

Tajikistan: Possibilities for Manufactured Exports

EGAT, September 25, 2018



Contents

Tajikistan: Possibilities for Manufactured Exports	2
I. Introduction	2
II. Snapshot of exports and imports.....	3
III. Case for diversification in Manufacturing.....	6
IV. Data and Methodology	8
V. Identifying Potential Exports.....	11
A. Manufacturing Possibilities in Traditional Export Sectors	11
B. New Manufactured Export Possibilities in Tajikistan’s Emerging Export Sectors.....	13
C. New Manufacturing Possibilities in Import-Competing industries.....	16
D. Final recommendations	22
VI. Constraints to Growth in Tajikistan’s Manufacturing Sector.....	23
A. Access to Finance	25
B. Tax Administration	26
C. Access to Electricity.....	27
VII. A Policy Framework to Facilitate Export Diversification	28
VIII. Future directions.....	29
IX. References	30

Tajikistan: Possibilities for Manufactured Exports

DFID Tajikistan are developing a new programme with a focus on providing technical assistance in policy development and business incubation and start-ups to stimulate the private sector and job creation. Specifically, DFID Tajikistan would like to understand (1) which manufacturing sub-sectors in Tajikistan a) have a realistic prospect of growth given its economic and political context; and b) would contribute to inclusive development and economic transformation. (2) What are the key barriers to this development? Initial analysis by the country office suggests transport and electricity connectivity are important issues, along with standards. (3) What are the opportunities for addressing these barriers? This Note attempts to answer each of these three questions.

I. Introduction

In 2016, Tajikistan launched the *National Development Strategy of the Republic of Tajikistan (NDS 2030)* for the Period Up To 2030 (NDS 2030) laying out a master plan of the country's future economic development. The NDS 2030 envisions a Tajikistan in 2030 that is a "steadily growing, competitive country that provides decent living standards for population" through (i) achieving energy security; (ii) improving transport and communication connectivity¹; (iii) improving food security and population's access to good quality nutrition; and (iv) expanding productive employment. The NDS 2030 is designed to be a directive of implementation by the Government. While it has been effective in launching concrete programs to foster energy security and transport and communication connectivity, it falls short on identifying and prioritizing sources of productive employment for the Tajiks. Other reports from Tajikistan's development partners² also do not discuss diversification possibilities at the subsector level.

For commodity exporters like Tajikistan, the risks of dependence on externally-powered growth drivers are high. While Tajikistan's economy has registered impressive growth rates in the range of 6 – 7 percent per annum³ and reduced poverty in recent years, the main sources of growth are few, outside Tajik control and vulnerable to external shocks and instability. Tajikistan's remittance flows are boosted by growth in Russia, and its metals and minerals exports have performed well due to favourable terms of trade in recent years. While remittances fuel high growth in the domestic construction industry, and natural resource-based export subsectors are good for overall economic growth, neither foster linkages with the remaining economic sectors such as agriculture and manufacturing which are necessary for productive employment and skills development. The metal and mineral subsectors are capital-intensive and create few jobs. Tajikistan does not have a large and thriving agricultural sector, and the paucity of skills has constrained the emergence of a modern services sector which generally creates good jobs. Weak attention to manufacturing as a source of stable growth and productive employment will be costly

¹ The construction of the 3,600MW Rogun Hydropower Project (HPP) is the de facto centrepiece of this development masterplan. Democratic governance in the country, the rule of law, protection of rights and expansion of human capacity are also important priority issues (DFID Tajikistan Report, 2018).

² The World Bank and Asian Development Bank (2016) reports also do not address the issue of diversification possibilities. For example, the Asian Development Bank report uses an inclusive growth diagnostics framework to address some of these key bottlenecks to private investment and productive employment which will help to broaden its industrial base and boost agriculture and services sectors.

³ World Bank - Tajikistan Macro-Poverty Outlook 2018.

for Tajikistan at a time when policymakers in many comparable countries are busy strategizing how to propel the competitiveness of those manufacturing subsectors in which they have a comparative advantage.

There is another special reason why policymakers must explore the employment potential of specific manufacturing subsectors. In addition to its landlocked location, the Tajik economy is riddled with innumerable constraints to private investment, and most are economy-wide. While one could contend that manufacturing cannot take off until these constraints are resolved, one could also argue that since all manufacturing subsectors do not face the same constraints, it may be possible to make more progress in some than others. These issues are discussed in greater detail towards the end of this Note. While none will be easy, this Note demonstrates that some nascent manufacturing subsectors can be scaled up more easily than other subsectors. This is what many developing economies in Asia and even Sub-Saharan Africa have done with relative success.

The remainder of this Note presents a robust methodology for identifying manufacturing subsectors whose prices are relatively stable, have a sufficiently large foreign and domestic demand, are relatively less skill- and labour-intensive, and can be operated by small and medium enterprises (SMEs), and large firms, i.e. support inclusive-growth. The first section of this Note presents a snapshot of Tajikistan's exports and import basket today. The case for manufacturing in Tajikistan is made in the second section. The third section discusses the data and methodology used to identify Tajikistan's manufactured exports potential using a variety of methods. Prevailing global trends in a set of comparison countries for Tajikistan are also analyzed. Section four applies the methodology delineated in section three and identifies Tajikistan's manufacturing potential in select subsectors. The constraints to manufacturing as identified by firms operating in Tajikistan are analysed on Section five. The sixth section explains why jumpstarting or scaling up manufacturing will require attention to specific sectoral policies in Tajikistan. The last section concludes.

II. Snapshot of exports and imports

Tajikistan's export basket is heavily weighted by natural resources and agricultural products with the share of metals and minerals varying from greater than 65 percent in 2016 (Figure 1) to smaller shares in years when their prices were lower. Export concentration and overt reliance on natural resources make Tajik exports vulnerable to volatile commodity prices. As an example, unwrought or unprocessed Aluminium, Tajikistan's largest metal export product, had a share of only about 29 percent in 2016 when prices were lower relative to 65 percent in 2013 when prices were high (Figure 2). Similarly, the export share of gold, another key metal export, has fluctuated between 17 percent in 2015 and 9 percent in 2016. Due to the ongoing exploration of new gold mines and the government's plans to increase the production of gold from just under 6 tonnes currently to more than 17 tonnes by 2022, the level of export concentration in Tajikistan's export basket will increase.

Figure 1. Tajikistan: A snapshot of exports and imports in 2016

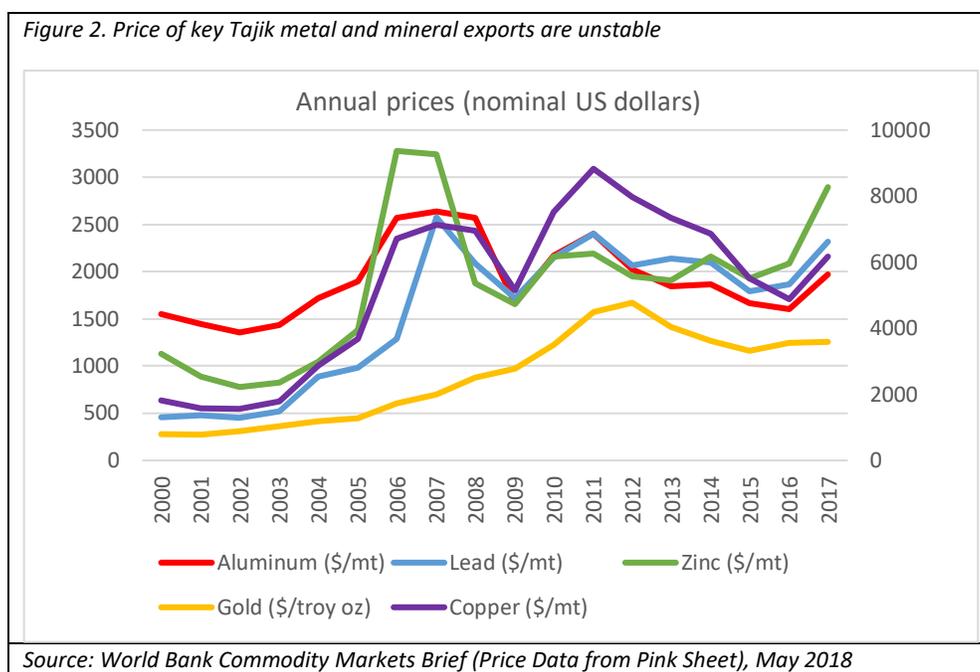


Due to fluctuating agricultural commodity prices, raw cotton exports also destabilize Tajikistan’s export basket. In recent years, the share of raw cotton exports has varied between 12 percent of total exports

in 2013 to only 8 percent in 2016. Other agricultural exports such as dried fruits, vegetables, onions and garlic, and rice also comprised a large export category. However, their shares were not volatile since most of these subsectors are high-value and enjoy more stable global prices and growing global demand than commodity crops like cotton.

Tajikistan’s light manufactured exports include a sizeable share of processed agricultural products such as fish fillet, or hides, skins and leather from animals, as well as manufactures goods like garments and textiles. Each accounted for less than 5 percent of total merchandise exports in 2016.

Turkey is the most important destination for Tajik products. A variety of products are also exported to Asia, Europe and the Commonwealth of Independent States (CIS) markets. Tajikistan joined the WTO in 2013 and has adopted policies such as the CIS free trade agreement that enable it to integrate more deeply with the regional market. Most recently, improved relations and cooperation with Uzbekistan have boosted prospects for more regional trade with its neighbours.



In 2016, Tajikistan’s merchandise imports were almost four times as high as its goods exports (Figure 1) and displayed a large variety. They included energy and fuels, capital goods such as iron structures, electrical machinery, as well as a large range of final consumer goods comprised of food products both processed (pasta) and unprocessed (wheat), simple manufactures such as brooms, clothing and footwear, as well as more technologically sophisticated products like cars. Energy resources and sophisticated manufacturing products are imported largely from China, Russia and Kazakhstan.

III. Case for diversification in Manufacturing

The economic outlook for the Tajik economy is fairly positive in the short to medium term and is explained largely by the improved external environment, including prices projected for major export commodities, and deepening relationship with neighbours, particularly Uzbekistan. Despite its weak banking sector, growth is expected to be around 6 percent supported by growing remittances, construction of large infrastructure projects and electricity sales. Inflation is forecasted to remain in single digits.

At face value, Tajikistan's high growth rates suggest that there is no compelling need to focus on manufacturing. Compared to 2007, the volume of industrial production increased by 20.3%, and the number of industrial enterprises increased by 29.1%. Labour productivity grew by 26.7% mainly due to the emergence of new enterprises equipped with advanced equipment and technology. It seems that in the past seven years, more than 1,600 workshops and new industrial enterprises have emerged. There is a major downside to this seemingly optimistic picture of Tajikistan's economy – nearly all the export activity is focused on the processing of ores and other industrial raw materials, raw cotton, industrial building materials and agricultural raw materials. Since natural resource prices move in cycles, none of this activity is a guarantee for stable and sustained growth that will generate inclusive job creation and economic growth.

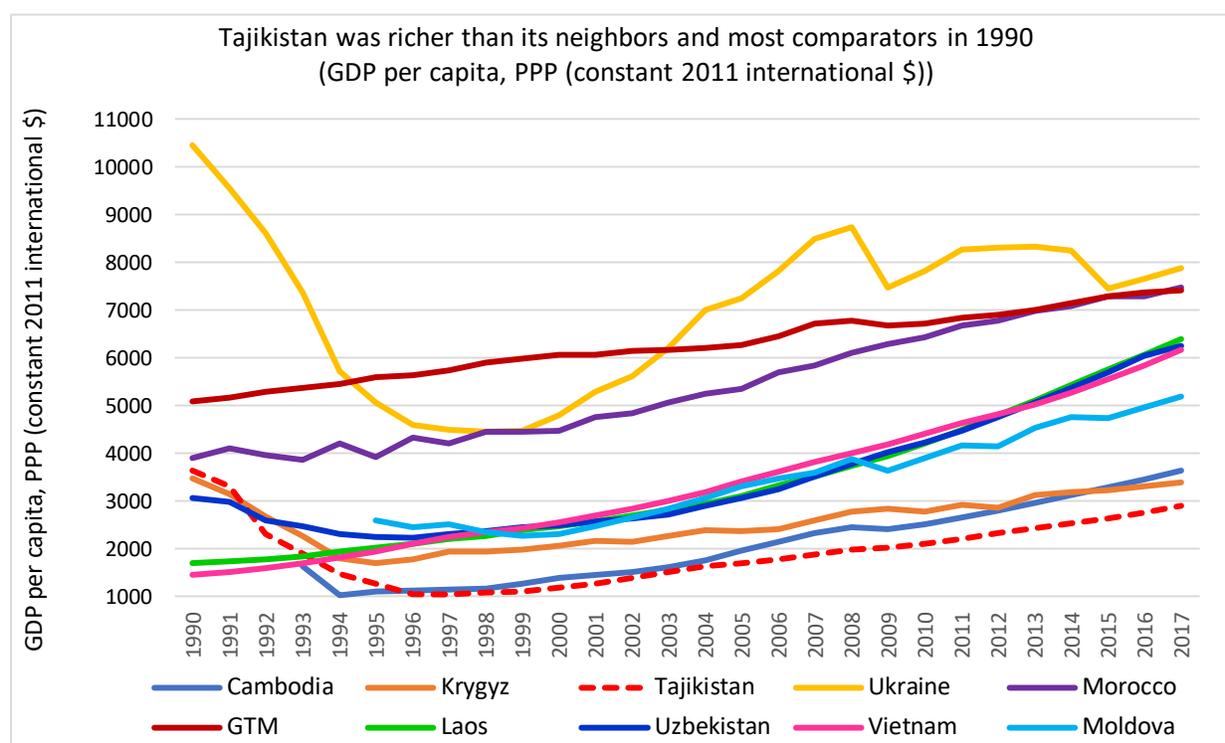
More importantly, until now, the development of its industries has been capital (and skill) intensive and has left a large part of the active labour force unemployed. According to the World Bank's Systematic Country Diagnostics (2018), Tajikistan faces a complex employment problem. Evidently, relative to the number of employed, more working-age adults are currently unemployed or out of the labour force, especially among the poor. A key reason for the decreasing labour force participation is high exit rates among women since independence and rapid growth in workers remittances in recent years. These have jointly driven up the domestic reservation wage for workers. Evidently, the employment-elasticity of growth dropped from 0.33 in 2000-09 to just 0.13 in 2010-14. Policymakers are also concerned about the high unemployment rate among the educated, especially youth. While access to basic education is high, the quality of education is weak.⁴ In 2013, only 35 percent of the population aged 25-65 who had not completed secondary education were employed, while more than 79 percent of those who had completed higher education were employed.

The case for direct attention to manufacturing in Tajikistan as a source of sustainable growth and employment is also supported by the experience of how a variety of low-income countries have successfully played catch-up with richer countries in recent decades. In 1990, Tajikistan was richer than all four neighbouring countries – China, Kyrgyzstan, Uzbekistan and Afghanistan – and indeed many of today's emerging market countries like Vietnam and India (Figure 3). There was one common factor that

⁴ Access to secondary-level education in the Soviet Union was widespread, and much of the education system in Tajikistan continued to follow the Soviet model after independence. In contrast, access to university education was limited both in the Soviet era and post-independence. Tajikistan does not conduct standardized large-scale national assessments and does not participate in any international assessments like the Program for International Student Assessment ("PISA"), Progress in International Reading Literacy Study ("PIRLS"), or Trends in International Mathematics and Science Study ("TIMSS") (World Bank Group, 2018).

makes the set of countries illustrated in Figure 3 good comparators for Tajikistan – all have leveraged their pool of unskilled labour resources to fostering light manufacturing sectors and catch-up with richer countries. These comparators differed in many fundamental ways. For example, India and Vietnam did not have similar metals and minerals endowments as Tajikistan. While India, Vietnam and Ukraine had a large country-size and therefore large pools of labour, other comparators were significantly smaller. Kyrgyzstan, Moldova, Cambodia and Laos have a population comparable to Tajikistan’s population. As illustrated in Table 3 of this Note, many low-income countries leveraged labour-intensive manufactured exports to grow their income levels, and several like China, India, and Vietnam have achieved an emerging market middle-income status. Can Tajikistan do the same?

Figure 3. Tajikistan – manufactured exports could be a pathway to catch-up with its richer neighbours and some other comparators



Source: World Development Indicators, World Bank Group 2016.

To create large-scale and stable employment, Tajikistan has few alternatives to light manufacturing. It has limited job potential in agriculture though productivity increases should be a priority. The Soviet system designated Tajikistan to specialize in cotton cultivation because of its optimal climate conditions (World Bank, 2018). Consequently, although Tajikistan emerged as the third largest cotton producer in the Soviet Union, after Uzbekistan and Turkmenistan, its neglect of agriculture and manufacturing have been costly for economic development. The underdevelopment of food agriculture, especially cereals and high-value crops, and animal husbandry penalized the emergence of manufacturing subsectors such as food-processing, meat, dairy, fishery, and leather which are labour-intensive. Similarly, overt

attention to and dependence on raw cotton exports since the Soviet era and later has pre-empted the evolution of manufactured cotton textiles and apparel.

Tajikistan's natural-resource sectors have a large growth potential in years when commodity prices are high, but in general, mining has limited employment potential. In the absence of a skilled labour force, Tajikistan's modern services sector also has limited employment potential. Clearly, as there do not seem to be other viable options, Tajik policymakers should give serious consideration to manufacturing as a source of growth and employment. Light manufacturing has a proven track record to create large numbers of low-skilled, better-paying jobs in even the poorest countries. Asian countries leveraged it to accelerate exports, create good jobs and catch-up with more developed countries. Several countries in Sub-Saharan Africa seem to be treading a similar path. Current examples of success include Ethiopia's leather footwear export industry that evolved in 2012, pockets of light manufacturing in the Great Lakes countries, and Lesotho's garment industry. Lesotho's garment industry transformed a small country of less than 2.5 million into one of Africa's largest garment exporters to the U.S. at a time when rising wages were eroding Mauritius's competitive edge and status as Africa's largest garment exporter.

Tajikistan's landlocked location also presents a case for light manufacturing. Although its location facilitates trade with its four neighbours – China, Kyrgyz Republic, Uzbekistan and Afghanistan, it also raises the costs of trading with countries located beyond its national boundaries. If the price of imported inputs from countries other than its four contiguous neighbours increases, it erodes the competitiveness of subsectors using these inputs. This could be detrimental for export-oriented sectors because of higher transport costs, but it can be advantageous for import-competing sectors especially if they are relatively less skill-intensive. Examples include simple metal products made from imported steel, or furniture made from imported wood, or garments made from imported fabric. Figure 1 illustrates that Tajikistan imports simple lightly manufactured consumer products, raw materials and other inputs. More value-addition to the raw materials or imported intermediate inputs to produce light manufactures such as garments, shoes, furniture or simple metal products for the domestic market would generate better-paying jobs and spur growth. Above all, it would facilitate import substitution which would also reduce the current account deficit and improve the macro-fundamentals of the Tajik economy.

As Tajikistan is a low-income food-deficit country (FAO, 2018), it imports food. While it does not generate large numbers of better-paying agricultural jobs directly on farms, the food imports sector offers an untapped opportunity for creating more manufacturing jobs in agro-processing. An example is the local processing of imported wheat to make pasta or flour for bakeries instead of importing pasta and flour. Another is increased production of meat and meat products.

IV. Data and Methodology

We focus exclusively on diversification opportunities in manufacturing subsectors by drawing on trade data (UN COMTRADE SITC2 4-digit). Ideally, this analysis should be conducted with production data but due to its unavailability, we study only the set of tradable subsectors, i.e. exports and imports.

Tajikistan's self-reported trade data is problematic. For this Note, we use mirror-data which is reported by all its trading partners in the world in the form of "exports to" Tajikistan which indicates its imports,

and “imports from” Tajikistan which registers its exports. Given that the singular focus of this Note is manufactured products/subsectors (used interchangeably), ideally, we should limit our focus to the formal definition (World Development Indicators) which refers to SITC codes 5 – 8 excluding 68. However, given that Tajikistan has a narrow export base and the objective is to identify manufacturing possibilities, we extend the scope partially to include available raw materials (alloys, metals and minerals, or agricultural commodities) that can be processed to add value in the domestic market. In the broader search for potential exports, we also consider nascent manufacturing subsectors.

Revealed Comparative Advantage

We adopt a stepwise approach which applies a methodology based on the comparative advantage of a country in exporting a product.

How might policy makers determine whether the products of their country reflect a comparative advantage? If a country’s products are being successfully exported to global markets or are beating out imports in domestic markets with no government help, the country is sure to have a comparative advantage in these products. Similarly, if, without heavy government subsidies, an industry producing exports is attracting a growing amount of foreign direct investment (FDI), the country has a comparative advantage in those goods as well. Foreign investors have a keen sense of what countries produce that is competitive on international markets. For existing products, the concept of revealed comparative advantage (RCA) can be used to pinpoint industries in which increased production could accelerate overall industrialization. This is a traditional method based on a country’s trade data. The RCA based on trade data can be determined either quantitatively using the Balassa index, after Balassa (1965),⁵ or qualitatively through the inspection of detailed import data.

Two-step Methodology

As the concept of comparative advantage is subject to measurement error, we only focus on products in which the country had a persistent comparative advantage over at least 4 – 5 years. Step One of our methodology focuses on categorizing a country’s exports according to its comparative advantage. We take a fifteen-year perspective as a country acquires comparative advantage over a long period of time. We begin by disaggregating the fifteen-year span into two sub-periods: 2000-04 and 2010 onwards. If a country had an $RCA > 1$ in exporting a product in 2000-04 and 2010-15, we conclude that it had a persistent comparative advantage. Products that meet this requirement are typically traditional products with large shares – we label them as *Classics*. We then focus on exports in which a country did not have a persistent comparative advantage during 2000 and 2015. We assign a label of *Emerging* to nascent subsectors in which a country developed a comparative advantage in recent years, i.e., during 2010-2015 but in which it did not have a comparative advantage in 2000-04. These subsectors usually reflect responses to a changed investment climate, new opportunities or demand patterns in the global

⁵ Comparative advantage is calculated from Revealed Comparative Advantage (RCA) defined as the share of an exported product in total exports relative to the share of the same product in total world exports. An RCA greater than 1 indicates that the exporter has a comparative advantage in exporting a product; and an RCA of 1 implies that the exporter has no particular advantage relative to the world in exporting the products, whereas an RCA of less than 1 indicates that the exporter is not competitive relative to the world in exporting that product.

market, or new firm activity in the domestic market and hold promise. We frequently find exports from declining or *Disappearing* subsectors which have been affected by adverse domestic policy or global circumstances. These are exports in which a country had a persistent comparative advantage in the past, such as during 2000-04, but not in recent years, i.e., during 2010-2015. Unless a clear explanation already exists, policy makers should try to understand the reasons underlying the Disappearing subsectors – why did they flourish in the past and what prompted their disappearance in recent years? Are there policy mistakes they can avoid? And lastly, we delineate *Marginals* which are products from subsectors in which a country did not have a comparative advantage either in the past (2000-04) or in recent years (2010-2014 and 2015) but which are being exported in small values. Typically, the list of Marginal exports is long and the explanation for their presence unclear. They merit an investigation to understand why some firms can export them and others not.

Step One of our methodology identifies Tajikistan's manufacturing Classics and Emerging export subsectors and delineates a strategy for their diversification and growth. The Emerging subsectors are promising candidates for policies/ programmes that foster export diversification. A related objective for diversification is to identify new subsectors within broad sectors in which Tajikistan already has a comparative advantage.

Step Two analyses Tajikistan's import-substitution possibilities. Since it imports a wide range of products, the general approach is to look for subsectors where jobs can be created through value-addition to either domestically available or imported raw materials and inputs. The concept of Marginal exports proves useful in identifying subsectors for import-substitution in which there is already some nascent export activity. Note is also taken of the export patterns of Tajikistan's comparison countries by identifying their Classics and Emerging exports. Lessons from its neighbours which have a similar geography and endowments are noted. Most of Tajikistan's neighbours and comparators have forged new manufactured export subsectors in past decades - their experience could provide useful insights for Tajik policymakers.

Given its small share in the economy, it would be unrealistic to expect that Tajikistan can leapfrog into new manufacturing subsectors and start exporting immediately. Most countries have followed the more gradual learning-by-doing route to exporting. Hence, the subsectors we identify are intended to support both export sectors for the regional and global markets, as well as the domestic market where many products compete with imports. It is hoped that by producing for the domestic market, Tajik firms will learn to compete and eventually export globally.

Over time, the creation of better-paying jobs and the transition of a country from a low to a higher income status necessitates moving up the product ladder to higher-value products. We use two concepts to indicate the technological complexity and sophistication level of the subsectors we recommend. The first concept is UNIDO's technology code based on Lall (2000) which classifies exports according to their technology-content as follows: PP=Primary products; RB1 and RB2 = Resource-based products with RB1 being less technologically sophisticated than RB2; LT1 and LT2 = Low-Tech 1 and 2; MT1, MT2 and MT3 = Medium-Tech; HT1 and HT2 = High-Tech. Tajikistan's current exports are mostly PP or RB products and a few LT products. We assume that the transformation from a primary or resource-based exporter to a high-tech product exporter is a longer-term process dependent on the

evolution of skills and several other critical factors. Consequently, we do not recommend leapfrogging to MT or HT products.

The second concept, Product Complexity Index (PCI), refers to the technological sophistication of a product and was designed by Hausmann and Hidalgo et al.⁶ PCI ranks the diversity and sophistication of the productive know-how required to produce a product. PCI is calculated based on how many other countries can produce the product and the economic complexity of those countries explained as the variety and number of products a country produces. In effect, PCI captures the amount and sophistication of know-how required to produce a product. The range of the PCI index varies from year to year. As an example, in 2015, it ranged from -2.69 to 3.6. Lower scores represent technologically simpler products exported with relative ease by many countries, while higher scores illustrate more sophisticated products, more inputs, more skills and are therefore exported by fewer countries. For example, raw cotton has a PCI of -2.3 but shirts have a PCI of -1.8. Wheat has a PCI of -1.26 compared to pasta which has a PCI of -1.06. Tajikistan's current exports are relatively low PCI. Assuming the graduation from low to high PCI products involves some degree of learning-by-doing, our general approach is to avoid large leaps or jumps from low to very high PCI products. In general, we recommend a path of gradual diversification to higher PCI products with one exception. Since the overarching goal is to identify more manufacturing subsectors, we also recommend some relatively low PCI products if they have the potential to nurture new subsectors. 'Sheep and lambskin leather' are an example of relatively low PCI products we recommend given their potential to seed a leather footwear industry.

V. Identifying Potential Exports

A. Manufacturing Possibilities in Traditional Export Sectors

Since 2000, Tajikistan's traditional exports or Classics have buffeted around with global price cycles. For example, the share of the Classics plummeted from an average of about 73 percent in 2010-14 to 47 percent in 2015 in the aftermath of the global commodity crisis when the prices of most key metals followed the oil price collapse. However, a year later when prices recovered in 2016, the share of metals and minerals in Tajikistan's export basket had bounced back to over 65 percent (Figure 1). Overt reliance on metals exports had made them an unsustainable source of growth.

⁶ R Hausmann, CA Hidalgo, S Bustos, M Coscia, S Chung, J Jimenez, A Simoes, M Yildirim. *The Atlas of Economic Complexity*. Puritan Press. Cambridge MA. (2014)

Table 1. Tajikistan's Traditional exports – Classics in which it had a comparative advantage in 2000-15

SITC Product code	Description	UNIDO Tech code	PCI	Export Share %		Total Exports millions USD	
				2010-14	2015	2010-14	2015
6841	Aluminium and aluminium alloys,	PP	-1.04	49.7%	28.7%	\$513	\$266
2631	Raw cotton, excl. linters(not carded or combed)	PP	-1.84	12.6%	10.5%	\$130	\$97
579	Fruit, fresh or dried, nes	PP	-1.28	4.7%	2.4%	\$48	\$22
545	Other fresh or chilled vegetables	PP	-1.11	2.2%	2.2%	\$23	\$20
577	Nuts edible, fresh or dried	PP	-1.54	0.3%	0.3%	\$3	\$3
575	Grapes, fresh or dried	PP	-1.13	0.2%	0.3%	\$2	\$3
2221	Groundnuts, green	PP	-1.31	0.2%	0.1%	\$2	\$1
548	Vegetable products (roots/tubers, nes, fresh/dried)	PP	-1.81	0.1%	0.2%	\$1	\$2
2633	Cotton waste, not carded or	PP	-1.15	0.04%	0.1%	\$0	\$1
2614	Silk worm cocoons and silk waste	PP	0.04	0.03%	0.0%	\$0	\$0
8423	Men's & boys' outerwear, textile fabrics not knitted/crocheted; trousers, breeches	LT1	-1.01	1.6%	1.2%	\$16	\$11
6513	Cotton yarn	LT1	-1.28	1.1%	0.9%	\$12	\$9
6521	Cotton fabrics, woven, unbleached, not mercerized	LT1	-1.34	0.3%	0.1%	\$3	\$1
Total - Classics				73.1%	47.1%	\$755	\$436

Note: PP denotes Primary product; LT1 denotes Low-tech 1.

Source: COMTRADE, SITC2 – 4 digits; Authors calculations.

In the last 18 years, Tajikistan failed to diversify into exports of metal alloys which have a higher domestic value-addition because they are processed forms of metallic ores; it also did not diversify into the production of simple metal products manufactured from metal alloys. Such diversification would have dampened the volatility of exports related with fluctuations in unprocessed metal prices and laid the foundations of a metal products industry. Neither did Tajikistan begin exporting processed agricultural commodities with higher sophistication or PCIs. Cotton, a key export with a share between 10 - 12 percent during 2010-2015, was exported largely in its raw form.

According to the formal definition of ‘manufactures’,⁷ during 2010 and 2015, Tajikistan had a comparative advantage (RCA>1) in 13 subsectors of which only *three* exported formally classified ‘manufactured products’ - cotton yarn, cotton textiles and men’s and boys’ outerwear (Table 1). All three were low-tech (LT). Moreover, the combined share of these LT exports in 2015 was extremely small at only 2.2 percent compared to raw cotton, a PP product, which had a share that was five times

⁷ LT, MT or HT products.

larger. The PCI of all three LT manufactured exports was significantly higher than raw cotton. Scaling up the production of these three subsectors should be a priority although these alone would be insufficient to generate large-scale manufacturing jobs in the short to medium term.

Recommendation: Based on the analysis of its 13 traditional or Classic exports, our main recommendations for a manufacturing sector are:

- a) Foster scaling up of the three current manufacturing subsectors though these would not be enough to generate large numbers of manufacturing jobs even in the medium term.
- b) Foster agroprocessing in the six food subsectors (Table 1). Such activities are performed by SMEs in the manufacturing sectors of most developing countries. They will help to diversify traditional agricultural exports by transforming low PCI PP products into new manufactures and create better-paying jobs. Because of intersectoral linkages, they will also boost agricultural production and supporting services.
- c) Foster greater value addition by incentivising firms to process raw cotton which has a PCI of only -1.84 into higher PCI yarn, textiles and fabrics (PCI from -1.01 to -1.34). Greater availability of textiles in the domestic market has the potential to propel the manufacture of clothing which has a higher PCI than textiles (shown in Table 3). The outcome will be a rebalanced export basket of Classics with a lower share of RB or raw cotton and larger share of new LT subsectors. As noted in the next section, Tajikistan already has several nascent clothing subsectors which produce marginal exports (Table 3). Our recommendation is to nurture comparative advantage in higher-PCI cotton textiles and clothing sectors by increasing production for exports and the domestic market.

B. New Manufactured Export Possibilities in Tajikistan's Emerging Export Sectors

Tajikistan's Emerging exports also reveal the absence of dynamism. It did not have a persistent comparative advantage in them during the 2000s but has developed a comparative advantage in recent years ($RCA > 1$ in 2010-14 and 2015). In 2015, it had a weakly diversified export basket with only seven Emerging subsectors, each exporting at most two products (Table 2). The total share of the Emerging Export subsectors increased from 8 percent during 2010-14 to 13 percent in 2015. The main driver of growth was heavy metals subsectors like lead, other base and non-ferrous metals, and precious stones, not manufacturing which has distinctly higher PCIs.

Among the seven main export subsectors, there is *only one* formal "manufactured" exports sector - 'leather of other bovine cattle' - which has neither grown in value, nor spawned new products within the subsector. It had a share of only 0.7 percent in 2015 and a total export value of USD 7 million. The corresponding numbers in 2010-14 were similar.

Upon deviation from the official definition of manufactured exports, we identified three nascent export subsectors that involve some degree of processing, can serve as entry-points to larger manufacturing value chains, and can create large numbers of better-paying jobs (Table 2): (i) frozen fish fillet, (ii)

combed cotton and (iii) minimally processed cast/rolled glass in crude form (unworked rectangles). The share of only the fish fillet subsector grew from 1.2 percent of total exports to 2.7 percent between 2010-14 and 2015. The corresponding export values increased from \$13 to \$25 million firmly signalling growth. The other two emerging subsectors fared poorly and lost export shares and values. In 2015, the export value of each was less than \$1 million. In comparison, Tajikistan's neighbours and comparison countries have developed a large variety of Emerging export subsectors since 2010 with varying levels of technological sophistication (Table 3).

Recommendation: Based on the analysis of its Emerging exports, our main recommendations for developing a manufacturing sector are:

- a) Foster the leather subsector by diversifying into more types of leather production and integrate backwards to upstream dairy and meat subsectors, and forwards with the downstream leather footwear subsector. The downstream subsectors have higher PCIs. The upstream subsectors have a lower PCI but are essential to jumpstart the leather supply chain. Many comparison countries do this with success. Ethiopia's emerging leather footwear exports subsector is testimony. These activities are low-tech, unskilled labour-intensive and create large numbers of better paying jobs.
- b) Foster the transformation of the combed cotton subsector into yarn and clothing subsectors which have higher PCIs.
- c) Facilitate expansion of the rolled glass subsector. This will also provide inputs for the glass bottle industry (recommended as an import-competing subsector in Table 3).
- d) Foster the fish fillet subsector which is high value and has growing domestic and foreign demand. Even the poorest countries in Sub-Saharan Africa such as Uganda and Kenya export fish-fillet to the EU. This sector is a good source of better-paying jobs in rural areas.

Table 2. Tajikistan: Emerging exports in which it did not have a persistent comparative advantage in 2000-04, but has developed a comparative advantage since 2010-14 and 2015

Product	Description	UNIDO Tech code	PCI	Average Export Share		Total Exports millions USD		Exports in Comparison Country, 2015 millions USD									
				2010-14	2015	2010-14	2015	Ukraine	Morocco	Guatemala	Laos	Uzbekistan	Moldova	Cambodia	Kyrgyz		
344	Fish fillets, frozen	PP	-1.37	1.2%	2.7%	\$13	\$25										
2634	Cotton, carded or combed	PP	-1.19	0.02%	0.01%	\$0	\$0										
2874	Lead ores and concentrates	RB2	-1.49	4.0%	6.6%	\$41	\$61										
2879	Ores and concentrates of other non-ferrous base metals	RB2	-1.95	2.5%	3.4%	\$25	\$32	\$99	\$59								
6673	Precious and semi-precious stones, not mounted, set or strung	RB2	-0.41	0.2%	0.1%	\$2	\$1										
6645	Cast, rolled glass (flashed or wired), unworked, in rectangles	RB2	0.92	0.1%	0.00%	\$1	\$0										
6114	Leather of other bovine cattle and equine leather	LT1	-1.05	0.6%	0.7%	\$6	\$7	\$58					\$17				\$15
Tajikistan's Emerging exports				8.5%	13.6%	\$88	\$126	\$157	\$59				\$17				\$15

Note: Tajikistan's EMERGING exports - products in which it had a persistent comparative advantage (with $RCA > 1$) from 2010 to 2014, and non-persistent comparative advantage (with $RCA > 1$ or < 1) between 2000 to 2004.

UNIDO Tech codes: PP=Primary products; RB1 and RB2 = Resource-based products with RB1 being less technologically sophisticated than RB2; LT1 and LT2 = Low-Tech 1 and 2; MT1, MT2 and MT3 = Medium-Tech; Ht1 and HT2 = High-Tech.

PCI: Product Complexity Index. Lower scores represent technologically simple products exported with relative ease by many countries, and higher numbers represent more sophisticated products that are difficult to produce and are therefore exported by fewer countries.

Source: COMTRADE, SITC2 – 4 digits; Authors calculations.

C. New Manufacturing Possibilities in Import-Competing industries

In comparison to Tajikistan's export basket which has only four formal manufactured exports – (i) cotton yarn, (ii) cotton textiles, (iii) men's and boys' outerwear (Table 1), and (iv) leather of other bovine cattle, its import basket is almost four times as large, and comprises a large variety of Primary, Resource-based, Low-, Medium- and High-tech products that span almost all subsectors. Tajikistan's landlocked geographical location offers policymakers a unique opportunity to foster the development of a large range of import-competing possibilities in a local manufacturing sector. The challenge is *identifying* them. Given its limited manufacturing experience, we contend that it is less-risky to facilitate nascent manufacturing in subsectors where there is *already existing*, albeit small-scale, production than jumpstarting or seeding brand new subsectors. This choice can also be informed by the Emerging and Classic export experience of the comparison countries, especially Tajikistan's neighbours Uzbekistan and Kyrgyzstan which share several common geographical and endowment-related characteristics (last set of columns in Table 3).

There is a strong economic case for charting a course of import-substitution. Presently, Tajikistan has a large current account deficit and foreign debt. Its imports present an unsustainable macroeconomic risk. A comprehensive strategy for fostering a Tajik manufacturing sector would entail growing the potential manufacturing exports in the (a) Classics subsectors (Table 1), (b) Emerging subsectors (Table 2) and (c) potential manufacturing import-competing subsectors (Table 3).

Table 3 is presented across four pages and should be read as follows. The first four columns provide the product names, SITC code, Technology code and Product Complexity Index score. The next two columns present a list of Tajikistan's manufactured imports covering some PP, RB and LT1 and LT2 imports. We have deliberately excluded more technologically complex subsectors such as MT1, MT2, MT3, HT1 and HT2 that have significantly higher PCI scores as we believe that technological sophistication and competitiveness is acquired through learning-by-doing. It would be unrealistic to assume that Tajik firms can leapfrog from exporting unwrought aluminium to sophisticated metal machinery in the medium term. The products imported by the import-substituting subsectors totalled about USD 1.33 billion in 2014 and USD 860 million in 2015 when overall exports trade (USD 781 million) plummeted. The domestic production of these alone would bridge significantly Tajikistan's trade deficit in recent years.

Are the subsectors shown in Table 3 reasonable choices for import-substitution? We assert that they are as Tajikistan already exports small values from some of the subsectors shown in the next four columns. These columns present the shares and USD values of Tajikistan's nascent manufactured exports in 2000-14 and 2015. These are its Marginal exports in which it does not yet have a comparative advantage. These are low hanging fruit – since Tajikistan already has a presence in these subsectors, it makes sense to build on that experience. There are some obvious overlaps between its imports and Marginal export subsectors which signals adequate domestic and global demand. In the medium-term, scaling up production in these subsectors should lead to successful import-competition in the domestic market. This will naturally sharpen its firms' global competitiveness, enable them to acquire a comparative advantage and pave the way for exports. In general, the identification of import-competing subsectors is

a step toward higher technological sophistication or PCI subsectors. These are the manufacturing subsectors that we recommend its policymakers foster for import-substitution.

Note that Table 3 presents a large range of import-substitution possibilities for Tajikistan. We have separated the subsectors under broad sector headings. Picking new import-competing subsectors in which there is no Tajik presence currently would be safe only if they are within broader sectors in which Tajikistan already has a natural comparative advantage.

The last set of columns in Table 3 indicate whether and which neighbouring, and comparison countries also export similar products with a comparative advantage. They represent their Classics or Emerging exports and are a reminder that in pursuing a choice of fostering a specialization in raw cotton exports, Tajikistan may have missed the boat in several of these subsectors.

Recommendations: Foster those import-competing manufacturing subsectors in Table 3 in which Tajikistan has some nascent activities as opposed to picking brand new ones.

Table 3. Tajikistan's Potential import-competing Manufacturing Subsectors – some already export small amounts but do not have a comparative advantage

Product	Description	UNIDO		Tajikistan's Potential Import-competing Manufacturing subsectors		Tajikistan's Potential Manufacturing Subsectors (some currently export but do not have a comparative advantage)				Same products are Emerging/Classic exports of comparison countries							
		Tech code	PCI	Imports in 2014	Imports in 2015	Average Export Share (%)		Total Exports millions USD		Exported with a comparative advantage in 2015 (RCA>1)							
						2010-14	2015	2010-14	2015	Ukraine	Morocco	Guatemala	Laos	Uzbekistan	Moldova	Cambodia	KRKYVZ
Food-processing																	
149	Other prepared or preserved meat or meat offal	RB1	-0.35	x	x	0.02	0.00	\$0.85	\$0.00	*		*					
230	Butter	RB1	-0.39	x	x	0.00	0.00	\$0.00	\$0.00								*
240	Cheese and curd	RB1	-0.52	x	x	0.00	0.01	\$0.03	\$0.05	*	*						
371	Fish, prepared or preserved, nes	RB1	-1.23	x	x	0.05	0.11	\$2.53	\$1.01		*	*		*			
460	Meal and flour of wheat and meslin	RB1	-1.12	x	x	0.22	0.01	\$11.14	\$0.09	*	*						
483	Macaroni, spaghetti and similar products	RB1	-1.34	x	x	0.00	0.00	\$0.03	\$0.00		*	*					
484	Bakery products	RB1	-0.46	x	x	0.00	0.00	\$0.02	\$0.01	*		*					
565	Vegetables, prepared or preserved, nes	RB1	-1.02	x	x	0.03	0.00	\$1.58	\$0.02	*	*	*					
585	Fruit or vegetable juices	RB1	-1.11	x	x	0.08	0.02	\$4.26	\$0.19	*	*	*		*			
586	Fruit, temporarily preserved	RB1	-0.91	x	x	0.00	0.00	\$0.16	\$0.00	*	*	*					
589	Fruit prepared or preserved, nes	RB1	-0.99	x	x	0.05	0.09	\$2.58	\$0.81		*	*					
1110	Non-alcoholic beverages, nes	RB1	-0.34	x	x	0.00	0.00	\$0.25	\$0.00			*					
1124	Distilled alcoholic beverages, nes	RB1	-0.53	x	x	0.00	0.00	\$0.18	\$0.00			*					
Leather, footwear industries																	
6112	Composition leather, in slabs, sheets or rolls	LT1	-0.13	x	x												
6115	Sheep and lamb skin leather	LT1	-1.48	x	x	0.04	0.05	\$2.13	\$0.42		*			*			
6116	Leather of other hides or skins	LT1	-1.03	x	x	0.01	0.01	\$0.53	\$0.06				*	*			
6122	Saddlery and harness, of any material, for any kind of animal	LT1	-0.292	x	x												
6123	Parts of footwear -any material except metal	LT1	-0.50	x	x	0.01	0.00	\$0.34	\$0.05	*	*	*					
6129	Other articles of leather or of composition leather	LT1	-0.077	x	x												
8310	Travel goods, handbags etc, of leather, plastics, textiles	LT1	-0.070	x	x												
6130	Furskins, tanned or dressed; pieces of furskin, tanned or dressed	LT1	-0.634	x	x												

.....Table 3 continued

Product	Description	UNIDO Tech code	PCI	Tajikistan's Potential Import- competing Manufacturing subsectors		Tajikistan's Potential Manufacturing Subsectors (some currently export but do not have a comparative advantage)				Same products are Emerging/Classic exports of comparison countries															
						Average Export Share (%)		Total Exports millions USD		Exported with a comparative advantage in 2015 (RCA>1)															
						2010-14	2015	2010-14	2015	Ukraine	Morocco	Guatemala	Laos	Uzbekistan	Moldova	Cambodia	KRBYZ								
Wood products																									
6351	Wood packing cases, boxes, cases, crates, etc, con	RB1	-0.190	x	x																				
6352	Casks, barrels; other coopers products and parts,	RB1	-0.390	x	x																				
6353	Builders` carpentry/joinery (incl prefabricated)	RB1	-0.05	x	x	0.01	0.00	\$0.41	\$0.00	*															
6354	Manufactures of wood- domestic/decorative use	RB1	-0.68	x	x	0.00	0.00	\$0.02	\$0.00				*												
6359	Manufactured articles of wood, nes	RB1	-0.38	x	x	0.00	0.00	\$0.00	\$0.00	*		*													
8219	Other furniture and parts thereof, nes	LT2	-0.080	x	x																				
6421	Packing containers, box files of paper, office-use	LT2	-0.53	x	x	0.00	0.00	\$0.01	\$0.00	*	*	*							*						
6424	Paper and paperboard cut to size or shape, nes	LT2	0.15	x	x	0.00	0.00	\$0.22	\$0.00			*													
6428	Articles of paper pulp, paper, paperboard or cellu	LT2	0.06	x	x	0.00	0.01	\$0.23	\$0.05	*		*													
Cotton Textiles																									
6513	Cotton yarn	LT1	-1.281	x	x																				
6521	Cotton fabrics, woven, unbleached, not mercerize	LT1	-1.339	x	x																				
6522	Cotton fabrics- woven/bleached/dyed	LT1	-0.80	x	x	0.03	0.02	\$1.47	\$0.21			*													
6552	Knitted -not elastic/rubberized, non-synthetic fib	LT1	-0.24	x	x	0.04	0.02	\$2.26	\$0.18					*											
6575	Twine, cordage, ropes and cables and manufactu	LT1	-0.55	x	x	0.00	0.00	\$0.01	\$0.02		*	*													
6581	Bags, sacks of textile materials, for packing goods	LT1	-1.78	x	x	0.00	0.00	\$0.10	\$0.00			*						*							
6583	Travelling rugs, blankets (non electric), not knitte	LT1	-0.991	x	x																				
6589	Other made-up articles of textile materials, nes	LT1	-1.11	x	x	0.00	0.00	\$0.01	\$0.00		*														
6592	Carpets, carpeting and rugs, knotted	LT1	-1.189	x	x																				

Product	Description	UNIDO Tech code	PCI	Tajikistan's Potential Import- competing Manufacturing subsectors		Tajikistan's Potential Manufacturing Subsectors (some currently export but do not have a comparative advantage)				Same products are Emerging/Classic exports of comparison countries							
				Imports in 2014	Imports in 2015	Average Export Share (%)		Total Exports millions USD		Exported with a comparative advantage in 2015 (RCA>1)							
						2010-14	2015	2010-14	2015	Ukraine	Morocco	Guatemala	Laos	Uzbekistan	Moldova	Cambodia	KYRZ
Articles of apparel, clothing accessories of leather																	
8421	Men's and boys' outerwear-overcoats/other coat	LT1	-0.92	x	x	0.01	0.01	\$0.74	\$0.08	*	*					*	
8422	Men's and boys' outerwear, textile fabrics suits	LT1	-1.07	x	x	0.02	0.00	\$0.82	\$0.00		*					*	*
8424	Men's and boys' outerwear, jackets, blazers etc.	LT1	-1.00	x	x	0.00	0.00	\$0.01	\$0.01	*	*		*				
8429	Men's and boys' outerwear of textile fabrics	LT1	-1.12	x	x	0.10	0.04	\$5.04	\$0.41		*		*			*	
8431	Womens, girls, infants outerwear, coats/jackets	LT1	-0.91	x	x	0.00	0.00	\$0.19	\$0.00	*	*	*					*
8432	Womens, girls, infants outerwear, textile, not kni	LT1	-1.34	x	x	0.00	0.00	\$0.15	\$0.00		*		*				*
8433	Womens, girls, infants outerwear -textile not kni	LT1	-0.53	x	x	0.00	0.00	\$0.17	\$0.00		*						*
8434	Womens, girls, infants outerwear, textile skirts	LT1	-1.03	x	x	0.00	0.00	\$0.24	\$0.01		*	*					*
8435	Womens, girls, infants outerwear, textile, blouses	LT1	-0.81	x	x	0.06	0.02	\$3.11	\$0.21		*						*
8439	Womens/girls/infants outerwear, not knitted	LT1	-0.95	x	x	0.11	0.04	\$5.51	\$0.35		*	*	*				*
8441	Under garments - mens/boys shirts	LT1	-0.861														
8442	Under garments - mens, boys other than shirts	LT1	-1.407														
8443	Under garments -womens/girls/infants not knitte	LT1	-1.338														
8451	Outerwear knitted/crocheted-jerseys, pullovers	LT1	-0.89	x	x	0.02	0.00	\$0.90	\$0.02		*	*	*			*	
8452	Outerwear knitted: womens, girls dresses, etc	LT1	-0.69	x	x	0.00	0.00	\$0.21	\$0.01		*	*				*	*
8459	Outerwear clothing accessories, non-elastic	LT1	-1.25	x	x	0.02	0.01	\$0.89	\$0.13		*	*	*	*		*	
8462	Under-garments/knitted/crocheted; of cotton	LT1	-1.03	x	x	0.01	0.01	\$0.46	\$0.05		*	*	*	*		*	
8463	Under-garments, knitted of synthetic fibres	LT1	-1.08	x	x	0.02	0.00	\$0.87	\$0.04		*	*	*			*	
8465	Corsets, garters, etc, not knitted or crocheted, ela	LT1	-0.80	x	x	0.00	0.00	\$0.02	\$0.00		*					*	
8471	Clothing accessories, of textile fabrics, not knitted	LT1	-0.43	x	x	0.01	0.02	\$0.72	\$0.15		*						
8472	Clothing accessories, knitted or crocheted, nes	LT1	-0.68	x	x	0.02	0.01	\$1.13	\$0.12					*		*	*
8481	Articles of apparel, clothing accessories of leathe	LT1	-0.64	x	x	0.00	0.00	\$0.01	\$0.00		*	*					
2690	Old clothing and other old textile articles; rags	RB1	-0.60	x	x	0.01	0.00	\$0.38	\$0.00		*						
8510	Footwear	LT1	-0.79	x	x	0.11	0.03	\$5.83	\$0.31		*					*	

Product	Description	UNIDO Tech code	PCI	Tajikistan's Potential Import- competing Manufacturing subsectors		Tajikistan's Potential Manufacturing Subsectors (some currently export but do not have a comparative advantage)				Same products are Emerging/Classic exports of comparison countries							
				Imports in 2014	Imports in 2015	Average Export Share (%)		Total Exports millions USD		Exported with a comparative advantage in 2015 (RCA>1)							
						2010-14	2015	2010-14	2015	Ukraine	Morocco	Guatemala	Laos	Uzbekistan	Moldova	Cambodia	KYrgyz
	Simple metal products																
6733	Angles, shapes, sections/sheet piling, of iron-steel	LT2	-0.03	x	x	0.06	0.01	\$3.19	\$0.07	*	*						
6911	Structures and parts of, of iron, steel; plates, rods	LT2	0.250	x	x												
6912	Structures and parts of, of aluminium; plates, rods	LT2	-0.014	x	x												
6924	Cask, drums, etc, of iron, steel, aluminium, for packing	LT2	-0.18	x	x	0.00	0.00	\$0.23	\$0.00			*					
2820	Waste and scrap metal of iron or steel	RB2	-0.33	x	x	0.00	0.00	\$0.11	\$0.00					*			
2882	Other non-ferrous base metal waste and scrap	RB2	-0.63	x	x	0.41	0.00	\$21.32	\$0.00	*	*			*		*	
6960	Cutlery	LT2	-0.208	x	x												
6973	Domestic, non-electric, heating, cooking apparatus	LT2	-0.177	x	x												
6974	Base metal domestic articles, nes, and parts thereof	LT2	-0.234	x	x												
6975	Base metal indoors sanitary ware, and parts thereof	LT2	-0.093	x	x												
6992	Chain and parts thereof, of iron or steel	LT2	0.685	x	x												
6993	Pins, needles, etc, of iron, steel; metal fittings for	LT2	0.684	x	x												
8991	Articles and manufacture of carving, moulding machinery	LT2	-0.362	x	x												
8993	Candles, matches, combustible products, etc	LT2	-0.15			0.00	0.00	\$0.01	\$0.00			*					
8994	Umbrellas, canes and similar articles and parts thereof	LT2	-0.246	x	x												
8997	Basketwork, wickerwork; brooms, paint rollers	LT2	-0.35	x	x	0.02	0.00	\$0.79	\$0.01			*		*			
6624	Non-refractory ceramic bricks, tiles, pipes etc.	RB2	-0.52	x	x	0.01	0.00	\$0.36	\$0.00	*	*						
6651	Bottles etc of glass	LT2	-0.46	x	x	0.01	0.00	\$0.64	\$0.00	*	*			*			*
6665	Articles of domestic or toilet purposes, of other kinds	LT2	-0.10	x	x	0.00	0.00	\$0.01	\$0.00								
Total imports/exports of import-competing subsectors				\$1,331	\$860												

D. Final recommendations

In the preceding section, we searched for manufactured export possibilities in Tajikistan in a variety of ways. We examined its traditional or Classic exports and found that these would not be enough to naturally foster *large-scale* manufactured exports and better-paying manufacturing jobs in the short to medium term. The reason is simple – Tajikistan has only three Classics and their total export share is currently too small. To expect that these can scale up and transform into engines of better-paying manufacturing jobs on a large scale in even the medium term is, at best, aspirational. We then examined Tajikistan’s Emerging exports and arrived at the same conclusion – they contain only one manufactured export (bovine leather) with a share of less than 1 percent.

- A. We therefore recommend scaling up the four existing manufacturing subsectors but recognizing that these will not be enough for large-scale job creation in the medium term. Widening the official definition of manufactured exports to include processing of primary and natural resource-based products reveals a wide range of *potential or new* manufacturing subsectors. Tajik policymakers should foster transformation of the Classics and Emerging export baskets by focusing on value-addition or processing in current Primary or Resource-based subsectors in which Tajikistan already has a comparative advantage. Agriculture, fish, cotton and leather subsectors have a large potential for new, high PCI manufactured exports. For a detailed listing of recommended manufacturing subsectors, see Tables 1 and 2.
- B. We also recommend a strategy of import-substitution to harvest some low-hanging fruit. Identification of potential subsectors should begin with subsectors that already export small values of manufactured products. We also identify new manufactured products which are currently imported but could be manufactured for the domestic market from locally available raw materials or intermediate inputs in subsectors in which Tajikistan has a comparative advantage. Manufacturing textiles from locally grown cotton, apparel from locally manufactured or imported textiles, and pasta and bakery products from imported wheat are examples of simple manufacturing activities for import-substitution in the short to medium term. For a detailed listing of recommended manufacturing subsectors, see Table 3.

An examination of the Classics and Emerging exports of its neighbours and comparison countries suggests that Tajikistan can also foster a wide-range of potential export and import-competing subsectors within its natural resource-based sectors.

Our recommendation is to:

- Exercise caution given that unlike some of its comparison countries, Tajikistan has limited experience in exporting manufactures. Therefore, leapfrogging from low value manufactures or raw materials such as food products to very high-PCI subsectors can be risky for diversification. Gradualism is recommended.
- To create large numbers of better-paying jobs, Tajikistan needs to explore import-competition and import-substitution possibilities in manufacturing selectively and carefully. Some simple pointers will help:

- Focus on PP, RB and LT import subsectors only. Filter and retain PP and RB import-substituting subsectors which present opportunities for value-addition through processing.
- To expand the list of LT import-substitution subsectors, remain within the broad subsector categories in which Tajikistan has a comparative advantage – these are summarized below:
 - 1) Food processing – wheat flour, pasta and bakery products from imported wheat; locally brewed alcohol, butter, meat and fish products; processed vegetables and fruits.
 - 2) Low-tech wood and paper manufactured from imported wood and pulp inputs.
 - 3) Leather and its products such as footwear
 - 4) Bricks and other low-tech products for the home and office
 - 5) Wide array of garments and textiles
 - 6) Wide array of textile products such as carpets and tents
 - 7) Bags, packaging materials.
 - 8) Low-tech metals products such as casks and drums made from imported metal sheets which are imported for other uses.
 - 9) Low tech home-use manufactures such as candles, umbrellas, baskets.

Details are enlisted in Tables 1 – 3.

VI. Constraints to Growth in Tajikistan's Manufacturing Sector

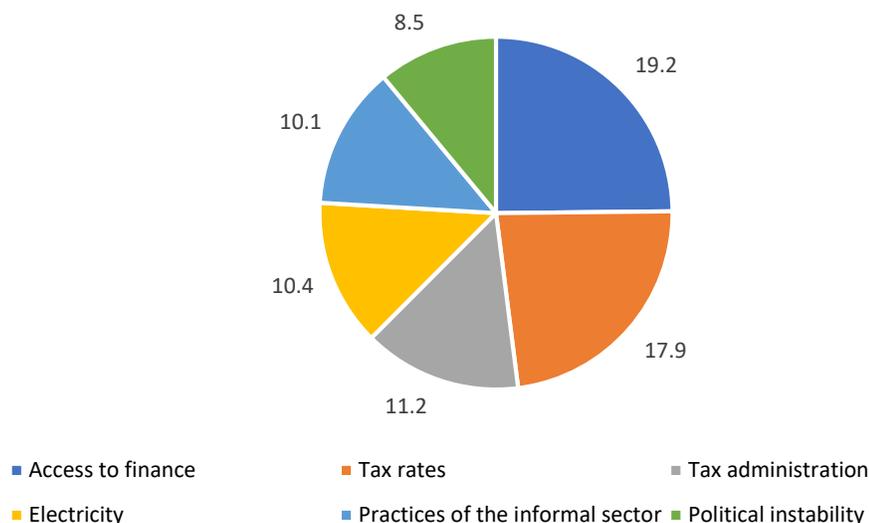
Several studies have tried to identify the constraints to private investment in Tajikistan in recent years. Recent assessments by the World Bank (2016, 2018) in its systematic country diagnostic finds that a singular focus on construction of the Rogun Hydro Power Project and other transport channels to create more jobs entails several risks and challenges, which, if not managed well, could threaten the country's economic and social stability. Achieving the NDS 2030 goals requires a vibrant, healthy and competitive private sector that creates employment for the growing population. ADB's 2016 report notes that Tajikistan also needs to make strategic investments in key infrastructure and human capital: in education and training, introducing measures to raise educational attainment, and reforming regulation to boost productivity. Underdevelopment of financial infrastructure, low accessibility of financial services, transport and energy infrastructure are also important constraints.

While the subsector specific constraints can only be diagnosed through comprehensive fieldwork, the general constraints to manufacturing can be gleaned from the findings of the World Bank's latest Enterprise Survey⁸ on Tajikistan completed for the 2013. About 359 firms were surveyed between February 2013 and April 2014 of which 122 of the firms were in the manufacturing business sector, while 111 were in the retail business sector. Respondents were asked what their biggest obstacle was in

⁸ The Enterprise Survey conducted by the World Bank is administered to a representative sample of firms in the non-agricultural formal private economy. The survey is performed through face to face interviews with firm managers and owners regarding the business environment in their countries.

the current firm environment based on 15 options for obstacles. The top six “biggest obstacles” for Tajikistan were access to finance (19.2%), tax rates (17.9%), tax administration (11.2%), access to electricity (10.4%), practices of the informal sector (10.1%), and political instability (8.5%).⁹

Tajikistan's "Biggest Obstacles" as a Percentage of Total Firm Respondants



The Need to Focus on Solving the Binding Constraints, Not All Problems at Once

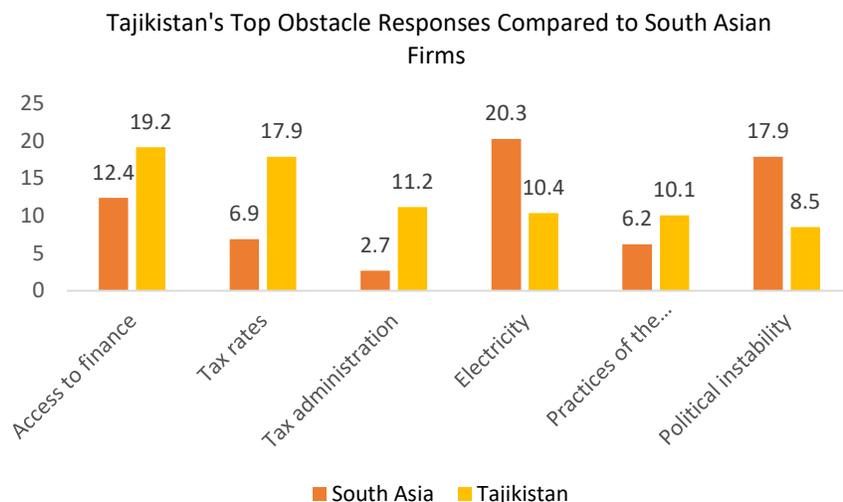
Studies of the constraints on the expansion of light manufacturing in low income countries have usually involved staggering lists of constraints which suggest that no feasible set of policy adjustments would lead to a result attractive to investors. Often, the implication has been that unless all the shortcomings are addressed, the sector cannot not grow. Nowhere is this point shown more clearly than the attention of donors on Doing Business indicators and the tendency to use these indicators to measure progress on industrialization.

Yet, developing economies in other regions have expanded production and exports of light manufactures without first resolving the sorts of constraints observed in Tajikistan. China in the mid-1970s and early 1980s suffered from low product quality (sewing machines that leaked oil onto fabric, electric motors that failed in hot, humid weather), and passive management. Furthermore, because the binding constraints vary by sector and by firm size, economy-wide policies are not even effective in jumpstarting specific subsectors. Therefore, policymakers should prioritize the leading constraints identified in Tajikistan: access to finance, tax rates and administration, and access to electricity. When compared to South Asia’s most frequently cited “biggest obstacle,” Tajikistan has higher rates of citation than South Asian firms in access to finance (19.2% vs 12.4%), tax rates (17.9% vs 6.9%), and tax administration (11.2% vs. 2.7%), but a lower rate for access to electricity (10.4% vs 20.3%)^{10, 11}.

⁹ “Tajikistan 2013” Enterprise Surveys www.enterprisesurveys.org, The World Bank Group.

¹⁰ South Asia includes: Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka.

¹¹ “Tajikistan 2013” Enterprise Surveys www.enterprisesurveys.org The World Bank Group.



A. Access to Finance

Experience from other countries at the same stage of development as Tajikistan has shown that what matters is not access to finance to start a business but access to finance to expand the business. While most entrepreneurs rely on personal savings and the savings of family and friends to start up a business, expansion requires access to finance. All growing firms, especially small and medium ones, need additional resources to purchase new equipment, upgrade technology, improve buildings, and buy land. Small firms often lack good access to formal finance. Even if finance is available, inadequate collateral and lack of a credit rating may block access to loans.

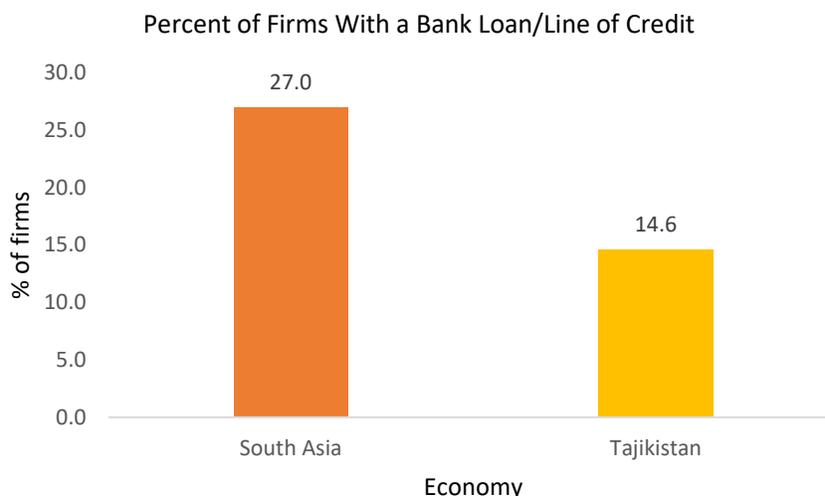
Tajikistan has a rating of one out of twelve (twelve being the highest rating) on Doing Business’ legal rights index which measures the efficacy of laws that govern loans for both borrowers and lenders. The South Asia average is 5.3 on the scale of 12.0. Firms are not confident that they will be protected in loan transactions and that could be the reason why Access to finance is rated as such a high constraint. Better laws that govern these transactions could help to encourage more loans.

Indicator ¹²	Tajikistan	South Asia
Strength of legal rights index (0-12) ¹³	1	5.3

The Enterprise Survey confirms that there are fewer loans between banks and firms in Tajikistan than in the South Asia region. Only 14.6% of firms have a bank loan or line of credit in Tajikistan, while 27% of firms in South Asia have a bank loan or line of credit. There are almost twice as many firms in South Asia with loans or lines of credit than there are in Tajikistan.

¹² “Doing Business 2018” <http://www.doingbusiness.org/data/exploreeconomies/tajikistan>

¹³ “This index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending.” <http://www.doingbusiness.org/data/exploreeconomies/tajikistan#getting-credit>



The low legal rating on loan transactions is a likely explanation for the low levels of bank loans and credit lines. Changes to the legal policies that govern bank loans could have a strong effect on increasing credit for firms in Tajikistan.

B. Tax Administration

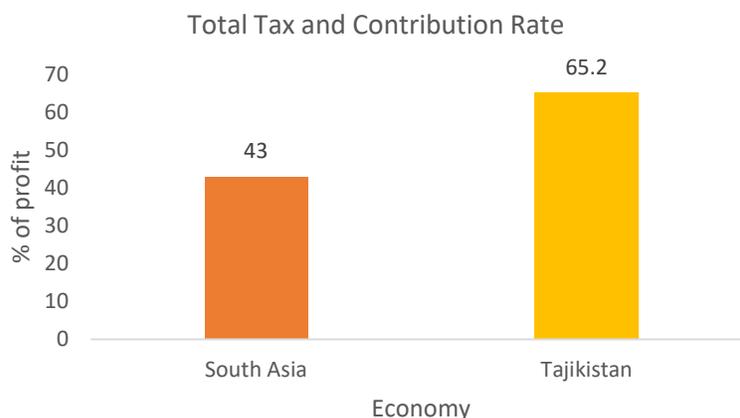
A higher percentage of firms in Tajikistan than firms in South Asia visited or were required to meet with tax officials (73.9% vs 63.2%).¹⁴ This higher rate of interactions between firms and tax officials implies that there are more regulations that govern Tajik firms. Even if the firms voluntarily visit officials more frequently which would be unnatural, this could imply that the tax policy is overly complex because firms are visiting frequently to navigate their taxes.



Not only are the amount of interactions with tax officials in Tajikistan’s firms high, but the actual taxes and tax rates the firms pay are also high. Tajik firms pay a tax and contribution rate of 65.2% of profits, while their South Asian counterparts pay at a rate of 43% of profits.¹⁵ This likely explains why respondents found that the tax rates were one of the “biggest obstacles.”

¹⁴ “Tajikistan 2013” Enterprise Surveys www.enterprisesurveys.org The World Bank Group.

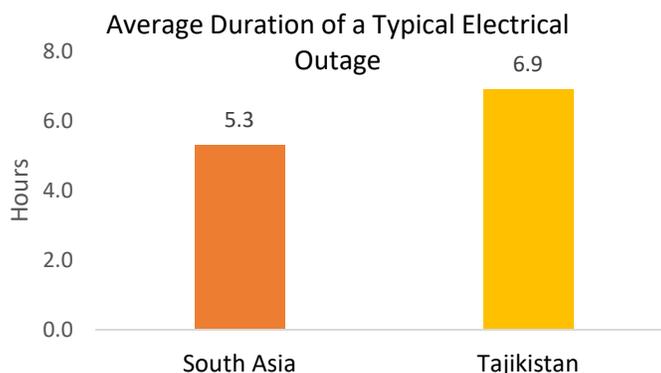
¹⁵ “Doing Business 2018” <http://www.doingbusiness.org/data/exploreeconomies/tajikistan>



Overall, a combination of both reducing the complexity of navigating taxes, as well as reducing the overall tax rate would likely aid firms in Tajikistan.

C. Access to Electricity

In addition to taxes, access to electricity was cited by firms in Tajikistan as one of the “biggest obstacles.” The average duration of each electrical outage was almost seven hours per outage in Tajikistan, while the average duration of each South Asian outage was at about five hours per outage.¹⁶



For each of the 359 firms that were surveyed in the Enterprise Survey, a two-hour disadvantage for each electrical outage amounted to significant hours lost per year. The regulations that govern obtaining an electrical connection after applying for a permit are better in Tajikistan (19.2 days vs 55.1 days for South Asian firms).¹⁷ Therefore, the focus should be on the reduction of outages, and not on regulations that govern obtaining electricity.

¹⁶ “Tajikistan 2013” Enterprise Surveys www.enterprisesurveys.org The World Bank Group.

¹⁷ “Tajikistan 2013” Enterprise Surveys www.enterprisesurveys.org The World Bank Group.

VII. A Policy Framework to Facilitate Export Diversification

As almost all of Tajikistan's exports are concentrated in either minerals or metals, or agricultural commodities like raw cotton, the strategy for its diversification should focus on other sectors that are not subject to the same terms of trade fluctuations as minerals and metals, are more labour-intensive, productive and can grow fast and create better-paying jobs. Most of the current jobs outside of government and mining, are largely informal and concentrated in agriculture or the services sectors. To this end, Tajikistan needs a combination of appropriate macroeconomic policy including a more export-oriented growth strategy and a stable business environment.

Economy-wide policies: As is well known, in addition to maintaining peace and stability, Tajikistan would benefit greatly from policy measures to maintain macroeconomic stability, build good institutions, and infrastructure (including resolving trade logistics issues), and develop human resources. Building roads, boosting electricity generation, and enhancing trade logistics are a top priority for manufacturing in Tajikistan, yet addressing all infrastructure needs in Tajikistan is a time-intensive challenge and cannot be achieved rapidly. The government has made a good start with the Rogun power project. While it should also address other infrastructure needs and reforms without delay, priority must be placed on providing infrastructure to specific areas where clusters and industrial parks are located before solving the infrastructure problems in other areas. Additional measures in this group include the simplification of regulatory policy related with finance and taxes. Since the investment climate is fraught with complex regulations and distortionary measures, fixing them all is a longer-term agenda.

Sectoral policies include helping existing products grow. There is a fair amount of consensus on what is needed to accelerate growth in mining and agriculture but the agenda for sectoral policies to help break into *new manufacturing products* has to be defined. The list of agenda items varies from tariff policies, to duty drawbacks, to trade logistics, to all aspects of the investment climate. Lessons from some successful countries in Asia will be useful for Tajikistan but the bottom-line is that in addition to economy-wide policies, Tajikistan also needs to resolve sector-specific constraints. What will work for a successful garment industry which will need firms to organize production of simple garments from imported raw and intermediate inputs and possibly some domestically produced ones will not suffice for the leather industry which needs better integration between the livestock, meat producing, skins, leather and leather products producing subsectors.

Sector-Specific Issues: Industrial clusters are the best way to deal with a plethora of binding constraints in Tajikistan. For each subsector, governments should first find out where enterprises are already clustered and should then ease the most binding constraints (identified in the report) within the clusters. Similarly, successful industrial parks provide enterprises with security, basic infrastructure, streamlined government regulations, and affordable industrial land. Policy makers in Tajikistan need to open up the economy and attract foreign direct investment on a mass scale, particularly in labour-intensive activities such as those identified in the report. They should also harmonize and improve customs procedures and facilitate access to inputs for light manufacturing. A close public-private cooperation will be needed to implement the proposed policy reforms.

VIII. Future directions

Beyond its capacity to stimulate job creation, the strong connection between light manufacturing and trade also supports the development choice to focus on light manufacturing in Tajikistan. The case for export-led growth is well established among developing countries (Chenery 1980; Commission on Growth and Development 2008; Harrison and Rodríguez-Clare 2010). Harrison and Rodríguez-Clare (2010) find that export-oriented countries have grown more rapidly, though establishing causality is difficult. Trade also enables developing countries to take advantage of the important learning that is derived from exposure to global competition and then to import the skills and technology necessary to move up the value chain.

Tajikistan, together with many other low-income countries, has the necessary inputs for a competitive light manufacturing sector: a comparative advantage in low-wage labour (at the proper exchange rate), abundant natural resources sufficient to offset the lower labour productivity compared with their Asian competitors, and a sufficiently large local or regional market to allow emerging producers to develop capabilities in quick-response.

Tajikistan can follow the course pioneered by a succession of Asian countries by accelerating the realization of latent comparative advantage in segments of light manufacturing in which specific, feasible, sharply focused, low-cost policy interventions can deliver a quick boost to output, productivity, and perhaps exports, opening the door to expanded entry and growth.

Table 1-4 illustrate that a large potential for jumpstarting or scaling up light manufacturing industries for exports or for the import-competing domestic market. Which of these is best placed to grow and succeed requires a more in-depth investigation on the ground. An example of some of the factors that should be taken into consideration in making such an assessment is the Ethiopia Light Manufacturing Study that was done to inform the launch of the leather footwear exports sector in 2012 (Dinh et al, 2012).

IX. References

Asian Development Bank (ADB). (2016a). *Tajikistan: Promoting Export Diversification and Growth*. Country Diagnostic Study. Manila: Asian Development Bank.

<https://www.adb.org/publications/tajikistan-promoting-export-diversification-and-growth>

Balassa, Bela. 1965. "Trade Liberalization and 'Revealed' Comparative Advantage." *Manchester School of Economic and Social Studies* 33 (2): 92–123.

Chenery, Hollis B. 1980. "Interactions between Industrialization and Exports." *American Economic Review* 70 (2): 281–87.

Chenery, Hollis B., and Moshe Syrquin. 1975. *Patterns of Development, 1950–1970*. Oxford: Oxford University Press.

Commission on Growth and Development. 2008. *The Growth Report: Strategies for Sustained Growth and Inclusive Development*. Washington, DC: World Bank.

<https://openknowledge.worldbank.org/handle/10986/6507>.

Dinh, Hinh T., Dimitris A. Mavridis, and Hoa B. Nguyen. 2012. "The Binding Constraint on the Growth of Firms in Developing Countries." In *Performance of Manufacturing Firms in Africa: An Empirical Analysis*, edited by Hinh T. Dinh and George R. G. Clarke, 87–137. Washington, DC: World Bank.

Dinh, Hinh T., Vincent Palmade, Vandana Chandra, and Frances Cossar. 2012. *Light Manufacturing in Africa: Targeted Policies to Enhance Private Investment and Create Jobs*. Washington, DC: World Bank.

<http://go.worldbank.org/ASG0J44350>.

Duflo, Esther. 2004. "Scaling Up and Evaluation." In *Annual World Bank Conference on Development Economics 2004: Accelerating Development*, edited by François Bourguignon and Boris Pleskovic, 342–69. Washington, DC: World Bank; Oxford, United Kingdom: Oxford University Press.

Government of Tajikistan. (2016). *National Development Strategy of the Republic of Tajikistan for the Period Up To 2030*. Dushanbe: Government of Tajikistan.

http://nafaka.tj/images/zakoni/new/strategiya_2030_en.pdf

Grossman, Gene M., and Elhanan Helpman. 1991. *Innovation and Growth in the Global Economy*. Cambridge, MA: MIT Press.

Harrison, Ann E., and Andrés Rodríguez-Clare. 2010. "Trade, Foreign Investment, and Industrial Policy for Developing Countries." In *The Handbook of Development Economics*, edited by Dani Rodrik and Mark R. Rosenzweig, 4039–4214. *Handbooks in Economics*, Vol. 5. Amsterdam: Elsevier North Holland.

R Hausmann, CA Hidalgo, S Bustos, M Coscia, S Chung, J Jimenez, A Simoes, M Yildirim. *The Atlas of Economic Complexity*. Puritan Press. Cambridge MA. (2014).

Hausmann, Ricardo, Dani Rodrik, and Andrés Velasco. 2005. "Growth Diagnostics." John F. Kennedy School of Government, Harvard University, Cambridge, MA.

Krugman, Paul R. 1987. “The Narrow Moving Band, the Dutch Disease, and the Competitive Consequences of Mrs. Thatcher: Notes on Trade in the Presence of Dynamic Scale Economies.” *Journal of Development Economics* 27 (1–2): 41–55.

Kuznets, Simon. 1959. *Six Lectures on Economic Growth*. Glencoe, IL: The Free Press.

Lall, Sanjaya. 2000. The technological structure and performance of developing country manufactured exports, 1995-1998. *Oxford Development Studies*, 28 (3): 337-369.

Lin, Justin Yifu. 2009. “Beyond Keynesianism: The Necessity of a Globally Coordinated Solution.” *Harvard International Review* 31 (2): 14–17.

———. 2010. “New Structural Economics: A Framework for Rethinking Development.” Policy Research Working Paper 5197, World Bank, Washington, DC.

Lin, Justin Yifu, and Ha-Joon Chang. 2009. “DPR Debate: Should Industrial Policy in Developing Countries Conform to Comparative Advantage or Defy It? A Debate between Justin Lin and Ha-Joon Chang.” *Development Policy Review* 27 (5): 483–502.

Lin, Justin Yifu, and Célestin Monga. 2011. “Growth Identification and Facilitation: The Role of the State in the Dynamics of Structural Change.” *Development Policy Review* 29 (3): 259–310.

Lin, Justin Yifu, and Treichel, V. 2011. Applying the growth identification and facilitation framework: the case of Nigeria. *World Bank Policy Research Working Paper Series, Vol.*

Naughton, Barry J. 2007. *The Chinese Economy: Transitions and Growth*. Cambridge, MA: MIT Press.

NBS (China, National Bureau of Statistics). 2003. *China Labor Statistical Yearbook 2003*. Beijing: China Statistics Press.

Price, Ros. 2018. Economic development in Tajikistan. K4D – Knowledge, Evidence and Learning for Development Helpdesk Report. DFID Tajikistan.

Rankin, Neil, Justin Sandefur, and Francis Teal. 2010. “Learning and Earning in Africa: Where Are the Returns to Education High?” CSAE Working Paper 2010–02, Centre for the Study of African Economies, University of Oxford. Oxford, United Kingdom.

Schneider, Friedrich. 2005. “Shadow Economies around the World: What Do We Really Know?” *European Journal of Political Economy* 21 (3): 598–642.

Sutton, John, and Nebil Kellow. 2010. *An Enterprise Map of Ethiopia*. London: International Growth Centre, London School of Economics and Political Science.

Syrquin, Moshe, and Hollis B. Chenery. 1989. “Patterns of Development, 1950 to 1983.” World Bank Discussion Paper 41, World Bank, Washington, DC.

Tizikara, Clesensio and Loro George Leju Ligor (2011). Post-conflict Development of Agriculture in South Sudan: Perspective on Approaches to Capacity Strengthening. Ministry of Agriculture, Forestry, Cooperatives and Rural Development Directorate of Research, Extension and Training. Memeo.

World Bank Group. 2018. Tajikistan: Macro Poverty Outlook Spring 2018

World Bank. 2018. Tajikistan - Systematic Country Diagnostic: Making the National Development Strategy 2030 a Success - Building the Foundation for Shared Prosperity. Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/680151528479302248/Tajikistan-Systematic-Country-Diagnostic-Making-the-National-Development-Strategy-2030-a-Success-Building-the-Foundation-for-Shared-Prosperity>

———. 2016. *World Development Indicators 2016*. Washington, DC: World Bank.

———. 2013. *World Development Report 2013: Jobs*. Washington, DC: World Bank. <http://go.worldbank.org/TM7GTEB8U0>.

———. 1993. *The East Asian Miracle: Economic Growth and Public Policy*. World Bank Policy Research Report. Washington, DC: World Bank; New York: Oxford University Press.