Insights for Change

Pakistan's Experience with Exporting Complex Products

Farrukh Iqbal[1]

March 2026
P1-03-26

Introduction

Consider the various routes that can be taken by low income countries seeking export-led development. The first and most obvious one is that of exploiting an existing source of comparative advantage. For Pakistan, this has consisted largely of primary commodities, such as cotton, food crops and livestock. These commodities, and manufactures based on a first stage transformation of these commodities into basic textiles, processed food, and leather, formed the bulk of Pakistan's exports in the 1950s and, to a significant extent, they still do seventy years later. The chief drawback of this route is that it consigns Pakistan to a low-productivity export base with limited potential for employment or income gains. It is okay as a first step, but it cannot be the basis of sustained development.

Another route involves finding new sources of comparative advantage, often based on hydrocarbons (such as oil and gas) or minerals (such as copper and iron). This has not happened to any notable extent in Pakistan. From this category, only copper has emerged as a new export in the last forty years, predominantly in the form of minimally processed copper ore. Meanwhile, this route also has drawbacks including adverse environmental impacts from mining and limited productivity gain potential if there is limited domestic refining capacity.

A third route involves labor-intensive manufactured exports. Prominent examples of success with this route (during 1960-90) include such East Asian countries as Korea, Taiwan, Singapore and Hong Kong as well as the Southeast Asian group including Malaysia, Thailand and Indonesia. More recent examples (since 1990) include China, India, Bangladesh and Vietnam. The last two countries have become big exporters of textiles and garments even though they do not grow cotton, the key raw material for such goods. Pakistan, which grows cotton, remains a significant exporter of basic textiles but has failed to diversify substantially into garments or higher value-added textiles.

A fourth path involves the export of more complex products. At varying speeds and to different extents, countries such as Korea, Taiwan, China, Singapore and India have moved away from manufactured exports

[1]This article is based on work done for a report on non-traditional exports conducted by Farrukh Iqbal and Nadia Mukhtar with the support of the REMIT programme of the FCDO.

requiring limited skills into more complex products. Such products are empirically correlated with higher productivity (value-addition) and faster movement up the global income ladder.

In this article, we review Pakistan's experience in the fourth route, that is, in the export of more complex goods that typically require higher level skills and offer greater opportunities for learning and productivity gains[2]. Our information comes from two sources. First, we use an international dataset to identify complex products which are within realistic reach of Pakistan's production capabilities. Second, we use findings based on field interviews with selected Pakistani firms active in exports from these sectors.

International datasets are available to identify relevant sectors and their export potential for different countries. From one such dataset, the Atlas of Economic Complexity (AEC, managed by the Harvard Kennedy School), we identified five sectors for Pakistan associated with more complex products: Iron and Steel; Motorcycles; Plastics; Rubber Tires and Cement (see table below).[3] During interviews with sector participants, we found it appropriate to add Tractors and Machinery sector products to this list as well.

Pakistan's Export Experience in Relatively Complex Sectors

We find that Pakistan has been able to build a modest export base across these sectors (about $2 billion of total goods exports of $38 billion in FY24) largely because of nimble entrepreneurship that has enabled entry into market niches characterized by sales of products of moderate quality in low volumes. In the Iron and Steel and Plastics sectors, for example, some companies have opened offices in the US and Canada to build marketing relationships and procure orders as domestic companies. Others have identified custom products where their combination of quality and price is attractive to some customers. Pakistan is unable to compete in standardized products, which are dominated by India and China who benefit from scale economies available in their huge domestic markets. The focus on niches is seen in the Machinery sector as well where some firms have succeeded by focusing on narrow product lines such as wheel hubs for trucks or sugar cane crushing machines. Some have found export success by identifying suitable areas through market research and intelligence operations, including by participating in trade fairs and exhibitions. Such operations can sometimes identify tariff and nontariff anomalies affecting competitors but beneficial for Pakistan. In each of these cases, it has been the agility of the entrepreneur that has accounted for whatever moderate success that has been achieved.

As shown in the table below, such entrepreneurship has had to struggle against two common constraints: having to import key raw materials and paying high costs for energy. The role of skilled labor and foreign investment has not been uniformly important across these sectors but may become so in the future.

[2]Such skills also feed the export of services, as in IT. Pakistan has enjoyed moderate success in this area, with IT service exports approaching $5 billion in 2024. In this article, however, we focus only on the export of goods.
[3]The AEC identified exportable products at the 4-digit level which we then used to identify relevant exporting firms in Pakistan. However, for purposes of classifying experiences and policy implications, it is more useful to frame our assessment in terms of the broader sector categories.

Sources of Competitive Advantage and Disadvantage in Selected Sectors

Sector	Sources of competitive advantage	Sources of competitive disadvantage
Iron and Steel	Nimble entrepreneurship and marketing	Cost of imported steel and coils; Cost of energy
Machinery	Nimble entrepreneurship and marketing; Local engineering skills	Cost of imported steel and components; Cost of energy
Motorcycles and Tractors	Localization of components; Technical and marketing partnerships with foreign companies	Cost of energy
Plastics	Nimble entrepreneurship and marketing	Cost of imported plastic pellets and granules; Cost of energy
Rubber Tires	Nimble entrepreneurship and marketing	Cost of imported rubber and carbon black; Cost of energy
Cement	Local supply of raw materials and production efficiency	Transportation costs; Cost of energy

Role of Imported Raw Materials

Representatives from only two sectors indicated that raw material imports were not a significant concern. These were motorcycles/tractors, which have substantially localized the supply of components over time, and cement, which has a comfortable local supply of limestone, silica and gypsum. The other four suffer a competitive disadvantage in not having a local source of primary raw materials, especially in comparison with competitors such as China and India. Without domestic steel making capability, all downstream industries must contend with the need to import steel billets, sheets and coils. In the machinery sector, imported compressors and heat pumps were reported to account for up to 85% of the cost of producing refrigerators and freezers. This leaves a small margin for adding local value. In the plastics sector, the lack of naphtha cracking facilities in the country compels producers to use imported raw materials which can account for up to 60% of total costs. The export prospects of rubber tires are affected by the fact that 80% of raw materials (mostly natural and artificial rubber and carbon black) are imported. Imported raw materials become a constraint mostly when the Pakistani rupee depreciates which has happened steadily over many years and more dramatically since 2020. Each episode of devaluation increases the rupee cost of imports.

Role of Energy Costs

Comparatively high energy costs (i.e., higher than those prevailing among competitors) have been a source of concern for each of the sectors considered. In recent years, such costs have risen for two main reasons. First, there has been significant depreciation of the Pakistani rupee which has raised the rupee cost of fuel. Second, fiscal stress at the macro level has led to higher taxes on energy, which has also raised the domestic cost of fuel. Thus, the unit cost of electricity

($/kwH) faced by Pakistani manufacturers in FY24 was $0.15 compared with $0.10 in India and $0.09 in China, two big competitors in each sector.

There are two ways to reduce energy costs directly. First, the government can reduce the taxes it applies to energy. Second, it can reduce the capacity charge component of the cost by renegotiating contracts with IPPs. These contracts include take or pay clauses that require the government to pay for built energy capacity even if no energy is purchased. In the longer run, the composition of energy supply must shift away from imported fossil fuels to domestic sources. Of these, hydro, nuclear and renewable energy are the most promising since they involve less greenhouse gas emissions. Given the difficulties of developing hydro and nuclear sources, it is renewable energy where public policy and investment effort should be focused. The private sector (both residential and industrial) has already begun moving away from expensive fossil fuel-based energy towards solar panels.

Role of Engineering and Technical Skills

Moving into more complex goods requires a more technically skilled workforce. In each sector considered, we were told that local engineering universities and technical training institutes were not producing skills at a scale and of a quality matching industry need. However, labor remains a small part (5-10%) of the overall cost structure in these sectors and so the matter has not yet risen to become a major competitive disadvantage. However, over the next fifteen to twenty years, more and better engineering and technical skills will become critical for export diversification. Accordingly, it is important for Government to give high priority to enhancing the and quality of engineering and technology graduates over the next few decades.

Role of Foreign Investment

The role played by foreign investment in export expansion has varied from country to country. Korea and Taiwan relied mostly on licensing foreign technology rather than allowing direct foreign investment. But domestic companies were only given bank credit and access to foreign exchange if they proved their worth through export success. Other countries, such as Malaysia and Singapore, allowed foreign investment to engage directly in exports and provided an economic, governance and legal environment which attracted many foreign companies.

In more recent times, Vietnam has used foreign investment to achieve remarkable export success. It missed the early phase of export expansion from Asia during 1960-75 as it followed socialist economic policies and was engaged in a long and ruinous war. After winning the war in 1975, it took another two decades to come around to a China-style opening to market-oriented economic policies and develop infrastructure, education, and economic policies that attracted export-oriented foreign investment in the 2000s. Among key infrastructure interventions were investments in ports, roads and industrial zones. Substantially free primary and secondary education provided the country with a relatively inexpensive and moderately skilled workforce. Key trade policy decisions included entering the WTO (in 2007) and signing free trade agreements with many countries, including Japan, South Korea and the EU, which helped provide a more predictable tariff and foreign investment environment. By now, several companies from South Korea, Japan, Singapore, Taiwan, China and even the United States have invested to

export in a range of sectors including electronics, textiles, automotives, logistics, energy, construction and heavy industry. Vietnam has also benefited from rising tensions between the US and China, prompting more Chinese companies to transfer production and assembly operations there. In 2024, Vietnam exported $400 billion of goods, almost twelve times more than Pakistan. Observers credit Vietnam's export success to political stability, low-cost labor, improving infrastructure and a business environment for foreign investment that offers physical and legal security along with macroeconomic stability.

In Pakistan, foreign investment has played an import substituting role but not an export expanding role. This has been the case, for example, for transport vehicles (such as motorcycles and automobiles), white goods (such as refrigerators and washing machines), and a great variety of consumer goods. In most cases, the joint ventures (JVs) that were established did not allow the local partner to export at will since the foreign partner did not wish to have such competition in its own export markets. Over time, some JVs did allow limited exports to specific markets, such as motorcycles and tractors (and their parts) in Afghanistan and some countries in Africa. This also been the case for rubber tires where the JV partner has encouraged exports to some Latin American markets. In other cases, such as in the machinery sector, some domestic companies were able to purchase or lease technology licenses from foreign companies which allowed them to export directly. So foreign investment can be both a facilitator and a constraint to exports, depending on the specific terms included in JV and technology licensing contracts.

What can Pakistan learn from successful examples like Vietnam to enhance exports in the future? Like Vietnam, Pakistan has a low-cost labor force but, unlike Vietnam, few investors have come forth to make use of it. Indeed, even domestic investors do not make use of it. The domestic private investment rate has fluctuated around 10% of GDP for the last three decades. This may be due to issues such as physical security, governance, energy costs, credit availability, macroeconomic instability, logistics and other factors defining the local business climate.

Conclusions

Pakistan has not had much success in the export of complex products featuring high value addition. Such products have required imported raw materials and relatively high energy use. Both inputs have been especially costly for local users because of the high rate of depreciation of the Pakistani rupee over the past four decades. This has decreased the competitiveness of these sectors in international markets. In addition, Pakistan has not yet been able to develop an adequate supply of skilled labor in the form of technicians and engineers. For the country to move to an export route characterized by complex products and higher value addition, it will be important to resolve the skilled labor constraint as well as bring down raw material and energy costs in comparison with key competitors.

CDPR's new series "Insights for Change" contains think pieces that take an analytical approach to devising action oriented policy solutions. They are authored by economists and practitioners who are experts in their field. All views expressed are the author's own.

About the Author

Dr. Farrukh Iqbal has had more than thirty-two years of analytic and management experience in the World Bank across a diverse range of countries and sectors. He holds a PhD from Yale University.

cdpr Consortium for Development Policy Research

IGC

This Activity is Supported by the International Growth Centre