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Lebanon's Industrial Policy Must Focus on Developing Highly Sophisticated Exports

Sami Atallah and Ilina Srour

Executive Summary

Despite the secondary role the industrial sector plays in the national economy, Lebanese industrial exports increased and became more sophisticated from 2000 to 2008. This is largely attributed to the increase in external demand shocks rather than an increase in productivity. The fact that local market capacity is small and saturated prompts producers to be outward looking as they aspire to grow and diversify their production.

Continued low productivity in the sector is similar to what was observed in the 1960s and early 1970s when Lebanon failed to transform its economy despite a booming manufacturing sector. Now, to enhance productivity levels, Lebanon must prioritize the sector, invest in quality vocational training, improve infrastructure, support innovation, and provide assistance for developing industrial exports. This process should be addressed in the context of a broader public policy dialogue, which brings together government agencies led by the Ministry of Industry and industrialists to develop policies which promote diversification.

The Lebanese industrial sector has a long history of missed opportunities for development. The sector's occasional booms have been largely the result of positive external shocks and favorable macroeconomic conditions rather than fruits of industrial policy. As a matter of fact, industrial policy has never been a priority for the Lebanese economy. Today, what one can call industrial policy consists of some subsidized industrial financing schemes, several trade agreements with the EU and Arab countries, and some initiatives that are sporadic at best.

The contribution of industry to GDP is modest and official statistics show that it has been declining, decreasing from 12.5% in 1997 to 7.5% in 2009.¹ Comparing these figures with the average share of industry to GDP in Middle East and North Africa (MENA) countries, Lebanon's share was higher than the MENA average of 11.2% in 1997, but it went below the MENA average of 13.8% in 2009.² This indicates that while the industrial sectors of some MENA countries are increasingly contributing to their countries' economies, industry in Lebanon has been following an opposite trend of playing a secondary role in the national economy. In fact, the real average growth rate of the sector over the period 1998 - 2007 was 12.6%, which is lower than the growth of other sectors such as market services (14.3%), and transport and communication (25.5%).³ The sector is also much smaller in terms of employment, with only 12% of the active population working in manufacturing, as opposed to 39% in the services sector and 27% in trade.⁴

The sector suffers from a number of structural problems such as monopolized markets, poor financial intermediation, and an overvalued exchange rate, all of which are mainly a result of weak policy and an unfavorable legal and regulatory environment, which in turn discourages investment and

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diversification in the sector. In addition, the persistent high cost of production cripples the development of the sector and its competitiveness. For instance, in a qualitative

survey we conducted recently, firms repeatedly stressed that their two largest costs are electricity and training semi-skilled employees.

Despite this gloomy outlook for Lebanese industry, a number of interesting observations can be made regarding Lebanon's industrial exports. First, industrial exports per capita increased from \$282 in 2000 to \$785 in 2009.⁵ Second, industrial exports as a percentage of total exports rose from 37% in

¹ National Economic Accounts, 2005 and 2010.

² World Development Indicators.

³ Author calculations based on National Economic Accounts, 1997-2007.

⁴ The Labour Market in Lebanon, Statistics In Focus (SIF). 2011. Central Administration of Statistics, Lebanon. Issue number 1, October.

⁵ Author calculations based on Economic Accounts of Lebanon 1997-2007 and 2009 for industrial export figures, and World Development Indicators for population figures.

2000 to 57% in 2007.⁶ Third, the overall level of export sophistication witnessed a substantial increase of 36% from 2000 to 2008 (Table 1). The EXPY indicator is used to measure the level of sophistication associated with a country's export basket. It is constructed using another indicator, the PRODY, which is a quantitative index that ranks traded products in terms of their sophistication.⁷ EXPY is in fact the weighted average of the PRODY of all the exported products in a given country, where the weights are simply the value shares of the products in the country's total exports.⁸

Table 1

Export sophistication (EXPY) and its growth rate from 2000 to 2008

Country	EXPY 2000	EXPY 2008	Percentage change
Egypt	\$10,206	\$12,878	26.2%
Jordan	\$11,829	\$13,123	10.9%
Lebanon	\$10,206	\$13,924	36.4%
Morocco	\$8,463	\$11,140**	31.6%
Syria	\$13,877*	\$10,617**	-23.5%
Tunisia	\$10,086	\$13,783	36.6%

Source **CID Trade Dataset (2008), UN Commodities Trade Dataset (2008) and Hausmann, Hwang and Rodrik (2007).**

Note *2001, **2007.

In order to further analyze the characteristics of Lebanese exports, a relatively new method, the Product Space Method was used. Product space is based on the high-dimensional theory of development which recognizes that economic growth is heavily determined by the productive structure of an economy. This alternative view asserts that 'what a country produces matters more than how much value it extracts from its products.'⁹

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Author calculations based on Economic Accounts of Lebanon, 1997-2007, 2009.

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The PRODY index is constructed by taking a weighted average of the per-capita GDPs (PPP-adjusted) of the countries exporting a product, where the weights correspond to the revealed comparative advantage (RCA) of each country in that product (Hausmann, Hwang and Rodrik 2007). This measure of PRODY is PPP-adjusted.

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Hausmann, Hwang and Rodrik 2007.

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Hidalgo, C., 2009. The Dynamics of Economic Complexity and the Product Space over a 42 year period. Center for International Development Working Paper no.189.

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These capabilities are tangible and intangible inputs that are required for production activities.

What is a product space?

A product space is a network that mirrors the productive capacity or embedded knowledge of a country by highlighting the capabilities it possesses and the opportunities these imply. It is an industrial map that presents the idea of relatedness between different products traded in the global economy (Figures 2 and 3). Products that are tightly connected on the map share most of the requisite capabilities.¹⁰ Products located on the periphery of the map are technically unsophisticated products, including raw materials, fresh vegetables, etc.. As we move toward the core of the map products become more sophisticated.

A country's position on the product space determines its ability to move into new products. Countries can move to a new product that shares most of the requisite capabilities with the existing product basket, which is defined as making a 'short jump'. Countries can also move to a product that shares few capabilities with the existing basket, which is defined as making a 'long jump'. Lebanon's position on the product space map improved from 2000 to 2008 (Figures 1 and 2). The total number of exported products increased from 898 in 2000 to 978 in 2008. But more importantly, the number of core products increased by 21% (from 307 in 2000 to 370 in 2008) while the number of periphery products increased by only 3% (from 591 products in 2000 to 608 in 2008), reflecting an increase in the sophistication of Lebanese exports.

Lebanese industrial exports: An exception to the theory

Countries find it relatively easy to make short jumps on the product space map, but long jumps are harder to achieve, since firms cannot create new products requiring capabilities that are nonexistent in the economy. In

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addition, firms cannot create new capabilities on their own and without any government intervention because of market failures that hamper the process of

product discovery, namely coordination failures and information spillovers. Without government intervention to correct for these failures, firms are unlikely to make long jumps within the product space.¹¹

In Lebanon, out of fifty-three products located in the core of the product space of 2008, thirteen are the result of short jumps, and as many as forty core products have made long jumps (Table 2), which is an unlikely phenomenon.

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Hausmann, R. & Klinger, B., 2006. Structural Transformation and Patterns of Comparative Advantage in the Product Space. Center for International Development at Harvard University working paper, no. 128.

Table 2

Characteristics of the newly exported products, in number and average PRODY value, 2008

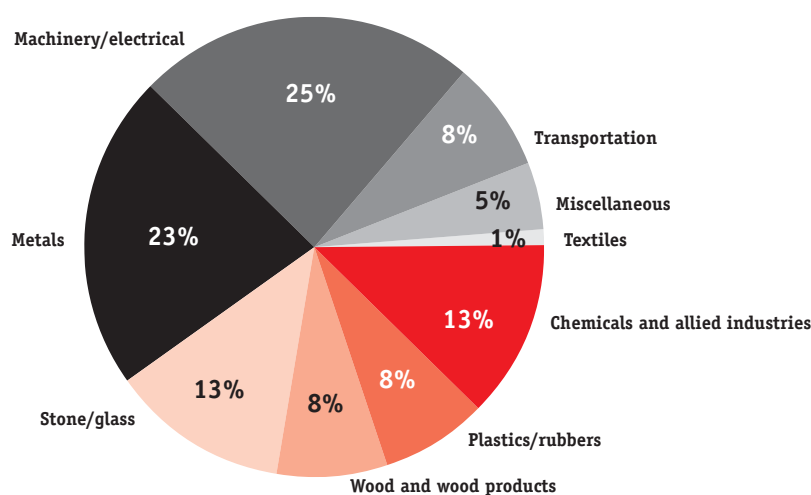
	Short jump products	Long jump products	Total products
Periphery	36 \$9,987	14 \$15,075	50
Core	13 \$15,882	40 \$22,736	53
Total products	49	54	103

Source Authors' calculations based on customs data.

Included among product categories that have made long jumps are chemicals, plastics, rubber products, wood products, stone, glass, metals, machinery, electrical items, and items produced for the transportation sector. Therefore, despite limited government intervention, and in the absence of any industrial policy to correct for market failures through institutional or policy changes, the production and export of these forty products seems to be an exception to the rule.

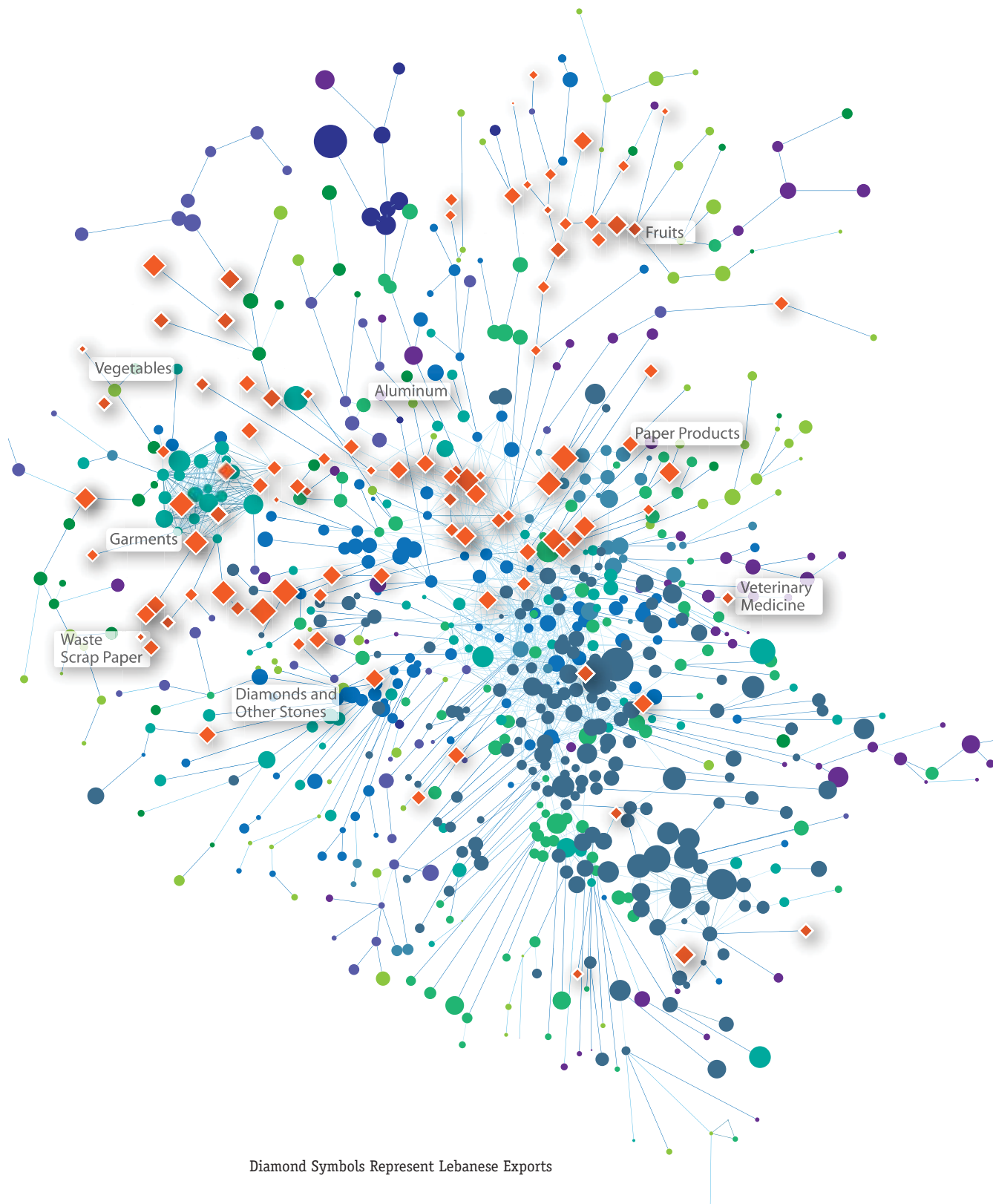
Both long jump and short jump products cover several categories of products (Figure 1). The forty long jump products are distributed across eight categories of products, and the short jump products fall within five categories. Just over half of the fifty-three newly discovered export products—both long and short jump products—are concentrated in four categories: Chemicals and allied industries, plastics/rubbers, wood and wood products, and stone/glass.

Figure 1

Long and short jump products classified by categories

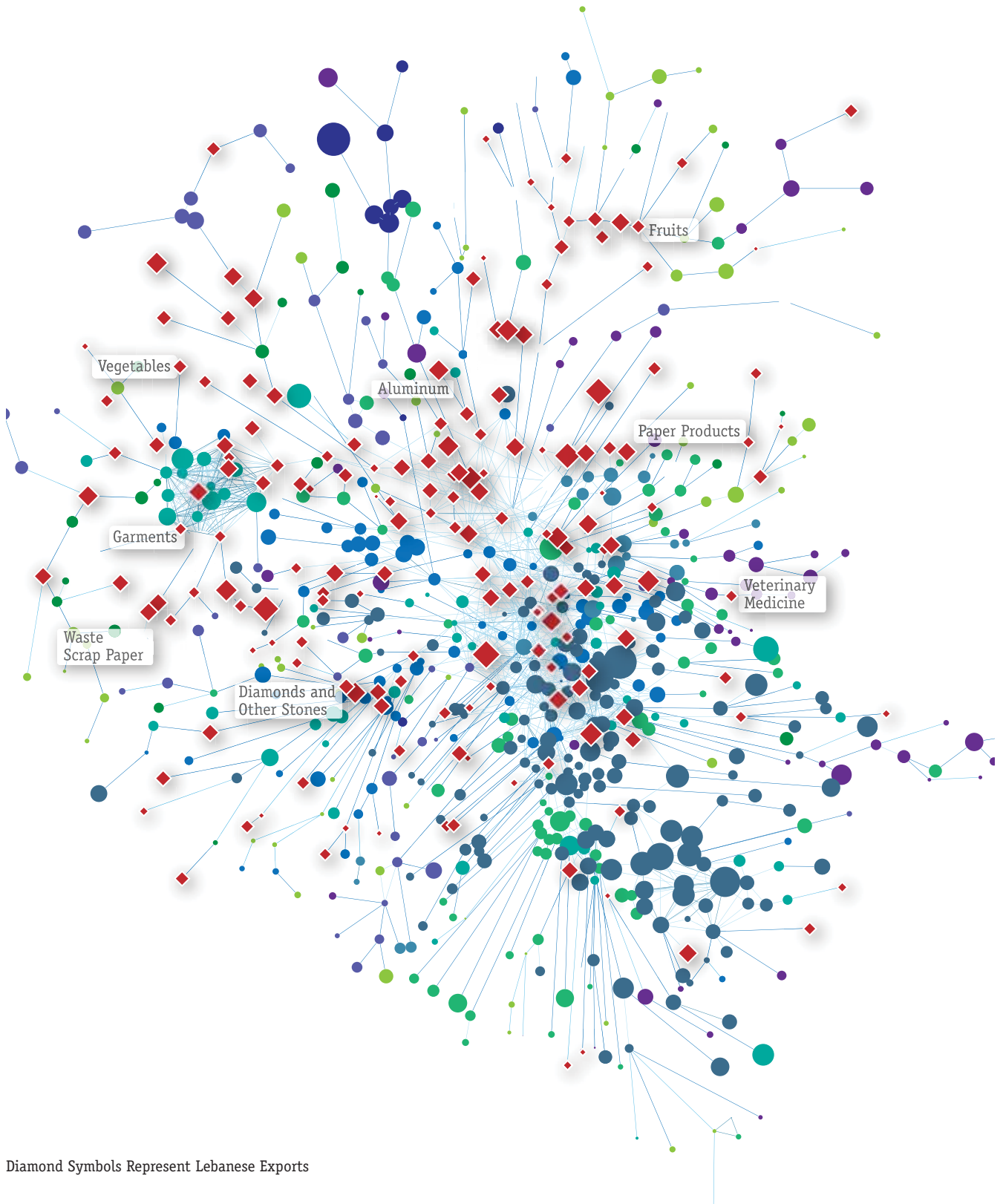
Source Author's calculations based on customs data.

Figure 2
Product space of Lebanon's exports in 2000



Source Based on Hidalgo et al. (2007).

Figure 3
Product space of Lebanon's exports in 2008



Source Based on Hidalgo et al. (2007).

We looked into the factors that caused these long jumps and the characteristics of the firms that have been able to achieve them. Using primary—quantitative and qualitative—as well as secondary data, the study aims to explain the drivers behind these new sophisticated exports.

Overcoming demand uncertainties

Firms report that the small size of the local market is a hindrance to their interests and renders export a necessity for expanding their production and developing their businesses. This, however, necessitates discovering foreign markets, researching the characteristics of their demands, and tailoring products

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to fit the new demand, which implies the need for research and development (R&D) and market research activities.

Results from the study show a very low rate of local

R&D activity, with reported levels of R&D spending ranging from only 1% to 6% of total investment spending. In-depth interviews revealed that most of what research firms do is in fact related to business development and market studies rather than product development. Therefore, the means of reaching export markets has been through market studies and research, namely, attempting to overcome demand uncertainties in export markets.

Adapting to export markets

Looking at the various trade agreements between Lebanon and a number of countries together with the value of exports to those countries, one concludes that exports are mainly demand driven. Firms support this conjecture by asserting that they usually begin exporting after discovering demand for their products in foreign markets.

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This was supported by the observation of a number of 'spikes', i.e., surges in the value of exports, in different destination countries in a given year. It appears that

spikes occur two or three years after trade agreements are ratified with the destination countries. For instance, following the start of a free trade agreement in 2001 with Iraq, a total of eleven spikes in seven long jump products were

recorded between 2003 and 2008. A free trade agreement with Saudi Arabia, which was ratified in 2003, led to the highest number of spikes, when from 2004 to 2008 a total of fifteen were recorded.

Therefore, it appears that exports are responsive to increased demand opportunities in Arab states and especially benefit from the established regional comparative advantage of Lebanese exporters in terms of their cultural edge over non-Arab exporters to these markets.

Embracing the role of the entrepreneur

The results of qualitative research show that the presence of highly skilled entrepreneurs who are well educated and well connected seems to be a key driver of product and market discovery. Firms stressed the important role the owner of the firm/entrepreneur plays in developing the firm and expanding its production and export horizons. For instance, the entrepreneurs' visits to foreign markets and industrial exhibitions, their connections with foreign firms, and their direct involvement in the production process and quality of the product, all allow the firm to stay up-to-date with the newest technologies and adopt better practices.

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Comparing Lebanese industry past and present

Initial analysis of Lebanon's long jump products sheds light on the fact that the manufacturing sector is producing and exporting highly sophisticated products. Looking at the Lebanese manufacturing sector in 1975 compared to its present status, the sector appears to have regained the position it once had in the product space. On the eve of the onset of the civil war in 1975, Lebanon had forty-three of its manufacturing products located in the core part of the product space. This number declined to twenty-two by 2000. In 2008, the number of products in the core section increased again to forty (though the types of products were not the same as the period of the onset of the civil war).

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The industry in 2008 and that of pre-1975 have other points of similarity. In his analysis of the industrial sector prior to the civil war, Toufik Gaspard¹²

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Gaspard, T., 2003. *A Political Economy of Lebanon, 1948 - 2002: The Limits of Laissez-Faire*. Brill Academic Publishers, Inc.

observed that the low performance of industry in terms of productivity contrasted with two advantages that manufacturing had enjoyed: (1) A solid mechanization process and (2) Large Arab markets for exports. These factors

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were also present in the 2000 - 2008 period and have contributed to the diversification of production and exports.

Nonetheless, similar to the pre-war period, it does not seem that these favorable conditions led to an increase in total factor productivity (TFP). In Lebanon, TFP from 1964 - 1974 stood at about 1.5%.¹³ It decreased to -6.3% during the war (1980 - 1989), and then increased back to 2.9% in the period 2000 - 2006.¹⁴ Therefore, just as in the 1960s and early 1970s, low productivity in manufacturing, despite other favorable conditions, remains a main obstacle preventing Lebanon's industry from undergoing a full-fledged process of industrialization.

13
Ibid.

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Pipitone, V., 2009. The Role of Total Factor Productivity in the Mediterranean Countries. *International Journal of Euro-Mediterranean Studies*, 2 (1): 53-77.

Policy Recommendations

Sustainable industrial growth is difficult to achieve and maintain when the major source of growth lies in volatile external shocks. Hence, there is a need to improve labor productivity and reduce production costs, which are crucial for fostering stable industrial growth and innovation. To this end we recommend the following:

Prioritize industrialization as part of the country's developmental plan

The government must develop a strategic orientation toward industrialization in order for the country to be able to reap the benefits of the observed temporary booms in its industry. The apparent potential for development and encouraging

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internal conditions, which some Lebanese industrialists have used to diversify their production and export, can be further encouraged and institutionalized in order to

allow smaller firms to also acquire this industrial potential. Therefore, an industrial policy focused on creating an industrial base and supporting the generation of skills and productivity is a long overdue step that the Lebanese government should take.

Invest in quality vocational education and training

Lebanon must address the state of vocational or technical education. According to the International Labor Organization (ILO), vocational and technical education (VTE) suffers from old curricula, weak practical training due to a lack of equipment, and no accreditation standards. The repercussions of this

are twofold. From one side, VTE graduates, who constitute about 50% of labor supply, have trouble finding employment. From the other side, those who find employment are trained by their employers, a practice

which constitutes a large cost for these firms. Improving the quality of public and private VTE would not only reduce training costs for firms, but would also increase the skill level and productivity of the labor force as well as reduce unemployment among semi-skilled labor.

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Improve electricity and transportation infrastructure

A concerted effort to ensure the construction and maintenance of infrastructure would correct for certain coordination failures where markets are not complete,

which makes the return on one investment depend on some other investments being made. In other words, no industrialist will make new investments in

areas where there is no electricity or a proper transportation network. By contrast, the provision of such essential infrastructure would reduce costs and encourage investment in the sector.

The government and the private sector should work on securing national and international funds for supporting R&D activities

Foster creativity and innovation

Product and/or process innovation lies at the core of economic development. Therefore, encouraging industrial development must be done in line with promoting innovation in the sector. Encouraging and facilitating cooperation between the private sector and universities or research centers is one way to encourage innovation. The government and the private sector should work on securing national and international funds for supporting R&D activities.

Provide assistance and incentives for developing industrial exports

Passing adequate legislation, enforcing production standards and certifications, and adopting more sustainable trade agreements are among the steps that the government should take toward helping exporters increase their export

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capacity and encouraging non-exporters to join the export market. In addition, improving customs procedures through increasing transparency and addressing

corruption would lead to lower costs and increased competitiveness for Lebanese exports.

Promote inclusive policy-making and dialogue

Overlaying all of Lebanon's socio-economic, political, and security challenges, is the lack of an inclusive policy-making process through public-private dialogue, which is one of the key impediments to democratic consolidation. The private sector, especially small and medium enterprises (SMEs) are the backbone of the Lebanese industrial sector, yet their owners constitute a group of citizens who are absent from the process of defining policies, laws, and regulations that would be more conducive to economic and social development. The absence of this important constituency in policy-making and governance makes for a less inclusive democratic processes and an environment that is less conducive to development. Therefore, government officials, together with the private sector need to work together through dialogue and consultation in order to create the legal and regulatory framework necessary to facilitate a larger and more diversified manufacturing sector that exports sophisticated products.

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About the Policy Brief

A Policy Brief is a short piece regularly published by LCPS that analyzes key political, economic, and social issues and provides policy recommendations to a wide audience of decision makers and the public at large.

About LCPS

Founded in 1989, the Lebanese Center for Policy Studies is a Beirut-based independent, non-partisan think-tank whose mission is to produce and advocate policies that improve good governance in fields such as oil and gas, economic development, public finance, and decentralization.

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