Lecture I: Introduction to Agricultural Finance

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Defining Agricultural Finance?

- What is Agricultural Finance?
    - Agricultural finance is typically taught in agricultural economics or agribusiness departments in colleges of agriculture.
    - Agricultural finance is then defined somehow based on
        - Economics
        - Finance
        - Agriculture

Economics and Agricultural Economics

- Following Becker economics is the study of the allocation of scarce resources to meet unlimited and competing human wants and desires.
- Becker has used economic theory to study such factors as marriage, fertility, and even suicide.
- Agricultural economist reduce the scope of their concern to questions involving agriculture (including production decisions, implications of agricultural policy, and agricultural trade), natural resources, and environmental issues.
  - Agricultural economics tends to be more applied, less concerned about the development of theory and more concerned with the analysis of policy.

Defining Finance

- A frequent criticism of neoclassical economics is that it is sterile.
  - By focusing on optimality conditions and efficiency, modern microeconomics has removed the economic agent.
  - Following Mises, the description of economics abstracts away from the particulars of human action.
  - Similarly, according to Hicks economics tends to be timeless.
    - The production function representing the transformation of inputs into outputs typically does not reference time.
    - Time is an extremely important facet of agricultural production.
    - Most agricultural production processes involve biological processes which occur over time.
    - Most production processes are less than instantaneous. They require the creation of intermediate inputs which must be stored and transported.

Defining Finance - Continued

- **In fact, the investment in plant and equipment used in the production process can be viewed as the creation of intermediate products**
- It is the existence of these intermediate products (along with the natural means of production such as land) that gives definition to the field of finance.

Defining Finance - Continued

- **The use of these longer-term inputs raises the question of ownership or control**
  - In agriculture, farmers must gain control of these longer-term inputs as a part of the production process.
  - The farmer buys inputs (seed, fertilizer, and hires labor), pays for the services of machinery (such as tractors and combines) used in the productive process, and pays for the services of land (i.e., rent) as a part of the productive process.
  - These inputs and services can be acquired either through equity (embodied in the ownership of the assets, acquired with money, or acquired by leasing someone else's equity [borrowing]) or leasing someone else's equity claim.
- **These markets for equity [either debt or ownership] gives rise to the field of finance**

Defining Agricultural Finance

- The difference between **Corporate Finance** as taught in the business school and **Agricultural Finance** as typically taught in the college of agriculture is the equity markets in which firms operate and to some extent by the specialized asset base of a most agricultural firms.
  - **Corporations** raise money in equity markets such as the New York Stock Exchange.
    - These organizations can raise money by either selling stocks or bonds, in addition to borrowing from banks using standard loan or mortgage instruments.
    - The value of each instrument (stocks and bonds) are determined by the market of investors based on a variety of sources of information including required publications of financial statements.

Defining Agricultural Finance - Continued

- Continued
  - Farm firms are typically organized as **Sole Proprietorships** whose source of capital includes the owner's resources (i.e., savings) and loans or mortgage borrowing from banks and similar entities.
  - While it is conceivable that some farm firms may access equity markets, some informational aspects of agricultural production favor organization as sole proprietorships.

Finance Versus Financial Management

- In addition to the differences between agricultural finance and finance, a distinction of degree can be made between the study of finance and the study of financial management.
- The analysis of asset ownership contains two concepts
  - The analysis of asset values in production.
  - The analysis of the equity market for owning assets.
- In the old accounting identity

$$\mathrm{A} = \mathrm{E} + \mathrm{L} \tag{1}$$

  where A are the firm's assets, E is owner equity, and L is the level of debt (or liabilities).
- Anticipating the Modigliani-Miller theorem, the value of the firm's assets is determined by the price of the firm's outputs and the cost of other inputs which are independent of ownership.

Finance Versus Financial Management - Continued

- Financial management involves balance sheet decisions within the firm.
  - Should the farmer buy a new machine - does the addition of the machine increase the firm's asset values over time?
  - Ownership decisions - should the machine be purchased using debt or equity?
- **Financial Economics** typically involves the effect of these individual decisions on society's capital markets.