Document generated on 06/06/2025 9:15 a.m.

Relations industrielles / Industrial Relations

In Defense of Making Things: Why Manufacturing Still Matters

Theodore Pelagidis and Michael Mitsopoulos

Volume 74, Number 1, Winter 2019

URI: https://id.erudit.org/iderudit/1059471ar
DOI: https://doi.org/10.7202/1059471ar

See table of contents

Publisher(s)

Département des relations industrielles de l'Université Laval

ISSN

0034-379X (print)
1703-8138 (digital)

Explore this journal

Cite this document

Pelagidis, T. & Mitsopoulos, M. (2019). In Defense of Making Things: Why Manufacturing Still Matters. *Relations industrielles / Industrial Relations*, *74*(1), 187–192. https://doi.org/10.7202/1059471ar

Tous droits réservés © Département des relations industrielles de l'Université Laval, 2019

This document is protected by copyright law. Use of the services of Érudit (including reproduction) is subject to its terms and conditions, which can be viewed online.

https://apropos.erudit.org/en/users/policy-on-use/

This article is disseminated and preserved by Érudit.

Érudit is a non-profit inter-university consortium of the Université de Montréal, Université Laval, and the Université du Québec à Montréal. Its mission is to promote and disseminate research.

https://www.erudit.org/en/

A CONTRARIO

In Defense of Making Things: Why Manufacturing Still Matters

Theodore Pelagidis and Michael Mitsopoulos

A relatively recent International Monetary Fund (IMF) publication[1] is not the only voice that suggests the possibility of achieving prosperity and growth in the modern age without the need to have a strong manufacturing base. Like agriculture before the industrial revolution, "making things" appears to take the back seat as services, and in particular knowledge intensive services that determine "how to make things", take over as growth drivers. Of course, the trends of progress are irreversible, and "making things" will constitute a shrinking part of employment and, possible value created. The latter will most likely be even truer if one cannot separate perfectly the value of incorporated services, as the knowledge content of the "things made" and the incorporated services build their own complex interactions and grow exponentially.

However, as we argue here, there will always be a need to make things (including the occasional spacesuit taking a drive in its interstellar Tesla car). Even as the relationship between physical manufacturing, knowledge and services becomes more blurred, manufacturing will remain an indispensable ingredient of the final product. As pointed out in the literature, the role of manufacturing is and will never be the same for developing and developed countries, performing different roles in both. For developing countries, it will still contribute towards the rapid development of key skills that will complete the skills set of the country[2], and for developed countries, it will have a mature and symbiotic relationship with services[3], ensuring the proximity of the know-how and the production of goods that incorporate it, seamless cooperation, and design and service development at the frontier.

Within such a setting, measuring the importance of manufacturing through its share in employment or value added may not really capture its contribution to the success of the business ecosystem of any country.

Theodore Pelagidis, Professor of Economics, University of Piraeus, Greece and NR Senior Fellow, Brookings Institution, USA. The author served as an external expert in the Internal Evaluation Office of the IMF, 2015 spring term.

Michael Mitsopoulos, Economist (Ph. D. Boston University), Hellenic Federation of Enterprises, Greece.

The authors have also published the two following books: (2014) *Greece: From Exit to Recovery?* Washington (DC), Brookings Institution Press, and (2018) *Who's to Blame for Greece. How Austerity and Populism are Destroying a Country with High Potential*, 2nd edition, Basingstoke (UK): Palgrave MacMillan.

The classic study of Dertouzos, Solow and Lester[4] highlighted already decades ago the problem of the thinning production base in the USA, suggesting that even while an economy moves towards becoming a service economy it should not neglect its production base. The latter, the authors note, acquires a symbiotic relationship with services, which are included in the value chains giving rise to opportunities for the growth of services. Decades later, a new research initiative from MIT titled *Production in the Innovation Economy*[5], reaffirmed these findings, documenting a relationship that emerges to be very fluid with respect to the attributes that define the relationship between production and services[6]. Neither, moving production to other countries not the emphasis on services harm *a priori* the ability of an economy to produce and innovate, if a sufficient mass of productive activities that cover a sufficiently diverse array of activities and skills is maintained. The initiative reaffirmed that in all developed countries, but also in the developing countries that have established in the past decades a strong production base, the knowledge and experience that follows when one "makes things" is ultimately a necessary precondition to maintain the ability to further develop the services that concentrate around value chains that include production. In addition, the importance of the production base, not only with respect to its size but also regarding the dispersion among many activities, skills and specializations as well as the ability to interconnect these points of economic activity in a way that encourages the emergence "of the new and unexpected" has been quantified by researchers at Harvard and MIT[7].

Thus, even while its share of overall economic activity declines[8], as well as its role in the dynamics of output per worker as the IMF report argues (IMF, 2008: *ibid*.[9]), manufacturing is likely to maintain a changing, but key, part of the skills set. Skills sets that enables an economy to produce and offer more complex goods[10], services and combination of such in a world that, ultimately, extends the realities documented for manufacturing by the abovementioned *Atlas of Economic Complexity* to the blurred, and less well documented, coexistence of services and goods.

In the age of the knowledge economy, the comparative advantage of any country is not given but can be built to an extent unseen so far in the history of humanity. The comparative advantage of Ricardo is not limited any more by geography or climate, but can be built by any country, at least to the extent that it has the economic and institutional ability to do so and that the factors of production are now highly mobile. At the same time, countries that lack this ability, as well as the ability to equip their population with the skills and knowledge needed, discover that their ability to catch up can be compromised rapidly, with the growth drivers in the most advanced countries rushing ahead[11] while shredding low skilled labour[12]. This is a process that has been observed before, during

the age of industrialization, and it appears to have contributed significantly to the inability of developing countries to nourish their own skill and activity set[13]. It is also a process that according to recent research[14] appears to affect also regions within countries.

In such a setting, and irrespectively of the convergence of productivity among countries in the manufacturing and services sector, the main challenge for each country is to build on the existing economic activities to first establish the basics of a balanced business and knowledge ecosystem, and subsequently to allow it to fulfill its full potential within in a favorable environment of strong institutions[15].

While the specific attributes of what is at any age defined as a "well balanced entrepreneurial and economic ecosystem" surely changes across time, it appears reasonable that its definition relates not only towards having a sufficient diversity of activities, and thus also diverse skill set. It also includes the need to have a well-balanced distribution of companies by size. Such a balanced ecosystem contributes towards a capacity to take better advantage of the externalities that can build up within the context of the knowledge economy.

The manufacturing sector stands out as sector that tends to seek support from such diverse ecosystems. The fact that it draws on numerous different needs and skills[16] has a qualitative impact on the way manufacturing companies depend on, and influence, extended and diverse networks of suppliers and customers, that increasingly integrate with service providers along more complex value chains that tend to incorporate a broader skill set. A weakened manufacturing base is therefore linked, most likely in a two-way causal relationship, with weaker ecosystems around manufacturing companies. These, in turn often form clusters that educate employees and allow for the diffusion of good practices and standards. More importantly, they form a customer base that offers many diverse young companies the opportunity to establish a cooperation that has enough visibility for them to take the plunge and invest in equipment and skill development that, under other circumstances, would be too risky for them to try[17].

This position is supported by a great deal of research that seems to confirm that countries with a stronger manufacturing base can produce more goods that are in demand in global markets, and that they have a key advantage with respect to the cooperation between businesses and centers that perform R&D, along a better ability to turn R&D into sound output[18]. This point in turn also justifies the addition of the dimension of company size in the definition of the well-balanced ecosystem, as R&D and innovation is dependent on both the vigour of fast growing young companies[19] and the ability of large companies to finance more demanding projects[20].

The documentation of all this, in the numbers picked up in input-output tables, may indicate a small contribution of manufacturing, but one should not underestimate the enabling impact that goes beyond the value flows. Taking away a springboard to complex interactions may undermine the growth potential[21] by more than is documented in the accounting exercises that allocate value added across sectors, as electricity production amounts only to a small fraction of GDP but, in the end, is indispensable to the maintenance of a much larger part of yearly GDP[22].

Thus, there is more to the relationship between prosperity and manufacturing, than the fact that gradually services become more important in a knowledge-based economy that races towards the digital age, as the IMF report states. Manufacturing may not be any more the symbol of economic superiority, but it does emerge as a key enabler and facilitator, with a role that changes in its nature and contribution in employment and value added without necessarily ceasing to be necessary and useful. This changing role highlights in turn, once again, how important it is for a country that wants to ensure prosperity for its people, beyond short growth spurts[23], to ensure that the regulatory and tax framework does not erect unneeded hurdles that hold back successful companies and their employees from progressing, nor to the constant transformation of companies and supply changes as new solutions that increase efficiency become available and the pressures of competitive markets push to making the most of them. Only in such a setting companies that have acquired a competitive advantage can grow on the merit of hiring employees and introducing productivity enhancing innovation in the production process and creating in the end the preconditions needed for an increase in prosperity. It appears, given the extensive literature at hand, to be no coincidence that the countries that appear to have all these attributes simultaneously are also institutionally mature counties, that generally have a well working social state that ensures a *retributiveness* in the case of high-tax countries, and that have mostly deregulated network industries ensuring that they offer competitive services to the users that are part of the productive ecosystem in the country. These are also generally countries that manage to have overall a higher employment ratio and in which a favorable business and institutional environment, among others, also allows the more complex and in need of long-term visibility, and therefore dependent on good institutions, manufacturing to flourish.

Notes

1 IMF (2018) "Manufacturing Jobs: Implications for Productivity and Inequality", WEO April, Chapter 3. https://www.imf.org/en/Publications/WEO/Issues/2018/03/20/world-economic-outlook-april-2018

2 Dani Rodrik (2011) "*The Manufacturing Imperative*." *Project Syndicate*, Aug 10.

3 OECD (2016) *Enabling the Next Production Revolution: The Future of Manufacturing and Services - Interim Report*. Meeting of the OECD Council at Ministerial Level Paris, 1-2 June.

4 Michael L. Dertouzos, Robert M. Solow and Richard K. Lester (1989) *Made in America. Regaining the Productive Edge*. Cambridge: MIT Press.

5 Suzanne Berger, with the MIT Task Force on Production in the Innovation Economy (2013) *Making in America. From Innovation to Market*, MIT Press, and Richard M. Locke and Rachel Wellhausen, eds (2014) *Production in the Innovation Economy*. Cambridge: MIT Press.

6 IW Köln/IW Consult GmbH (2013) *Industry as a Growth Engine in the Global Economy*. Cologne: Business Europe.

7 Richard Hausmann *et al*. (2013) *The Atlas of Economic Complexity: Mapping Paths to Prosperity*, 2nd ed., Cambridge: MIT Press, plus all the related work.

8 Dani Rodrik (2015) "Premature Deindustrialization." *Journal of Economic Growth*, 21, p.1-33.

9 https://www.imf.org/en/Publications/WEO/Issues/2018/03/20/world-economic-outlook-april-2018#Chapter%203

10 Richard Hausmann and Cesar Hidalgo (2010) *Country Diversification, Product Ubiquity, and Economic Divergence*, Working Paper No 201, Centre for International Development, Harvard University.

11 WEF System Initiative on Shaping the Future of Digital Economy and Society Digital Transformation. Initiative Maximizing the Return on Digital Investments.

12 Dani Rodrik (2015) *ibid*.

13 John Williamson (2011) *Trade and Poverty: When the Third World Fell Behind*. Cambridge, MA: MIT Press.

14 *The Economist* (2017) "*Left in the lurch. Globalization has marginalized many regions in the rich world. What can be done to help them?*" October 21.

15 Daron Acemoglu and James A. Robinson (2012) *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*, New York: Crown Publishers; Mancur Olson (1982) *The Rise and Decline of Nations*, Yale: Yale University Press; Douglass North (1990) *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press; Douglass North (1989) *Institutions and Economic Growth: An Historical Introduction*, Paris: Elsevier; Chrysostomos Mantzavinos, Douglass North and Syed Shariq (2003) *Learning, Institutions and Economic Performance*, Preprints of the Max Planck Institute for Research on Collective Goods.

16 The IMF report regarding the declining share of manufacturing jobs declare that: "This concern stems from the widely held belief that manufacturing plays a unique role as a catalyst for productivity growth and income convergence and a source of well-paid jobs for less-skilled workers" And it continues by arguing that: "Against that backdrop, this chapter aims to provide new evidence on the role of manufacturing …that a shift in employment from manufacturing to services need not hinder economy-wide productivity growth and the prospects for developing economies". See https://www.imf.org/en/Publications/WEO/Issues/2018/03/20/world-economic-outlook-april-2018#Chapter%203

17 Author interviews with SMEs in manufacturing value chains.

18 Assolombarda Confindustria, Milano Monza and Brianza (2016) *The Performance of European Firms: A Benchmark Analysis A Survey on 650 European Companies in the Five most Dynamic Regions of Europe*. RICERCA No4.

19 John C. Haltiwanger, Ron Jarmin and Javier Miranda (2013) "Who Creates Jobs? Small vs. Large vs. Young", *Review of Economics and Statistics*, p. 347-361.

20 Naomi R. Lamoreaux and Kenneth L. Sokoloff, eds (2007) *Financing Innovation in the United States, 1870 to Present*. Cambridge: MIT Press.

21 Rodrik, Dani (2014) "The Past, Present, and Future of Economic Growth." In F. Allen *et al.*, *Toward a Better Global Economy: Policy Implications for Citizens Worldwide in the 21st Century*. Oxford: OUP.

22 Transcript of Larry Summers speech at the IMF Economic Forum, Nov. 8, 2013.

23 Dani Rodrik (2009) *One Economics, Many Recipes. Globalization, Institutions, and Economic Growth*. Princeton: Princeton University Press.