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Course: Agricultural Economics — Lecturer: Darryl R. Francis

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I. A Brief Review

A. Agriculture made great strides during the century ending in 1950.

1. It changed from subsistence to commercial farming.

2. There was a major decline in home-produced inputs and a rise in purchased inputs.

   Examples: Horse power to mechanical power
   Hand tools to automated machinery
   Open-pollinated to hybrid seed
   Home-produced to commercial fertilizers

3. Production of farm commodities became more oriented to, and restricted by, domestic demands.

Exports as Per Cent of Production

	1910-1914	1950-1954
Cotton	65.2	29.3
Tobacco	42.0	24.1
All Farm Products	15.1	9.4

B. The revolution in agriculture has stepped up in recent years. However, the increased rate of gain has been primarily reflected in resource adjustments and productivity per worker rather than in total output. Total farm output and total resources in agriculture are now determined largely by the size of the nation's population since exports are limited by restrictive policies of importing nations.

1. Demand for farm output has increased, but at a slower rate than demand for industrial production

   (Chart) Total Population, Farm Output, and Industrial Production (1947-1968)

2. Concurrent with the slow increase in demand for farm products is the phenomenal rise in agricultural productivity per worker.

   (Chart) Real Product Per Man Hour in the Private Economy - United States (1920-1967)

3. The resulting flood of farm products has put pressure on farm prices and income.

   (Chart) Farm, Consumer, and Wholesale Price Trends (1950-1968)

   (Chart) Farm Income Versus National Income (1950-1968)

4. The pressure on incomes, coupled with generally prosperous nonfarm conditions, provides incentive for readjustments in resources, especially farm labor. The readjustments in turn contribute to increases in realized net income per farm worker and greater output in the nonfarm sector.

   (Chart) Impact of Income on Labor Adjustments (1950-1968)

5. As a result of new farm technology and rising productivity per worker the number of farms declined sharply and the average size of farms increased. Most of the decline in farm numbers has been in the small farm group where income opportunities in agriculture are less than potential incomes in the nonfarm sector.

   (Table) Farms in the United States

   (Chart) Number of Farms and Average Size of Farms in the United States (1925-1969)

6. Agriculture has become more commercial and more specialized. The major drive for manufactured inputs occurred in the early post-World War II years. The recent drive has been toward increased specialization with larger purchases of farm produced inputs.

   (Table) Size and Growth of Agribusiness.

7. The farming sector has remained fairly stable in dollar value added to national income, but other sectors have grown rapidly. Purchased farm supplies for production purposes are now equivalent to 70 per cent of the value of farm product sales, and the processing and marketing sector adds another 200 per cent to the value of farm output before it reaches the ultimate consumer.

   (Chart) Value of Agribusiness Product (1945-1967)

8. New types of farming developed as a result of new technology and pressures in our competitive enterprise system.

   Examples: Integrated or contract farming
   Vegetables and broilers grown to specifications
   Commercial beef feedlots
   Commercial milk parlors

II. New Farm Technology Dictates Changes in Farm Capital

A. With the decline in labor inputs, demand for farm capital has sharply increased.

   1. A large portion of the gain reflects rising land prices which in turn reflect major increases in marginal returns to land on individual farms. Machinery, insecticides, and other new productive factors have greatly increased the acreage that can be operated per worker. Land prices have more than doubled since 1950 and more than quadrupled since 1940.

   2. Non-real estate assets have also made sizable gains, with greatest increases in value of farm machinery.

   (Chart) Farm Production Assets (1940-1968)

B. With the decline in number of farms and rising total farm assets, assets per farm have increased sharply. As a result, agriculture is now one of the most highly capitalized industries in the nation on a per worker basis.

1. Production assets per farm have increased (rising fourfold since 1950) in the competitive struggle to attain greater efficiency through farm enlargement.

2. Approximately 50 per cent of the gain in assets per farm reflects rising land prices. While constituting a windfall to many present operators, these increases will be a definite obstacle to future operators. Finding it difficult or impossible to pay the market price, those who are not fortunate enough to inherit will have to find other means -- renting, partnerships, incorporation -- to gain control over sufficient agricultural assets for efficient operations.

3. The other gains are from new investments in both real estate and other assets.

(Chart) Total Capital Per Farm United States and Total Capital Less Real Estate Appreciation (1947/49-1968)

C. The rate of return on farm capital points to future investment trends.

1. Capital in agriculture is increasingly competitive with capital in nonfarm uses.

(Chart) Return on Capital (1940-1968)

2. Thus the industry is not isolated from other sectors of the economy. Capital, labor, land and product markets for the farm sector are all subject to supply and demand conditions in the nonfarm sector.

3. Returns to scale of operations have been great during the postwar period, and the margin of efficiency on larger farms is still large.

The smaller farm barely provides an opportunity for the operator and family to earn wages at the national average farm wage rate.

(Chart) Average Return on Farm Capital Specified Types of Commercial Farms by Size, 1965-1967

4. Returns to size have been more pronounced in recent years than in early postwar years.

   (Chart) Changes in Returns on Farm Capital
   Specified Types of Commercial Farms by size

D. Marginal capital invested in real estate apparently yields greatest returns.

   1. Real estate assets are a greater per cent of total assets on the larger farms which have higher returns to capital.

      (Chart) Farm Real Estate as Per Cent of Total
      Farm Capital - Commercial Farms by
      Size, 1965-1967

   2. A smaller proportion of total capital is required for machinery on the large, more efficient farms.

      (Chart) Machinery Value as Per Cent of Total
      Farm Capital - Commercial Farms by
      Size, 1965-1967

E. Larger farms have greater operating efficiency. Labor costs are a smaller proportion of total expense on large farms than on small units.

   (Chart) Labor Costs as Per Cent of Gross Farm
   Expense, Specified Types of Commercial
   Farms by Size, 1965-1967

F. Mississippi Delta cotton farms illustrate the greater efficiency of larger units.

   1. The greater efficiency of large crop farms in the South is indicated by the striking differences in rates of return on capital between small and large Mississippi Delta cotton farms.

      (Chart) Small and Large Mississippi Delta
      Cotton Farms, Average Return on
      Capital 1960-1966

2. The Greater efficiencies of the larger-sized units lie in:

   (a) Reduced machinery capital requirements per acre.

   (b) A major reduction in labor and machinery expense relative to gross receipts.

      (Chart) Small and Large Mississippi Delta Cotton Farms 1960-1966

III. <u>Greater Capitalization Points to Change in Structure of Farm Ownership</u>

A. Debt-free ownership is more difficult for individuals to achieve.

   1. Landlord-operator equities decline. Operator equities are down to almost 50 per cent of assets.

   2. Large owner-operator equities are increasingly difficult to acquire as capital requirements rise.

      (Chart) Equities as a Per Cent of Physical Farm Assets (1950-1968)

B. Trends in ownership are indicated by the distribution of value of products sold according to tenure of operator.

   1. The rapid gain in proportion of all farm products sold by part owners and managers and the sizable loss in sales by full owners suggests the greater difficulty of becoming owner-operators of efficiently sized farm units.

      (Chart) Distribution of Value of Products Sold by Tenure of Operator, Commercial Farms

C. The increasing difficulty of becoming owner-operator leads to changes in the form of farm ownership.

   1. An increase in the corporate form of organization is probable, especially small family-type corporations.

2. Other possible types of ownership include:

   (a) More partnerships

   (b) An increase in vertical farming organizations as broiler producing and processing units, public cattle feeding operations, vegetable producing and processing firms, etc.

D. Farm management may, like corporate management, become more detached from ownership.

   1. The rising proportion of farms operated by part owners and managers indicates the difficulty of farm operators in achieving full ownership.

      (Chart) Distribution of Commercial Farms by Tenure of Operator

   2. The rising volume of capital per farm points to an acceleration of this trend as high-priced farmland passes on to future generations.

IV. The Modern Farmer - Small Businessman

A. The farm business and the commercial enterprise have both similarities and differences.

   1. The similarities include:

      (a) Capital requirements (ownership)

      (b) Importance of financial backing (increases as higher costs magnify exposure in agriculture)

      (c) Management perfection

      (d) Need for operating statement (expenses as per cent of gross sales)

      (e) Specialization in one or a limited number of commodities

      (f) Bargaining for supplies and raw materials

2. Differences that stand out include:

   (a) Natural factors - Weather, soil conditions, insect pests

      (1) More important in farm expense

      (2) More likely to impair farm production

   (b) Continuity of management

   (c) The balance sheet ratios

      (1) Land and buildings a higher proportion of total assets in agriculture

      (2) Debt as a per cent of total assets. Generally higher in nonfarm business

V. Some Musts for Modern Farm Banking

A. A recognition of the changes that have occurred in both the farming industry and farm credit is required.

   1. Farm credit, like farming itself, has become more commercial and less dependent on relative, friend, neighbor, merchant, or local credit source.

   2. With the entry of more financial agencies into the farm credit business, it has become less personal, and credit tends to flow to the most efficient users.

   3. The closer ties of farm credit to financial markets through life insurance companies, the Farm Credit Administration, large agribusiness corporations, and the correspondent banking system assure a more reliable supply of farm credit to all users.

4. These ties also assure competitive and more uniform interest rates to agriculture. Farm credit rates may be slightly below or slightly above rates charged on commercial loans of similar quality. In contrast, only a few decades ago, interest rates charged farmers bore little relationship to conditions in financial markets. The banker who fails to realize this change in the farm credit picture will gradually lose out in the competitive race.

(Table) Changes in Interest rates

B. Flexible savings policies are essential. Only by paying competitive rates on time and savings deposits can banks obtain the supply of loan funds to meet credit demands. Unfortunately, regulations have at times prevented banks from bidding for savings at competitive rates, and during these periods bank savings accounts have often failed to grow, and on occasion have actually declined. The once widely-held belief that savers were not sensitive to the rate of return on savings is no longer true.

C. Maximum use should be made of the national money market.

1. Loan participations are one means of easing the local strain on credit supplies.

2. Insurance company credit is another means of relieving local pressures.

3. Some banks purchase Federal funds.

4. Other means are in the developing stage.

D. Provide sound and adequate financial advice for modern farmers.

E. Arrange to handle the credit needs of the large, efficient producer; the alternative is for the bank to become a wholesaler of funds by purchasing the credit instruments of others who are better equipped to do the job.