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Tajikistan's Agrifood System

Structure and Drivers of Transformation

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Introduction

Tajikistan experienced strong annual economic growth of 6.8 percent during the 2011 to 2020 period (TAJSTAT 2020). This has translated into improved living standards, with the national poverty rate falling from 53.1 percent in 2007 to 26.3 percent in 2019 (World Bank 2023a). The global COVID-19 pandemic caused a significant slowdown in economic growth in 2020, but the economy rebounded in 2021. However, as a country heavily reliant on wheat and fuel imports, Tajikistan was severely affected by the Russia-Ukraine war that started in 2022, and more recently by the global recession in 2023 (Arndt et al. 2023; Diao and Thurlow 2023). Private remittances are the largest source of foreign exchange, accounting for nearly one-third of Tajikistan's GDP and more than 40 percent of total foreign inflows. Russia is the most important destination for Tajikistan's emigrants working abroad, and the ongoing war will continue to affect movement of people and inflows of remittances. Tajikistan's GDP growth is projected to be 6.5 percent in 2023 and 5.0 percent in 2024 (World Bank 2023b), below its pre-pandemic growth trajectory.

Agriculture remains an important sector, accounting for one-quarter of GDP and 60 percent of jobs in Tajikistan. The agriculture sector performed well from 2011 to 2020, growing at nearly 6 percent annually (TAJSTAT 2020), and played an important role in weathering the global commodity market shocks in 2022 and 2023 (Diao and Thurlow 2023). In this brief, we unpack the historical and projected economic growth trajectory further to better understand the role of agriculture as well as the broader agrifood system (AFS) in the performance and transformation of the economy of Tajikistan.

The AFS is a complex network of actors who are connected by their roles in supplying, consuming, and governing agrifood products and jobs. Just as an economy undergoes transformations as a country develops, agrifood systems are also expected to evolve (Diao, Hazell, and Thurlow 2010; Timmer 1988). Subsistence farming typically dominates agriculture during the earliest stages of development; as agricultural productivity rises, however, farmers start to supply surplus production to markets, thus creating job opportunities for workers in the nonfarm economy both within and outside the agrifood sectors (Haggblade, Hazell, and Dorosh 2007). Rising rural incomes generate demand for more diverse

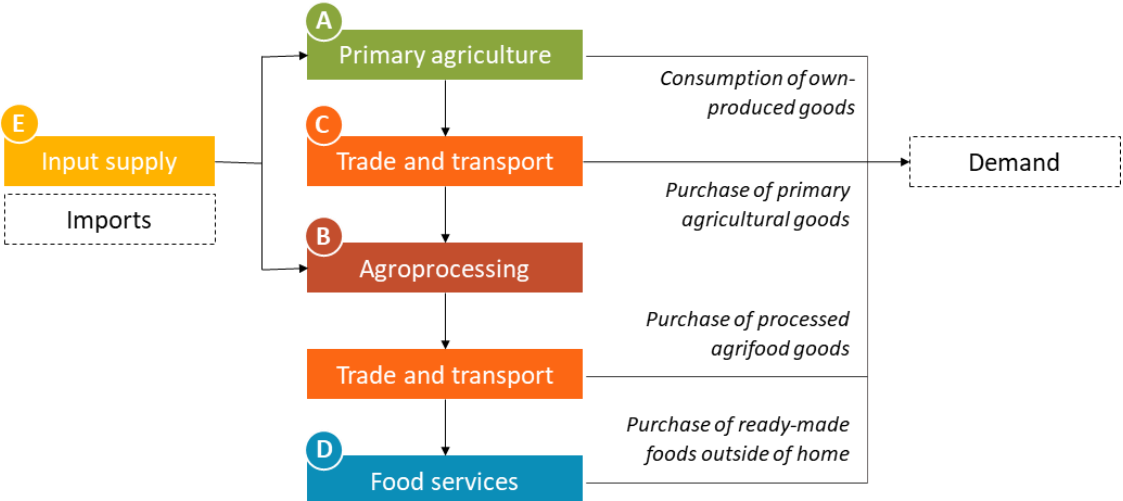
products; this leads to more nonfarm activities such as processing, packaging, transporting, and trading. In the early stages of transformation, the agriculture sector serves as an engine of rural—and even national—economic growth. Eventually, urbanization, the nonfarm economy, and nonagricultural incomes play more dominant roles in propelling agrifood system development, with urban and rural nonfarm consumers creating most of the demand for agricultural outputs via value chains that connect rural areas to towns and cities (Dorosh and Thurlow 2013). The exact nature of this transformation process varies across countries because of the diverse structure of their economies and the unique growth trajectories of their various agrifood and nonfood subsectors.

This brief describes the current and changing structure of Tajikistan's AFS and evaluates the potential contribution of different value chains to the acceleration of agricultural transformation and inclusiveness. We start by offering a simple conceptual framework of the AFS and then compare Tajikistan's AFS with that of other countries at different stages of development. We go on to disaggregate Tajikistan's AFS across agricultural value chains, taking into consideration their different market structures and historical contribution to economic growth and transformation. Finally, we use a forward-looking economywide model to assess the diverse contributions that specific value chains can make to each of a set of broad development outcomes. We conclude by summarizing our main findings.

A Simple Conceptual Framework of the Agrifood System

A country's AFS is a complex network of actors who are connected by their differing roles in supplying, using, and governing agrifood products (see Fanzo et al. 2020 for a detailed conceptual description of the AFS). In this brief, rather than examining all components of Tajikistan's AFS, we employ a narrower focus. We first measure its size, structure, and historical contribution to economic growth and transformation through a data-driven exercise; second, we use the International Food Policy Research Institute (IFPRI) Rural Investment and Policy Analysis (RIAPA) model (IFPRI 2023a) to assess the effectiveness of AFS growth (led by productivity gains in different agricultural value chains) in promoting multiple development outcomes in Tajikistan. Our measurement of the AFS is done from a supply-side perspective; that is, we use national accounts and employment statistics to either track or simulate growth and employment changes over time. By disaggregating the AFS into several value chain groups, this analysis offers a unique and useful perspective on the drivers of AFS growth and transformation.

Figure 1. A simple conceptual framework of the agrifood system



Source: Thurlow et al. (2023).

Figure 1 provides a simple conceptual framework of the AFS made up of five components, A to E (see Thurlow et al. 2023). *Primary agriculture* (A) comprises the supply and demand of all agricultural products including crops, livestock, fisheries, and forestry products. *Agroprocessing* (B) is part of the manufacturing sector and includes those subsectors that process agriculture-related food or nonfood products. *Trade and transport services* (C) includes those services associated with the transporting, wholesaling, and retailing of agrifood products between farms, firms, and final points of sale. *Food services* (D) includes services such as meals prepared at restaurants, food stalls, or hotels. Finally, *input supply* (E) is the portion of domestically produced intermediate inputs that is used directly in agricultural and agroprocessing production, such as fertilizers and financial services.

Using this conceptual framework, it is possible to measure the size and structure of Tajikistan’s AFS from a supply-side perspective. Following the definitions of Thurlow et al. (2023), AFS GDP (or AgGDP+) is the sum of the GDP contributions of the five components (A to E), while AFS employment (or AgEMP+) is the total number of jobs across those components. As the economy grows and transforms over time, there will be changes in the relative contributions of the various on-farm and off-farm components of the AFS to total AgGDP+ or AgEMP+. A transforming economy, for example, will typically be characterized by more rapid growth in the off-farm components of the AFS; there will thus be an increased contribution by off-farm components to AgGDP+ and AgEMP+ and a relative decline in the contribution of primary agriculture. By disaggregating AgGDP+ and AgEMP+ by specific agricultural value chains, we can further assess the contribution of each of those value chains to AFS growth and transformation.

Current Structure of Tajikistan’s Agrifood System

Table 1 presents the structure of Tajikistan’s AFS in 2020 based on the 2020 Social Accounting Matrix (SAM) for Tajikistan (IFPRI 2023b) compiled from official national accounts data and sectoral employment statistics (TAJSTAT 2020; ILO 2020). National estimates are broken down into estimates for the AFS (that is, AgGDP+ and AgEMP+) and the rest of the economy. The AFS is further broken down into its on-farm (primary agriculture) and off-farm components. The estimates for manufacturing and services (including the trade and transport services subsector) at the bottom of the table include activities

in both the AFS and non-AFS sectors, thus providing a perspective on the relative size of the off-farm AFS components within the overall manufacturing and services sectors.

Table 1. Current structure of Tajikistan’s agrifood system and economy (2020)

	GDP		Employment	
	Value (US\$ billion)	Share (%)	Workers (million)	Share (%)
Total economy	7.5	100.0	2.5	100.0
Agrifood system	2.9	39.0	1.7	66.3
Primary agriculture (A)	1.8	24.7	1.5	60.9
Off-farm AFS	1.1	14.3	0.1	5.4
Processing (B)	0.5	6.6	0.0	1.2
Trade and transport (C)	0.4	6.0	0.1	3.1
Food services (D)	0.1	0.9	0.0	0.3
Input supply (E)	0.1	0.8	0.0	0.8
Rest of economy	4.6	61.0	0.8	33.7
Total manufacturing	1.3	17.0	0.1	3.4
Total services	2.9	38.4	0.8	30.0
Total trade and transport	1.4	18.5	0.2	9.0

Source: Authors’ calculation based on the 2020 Social Accounting Matrix for Tajikistan (IFPRI 2023b).

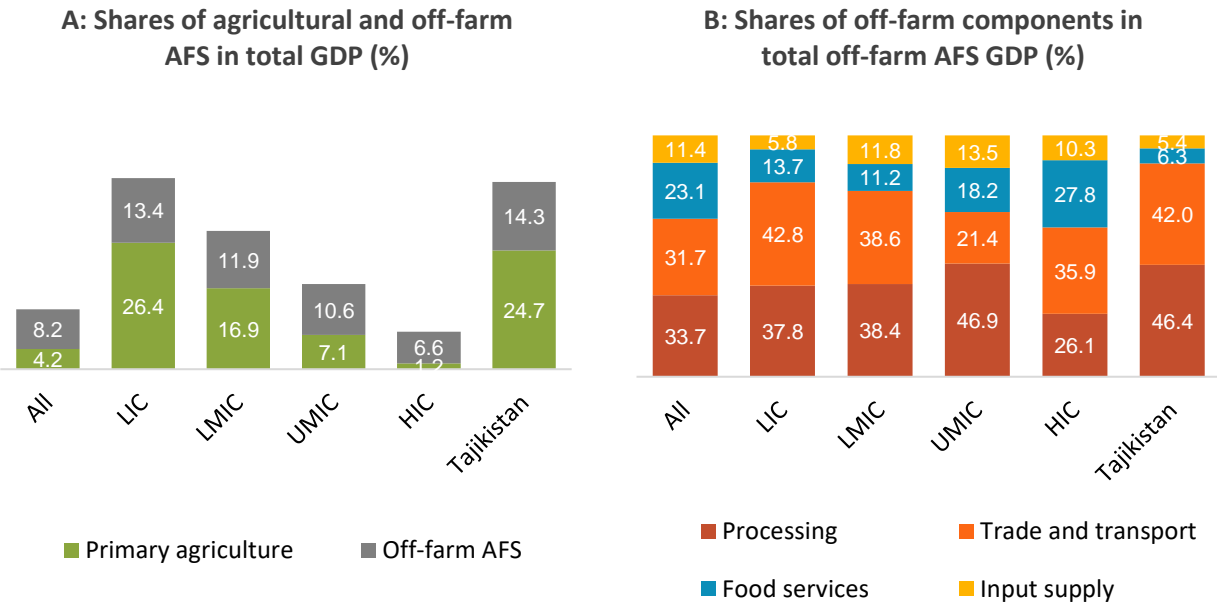
Note: A to E correspond to the five agrifood system components from Figure 1.

As shown in Table 1, in 2020 the AFS accounted for 39.0 percent of Tajikistan’s national GDP and 66.3 percent of employment. Primary agriculture alone contributed one-quarter of GDP and nearly two-thirds of employment, while the four off-farm components of the AFS contributed 14.3 percent to GDP and 5.4 percent to employment. The off-farm components of the AFS therefore accounted for roughly 40 percent of AgGDP+ and only 8 percent of AgEMP+. The comparison of on- and off-farm GDP and employment shares shows that labor productivity in the off-farm components of the AFS is significantly higher than on-farm productivity. The movement of farm workers into these off-farm components—a natural process of agricultural transformation—may thus be beneficial to household incomes.

Comparing Tajikistan’s Agrifood System to Other Countries

The structure and economic contribution of a country’s AFS varies at different stages of its development. Evidence of this is provided in Figure 2, which compares the 2020 AFS structures of low-income (LIC), lower-middle-income (LMIC), upper-middle-income (UMIC), and high-income countries (HIC). As an LMIC, both the on- and off-farm composition of Tajikistan’s AFS and its total contribution to national GDP are larger than those of its peer countries (Panel A). However, within the four off-farm components of the AFS, Tajikistan’s agroprocessing and trade and transport components are relatively larger than those in other LMICs, while the food service and input supply components are relatively smaller (Panel B).

Figure 2. Comparing Tajikistan’s agrifood system to other countries (2020)



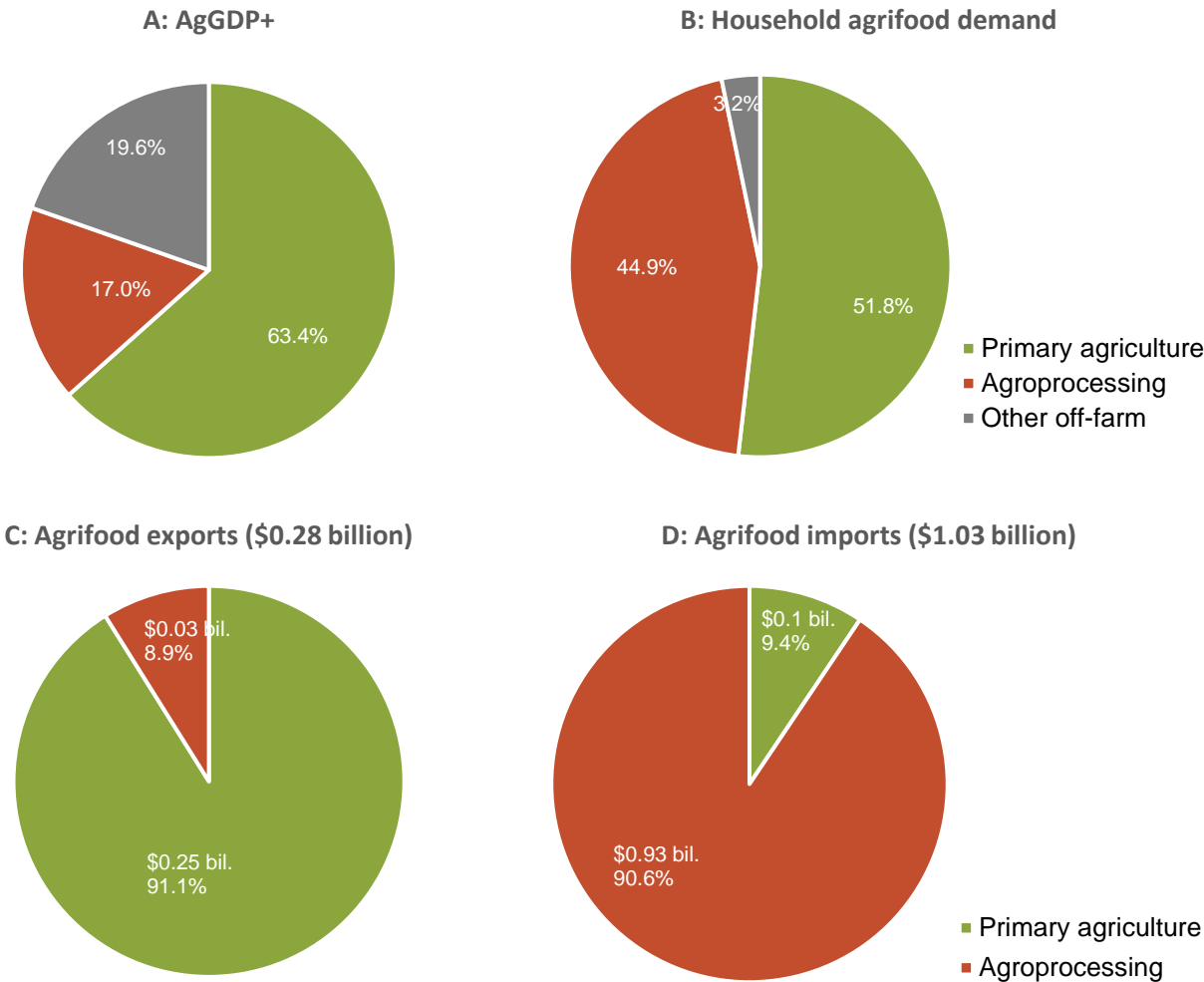
Source: IFPRI’s Agrifood System Database (Thurlow et al. 2023) and the 2020 Social Accounting Matrix for Tajikistan (IFPRI 2023b).

Note: LIC = low-income country; LMIC = lower-middle-income country; UMIC = upper-middle-income country; and HIC = high-income country; AFS = agrifood system.

Unpacking the Demand Side of Tajikistan’s Agrifood System

In Figure 3, the structure of Tajikistan’s AFS from the supply side, as measured by AgGDP+ (Panel A), is compared to the structure of the AFS from the demand side, as measured by household consumption of agrifood products (Panel B). While 63.4 percent of AgGDP+ is from primary agriculture, primary agricultural commodities account for only 51.8 percent of household demand. In contrast, household demand for processed agrifood products accounts for 44.9 percent of total agrifood demand, even though the associated sector accounts for only 17.0 percent of AgGDP+. The bias toward processed agrifood products is mirrored in the high share of agrifood imports accounted for by processed products; that is, 90.6 percent of agrifood commodity exports are primary agricultural commodities (Panel C), but 91.1 percent of imports are processed goods (Panel D). Tajikistan has a substantial deficit on its agrifood commodity trade balance for both primary agricultural and processed agrifood commodities—the value of Tajikistan’s agrifood commodity imports is almost three times the value of its agrifood exports.

Figure 3. Composition of agrifood system GDP, household demand, and trade (2020)



Source: Authors’ calculation based on the 2020 Social Accounting Matrix for Tajikistan (IFPRI 2023b).

Disaggregating the Agrifood System across Value Chains

For a more detailed assessment of structural and historical growth patterns within the AFS, we group Tajikistan’s agrifood system into 13 value chain groups (see Table A1 in the Appendix for details on how individual value chains (or subsectors) are mapped to value chain groups). The 13 value chain groups are further categorized into three subgroups based on their trade orientation. Exportable and importable value chains are defined, respectively, as those value chains with export-output and import-consumption ratios above the national average. Trade in both primary and processed agrifood products is considered in the calculation of these trade ratios. The remaining value chains are classified as less-traded value chains.

Table 2 shows the 13 value chain groups, categorized into exportable, importable, and less-traded value chains. The table also reports the contribution of each value chain group to AgGDP+, primary agricultural GDP, and GDP in the off-farm components of the AFS. Consistent with Figure 3, Table 2 shows that Tajikistan has a deficit in agrifood trade, with an import–consumption ratio of 19.9 percent,

which is much higher than the export–output ratio of 6.3 percent. Only 2 of the 13 value chains are classified as exportable value chains because their export–output ratios exceed the national average for AFS value chains. Tajikistan mainly exports primary agrifood products, and hence, these 2 exportable sectors together have a small off-farm AFS GDP share of 15.9 percent, less than their primary agricultural GDP share of 19.5 percent.

Table 2. Tajikistan’s agrifood system composition by trade orientation of value chains (2020)

	Share of GDP (%)			Exports / output (%)	Imports / demand (%)
	AFS (AgGDP+)	Primary agriculture	Off-farm AFS		
Total	100.0	100.0	100.0	6.3	19.9
Exportable	18.2	19.5	15.9	31.7	1.1
Cotton	4.5	5.5	2.9	65.7	
Fruits	13.6	13.9	13.0	19.4	1.2
Importable	30.8	17.7	53.5	0.3	37.5
Wheat	15.9	6.8	31.7	0.1	34.6
Other cereals	4.8	2.8	8.3	0.1	31.1
Oilseeds	6.5	6.9	5.9	0.1	24.3
Other crops	1.6	0.6	3.3	2.1	44.5
Fish	0.2	0.3	0.1	0.0	25.7
Forestry	1.7	0.3	4.2	0.2	62.0
Less traded	51.0	62.9	30.5	0.3	5.8
Pulses	2.4	3.3	0.7	0.1	5.4
Roots	7.4	10.4	2.0		1.0
Vegetables	25.5	35.8	7.6	0.6	1.0
Cattle and dairy	10.8	7.3	16.9	0.1	15.3
Other livestock	5.0	6.0	3.3	0.1	3.1

Source: Authors’ calculation based on the 2020 Social Accounting Matrix for Tajikistan (IFPRI 2023b).

Five of the 13 value chains fall in the less-traded group of value chains, together accounting for 51.0 percent of AgGDP+. Most of these less-traded value chains have small off-farm components, and hence these value chains contribute a disproportionately smaller share to off-farm AFS GDP (30.5 percent) compared to their primary agricultural GDP contribution (62.9 percent). The cattle and dairy value chain is a clear exception, in that it is associated with significant value addition (such as meat processing and dairy products) and more than 15 percent of domestic consumption is met by imports, yet it is classified as a less-traded value chain. Tajikistan relies heavily on imports for agrifood consumption; of the 13 value chains, 6 are classified as importable value chains, many of which have import–consumption ratios greater than one-third of their domestic demand. Many importable value chains have a disproportionately large share of off-farm components, and together these sectors account for 53.5 percent of total off-farm AFS GDP, which far exceeds their primary agricultural share of GDP (17.7 percent). Thus, importable value chains compete not only with primary agricultural imports but also with

processed agrifood imports. Expansion of some importable value chains together with fruits (exportable) and cattle and dairy (less traded) could effectively drive agricultural transformation by boosting value addition and off-farm employment in the value chain.

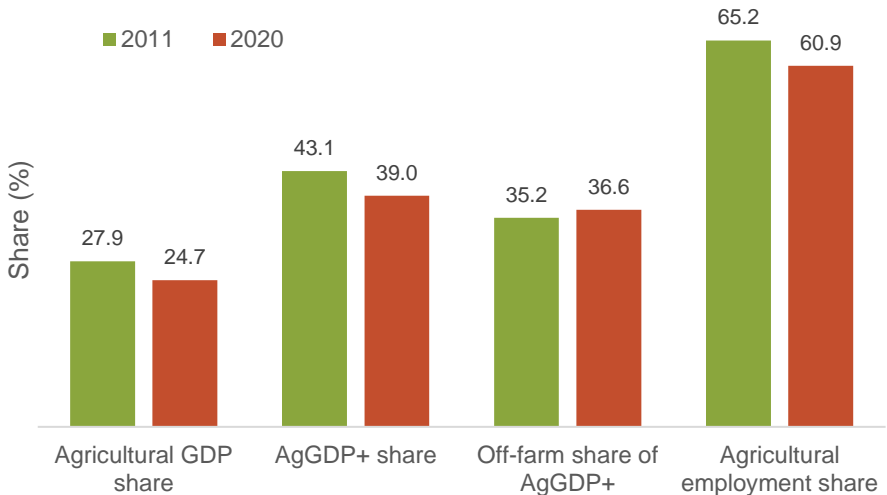
Structural Change and Drivers of Agrifood System GDP Growth

The previous sections have provided a snapshot of the current structure of Tajikistan’s AFS, the decomposition of the AFS across the 13 value chain groups, and the trade orientation of those value chains. We have demonstrated that Tajikistan relies on imports for many agrifood products to meet domestic demand. The country’s AFS GDP is dominated by six importable and five less-traded value chains. Some of these value chains are more oriented toward value addition in the off-farm components of the AFS (that is, their contribution to off-farm AFS components is large relative to their contribution to primary agriculture). Prioritizing growth in some importable value chains together with fruits (an exportable value chain) and cattle and dairy (a less-traded value chain) could be an effective strategy for expanding off-farm value addition and jobs, which contributes positively to AFS transformation.

In this section, we assess the performance and structural transformation of Tajikistan’s AFS in recent years. Labor productivity is typically lowest in primary agriculture, and higher in off-farm activities, such as in agrifood processing, food services, or in sectors outside of the AFS. Economic growth and urbanization are associated with relatively faster growth in these nonagricultural sectors, which could help create higher-paying jobs for both rural and urban households. As such, even smallholder farm households with family members who obtain off-farm employment may benefit from structural transformation.

Figure 4 compares the shares of agricultural GDP and AgGDP+ in Tajikistan’s national GDP, as well as agricultural employment as a share of total employment. It also includes an estimate of the share of the off-farm components in AgGDP+. The figure covers the period from 2011 to 2020. Agricultural GDP and AgGDP+ shares as well as the agricultural employment share all fell between 2011 and 2020, while the off-farm component of AgGDP+ increased. The rapid growth in the broad economy was accompanied by economic structural change and Tajikistan’s AFS has been transforming; however, primary agriculture remains a large sector, particularly in total employment.

Figure 4. Agricultural GDP, agrifood system GDP, and employment shares (2011–2020)



Source: Authors’ estimates using the 2011 and 2020 Social Accounting Matrixes for Tajikistan (IFPRI 2023b).

Table 3 evaluates the growth performance across AFS value chains over the 2011 to 2020 period. As before, value chains are grouped according to their trade status, that is, exportable, importable, and less traded. Overall, Tajikistan’s AFS grew rapidly, with an average annual AgGDP+ growth rate of 6.0 percent. The off-farm component of the AFS grew faster (6.4 percent) than primary agriculture (5.7 percent), with agrifood processing, a subcomponent of the off-farm component of the AFS, growing particularly fast at 10.1 percent per year.

Table 3. Agrifood system GDP growth rates by value chain (2011–2020)

	Average annual GDP growth rate (%)			
	Total AFS	Primary agriculture	Off-farm AFS	Agro-processing
Total AFS	6.0	5.7	6.4	10.1
Exportable	6.3	5.5	8.0	14.1
Fruits*	7.3	6.5	9.0	14.1
Cotton	3.6	3.4	4.3	
Importable	4.7	3.2	5.7	9.6
Wheat*	6.4	4.9	7.0	9.5
Other cereals	5.5	3.1	7.3	9.8
Oilseeds	0.8	1.1	0.3	9.4
Other crops	1.9	9.2	0.4	9.5
Fish*	11.8	11.7	12.1	9.4
Forestry*	9.7	8.4	9.9	11.9
Less traded	6.7	6.6	6.9	9.6
Pulses	2.0	1.9	3.1	9.4
Roots	3.9	3.8	4.7	
Vegetables*	8.8	8.8	8.6	9.5
Cattle and milk*	6.9	7.0	6.9	9.6
Other livestock	4.1	3.7	5.7	9.4

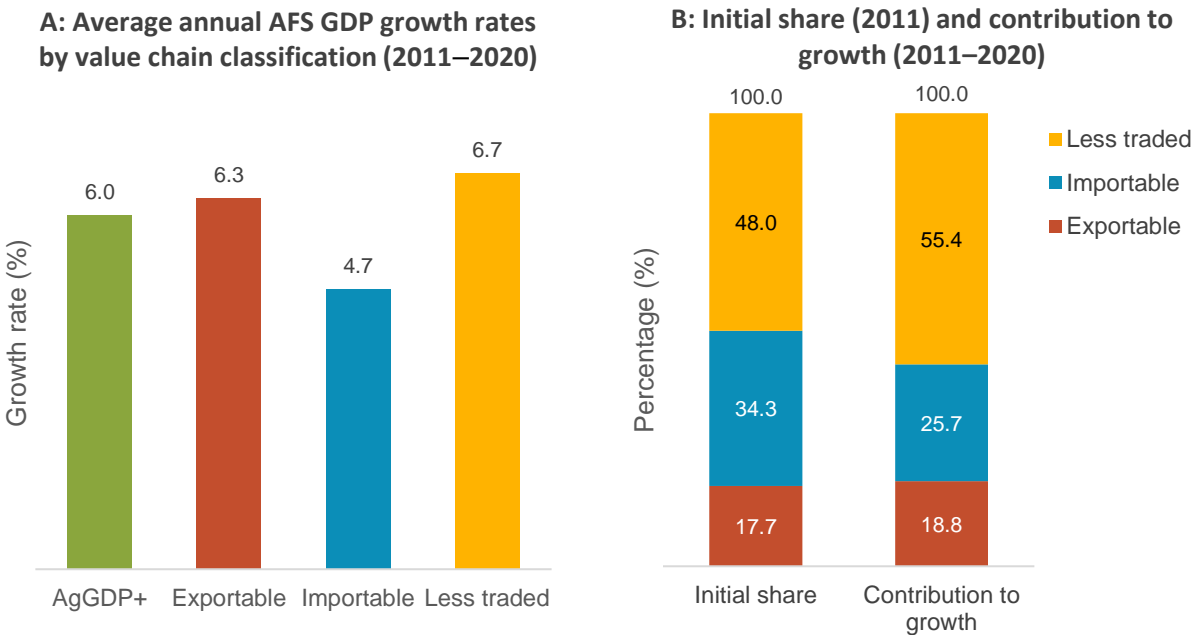
Source: Authors’ analysis using the 2011 and 2020 Social Accounting Matrixes for Tajikistan (IFPRI 2023b).

Note: Value chains that experienced above-average AgGDP+ growth over the period 2009–2019 (that is, higher than 6.0 percent) are marked with an asterisk (*).

Among the 13 value chains, 6 achieved above-average growth during the 2011–2020 period, that is, more than 6.0 percent per year (these are marked with an asterisk in Table 3). The fruits value chain, one of the two exportable value chains, together with three importable value chains (wheat, fish, and forestry) and two less-traded value chains (vegetables and cattle and milk) grew faster than the AFS average. In most of these rapidly growing value chains, growth in the off-farm components was faster than growth in the primary agricultural component. In all these value chains that achieved above-average growth—and in many of the slower-growing value chains too—the processing components grew especially rapidly. This is consistent with the broader patterns of growth and structural change in Tajikistan’s AFS, which shows that growth in the off-farm components of the AFS was faster than the growth on-farm, and processing agricultural GDP grew more rapidly.

Figure 5 summarizes the key growth trends from Table 3. On average, less-traded (6.7 percent) and exportable (6.3 percent) value chains grew faster than the national average growth in AgGDP+ (6.0 percent) (Panel A). Since exportable value chains only make up a small share of the AFS (17.7 percent), however, the larger less-traded and importable groups of value chains contributed the most to growth, 55.4 and 25.7 percent, respectively (Panel B).

Figure 5. Drivers of Tajikistan’s AFS GDP growth (2011–2020)



Source: Authors’ analysis using the 2011 and 2020 Social Accounting Matrixes for Tajikistan (IFPRI 2023b).

Assessing Growth Outcomes Using IFPRI’s RIAPA Model

IFPRI’s Rural Investment and Policy Analysis (RIAPA) model is a tool for conducting forward-looking, economywide country-level analysis (IFPRI 2023a). RIAPA has been used in a wide variety of contexts to simulate the impacts of policies, investments, or economic shocks. Here we employ RIAPA to assess the effectiveness of productivity-led growth in different agricultural value chain groups in Tajikistan to promote multiple development outcomes. The analysis was carried out for 9 value chain groups, which were selected from the original list of 13; other crops and forestry were excluded, and wheat and other cereals, and oilseeds and pulses were combined as 2 value chains in the simulation. We considered four development outcomes:

- A poverty–growth elasticity that measures the percentage-point change in the poverty headcount rate per unit of agricultural GDP growth generated within the targeted value chain;
- A growth multiplier that measures the change in GDP per unit of increase in agricultural GDP in the targeted value chain;
- An employment multiplier that measures the change in the number of jobs created per unit of increase in agricultural GDP in the targeted value chain; and
- A diet-quality indicator that measures the percentage change in a diet quality index per unit of agricultural GDP growth generated within the targeted value chain.

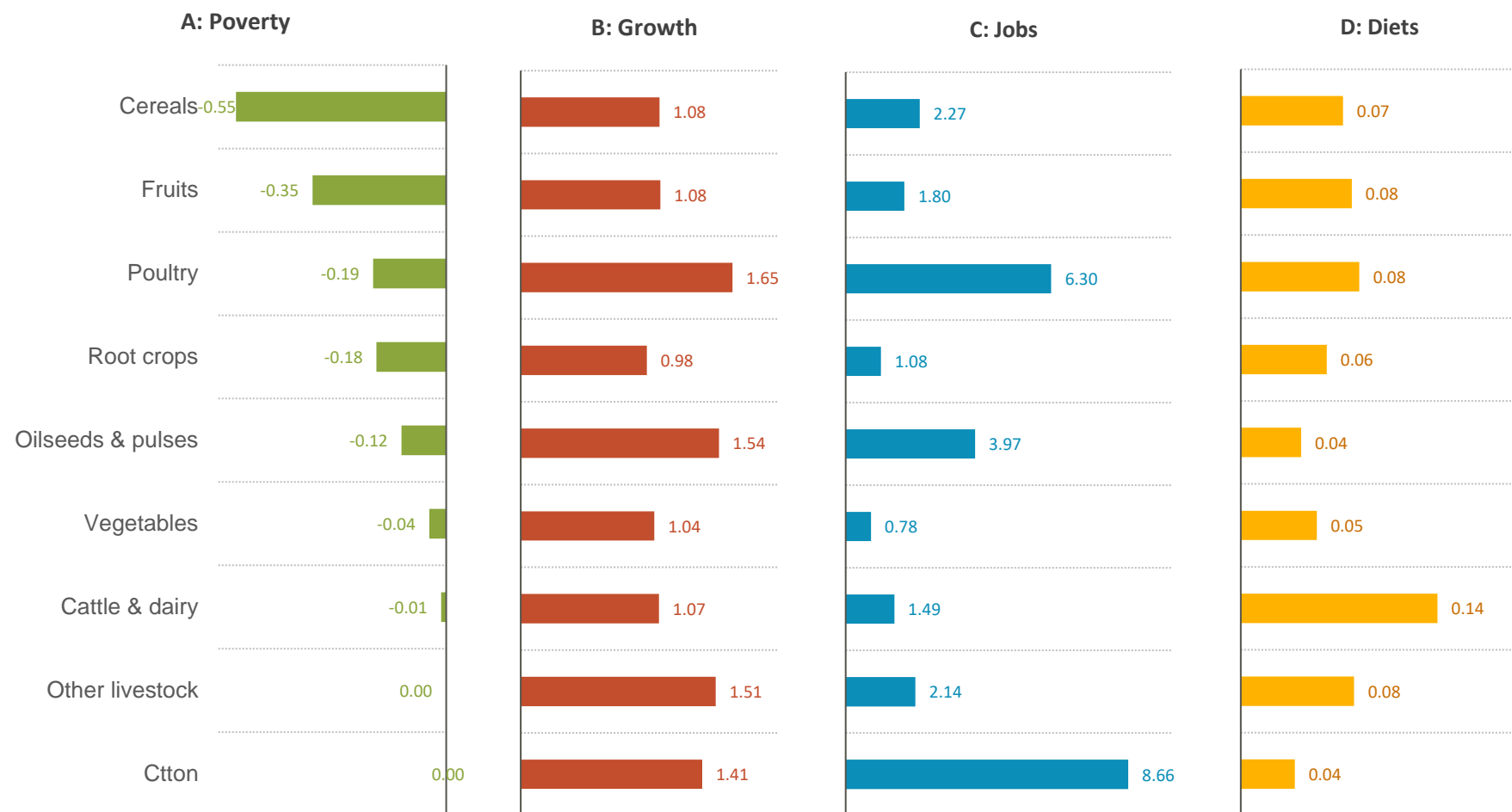
The simulations entail increasing on-farm productivity separately in each targeted value chain and comparing development outcomes across the value chains. While this exogenous productivity shock is imposed only in the primary agriculture component of each value chain, there are spillover effects into that value chain's off-farm components as well as into other agricultural value chains or sectors outside the AFS. These spillovers are captured by the economywide model and provide an indication of the transformation effect that agricultural productivity growth in the value chain has within the AFS and the broader economy. There are also structural differences across value chains; for example, value chains have unique links to other sectors as suppliers or users of intermediate inputs, or they have unique links to rural or urban households in different income groups because of the types of workers they employ or the consumption preferences of households for the agrifood products produced by those value chains.

As such, each value chain growth scenario is expected to have a unique impact on the development outcomes; moreover, not all value chains will be equally effective at improving outcomes. In some cases, there may even be trade-offs because of competition for resources across value chains. With the aid of the RIAPA model, these complex effects can be unpacked, thus providing information to governments or development partners that can be used to prioritize across different value chains; this is subject, of course, to the development outcomes they value most highly.

Figure 6 shows the scores each value chain achieves across the five development outcome indicators. We arbitrarily rank the value chains by their poverty score. Value chains clearly differ significantly in terms of their effectiveness in improving different development outcomes. For example, the cereal value chain has strong poverty effects, but it is much less effective in improving diet quality. In contrast, the poultry value chain has a growth multiplier of 1.65, the highest of all value chains, which means that for every US\$1.00 increase in GDP in the poultry value chain driven by rising productivity, an additional US\$1.65 is generated in total GDP, that is, US\$0.65 is generated either in the off-farm components of the poultry value chain or in other value chains or sectors of the economy; however, the poultry value chain ranks relatively low on the poverty outcome.

These results highlight the possible trade-offs that may emerge when prioritizing individual value chains, as there is no single value chain that is the most effective at achieving every development objective. Promoting a few value chains jointly will not only diversify agricultural growth but can also help to simultaneously achieve multiple development objectives.

Figure 6. Impact of value chain growth on development outcomes



Source: RIAPA model results.

Note: Panel A shows the percentage point changes in poverty rate that are associated with a 1 percent increase in agricultural GDP; Panel B shows the percentage point changes in hunger rate that are associated with a 1 percent increase in agricultural GDP; Panel C shows the changes in total GDP (in US\$ millions) that are associated with a US\$1.0 million increase in agricultural GDP from the targeted value chain; Panel D is the change in total economywide employment (in thousand persons) that is associated with a US\$1.0 million increase in agricultural GDP from the targeted value chain; and Panel E is the percentage improvement in diet quality that is associated with a 1 percent increase in agricultural GDP. The figure is ordered by the poverty rate outcome.

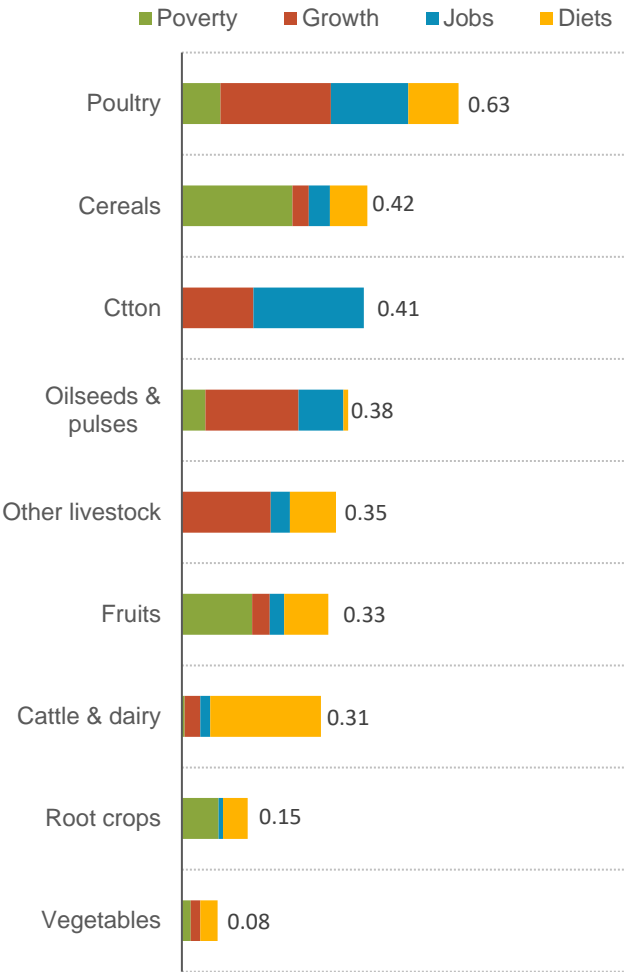
A composite score across different outcome indicators is created to narrow down the number of value chains that might be prioritized. Since the different outcome indicators have different underlying units, the individual outcomes are normalized so that they are comparable while still retaining their ranking within the outcome category. Normalization entails assigning a score of 1 to the value chain that is most effective within an outcome category and a score of 0 to the least effective value. All value chains with adverse effects on an outcome are also assigned a score of 0. This includes value chains with a growth multiplier of less than one (like root crops) or those with negative poverty effects (such as, other livestock and cotton). The remaining value chains receive a score between 0 and one that is proportionate to its original score relative to the highest-ranked value chain. The individual normalized scores for the outcomes are then combined into a composite score for each value chain.

The default approach assumes that each of the four outcome indicators is equally important, so an equal weight is assigned to each score. However, if policymakers consider a particular development outcome to be more or less important than the other outcomes, the weights assigned to each particular outcome score can be adjusted accordingly.

Figure 7 presents the composite scores using equal weights across the four development outcome indicators. Each component in the bars shows the relative contribution of a particular outcome indicator in the final score. The poultry, cereals, and cotton value chains are ranked highest. For poultry and cereals (the two highest-ranked value chains), each of the four outcome components makes some contributions to their composite scores.

By contrast, in the (third-ranked) cotton value chain, there is no contribution from the poverty and diet components, which means cotton-led growth would not contribute positively to poverty reduction or diet quality improvement, even though it could have important impacts on growth and jobs. While a ranking of their impacts on multiple development outcomes based on composite scores allows us to identify and prioritize value chains, trade-offs clearly exist as to which outcomes are most significantly affected by productivity-led growth in each value chain.

Figure 7. Composite score of development outcomes: Equal weights



Source: RIAPA model results.

Note: The composite score is a simple average (equally weighted) of the scores for each of the four outcome categories; the figure is ordered according to the highest composite score.

Summary

Tajikistan’s economy grew rapidly at 6.8 percent per year in the decade between 2011 and 2020. Although the agrifood system (AFS) did not grow as fast, it still achieved a respectable growth rate of 6.0 percent per year. Since about two-thirds of the labor force in Tajikistan is engaged in the AFS, this growth was important for household income growth and poverty reduction—national poverty was cut by half from 53.1 percent in 2007 to 26.3 percent in 2019 (World Bank 2023a). Rapid growth in the broader economy and in the AFS led to significant structural change within Tajikistan’s AFS. The growth rate for the off-farm components of the AFS was higher than the growth on-farm—6.4 and 5.7 percent, respectively—and the off-farm share of the AFS increased. Both the agricultural GDP and agricultural employment shares declined over this period, but agriculture remains a relatively large sector in Tajikistan.

Most growth in Tajikistan’s AFS that occurred between 2011 and 2020 was contributed by less-traded value chains (55.4 percent) and importable value chains (25.7 percent). The large contribution from the

group of less-traded value chains is explained both by its large initial size and above-average growth rate. Growth in the group of importable value chains was below average, but this is also a relatively large value chain group, which explains its significant contribution to overall AFS growth.

The RIAPA model-based comparison of future sources of growth shows that there is no single value chain group that is the most effective in achieving all desired development outcomes, that is, declining poverty, economic growth, job growth, and improved diets. The poultry, cereal, and cotton value chains rank highly in their composite outcome scores. While the top two highest-ranked value chains (poultry and cereal) made important contributions to poverty, GDP, jobs, and diet outcomes, cotton-led growth could not contribute to poverty and diets, though its impacts on GDP and jobs are substantial. Thus, promoting these value chains together offers an effective and broad-based way to achieve these development outcomes.

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Appendix

Table A1. Value chain groups and their corresponding agricultural subsectors

Value chain groups and their share of AgGDP+	Individual value chains (or agricultural subsectors) in the group and their share of the group's agricultural GDP
Wheat (15.9%)	Wheat 100%
Other cereals (4.8%)	Maize 79.6% Rice 20.4%
Pulses (2.4%)	Pulses 100%
Oilseeds (6.5%)	Groundnuts 4.9% Other oilseeds (including cottonseeds, sunflower seeds, sesame seeds, etc., dominated by cotton seeds) 95.1%
Roots (7.4%)	Irish potatoes 100%
Vegetables (25.5%)	Vegetables 100%
Fruits (13.6%)	Nuts 4.7% Fruits (including fresh and dried fruits) 95.3%
Cotton (4.5%)	Cotton 100%
Other crops (1.6%)	Tobacco 4.0% Other crops 96.0%
Cattle & dairy (10.8%)	Cattle meat 31.9% Raw milk 68.1%
Other livestock (5.0%)	Poultry meat 15.6% Eggs 63.5% Small ruminants 11.2% Other livestock 9.7%
Fish (0.2%)	Fish 100%
Forestry (1.7%)	Forestry 100%

Source: Authors' calculation based on the 2020 Social Accounting Matrix for Tajikistan (IFPRI 2023b).

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