



HISTORIA INDUSTRIAL

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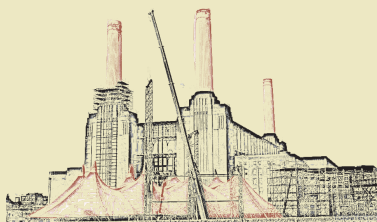
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ARTICLES – ARTÍCULOS

Neither mechanical nor premature: deindustrialization and the New International Division of Labour (1970-2019)

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ABSTRACT

This article studies the economic determinants – wage and productivity levels – behind the deindustrialization trends of 24 countries divided into three groups (“Developed”, “East Asia”, “Latin America”) for the period 1970–2019. The data shows that deindustrialization, regardless of the country’s level of income, is linked to lower wages in other countries. These determinants explain the origin of this worldwide phenomenon since the new international division of labour, the impact on both developed and developing countries in Latin America, and also the successive waves of industrializing countries in East Asia.

KEYWORDS: deindustrialization, international division of labour, wages, labour cost

JEL CODES: L60, E24, J30, O57

1. Introduction

The literature locates the beginning of the deindustrialization process in the United States and the United Kingdom around the mid-1960s and in other developed countries a decade later (Sachs et al. 1994; Alderson 1999; Rowthorn and Ramaswamy 1999; Rowthorn and Coutts 2004; Schettkat and Yocarini 2006; Pilat et al. 2006; Kollmeyer 2009; Lawrence and Edwards 2013; Palma 2013; Rodrik 2016; Kandžija, Tomljanović and Hudek 2017). Deindustrialization is usually related to the relative decline in manufacturing employment, although the importance of considering variables such as value added, both in absolute and relative terms, as well as investment and innovation, has been pointed out for a more complete characterization (Tregenna

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2009; Herrera Barts 2018). In rich countries, deindustrialization is presented as a mechanical result of the evolution of mature economies (Rowthorn and Wells 1987; Rowthorn and Coutts 2004; Palma 2005 and 2013; Schettkat and Yocarini 2006). However, there is no agreement within the literature about the net effects on the labour market and wage levels (Kletzer 2005; Palma 2005; 2013; Dasgupta and Singh 2006; Tregenna 2009 and 2016; Rodrik 2016; Bárány and Siegel 2018).¹ In addition, it has been pointed out that there are a variety of deindustrialization paths, which are key to fully understanding those processes (Herrera Barts 2018; Dosi, Riccio and Virgillito 2021).

Countries such as South Korea and Taiwan, among others in East and Southeast Asia, faced industrialization processes that were the “flip side” of those happening in advanced economies (Tregenna 2009). However, since the 1990s, these countries also began to deindustrialize and were also presented as a mechanical result (Palma 2005; 2013). In the face of this decline, other countries in that region gained relevance, among which China stands out (Arceo 2005; Liu 2018).

Beyond East and Southeast Asia, other studies argue that deindustrialization also occurs in developing countries (Tregenna 2009; Frenkel and Rapetti 2012; Rodrik 2016; Herrera Barts 2018; Graña and Terranova 2021). These cases are characterized as “premature”, as they start at appreciably lower per capita GDP (Herrera Barts 2018) or employment levels (Felipeco, Mehta and Rhee 2019). This implies that they have not achieved the benefits linked to industrial development, which also has an impact on which service sectors grow (generally, substituting manufacturing with informal services) (Tregenna 2009; Palma 2013; Rodrik 2016; Herrera Barts 2021).

From this summary, we propose that there are two problems related to this literature. First, deindustrialization is presented as a mechanical or natural process characterizing capitalist development. While this is explicitly expressed by the authors analyzing developed countries, it is implicit in the use of the term “premature”, since this is the name given to a process that occurs before the correct moment. Second, the distinction between both classifications comes from the level of per capita income at the time of deindustrialization. This is problematic not only because per capita GDP was not necessarily shared by the countries classified in the same way (e.g., the US vs European countries) but also because per capita GDP at the start of deindustrialization falls over time. Given their income, the deindustrialization of South Korea and Taiwan, for example, should be labeled “premature” even though it is difficult to argue that they did not achieve full industrial development. Indeed, the distinction between types of deindustrialization (and

1. On the different views and the consequences predicted by the literature, consult Herrera Barts (2018).

their varying determinants) is not fully developed, which casts further doubts about the mechanical character of the process.

We explain both the deindustrialization process and the decline in per capita income at the time of its beginning following the emergence and development of the new international division of labour (hereafter NIDL) since the 1970s (Charnock and Starosta 2016; Fröbel, Heinrichs and Kreye 1980; Iñigo Carrera 2013). We argue that deindustrialization is mainly caused by offshoring aimed at reducing labour costs, which was enabled by the telecommunications revolution of the late 1960s-early 1970s. Based on this possibility, capital offshored simple manufacturing production to East and Southeast Asia, where low wage levels outweighed reduced productivity. Further technological progress in automation enables manufacturing job simplification, which explains the reduction in the initial income at which deindustrialization takes place (Whittaker et al. 2010; Felipe, Mehta and Rhee 2019). Therefore, deindustrialization is not a mechanical process of mature economies, but the result of “some countries deindustrializing others”.

The main contribution of this paper is to present key variables, usually absent in the literature, such as real wages, productivity, and unit labour costs, to illustrate how international wage differences are the economic determinants of the deindustrialization seen since the 1970s. For that purpose, we built a 24-country dataset of manufacturing exports, employment, productivity, value added, wages, and unit labour costs, covering developed, Latin American, and East and Southeast Asian countries since 1970. We believe that our series show why manufacturing employment moved to East and Southeast Asia and why it continued relocating within that region.

This article is organized as follows. The first section summarizes the literature and presents our theoretical framework. The second section explains the methodology for the construction of the database, complemented with an appendix. The third section presents the results regarding the evolution of world trade in manufactured goods, the deindustrialization process, and the economic determinants behind offshoring (wage, productivity, and unit labour costs). Finally, we present conclusions and the lines of research that emerge from this paper.

2. Theoretical framework

2.1. Deindustrialization in literature

The relative loss of manufacturing employment in developed countries has been dubbed “deindustrialization” and began around the 1970s (Martin and Rowthorn 1986; Rowthorn and Wells 1987; Sachs et al. 1994; Saeger

1997; Rowthorn and Coutts 2004). The reasons behind this process can be divided into “internal” and “external” factors (Palma, 2005; 2013; Schettkat and Yocarini 2006). Within the internal ones, one can find: 1) the increase in the level of per capita income, which generates a decrease in the elasticity of demand for manufactured goods, reducing sectorial growth and employment, and 2) faster productivity growth in manufacturing than in services or agriculture, leading to a relative reduction in the former’s employment. Regarding external determinants, what stands out is that companies from developed countries relocated part of their production to countries characterized by low wages (initially East Asian economies), which explains the reduction in manufacturing employment (Milberg and Winkler 2013; Berardino and Onesti 2020). Thus, growth in the share of world trade of manufactured goods by East Asian countries is a significant factor explaining deindustrialization in advanced economies (Sachs et al. 1994; Saeger 1997; Alderson 1999; Rowthorn and Coutts 2004; Kollmeyer 2009; Tregenna 2016).²

As we can see, factors whose effects and temporal validity are qualitatively different are placed on equal footing. While “internal factors” have operated permanently in capitalism – which supports the idea of its “mechanical” nature – the offshoring process begins simultaneously with deindustrialization and has a global outreach.

Another stylized fact is the reduction, over time, of per capita income at which deindustrialization begins (Tregenna 2016). According to Palma (2013), there is no agreement in the literature on the causes driving this phenomenon, although globalization would be the main one. Felipe, Mehta and Rhee (2019) argue that increased competition from poorer countries is behind it, however neither authors present data to support that conclusion. In any case, if the income level at which deindustrialization begins is not precisely determined, it becomes difficult to establish its “natural” or “mechanical” character.

In addition, Palma (2005) and Dasgupta and Singh (2006) point out that developing countries also experienced deindustrialization. These dynamics are called “premature” – when they start at a lower per capita income level than the one observed in developed countries – or “negative” – when the industrial output declines in absolute terms (Palma 2013; Castillo and Martin 2016; Tregenna 2016; Herrera Bartis 2018). However, in both cases, the economies would not have fully obtained the advantages linked to the development of the manufacturing sector (better labour indicators than the rest of the sectors, dynamic economies of scale, upstream/downstream linkages, Keynesian-type demand multipliers, among others) (Tregenna 2009; 2016;

2. Besides, part of it can be assigned to a “statistical illusion”, given that various activities started to be done in-house and outsourced (cleaning, accounting management, among others) (Tregenna 2009).

Frenkel and Rapetti 2012; Bogliaccini 2013; Cruz 2014; Graña 2015; Rodrik 2016; Herrera Bartis 2018).

In both premature and negative cases, deindustrialization would be the result of trade and financial openness or institutional modifications (Palma 2005; 2013; Shaffaeddin 2005; Brady, Kaya and Gereffi 2011; Bogliaccini 2013; Cruz 2014; Tregenna 2016; Rodrik 2016; Herrera Bartis 2018; Camacho Ballesta and Atencio 2018). In general, it is argued that after the external debt crises of the 1980s, import substitution industrialization was abandoned and policies linked to the “Washington Consensus” were introduced (Palma 2005; 2013; Shaffaeddin 2005; Dasgupta and Singh 2006). Contrary to what was postulated, the reduction of tariffs and other barriers to international trade did not turn these countries into export platforms (Bogliaccini 2013). Some researchers argue that part of the failure is due to the difficulty of achieving competitiveness in the context of China and other Asian countries’ rise (Gallagher and Moreno-Brid 2008; Salama 2012; Bogliaccini 2013; Tregenna 2016).

Thus, these scholarships also implicitly link offshoring with deindustrialization leaving government policies in the background because, even with some differences in scale and scope, the Reagan-Thatcher consensus³ policies have been applied worldwide (Shafaeddin 2005).

To sum up, there are two problems with this literature that we will develop in the following sections. One is the “natural” or “mechanical” nature of deindustrialization in the developed world, which is also implicitly present in the “premature” literature. The other is the lack of an explanation for the fall in the level of per capita income, which divides between different types of deindustrialization, and the diverse factors behind it.

2.2. The nature of deindustrialization

Presenting deindustrialization either as a “natural” or “mechanical” process in the development of a mature economy (due to technical progress, the development of complex services, etc.), is stating that economies follow a linear path, much in line with Rostow’s contributions (1971). From this point of view, we could say that, with the passing of time, every country will industrialize and then deindustrialize, since this is what has happened in developed countries. The same idea is also implicitly behind the “premature” label.⁴

3. Palma (2013) points out that a possible difference is that the policies of developed countries did not aim so much at trade openness but at the reduction of the welfare state.

4. The comparisons that link deindustrialization and the birth of post-industrial societies with the change from agricultural to industrial societies confirm this sort of predetermined path. In some cases, the idea of a path to be followed goes as far to the point of sustaining that some Sub-Saharan countries are going through “pre-industrialization deindustrialization”.

This is a problematic idea because we would be supporting a straight-line dynamic in the development of capitalism, when in fact it has gone through stages in which its technical conditions of production, social institutions, and the relationships between companies and states have been radically modified.

In our opinion, until the emergence of the NIDL, this linear approach had some resemblance to reality, because it was possible to imagine a relatively autonomous development process within each country (Graña and Piqué 2017). Moreover, during the classic international division of labour, developed countries were industrialized and developing countries were commodity exporters which looked to catch up through industrialization (Prebisch 1986).

However, by the late 1960s, the world economy began to experience problems with the declining profit rate and productivity, higher inflation, and unemployment (Wolff 2003; Basu and Vasudevan 2013; Shaikh 2016). As a result of these trends, companies began experimenting with new production schemes and technologies to deal with those problems.

First, the revolution in telecommunications allowed the offshoring process and management of the global value chains. Second, flexible automation – among other technical and organizational modifications – expanded the universe of relocatable activities by reducing the complexity of manufacturing jobs (Alcorta 1999; Balconi 2002; Biewener 1997; Kaplinsky 1989).

So, developed countries began relocating the simplest parts of their manufacturing production to low-wage countries, mainly in East and Southeast Asia, which eventually became the industrial hub of the world, while retaining the most complex tasks and productions lines (related to design, development, and research) (Fröbel, Heinrichs and Kreye 1980; Milberg and Winkler 2013; Charnock and Starosta 2016; Baldwin and Forslid 2020; Reijnders, Timmer and Ye 2021).

Briefly stated, the reorganization of the international division of labour generated three types of countries: 1) developed countries that now focused on the most complex tasks and managing global value chains; 2) East and Southeast Asian countries that became exporters of simple manufacturing goods and, 3) the rest, that remained as commodity exporters.

However, the relevance of the transformation from the classic international division of labour to the NIDL appears in the literature as merely a framework for these quantitative changes since the 1970s, without considering that it implied a qualitative transformation. In fact, changes in the forms of production and technologies are typically not even mentioned.

Therefore, deindustrialization since the 1970s, regardless of the country's stage of development, has nothing natural or mechanical about it. It is the result of a transformation in capitalism on a global scale, with the technological revolution in telecommunications and automation enabling the emergence

of the NIDL at its core. Through this thesis, it is possible to explain why the deindustrialization of diverse countries (e.g., developed countries and those of Latin America) occurred at the same time as the industrialization of East and Southeast Asia.

2.3. The per capita income level reduction at which deindustrialization begins

Although the decline in per capita income levels at the beginning of deindustrialization is a stylized fact (Palma 2013; Tregenna 2016; Felipe, Mehta and Rhee 2019), there is no consensus about its causes. This is especially problematic because this variable is used to differentiate between deindustrialization types (Tregenna 2016). While it is explicitly argued that Latin America and Africa deindustrialized prematurely, the same should also be held for South Korea and China since, when they deindustrialized, they showed lower levels of per capita income than developed countries in the 1970s (Salama 2012; Palma 2013). While the distinction between types of deindustrialization is necessary and useful, this variable is not fit for purpose.⁵

As we mentioned earlier, problems in the distinction also involve their determinants: while for developed countries the latter are found to be mainly technology, income or demand elasticities, and imports from less developed countries (Liboreiro, Fernández and García 2021), it was economic policies that led to reduced prominence of manufacturing in developing countries. Considering that trade policies, the breakdown of the welfare state, and the attack on trade unions have been the characteristic features of “neoliberalism” throughout the world (although with different scopes and intensities) (Shaffaeddin 2005), we consider that this differentiation is not precise either.

With the development of technologies linked to ICT and automation, manufacturing jobs were progressively deskilled over time. Particularly, flexible automation schemes advanced over the tacit knowledge of workers by reducing complexity (Alcorta 1999; Balconi 2002; Grinberg 2014; Kaplinsky 1989). This enabled the employment of a less qualified and lower-wage workforce in manufacturing, allowing its relocation to new – poorer – countries, just as new locations opened in East Asia in the 1970s. It is this deepened competition among developing countries to attract simple manufacturing production which explains why deindustrialization begins at lower levels of income (Felipe, Mehta and Rhee 2019; Baldwin and Forslid 2020).⁶

5. Taking the argument to the absurd, if we take the US level as the standard, all other deindustrializations would be “premature”.

6. This is also what lies behind why similar policies produced different outcomes. Specifically, this is related to productivity and wage levels – as well as on the branches of specialization – at the time of the generalization of the NIDL. With this, we are not trying to dismiss