6. RISK MANAGEMENT, COSTS AND RETURNS

- **How does value chain financing impact risk?**
- **What procedures should be in place for effective monitoring?**

  - Partnering with aggregators or commission agents in value chain financing creates opportunities for risk- and cost-sharing mechanisms in which banks and their partners can negotiate mutually beneficial terms that would not be available in conventional lending.
  - Nonetheless, it is still important for financial institutions to perform due diligence and have proper monitoring mechanisms.
  - When assessing the reliability of aggregators or commission agents, necessary attributes include: (a) evidence of a process and capacity to manage the collection and distribution functions within the chain; (b) access to accurate data and farmer profiles; and (c) stable finances.
  - Financial institutions typically pay a commission to the aggregator that performs a number of the credit process functions, including (but not limited to) identification of farmers for credit, document processing, supervision, and payment retention.

The observed reluctance among banks to lend to agriculture and especially to small farmers is based on the perception that agriculture is a high-risk business, and that smallholder farmers represent a high cost per client, with small returns. Essentially, banks have tended to avoid the majority of this market segment because it is not seen as a viable business proposition. When banks have financed small farmers, they often rely on government programs to limit repayment risks and reduce costs. Even these programs have had limited success because they fail to address the banks' fundamental structural concerns when building a sustainable business model for financing agriculture. As the HDFC Bank in India has commented: "Smallholder farms require markets, credit, inputs, and advice to improve productivity and income levels. Standalone credit is not enough. Standalone credit to smallholder farmers is not viable or sustainable." [17]

Value chain financing, however, represents a viable alternative business model for financing agriculture. By focusing on the entire value chain, it addresses financial institutions' basic concerns and redefines the risk-return assumption. Chapter 3 addressed risk factors across the value chain and these are revisited in further detail here in order to explain how the financial institution can manage those risks. The emphasis here is upon those aspects that are particular to the value chain approach, since most other factors in pricing and risk management are well within the domain of conventional commercial banking.

17. HDFC Bank. 2015. White Paper: Supply Chain Tool Kit, unpublished.

Risk management

The first step in risk management is the determination that the financing is going to a creditworthy party within the value chain. Three criteria are crucial in determining creditworthiness:

- The first (referenced earlier) is that the lending decision is based on how the borrower relates to the sector or industry's key success factors;
- The second is that the loan reflects value chain participants' business needs. Among the more common purposes are: a) capacity expansion; b) crop finance; c) support for growth of working capital; d) equipment finance; e) inventory finance; and f) to move transactions off the balance sheet. For example, in the Pakistan study, the loan product would be targeted to market-oriented farmers who are eager to improve productivity through better quality animals;
- The third factor that must be considered is cash flow; in short, verification that the client will have the ability to repay the financing.

If the loan product is improperly structured, the probability of loan forfeiture increases. For agricultural lending, the structure has to be designed in accordance with seasonality and the crop or animal cycle. The Pakistan credit project provides an example whereby the calving cycle of livestock was deemed a crucial factor for the success of the project and repayment cycles were aligned with this cycle by starting the project in the winter, rather than in summer.

A significant characteristic of value chain finance is that banks work through an aggregator or commission agent to finance large numbers of small farmers. In the India hybrid seed case, the SPO (often working with up to 500 small seed producers) played a key role in the value chain, assisting in the farmer selection process and providing seed production management on behalf of the seed companies. In Mexico, financial institutions collaborate with millers as commission agents who deal with more than a thousand producers, and reach large numbers of small growers. This mitigates the risks and costs associated with financing individual producers. The financial institution is able to build on the aggregator's knowledge of the farmers that are good producers and those who are likely to be repayment risks. When the aggregator provides a first loss guarantee, risks are further mitigated.

Aggregator risk. Due to the importance of the aggregator (particularly when it assumes the role of commission agent or business correspondent), financial institutions conduct thorough due diligence. There are a number of criteria commonly used for selection:

Process Management. Evaluation of the systems and the process that the aggregator/commission agent has in place for interaction with farmers and other downstream value chain participants. These include both formal and informal interactions.

Credit management experience. Related to the above, and given that the aggregator/commission agent performs a number of the credit process functions, it is important that the company has had experience, and success, in such work. Positive factors would include, among others, a high percentage of completed supply commitments and the retention of, and successful payback to, suppliers.

Data quality. The financial institution must be assured that the aggregator/commission agent has accurate farm-related information that is available, verifiable, and reliable.

Dependence within the chain. The caggregator/commission agent should have an acceptable degree of maneuverability (they are not overly dependent on other participants within the value chain), as well as internal mitigation strategies.

Financial strength. The financial institution should undertake a review of the commission agent's financial situation and reputation. This becomes particularly important when the company provides a first-loss guarantee.

Farm-level losses. Although this is not necessarily a aggregator/commission agent characteristic, it is important for: a) measuring the risk related to the primary production process; b) identifying risk-mitigating strategies; and c) determining the products and costs for mitigating risks.

Contracts. The financial institution should determine whether formal contracts exist between the aggregator/commission agent and the farmers. If formal arrangements are in existence, it should be verified as to whether the contracts are enforceable. If contracts are not used or are unenforceable, the financial institution should explore the compliance mechanisms that the commission agent has at its disposal.

Reputation. The aggregator/commission agentt must have a good reputation within the community. A track record of fair dealing with farmers is important, given the bank assumes the reputation risk of its associated agents.

Market risks can also be moderated when working with a leading firm that is able to transmit market signals along the value chain; this serves to ensure that the financial services reflect and meet market demand. In the Mexican horticulture industry, support to broccoli producers was structured through leading companies, many of which required strict standards for the export market.

Price and foreign exchange risks can be managed through hedging and swap products.[18] Likewise, ***production risks*** can be mitigated through facilitating access to modern inputs and technical support. Financing input suppliers will facilitate small farmer access to inputs, while off-takers/aggregators are in a good position to provide technical support.

18. Several of the many products reviewed in the previous chapter can be used to manage and mitigate risks within the value chain. See Annex C for more detail.

Insurance products can be used to compensate for production losses. By offering these products and strategies within the context of an AVCF business model, financial institutions can not only increase profits, they can also effectively reduce risks in financing agriculture.

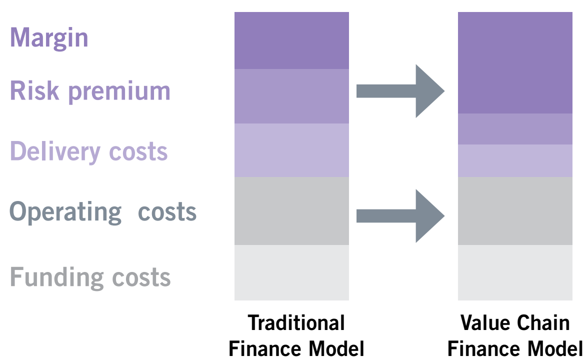
In some of the case studies the aggregator provided technical support to small producers. For example, in the India hybrid seed value chain, the technical assistance that the seed producer organizer provides is crucial to the success of the value chain proposition. In the credit project for the Pakistan milk value chain, the technical assistance role is included as an integral part of the structure. Personnel of the milk collecting/processing company provide advice on feeding practices, vaccination and deworming, and general management of the more demanding animal(s). At the same time, the processor is involved in selection and purchase of the animals.

Smallholder farmers can be characterized as risk adverse because of the implications for their wellbeing and that of their family from a market or production failure. Insurance and hedging products can protect farmers from significant losses, reducing resistance to change.

Pricing and returns

Pricing of financial products (simplifying somewhat) is the result of the sum of cost of funds, operating costs, delivery costs, a risk premium, and a margin or (net) return; the latter set by the financial institution's objective earnings ratio and market conditions (Figure 6.1).

Figure 6.1: Costs and rates to borrower (gross return for bank)



Source: AgriFin VCF Bootcamp, 2014.

The value chain finance model, as described, has the potential for reducing delivery costs, and for mitigating many of the risks associated with financing agriculture, and therefore the size of the risk premium that financial institutions build into their cost models.

Working with an aggregator is the central strategy that financial institution can employ to diminish the costs associated with financing large numbers of small farms. In some cases, the aggregator will provide credit to farmers; in others the aggregator assumes the costly task of dispersing and supervising credit that banks may have documented separately to each farmer. Although banks will depend on the aggregator to identify farmers, they will often use the bank's own scorecards or similar methodology before documenting the individual loans.

When the aggregator performs a number of the credit process functions (including but not limited to, identification of farmers for credit, document processing, supervision, and payment retention), financial institutions will pay a commission to the aggregator. The commission is typically a percentage of the credit extended. Often the entire commission is not paid in full at the time of disbursement, with the final payment subject to adjustment based on loan repayment rates.

Financial institutions have found that using the aggregator as a commission agent works best when they are already performing some of the functions. In this case the aggregator is performing a task that was already underway. It also means that the aggregator has some experience in the credit process. For the financial institution, the commission should be less than the costs involved in promoting, processing, supervising, and collecting the loan through the bank's own operations. The commission system also has the advantage of turning a fixed cost into a variable cost, strengthening the institution's balance sheet.

First -loss guarantee. The first-loss guarantee has the potential to be a win-win situation. Many times, financing to small producers is absent because neither the financial institution nor the aggregator wants to assume the credit risk. The first-loss guarantee is an option that allows for risk sharing between the financial institution and the aggregator and, in some cases, the input supplier. This works effectively when: a) the aggregator is able to perceive the potentially increased business benefits from agreeing to assume part of the risks; and/or b) the aggregator is already financing growers. In the second case, having the financial institution provide credit to producers frees the aggregator to use its resources for other purposes. Additionally, the risk is smaller than that the aggregator would have assumed being the sole credit provider.

Using the case studies as a benchmark, financial institutions ask for between 10-30 percent coverage for the first-loss guarantee. The size varies according to both the appreciation of the risks involved and the perception of aggregator/commission agent creditworthiness.

Most financial institutions have pricing models that adjust for the type and quality of the risk involved. When the aggregator provides a first-loss guarantee, the quality of the loan structure should improve, thereby reducing the risk premium. Given that the aggregator should identify the most creditworthy producers, this mitigates part of the primary-level production risk (although this may not be captured by the financial institution's pricing model). This then tends to have more of a qualitative impact on the financial institution's decisions to participate in value chain financing than a quantitative impact on pricing.

In the value chain financing model, back office costs (i.e., cost of funding and operating) remain the same.[19] However, the total cost is lower, including the charge for the risk premium. This presents the financial institution with two strategic options: it can either reduce the pricing to the value chain, thereby gaining market share; or conversely, it could maintain pricing to clients at existing levels, thereby increasing margins. The financial institution might also opt for a strategy that lowers pricing while retaining a higher margin than that under the traditional business model.

The value chain finance business model, it should be remembered, increases the awareness and, as such, the opportunity for cross-selling. This has the potential of increasing the return on equity. Additionally, some products and services generate fees that do not involve using solvency, which further improves the financial institution's balance sheet.

In short, partnering with aggregators or leading firms in value chain financing creates opportunities for risk-sharing and cost-sharing mechanisms through which banks and their partners can negotiate mutually-beneficial terms that would not be available in conventional lending. Negotiable items include:

- Extent (percentage) and coverage of the first-loss guarantee
- Terms of the bank's financing to the aggregator's own operations
- Size of commission to the aggregator for identifying borrowers, disbursing credit, and loan recovery

Terms of funding to producers and other upstream participants (e.g., input suppliers)

- Use of the payments platform for cross-selling bank products

Financial institutions have found that aggregators perform best as commission agents when they are already performing some of the associated functions and have some experience in the credit process. For the financial institution, the commission it pays should be less than the costs it would incur if it undertook loan promotion, processing, supervision, and collection itself. At the same time, the commission system has the advantage of turning a fixed cost into a variable cost, which strengthens the financial institution's balance sheet.

In short, partnering with aggregators or leading firms in value chain financing creates opportunities to establish risk-sharing and cost-sharing mechanisms through which banks and their partners can negotiate mutually beneficial terms that would not be available in conventional lending. Negotiable items include:

- Extent (in percentage terms) and coverage of the first-loss guarantee
- Terms of the bank's financing of the aggregator's individual operations
- Size of commission to the aggregator for identifying borrowers, disbursing credit, and loan recovery
- Terms of funding to producers and other upstream participants (e.g., input suppliers)
- Use of the payments platform for cross-selling bank products

19. If the financial institution documents each farmer as it expands its business, operating costs may increase but not to the extent that they will significantly diminish the attractiveness of the financial operation.