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Farmer incentives and value chain governance: Critical elements to sustainable growth in Rwanda's coffee sector

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ABSTRACT

Limited producer participation and voice in the governance structures of the coffee value chain in Rwanda, a common occurrence in many agricultural export sectors in the developing world, have resulted in low farm gate prices, restricted competition and few incentives for producers to invest human and capital resources in improved coffee production. A twenty year downward spiral of low productivity and stagnant production has ensued. Survey data from 1024 coffee producing households together with key informant interviews and focus group discussions are used to examine how patterns of investment in coffee affect farmers' productivity and profitability. Findings show that artificially low farm gate cherry prices have driven down coffee production levels and at the same time have enabled a rapid expansion coffee processing capacity. A typology of producers based on capacity to invest and incentives to invest in coffee is constructed to help explain why smallholders are the most productive and largeholder farmers are the least productive when cherry prices are low. Smallholders are 'pushed' to produce out of necessity (poverty avoidance) while largeholders are 'pulled' to produce uniquely by the lure of higher profit margins, which they achieve only when higher producer prices prevail. Policy recommendations are advanced for greater inclusion of producers in the price negotiation process and for adopting a floor price formula that includes the real cost of production as established by this research.

1. Introduction

Understanding farmer investment incentives is essential to promoting sustainable agricultural practices and improving livelihoods throughout the developing world (Tilman et al., 2002), and perhaps nowhere does this observation ring truer than in Rwanda's coffee sector today. Coffee production has been a pillar of rural livelihoods in Rwanda for generations and now serves as a source of cash income for over 355,000 farm households across the country (NAEB, 2016b). Since 2002, the coffee value chain has witnessed a remarkable transformation in quality (from ordinary to fully-washed specialty coffee) and is today well established in specialty coffee markets around the globe (Murekezi et al., 2012). With the construction of over 250 coffee washing stations, the processing segments of the sector have prospered in the transition to specialty grade coffee. Dry mills and export companies, both domestic and international, have similarly emerged during this period (Elder et al., 2012). While the value-added from this transformation has benefited Rwanda in its efforts to compete in high value specialty coffee markets, the country's coffee producers have shared the least in the new prosperity, a condition which Ponte (2002) identifies as a common outcome of farmers having little or no influence on the value chain relative to international trading companies and other more powerful sector actors.

In neglecting to bring in producers as full partners in Rwanda's 'specialty coffee renaissance' and in failing to provide appropriate production incentives, Rwanda's coffee sector leaders have propelled a downward cycle of low farmer investments in their coffee plantations, low productivity, and stagnant coffee production, a constellation of forces that has endured for over 20 years. This multifaceted progression, rooted in non-inclusive governance structures coupled with deficient production incentives to farmers (low farm gate prices) constitutes the principal focus of this research. Our approach to this is problem is enhanced through the construction of a typology and an analysis of the dynamics of how households with different attributes and varying levels of productive capacity are differentially affected by the absence of economic incentives.

Research has amply demonstrated that good governance structures within a value chain are essential to its long-term sustainability. To be

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sure, the movement of product from one stage of the value chain to the next can be a competitive process. At the same time, there is a need for the actors in these stages to hold a common vision, share basic principles, and to co-ordinate efforts to be successful. In the realm of specialty coffee, the need for producers, processors and exporters to all adopt and support practices for producing high quality and fully traceable coffee are among the most important guiding principles to long-term sustainability. But such co-ordination is never assured and the Rwanda coffee value chain provides a glaring example of what happens when co-ordination with coffee producers is missing.

Competing incentives among actors are often the reason why governments choose not to implement policies that are functionally optimal for aggregate growth (World Bank, 2017). In poorly governed sectors there may be certain influential actors that are in a position to leverage their superior bargaining power to maintain policies that enhance their private benefits, even obstructing government initiatives designed to maximize the profitability and success of the sector as a whole. Authors of the World Bank Development Report (2017) highlight transparency, participatory structures and a shared long-term vision among stakeholders as some of the more important elements of good governance necessary for success against such misaligned incentives.

At the country level, there is a rich literature on the connection between participatory governance and successful economic outcomes in Africa and other regions of the world. Radelet (2010), for example, underscores the importance of equal voice and accountability as the crucial aspects of good governance that are linked to economic growth. He has established an index of 'voice and accountability' which, across 54 African countries, measures highest for countries that achieve a positive development trajectory. Radelet also concludes that incentives for agriculture are one of the five key policies for economic success. Similarly, Bassett (2010) in a review and analysis of the cotton industry in West Africa finds that price-setting through non-participatory methods has affected how producers perceive the institutions that are there to serve them, and concludes that lack of participation and transparency in price-setting has caused demonstrably poor outcomes, including suspicion amongst producers and corruption amongst the agency leaders.

Hirschman's Exit, Voice and Loyalty (1970) provides an especially suitable and persuasive framework for capturing the overarching decision-making structure that farmers face both individually and collectively in a sector where they are excluded from the benefits of the new transformation into specialty coffee. The exit-voice-loyalty model posits that members (farmers in this case) have a choice, and that is to either fight for a stronger 'voice' through direct action such as protests and lobbying, or to 'exit' the enterprise. By exit Hirschman observes that physical departure is not necessary; members can also exit simply by choosing to not participate, by dropping out and giving up loyalty to the organization—in the Rwanda coffee farmers' case this means abandoning their loyalty to the coffee cooperative and other members of the coffee sector. Consistent with the voice-exit-loyalty model, we posit that Rwanda's observed decline in production and the farmer investment in their coffee fields can be largely attributed to producers' inability to voice their dissatisfaction or to effect positive change in their circumstances, choosing to 'exit' instead.

More specific to success in the coffee sector, and consistent with the Hirschman framework, Coe (2006) concludes from a cross-sectional study of many Arabica coffee producing countries that the influence of farmer groups in the policy arena is closely tied to positive economic outcomes. In particular, the study finds that in markets where the commodity can be differentiated (such as in the specialty coffee value chain) farmer participation in the regulatory authority, typically the coffee board or its equivalent, can have direct implications in terms of higher prices for producers.

Our research provides a closer look at Coe's country-level hypothesis that coffee sector success is contingent upon farmer participation in the regulatory authority. We maintain that a lack of coffee farmer participation and 'voice' in the annual coffee floor price negotiations and other policy decisions in Rwanda, such as the newly adopted zoning policy, has indeed led to sustained, artificially low farm gate coffee prices. This development is shown to be a major disincentive for farmer investments in their coffee plantations, resulting in a sustained environment of low inputs use, poor farmer profitability, declining production and long-term stagnation in the coffee sector—effectively Hirschman's 'exit'. Through this research we have a rare opportunity to see, up close, how the absence of farmer participation and disregard for producer incentives can harm sector growth. This failure, while ostensibly in the short-term business interests (profit margins) of other actors in the value chain, notably the processors and export companies most actively involved in the price-setting negotiations and in promoting the newly adopted coffee zoning policy, is shown to be harmful to their business interests, and to the entire sector, when viewed over the longer term.

The present research also contributes to our understanding of how the lack of financial incentives to producers plays out across different types of farm households. Too often in the literature coffee farmers are considered as a homogeneous group (Coe, 2006). The present research confronts this misconception head on, observing stark differences in the incentive structures of smallholder and largeholder coffee producers. In short, smallholder investment decisions are pushed to invest in their coffee by sheer economic necessity; largeholder investment, by contrast, is incentivized largely by higher coffee prices.

The lack of price incentives to farmers overall has resulted in a gradual decline and, more recently, stagnation in coffee production over the past 20 years—a source of concern for virtually all stakeholders in the coffee value chain. Indeed, Rwanda's National Agricultural Export Development Board (NAEB) in its strategy statement identifies insufficient production of coffee cherry as the primary constraint to growth in the sector (NAEB, 2016a). The trends are seemingly enigmatic in that coffee productivity in Rwanda is among the lowest in the world, yet international buyers consistently rate its coffees among the very best in the world, easily on par with coffees produced elsewhere in the East Africa region. Other countries in the region, notably Ethiopia and Uganda, have experienced steady growth in their coffee sectors over the past two decades, while Rwanda has not.

Rwanda's official strategic policy objectives are consistently in line with the expressed need to raise the productivity and quality of coffee, as well as to accelerate the shift from 'ordinary' or 'semi-washed' coffee to higher-value 'specialty' coffee (NAEB, 2016a). A critical part of the solution lies in Rwandan coffee producers' capacity and incentives to invest in their coffee. Capacity, in terms of land, labor, cash/capital and knowledge (technical and entrepreneurial), are constrained for many of the country's producers. At the same time, it is well established that adequate farmer capacity will not result in the desired improvements in productivity or quality unless coupled with proper incentives to produce (Odhiambo et al., 2004; Trademark East Africa, 2013; Ndayitwayeko et al., 2014; Bravo-Monroy et al., 2016; Gelaw et al., 2016; Snider et al., 2017). The absence of a policy framework and process that will include producers and motivate them to allocate household resources to coffee is a serious obstacle to reaching Rwanda's goals of establishing a more productive, vibrant and sustainable coffee sector.

Coffee farmers in Rwanda are not alone in their quest for strong financial incentives. For example, Jones and Gibbon (2011) examine how the lack of such incentives similarly affects cocoa producers in Uganda, finding that farmers will often choose to side sell, or invest their labor and resources on other income generating activities, when farm gate prices are not stable or in the absence of proper institutional support. Other research has observed that farmer investments in food crop production have been found to increase when food prices rise (Nose and Yamauchi, 2016).

The present study builds on and contributes to this broader research