cornerstone of many national economies, a crucial sector to the generation of structural change, productive jobs and sustainable economic growth. The aim of this paper is to highlight the place and role of the Romanian industry, especially the manufacturing sector, in the national economy and its impact on employment and sustainable development. The results of this research show that, Romania has entered a process of deindustrialization for over two decades. After 2000, the intensity of the deindustrialization process decreased which allowed manufacturing to remain the backbone of the Romanian industry and whole economy. A real challenge of the Romanian manufacturing is the low level of labour productivity and low level of medium and high-technology manufacturing activities. In order to increase the resilience of the Romanian economy in the context of economic globalizations and to assure sustainable economic growth and development a reindustrialization through sustainable and productive manufacturing is necessary.

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1. Introduction

Historically, manufacturing has been “the driver of economic growth, structural change, and catch-up” state Naudé and Szirmai [16]. It is well-known that “manufacturing has long been a cornerstone” [25] of many national economies, being a crucial sector that generates productive jobs and sustainable economic growth. World Economic

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Forum (WEF) Report [30] highlights that manufacturing is significantly important to the prosperity of nations “with over 70% of the income variations of 128 nations explained by differences in manufactured product export data alone” [30].

Manufacturing has the multiplier effects, being closely related to the other sectors of the economy. According to [28], these links can be both “backwards” (such as with mining or construction), or “forwards” (such as with transportation, wholesale and retail trade and business services). Inter-linkages between manufacturing and services have been underlined in many recent studies [20, 8, 27]. Spillover effects are presumed to be stronger within manufacturing than within other sectors [11, 21, 23]. The increasing demand for manufacturing stimulates the creation of jobs, investments and innovations [23].

The European Commission [6] has highlighted recently that at EU level, the manufacturing industry “has a strong spillover effect to other sectors - additional final demand in manufacturing generates around half as much additional final demand elsewhere in the economy” [6].

Empirical studies [1, 2, 13] based on Kaldor’s Law argue that the manufacturing sector in developing countries represents the engine of economic growth and development. Other empirical studies [14, 27] and statistical data argue that manufacturing represents a high export sector and pays relatively high wages, a main driver for employment in other sectors, including services, a key source of investment in research and development. Moreover, manufacturing is important for SMEs and it is critical for education and innovation [27].

McKinsey Global Institute [15] points out that the role of manufacturing in the economy changes over time and it differs according to the economic development stage of the country. Thus, in developed economies manufacturing has the ability to drive productivity growth, innovation and trade. Furthermore, this sector plays an essential role in reducing energy and resource consumption and limiting greenhouse gas emissions [27].

Despite all these well acknowledged advantages, Europe, and not only Europe, has entered a process of deindustrialisation for several decades [4]. In the developed economies, deindustrialization, which is illustrated, especially, by the constant reduction in the manufacturing share in gross domestic product (GDP) and employment and the rise in the share of service sector, has not been perceived, in general, as a negative phenomenon, but it has rather been seen as a natural consequence of the economic development process [19]. On the contrary, according to Tregenna [24], in the developing countries, deindustrialization began too early, considering that these countries had lower levels of income per capita than the levels recorded in advanced economies. This deindustrialization process can rather be attributed to the policy shifts, the radical economic reforms respectively, than to the economic structure maturity (transfer to the tertiary sector) [17]. Szirmai and Verspagen [22] state that manufacturing has become a more difficult route to growth than before in developing economies since 1990.

The acceleration of the deindustrialization process, as a result of the financial and economic crisis of 2008-2009, highlighted the vulnerability of the European industry, especially of the manufacturing industry. Thus, there is an urgent need to look for new sources of economic growth [4]. Warwick [26] argues that productivity growth generated by innovation, such as investment in intangible assets and exploiting new demands, needs to be the driving factor for future growth. Therefore, the manufacturing industry is seen as an important source for growth, both in Europe [7] and USA economy [23, 25]. At the moment, deindustrialization is no longer perceived as a natural process of economic development [4].

At the level of the European Union, it is believed that a relaunch of manufacturing is needed in order to stop the EU’s economic decline. This represents a strong point of the production system [7]. In line with this, the European Commission under the European Strategy 2020 has established a goal to raise the industry contribution to GDP from 15.6% (2011) to 20% by 2020.

2. Manufacturing- the backbone of the Romanian industry

Transition economies, including the Romanian economy, have inherited a deformed economic structure, characterized by the forced development of the hard industry to the detriment of the service sector [11]. In the first decade of transition (1990-2000), the Romanian economy entered a strong process of deindustrialization, expressed by the reduction in the industry’s contribution to the creation of gross domestic product (GDP) (from 40% to 26.1%) as well as in employment (from 36.9% to 23.3%) [12]. In this period the industrial production fell, thus in 2000 industrial production represented only 48% of the industrial production recorded in 1989 [3]. In the next period
(2000-2013) industrial production rose to 79% of the production recorded in 1989. In Romania, the reduction in industrial production was generated by the reduction in manufacturing, under the circumstances in which over 75% of total industrial production was generated by the manufacturing sector.

The decline of the industrial activity in Romania, especially manufacturing, during the first transition years, can be explained, on the one hand, by a crisis in the economy, being considered “both effect and determinant of a systemic crisis” [18]. On the other hand, it can be seen like a natural process of eliminating the consequences of a forced previous industrialization and one of taking Romania closer to the other European countries [11].

Data from figure 1 illustrate a strong direct correlation between the industrial output and total output (GDP) in the Romanian economy.

As it can be seen in Table 1, in the period 2000-2014, the Romanian industry oscillated, having a slight tendency of reduction both in terms of contribution to Gross Value Added - GVA (from 27.7% to 27.3%) and employment (from 22% to 21.2%). At the same time, a reduction in the role of the primary sector (Agriculture, forestry and fishing) and an increase in the contribution of the service sector both in terms of GVA and employment can be noticed. In the context of the global economic crisis and based on the internal factors, the process of economic growth recorded in Romania in the 2000-2008 period was interrupted by the recession in 2009 and 2010.

Table 1. GVA and employment by economic activity, in Romania, 2000-2014 (%)

<table>
<thead>
<tr>
<th>Economic activity</th>
<th>Percentage of total GVA</th>
<th>Percentage of total employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry and fishing</td>
<td>12</td>
<td>5.4</td>
</tr>
<tr>
<td>Industry (except construction)</td>
<td>27.7</td>
<td>27.3</td>
</tr>
<tr>
<td>Construction</td>
<td>5.8</td>
<td>7.1</td>
</tr>
<tr>
<td>Services</td>
<td>54.5</td>
<td>60.2</td>
</tr>
</tbody>
</table>

Source: Based on statistical data provided by Eurostat [9]

Manufacturing, as the most important component of the Romanian industry, remains vitally important for the whole economy (Figure 2 and Figure 3). Thus, in 2014, 22.8% of total GVA and 83.6% of industry GVA was the result of the manufacturing sector. Wholesale and retail trade, transport, accommodation and food service activities come second in terms of the contribution to GVA (17.9%) followed by Real estate activities (10.7%).
Moreover, the manufacturing sector accounted for 1.5675 million jobs (in 2014), which represents 18.1% of total jobs and 85.2% of industry jobs. Statistical data from Figure 3 confirm the deindustrialization of the Romanian economy, in the 2000-2014 period, the share of manufacturing in GVA decreased from 24.9% to 22.8% and the share manufacturing employment in total employment decreased from 18.6% to 28.1%. Despite all these, Romania, as a EU member state, recorded a higher level of manufacturing, both in terms of GVA and employment, than the EU-28 average.

During the same period, an increase in the share of manufacturing in industry sector can be noticed, both in terms of GVA and employment, fact which reflects that manufacturing remains the backbone of the Romanian industry and the whole economy.

3. Structural changes of manufacturing in Romania

According to Structural Business Statistics [9], the most recent data (for 2012) highlight that the Romanian manufacturing sector generated 13,436 (EUR million) of value added and employed 1167.45 thousand persons. Data from Table 2 show the decline of this sector in terms of GVA, employment, the number of enterprises, wage adjusted labour productivity and investment per person employed in the 2008-2012 period. This fact points out the
negative influence of the recent economic crisis on manufacturing. Although increases were recorded in apparent labour productivity (Gross value added per person employed), it is important to mention that these are due to the reduction in employed persons and not to the increase in GVA.

Table 2. Main indicators of manufacturing in Romania, 2008-2012

<table>
<thead>
<tr>
<th>Manufacturing indicators</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of enterprises</td>
<td>57305</td>
<td>54652</td>
<td>48933</td>
<td>45052</td>
<td>46004</td>
</tr>
<tr>
<td>Value added at factor cost (EUR million)</td>
<td>15493.1</td>
<td>11454.9</td>
<td>12778.0</td>
<td>13326.8</td>
<td>13436.2</td>
</tr>
<tr>
<td>Number of persons employed</td>
<td>1403014</td>
<td>1195999</td>
<td>1128238</td>
<td>1166429</td>
<td>1167452</td>
</tr>
<tr>
<td>Apparent labour productivity (EUR thousand)</td>
<td>11.0</td>
<td>9.6</td>
<td>11.3</td>
<td>11.4</td>
<td>11.5</td>
</tr>
<tr>
<td>Wage adjusted labour productivity (Apparent labour productivity by average personnel costs) (%)</td>
<td>193.8</td>
<td>176.3</td>
<td>195.3</td>
<td>185.4</td>
<td>184.7</td>
</tr>
<tr>
<td>Number of persons employed per enterprise</td>
<td>24.5</td>
<td>21.9</td>
<td>23.1</td>
<td>25.9</td>
<td>25.4</td>
</tr>
<tr>
<td>Investment per person employed (EUR thousand)</td>
<td>6.3</td>
<td>4.5</td>
<td>4.3</td>
<td>4.9</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Source: Based on statistical data provided by Eurostat [9]

The fifth largest of the 19 manufacturing activities (according to NACE Rev.2) accounted together for over 52 % of Romanian manufacturing value added in 2012 (Figure 4). The largest activity in value added terms was “Food, beverage & tobacco” followed by “Manufacture of motor vehicles, trailers and semi-trailers”, “Basic metals & metal products”, “Wearing apparel” and “Machinery and equipment n.e.c.”. In terms of employment, the same four manufacturing activities accounted together for over 52 % of manufacturing employment (Figure 4).

As it can be seen from Fig. 4, between GVA Manufacturing industries’ shares of total manufacturing GVA and employment Manufacturing industries’ shares of total manufacturing employment, a strong direct correlation was identified. In Manufacturing industries where GVA is high, there is also a high level of employment and vice versa.

Fig. 4. Manufacturing industries’ shares of total manufacturing value added and employment, Romania, 2012 (%)
The difference in shares of GVA and employment indicates gaps in apparent labour productivity (value added per person employed) among the manufacturing subsectors. Among the 19 manufacturing activities, “Basic pharmaceutical products and pharmaceutical preparations” recorded highest level of labour productivity (EUR 28100) almost 2.5 times manufacturing average (of EUR 11500). The second and third manufacturing subsectors in terms of labour productivity are “Chemicals and chemical products” (EUR18500) and “Other non-metallic mineral products” (EUR18500). Manufacturing subsectors which recorded lowest level of labour productivity (below EUR 10000) are Textiles (EUR 8600), Furniture (EUR 6600), Leather and related products (EUR 5900) and Wearing apparel (EUR 5500). These subsectors are included in Low-technology manufacturing [9].

According to Eurostat (based on technological intensity and NACE Rev. 2), the manufacturing industry includes four special aggregates of activities related to high-technology, medium high-technology, medium low-technology and low-technology [10]. Most recent data presented in Table 3 illustrate that in Romania, in 2012, there was a very low level of medium and high-technology manufacturing. Thus, medium and high-technology manufacturing accounted for only 8.7% of enterprises, 35.8% of GVA and 26.3% of manufacturing employment. Compared to 2008, the share of medium and high-technology manufacturing decreased, in terms of number of enterprises and employment, which reflects the negative effect of the economic crisis. It is noticed that apparent labour productivity in medium and high-technology manufacturing is higher than in medium and low-technology.

The analysis of the relationship between labour productivity and technological intensity of manufacturing highlight that labour productivity is higher in medium and High-technology manufacturing activities (Basic pharmaceutical products and pharmaceutical preparations, Chemicals and chemical products etc) and it is lower in medium and low-technology manufacturing activities.
4. Conclusions and implications

The results of our statistical-economic analysis based on the statistical data of the Romanian economy point out the deindustrialization process, illustrated by the reduction in the manufacturing share in GVA and employment. After 2000, the intensity of the deindustrialization process decreased and this allowed manufacturing to remain the backbone of the Romanian industry and the whole economy. Moreover, the results of this research show that, in Romania, in the period 2008-2012, the main indicators of manufacturing industry (GVA, employment, the number of enterprises etc) recorded a negative trend as an effect of the recent economic crisis. Over 50% of manufacturing value added and employment accounts for four manufacturing subsectors (“Food, beverage & tobacco”, “Motor vehicles, trailers and semi-trailers”, “Basic metals & metal products”, “Wearing apparel”), which are medium and low-technology manufacturing.

A real challenge of the Romanian manufacturing is the low level of labour productivity and low level of medium and High-technology manufacturing activities.

In order to increase the resilience of the Romanian economy in the context of economic globalization and to assure sustainable economic growth and development, a reindustrialization through sustainable and productive manufacturing is necessary. Investment in new technologies and innovation, access to markets, access to finance and human capital and skills represent essential actions needed to achieve a stronger European industry for growth and economic recovery [5].

References


