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Sources of Ethiopian Agrodealer Enterprise Resilience


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1. Introduction

The coronavirus disease 2019 (COVID-19) pandemic disrupted food systems all over the globe, with the World Food Programme estimating that the number of people facing severe food insecurity could double as a result of COVID-19 (World Food Programme, 2020). Access to agricultural inputs (e.g., pesticides, seeds, fertilizer, veterinary drugs, etc.) was identified by USAID (USAID, 2020), the World Bank (World Bank, 2020), McKinsey & Company (Pais et al, 2020), and others as one of the main concerns related to impacts of COVID-19 on food supply, food security, and resilience. While donors and think tanks are calling for policy responses that ensure access to agricultural inputs for farmers[1], data on input access, especially at the "last mile" where input retailers (hereafter referred to as "agrodealers") and farmers meet, are not consistently available. Agrodealer micro, small, and medium enterprises (MSMEs) supply inputs that are critical to ensuring agricultural productivity and food security. Disruptions to their supply lines caused by trade disruptions and movement restrictions can greatly affect the ability of farmers to access affordable inputs during specific points of the farming season and maintain production levels during a shock. Agrodealer MSMEs are also impacted by changes in farmers' demand for inputs, which during the pandemic is not only resulting from changes in purchasing power due to currency devaluations, diminished remittances, and income losses, but also from changes in food markets and consumer demand (for example, the closure or restriction of open air markets where fresh vegetables and fruit are sold) that impact what farmers will produce, and therefore what inputs they can or will purchase from agrodealers.

Current literature on resilience focuses on how households cope with shocks, with an increasing recognition that market systems play a vital role in supporting household resilience. While this has led to a growing focus on system-level resilience capacities, research is limited on the resilience capacities of MSMEs that operate at the interface between households and broader agricultural market systems. Building on the current literature, this project aimed to identify and explore resilience capacities at the enterprise level to increase the understanding of what promotes resilience for critical market system actors, such as agrodealers, to continue to address the needs of a market system during a shock such as COVID-19.

2. Objectives and Research Questions

The objectives of this independent research project were to develop a framework to guide understanding of what makes MSMEs resilient to shocks in low resource environments (such as lower and middle income countries), and to assess the relevance and usefulness of the framework by using it to evaluate the resilience of agrodealer MSMEs in the Amhara and Oromia regions of Ethiopia, where the COVID-19 pandemic had substantial impacts on the availability of farm inputs. The Amhara and Oromia regions provided a suitable case for applying the framework due to longstanding donor-funded agricultural system strengthening interventions, as well as persistent vulnerabilities in those systems leading to expected negative food security impacts of the pandemic. We applied the framework by measuring resilience capacities defined in our framework, as well as assessing the extent to which agrodealer MSMEs were able to overcome and recover from the impacts of the COVID-19 pandemic and other shocks in order to continue meeting the input needs of their farmer customers. The research questions are as follows:

[1] See the recommendations from the Food and Agriculture Organization as an example: http://www.fao.org/3/ca8979en/CA8979EN.pdf.

1. What characteristics and behaviors of MSMEs support resilience to shocks such as COVID-19?, and
2. Can assessing the resilience of agrodealer MSMEs in Ethiopia provide useful information for agricultural development programming in shock-affected contexts?

We hypothesize that characteristics and behaviors that make MSMEs resilient can be organized in a framework that can be used by development implementers to identify and target resilience capacities at the enterprise level. In order to assess how well the framework captures variations in type and degree of enterprise resilience, we applied the framework to two different types of agrodealer MSMEs: cooperatives and private agrodealer businesses. We also hypothesize that assessing resilience capacities of agrodealer MSMEs according to this framework will highlight differences where there are actual variations in business structure and practices, such as between cooperatives and private agrodealer businesses.

The usefulness of the framework relates in part to how well it can assess resilience capacities that are distinct from advantages due to business size. For example, larger businesses can be expected to have greater resilience capacities than smaller businesses due to greater advantages in terms of resources, networks, and capital; our framework, however, is designed to capture resilience capacities that are applicable and accessible to micro-enterprises as well as small and medium enterprises. We also expect the framework would be able to capture variations in resilience capacities due to contextual differences, such as regional market characteristics or remote vs. centrally located MSMEs. However, due to resource constraints, this study was not able to assess the framework in varied contexts.

3. Methods

To inform our understanding of the impacts and responses to the pandemic-related disruptions to input markets in Ethiopia and comparable resilience countries, we conducted a comprehensive desk review. We examined the limited but growing secondary data and studies of the impacts of COVID-19 on access to and distribution of inputs, as well as data about agrodealer MSMEs' resilience capacities and business practices in Ethiopia and similar contexts. In addition, we examined the limited existing literature on enterprise resilience to identify behaviors and characteristics of resilient MSMEs in contexts such as Ethiopia.

Building on the understanding developed in the desk review, we constructed a framework for MSME resilience that identified behaviors and characteristics of enterprises that would support agrodealer MSMEs' resilience. We then engaged an external advisory committee, consisting of relevant USAID/Ethiopia personnel, as well as personnel from the USAID Bureau for Resilience and Food Security, to review the framework and provide feedback on it as well as identify considerations for our survey design.

We then developed a quantitative tool to assess whether our framework and resilience capacities provide insights into variations between different types of agrodealers. We compared private agrodealers to cooperatives in shock-affected regions of Ethiopia (Amhara and Oromia). We engaged local data collection firm Frontieri Consult to implement a face-to-face survey of 385 agrodealer MSMEs in the target regions, and then analyzed the results to draw conclusions and generate recommendations for agricultural programming in Ethiopia.

4. Desk Review

The team conducted an initial desk review to inform our understanding of the impacts and responses to the pandemic-related disruptions to input markets in Ethiopia. We examined the limited but growing secondary data and studies on the impacts of COVID-19 on access to and distribution of inputs in Ethiopia and similar contexts, as well data about MSMEs' resilience capacities and business practices in general. We used this desk review to answer the following questions:

1. What have been COVID-19's impacts to date on input supply and access in Ethiopia, and how have market actors, donors, and governments responded?
2. What resilience capacities are applicable to enterprises, particularly MSMEs in lesser developed markets?

The desk review begins with an overview of the COVID-19 pandemic's impact on input systems globally, and then specifically in Ethiopia and similar contexts, to frame our study's understanding of how agrodealer MSMEs are impacted by the shock of the pandemic. We consider impacts on both supply of and demand for inputs, and responses from the Government of Ethiopia, as well as from agrodealers. The desk review then examines the existing literature on enterprise resilience to identify behaviors and characteristics of enterprises that could support the resilience of MSMEs, particularly in environments prone to frequent shocks and stresses. Finally, we assess the landscape of agrodealer MSMEs in Amhara and Oromia to identify key variables of comparison for our study.

4.1 COVID-19 Pandemic Impact on Input Systems

Global Level Impacts of the Pandemic on Input Systems

The COVID-19 pandemic's impacts around the world have extended far beyond public health. Stay at home orders, reduced revenues, and disrupted trade generated severe economic consequences. Per capita income shrunk, with those in the top 40 percent of global income distribution experiencing a decline of 2.8 percent of projected income from before the pandemic, and the bottom 40 percent experiencing a decline of 6.7 percent (Sánchez-Pámaro et al. 2021). Impacts of the pandemic have been felt across countless sectors—including agriculture—generating increasing concerns in emerging economies that already experience high levels of food insecurity. The COVID-19 pandemic has affected virtually every aspect of the world's food systems—from inputs and production, to processing, trade, logistics, and demand. Devaluations in currencies (Smith 2020), increases in unemployment,[2] issuances of lockdown orders and social distancing measures recommended by the World Health Organization, and restrictions on the movements of goods and people to curtail the spread of the virus have all had impacts on the global economy that trickled into food production and demand. Availability of and access to agricultural inputs have been affected by a multitude of these factors.

In May 2020, the Food and Agriculture Organization (FAO) assessed channels of transmission of the impact of the COVID-19 pandemic to food and agriculture (Schmidhuber, Pound, and Qiao 2020), and explored intermediate inputs such as fertilizer, pesticides, and seeds as one of the channels that could affect yields and crop production. The FAO found that impacts on input availability began early in the pandemic, as production of pesticides decreased in China because production plants were shut down

[2] The International Labour Organization estimated that "the total working-hour losses in the second quarter of 2020 (relative to the fourth quarter of 2019) are now 17.3 per cent, or 495 million full-time equivalent (FTE) jobs" as of September 2020 (ILO 2020).

quickly and only reopened gradually. An online survey conducted by the Chinese Academy of Agricultural Sciences found that 20 percent of respondents in China had no access to fertilizer, pesticides, or other inputs during the planting cycle, and over 50 percent had difficulty doing so (quoted in Pu and Zhong 2020). As the pandemic spread, so did impacts on agricultural input access around the globe—particularly since many inputs are imported from China and elsewhere, and lockdown measures constrained domestic input production.

The disruption in the movement of goods—by air, ocean, and ground—and people also impacted the availability and cost of imported inputs and the ability to produce inputs domestically. Transportation became difficult and expensive as flights, shipments, and ground transportation services were dramatically reduced. To illustrate, the costs of transporting pesticides to East Africa increased three-fold by late March 2020 as shipments were delayed (Gebre and Herbling 2020). In Africa, imported seeds became more expensive as flights decreased, and production slowed as labor shortages arose from lockdowns and border restrictions (Gakpo 2020). Other factors related to the pandemic also contributed to diminished access to inputs. Falling exchange rates in emerging economies made imported inputs more expensive, on top of the expensive disruptions in transportation. Additionally, farmer purchasing power diminished from reduced demand,[3] decreases in remittances (Sayeh and Chami 2020), and fewer opportunities to generate off-farm income due to movement restrictions.

Donors, policymakers, and think tanks have recognized the need to maintain input access, and have called for policy responses accordingly. These measures include classifying agriculture as "essential" to allow for the continued movement of inputs, harmonizing measures among relevant national authorities and border controls, and vouchers or other subsidies for the purchase of inputs.

Impacts of the COVID-19 Pandemic on Input Systems in Ethiopia and Similar Contexts

Because the pandemic is ongoing—and difficulties have been compounded by conflict between the Tigray People's Liberation Front and the federal Government of Ethiopia—data on how agricultural input access has changed in Ethiopia as a result of COVID-19, and particularly how agrodealers have adapted, have been limited. Following an exploration of the documented impacts on input supply and demand in Ethiopia, we explore a mix of assessments that include Kenya and Uganda to generate a picture of how agrodealers are adapting in shock-affected environments in the same region.

Supply and Demand Impacts on Inputs in Ethiopia

The Bilateral Ethiopia Netherlands Effort for Food Income and Trade (BENEFIT) Realising Sustainable Agricultural Livelihood Security in Ethiopia (REALISE) project conducted a rapid assessment to understand the impact of the COVID-19 pandemic on agricultural inputs availability, and the implications for production in Ethiopia (BENEFIT-REALISE 2020). One of the principal findings in the assessment was that there was a "significant gap" in fertilizer and seed supply compared to demand across the country, with Amhara and Oromia being the hardest hit. Specifically, the study found that the Amhara region only met 58.7 percent of its fertilizer demand by May 11, 2020, and only 34.1 percent of the estimated seed demand; in Oromia, only 48.8 percent of the fertilizer demand and 26.8 percent of the seed demand were met. Other regions fared slightly better, with between 60 percent and 77 percent of fertilizer demand and 45 percent and 62 percent of seed demand being met.

[3] Demand for many agricultural products has crashed during the pandemic as restaurants, schools, and hotels have closed or ceased food service (CSIS 2020).

The BENEFIT-REALISE assessment explored results by cluster target woredas from the Government of Ethiopia's Productive Safety Net Program, which illustrated some of the factors contributing to the gaps within each region. In some woredas of Amhara, the reasons attributed to the shortage of fertilizer included COVID-19 travel restrictions, both for getting fertilizers to port, and for local transport, as well as delays in credit access. It was also noted that truck drivers' awareness of COVID-19 was low, and that the cost of obtaining fertilizer increased since before the pandemic due to increased transportation costs. The price of improved seed also increased between 30 percent and 65 percent in the Amhara clusters in light of the shortages. In Oromia, there were similar challenges related to input transport identified, as well as seed shortages. It was also discussed, however, that poor quality seed became a problem as well. The amount and quality of seeds delivered by the Oromia Seed Enterprise, unions, and cooperatives deteriorated, although reasons were not given beyond the indication that seed quality and forged labels often became a concern with private dealers. This could potentially indicate a coping strategy for agrodealers to "meet" demand even when the supply is not there.

The pandemic impacted demand for inputs as well. The BENEFIT-REALISE assessment indicates a major factor contributing to the change in demand has been an inability to afford inputs, which to a large degree is attributable to increases in transportation costs. Additionally, due to travel restrictions, farmers were unable to engage in other income-generating activities to pay for inputs. Remittances to Ethiopia also declined significantly, as those in the diaspora faced job losses and income reductions elsewhere in the globe (de Roo and de Boef 2020), which further made cash a constraint for farmers. An assessment of the impacts of COVID-19 on the vegetable value chain in Ethiopia (Tamru, Hirvonen, and Minten 2020) demonstrated that consumer demand also had the potential to shift farmers' demand for inputs. The assessment found that prices for vegetables declined as trade and consumer demand decreased due to unsupported fears of contracting COVID-19 through the consumption of raw vegetables. The combination of higher costs of production plus lower prices and decreased demand decreased incentives for farmers to produce vegetables. This could ultimately affect demand for inputs, including changing types of inputs demanded, as farmers may adapt and shift production to other crops. Demand for other products declined, including poultry (which decreased 80 percent, due to restaurants' and hotels' closing), eggs, processed dairy, and fish—further contributing to decreased farmers' incomes (de Roo and de Boef 2020).

Government of Ethiopia Response Measures to COVID

The Government of Ethiopia issued a number of responses to help mitigate the spread of COVID-19, as well as to help the population cope with the economic ramifications of the pandemic. To illustrate, the national and regional governments' responses included various restrictions on international travel; the closing of schools, bars, and nightclubs; stay at home orders; a reduction in the number of passengers permitted on mass transportation (and in some regions a lock down of all travel except for essential supplies); and promotion of World Health Organization recommended practices to reduce the spread. Additionally, the country postponed national elections (Shigute et al. 2020). Because the restrictions and other impacts of the pandemic hit Ethiopians economically, the government implemented a number of policy measures to minimize hardships. In April, the government prohibited businesses from laying off employees under a State of Emergency declaration (Gebre 2020). The government also implemented measures to support businesses during the pandemic, including accelerating value-added tax refunds for businesses; removing the minimum export price for flowers; relaxing the Central Bank's non-performing loan directive to support rescheduling of loan payments for affected sectors such as horticulture and hotels; infusing 21 billion Ethiopian birr (approximately $630 million) to banks to handle anticipated liquidity shortages; and providing loan support for micro and small enterprises, including those in the agricultural sector, via a quick disbursement window, as well as credit to microfinance institutions and cooperatives

(Federal Democratic Republic of Ethiopia, Office of the Prime Minister 2020). Explicit support for the agricultural sector was focused on flower exports and loan assistance. No policies were implemented to smooth the importation or distribution of agricultural inputs (instead, the government focused its trade support on COVID-related supplies).

Agrodealer Impact and Response in Ethiopia and Similar Contexts

There has not yet been a systematic collection of data from Ethiopian agrodealers to assess how they have responded to the COVID-19 pandemic—only passing anecdotal evidence about how agrodealers in Ethiopia are coping with the impacts of the pandemic is available. An Agrilinks article about an agrodealer who participates in the Ethiopia Value Chain Activity, for example, describes how movement restrictions and shortages have resulted in decreased sales for his businesses and how he has adapted by implementing health and safety protocols to keep his shop open, while also obtaining support from the Ethiopia Value Chain Activity to make improvements in his shop (Admassu and Mickle 2020). There is also a lack of evidence on how cooperatives—which often serve as input aggregators and providers to members—are coping with the pandemic and ensuring inputs get to their farmers in Ethiopia.

Some information about the impacts of the COVID-19 pandemic on Ethiopian businesses is available, but it is not specific to agrodealers. However, this information is helpful for understanding the environment in which Ethiopian agrodealer MSMEs operate, and how they may be impacted or respond to the shock of the pandemic. A high-frequency phone survey of enterprises in Addis Ababa was conducted by the World Bank, which provided a high-level picture of how businesses are responding to and coping with the pandemic. The surveys found that despite the emergency declaration that prohibited laying off employees, some companies continued to do so as they struggled to remain in business. However, in the Round 2 survey, it was found that many businesses were in fact offering leave—mostly paid—to employees instead of laying them off (Bundovert, Tefera, and Wieser 2020a). The survey also noted a difference in how micro enterprises were experiencing the impacts of the pandemic versus small and medium firms: while small and medium firms were starting to struggle to pay employees, micro enterprises and own-account firms were struggling to pay invoices. The sixth round of phone surveys demonstrated that 12 percent of firms were getting support from the government, primarily through the waiving of tax payments, while some firms obtained income tax and pension payment deferrals to pay workers who were staying at home, which then corresponded to income tax deductions (Bundovert, Tefera, and Wieser 2020b). The eighth and final round of phone surveys found that approximately two-thirds of surveyed businesses were back to full-time operations (vs. the 29 percent who indicated so during the first round), but 19 percent were still closed and would likely permanently close; the majority of these were own-account firms (Bundovert, Tefera, and Wieser, 2020c). Additionally, during round eight, 53 percent of industrial firms were affected by high prices for raw materials and inputs, and one-third were affected by low supply of those inputs (Bundovert, Tefera, and Wieser, 2020c). The surveys thus confirm many of the impacts of the pandemic on Ethiopian enterprises, while also highlighting possible differences among enterprises of different sizes.

For further information on how agrodealers in similar contexts were impacted by and responded to the pandemic, we examined information available from Kenya and Uganda, which experience shocks and stresses in a manner similar to Ethiopia. Through the Mercy Corps AgriFin programming, Ipsos-Kenya conducted surveys and interviews of agrodealers in Kenya in June 2020 (AgriFin, 2020). Nearly all (92 percent) of surveyed agrodealers indicated they were negatively impacted by the pandemic, with revenue decreasing and customer flow below normal levels. In terms of their preparation to deal with the pandemic's impacts, AgriFin's survey found that 57 percent of agrodealers had business continuity plans. Just under a quarter (24 percent) had laid off staff by the time of the survey, while 19 percent not yet affected indicated they planned to lay off employees if the situation was not managed. When asked about

what measures the agrodealers were taking to mitigate the impact of COVID-19 on their business, 31 percent indicated they were not implementing any measures; those who were, were implementing measures including (in descending order of occurrence) looking for alternative supply chains; cleaning, sanitizing hands, wearing a mask; stockpiling; offering unpaid leave to employees; taking pay cuts; adhering to government directives to avoid spread of the virus; diversifying into other businesses; implementing flexible working patterns; providing measures to facilitate working remotely; and reducing the price of stocks.

A survey funded by the International Growth Centre (Harigaya et al. 2020) brought to light other ways in which agrodealers in Kenya were experiencing and adapting to the pandemic. A total of 80 percent of surveyed agrodealers reported a decrease in foot traffic in their stores, and 76 percent reported lower sales than the previous month. Only 3 percent of the surveyed agrodealers actually closed their businesses, but nearly two-thirds reduced their hours (mostly to accommodate curfew restrictions). A total of 81 percent of surveyed agrodealers indicated that farmers' lack of resources was a primary reason for decreased farmer foot traffic in their stores, and some (percentage not reported) in response provided inputs on credit to their customers. While 54 percent of agrodealers indicated prices increased from their suppliers, 47 percent passed those increases on to their customers. Of the surveyed agrodealers, 27 percent foresaw being unable to meet farmer demand. Nearly all (98 percent) of the agrodealers reported communicating with suppliers via mobile phone, and 70 percent indicated they received messages from farmers at least once per day—though it should be noted the population surveyed had all been previously registered with the Ministry of Agriculture INFO service, a two-way SMS platform, so this is likely not representative of all agrodealers. However, it does indicate that mobile technology has the potential to improve agrodealers' understanding of farmers' changing demands, and ability to reach suppliers.

A news story by the African Fertilizer and Agribusiness Partnership (AFAP) about agrodealers in Uganda provides additional insight into how some agrodealers in the region responded to the challenges posed by the COVID-19 pandemic (AFAP 2020). Anecdotal evidence about how agrodealers coped include increasing stocks of inputs to meet farmer demand and connecting with other agrodealers to purchase inputs at a bulk price. Some agrodealers used a mobile application called EzyAgric to access inputs more quickly and at a discount of 15 percent, which helped them deal with higher prices resulting from the pandemic. Prices of fertilizer to farmers were then decreased by 5 percent. In Uganda, trucks were exempt from travel restrictions related to COVID-19, so agrodealers used this to their advantage to transport inputs without being stopped.

Agrodealer Adaptive Strategies and Coping Mechanisms—Implications for Study

From the surveys, assessments, and anecdotes discussed above, a few observations about how agrodealers may be coping with the pandemic can be made to help inform the IR&D's assessment of resilience capacities. We can use these observations (described below) to inform our thinking of specific resilience capacities for agrodealer MSMEs.

First, use of mobile technology to facilitate supply and meet demand (or even facilitate payments[4]) should be explored, as this could potentially be an avenue that more resilient agrodealers are using compared to less resilient agrodealers. Evidence of this being an important feature of enterprises that adapt successfully to COVID-19, particularly in emerging economies, can be seen in various Marketlinks blogs and webinars,[5] as well as through some of the surveys discussed above. Second, measures agrodealers take to keep

[4] For example, see "Farm to Fork: How Digital Payments Can Transform Agricultural Supply Chains in Ethiopia."
[5] For example, see "A Market System Lens to COVID-19 Mitigation Strategies" and "How the Private Sector is Adapting to Covid-19: Country-level Analysis From the World Bank."

inputs affordable—whether through seeking alternative suppliers, banding together to purchase larger quantities at a discount, or providing credit to farmer customers—could differentiate more resilient agrodealers from less resilient ones. Since agrodealers are facing challenges with their customer base experiencing reduced incomes, this will likely be critical to maintaining sales. Third, in Ethiopia, the distribution logistics for inputs is one of the primary challenges to getting inputs in the hands of farmers; we can hypothesize that firms that find solutions to distribution constraints will be more resilient. This could be through collaborating with other retailers or distributors, using mobile technology to coordinate pickup times that allow for social distancing measures to be maintained, and adapting to travel restrictions in ways that still allow for local distribution. Finally, we should acknowledge the possibility of negative coping mechanisms that may be implemented by businesses struggling to meet demand. It was suggested that some traders may be selling counterfeit seed, for example, since there were supply shortages of certified seed. These negative coping mechanisms may not be desirable for the functioning of the market system, but we cannot ignore the possibility of their existence as a way for businesses to survive.

4.2 Enterprise Resilience Capacities

The concept of "enterprise resilience," which is generally defined as an enterprise's ability to anticipate, identify, react to, and recover from negative events or changes by adapting and evolving, has existed for decades. Discourse on enterprise resilience increased following the September 11, 2001 terrorist attacks in the United States, and has yet again picked up as a result of the impacts of the pandemic caused by COVID-19. However, theories about what makes enterprises resilient have been developed primarily in the context of large firms in well-functioning market systems. In Ethiopia and other countries where resilience is becoming an increasingly important aspect of development programming, many enterprises—particularly those involved in agriculture—are micro, small, or medium-sized, and the market systems in which they operate are often inefficient, exclusive, and/or uncompetitive. Before developing our own framework of behaviors and characteristics of resilient enterprises—specifically MSMEs—it is necessary to review other concepts of enterprise resilience that have originated outside of the development context. These established principles are a helpful starting point; we can then assess their relevance alongside applicable resilience capacities of market systems that have been defined in the context of international development to inform the discussion of resilience capacities of MSMEs.

While there has been significant work done to identify resilience capacities at the individual, household, community, and market systems levels, the international development community has not defined resilience capacities at the enterprise level that can be strengthened through development programming. While many of the structural and behavioral characteristics of market system resilience, as defined in the market systems resilience framework for measurement (Downing et al. 2018) could seemingly be applied to enterprises, which are key actors within the market systems themselves, there is insufficient development of theory surrounding enterprise-level resilience capacities specifically, particularly in the MSME context.

Enterprise Resilience—Broad Perspectives

Multinational firms and international organizations have been promoting enterprise resilience strategies for years. Major multinational services firms KPMG and PricewaterhouseCoopers (PwC), for example, both offer services to improve enterprise resilience and have published blogs and articles on the topic. A 2013 blog posted by PwC defines enterprise resilience as "the ability to spot, react and recover from short term disruptive challenges and most importantly, adapt and evolve in response to more significant changes," and as something that goes beyond the standard risk management practices that businesses would typically seek to implement, and is demonstrated by less tangible indicators such as shared corporate

values, social capital, and disciplined innovation (Crask 2013). A 2014 executive summary on enterprise resilience published by PwC on describes a "corporate immune system" to protect businesses. While PwC does not divulge substantial information on what it considers to be resilience capacities for enterprises, it does indicate that they are something that can be measured and benchmarked (PwC 2014). More recently, KPMG has published a number of materials and service promotions related to enterprise resilience in light of COVID-19. These materials typically divide enterprise resilience into three elements: financial resilience, operational resilience, and commercial resilience. "Financial resilience" is defined as the "ability to withstand the financial impact on liquidity, income, and assets;" "operational resilience" is defined as "the ability to withstand operational shocks and continue to deliver your core business;" and "commercial resilience" is defined as the "ability to respond to changing market and consumer pressures" (KPMG 2020). The firm has also published tailored guides to maintaining enterprise resilience in response to COVID-19 for countries across the Asia region.

While consultancy firms have commercialized enterprise resilience strategies, there has been some effort to contribute to enterprise resilience theory through research. In 2020, Sanchis, Canetta, and Poler developed a conceptual framework for enterprise resilience enhancement (Sanchis, Canetta, and Poler 2020). Through a literature review and Delphi study, the authors sought to define enterprise resilience and its importance, identify events that negatively affect enterprise resilience, identify capabilities that are necessary for a company to be resilient, and identify actions that help companies improve their enterprise resilience capacity. The authors developed an enterprise resilience conceptual framework, which included two "constituent capacities" and two "transition elements" that are relevant to our examination of what could be considered enterprise resilience capacities. Table 1 provides an explanation of these elements of the authors' framework.

Table 1: Sanchis, Canetta, and Poler's constituent capacity and transition elements of enterprise resilience

Constituent capacities	*Preparedness Capacity*: the ability to be prepared to face disruptive events, which is directly related to vulnerability to such events	*Recovery Capacity:* the ability to respond and recover from a disruptive event/situation
	Adaptive Capacity (Implicit in Preparedness and Recovery): Defined as the ability to flexibly change and adjust to new circumstances.	
Transition elements	*Preventative Actions:* policies and/or actions that attempt to reduce the probability of the occurrence and/or severity of a disruptive event	*Knowledge Registration Actions:* the ability to recover as quickly and efficiently as possible by managing [the enterprise's] knowledge

Our team has made some comparisons between these elements of the framework and that developed by Downing et al. for market system resilience measurement for the U.S. Agency for International Development (USAID). The separation of constituent capacities and transition elements for enterprise resilience by Sanchis, Canetta, and Poler is similar to the distinction between behavioral and structural domains of the market systems resilience framework, only applied to the enterprise level. In the market system context, structural domains reflect the presence of interconnected systems (including service markets, input markets, and economic, political, socio-cultural, and physical environmental systems) wherein a shock in one part can have impacts elsewhere. Structural domains include connectivity, diversity, power dynamics, and rule of law, which reflect the underlying attributes of the system in which market actors operate. Sanchis, Canetta, and Poler's constituent capacities of enterprises are only looking

at capacities within one entity (instead of a system), but they do reflect similar features as the structural characteristics of market systems discussed above. Both the structural characteristics of market systems and constituent capacities of enterprises reflect the surrounding ecosystem of the "unit" in its entirety—essentially, the inherent features of the unit that impact how it weathers a shock. In addition, the behavioral domains of market system resilience (cooperation, competition, decision-making, and business strategy) reflect actions of the constituent parts of the market system in response to various situations or events, which accordingly impacts the effectiveness of the system in recovering from a shock. This can be compared to the transition elements of enterprise resilience as defined by Sanchis, Canetta, and Poler, which reflect proactive and mitigating actions or policies that ultimately impact the likelihood or severity of a shock, as well as its ability to recovery quickly from such an event.

COVID-19 Pandemic Expands Enterprise Resilience Attention on MSMEs

During 2020, in light of the COVID-19 pandemic, discussions and studies of enterprise resilience began to include MSMEs, including those in market systems outside of Western or more developed countries. Below we summarize a few notable contributions to the literature.

Hidayat et al. (2020) conducted a study on the factors influencing the resilience of MSMEs during COVID-19 in the South Sulawesi province of Indonesia. The authors hypothesized that utilization of technology, entrepreneurial personality, and government support would support business resilience via crisis management. Their findings indicated that there was no significant positive relationship between utilization of technology and crisis management, but there was in fact in a significant, positive relationship between government support and crisis management, as well as between entrepreneurial personality and crisis management. Furthermore, their study found a significant, positive relationship between crisis management and business resilience.

Also in 2020, Rodrigo et al. conducted a study on the predictors of enterprise resilience for MSMEs in Monkayo, Davao de Oro, Philippines during the COVID-19 pandemic. Drawing on other literature surrounding resilience, enterprise resilience, and organizational resilience theory, the authors looked at entrepreneurial orientation, crisis management, external support and linkages, and communications and social media as independent variables, and business resilience as the dependent variable among MSMEs in the context of the COVID-19 pandemic. The authors also considered years in business and establishment type (micro/cottage industry, small, and medium) as potential moderating variables.

Table 2 explains how the independent and dependent variables were defined.

Table 2: Rodrigo et al. variable definitions

Variable	Definition
Entrepreneurial Orientation	Presence of entrepreneurial characteristics such as risk-taking, proactiveness, innovativeness, competitive aggressiveness, and autonomy.
Crisis Management	The application of strategies intended to help an organization deal with a sudden and significant negative event. Considers crisis management from pre-crisis, crisis response, and post-crisis action plan stages.
External Support and Linkages	Obtaining assistance and collaboration from government, customers, suppliers, universities, or research organizations for information on technologies, consumer needs or the market, or

Table 2: Rodrigo et al. variable definitions	
Variable	**Definition**
	engaging in joint research and development. Interpersonal dynamics, attitude, and expectations in facilitating successful collaboration are important.
Communication and Social Media	Interactions among people in which they create, share, and/or exchange information and ideas in virtual communities and networks.
Business Resilience	The dynamic capability of an enterprise to overcome extreme adversity.

The study found that among the independent variables, crisis management was very strongly correlated with business resilience, with the rest of the independent variables being strongly correlated with business resilience. The moderating variables were found to not have any significant impact on business resilience when businesses were grouped by years in business or establishment type—meaning, when grouped according to years in business or establishment type, there was no significant difference in business resilience among the grouped enterprises. Furthermore, years in business was found to not have a significant impact on the factors contributing to business resilience when comparing businesses of different age groups, and while a significant moderating effect was found of establishment type on the factors of business resilience, the authors noted that more proportionate sampling would be needed since most of the enterprises were in the micro/cottage industry category.

5. MSME Resilience Framework

Following the desk review, the team identified five domains of enterprise resilience to focus the assessment of MSME resilience capacities. Four have been adapted from the USAID Market System Resilience Framework, as many of the behaviors and characteristics we theorize will be relevant to resilient enterprises can be defined within those domains. Using similar terminology allows development implementers familiar with the USAID Market System Resilience Framework to readily apply similar thinking and principles to the concept of enterprise resilience, while still allowing for adaptations and nuances that are pertinent to MSMEs—who themselves are actors within the market systems for which the original concepts were derived. It is important to note that while the terminology and underlying thinking are similar, these concepts are being applied specifically to the characteristics of an individual enterprise—not the system within which it operates. Additionally, the four selected domains from the Market System Resilience Framework (and those which were not selected) do not address an important feature of enterprise resilience—entrepreneurial orientation—which, based on the desk review, has demonstrated a strong relationship with the resilience of enterprises.

The five domains of our MSME Resilience Framework are listed and defined below.

1. Connectivity
2. Cooperation
3. Business Strategy
4. Evidence-Based Decision-Making

5. Entrepreneurial Orientation

Connectivity: Connectivity refers to the degrees and ways in which an enterprise engages with other actors that provide support (resources or otherwise) or information to the enterprise. We posit that the *types* of connections for an enterprise—local, national, government, private sector—may impact how an enterprise weathers a shock, particularly a covariate shock such as the COVID-19 pandemic that affects everyone in a region or population at the same time. Connectivity can facilitate access to alternative suppliers or customers, credit, government support, or information on topics such as customer demand and the trade environment.

We included Connectivity as a domain as a result of some key findings discovered during our desk review. For example, Rodrigo et al.'s study (2020) on the predictors of enterprise resilience of MSMEs in Monkayo, Davao de Oro, Philippines during the COVID-19 pandemic assessed external support and linkages as an independent variable against enterprise resilience. "External support and linkages" was defined as assistance and collaboration from government, customers, suppliers, universities, or research organizations providing information on technologies, consumer needs or the market, or engaging in joint research and development, which we acknowledged had some parallels with both the connectivity and cooperation domains from USAID's framework for market system resilience measurement. Their study also assessed communication and social media, defined as interactions among people in which they create, share, and/or exchange information and ideas in virtual communities and networks, against enterprise resilience. When determining the level of these factors to predict enterprise resilience, the study found both variables had a descriptive equivalent of "high." As another example, Hidayat et al.'s study (2020) on the factors influencing the resilience of MSMEs during COVID-19 in the South Sulawesi province of Indonesia looked at the relationship between government support and crisis management (which they associated with enterprise resilience). Essentially, they found that government support facilitated cash flow management, which theoretically supported the ability to implement other resilient business strategies. We have therefore included government support in our scope of connectivity for MSMEs.

Cooperation: Cooperation refers to the ways in which an enterprise collaborates with other market actors to achieve a mutually beneficial aim. The willingness and ability of an enterprise to collaborate with a diverse range of other actors in normal circumstances—such as to work together to obtain supplies at lower costs, or to advocate for beneficial policies—can support an enterprise's ability to respond to shocks when they occur. At the enterprise level, cooperation can be demonstrated through collective purchasing agreements, participation in a cooperative or other industry group, shared transport or distribution activities, joint promotions with suppliers, participating in group policy advocacy, and joint efforts to respond to threats and/or opportunities, as examples. Cooperation with a diverse range of actors, such as enterprises of different sizes, gender ownership, or ethnicity can provide more opportunities during a shock, for example if the shock primarily impacts small businesses.

Our desk review revealed that agrodealers in similar contexts were already cooperating to overcome the supply challenges of the pandemic, leading us to include Cooperation as a domain of MSME resilience. For example, anecdotal evidence from a news story by AFAP about agrodealers in Uganda found one way agrodealers were coping included connecting with other agrodealers to purchase inputs at a bulk price. Additionally, as we noted above, Rodrigo et al.'s study (2020) tested variables that have features that align with the cooperation domain of market system resilience and that demonstrated a high effect on business resilience.

Business Strategy: Business strategy refers to the plans and tactics an enterprise applies to achieve its objectives. We posit that some strategies may orient a business to apply adaptive or absorptive measures

in the face of a shock, while others can lead to negative coping mechanisms. An enterprise solely focused on capturing revenue may respond differently than one that is more oriented toward adding value to customers (for example, selling adulterated products to "meet" customer demand, vs. paying additional expenses to obtain the real products that provide value to customers).

- An important element of an enterprise's business strategy as it pertains to resilience is the sub-domain crisis management, which includes the application of strategies to handle negative events. A resilient enterprise plans and implements adaptations to continue operating the business during a shock (for example, applying biosecurity measures and adjusting to curfews to remain open during a pandemic)—referred to as operational resilience. Resilient enterprises must also be commercially resilient to respond to changing market or consumer pressures (such as shifting products sold in response to a change in demand from their customer base).

We identified Business Strategy as a domain of MSME resilience based on several findings from our desk review. The Government of Ethiopia's response to the pandemic affected how businesses could operate, while agrodealers also were being affected by their farmer customers' change in demand and consumer pressures. Several programs and surveys provided data on the strategies agrodealers were implementing to either stay operational (operational resilience) or keep up with changing demand (commercial resilience). For example, the AgriFin program in Kenya, as well as a survey from the International Growth Center (Harigaya et al. 2020), looked at agrodealers' modifications to their operations to stay in business, changes in business offerings, and other strategies as they adapted to COVID-19 shocks. Several studies also specifically examined "crisis management," which demonstrated a positive (as in Hidayat et al.'s study [2020] on MSME resilience in Indonesia) or very strong (as in Rodrigo et al.'s study [2020]) relationship with business resilience.

Evidence-Based Decision-Making: Evidence-based decision-making is the practice of an enterprise seeking and utilizing fact-based information to solve problems or make decisions (rather than relying on informal sources of information or not using information to make decisions). Enterprises that learn from the experiences of other market actors and from their own business experience (such as from their own written records) are equipped to take preventative measures and adapt their business activities to mitigate the impacts of shocks for their own business and for their customers (which also impacts their long term viability), and recover from shocks more quickly. Enterprises that use weather or other agronomic forecasts to inform when to stock inputs or what type to stock (for example drought tolerant varieties when seasonal forecast indicate a drought or specific pesticides when locust infestations are expected), for example, are in a better position to meet their customers' needs during a shock than if they did not use that information.

Our desk review found that evidence-based decision-making was a key factor supporting the resilience of MSMEs. For example, Sanchis, Canetta, and Poler's Conceptual Reference Framework for Enterprise Resilience Enhancement (2020) identified "knowledge registration actions" as one of the "transition elements" supporting recovery capability of an enterprise following a negative event. Knowledge registration refers to registering information about (1) the disruptive events that took place, and (2) the measures taken to recover in the shortest possible time and at the lowest cost. They argue it is not only important to record historic information, but also to commit to recording knowledge about future events as and when they occur. We noted similarities between knowledge registration actions and the decision-making domain of the framework for market system resilience measurement, and adapted the concepts to MSMEs.

Entrepreneurial Orientation: Entrepreneurial orientation refers to an enterprise's characteristics and actions that are, by nature, entrepreneurial. The most commonly accepted definition of entrepreneurial

orientation refers to three critical elements: innovation, risk-taking, and proactiveness. An enterprise that has more entrepreneurial characteristics and behaviors, as described below, is better positioned to develop and implement adaptive and transformative strategies in response to a shock, versus negative coping mechanisms. Additionally, entrepreneurially oriented businesses are forward thinking and more likely to plan for shock mitigation responses.

- *Innovation:* This refers to a mindset of the entrepreneur or enterprise leadership to try new things. This can include new ways of doing business, new product development, or other ways to add value to customers that have not been done before.
- *Risk-taking:* While the definition of risk-taking in the entrepreneurial orientation context typically centers on heavy borrowing or other substantial use of resources to attempt uncertain business endeavors, for MSMEs, we find it is more appropriate to consider risk-taking as starting a business, opening a new branch, or taking on agents or finance as a way of 'betting' on one's own abilities or ideas. Risk-taking can also be assessed in terms of how business leaders accept and learn from failures, versus being devastated by them.
- *Proactiveness:* Proactiveness refers to a forward-looking and opportunity-seeking orientation. In traditional contexts this indicates taking the lead in the introduction of new goods or services ahead of competitors in expectation of gaining first-mover advantage, by anticipating and acting on future opportunities. Thinking about resilience capacities of MSMEs in emerging markets, however, we modify this definition to focus on preemptive planning and actions to mitigate risks. The proactive strategies considered include establishing a diversity of suppliers, multiple business lines, financial reserves and stockpiles of supplies, and business continuity plans, which demonstrate the enterprise's preparations for adapting to unplanned, negative future events.

Several of the recent studies on enterprise resilience, particularly those focusing on MSMEs, explored aspects of entrepreneurial orientation to determine what supports enterprises in adapting to or recovering from shocks. Rodrigo et al. (2020) included entrepreneurial orientation as an independent variable and found a strong correlation with business resilience. Additionally, Hidayat et al. (2020) explored "entrepreneurial personality," which is focused on entrepreneurial characteristics of the enterprise leader, rather than the enterprise itself; they found a positive and significant correlation between entrepreneurial personality and crisis management, which itself had a positive relationship with business resilience. Additionally, the "preventative actions" and "preparedness capacity" elements of Sanchis, Canetta, and Poler's framework (2020) aligns with the proactiveness element of entrepreneurial orientation, as we have defined it. Based on these findings, we included entrepreneurial orientation as a domain of the MSME Resilience Framework.

6. Survey Design and Data Collection

6.1 Survey Instrument Design

The team developed indicators for each domain under the MSME Resilience Framework to measure how agrodealer MSMEs exhibit resilient behaviors and characteristics. To keep the number of indicators within the manageable interest of our study, we selected indicators that we felt would most directly impact the businesses' adoption of adaptive strategies and excluded those that might only describe features of enterprises in more general terms.

The team then developed survey questions and response categories to assess MSMEs' behaviors and characteristics according to the indicators. Where appropriate, we drew from existing modules developed by RTI's prior applications of the market systems resilience measurement, as four of our framework's domains aligned with that of USAID's framework for market systems resilience measurement. We obtained input from consultant Dr. Getachew Legese, who had previously conducted research on Ethiopian agrodealers, to ensure our questions and phrasing were appropriate for the context and circumstances of Ethiopian agrodealer MSMEs. We added modules to determine respondents' exposure to shocks over the past year and to assess specific coping strategies and responses to the pandemic, as well as general business information such as size, years in business, and male/female ownership.

6.2 Sampling Frame and Mapping

The team recognized that the number of agrodealer MSMEs we could reach in our study regions of Amhara and Oromia would be limited, given the rural locations of these enterprises. Additionally, we recognized that many agrodealers in rural locations would be difficult to track down without existing relationships and contact information. With the help of the consultant, we prepared lists of agrodealer MSMEs by type, including cooperatives, small private agrodealers, veterinary drug retailers, and larger "one-stop-shop" agrodealer businesses. To minimize instances of sending enumerators into scattered woredas, we then mapped the presence of our population by zone to determine zones where there were higher concentrations of the various types of agrodealers.

Because cooperatives significantly outnumbered private agrodealers (given most woredas had at least one cooperative, while there were far fewer private agrodealers), and we wanted to have a representative sample of both business types, along with veterinary drug retailers and larger "one-stop-shop" businesses; therefore we emphasized the presence of private agrodealers in our mapping to identify the priority zones. Due to resource and security-related access constraints, the team finalized a selection of zones based on convenience sampling, as described above. Within the selected zones, the research firm randomly selected agrodealers based on the lists provided by Dr. Legese, incorporating an additional 10% for non-response. Table 3, below, shows the zones included in the final sample and the total number of woredas per zone where interviews took place, as well as the types of business interviewed in each zone.

Table 3: Businesses sample by zone

Region	Zone	Number of Woredas	AOSS	Co-op	Private Agro-dealers	Vet drug sellers
Business Types by Zone						
Amhara	Awi/Agew	4	No	Yes	Yes	Yes
Amhara	East Gojam	9	Yes	Yes	Yes	Yes
Amhara	North Shewa	8	Yes	Yes	Yes	Yes
Amhara	Oromia Zone	1	No	Yes	Yes	No
Amhara	South Gonder	5	Yes	Yes	Yes	Yes
Amhara	South Wollo	7	Yes	Yes	Yes	Yes
Amhara	West Gojam	12	Yes	Yes	Yes	Yes
Oromia	Arsi	5	Yes	Yes	No	No

Table 3: Businesses sample by zone						
Region	Zone	Number of Woredas	AOSS	Co-op	Private Agro-dealers	Vet drug sellers
Oromia	Bale	3	Yes	Yes	No	Yes
Oromia	East Shewa	6	Yes	Yes	No	Yes
Oromia	East Wellega	1	Yes	Yes	No	No
Oromia	Jimma	3	No	No	No	Yes
Oromia	North Shewa	3	No	No	No	Yes
Oromia	Oromia Special Zone Surrounding Finfinne	8	Yes	Yes	No	Yes
Oromia	South West Shewa	1	Yes	Yes	No	No
Oromia	West Arsi	7	No	Yes	Yes	No
Oromia	West Harerge	1	Yes	Yes	No	No
Oromia	West Shewa	1	Yes	No	No	No

6.3 Data Analysis

We analyzed survey results using STATA using cross tabs to compare descriptive results across business size (micro, small, and medium) and business type (cooperative and private). We further broke down results for private businesses according to whether they were rural or urban. We did not compare results between Amhara and Oromia, due to the similarities in market development and agro-ecology between the two regions. Results did not vary meaningfully between urban and rural private sector actors, so we dropped the comparison from the final analysis.

7. Findings

7.1 Sample Overview

The sample number of businesses surveyed was 385 across both target regions of Amhara and Oromia. The people interviewed were the business owners, cooperative chairpersons, or senior managers. Of the respondents, only 11.4 percent were women, indicating low levels of business ownership or leadership.

Approximately 50 percent of the businesses surveyed were cooperatives (*n*=198) and the other 50 percent consisted of three types of private businesses (*n*=187) (Table 4). The private business types included “one-stop shops” (larger retail and service centers with diversified product lines) (*n*=31), agrodealers (*n*=68), and veterinary drug retailers (*n*=88). The sample included businesses of varying sizes including micro, small,

and medium.[6] Cooperative businesses tended to be larger in size, with almost 50 percent of the cooperative business identifying as medium-sized. In contrast, less than one-third of private business indicated that their business was medium-sized. Roughly 42 percent and 51 percent of the cooperative and private businesses, respectively, identified as small. There were fewer respondents who indicated that they ran a micro-sized business (*n*=53).

Table 4: Business size and type

	Cooperative		Private		Total	
	n	**%**	***n***	**%**	***n***	**%**
Micro	19	10%	34	18%	53	14%
Small	83	42%	95	51%	178	46%
Medium	96	48%	58	31%	154	40%
TOTAL	198	100%	187	100%	385	100%

Most of the medium-sized businesses (*n*=154, 62 percent) in the sample were cooperatives. In contrast, the majority of the micro businesses (*n*=53, 64 percent) in the sample were private businesses. The small businesses were represented fairly evenly between cooperative (47 percent) and private (53 percent) businesses. Veterinary drug retailers represent a notable percentage of the micro (45 percent) and small-sized (31 percent) businesses in the sample.

Around 55 percent of the businesses surveyed were founded between the early 2000s and the present, with up to 22 percent of the business being founded in the past 10 years. The majority of all businesses, regardless of size, had 1 to 10 additional employees. However, 17 percent of micro businesses had no additional employees.

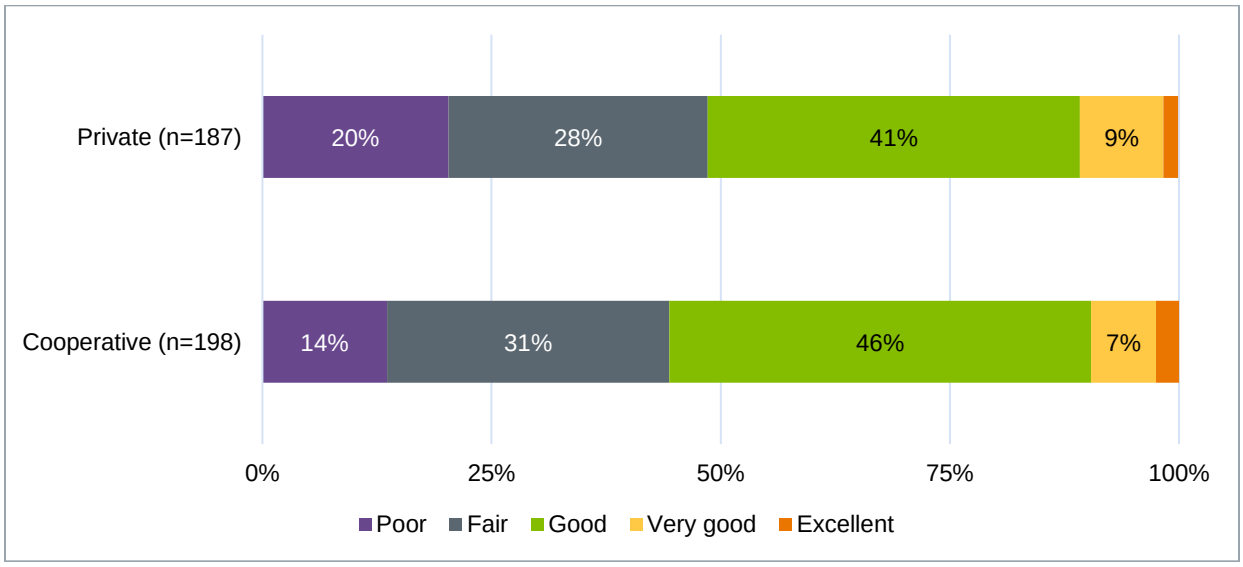
Micro-, small-, and medium-sized businesses had a similar distribution of number of employees who were family members. Between 77 percent and 81 percent said that none of their employees were family members. Around 19 percent and 16 percent of micro and small businesses indicated that one employee was a family member; while only 7 percent of medium businesses employed one family member.

7.2 Contextual Findings

We asked businesses a range of questions pertaining to their current economic situation (Figure 1). Overall, cooperatives and private businesses had similar economic outlooks. Most respondents felt the current economic situation of their business was either "Fair" or "Good" for both cooperatives (76.8 percent) and private businesses (68.9 percent). A much higher percentage of micro businesses (37.7 percent) reported the current economic situation of their business as "poor" compared to small (17.4 percent) and medium (9.1 percent) businesses. The majority of respondents (85.2 percent) expected their business to "do better than today" in the next 12 months. The two most common reasons respondents felt their business would do better/worse in the next 12 months were: they were following a business plan (71.3 percent) and they were expecting to receive financial or technical assistance (51.6 percent).

[6] We define a micro-sized business as one having less than ETB 50,000 in assets. A small-sized business has total assets between ETB 50,001 and ETB 500,000. A medium-sized business is any business with total assets up to ETB 1,000,000. While we originally planned to categorize businesses based on number of employees as well as asset value, the number of employees was inconsistent with the asset value and generally tended to be low.

Figure 1: Current economic situation of business



We then asked businesses about the overall impacts of the COVID-19 pandemic, as well as whether they were affected by other shocks over the past year.

COVID-19 Pandemic

Many of the MSMEs in our sample were negatively impacted by the COVID-19 pandemic (Table 5). In general, cooperative businesses seemed to have faced a lesser degree of impacts related to the pandemic with 34.3 percent reporting no impact from the pandemic, while only 9.1 percent of private businesses indicated that the pandemic had no impact on them. Fewer cooperatives (22 percent) were impacted “a lot” by the pandemic than private businesses (46 percent).

Table 5: COVID-19 pandemic's impact on business by business type

Has your business been affected by the COVID-19 pandemic?	Cooperative (n=198)	Private (n=187)
Yes – a lot	22%	46%
Yes – a little	43%	46%
No impact	34%	9%

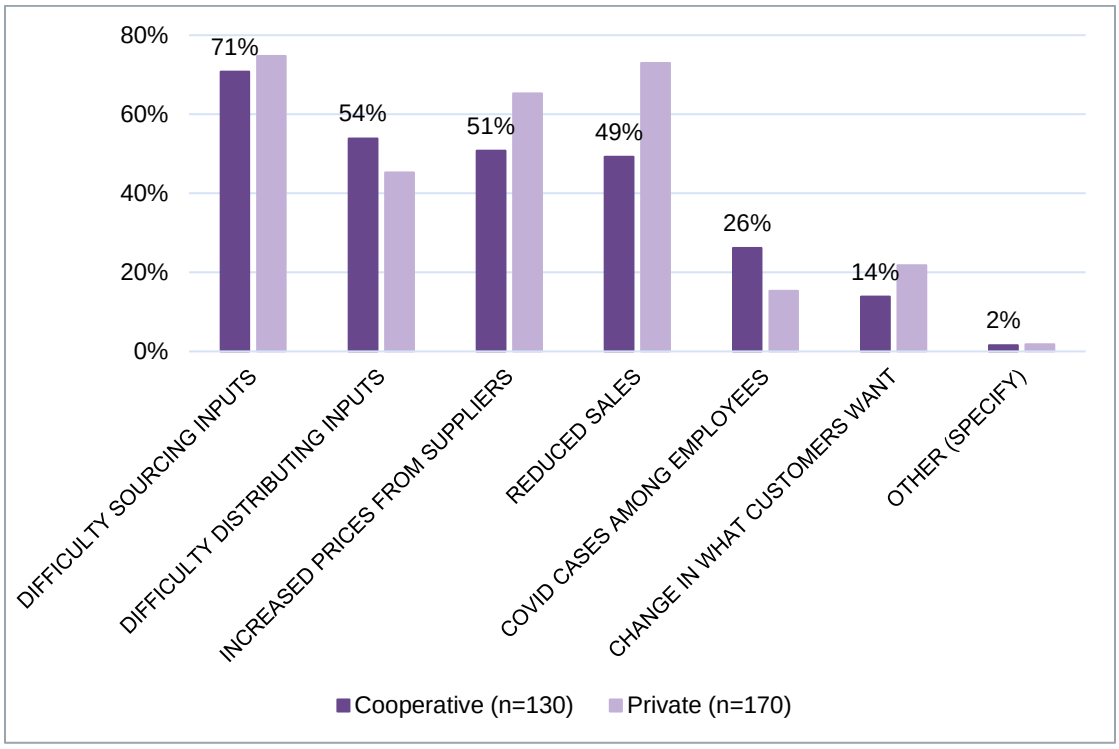
In addition, more micro businesses (47.2 percent) reported being impacted "a lot" by the pandemic than small (33.7 percent) and medium (28.6 percent) businesses (Table 6).

Table 6: COVID-19 pandemic's impact on business by size

Has your business been affected by the coronavirus pandemic?	Micro (n=53)	Small (n=178)	Medium (n=154)
Yes – a lot	47%	34%	29%
Yes – a little	30%	49%	44%
No impact	23%	17%	27%

Some of the primary ways that businesses were affected by the pandemic included difficulty sourcing and distributing inputs, a reduction in sales, and increased prices from suppliers (Figure 2). Cooperatives and private businesses indicated that difficulties related to inputs was the top challenge to affect them negatively. To illustrate, 71 percent of cooperatives and 75 percent of private businesses said difficulty sourcing inputs had a negative effect on their businesses due to the pandemic.

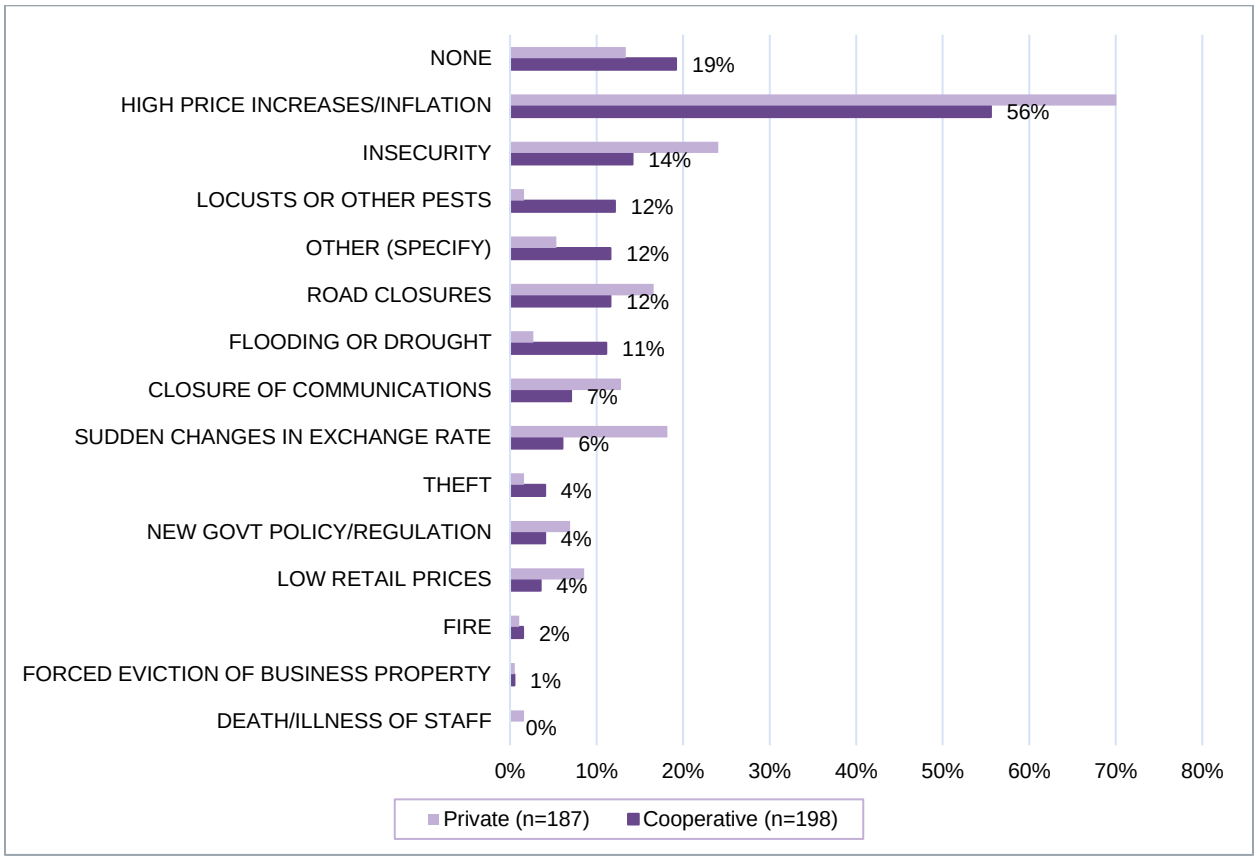
Figure 2: Coronavirus pandemic effect on business (multiple select)



Other Shocks

The COVID-19 pandemic was not the only shock that negatively impacted the businesses (Figure 3). One of the most prominent other shocks was high prices and inflation, with 63 percent of all businesses indicating that they experienced this. Effects of high prices and inflation were felt by a greater percentage of cooperatives (70 percent) compared to private businesses (56 percent); in addition, sudden changes in exchange rates affected 18 percent of cooperatives compared to only 6 percent of private businesses. There was some variation in shocks based on the size of the business. For example, 19 percent of micro businesses said that low retail prices had negatively impacted them compared to 4 percent of small and medium-sized businesses. Similarly, more small- (15 percent) and medium-sized (15 percent) businesses said that road closures had impacted them negatively compared to micro-sized businesses (8 percent).

Figure 3: Other shocks experienced (multiple select)

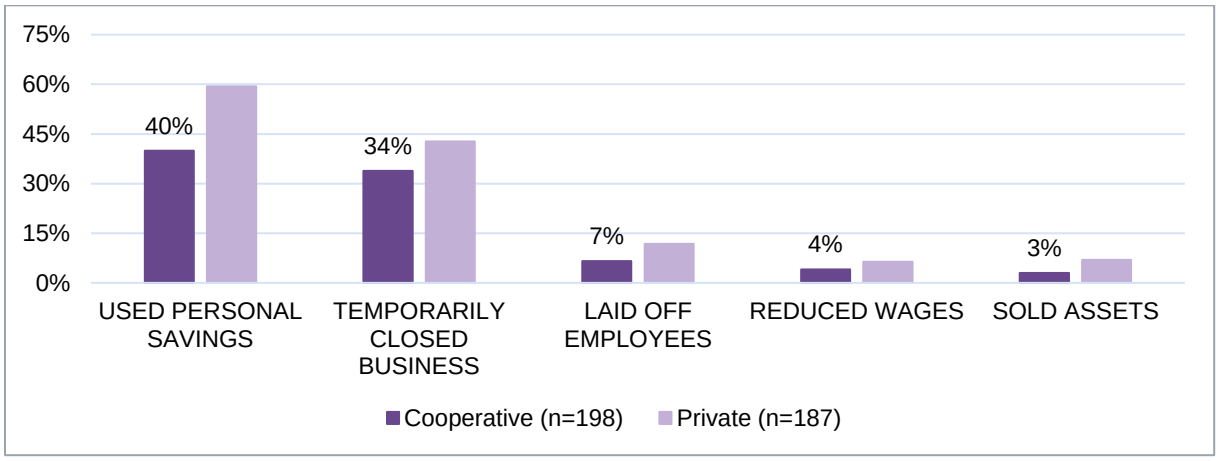


The two most impactful shocks for respondents over the past 12 months were the coronavirus pandemic and price increases and inflation. Similar numbers of cooperatives were most impacted by the coronavirus (32 percent, *n*=177) and price increases and inflation (35 percent). More private businesses (41.3 percent, *n*=184) were most impacted by the coronavirus pandemic, but, like cooperatives, a similar number (40 percent) indicated high prices and inflation were their most impactful shock.

Coping Strategies

Due to the coronavirus pandemic and other shocks, many of the businesses resorted to negative coping strategies to help their business survive under the challenging circumstances (Figure 4). The two most common actions businesses took to survive shocks in the past 12 months were using personal savings (49.4 percent, *n*=385) and temporarily closing their business (38.2 percent). Most businesses (more than 75 percent) had not heard of other businesses selling low quality products to artificially "meet" demand in the past 12 months; however, that left nearly a quarter of private businesses that said that they had heard of this happening.

Figure 4: Actions taken to survive shocks (multiple select)

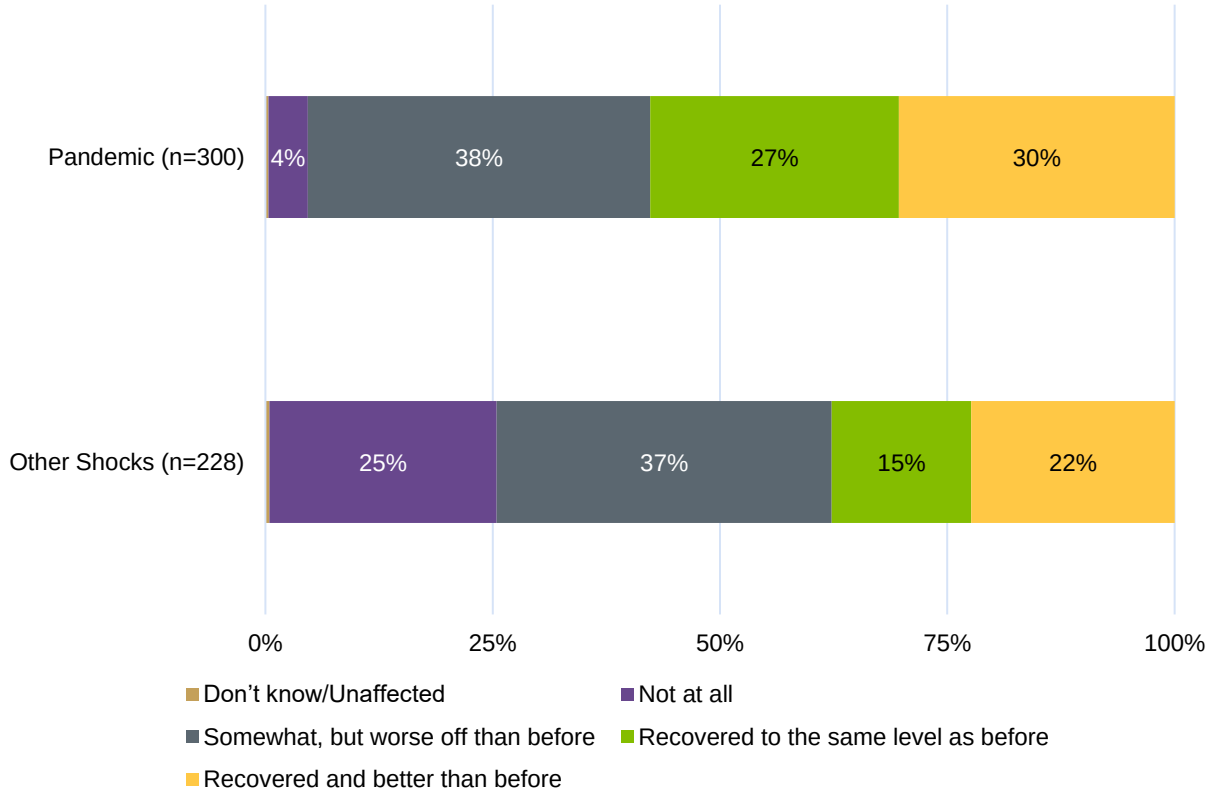


Recovery

By the time the survey was conducted (approximately 1.5 years into the pandemic, in August 2021), cooperatives and private businesses reported that they had recovered from the pandemic and other shocks at similar rates. Many of the businesses (42 percent) indicated that they had not yet recovered from the impacts of the pandemic back to how they were before. However, some businesses were doing better than before the pandemic (30 percent). A slightly higher percentage of private businesses (32.4 percent) than cooperative businesses (27.7 percent) indicated that they had recovered from the pandemic and were better than before. A larger percentage of both micro (46.3 percent) and small (42.2 percent) businesses were worse off than before compared to medium businesses (28.6 percent).

In terms of other shocks, 62 percent of all businesses had not recovered to their pre-shock level, although we note that some shocks, such as the high prices/inflation, were still ongoing (Figure 5). Similar recovery rates were noted by cooperative and private businesses. For both cooperative (35 percent) and private businesses (38.9 percent), the largest share of respondents indicated that their business had recovered "somewhat, but worse off than before" from their most impactful shock in the past 12 months. A majority of micro businesses (53.6 percent) indicated they had recovered somewhat but that they were worse off than before, compared to 39 percent of small and 31 percent of medium businesses that had recovered but were worse off than before.

Figure 5: Overall shock recovery



7.3 Enterprise Resilience Findings by Domain

Connectivity

We then assessed businesses according to indicators for each of the domains. In the Connectivity domain, we used indicators pertaining to business owners having diverse business relationships (such as with industry associations, other agrodealers or cooperatives, as well as with suppliers and customers), access to government or nongovernmental organization (NGO) support, access to credit, and connectivity to sources of business information.

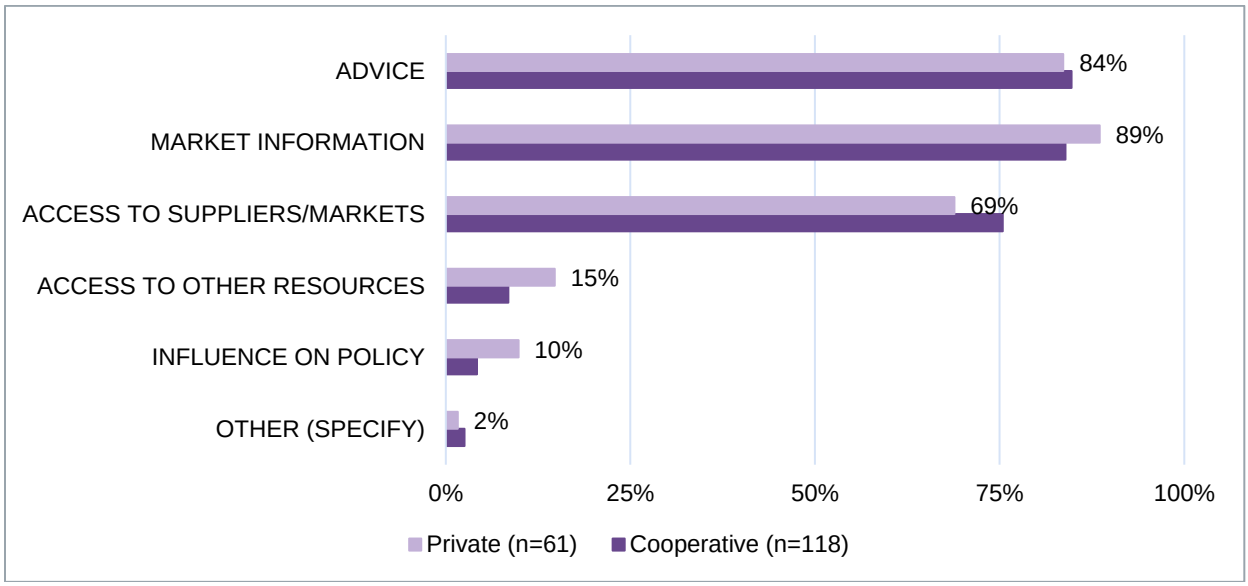
Industry Associations or Professional Groups

Of the full sample (*n*=385), 46.5 percent of the respondents belonged to an industry association or professional group. More cooperatives (59.6 percent, *n*=198) indicated participation in a group than private businesses (32.6 percent, *n*=187). Similarly, a larger portion of the medium-sized (62.3 percent, *n*=154) businesses indicated participation than micro (24.5 percent, *n*=53) or small (39.3 percent, *n*=178) businesses. The majority of businesses (80 percent) felt that business associations could play an important role in shock recovery by helping access government support.

Most participants (71.4 percent) indicated their business did not belong to any informal groups; however, some (26.5 percent) indicated they belonged to an *ekub* or rotating savings and credit association group. About 87 percent of cooperatives and 55 percent of private businesses indicated that they did not belong to any type of informal groups to support their businesses.

The three most common benefits of membership in industry associations or professional groups included gaining market information or advice, and access to suppliers or markets (Figure 6). There were similar trends across business types and sizes. For the top three benefits, all business types and sizes had more than 50 percent of the respondents say that their businesses experienced gaining market information or advice and access to suppliers or markets.

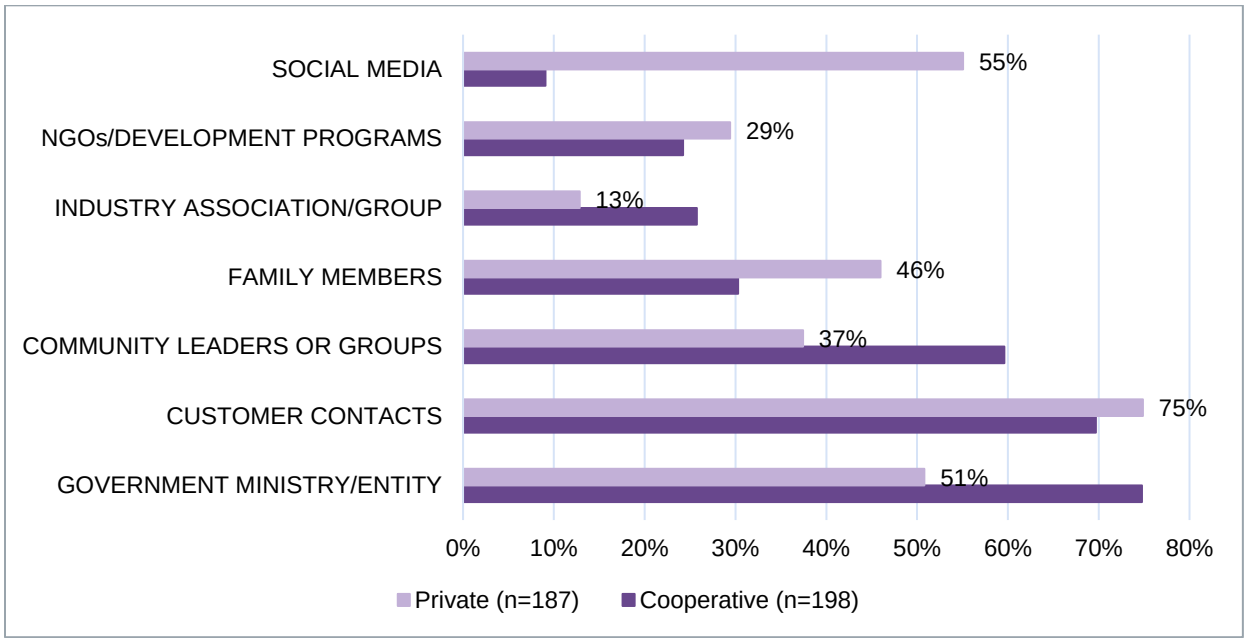
Figure 6: Benefits from participating in associations or groups (multiple select)



Advice & Business Information

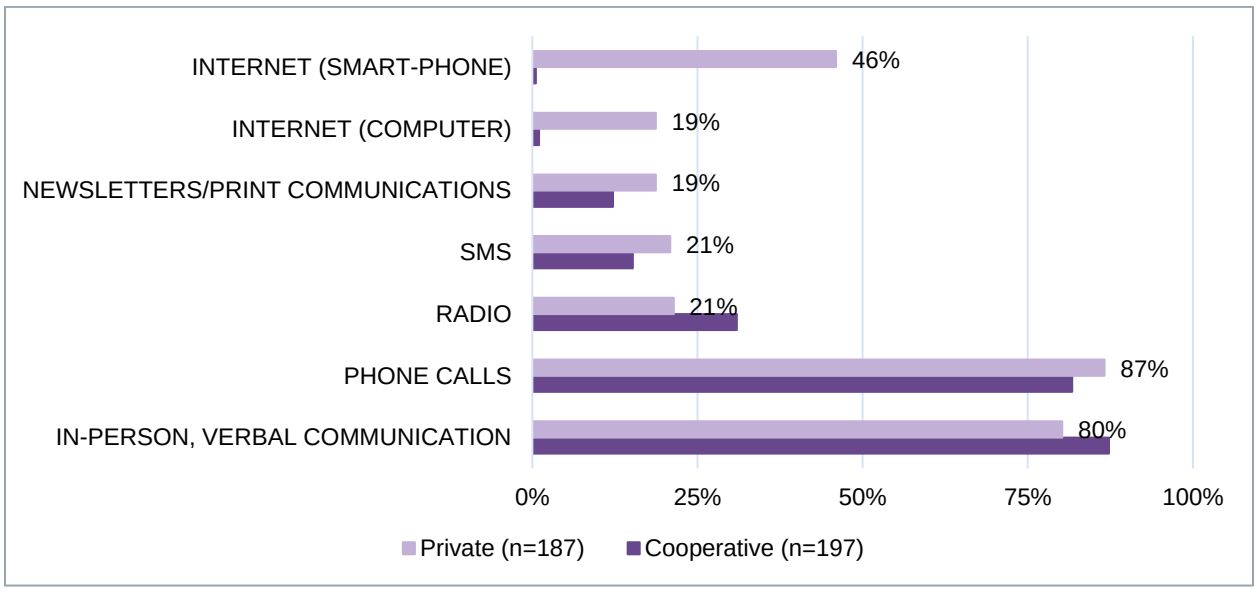
Customer contacts (75 percent), social media (55 percent) and government entities (51 percent) were the top sources of advice or information for private businesses. Government entities (75 percent), customer contacts (70 percent) and community leaders or groups (60 percent) were the top sources of advice and business information for cooperatives (Figure 7). Very few cooperatives (9 percent) indicated that they used social media for information.

Figure 7: Sources of business advice and information (multiple select)



About 84 percent of all businesses (*n*=385) obtained information through phone calls or in-person verbal communication (Figure 8). Private businesses were much more likely to use the Internet to obtain business information. For example, 46 percent of private businesses indicated using the Internet through a smart phone, compared to 1 percent of cooperatives.

Figure 8: Methods of obtaining business information (multiple select)



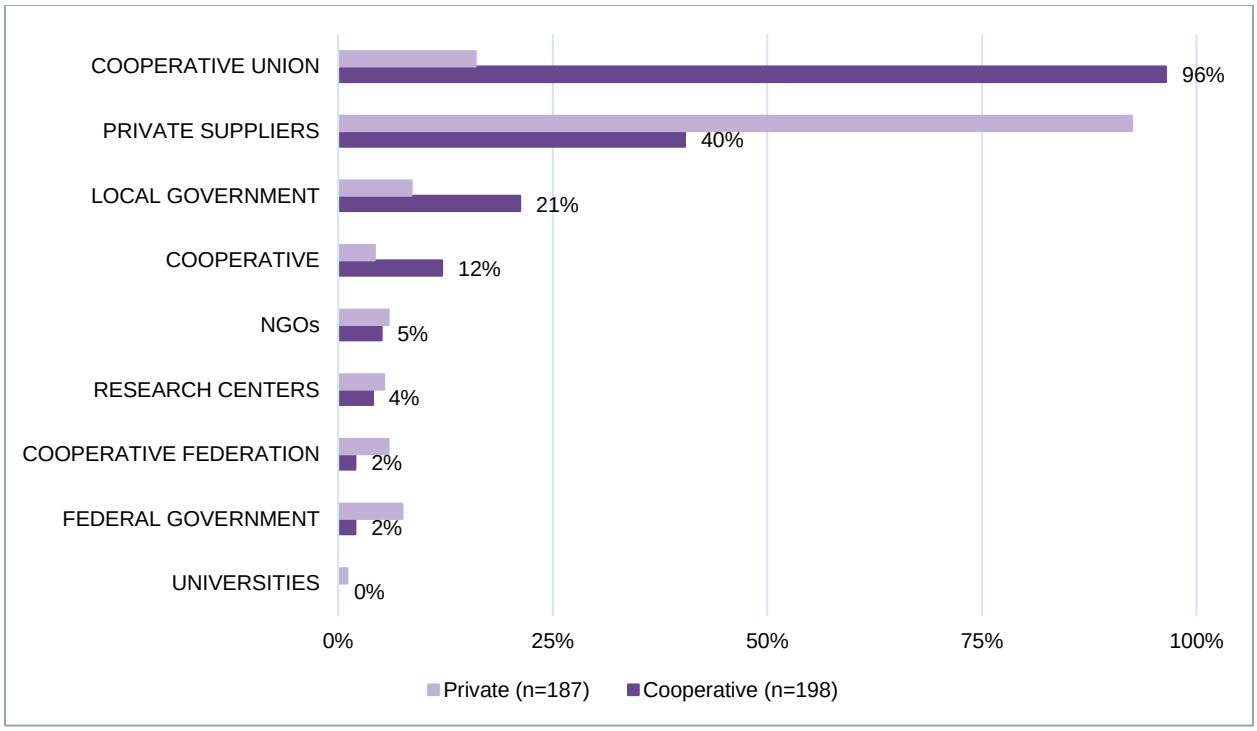
About 85 percent of all businesses' (*n*=384) information networks reached within the same woreda. Almost 70 percent of businesses' information networks reached within the same zone, but a different woreda. The private businesses often had more geographically expansive information networks than cooperatives

(which, by design, serve one woreda), with 44 percent indicating that their information network extended to a different zone within the same region and 21 percent in another region, compared to only 19 percent and 5 percent of cooperatives, respectively.

Suppliers

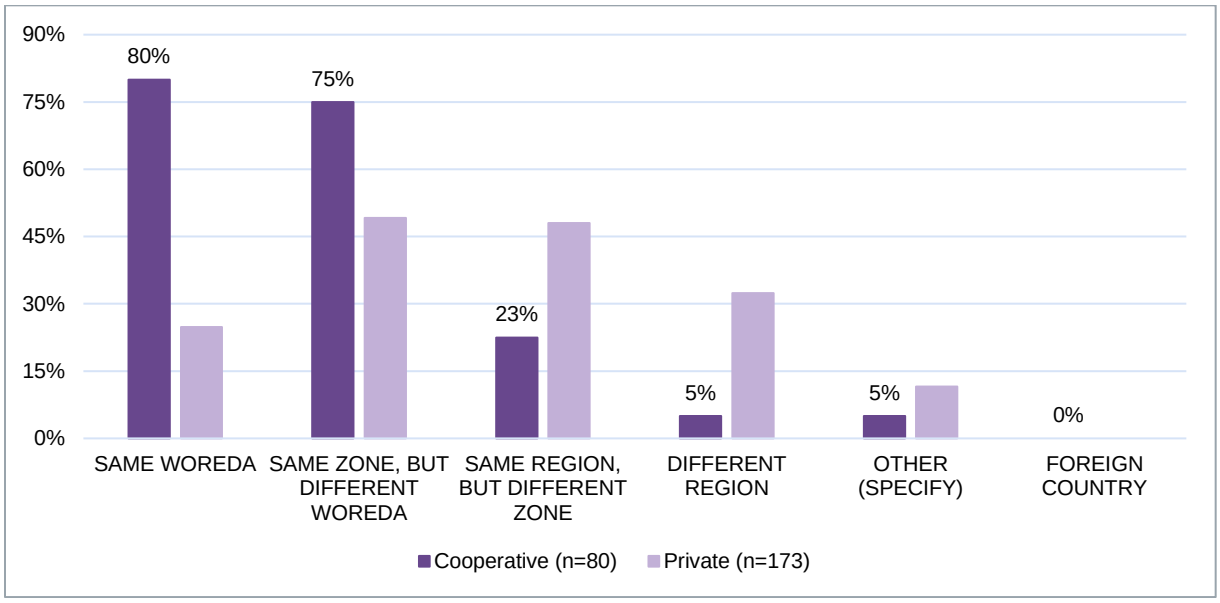
Nearly all cooperative businesses (93.9 percent) and a significant majority of private businesses (70.6 percent) had between one and five suppliers (Figure 9). Cooperative unions were the top supplier for cooperatives, while private suppliers were the top suppliers of private businesses. However, there were some differences in other key suppliers. For example, more cooperatives (21 percent) were supplied by the local government than were private businesses (9 percent).

Figure 9: Agricultural input suppliers (multiple select)



Cooperatives and private businesses indicated differences in the geographic spread of their suppliers (Figure 10). For example, the main supplier location for cooperatives was the same woreda (80 percent), but only 25 percent of private businesses were supplied by the same woreda. The top supplier location for private businesses was in the same zone but different woreda (49 percent).

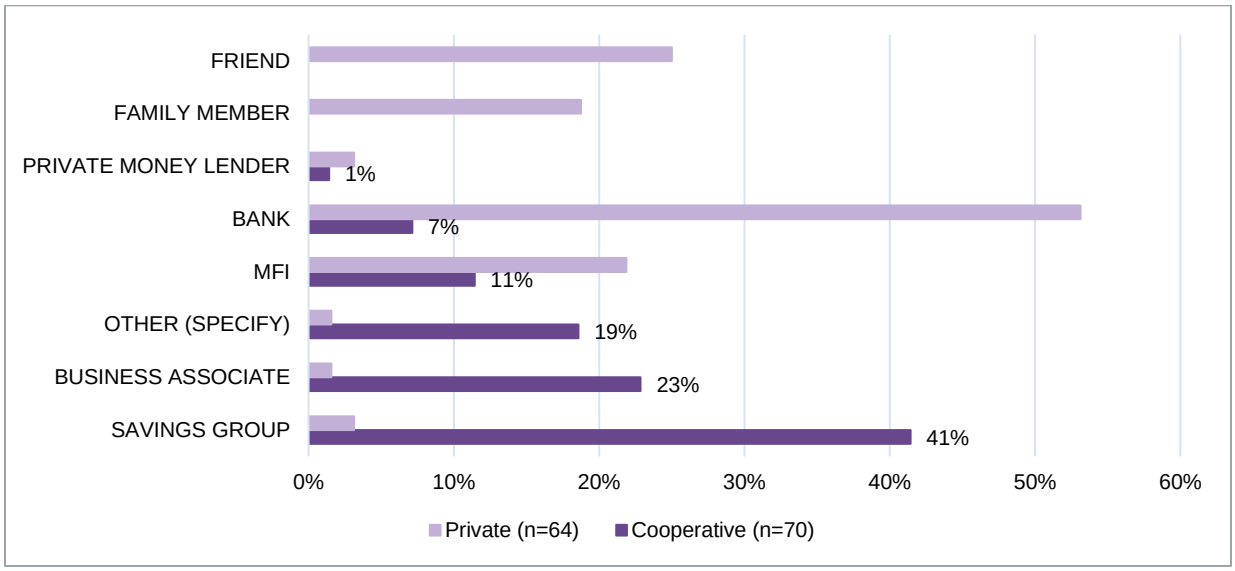
Figure 10: Supplier location (multiple select)



Access to Credit

A majority of all business types (at least 50 percent) indicated they did not apply for a loan from any source in the past year (Figure 11). Of those who sought out a loan, 74 percent of cooperatives and 83 percent of private businesses received the loan. Around 18 percent of cooperatives were denied a loan in contrast to only 8 percent of private businesses. Of those who applied for loans, private businesses and cooperatives sought loans from different sources. For example, 53 percent of private businesses (*n*=70) sought loans from a bank. In contrast, only 7 percent of cooperatives (*n*=64) attempted to get bank loans. Savings groups were the main source of loans for cooperatives (41 percent), while only 3 percent of private businesses received a loan from a savings group. Bonding social capital was utilized by private businesses via loans provided by friends (19 percent) and family members (25 percent), while 0 percent of cooperatives received a loan from these sources.

Figure 11: Lending sources (multiple select)



NGO and Government Support

Of the respondents, 23.4 percent indicated that they received support from an NGO or development program (21 percent of cooperatives, and 26 percent of private businesses). More than 90 percent of all businesses said that their business had not benefited from government assistance in the past year to help recover from shocks. Of the 25 respondents who had received government shock assistance, 48 percent said the assistance was to help recover from the COVID-19 pandemic. Despite most respondents' indicating that they had not received government recovery support, the majority believed that business associations or professional groups could help businesses access government shock recovery support. Across all business (*n*=385), 83.9 percent and 12.5 percent found that business associations or professional groups were very important or somewhat important in accessing government support.

Cooperation

We then surveyed the businesses against indicators in the cooperation domain. These indicators assessed how the businesses worked with other businesses, cooperatives, or other market actors to solve problems and achieve mutual objectives.

The most common cooperation activity across business types was sharing market or price information (Figures 12 and 13). Nearly 47 percent of cooperatives and 54 percent of private business sometimes or often shared price and market information with other cooperatives/private businesses. Other forms of cooperation were less frequent; for example only 25 percent of cooperatives sometimes or often jointly purchased products, and only 28 percent of cooperatives sometimes or often shared services. Private businesses cooperated at higher rates; for example, 35 percent of private businesses sometimes or often cooperated to jointly purchase products, and 38 percent shared services.

Figure 12: Cooperatives' cooperation with other cooperatives/agrodealers

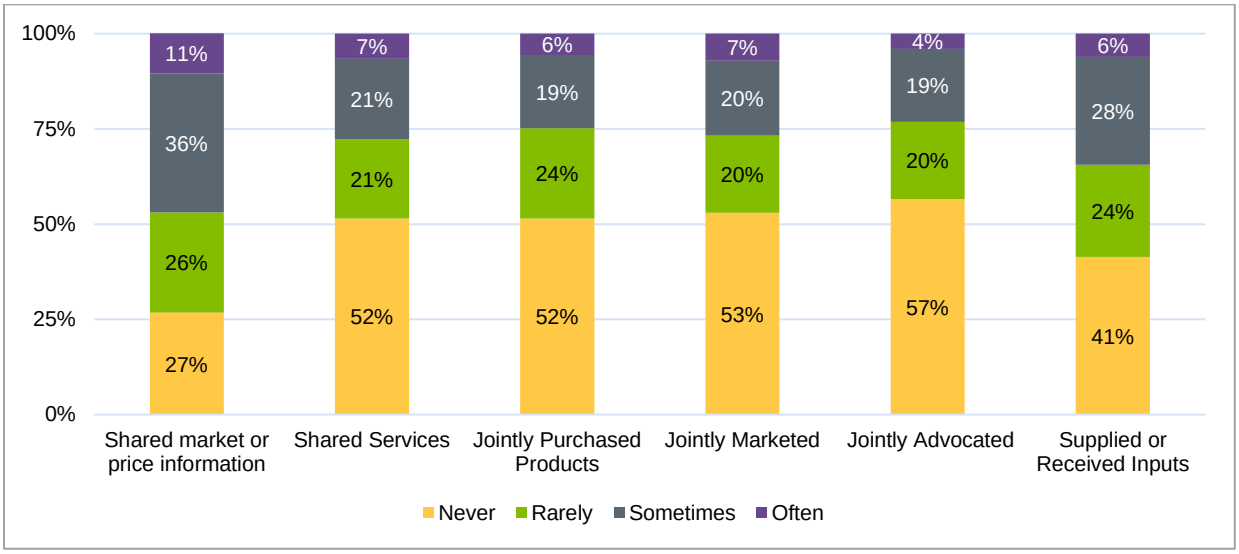
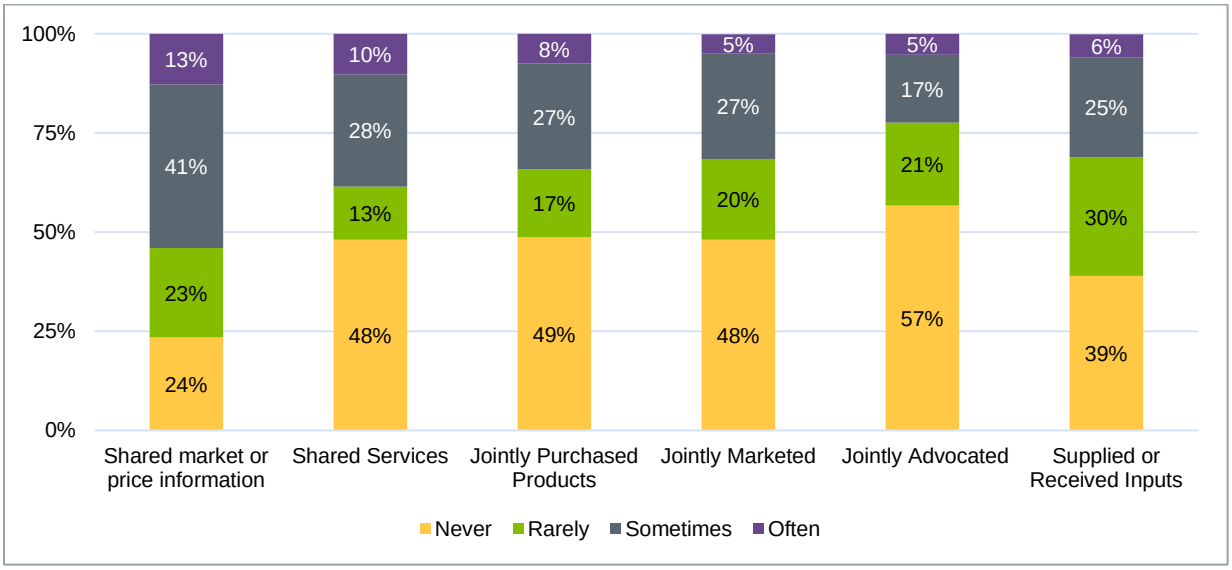


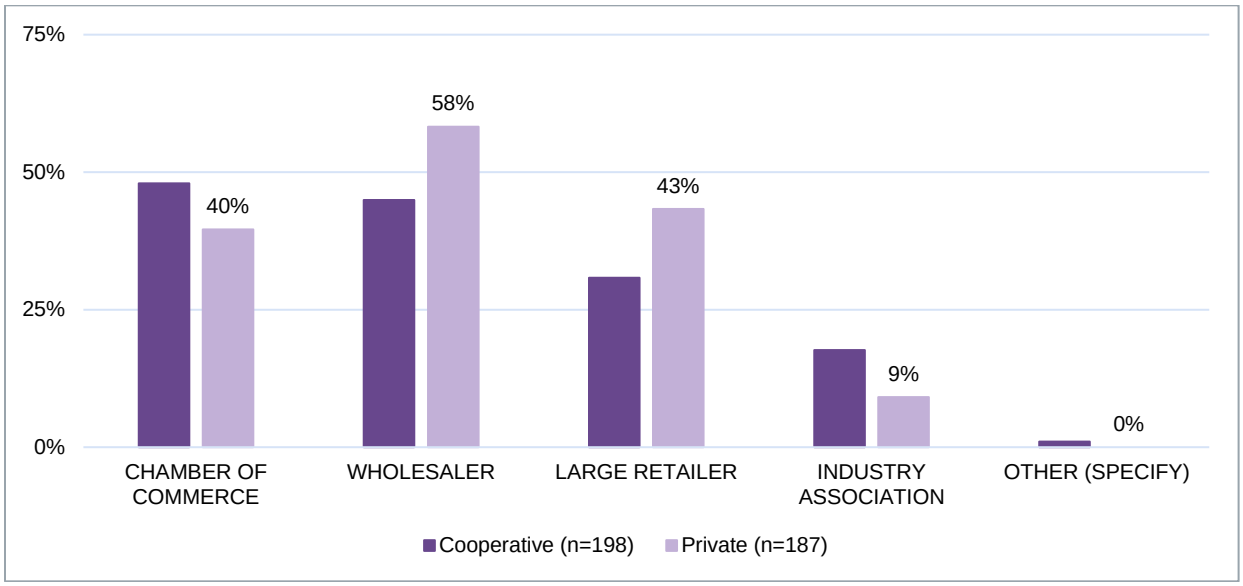
Figure 13: Private businesses' cooperation with other agrodealers



We also looked at the geographic spread of partnerships and relationships with other business. The top partners for private businesses were agrodealers from different woredas (56 percent) followed by urban agrodealers (Figure 14). For cooperatives, the most common business relationships were with cooperative unions in same zone (55 percent) and cooperatives in a different woreda (53 percent).

In addition to partnering with other businesses, some of the businesses also interacted with other market actors. For cooperatives (48 percent), the chamber of commerce was the most common market actor with which their businesses interacted. Private businesses (58 percent) interacted most commonly with wholesalers.

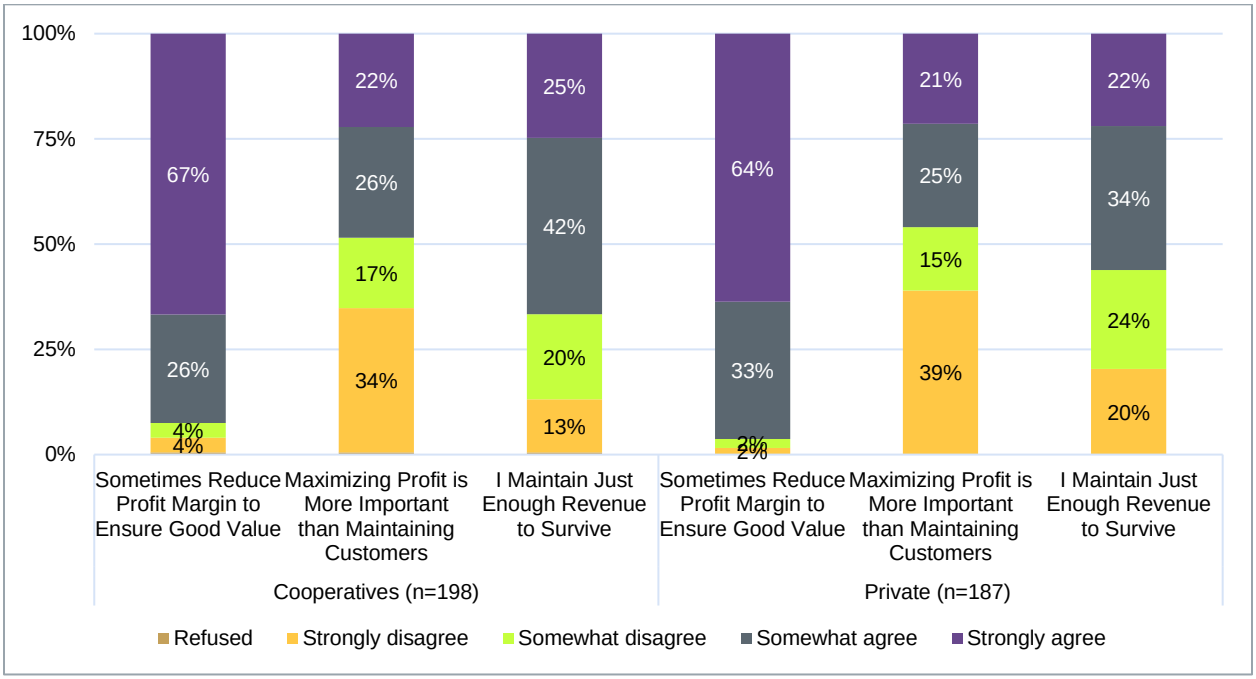
Figure 14: Cooperation with other market actors



Business Strategy

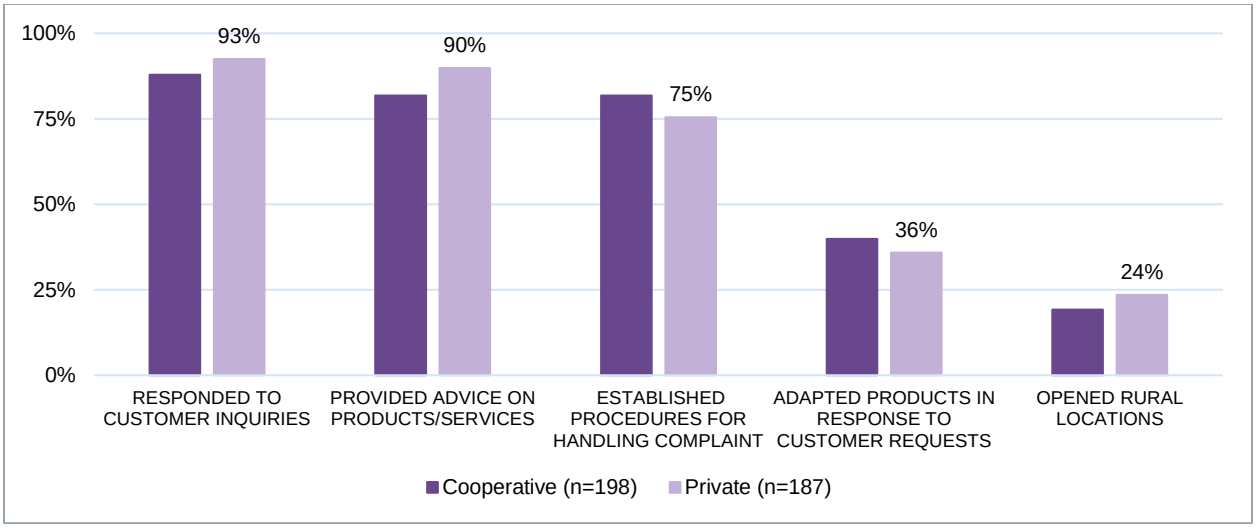
The next survey module assessed whether businesses were oriented toward meeting the needs of their customers or more toward maximizing profits (Figure 15). Cooperatives and private businesses answered similarly, with 67 percent of cooperatives and 64 percent of private businesses strongly agreeing that sometimes it is important to reduce the profit margin to ensure good value to customers. The businesses had mixed opinions regarding decisions around profit maximization. Across all business types, over a third strongly disagreed that maximizing profit is more important than maintaining customers, while 22 percent strongly agreed that profit maximization is more important. Generally, across all business types, 23 percent strongly agreed and 38 percent somewhat agreed that their business was focused on maintaining just enough revenue to survive instead of on increasing revenue, profitability, or market share.

Figure 15: Business strategies and decisions



The respondents took various actions over the past 12 months to keep their customers satisfied (Figure 16). The two most common practices included responding to customer inquiries (90 percent, *n*=385) and providing advice on products and services (86 percent). A notable number of businesses also established procedures for handling complaints (79 percent) or adapted products in response to customer requests (38 percent). Opening rural locations (21 percent) was the least frequent action taken by businesses.

Figure 16: Actions to keep customers satisfied over the past 12 months (multiple select)



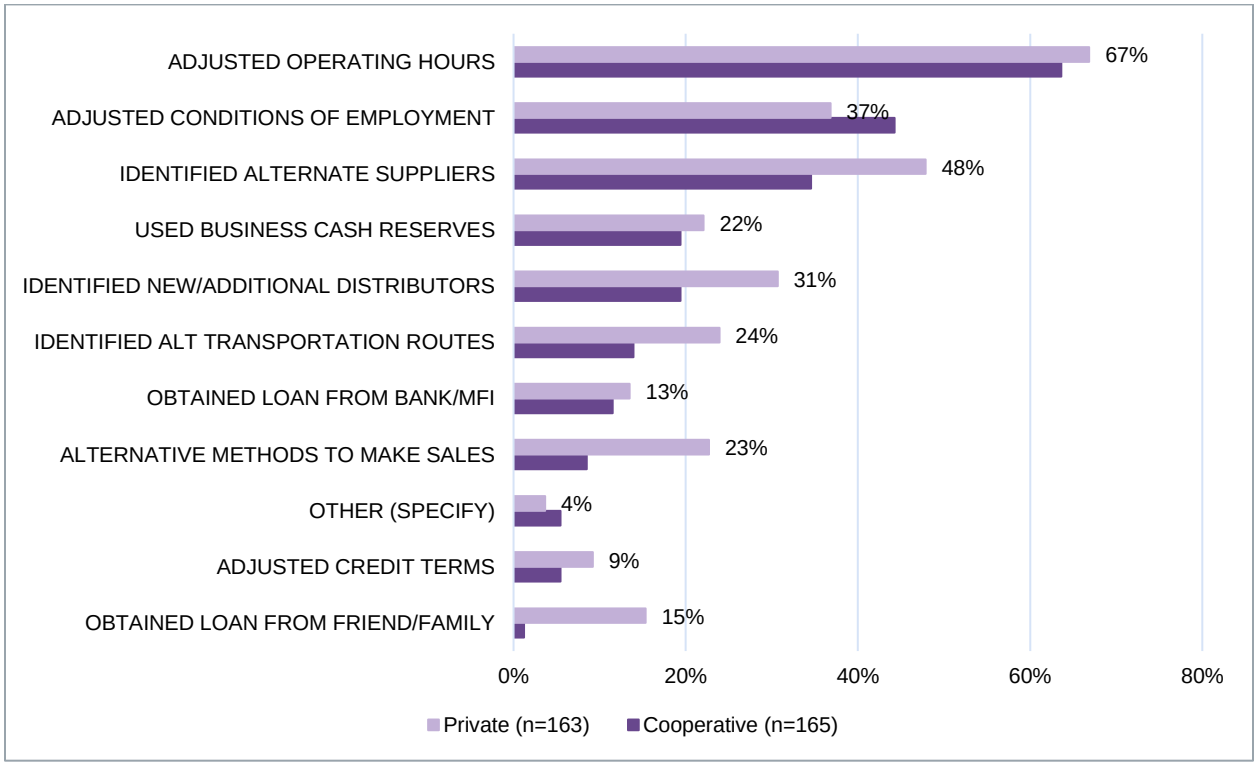
Cooperatives less frequently requested feedback from customers than private businesses did. For example, 28 percent of private businesses indicated that their businesses often requested customer feedback, versus only 9 percent of cooperatives. Despite many respondents indicating they rarely asked

for customer feedback, all respondents indicated that customer feedback is at least somewhat important, and the vast majority of respondents (more than 82 percent, *n*=385) across all business types indicated that customer feedback is very important.

Crisis Management Sub-Domain

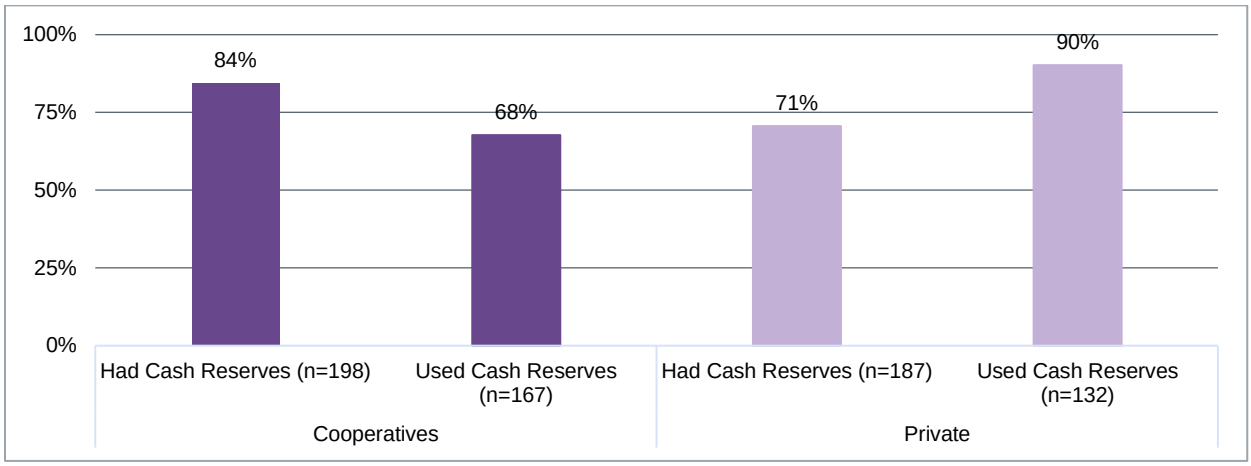
Within the business strategy domain, we assessed whether businesses were oriented to take actions to keep operating during a shock ("operational resilience") and whether they took steps to adapt to changing customer demands during a shock ("commercial resilience") (Figure 17). A total of 83 percent of cooperatives and 87 percent of private businesses adapted to remain open despite the shocks. The top two adaptations taken by all businesses included adjusting operating hours (65 percent, *n*=328) and adjusting employment policies (such as permitting work from home or granting paid leave) (41 percent). Private businesses engaged in a many operational adaptation practices at higher rates than the cooperatives. For example, private businesses were more likely to identify alternate suppliers, identify new/additional distributors, identify alternate transportation routes and utilize alternative methods to make sales compared to cooperatives.

Figure 17: Adaptations to stay open despite shocks faced in the past 12 months (multiple select)



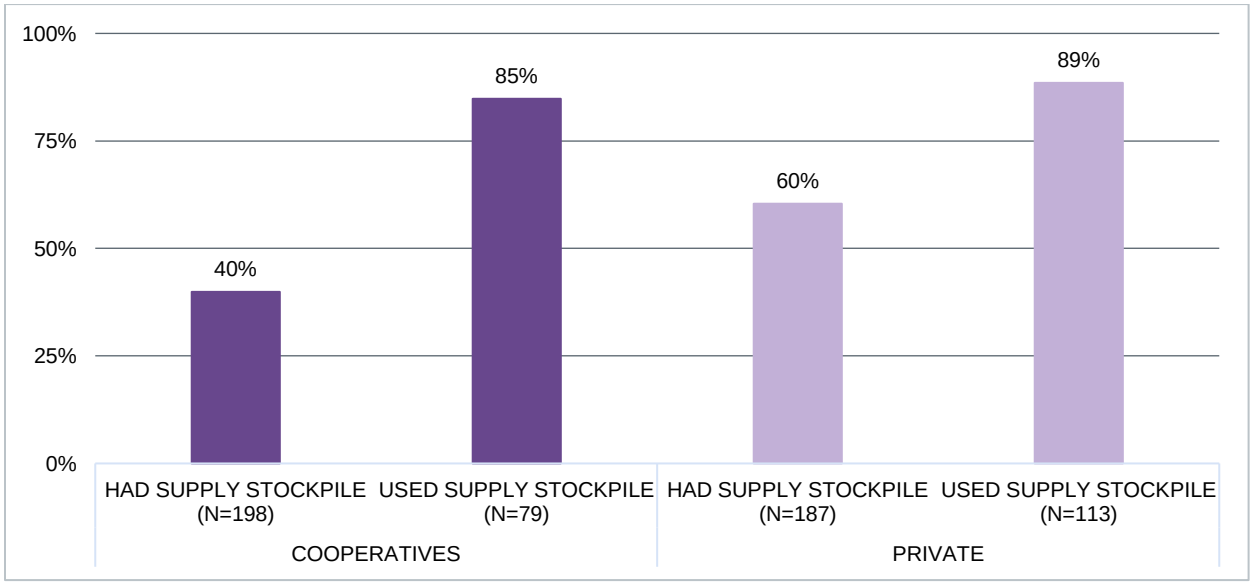
A higher percentage of cooperatives (84 percent) than private businesses (71 percent) indicated that they had cash reserves prior to the most recent shock (Figure 18). Micro-sized businesses had the lowest percentage of reserves (54.7 percent). More than half of all businesses indicated that they used part of their cash reserves so that their businesses could survive the most recent shock. A higher percentage of private businesses (90 percent) used cash reserves than the cooperatives (68 percent).

Figure 18: Cash reserves



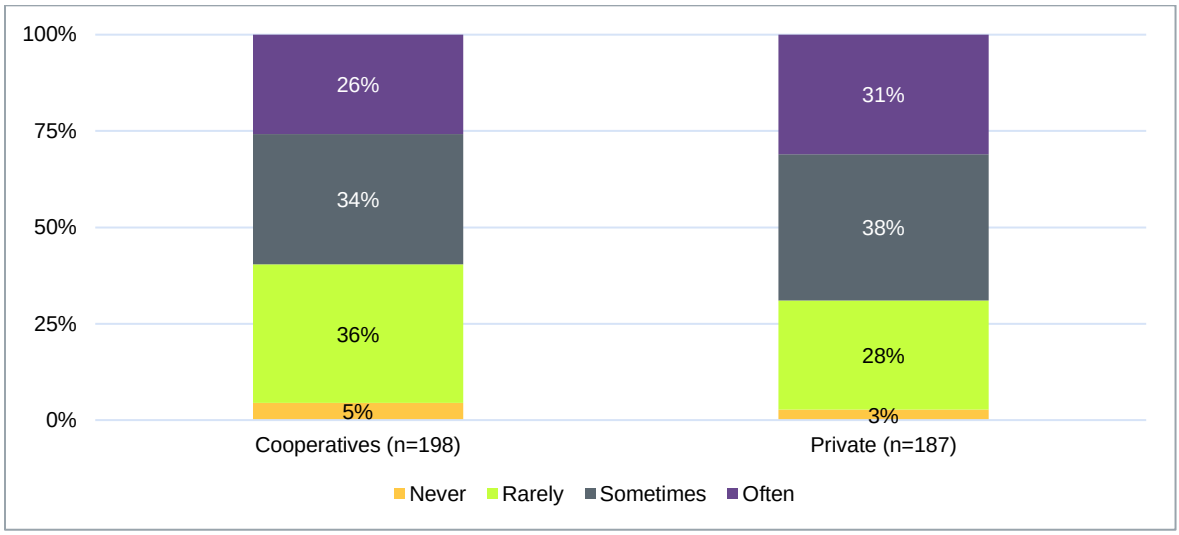
A higher percentage of private businesses (60 percent) than cooperatives (40 percent) indicated that they had a stockpile of supplies prior to the most recent shock that affected them. However, a lower percentage of both business types indicated that they had a stockpile of supplies than the percent that had cash reserves. For those that did have a stockpile, a notable percentage used some of the supply to survive the most recent shock. For example, 85 percent of cooperatives and 89 percent of private businesses used some of their stockpiled supplies to survive their most recent shock (Figure 19).

Figure 19: Supply stockpiles



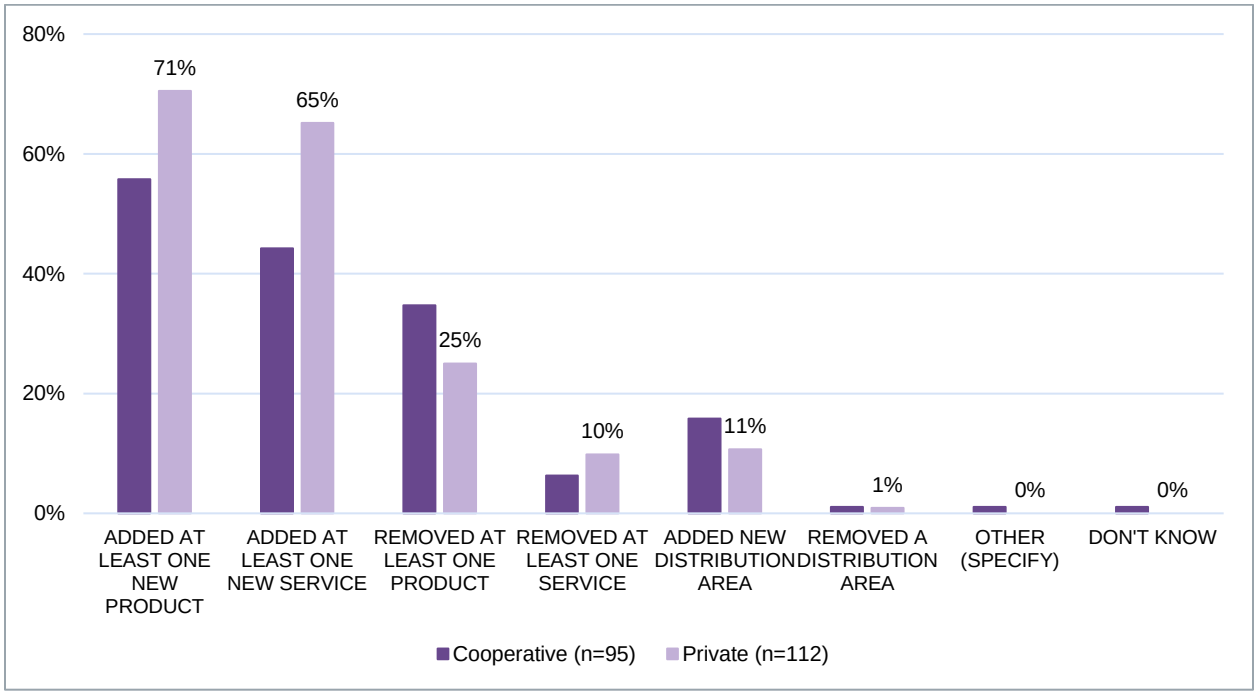
Many of the businesses indicated that they monitored the changes in customer needs during a shock, with nearly 69 percent of private businesses and 60 percent of cooperatives indicating that their business sometimes or often monitored customer needs during a shock (Figure 20).

Figure 20: Monitoring changes in customer needs during a shock



When asked if their business had changed product or service offerings in response to changes in customer needs during a shock, 48 percent of cooperatives and 60 percent of private businesses indicated they had done so. Of the businesses that made changes, adding at least one new product was the most common change for both private businesses (71 percent) and cooperatives (56 percent) (Figure 21). Adding at least one new service was the second most common change for both business types. Overall, more private businesses made adaptations to meet customers' changing needs during a shock than cooperatives.

Figure 21: Changes in product or service offerings in response to customer changes during or after a shock (multiple select)

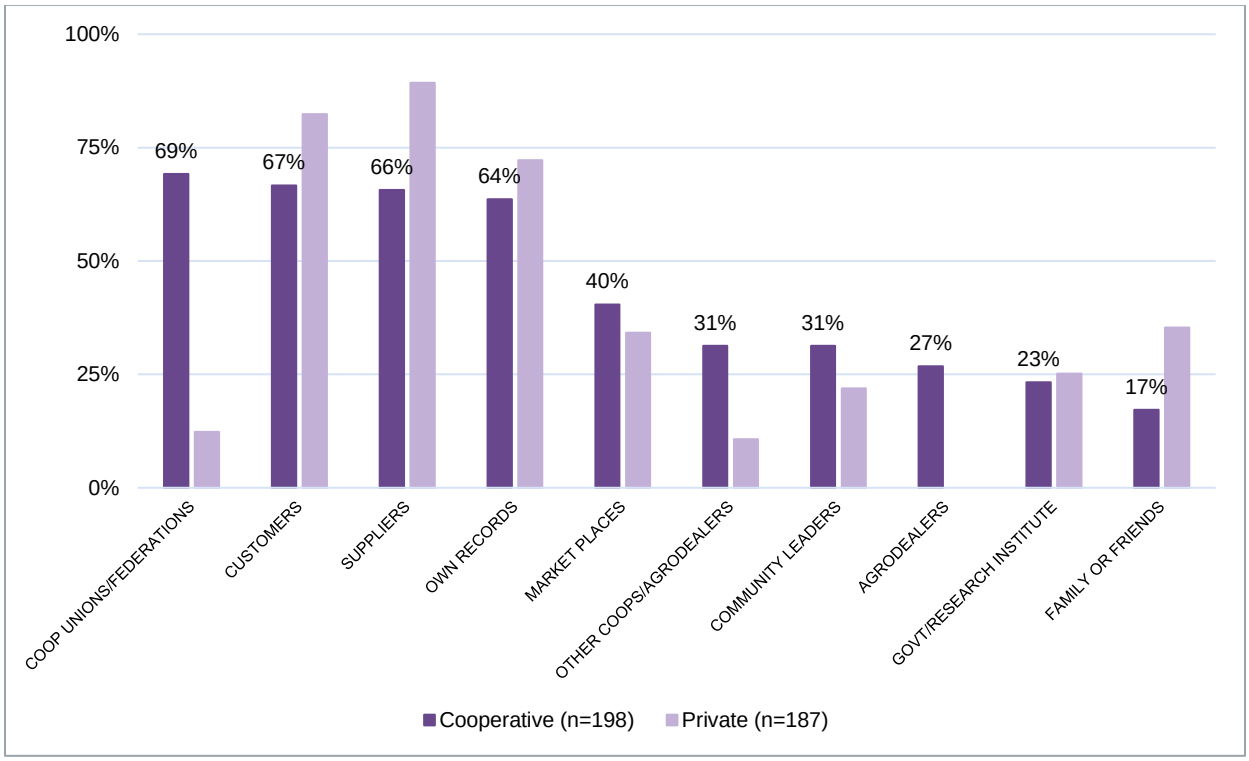


Evidence-Based Decision-Making

We then assessed whether businesses sought out and used data or information to make decisions or solve problems. We used indicators such as business owners using a variety of information sources to inform their decisions, business owners using networks to inform their decision-making, and business owners using their own records to inform business practices and decisions.

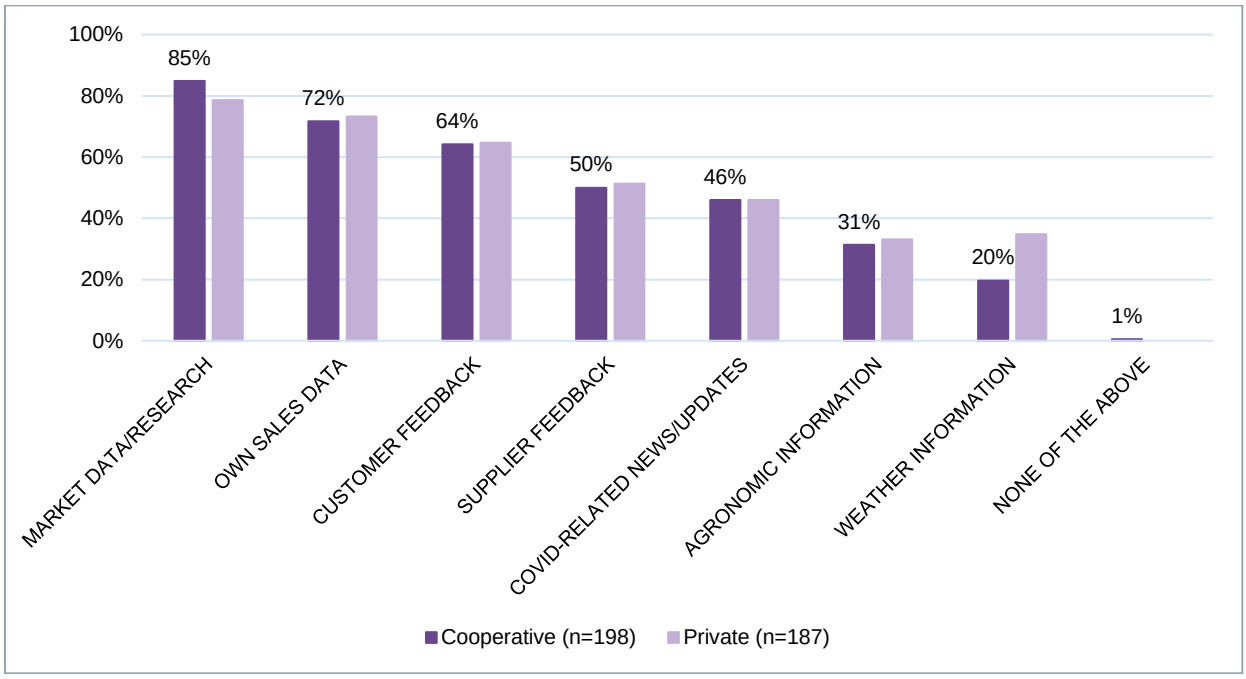
Businesses turned to a variety of sources to inform their decision-making (Figure 22). The top source the cooperatives turned to for business information was cooperative unions and federations (69 percent), followed by customers (67 percent) and suppliers (66 percent). Suppliers (89 percent) and customers (82 percent) were the main source of information for private businesses.

Figure 22: Sources to inform business decisions (multiple select)



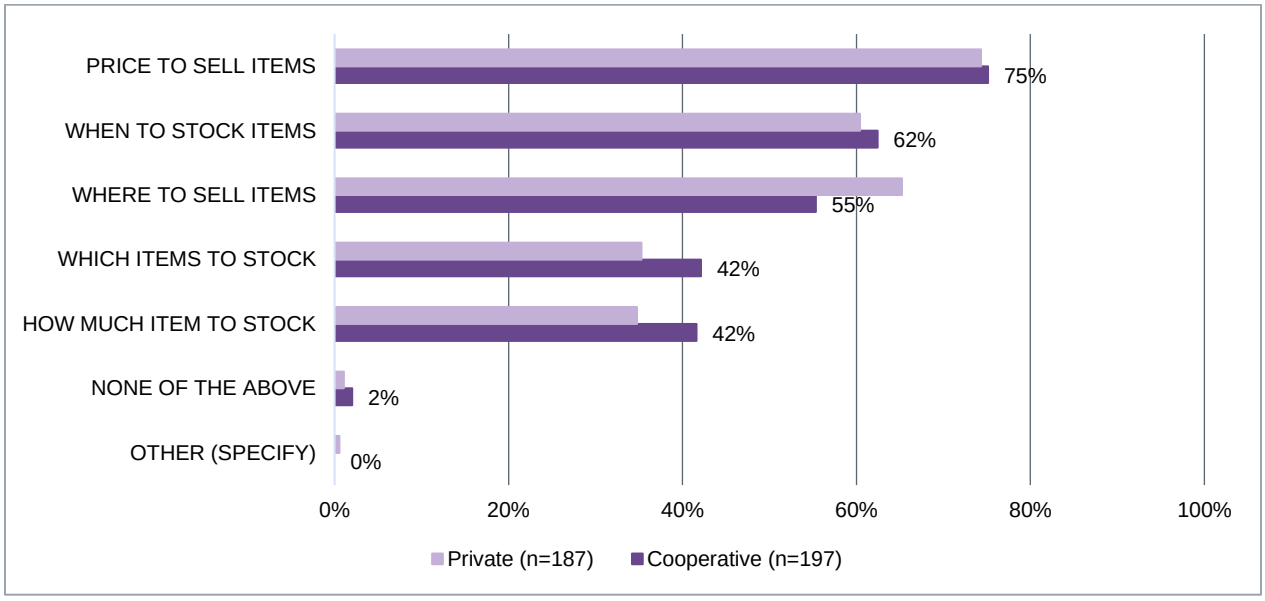
A variety of different types of information are used to inform business decisions (Figure 23). For all types of business, the top two types of information used to inform decisions included market and research data (82 percent) and data from their own sales (73 percent).

Figure 23: Types of information used to inform business decisions (multiple select)



Both types of businesses used the information to make similar types of decisions (Figure 24). The price to sell items (75 percent, *n*=384) was the most common business-related decision that businesses made based on the available information. The following two most common business decisions were when to stock (62 percent) and where to sell items (60 percent).

Figure 24: Business decisions made based on information (multiple select)



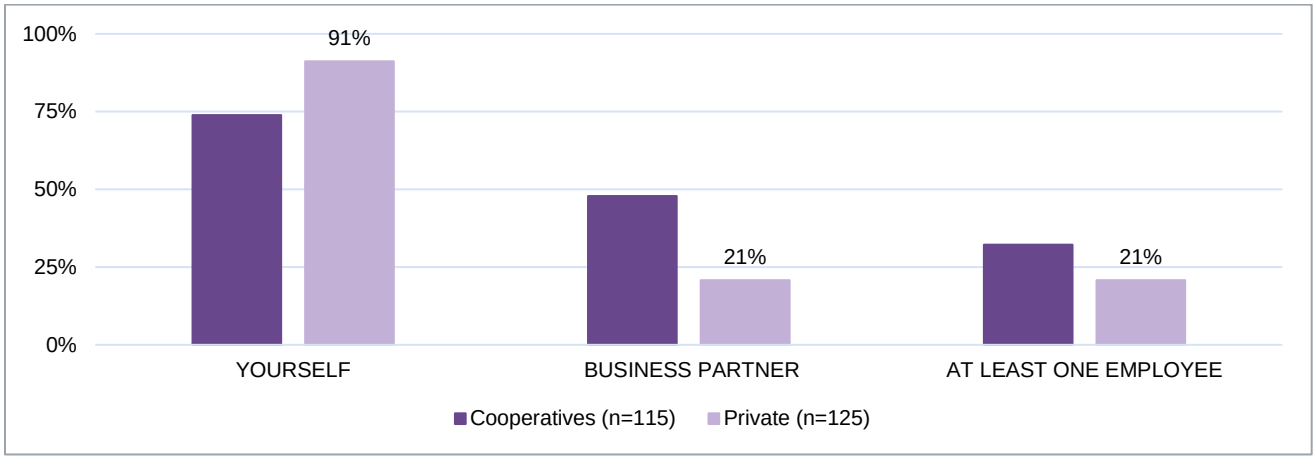
Entrepreneurial Orientation

Finally, we assessed the entrepreneurial orientation of businesses. We developed indicators around the three common traits associated with entrepreneurial orientation: innovation, risk-taking, and proactiveness.

Innovation

For innovation, we used indicators to demonstrate whether businesses successfully changed or adapted practices, as well as whether there was a culture of innovation in their businesses. Across all businesses, the majority of respondents (58 percent of cooperatives, and 67 percent of private businesses) indicated that their business had developed and tried new ideas to improve business processes and enhance services to customers. For instance, 58 percent of cooperatives and 67 percent of private businesses indicated that their business has engaged in an innovative practice. The most common contributor to new ideas was the respondent themselves (82.9 percent) (Figure 25). Businesses partners (33.8 percent) and at least one employee (26.3 percent) contributed far less often, indicating that a culture of innovation may not be widespread throughout the businesses.

Figure 25: People who have contributed to the development of new ideas to improve business processes or enhance services to customers (multiple select)



More than 57 percent of the respondents felt that it was very important for a business to continually develop new ideas to improve business processes and services to customers. No one indicated that this was not important at all, but 7 percent said it was only "somewhat important."

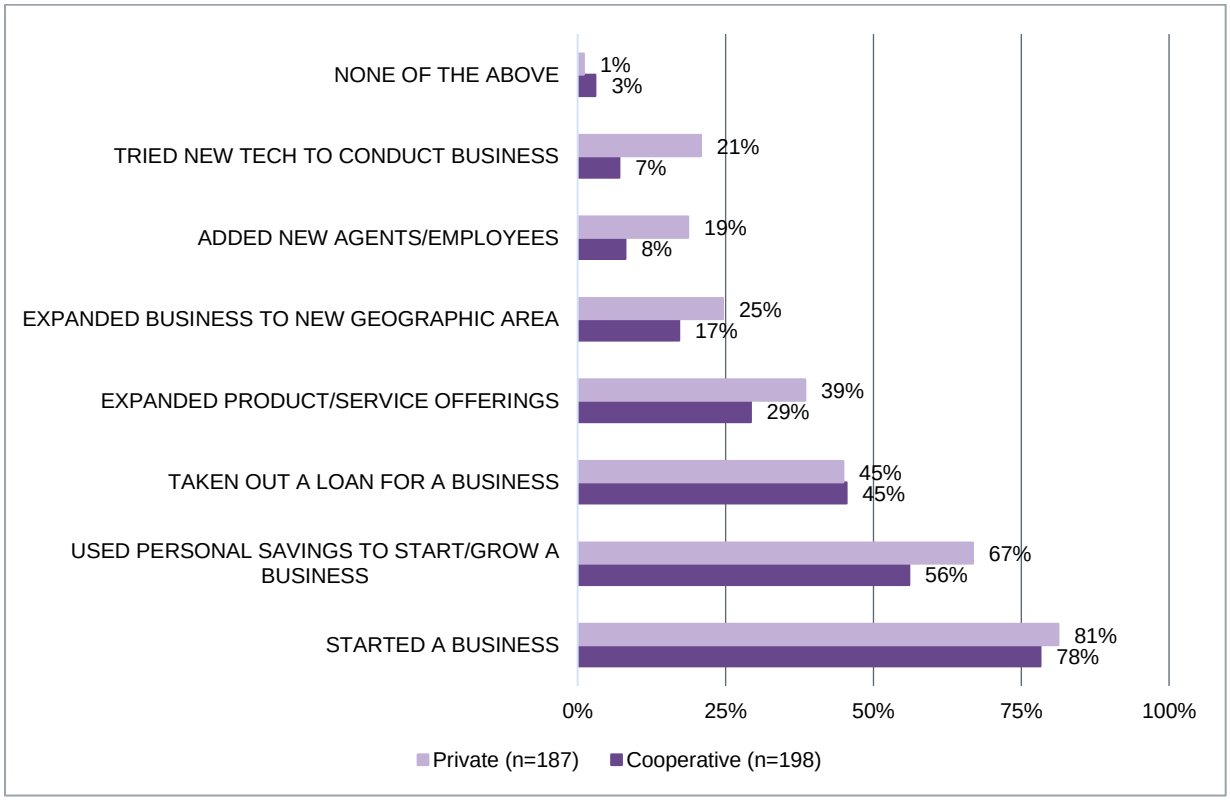
Risk-taking

For risk-taking, we considered indicators that included whether business owners demonstrated positive risk-taking behaviors and whether they held positive attitudes toward trial and error. The majority of businesses reported that taking risks is necessary to be successful. For instance, 63 percent of cooperatives and 64 percent of private businesses strongly agreed that taking risks is necessary. Most businesses still saw failure as acceptable so long as a lesson was learned from the failed experience.

When asked what type of risk that they are willing to take, the majority of the respondents indicated a wide a variety of risks. Across all businesses, the most common times that businesses were willing to take risks were when starting a business (85.5 percent, *n*=385) and when growing a business (85.5 percent). High percentages of respondents also indicated they were willing to take risks when experiencing a shock or disruption (75.8 percent) and when handling day-to-day business (74.5 percent).

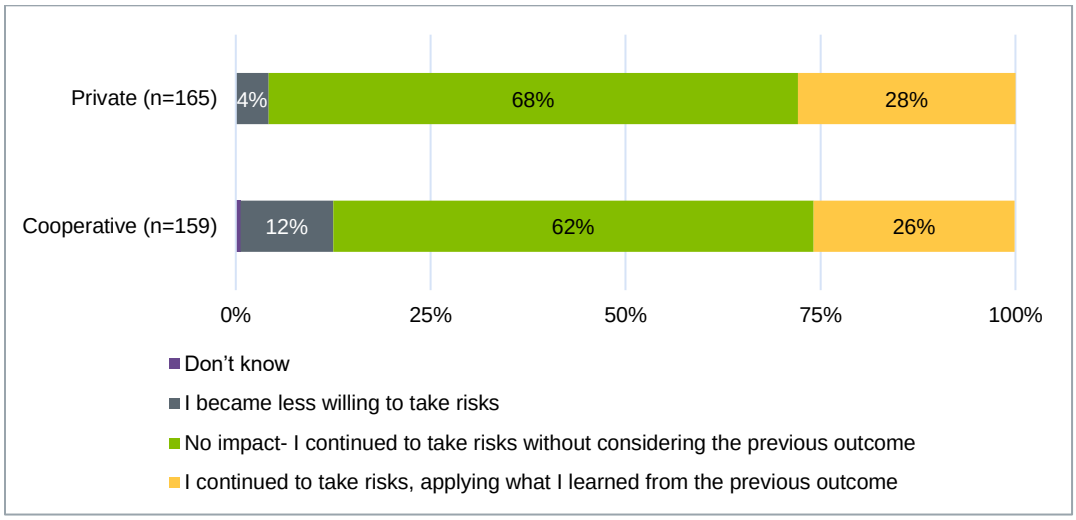
The most common risks that the respondents had already taken included starting a business (80 percent, *n*=385) and using personal savings to start or grow a business (61 percent) (Figure 26). Some of the other risks included taking out loans, expanding products or service offerings, and expanding to a new geographic area.

Figure 26: Risks taken by the respondents



Not all business risks were successful; 80 percent of cooperatives and 88 percent of private businesses indicated that they had taken a risk that did not result in the desired outcome (Figure 27). More than 60 percent of those who experienced an undesirable outcome said that the negative impact had no impact on their desire to take future risks, and they continued to take risks without considering the previous outcome. However, just over a quarter of both business types said that they would continue to take risks, applying what they learned from the previous outcome.

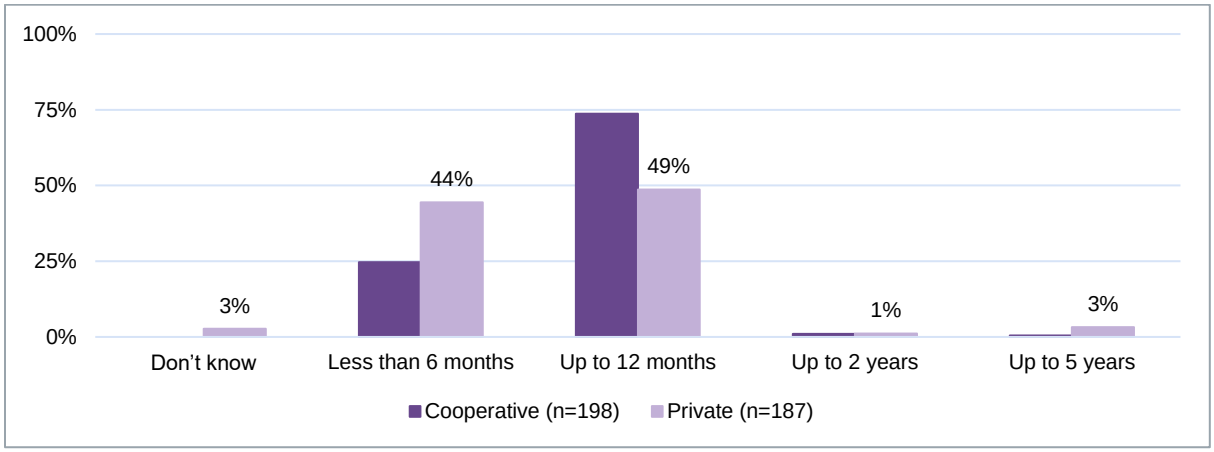
Figure 27: Negative outcome's impact on future desire to take risks



Proactiveness

To assess businesses' proactiveness, we used indicators that demonstrated advance planning, both for normal operations and for shocks, as well as diversity in business relationships (Figure 28). A higher percentage of cooperatives (74 percent) than private businesses (49 percent) planned for the future of their business 6 to 12 months out. Close to 44 percent of private business had plans designed for less than 6 months. Few businesses planned beyond one year.

Figure 28: Time for advanced business planning



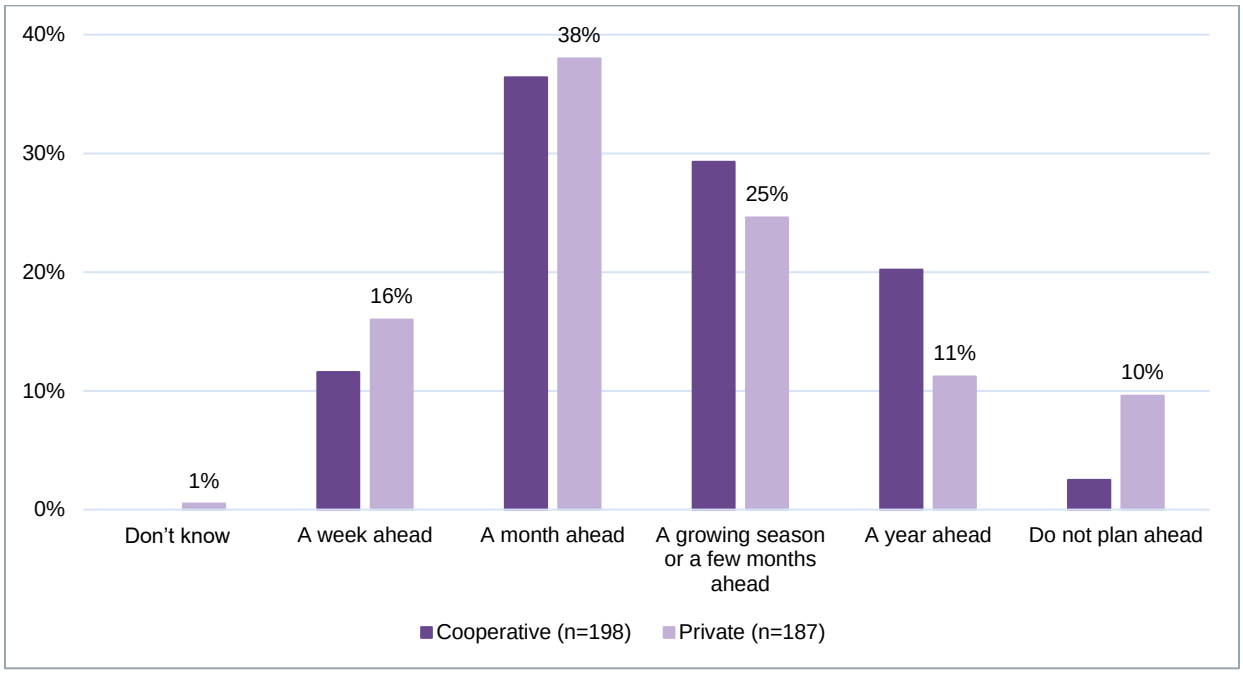
About 65 percent of all types of businesses (*n*=385) had a plan for how to adapt if their business faced a sudden shock (which we refer to in this report as a "business continuity plan"). Nearly 90 percent of cooperatives (*n*=128) had the business continuity plan documented on paper, electronically, or both. Only three-quarters of private business with a business continuity plan (*n*=123) had documented it. Among those businesses with a business continuity plan, the majority indicated that they had implemented this plan at some point. Of those that had implemented the business continuity plan, 100 percent (*n*=199) said that it was successful, with 61 percent of cooperatives and 51 percent of private businesses saying that the

plan helped them to survive the shock. The remaining respondents indicated that their business continuity plan not only helped their business to survive, but also to grow during the shock.

For those that had implemented their plan in the past, many indicated that they adjusted the plan either during or after using it. The largest percentage for both business types made adjustments after having implemented the plan. However, 9 percent of cooperatives and 3 percent of private businesses said that they made no adjustments to the plan at all.

When deciding which products to sell, many of the businesses planned a month ahead (37 percent, *n*=385) or a growing season to a few months ahead (27 percent) (Figure 29). Around 14 percent indicated that they planned about a week in advance, indicating that they engaged in very little advanced planning. Similarly, a few indicated that they did not plan ahead at all (6 percent).

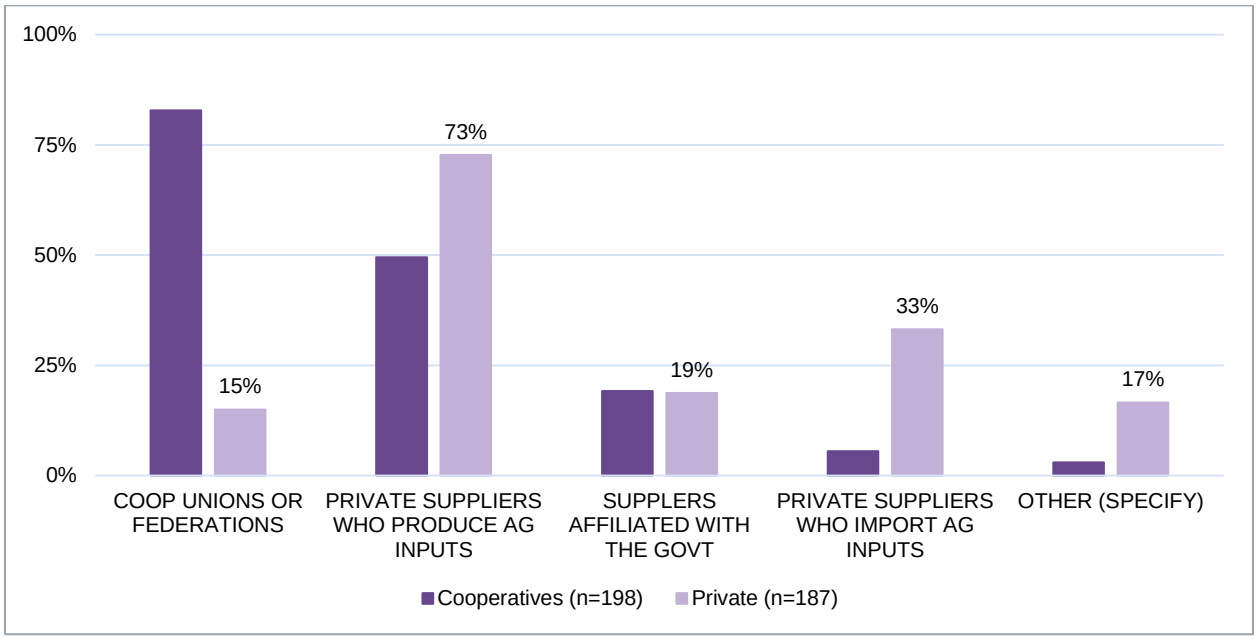
Figure 29: Time of advanced planning for which products to sell



Around 68 percent of cooperatives and 60 percent of private businesses indicated that they had enough cash reserves to survive for at least three months; however, this preparedness varied notably across the different sizes of businesses. Only 36 percent of micro businesses made this claim, whereas 60 percent of small and 80 percent of medium-sized businesses had enough cash to survive at least three months.

Some of the businesses had a relationship with multiple types of suppliers—a diversity of relationships that could support preparedness for a shock (Figure 30). For example, 39 percent of private and 48 percent of cooperatives marked that they had a relationship with two or more supplier types. The main supplier type that cooperatives indicated their business had a relationship with was cooperative unions or federations (83 percent), followed by private suppliers who produce agricultural inputs (49 percent). Similarly, the main supplier that private businesses had a relationship with was private suppliers who produce agricultural inputs (73 percent). The second most common relationship for private businesses was with private suppliers who import agricultural inputs (33 percent).

Figure 30: Business has a relationship with different type of suppliers (multiple select)



Slightly above 50 percent of all businesses (*n*=385) indicated that they sold from 2 to 4 different products or services in the last year. Around 29 percent of cooperatives and 22 percent of private businesses sold between 5 and 10 different products or services. A few businesses indicated that they sold more than 10 or just 1 product or service in the last year.

8. Discussion

This study sought to answer the two research questions, "What characteristics and behaviors of MSMEs support resilience to shocks such as COVID-19?" and "Can assessing the resilience of agrodealer MSMEs in Ethiopia provide useful information for agricultural development programming in shock-affected contexts?"

To answer our first question, we first developed the MSME Resilience Framework (as described in Section 5), and then, to learn more about the resilience of agrodealer MSMEs in Ethiopia during the pandemic, as well as to answer the second question, we developed and utilized a quantitative instrument based on the framework. Our findings yielded a number of insights about the specific characteristics and behaviors of agrodealer MSMEs in Ethiopia, the shocks they face, and their adaptations and recovery responses to shocks. We discuss these insights and how they may be useful for agricultural development programming below.

8.1 Shock Exposure and Intensity

Our study uncovered several important features related to shock exposure and intensity for agrodealer MSMEs in Ethiopia over the past year.

First, cooperatives were less likely to experience any shocks in the past year compared to private businesses. Approximately 10 percent of the cooperatives in our sample did not experience any shocks, while only 1.6 percent of private businesses were spared from shocks. This difference indicates that private

businesses were less likely to experience no shocks compared to cooperatives, and suggests that there may be some feature or behavior of cooperatives that insulated some of them from shocks better than private businesses. In addition, results from our survey indicate that cooperatives were impacted by the COVID-19 pandemic less and to a lesser degree than private businesses. However, cooperatives were more vulnerable to shocks related to inflation and price increases compared to private businesses. While our study did not determine what factors could account for these disparities, we can consider some key differences that could be examined in future research, such as government involvement in and support for the importation and financing of fertilizer, which is distributed by cooperatives in Ethiopia; closer proximity to suppliers; and greater incidence of year-long planning for their business among cooperatives (73.7 percent of cooperatives planned up to a year in advance, versus 48.7 percent of private businesses), as well as other measures of proactiveness within the Entrepreneurial Orientation domain.

Second, the types of shocks experienced by cooperatives and businesses in our study reflect a need for development funders and practitioners to revisit assumptions about the types of shocks that most heavily impact agricultural market system actors. Discourse on resilience has often concentrated on the impacts of climate change and extreme weather events, as those shocks and stresses naturally impact agricultural production. Our study found, however, that flooding or drought, for example, only impacted 11 percent of cooperatives, and hardly any private businesses. The most impactful shock over the past year by both cooperatives and private businesses was high price increases or inflation, followed by the COVID-19 pandemic. Insecurity was identified as the (distant) third most cited, most impactful shock. When development programming prioritizes strengthening the resilience of MSMEs, agrodealers, or whole market systems, the types of shocks that are most impactful to these types of critical market actors should be taken into consideration.

8.2 Comparative Impact of and Recovery from the COVID-19 Pandemic Between Cooperatives and Private Businesses

Our study showed that cooperatives and private businesses that stated that they were affected by the pandemic experienced similar impacts (such as difficulty sourcing inputs, increased prices from suppliers, and reduced sales), and recovered (recovery is a key indication of resilience) at similar rates. While similar percentages of both cooperatives and private businesses that were impacted by the pandemic stated they had not recovered at all or recovered somewhat but were worse off than before the pandemic, the majority of both types of businesses indicated they had recovered to the same level as before the pandemic or had recovered and were better off than before. However, more private businesses stated they were better off than before, and more cooperatives stated they recovered to just the same level as before the pandemic.

In general, we see that neither cooperatives nor private businesses in our sample held an obvious advantage for recovery from the pandemic over the other type of business, with the caveat that private businesses experienced stronger impacts with more frequency than cooperatives, so some may have also had more impact from which to recover. However, our results show areas of divergence in terms of enterprise resilience that are informative for implementers to understand the different strengths that can be leveraged, as well as areas of weakness for both business types. Efforts to support farmers' continued access to inputs during shocks should focus on both types of businesses, as both cooperatives and private businesses demonstrated adaptive strategies to meet the needs of their farmer customer base, despite the shocks not only to their supply, but also to the changing demand and circumstances of their customers. Further, both types of businesses require support in order to grow more resilient and improve recovery during future shocks.

When considering recovery from the other shocks identified as "most impactful," a greater proportion of businesses (62 percent) indicated that they had not yet recovered to their pre-shock situation. Still, cooperatives and private businesses reported similar levels of recovery, as the largest share of both types of respondents indicated that their business had recovered "somewhat, but worse off than before" from their most impactful shock in the past 12 months. We can see that recovery from these other shocks, such as high prices and inflation, has been more difficult. Agricultural programming that focuses on resilience to these other types of shocks should consider that agrodealer MSMEs may need additional adaptive strategies or strengthened resilience characteristics to avoid being set back. Resilience-focused program interventions should also be shock-specific, and not assume building one type of resilience capacity will be equally effective in all types of shocks.

8.3 Comparative Presence of Resilient MSME Characteristics and Behaviors

We found that both cooperatives and private input businesses utilized strategies across the five domains of MSME resilience that enabled them to adapt to their most impactful recent shock. However, cooperatives and private input businesses operationalized the behaviors and characteristics within those domains in different ways from each other. We provide a discussion of each domain below.

Connectivity

Our study found that both cooperatives and private businesses valued and utilized relationships to access information and resources, but the ways in which they connected with others differed. First, there was a large disparity in group membership, with approximately 60 percent of cooperatives belonging to an industry group or association, and only 32 percent of private businesses doing so. We also saw that fewer micro-sized businesses belonged to a group or association than small-sized businesses, and fewer small-sized businesses belonged to a group or association than medium-sized businesses. Future programming should consider whether there are barriers to group membership that relate to a business's size (such as volume requirements or fees) that could be addressed to support greater membership, particularly since those private businesses that did belong to an industry group or association frequently cited benefits of membership such as advice, market information, and access to suppliers or markets.

Private businesses and cooperatives connected with many of the same sources of information and advice, such as customer contacts and government entities; however, many private businesses utilized social media (such as Facebook or WhatsApp) as well, while few cooperatives did so. In fact, hardly any cooperatives used the Internet as a tool to obtain information, compared to 46 percent of private businesses who used the Internet via smart phones to obtain information. For both private businesses and cooperatives, phone calls and in-person communication were, by far, the most-cited means of obtaining information. When considering the implications of these types of connections, we note that, as a whole, the businesses in our sample were more connected to interpersonal tools that involve real-time, two-way interaction to seek out or provide advice and information, versus more one-sided or passive forms of connectivity (such as radio). When designing approaches for future agricultural programming, funders and implementers should consider (1) the currently minimal use of the Internet and social media by Ethiopian cooperatives to obtain advice or information for their businesses, and (2) the reliance on person-to-person connections (either in person or over the phone) to exchange information. These connectivity characteristics may change over time, as Internet and smart phone usage expands in rural areas; however, future research could explore the effectiveness and limitations of traditional networks and communication tools vs. those enhanced with newer technologies.

Finally, we note there was a disparity in the geographic connectivity between cooperatives and private businesses. For both information networks and supplier networks, the connectivity of cooperatives was largely limited to either the same woreda or the same zone. Private businesses had a wider geographic range of connections, with more private businesses branching out to connections outside of their zone, but within the same region, than cooperatives. These wider-reaching connections for private businesses may have played a role in supporting their ability to adapt to the pandemic by finding new suppliers or customers. Since the cooperatives had a more fixed and localized supply channel through cooperative unions, and only marketed within their woreda, they may have had less of a need for wider-reaching connectivity (with the more limited geographic connectivity also potentially protecting them from some of the impacts of the pandemic).

Cooperation

When looking at various forms of cooperation (including sharing market information, sharing services such as transportation, distribution, or marketing; jointly purchasing products or services to access volume discounts; jointly marketing products or services; jointly advocating for favorable policies or arrangements; and providing or receiving inputs to ease shortages), our study found that cooperatives and private businesses cooperated with other businesses of the same type at similar rates. For both types of businesses, sharing market information was the most frequently cited form of cooperation. However, among the other types of cooperation (except for providing or receiving inputs to ease shortages), approximately 50 percent (with slightly higher percentages of cooperatives than private businesses) reported “never” participating in the activity, with additional businesses indicating those activities were participated in “rarely.” These findings show that there is ample opportunity to strengthen and improve collaborative activity among both types of businesses, and we recommend that future programming focus on this to enhance resilience.

Business Strategy

Cooperatives and private businesses responded similarly in their approach to conducting business, with approximately two-thirds of both types of businesses strongly agreeing that sometimes they need to reduce their profit margins to ensure good value to customers. However, despite this similar orientation toward customers’ needs, and similar rates of application of strategies to keep customers satisfied, cooperatives less frequently requested customer feedback than private businesses. Additionally, while similar percentages of cooperatives and private businesses indicated they sometimes or always monitored changes in customer needs during a shock, a larger percentage of private businesses made changes (such as adding a new product or service) in response to those changing needs. To strengthen the resilience of cooperatives—particularly their commercial resilience, which is the ability to evolve to meet changing customer needs—we recommend agricultural programs support cooperatives in developing appropriate mechanisms to seek and respond to customer feedback. Future research could also explore whether private businesses exhibit behaviors and characteristics to make them more commercially resilient than cooperatives, or if there are features of their customer base that simply require more adaptations than the customer base of cooperatives.

Regarding the operational resilience aspect of crisis management, similar levels of cooperatives and private businesses stated they made adaptations to stay open during their last most impactful shock. However, private businesses applied most of the strategies to stay open at higher rates than cooperatives, including identifying alternative distributors, new ways of making sales (when in-person sales are challenged), and alternative transportation routes. However, given that cooperatives were more affected by

inflation-related shocks, practitioners should consider proposing additional adaptive strategies that may be needed to address different types of shocks. Future development programming can help cooperatives proactively identify the types of adaptations they can make in future shocks (and how) and integrate them into business continuity plans (for more on business continuity plans, see "Proactiveness" in the next section on "Entrepreneurial Orientation").

Additionally, we note that while cash reserves were held in more cooperatives than private businesses, a larger percentage of private businesses utilized their cash reserves during their most recent shock. This may be due to fewer cooperatives being impacted by the COVID-19 pandemic, or being impacted less severely; however, this was a highly utilized response by the private businesses. We also found that micro-sized businesses had the lowest percentage of cash reserves. MSME development programming should support businesses, particularly those which are micro-sized, in identifying ways to either build up a pool of cash reserves or to access cash or loans to use in the event of a shock. In addition, while supply stockpiles were held at higher rates amongst private businesses than cooperatives, both types of businesses who had supply stockpiles used them at similar (high) rates—indicating this is another key preparation strategy that supported businesses through recent shocks. Future programming should work with both types of agrodealer businesses to plan for building supply stockpiles to weather future shocks and to continue to be able to serve farmer customers with inputs when supply chains are disrupted.

Evidence-Based Decision-Making

Cooperatives and private businesses turned to similar sources of information to make decisions for their businesses, and made decisions on similar types of things for their businesses with that information. The primary differences between the two types of businesses in this domain include more cooperatives utilizing cooperative unions or federations as a source of information, and a higher percentage of private businesses than cooperatives utilizing information from customers and suppliers. Lower percentages of both types of businesses (although more cooperatives than private businesses) utilized information to inform which products to stock or how much to stock, so there is room for future agricultural programming to support agrodealer MSMEs in utilizing evidence to inform those types of decisions to build their resilience to shocks—particularly those which impact customer demand.

Entrepreneurial Orientation

Our assessment of entrepreneurial orientation looked at innovation, risk-taking, and proactiveness separately. Cooperatives and private businesses revealed similar attitudes toward these concepts, but did have a few differences in their behaviors or business characteristics. Notably, private businesses' responses did not indicate they were significantly more entrepreneurially oriented than cooperatives. In our sample, cooperatives frequently demonstrated entrepreneurial characteristics and behaviors. This finding is important to future agricultural programming. The strengths and capacities found in the cooperatives we studied can be drawn upon to inform approaches to strengthen cooperatives and enhance their resilience elsewhere.

We discuss each element of this domain below.

Innovation

The cooperatives and private businesses in our sample responded similarly about the importance of developing new ideas to improve businesses processes and enhance services to customers, with over half indicating it is "very important," and over a third stating that it is "important." However, when considering whether there is a culture of innovation within the businesses, where all types of employees are able to

contribute new ideas to improve processes and services, we found that more cooperatives than private businesses demonstrated innovation at this level (as measured by either their business partner or at least one employee other than the owner contributing to the development of new ideas). Future programming focused on building the resilience of MSMEs and entrepreneurs in general should promote fostering a culture of innovation to enhance their resilience via the Entrepreneurial Orientation domain. Future programming could also facilitate the implementation of MSMEs' innovations (such as through grants, enhanced access to finance, and technical assistance), particularly in relation to a shock, and assess whether the innovation helped them recover from the shock.

Risk-Taking

In a business, risk-taking can foster innovation, provide opportunities to learn and improve, and help capitalize on new or changing opportunities. Our study found that cooperatives and private businesses had similar attitudes toward the necessity of taking risks to be successful, but fewer cooperatives had indicated they had taken various types of risks for their business (such as expanding to a new geographic area or hiring new agents or employees) than private businesses. Programs that aim to strengthen the capacity of cooperatives could explore whether participating cooperatives' structures and processes support positive risk-taking, and strengthen these structures where they do not. Additionally, to support positive risk-taking among all types of MSMEs, future programming should support MSMEs in developing the capacities to assess the likely returns on various risks (such as expanding to a new geography). In addition to building the capacity of assessing the financial return, programs could support MSMEs in understanding the impact of the risk on their resilience (for example, expanding to a new geography could diversify their customer base).

Proactiveness

Proactively planning ahead could support businesses in preparing for and mitigating shocks. A large portion of private businesses (44 percent) only planned less than six months ahead, while almost three-fourths of cooperatives planned up to a year in advance (versus 49 percent of the private businesses). Other measures of proactiveness were more evenly split between cooperatives and private businesses.

One of the most revealing findings from our study is that 100 percent of both cooperatives and private businesses that had a plan for how to adapt during a shock and implemented it said it was successful. Just over half indicated their business continuity plan helped them survive the shock, and many of the businesses said the plan even helped them continue to grow during the shock. Future programming should seek to strengthen the resilience of MSMEs by supporting the development and documentation of business continuity plans, given the clear success they demonstrated for the businesses in our study.

8.4 Utility of MSME Resilience Framework for Resilience Measurement and to Inform Programming

After developing the MSME Resilience Framework and applying it to the design of our survey instrument for Ethiopian agrodealers, our team has garnered some insights on the framework's usefulness for assessing resilience of MSMEs and informing development programming.

First, to expand the MSME Resilience Framework's usefulness for assessing resilience, we recommend future studies calculate "scores" for each domain (rather than an overall resilience score) and explore whether behaviors and characteristics associated with certain domains contribute more to resilience over others for various types of enterprises. This would also allow development implementers to concentrate on areas of weakness and identify where interventions could improve resilience capacities.

Second, we have identified a need for further research into and testing of appropriate measures for Entrepreneurial Orientation. In Entrepreneurial Orientation, there are three elements to be measured: innovation, risk-taking, and proactiveness. We needed to tailor the parameters for assessing those elements to low-resource environments given the high probability of recurrent shocks and the lack of adequate insurance and support mechanisms for micro-enterprises, in particular. For example, risk-taking often utilizes financial measurements that do not reflect the risks facing micro or even small enterprises in developing economies, and many measures are designed as if the business is large with many employees. There has been some literature that has begun reviewing measures for entrepreneurial orientation, but not in the context of MSMEs, leaving an unmet need for MSME resilience assessment in low-resource settings.

Third, we recommend considering the domains of MSME resilience when designing programming approaches and activities that aim to build the resilience of agricultural and food systems. In many development contexts, shocks should be expected, and while many programs seek to support entrepreneurs in starting or expanding their businesses, specific emphasis should be given to business continuity and growth in the context of increasing shocks and stresses. Implementers could assess how MSMEs exhibit behaviors and characteristics across MSME resilience domains to identify a baseline and determine how program activities should be focused to strengthen their resilience. To illustrate, in Section 8, Discussion, we identified numerous ways cooperatives and private enterprises manifested resilient characteristics and behaviors, and how this learning could inform future programming. Conducting baseline MSME resilience assessments or reviews at the project level could provide even more specific insights to inform activity design.

9. Conclusion

Agrodealer MSMEs have drawn on adaptive strategies and resilient behaviors and characteristics to survive, adapt to, and even recover from shocks such as the coronavirus pandemic. Our study concluded that the resilience of MSMEs can be demonstrated and analyzed through five domains: connectivity, cooperation, business strategy, evidence-based decision-making, and entrepreneurial orientation. The Ethiopian agrodealer MSMEs in our sample, including both cooperatives and private businesses, demonstrated robust levels of resilience capacities across these domains, but also demonstrated differences within the domains that provide valuable insights to inform agricultural development programming. As the world still grapples with impacts of the coronavirus pandemic, as well as escalating inflation, MSMEs that retail agricultural inputs will continue to be under pressure to continue operating and meet the needs of their farmer customers despite the difficult circumstances. For both now and in the future, it will be important to identify opportunities to strengthen agrodealer MSMEs' resilient behaviors and characteristics so that they are able to continue serving their critical role within agricultural market systems during shocks.

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