Value Chain Finance for Agriculture

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My Background

- PhD, Economics, Cornell University (USA)
- Lecturer, School of Economics, University of Sydney
  - Affiliate of Sydney SE Asia Centre
- Research in Myanmar since 2013, mainly focused on private sector development issues
- Research portfolio includes:
  - Involved in index-based livestock microinsurance project in Kenya/Ethiopia since 2008
  - Co-PI on ACIAR-funded evaluation of value chain interventions (sustainability certification) in coffee and cocoa sectors in Indonesia.
  - Scientific Coordinator of project under development with ACIAR on whole-of-chain for agriculture, in Myanmar, Indonesia, and Vietnam; launching late 2017

Value chain financing for agriculture: why does it matter?

- In spite of often being the largest employer, especially for lower-income people, the foundation of the rural economy, and the provider of food security, the agricultural sector is traditionally underrepresented in access to finance.

- In 2013, the Initiative for Smallholder Finance (see Shakhovskoy and Wendle (2013)) estimated that in South and SE Asia:
  - "Tight value chains" [aka "value chains"] (13 million farmers)
    - Short-term financial needs for agriculture are met reasonably well, primarily within value chains,
    - Only 1% of 25 billion USD need for long-term, productivity-enhancing agricultural finance is met from any source.
  - "Loose value chains" [aka "supply chains"] (68 million farmers)
    - 22% of short-term financial needs for agriculture (of 35 billion USD)
    - Only 1% of long-term agricultural finance needs (of 35 billion USD) are met from any source.

Tight value chains are those "with clearly established relationships and a single channel, usually involving contracts or formal agreements."

Loose value chains are those "(often involving "open marketed crops") [where] farmers have a variety of marketing options and may sell to various buyers."

Why is financing needed?

- Financing and storage instruments meet the ***need to transfer value over time***.

- **Savings (and storage)**: put away my own money (or other item of value, e.g., agricultural output), can access later at time of my choice.

- **Credit**: get money now, pay it back later. But someone has to be willing to give me money up front and entrust me to pay it back later.
  - Use this involves some kind of "screening" process, through human judgment and/or data analysis, and then enforcement of loan repayment (formal or informal).

- **Insurance**:
  - Formal: start putting away money, get money (maybe more than I put away) when an event happens. Payout conditional on a pre-contracted event
  - Informal: payout may be conditional on relationships.

- **Why might value/supply chain participants be unable to access these instruments?**

Why is financing needed?

- Note that these categories are not mutually exclusive. For example:
  - Savings can be used to self-finance and self-insure.
  - Commitment savings can act more like insurance if payout is conditioned on specific events or "earmarked."
  - Stored items of value (e.g., non-perishable agricultural output) can be used as collateral for loans.
  - Rotating credit funds sometimes used as insurance.

- Financing can be formal or informal, or even a mix of both.

→ May be more useful to think: what needs do chain participants have for transferring resources over time? How can they better leverage their existing assets and resources (traditional physical collateral, but also non-traditional collateral and social/relational capital)?

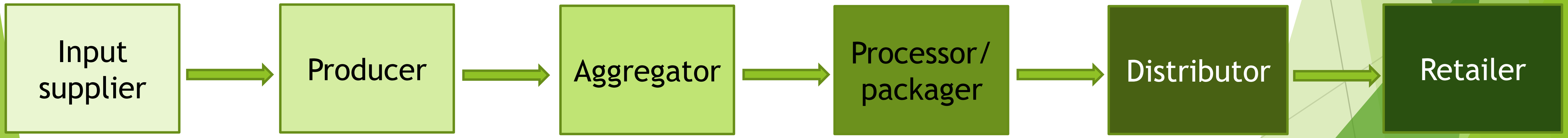
  → Rather than thinking about financial products in very narrow bins.

What can financing do?

- Financing can ...
  - Allow chain participants to make short-term (e.g., working capital) and longer-term productive investments, allowing them to adopt new innovations.
  - Affect risk and volatility in the chain:
    - Reduce risk and volatility, as participants can buffer risks.
    - Increase risk and volatility, if it allows participants to make “bigger bets.”
  - Affect competitiveness:
    - Increase competitiveness as participants grow, adopt new innovations, and new participants enter.
    - Reduce competitiveness if only certain participants have access to finance, and it entrenches their competitive advantages.

A stylized agricultural supply chain

- Note this arrangement is not unique and some of these participants may not be present, or others may be present



A stylized agricultural supply chain

- Some examples of these roles

Input supplier → Producer → Aggregator → Processor/ packager → Distributor → Retailer

Input supplier
- Input retailers (fertilizer, pesticide, etc.)
- Input manufacturers
- Equipment dealers

Producer
- Smallholder farmer
- Larger farm
- Plantations and estates
- Factory farms

Aggregator
- Collectors
- Assembly traders
- Middlemen

Processor/ packager
- Small processing plants (e.g., rice hullers)
- Agri-food manufacturer
- Packagers

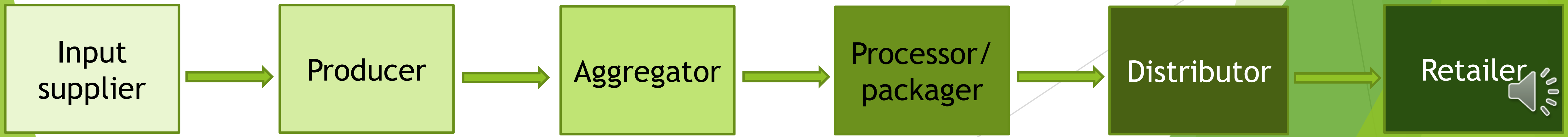
Distributor
- Wholesalers
- Importers
- Exporters

Retailer
- Wet market retailers
- Food retail shops
- Supermarkets

The value chain: contracts, relationships and vertical integration. Or … what is → ?

- One way to think about the distinction between supply chain and value chain, and important to think about in considering what will happen if financing is introduced, is to understand what is happening on the links.

- Are participants to the left just selling product to participants on the right, at a spot price set at the time of the transaction?
- What transactions are involved? (tricky question – interlinked transactions)
- Are participants signing contracts (expecting enforceability) to govern transactions? How complete are they? How stable are the trading relationships?
- Are communication and trust involved in generating additional value?



Financing: 3 sets of models in the value chain

1. **Direct finance**: chain participants get funding from external provider for their own internal use.

2. **Within chain finance**: finance provided between directly-transacting chain participants

3. **Whole-of-chain, or blended, finance**: external financing facilitates financing through the chain, or involves multiple chain participants

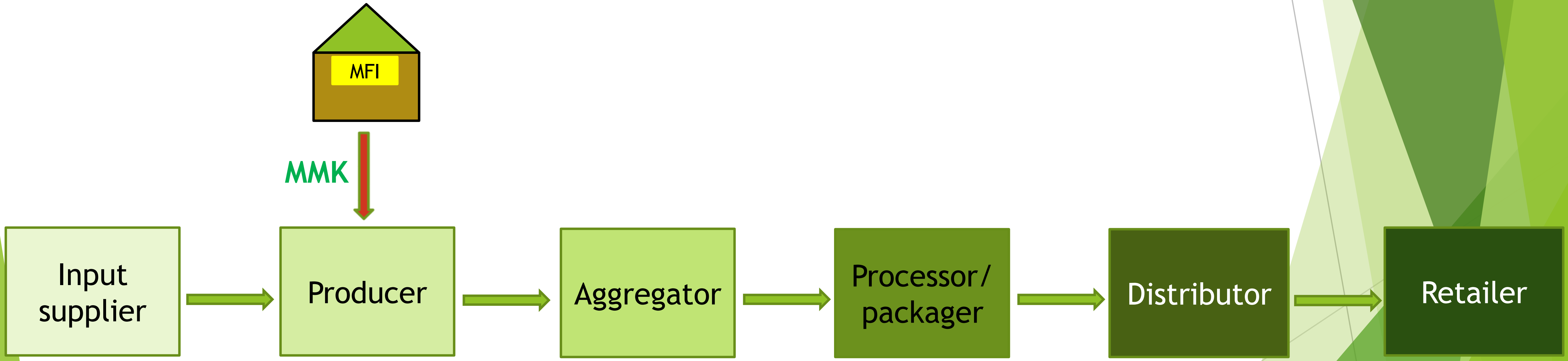
Direct financing

- Under direct financing, one of the value chain members directly receives financing from a formal or informal source of financing, for their own internal use.
  - Commercial bank, MADB
  - MFI, mobile money
  - Money lender, friend/family
  - Use own financing

Input supplier → Producer → Aggregator → Processor/packager → Distributor → Retailer

Direct financing

- Under direct financing, one of the value chain members directly receives financing from a formal or informal source of financing, for their own internal use.
  - For example, a smallholder farmer borrows from an MFI, or a local moneylender.



Direct financing

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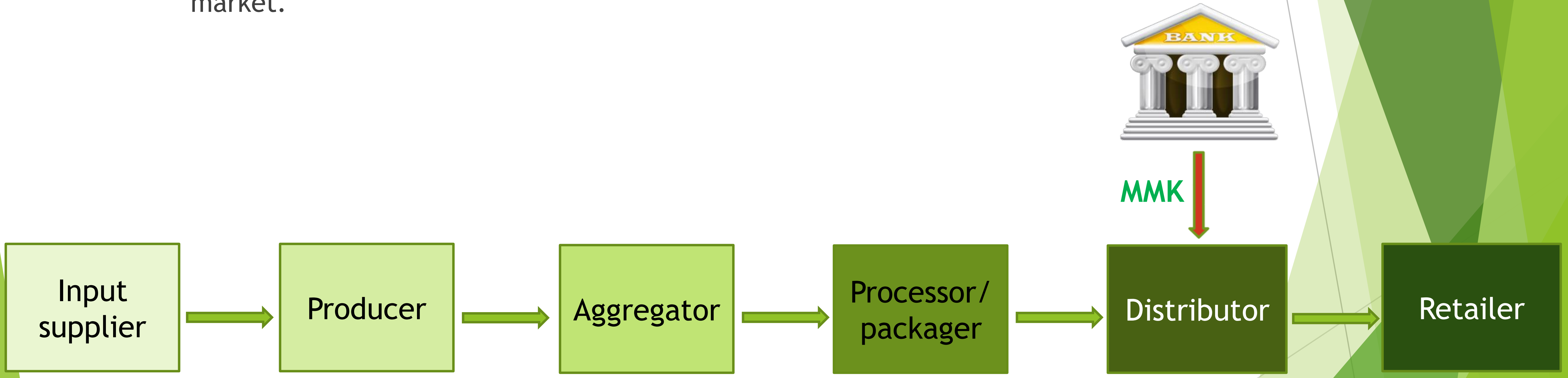
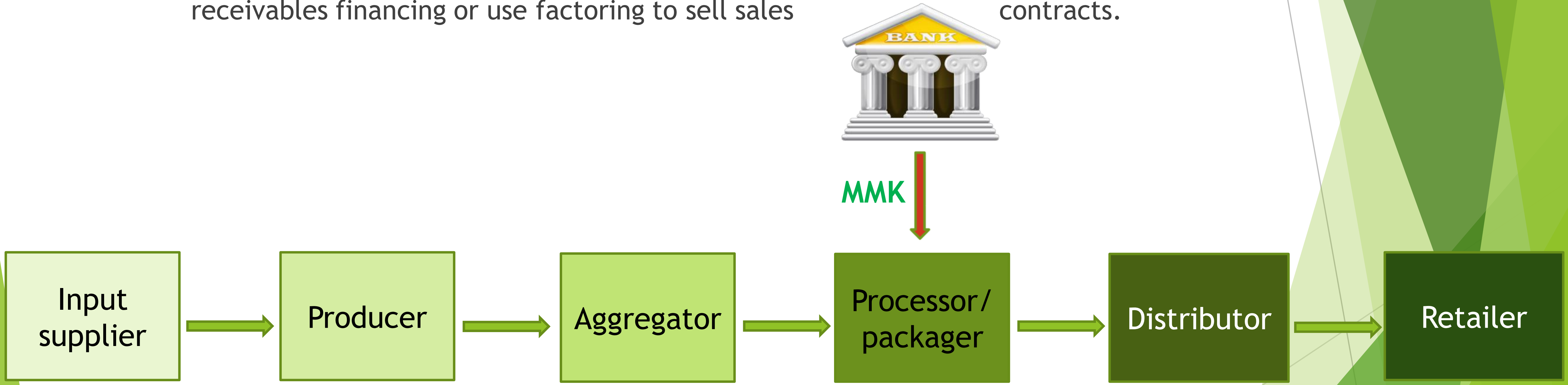
  - For example, a distributor gets financing from a commercial bank to support expansion into a new export market.



Direct financing

- Under direct financing, one of the value chain members directly receives financing from a formal or informal source of financing, for their own internal use.
  - Note that this doesn't have to be a standard loan. For example, a large agri-food manufacturer might get trade receivables financing or use factoring to sell sales contracts.



Challenges in direct financing

- When people think about (agricultural) finance, they often have direct finance in mind.

- However direct financing for agriculture is challenging for at least 3 reasons:

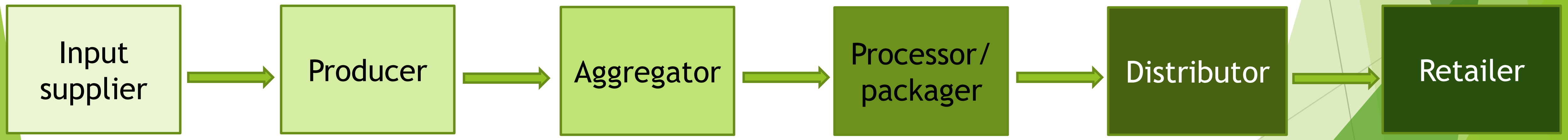
1. **It is relatively costly for financial institutions to provide loans in rural areas**
   - Branches typically far away, raises travel costs for bank agents and/or borrowers both in screening and monitoring loans (time costs, increased loan enforcement risks)

2. **Managing risks unique to agriculture**
   - Weather, pests, agricultural price movements, etc, may increase risk of default even for the best borrowers

3. **Financial institutions' lack of knowledge in how to deliver products relevant to agriculture**
   - Needs for timing (receipt and repayment of funds), structure of funding, expert loan screening, etc.

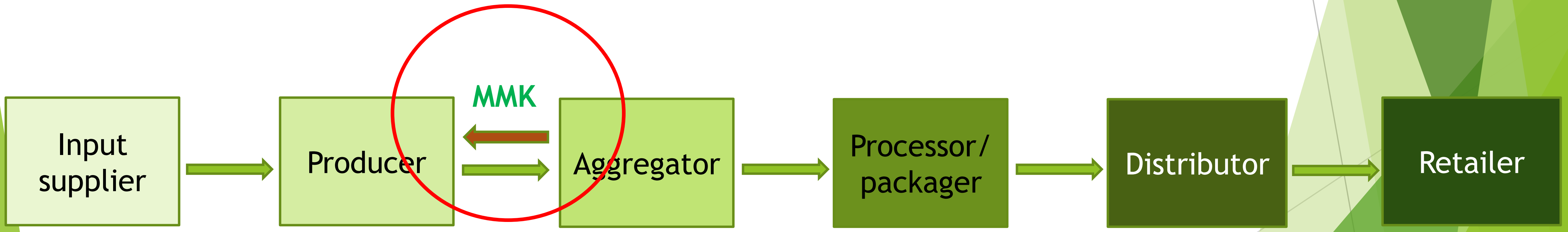
Within value chain financing

- We may also observe financing ***between*** participants in the chain.



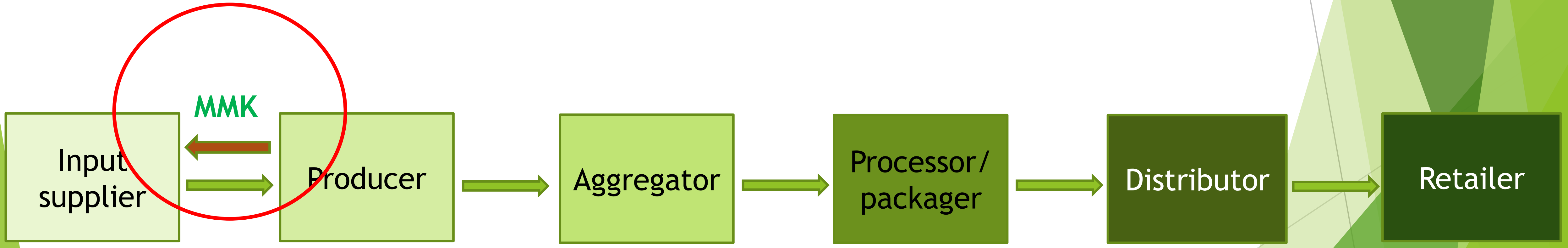
Within value chain financing

- We may also observe financing ***between*** participants in the chain.
  - **Trade credit.** For example, a buyer of agricultural output (e.g., trader) provides credit at the start of the cropping season to smallholder farmers to fund input purchases (e.g., fertilizer, seeds). The smallholder pays off the loan after the crop is harvested.
  - Financing often paid off in kind, sometimes without interest.



Within value chain financing

- We may also observe financing ***between*** participants in the chain.
  - **Input supplier credit.** For example, a seller of agricultural equipment allows a large farm to pay off the cost of purchasing a new piece of equipment over 2 years.
  - May require setup payments when farm has cash (e.g., after harvest season).
  - Relies heavily on relationship and trust between input supplier and farmer.



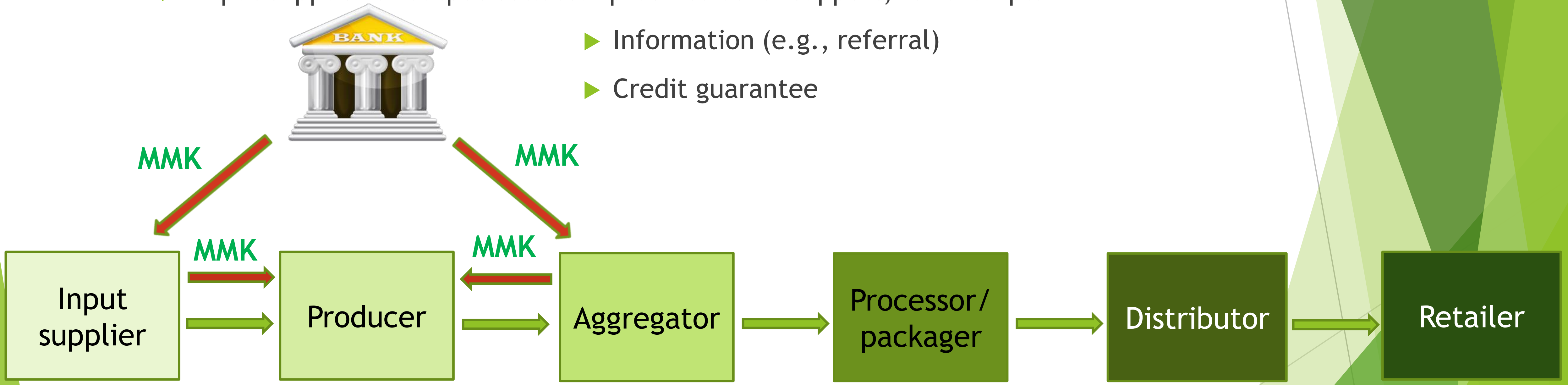
Value chain financing with external parties

- A blended approach involving external parties and value chain participants together can leverage important synergies:
  - Third-parties bring important resources to the table (e.g., financial liquidity, expertise, legal standing to provide certain financial products and services).
  - Value chain participants also bring important advantages to overcome traditional cost and information challenges to financing:
    - Detailed knowledge of other value chain participants and their sectors/markets.
    - Proximity (physical / relational) to other value chain participants. Transaction flows already exist.

Input supplier → Producer → Aggregator → Processor/ packager → Distributor → Retailer

Value chain financing with external parties

- Examples of blended model
  - Bank provides financing to/through, or collections through, input supplier or output collector
  - Input supplier or output collector provides other support, for example
    - Information (e.g., referral)
    - Credit guarantee



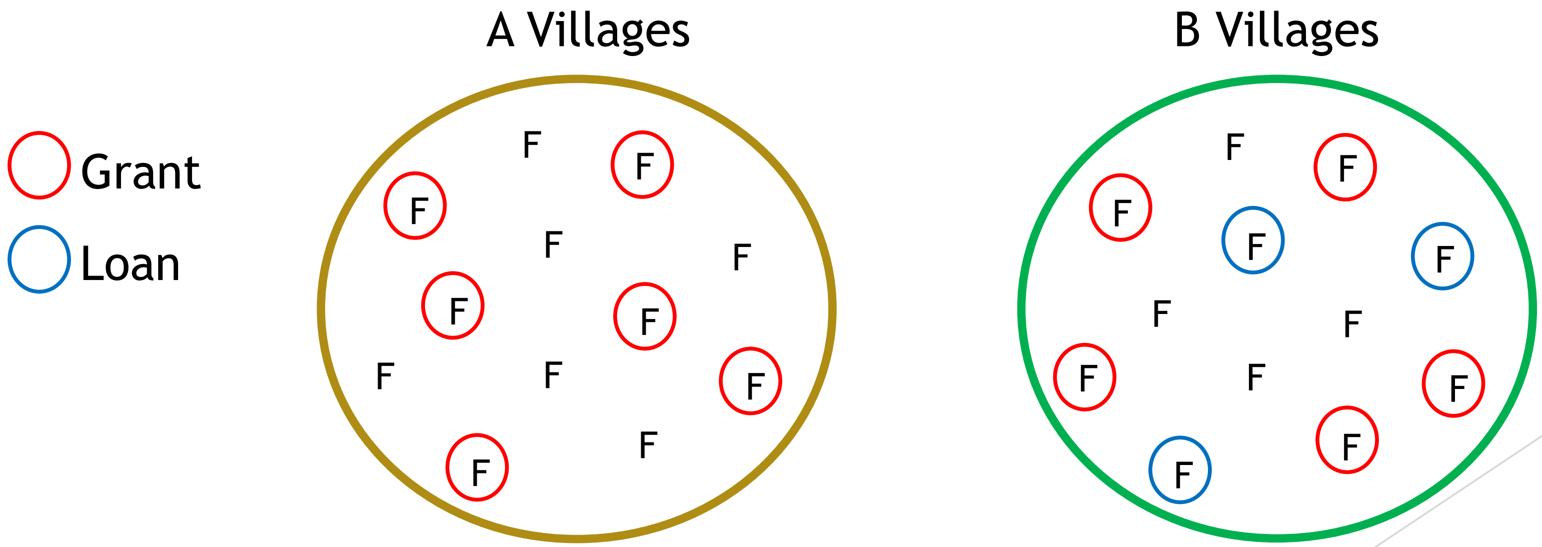
Couple other important models

- Physical asset collateralization
  - Example: warehouse receipts
  - Farmer posts (non-perishable) commodity in a (certified) warehouse. The warehouse owner provides secure storage and confirmation of the deposit. A bank provides a loan against the value of the deposit slip.
- Risk mitigation products
  - Insurance
    - Indemnity-based insurance
    - Index insurance
    - Value chain insurance (Casaburi and Willis, 2016)
  - Forward contracts and futures
- Mobile banking and e-money
  - New approaches to credit scoring: transaction histories and call data records (CDR)

Two final thoughts …

- What is the optimal amount of financing in a given value chain?
  - Should every participant have access to finance?

- Beaman et al (2014) conduct a study with farmers in Mali, where
  - **A villages**: they randomly select farmers from the entire population to get free grants.
  - **B villages**: they offer an agricultural loan product. Once the loans have been issued, they then randomly select farmers from the remaining population to get free grants.



What do you predict?

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  - **They find:** In the A villages, the grantees show significant increases in performance on average (yields, earnings, etc). In the B villages, the farmers who choose to take up loans show significant increases in agricultural performance. The grantees (who didn't choose to take up a loan) show no return.

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- A study in Indonesia showed that 30% of unbanked small and medium enterprise owners believed they would qualify for a bank loan. They then asked bank loan officers to assess the owners for loans, and 70% turned out to be qualified.
  - What does this mean for value chain finance research?

Thank you!

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