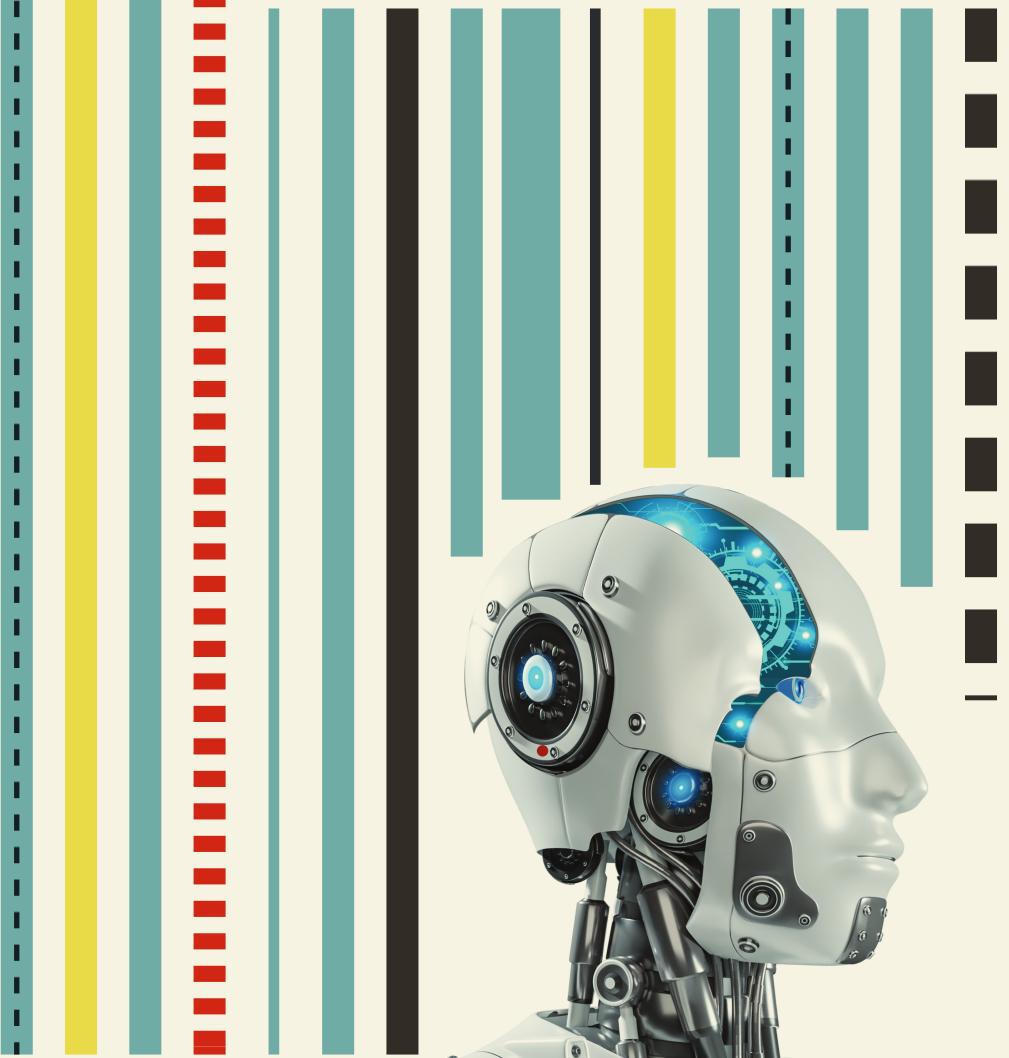
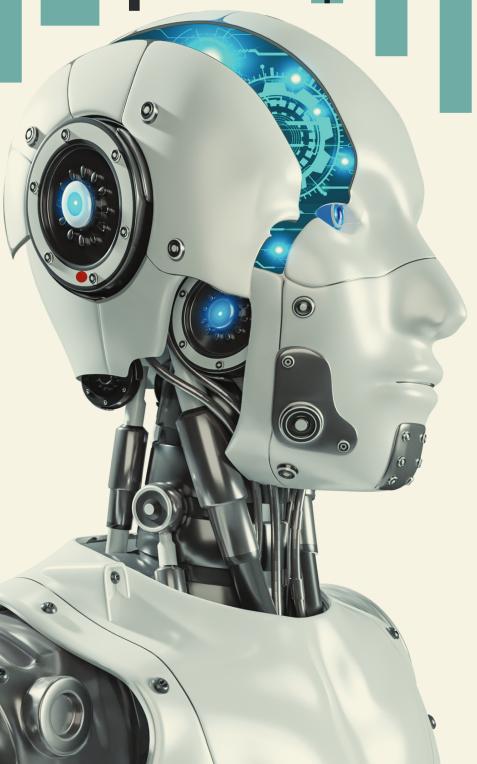


ARTICLE 3

What Complex Products is Lebanon Exporting?

Sami Atallah and Sami Zoughaib



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Considerable attention is paid to the volume and nature of goods Lebanon exports in relation to the country's imports, trade balance, and other macroeconomic indicators. In our previous article, TPI examined the number and types of products that Lebanon has a comparative advantage in selling to global markets, both before the onset of and during Lebanon's interwoven crises. In this article, we assess the complexity of Lebanese exports.

Complex products comprise those requiring sophisticated processes to build them. Their production is often associated with highly skilled and productive labor and capital-intensive processes operating in an environment with strong institutions. Often, these conditions are found in a limited number of countries.¹

Little effort is focused on Lebanese firms' abilities to produce and sell complex products. Studies have shown that complex products are highly correlated with higher GDP per capita and lower levels of income inequality. They tend to pave the way for future growth and create high-paying and skilled jobs. Products like "Machines and Appliances for Specialized Industries", "Instruments and Appliances for Physical or Chemical Analysis", and "Appliances Based on the Use of X-ray or Radiation" are considered highly complex products. This contrasts with "Crude Oil", "Cotton", "Cocoa Beans", or "Sesame Seeds".

Complex Export Potential, Where Lebanon Currently Stands

In 2021, Lebanon exported 145 products that are classified as complex (having a product complexity index greater than 1 for a scale that ranges between -2.5 and 2.5) and were valued at \$151 million. By excluding products that do not have an export value exceeding \$100,000, the number of complex products is reduced to 88, but their value remains at \$151 million, meaning 57 complex products were exported in very small amounts. Looking at 2018 data, Lebanon exported 90 complex products (among those that exceed \$100,000) with a value of \$142 million.

Among Lebanon's 88 complex products in 2021, 47 are classified as "Machines", 12 as "Metals", seven as "Chemicals", six as "Stone and Glass", six as "Instruments", four as "Plastics", two as "Textiles", two as "Paper Goods", one as "Weapons", and one as "Miscellaneous". Lebanon had a comparative advantage in 11 out of the 88 products when measured by revealed comparative advantage (above 1). These products, which were valued at \$39 million, are mostly in the "Machines", "Stone and Glass", and "Chemical" sectors (Table 1). While their total value is small, they signal potential that has yet to be explored and leveraged.

Table 1: List of complex products ($PCI > 1$) with high RCA (> 1) in 2021

HS6	Name of product	Section	RCA	Value (\$)	Product Complexity Index (PCI)
63705	Developed Exposed Photographic Material	Chemical product	1.15	417,205	2.38
137004	Blown glass	Stone and glass	1.12	240,314	1.8
168514	Electric furnaces	Machines	1.03	1,367,949	1.51
158205	Other hand tools	Metals	1.18	2,555,998	1.48
168439	Papermaking machines	Machines	2.5	3,237,661	1.37
168449	Felt machinery	Machines	1.079	416,642	1.31
168467	Motor working tools	Machines	1.06	2,567,018	1.29
73919	Self-adhesive plastics	Plastics and rubbers	1.73	10,614,720	1.22
168441	Other paper machinery	Machines	4.55	8,685,722	1.16
137003	Cast or rolled glass	Stone and glass	1.42	778,861	1.11
168428	Lifting machinery	Machines	1.098	8,362,649	1.09

Source: The Observatory of Economic Complexity

¹ According to the Observatory of Economic Complexity website, complex products measure "the knowledge intensity of a product by considering the knowledge intensity of its exporters". Instead of measuring the combination of factors that are needed to produce each product, the authors have reduced the complexity of products to a set of (non-fungible) knowledge that are associated with particular countries

Three out of the 11 products – “Developed Export Photographic Material”, “Blown Glass”, and “Felt Machinery” – were exported in 2021 but not in 2018. The remaining eight were exported both in 2018 and 2021. Out of these eight, one product, “Lifting Machinery”, declined in trade volume from \$10.4 million to \$8.3 million, “Electric Furnaces” and “Cast or Rolled Glass” had the same trade volume. The other five products experienced a big jump in sales. For instance, “Other Hand Tools” increased from \$231,000 in 2018 to \$2.5 million in 2021.

In 2021, Lebanon exported most of its complex products to Africa and the Middle East. “Electric Furnaces” were exported to Saudi Arabia, Canada, and Oman; “Other Hand Tools” sold to Congo, Cote d’Ivoire, and Spain; “Paper Making Machines” exported predominantly to Nigeria; “Motor Working Tools” sold to Ghana, Cote d’Ivoire, and Togo; “Self Adhesive Plastics” exported to Syria, Saudi Arabia and Egypt; “Other Paper Machinery” sold to UAE, Nigeria, and Egypt; and “Lifting Machinery” exported to Algeria, Congo, and Cyprus.

Complex Export Opportunities

Despite exporting complex products, Lebanon’s ability to make headway in expanding its roster of complex products seems limited. This is largely due to the country’s economic structure. The available knowledge and know-how, as well as the right environment and institutions to produce new complex products, is largely absent. Using the diversification frontier developed by the Observatory of Economic Complexity, the products that are “near” the current exported products are of low complexity. Products that have high “relatedness” to complex Lebanese exports, meaning those which Lebanese firms likely have the ability and capacity to produce, are also of low complexity.

While Lebanon has continued to export complex products amid its interwoven crises, the country’s potential to expand its range of complex products is hindered by its economic structure, a limited industrial environment, and a lack of necessary institutions and knowledge. For Lebanon to enter the fray and produce more complex products, it must develop an industrial policy that fosters an environment in which knowledge and institutions can be utilized by industrialists and entrepreneurs to diversify and produce more complex products. This strategic shift is essential for Lebanon to elevate its position in the global market and drive economic growth through more sophisticated exports.