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Burkina Faso's Agrifood System

Structure and Drivers of Transformation

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Introduction

Burkina Faso experienced strong annual economic growth of 6.0 percent between 2009 and 2019 (NISD 2021). However, the global COVID-19 pandemic caused a significant slowdown in economic growth in 2020, while an increase in armed insurgencies by domestic terrorist groups also had an adverse effect on the economy. Burkina Faso's GDP growth is projected to reach 5.0 percent in 2023 and 5.3 percent in 2024 (World Bank 2023), suggesting the economy is unlikely to return to its pre-pandemic growth trajectory. Agriculture remains an important sector, accounting for one-fifth of GDP and nearly half of employment in Burkina Faso. The agriculture sector also performed well, growing at around 5 percent annually in the 2009 to 2019 period (NISD 2021). In this brief, we look beyond primary agriculture to understand how Burkina Faso's broader agrifood system (AFS) is contributing to growth and transformation in the country.

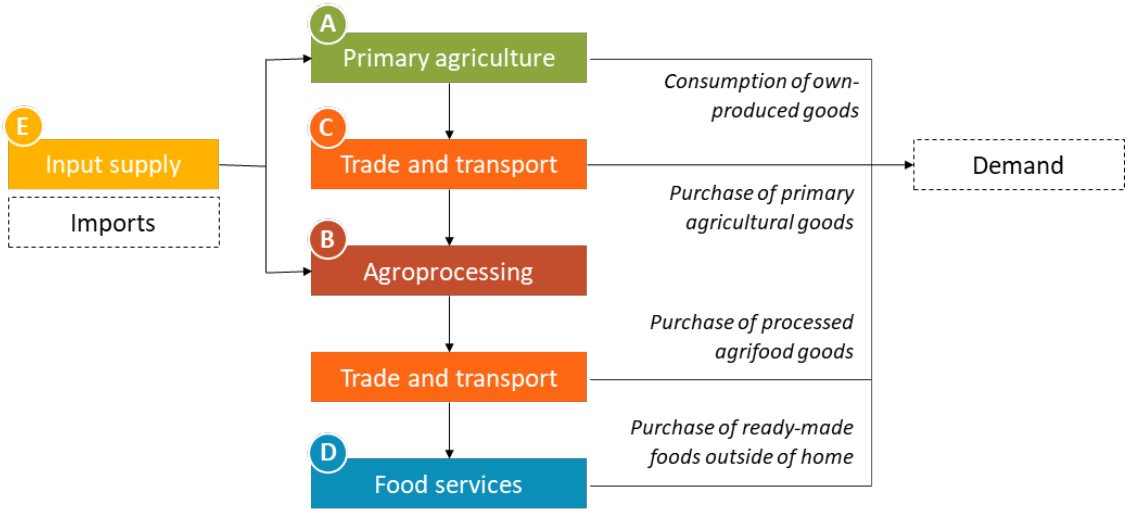
The AFS is a complex network of actors who are connected by their roles in supplying, consuming, and governing agrifood products and jobs. Just as an economy undergoes transformations as a country develops, agrifood systems are also expected to evolve (Diao, Hazell, and Thurlow 2010; Timmer 1988). Subsistence 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 of 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 Burkina Faso's AFS and evaluates the potential contribution of different value chains to accelerate agricultural transformation and to make it more inclusive. We start by offering a simple conceptual framework of the AFS and apply that framework to compare Burkina Faso's AFS to that of other countries at different stages of development. We then disaggregate Burkina Faso'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 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 Burkina Faso's AFS, we employ a narrower focus. We first measure its size, structure, and historical contribution to economic growth and transformation through what is primarily 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 Burkina Faso. 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 manu-

facturing 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 Burkina Faso'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 economies grow and transform 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 be thus an increased contributions 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 Burkina Faso's Agrifood System

Table 1 presents the structure of Burkina Faso's AFS in 2019 based on official national accounts data and sectoral employment statistics (INSD 2021; ILO 2020), as compiled in a 2019 Social Accounting Matrix (SAM) for Burkina Faso (IFPRI 2023b). 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; they thus provide a perspective on the relative size of the off-farm AFS components within the overall manufacturing and services sectors.

As shown in Table 1, the AFS accounted for 35.6 percent of Burkina Faso's national GDP and 66.3 percent of employment in 2019. Primary agriculture alone contributed one-fifth of GDP and nearly half of employment, while the four off-farm components of the AFS contributed 15.3 percent to GDP and 18.7 percent to employment. Off-farm components of the AFS therefore accounted for 43 percent of AgGDP+ and 28 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— therefore may be beneficial to their household incomes.

Table 1. Current structure of Burkina Faso's agrifood system and economy (2019)

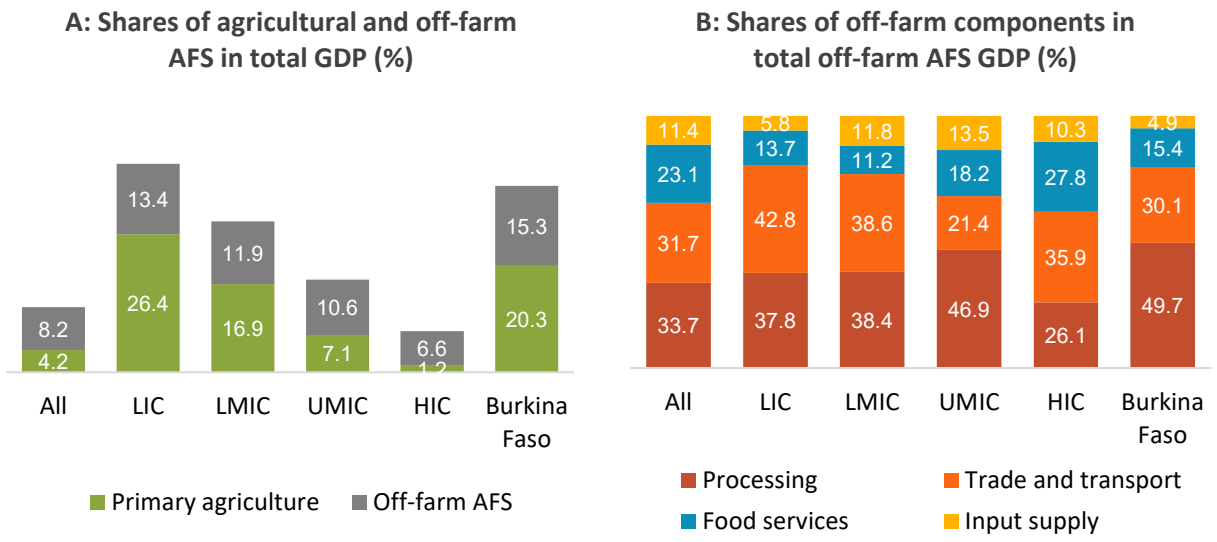
	GDP		Employment	
	Value (US$ billion)	Share (%)	Workers (million)	Share (%)
Total economy	**14.6**	**100**	**7.0**	**100**
Agrifood system	**5.2**	**35.6**	**4.6**	**66.3**
Primary agriculture (A)	3.0	20.3	3.9	47.6
Off-farm AFS	2.2	15.3	1.3	18.7
Processing (B)	1.1	7.6	0.4	5.8
Trade and transport (C)	0.7	4.6	0.7	9.8
Food services (D)	0.3	2.4	0.2	2.7
Input supply (E)	0.1	0.7	0.0	0.5
Rest of economy	**9.4**	**64.4**	**2.3**	**33.7**
Total manufacturing	1.6	11.1	0.7	10.7
Total services	7.3	49.7	2.4	34.7
Total trade and transport	1.6	10.7	1.4	20.6

Source: Authors' calculation based on the 2019 Social Accounting Matrix for Burkina Faso (IFPRI 2023b).
Note: A to E correspond to the five agrifood system (AFS) components from Figure 1.

Comparing Burkina Faso's Agrifood System to 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 2019 AFS structures of low-income (LIC), lower-middle-income (LMIC), upper-middle-income (UMIC), and high-income countries (HIC). As an LIC, both the on- and off-farm composition of Burkina Faso's AFS and its contribution to national GDP are comparable to that of its peer countries (Panel A). Within the four off-farm components of the AFS, however, Burkina Faso's agroprocessing is relatively larger than what is seen in other LICs, while the agrifood trade and transport component is relatively smaller (Panel B).

Figure 2. Comparing Burkina Faso's agrifood system to other countries (2019)

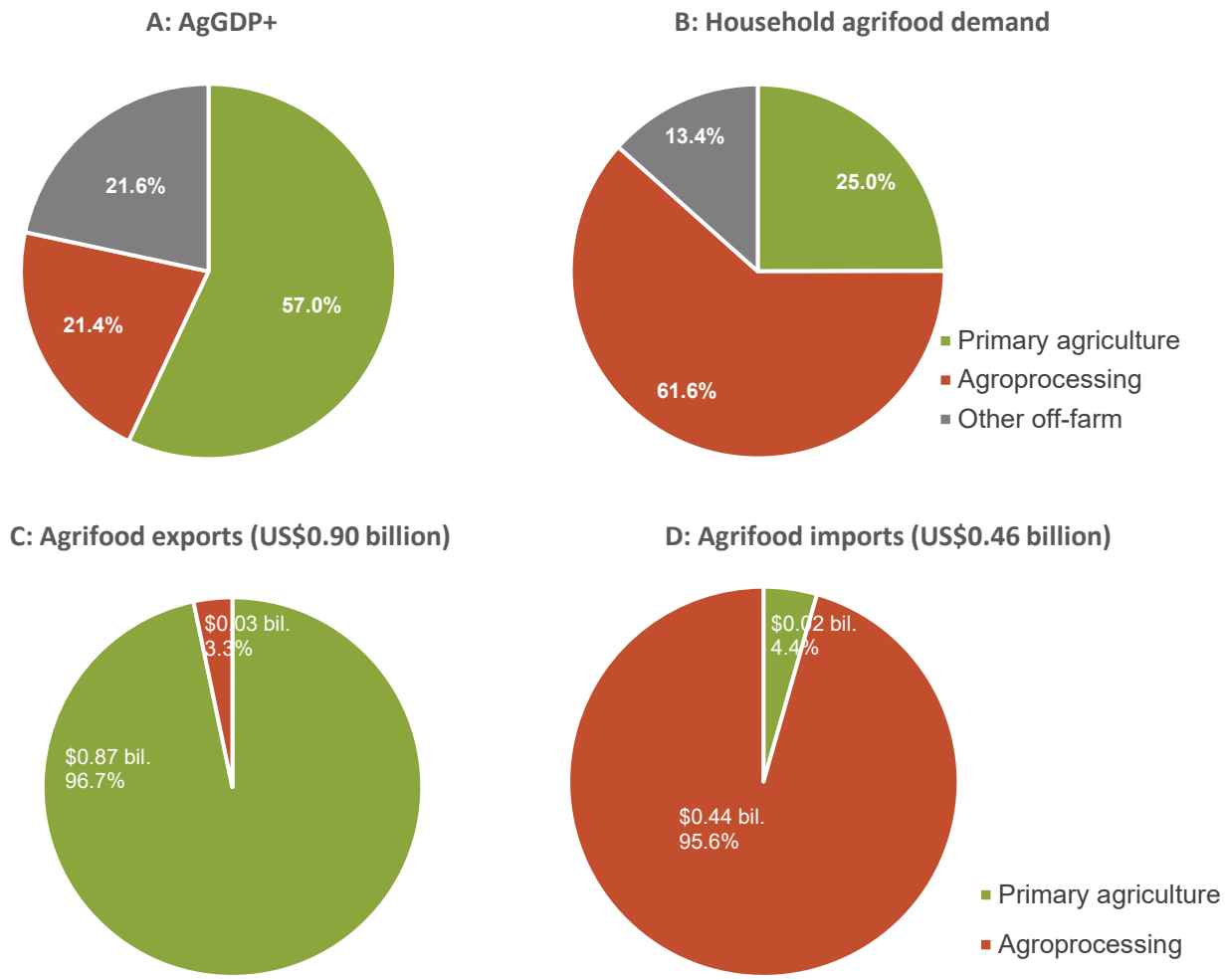


Source: IFPRI's Agrifood System Database (Thurlow et al. 2023) and the 2019 Social Accounting Matrix for Burkina Faso (IFPRI 2023b).
Note: LIC = low-income country; LMIC = lower-middle-income country; UMIC = upper-middle-income country; and HIC = high-income country.

Unpacking the Demand Side of Burkina Faso's Agrifood System

In Figure 3, the structure of Burkina Faso'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 57 percent of AgGDP+ is from primary agriculture, primary agricultural commodities account for only 25 percent of household demand. Household demand for processed agrifood products, in contrast, accounts for 61.6 percent of total agrifood demand, even though the associated sector accounts for only 21.4 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, 96.7 percent of agrifood commodity exports are primary agricultural commodities (Panel C), but 95.6 percent of imports are processed goods (Panel D). Burkina Faso nevertheless maintains a surplus on its total agrifood commodity trade balance driven by the surplus in primary agricultural trade, while processed agrifood imports are 10 times the processed agrifood exports.

Figure 3. Composition of agrifood system GDP, household demand, and trade (2019)



Source: Authors' calculation based on the 2019 Social Accounting Matrix for Burkina Faso (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 Burkina Faso'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 on the basis of 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 off-farm components of the AFS. Consistent with Figure 3, Table 2 shows that Burkina Faso has some comparative advantage in exports, with an export–output ratio of 10.7 per-

cent slightly higher than the import–consumption ratio of 6.1 percent. Of the 13 value chains, 3 are classified as exportable value chains because their export–output ratios exceed the national average for AFS value chains. Burkina Faso's exports are mainly primary agricultural products, and hence, these exportable sectors have a relatively small off-farm AFS GDP share of 25.5 percent, less than their primary agricultural GDP share of 35.4 percent. Interestingly, the oilseed sector (an exportable value chain) also has a high import–consumption ratio. This reflects an increased demand for processed agrifood products, many of which are imported. In this case, exports from the oilseed value chain are primary seed products, while imports into that value chain are cooking oils.

Table 2. Burkina Faso's agrifood system composition by trade orientation of value chain (2019)

	Share of GDP (%)			Exports / output (%)	Imports / demand (%)
	AFS (AgGDP+)	Primary agriculture	Off-farm AFS		
Total	**100**	**100**	**100**	**10.7**	**6.1**
Exportable	**30.1**	**35.4**	**24.5**	**37.2**	**8.5**
Oilseeds	19.3	24.3	12.7	39.1	12.8
Horticulture	8.2	7.3	9.4	19.3	2.7
Cotton	2.5	3.7	1.0	65.0	
Importable	**9.0**	**5.3**	**14.9**	**0.0**	**22.3**
Rice	2.7	1.6	4.2		41.3
Other crops	4.8	1.8	8.8	0.0	14.2
Fish	1.5	1.9	1.0		10.9
Less traded	**58.3**	**59.3**	**60.6**	**0.1**	**1.0**
Maize	8.1	7.5	8.9	0.2	0.4
Sorghum	16.2	16.3	16.0	0.1	
Pulses	3.1	5.2	0.2		
Roots	0.9	1.0	0.7	0.1	2.6
Cattle and dairy	17.9	16.0	20.4	0.0	1.9
Other livestock	7.1	9.6	3.6	0.1	2.2
Forestry	5.2	3.7	7.1	0.0	0.1

Source: Authors' calculation based on the 2019 Social Accounting Matrix for Burkina Faso (IFPRI 2023b).

Seven of the 13 value chains fall in the less-traded group of value chains, and they together account for 58.3 percent of AgGDP+. These value chains contribute similar shares to on- and off-farm AFS GDP (59.3 and 60.6 percent respectively). The cattle and dairy value chain is a clear exception, and is associated with more value addition off-farm (for example, meat processing and dairy products). The expansion of this sector, thus, could effectively drive agricultural transformation by boosting value addition and off-farm employment in the value chain.

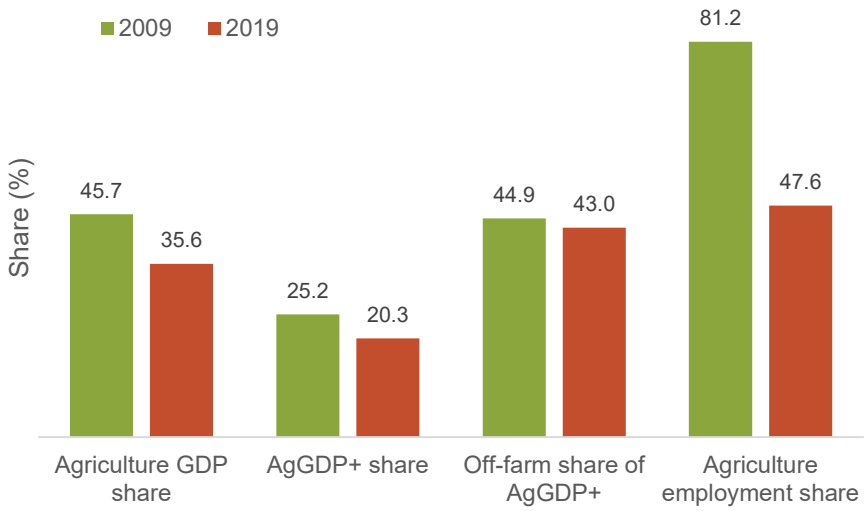
Structural Change and Drivers of Agrifood System GDP Growth

The previous sections have provided a snapshot of the current structure of Burkina Faso's AFS, the disaggregation of the AFS across the 13 value chain groups, and the trade orientation of those value chains. We have demonstrated that Burkina Faso has some comparative advantage in agrifood exports, while less-traded value chains are dominant in terms of their contribution to AgGDP+. Except for cattle and dairy, these value chains have similar contributions to on- and off-farm components of AgGDP+. Prioritizing growth in some tradable value chains and cattle and dairy could therefore 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 Burkina Faso's AFS in recent years. Labor productivity is typically lowest in primary agriculture, and higher in off-farm activities, such as agrifood processing and food services, and in sectors outside of the AFS. Economic growth and urbanization are associated with relatively faster growth in these nonagricultural sectors, which can 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 Burkina Faso's national GDP, and agricultural employment as a share of total employment. It covers the period between 2009 and 2019. The figure also includes an estimate of the share of the off-farm component in AgGDP+. Agricultural GDP and AgGDP+ shares fell, and the decline in the agricultural employment share was particularly large between 2009 and 2019. The off-farm component of AgGDP+ increased, but the change was modest. Burkina Faso's AFS has been transforming along with rapid growth and a structural change in the broad economy, while primary agriculture remains a large sector, particularly in terms of its employment share.

Figure 4. Agricultural GDP, agrifood system GDP, and employment shares (2009–2019)



Source: Authors' estimates using the 2009 and 2019 Social Accounting Matrixes for Burkina Faso (IFPRI 2023b).

Table 3 evaluates the growth performance across AFS value chains over the 2009 to 2019 period. As before, value chains are grouped according to their trade status, that is, exportable, importable, and less traded. Overall, Burkina Faso's AFS grew rapidly, with an average annual AgGDP+ growth rate of 5.0 percent. The on- and off-farm components of the AFS grew at a similar pace, at 5.4 and 4.5 percent per year, respectively.

Table 3. Agrifood system GDP growth rates by value chain (2009–2019)

	Average annual GDP growth rate (%)			
	Total AFS	Primary agriculture	Off-farm AFS	Agro-processing
Total AFS	**5.0**	**5.4**	**4.5**	**4.5**
Exportable	**6.1**	**7.6**	**3.7**	**2.4**
Oilseeds*	6.6	7.7	4.3	3.3
Horticulture	4.3	6.3	2.6	1.4
Cotton*	9.5	9.8	8.0	
Importable	**3.8**	**3.5**	**3.9**	**3.8**
Rice	4.5	4.4	4.6	3.9
Other crops	3.6	1.7	4.2	4.5
Fish	3.0	4.6	-0.1	-3.1
Less traded	**4.6**	**4.4**	**5.0**	**5.7**
Maize	4.5	4.3	4.7	5.3
Sorghum	3.8	3.2	4.8	5.9
Pulses	4.0	4.0	2.3	
Roots	0.8	-0.7	4.1	4.6
Cattle and dairy*	6.6	7.8	5.5	5.7
Other livestock	4.8	5.1	3.7	3.3
Forestry	2.6	-0.2	5.2	6.6

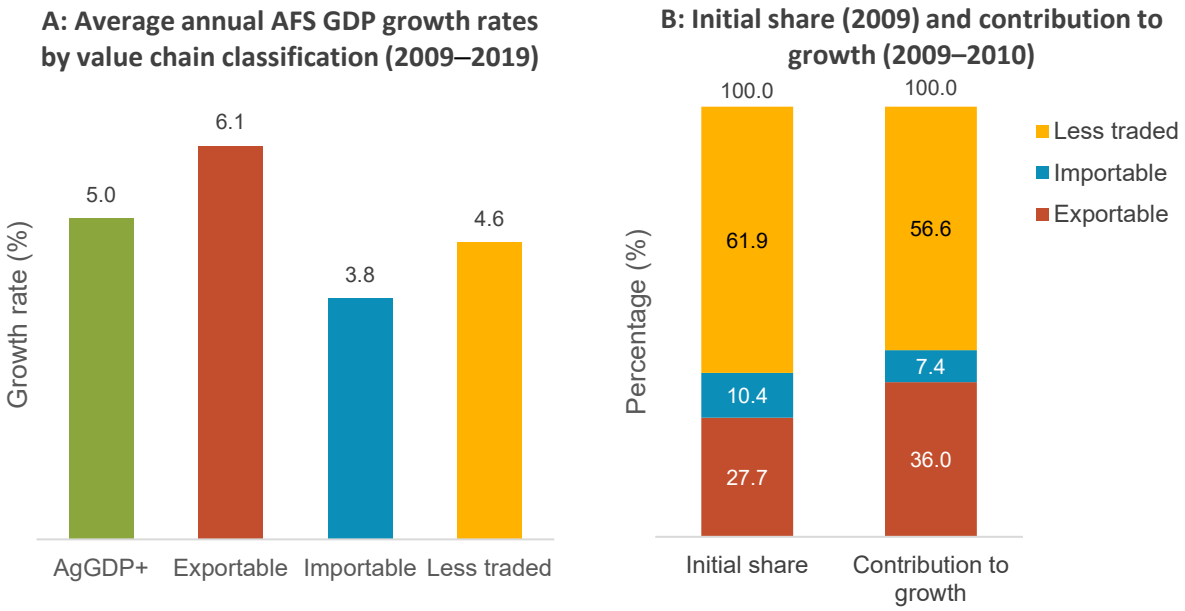
Source: Authors' analysis the 2009 and 2019 Social Accounting Matrixes for Burkina Faso (IFPRI 2023b).
Note: Value chains that experienced above-average AgGDP+ growth over the period of 2009 to 2019 (that is, higher than 5.0 percent) are marked with an asterisk (*).

Among the 13 value chains, only 3 achieved above-average growth during the 2009 to 2019 period; that is, more than 5.0 percent per year (these are marked with an asterisk in Table 3). Two of the three exportable value chains (oilseeds and cotton) grew faster than the AFS average, while only one less-traded value chain (cattle and dairy) achieved above-average growth. When a value chain grew fast, its growth rate was much higher than the growth in national average AFS. The annual growth rate was more than 6 percent for both oilseeds and cattle and dairy value chains, and it was as high as 9.5 per-cent for the cotton value chain in this period. Growth in the off-farm components of these fast-growing value chains, however, was less than the growth in their primary agricultural component, but they still enjoyed a growth rate higher than that for many other value chains' off-farm components.

Figure 5 summarizes the key growth trends from Table 3. On average, less-traded (4.6 percent) and importable (3.8 percent) value chains grew more slowly than the national AgGDP+ (5.0 percent), while exportable value chains grew faster, at 6.1 percent (Panel A). Since the group of less-traded value

chains had a large initial size (61.9 percent in 2009), the larger less-traded and exportable groups of value chains contributed the most to growth, at 56.6 and 36.06 percent, respectively (Panel B).

Figure 5. Drivers of Burkina Faso's AFS GDP growth (2009–2019)



Source: Authors' analysis using the 2009 and 2019 Social Accounting Matrixes for Burkina Faso (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, and economic shocks. Here we employ RIAPA to assess the effectiveness of productivity-led growth in Burkina Faso's different agricultural value chain groups for promoting multiple development outcomes. The analysis was carried out for 11 value chain groups, which were selected from the original list of 13; other crops and forestry were excluded. We considered five 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;
- 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; and
- A hunger–growth elasticity that measures the percentage-point change in the rate of undernourishment per unit of agricultural GDP growth generated within the targeted value chain.

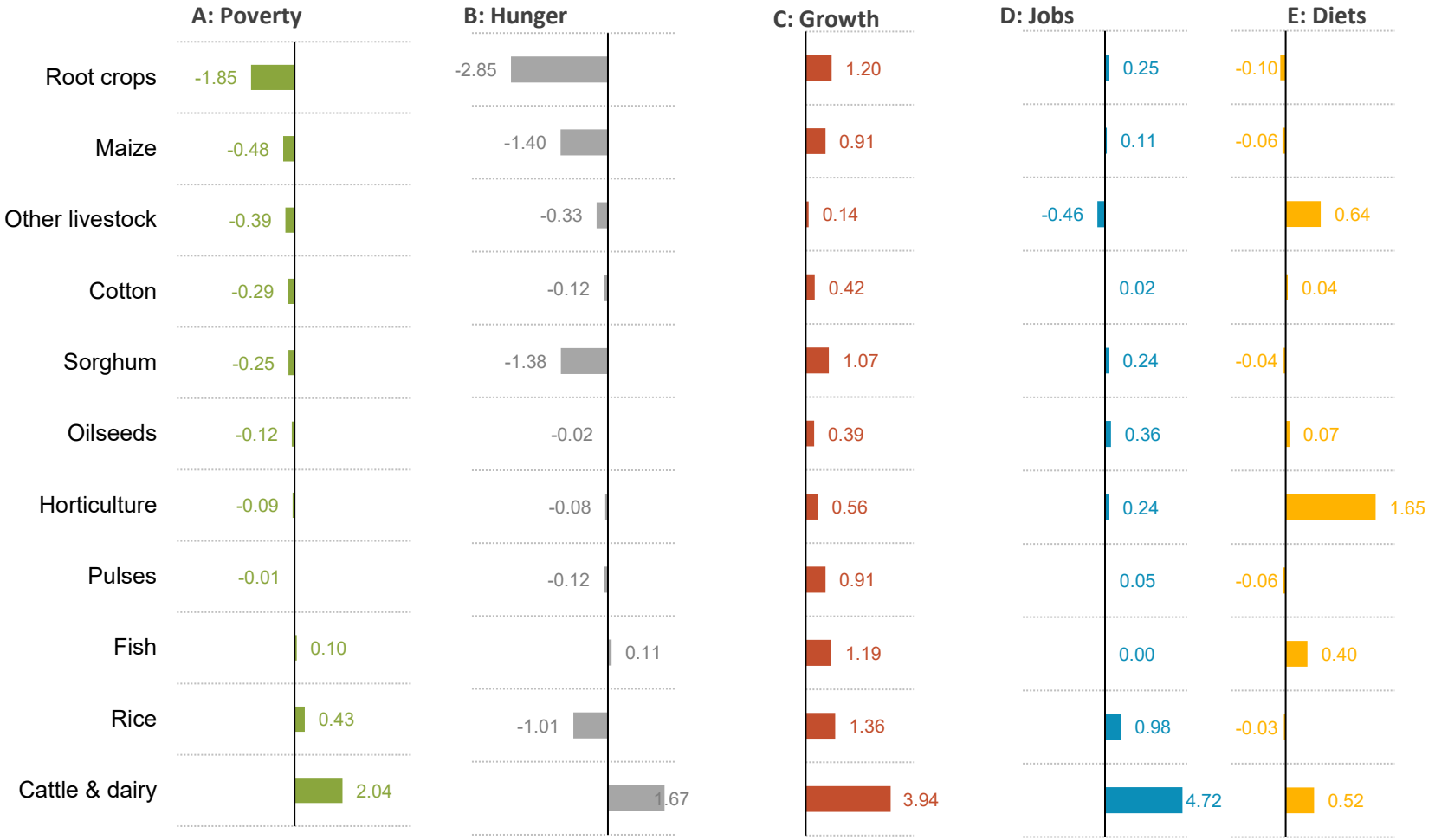
The simulations entail increasing on-farm productivity separately in each targeted value chain and comparing development outcomes across the value chains. While this exogenous productivity shock is imposed only in the primary agriculture component of each value chain, there are spillover effects into 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 due to 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 subjects, 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. The root crops value chain, for example, has strong poverty effects and is most effective at reducing hunger, but it is much less effective in improving diet quality or increasing jobs. Indeed, productivity growth in root crops could not contribute to diet quality improvement, as root crop products are already widely consumed in the country. Productivity growth in root crops lowers prices for root products, attracting households to consume more food made from root products, which could lower their consumption of healthier food items. The cattle and dairy value chain, in contrast, has a growth multiplier of 3.94, which is the highest of all the value chains. This means that for every US$1.00 increase in GDP in the cattle and dairy value chain driven by rising productivity, an additional US$3.94 is generated in total GDP; that is, US$2.94 is generated either in the off-farm components of the cattle and dairy value chain or in other value chains or sectors of the economy. The cattle and dairy value chain also scores high on the job creation outcome but ranks lowest on the poverty outcome. It even has negative poverty and hunger effects, that is cattle and dairy-led growth would not reduce either national poverty or hunger rates, possibly because other food prices would rise with the growth in cattle and dairy products.

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

Figure 6. Impact of value chain growth on development outcomes

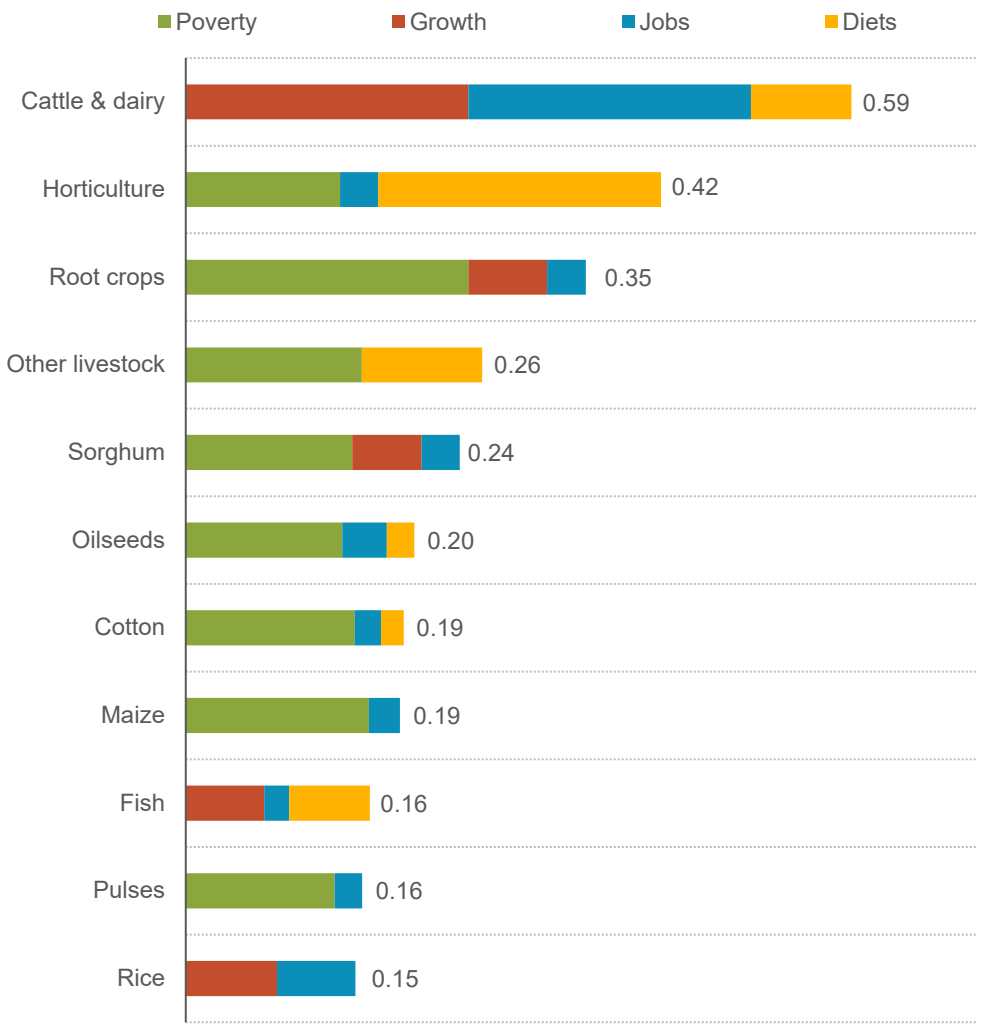


Source: RIAPA model results.
Note: Panel A shows the percentage point changes in the poverty rate that are associated with a 1 percent increase in agricultural GDP; Panel B shows the percentage point changes in the hunger rate that are associated with a 1 percent increase in agricultural GDP; Panel C is the change in total GDP (in US$ millions) that is associated with a US$1.0 million increase in agricultural GDP from the targeted value chain; Panel D is the change in 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 in order to narrow down the number of value chains that might be prioritized. Because of a high correlation between poverty and hunger impacts across value chains, the hunger score is omitted from the composite score. Also, 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 chain. 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 (maize, other livestock, cotton, oilseeds, horticultural products, and pulses) or those with negative employment effects (other livestock). The remaining value chains receive a score between 1 and 0 that is proportionate to their 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 (i.e., excluding hunger). Each component in the bars shows the relative contribution of a particular outcome indicator in the final score. The cattle and dairy, horticultural products, and root crops value chains are ranked highest. For these high-ranking value chains, however, the cattle and dairy value chain could not contribute to poverty reduction, the horticultural value chain has no impact on growth, while the root crop value chain has no contribution to diet quality improvement. While a ranking of their impacts on multiple development outcomes on the basis of 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 reordered according to the highest composite score.

Summary

Burkina Faso's economy grew rapidly at 6.0 percent per year in the decade prior to the COVID-19 pandemic. Although the agrifood system (AFS) did not grow as fast, it still achieved a respectable annual growth rate of 5.0 percent. Rapid growth has been accompanied by a structural change in the broad economy, and Burkina Faso's AFS has been gradually transforming. The agricultural GDP share fell, and the decline in the agricultural employment share was particularly large over this period. Agriculture, however, remains the largest component of the AFS and agricultural employment still accounts for close to half of Burkina Faso's total labor force.

Almost all the growth in Burkina Faso's AFS between 2009 and 2019 was contributed by less-traded value chains (56.6 percent) and export-oriented value chains (36.0 percent). The large contribution from the group of less-traded value chains is explained by its large initial size, given that its growth is below the average growth rate for the entire AFS. Growth in the group of export-oriented value chains

was higher than the average, and it is also a relatively large group of value chains. These two factors explain the significant contribution of exportable value chains 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, declining hunger, economic growth, job growth, and improved diets. The cattle and dairy, horticultural products, and oilseeds value chains rank highly in their composite outcome scores. All these high-ranking value chains, however, could not contribute equally to all the desired outcomes for poverty, GDP, jobs, and diets. Promoting multiple value chains together, therefore, 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
Maize (8.1%)	Maize 100%
Sorghum (16.2%)	Sorghum 100%
Rice (2.7%)	Rice 100%
Pulses (3.1%)	Pulses 100%
Oilseeds (19.3%)	Groundnuts 23.2% | Other oilseeds 76.8%
Roots (0.9%)	Cassava 4.4% | Irish potatoes 31.9% | Sweet potatoes 32.3% | Other roots 31.4%
Cotton (2.5%)	Cotton 100%
Horticulture (8.2%)	Leafy vegetables 2.9% | Other vegetables 32.5% | Nuts 28.3% | Fruits 36.3%
Other crops (4.8%)	Sugarcane 58.6% | Other crops 41.4%
Cattle and dairy (17.9%)	Cattle meat 83.7% | Raw milk 16.3%
Other livestock (7.1%)	Poultry meat 13.9% | Eggs 5.7% | Small ruminants 40.2%| Other livestock 40.2%
Fish (1.5%)	Captured fish 100%

Source: Authors' calculation based on the 2019 Social Accounting Matrix for Burkina Faso (IFPRI 2023b).

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