CONCEPTS OF THE AGRICULTURAL ECONOMY AND ECONOMIC ACCOUNTING

by

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1974

The American Agricultural Economics Association devoted a full seminar session at the 1972 meetings to discussing "our obsolete data systems." At that time, the AAEA Economic Statistics Committee pointed out quite vividly that the "...conceptual foundation of the (data) system is crumbling--and has been for some time." [1, p. 867]. The Economic Research Service, USDA, has also been exploring problems associated with economic accounting in the food and fiber sector [2, 3]. Thus, economists both in and out of government have been concerned about economic accounting for agriculture and the future direction it should take. The purpose of this paper is to suggest new conceptual views of the food and fiber sector and its implications for accounting systems.

ACCOUNTING

Certain caveats are in order. The subject will be presented only in rough outline form. Volumes have been written on accounting in economics as the subject is both "broad" as well as "deep." We shall start with the premise that we are suggesting an ideal system; for it is recognized that at times ideals must be sacrificed in the real world. Many problems exist in implementing the suggestions below, one of which is the lack of data on some elements. The discussion will be limited to aggregate economic accounts for

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Contributed paper, aaea meetings, College Station, Texas, Aug. 1974

the food and fiber sector within the national economy. Many of the side issues that can be raised while discussing the topic of economic accounting will not be explored.

What is meant by the food and fiber sector? Basically, we are referring to the production, processing and distribution of domestically produced food and fiber products. 1/ Also included are those industries which provide direct inputs for domestic food production. For example, fertilizer and farm machinery manufacturing might be defined in the sector while primary steel production would not.

The word agriculture also presents a problem. Agriculture means many things to many people, but most frequently it is a synonym for farming. The word agribusiness is typically used to denote nonfarm activities within the food and fiber sector. In this paper, agriculture will be used as a synonym for the food and fiber sector. Thus, farming is a subpart of agriculture.

The paper has two basic sections. In the first, the present concepts of agriculture as portrayed in the farm income, balance sheet and marketing bill series are sketched and discussed. In the second, alternative concepts of agriculture are presented and implications for economic accounts explored.

Present Concepts and Accounts

The farming subsector is currently viewed as a single national family farm for accounting purposes. The national family farm encompasses both household and business activities. This concept provides the basic format for the farm income series and the balance sheet for the farming sector--all of which were developed in the early 1940's [9, 11]. Processing and distribution activities associated with domestically produced food are monitored with the marketing bill published in the Marketing and Transportation Situation [10].

The marketing bill, again developed in the early 1940's, is a series designed to explain the difference between consumer expenditures for domestically produced food and its farm value. These three series cover the current aggregate economic activity of what we call the food and fiber sector. Although these series have been and are being improved upon, they still maintain the basic generic properties given them at conception.

Farm Income Series

The income series published in the Farm Income Situation (realized net farm income, income of farm operator families and the disposable personal income of the farm population) were all basically designed to measure the income of farm people. 2/ However, realized net farm income is also used as a primary barometer of business activity in farming.

The format of the income series is much like that used by farmers for Federal income tax purposes (table 1). Gross income comes from the sale of farm commodities, government payments, realized nonmoney income (food and fuel consumed in farm households and gross rental value of farm dwellings), and other minor sources. Current production expenses including fixed costs and net rent paid nonfarm landlords are deducted giving realized net farm income. Realized net farm income is the figure which is popularized in political circles purportedly being a barometer of both business vitality and the "well-being" of farmers.

Once the aggregate realized net farm income is determined, a per farm figure is obtained by dividing by the number of farms. Part of the concept of a family farm dictates that each farm be operated by a single family. Thus, realized net farm income per farm is transformed into net farm income per farm operator family via this identity. This whole procedure, apparently based on conventional wisdom, injects family characteristics into a nonhuman entity--the farm.

Table 1--Components of the U.S. farm income accounts, 1972

Item	Billion dollars	
Realized gross farm income:		
a) Cash receipts from marketings:		61.0
Livestock and products	35.7	
Crops	25.3	
b) Government payments		4.0
c) Realized nonmoney income:		4.3
Food and fuel	0.8	
Rent on dwelling	3.5	
d) Other income a/		0.6
Total		69.9
Production expenses:		
a) Current operating expenses:		36.7
Other farms (feed, seed, livestock)	16.3	
Nonfarm origins b/	20.4	
b) Depreciation, interest on real estate debt, property tax		13.2
c) Net rent to nonfarm landlords (NFLL)		2.5
Total		52.4
Realized net farm income		17.5

Source: U.S. Dept. of Agr., Farm Income Situation, Economic Research Service, FIS 224, July 1974.

a/ This item was added to the accounts as a result of revisions made in 1973. Other income includes customwork and machine hire, and income from recreational services.

b/ New expense items were added for the first time based on 1973 revisions. They include expenses for customwork and machine hire, outlays for record keeping and tax return preparation, legal fees, advertising, dues to farm organizations, etc. Other expenditure items were modified to account for new benchmark data recently available.

In fact, the "one farm--one operator" assumption is also carried along in our data gathering activities. For example, two or more families may be involved in operating a farming partnership. The Bureau of the Census, at Agricultural Census time, will collect all the biological and business information concerning the farming operation. But, they must also collect additional economic and demographic information on a farm operator family. Such data will typically be obtained from the senior partner only. Back in Washington, as the data is edited and processed, the partnership will slowly take on all the characteristics of a sole proprietorship. Such enough, the final report shows the number of farm operators exactly equaling the number of farms.

Other deep-rooted beliefs are incorporated into the system of national accounts for agriculture. This concept of the farming sector makes it difficult to incorporate the notion that nonfarm activities can be carried out on farms. In addition, although the data used to compile net farm income includes the agricultural output of nonfarm establishments, there is no specific recognition of this in the system of accounts.

The use of the "farm gate" is particularly important in the accounting system for the national family farm. Only those transactions which "cross the farm gate" are recorded. For those integrated sectors, such as broilers, where the concept of a farm gate is vague, to say the least, we "quietly" manufacture one to make sure the whole system is consistent. Thus, increases in real cash receipts, excluding price effects, could come from either increased total output from resources committed to farming or increased specialization among farms with more commodities crossing the farm gate.

The use of a cash accounting technique, where expenses are recorded when they occur, has also led us into another problem in accounting for production

expenses in the farming sector. In many cases, expenditures for current output and for capital formation are not appropriately identified. Most investments in livestock breeding herds, orchard and vineyard development, land improvements, etc., are not capitalized in the accounts. Thus, for example, if livestock expenses increase there is little indication of whether basic breeding herds are being expanded or that more feeding livestock is crossing State lines. In fact, the use of the State line as the point of measure may be causing an understatement of livestock transfer activities. Intrastate sales of livestock between farms cancel out under the current system and are not recorded.

There are also problems with using the farm income series to reflect the income of farm people. For example, part-time farming has historically been viewed as a way of either entering or leaving full-time farming. This view leads to the proposition that farm people take nonfarm jobs out of pure necessity and then only when all labor requirements for the farming operation are met. Even though off-farm income per farm operator family has exceeded realized net farm income in four out of the last eight years, off-farm income is still treated rather incidentally in the accounting system.

Because the farm population is becoming more heterogeneous, the concept itself is becoming less meaningful. For most farm residents, farming is not their principal occupation. As late as 1970, only 40 percent of those families living on farms reported farming as their major occupation [7]. Of those who were farmers and farm managers by occupation, over 20 percent lived off the farm. There appears to be considerable difference between the income gains of farmer and farm manager families (an occupation concept) and farm families (residence concept) since 1960. The farm residence concept no longer gives a

clear picture of the income position of people depending on farming for a living.

Farm income estimates are also used in the official National Income and Product Accounts maintained by the Department of Commerce (USDC). However, the information is rearranged in a value added framework in order to make the data consistent with GNP concepts (figure 1). This provides a good example of using data for purposes for which it was not designed. Thus, national income originating in farming differs from farm income estimates made in USDA.

Balance Sheet of the U.S. Farming Sector

The Balance Sheet of the Farming Sector is a unique publication; no other sector in the U.S. economy has asset and claim information compiled in a similar fashion [11] (table 2). 3/ There is considerable difference between the national family farm of the farm income series and that of the balance sheet series. Farm related assets and debts of nonfarm landlords are included in the balance sheet series. Nonfarm landlord items are excluded from net farm income. Household assets are also included in the balance sheet. Many nonfarm assets of farm operators, such as nonfarm businesses, corporate securities, cash value of life insurance, and money in saving and loan associations are not included in the balance sheet. The balance sheet is for the 48 contiguous States, farm income covers 50. 4/ Thus, the balance sheet reflects no readily identifiable industry or group of people.

Marketing Bill

Like the farm income series, the marketing bill was designed for a specific purpose; to explain the difference between the costs of U.S. produced food to consumers and the returns to farmers [10] (table 3). 5/ Currently only domestically produced foods are included: meat and dairy products,

Figure 1--Reconciliation of Farm Income Situation Accounts and BEA Gross Farm Product and National Income Account 1/

Farm Income Situation	Gross Farm Product Account
Cash receipts and CCS loans	Cash receipts and CCS loans
+ Government payments (GP)	
+ Farm perquisites (food, fuel, house)	+ Farm perquisites (food, fuel, house)
= Realized gross farm income	
+ Net change in inventories	+ Net change in inventories
= Total gross farm income	= Total value of farm output
- Current operating expenses	- Intermediate product
Feed purchased	Feed purchased
Livestock purchased	Livestock purchased
Seed purchased	Seed purchased
Fertilizer and lime	Fertilizer and lime
	Net repairs
Total repairs	Total repairs
	- Registration fees
	Net miscellaneous expenses
Total miscellaneous expenses	Total miscellaneous expenses
	- Interest on nonreal estate debt
	- Grazing fees
Hired labor-cash (perquisites are below)	Hired foreign labor (USCD)
- Net rents (nonfarm landlords, ex. GP)	- Gross rents (nonfarm landlords)
- Government payments (nonfarm landlords)	Net rents (nonfarm landlords, ex. GP)
	Depreciation (nonfarm landlords)
	Taxes paid (nonfarm landlords)
	Form mortgage interest (nonfarm landlords)
	+ Other items (USDC)
- Perquisites paid hired labor	Perquisites paid hired labor
	Federal fines
	Less social security
	Less interest received by farmers
	Adjustment factor
	= Gross Farm Product

Table 2--Balance sheet of the U.S. farming sector, January 1, 1973
(48 States)

Item	Amount
	Billion dollars
ASSETS:	
Physical assets:	
Real estate	258.7
Non-real estate:	
Livestock and poultry	34.2
Machinery and motor vehicles	39.0
Crops stored on and off-farms	14.1
Household equipment and furnishings	11.0
Financial assets:	
Deposits and currency	14.0
U.S. savings bonds	3.9
Investments in cooperatives	8.6
Total assets	383.5
CLAIMS:	
Liabilities:	
Real estate debt	34.5
Non-real estate debt	39.1
Total liabilities	73.6
Total	383.5

Source: Evans, Carson D., et. al., The Balance Sheet of the Farming Sector 1973, AIB 365, Economic Research Service, USDA, October 1973.

Table 3--Components of the marketing bill, 1972 a/

	Billion dollars
Labor	37.6
Packaging materials	9.4
Rail and truck transportation	6.1
Corporate profits	3.5
Indirect business taxes	3.2
Depreciation	2.8
Rent	2.5
Advertising	2.2
Repairs, bad debts, contributions	1.7
Interest	1.2
Other	8.2
Total	78.4

Source: Crawford, Terry and Fenton Sands, "The Bill for Marketing Farm-Food Products," Marketing and Transportation Situation, Economic Research Service, USDA, MTS-190, August 1973.

a/ The marketing bill has recently been disaggregated from 7 to 15 product groups. Similarly, information is available for 4 marketing agency groups and both at home and away-from-home consumption. See the August 1974 issue of the Marketing and Transportation Situation.

poultry and eggs, fruits and vegetables, bakery products and other miscellaneous foods. Also included are foods purchased in away-from-home eating establishments and bought directly from farmers, processors and wholesalers. Thus, a substantial part of cash receipts to farmers is not covered in the series (figure 2). Likewise neither is all food consumed in households reported.

The Bureau of Economic Analysis (USDC) estimates the personal consumption expenditures for food. From this figure, ERS subtracts imported foods, seafoods, other food not produced on farms, alcoholic beverages, food consumed on farms where produced and food furnished members of armed services. ERS then adds in the value of food served at institutions and food deducted as business expense (e.g. meals served by airlines).

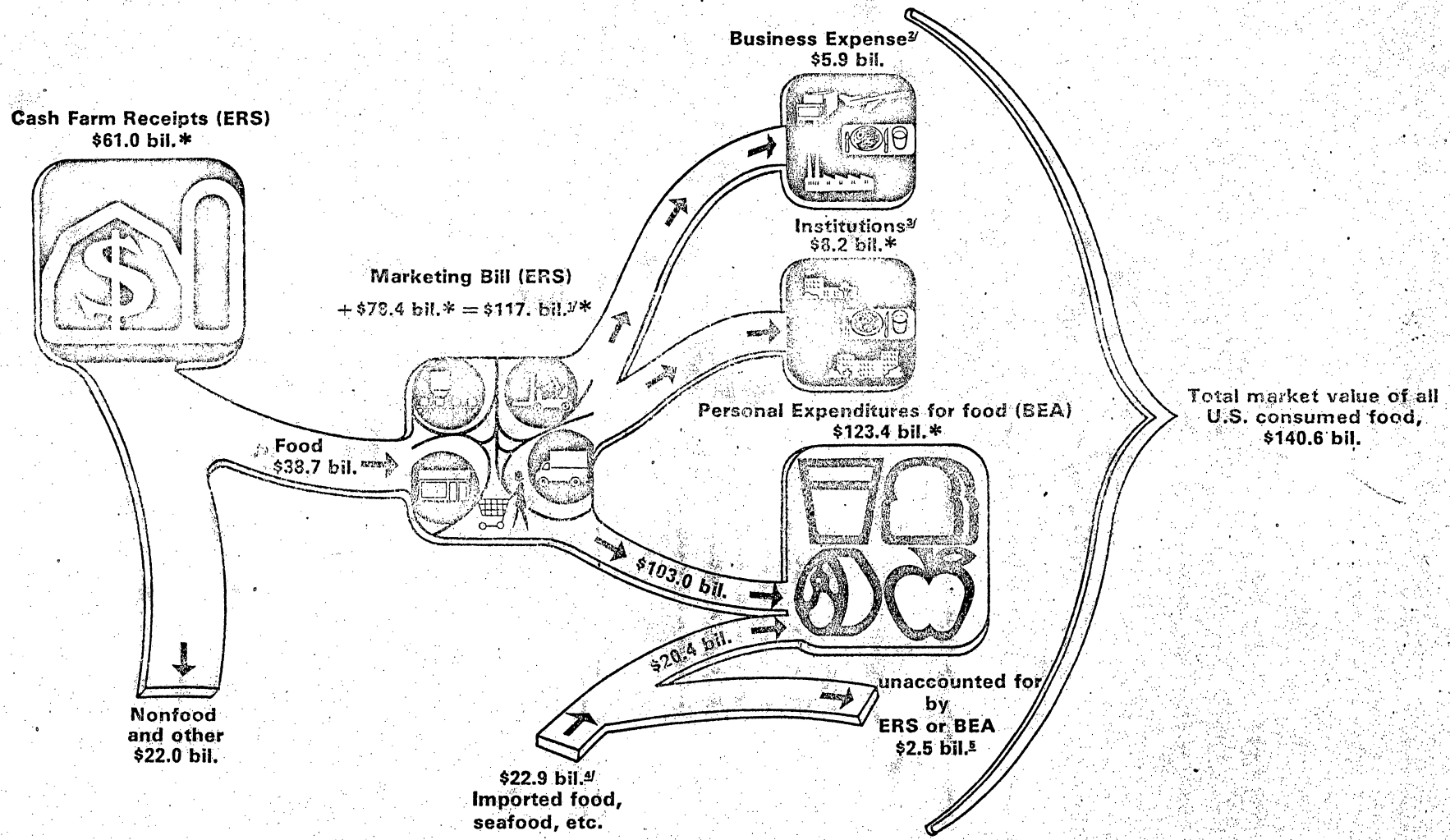
For example, the farm value of food included in the marketing bill in 1972 was $38.7 billion compared to total farm cash receipts of $61.0 billion. Processing and distribution costs added an additional $78.4 billion resulting in ERS's estimate of $117.1 billion consumer expenditure for domestic farm produced foods. Of this total, $103.0 billion is covered in the personal consumption expenditures for food estimated by BEA.

The basic farmer orientation throughout the history of the USDA is reflected in the marketing bill. Every component of the marketing bill is portrayed as a cost which is passed along to the consumer. This might leave the implication that the processing and distribution sector is "nonproductive." This also makes it relatively easy to direct consumer concerns toward agribusiness.

A recent study showed that in 1972, income originating in marketing farm food products totaled $42 billion, as viewed from a value added concept of the

Figure 2

LINKAGES BETWEEN CASH FARM RECEIPTS FROM MARKETINGS, MARKETING BILL, AND PERSONAL EXPENDITURES FOR FOOD, 1972



[1] ERS estimate of consumer expenditure for domestic farm food products bought by civilians.

[2] Food served by businesses and transportation expense. This is included in ERS consumer expenditure for domestic farm foods but excluded from BEA personal expenditure for food.

[3] Food served in institutions (e.g. hospitals, schools). This is included in ERS consumer expenditures for domestic farm foods but excluded from BEA personal expenditure for food.

[4] Value of imported foods, seafoods, other foods not produced on farms, alcoholic beverages, food consumed on farms where produced, and food furnished members of armed services. Partially included in BEA personal expenditure for food but excluded from ERS consumer expenditure for domestic farm food.

[5] Value of imported food, etc., served by institutions, businesses and as transportation expense which are excluded both from BEA and ERS series.

*Published numbers. The remaining are estimates provided by Terry Crawford and Charles Handy, ERS.

industry [4]. Labor income, which includes wages and salaries, fringe benefits and imputed earnings of proprietors and unpaid family workers constituted 80 percent of this total. Labor in food processing activities must add some utility to farm originated food products. Yet, the income of farmers is portrayed in a favorable light while the income of workers in food processing firms and corporate profits are mixed in along with packaging materials in the marketing bill. If farm income increases, many "rejoice" for farmers represent the epitome of American free enterprise. Let corporate profits, labor, or other costs in food processing, marketing and distribution increase, however, and an air of exorcism invades the premises.

Thus, we have captured in our national accounts for agriculture, all the views and beliefs that we agricultural economists have had passed to us from succeeding generations. Could there possibly be an alternative view? To this task we now turn.

Alternative Concept of the Food and Fiber Sector

A broader view of the food and fiber system is needed which accomodates two factors. First, the view should recognize that profits and wages from the farm business are but one source of income to farm people. At the same time, not all the income generated by farming goes to farm operators, but also to partners, nonfarm landlords, farm laborers, farm corporations, integrated corporations, debt holders and other nonfarm investors. Secondly, the view should recognize that the processing and distribution sectors are integral parts of the food and fiber system and not an unruly stepchild which needs special monitoring.

Any basic accounting system needs a unit of account. The suggested system replaces the farm and the bill with two "new" concepts of the industry;

the establishment and the product (figure 3). 6/ Establishments would be the basic unit of account.7/ Firms would be composed of one or more establishments.

The establishment would then be classified by type based on the major activity performed. If farming was the major activity, the establishment could also be engaged in other food and fiber activities or in activities external to the food and fiber sector as minor or ancillary enterprises. The establishment concept would provide the basic building blocks for firm, industry or line-of-business views of the sector which are particularly useful in examining the structure and performance of the food and fiber system.

For those interested in the supply of food and fiber products, the product concept would provide information on the output of commodities from both food and fiber and other establishments. Any commodity output from nonfarming establishments would be included in the accounts as ancillary activities of those establishments. Product output could be accounted for in aggregate or by separate commodity depending on need

The establishment and product concept of agriculture are basically business oriented. They emphasize the performance of the industry and its role in the national economy. Such an orientation would deter the use of business information for drawing welfare implications of people involved in the sector. Thus, proper linkages could be developed between farming as a business, for example, and the welfare of farm people who actually depend very strongly on nonfarm income for family living.

Alternative Accounting System

The alternative concepts of the food and fiber sector are not amenable to the present series. We suggest that a new set of economic accounts be developed for agriculture based on a value added system much like our current

Figure 3--Establishment and product concept of the food and fiber sector

Type of establishment and activity	Type of product	Food and fiber products	Other products
Farming establishments	Farming	Major activity	
	Agricultural inputs		
	Food and fiber processing		
	Food and fiber distribution		
	Other activities		
Agricultural input establishments	Farming		
	Agricultural inputs	Major activity	
	Food and fiber processing		
	Food and fiber distribution		
	Other activities		
Food and fiber processing establishments	Farming		
	Agricultural inputs		
	Food and fiber processing	Major activity	
	Food and fiber distribution		
	Other activities		
Food and fiber distribution establishments	Farming		
	Agricultural inputs		
	Food and fiber processing		
	Food and fiber distribution	Major activity	
	Other activities		
Other establishments	Farming		
	Agricultural inputs		
	Food and fiber processing		
	Food and fiber distribution		
	Other activities		Major activity

Product concept of the sector

Establishment concept of the sector

U.S. national income and product accounts and also the system suggested by FAO and the Inter-American Statistics Institute [8, 12].

The accounting system outlined below will represent that suggested for the entire food and fiber sector. Similar accounts could and will be developed for each subsector within agriculture but the utility of such an exercise in this paper is marginal. We will present two flow accounts, current production and capital flows; and two stock accounts, a balance sheet and a capital stocks inventory. Recent efforts to develop flow-of-funds accounts for the farm sector are important but considered out of scope for this paper [6]. Similar developmental work should be continued in this area of research.

The current production account for the product concept portrayed in table 4 shows total output of the sector on the credit side and intermediate products consumed and gross value added on the debit side. Total output is disaggregated into two basic categories. The first is items sold to other sectors and to final demand. The second category, own account uses, includes intermediate products produced and consumed within the sector (a balancing item would appear on the debit side of the account), personal consumption of unsold output (e.g., farm perquisites), fixed capital formation (e.g., homemade machinery and equipment), and change in inventories.

Intermediate products consumed on the debit side would show both own-account production and that purchased from outside sectors. Gross value added includes capital consumption, indirect business taxes, business transfers, and net value added. In net value added, employee compensation would include wages paid hired farmworkers and employees in processing and distribution activities, rental payments to nonsector owners of capital, interest payments to debt holders, corporate profits and proprietor income or operator surplus.

Table 4--Current production account for the food and fiber system based on the product concept

I. Intermediate products consumed	III. Items sold (by sector of purchaser)
A. Own account production	IV. Own account (unsold) uses
B. Purchased inputs	A. Intermediate products consumed
II. Gross value added	B. Personal consumption
A. Capital consumption	C. Fixed capital formation
B. Indirect business taxes	D. Changes in inventories
C. Business transfers	
D. Net value added	
1. Employee compensation	
2. Rental payments	
3. Interest payments	
4. Corporate profits	
5. Operator's surplus	
Total inputs	Total outputs

The current production account for the establishment concept is portrayed in table 5. The basic difference between the two accounts is the inclusion of ancillary products and services produced on agricultural establishments and the exclusion of food and fiber output of nonagricultural establishments.

The physical capital stocks account, product concept, shown on table 6 is more an inventory than a true account. All the stocks shown in the account will also be addressed in the section on the balance sheet developed below. The primary purpose of the account is to show the size of the agricultural "plant." Given information on total output, one can then address the issue of capacity; a subject of increasing interest over the last year or so.

The fixed capital items on the debit side are familiar to most economists. Inventory items are self-explanatory with the exception of work-in-progress. Here we refer to goods intended for final sales which are only partially produced. For example, cattle on feed are not considered finished goods but work-in-progress. The credit side of the account shows the distribution of physical capital by ownership. Other distributions could well be considered for the credit side of the account.

The capital stocks inventory, establishment concept, shown in table 7 differs only slightly from that of the product concept. Capital stocks used in the production of ancillary products and services on agricultural establishments are included. Those capital items used to produce characteristic agricultural products on nonagricultural establishments are excluded from the account.

The capital flows account, product concept, is used to link capital formation activities portrayed in the production account with changes in capital stocks (table 8). Fixed capital consumption which appears on the

Table 5--Current production account for the food and fiber system based on the establishment concept

I. Intermediate products consumed	III. Items sold
A. For production of major activity products	A. Major activity products
B. For production of ancillary products	B. Ancillary products and services
II. Gross value added	IV. Own account (unsold) uses
A. Capital consumption	A. Major activity products
B. Indirect business taxes	B. Ancillary products and services
C. Business transfer payment	
D. Net value added	
1. Employee compensation	
2. Rental payments	
3. Interest payments	
4. Corporate profits	
5. Operator's surplus	
Total inputs	Total outputs

Table 6--Capital stocks inventory for the food and fiber system based on the product concept

I. Fixed capital	III. Ownership
A. Land and buildings	A. Proprietorships
B. Purchased capital items	B. Partnerships
C. Formed on own account	C. Corporations
II. Inventories	D. Cooperatives and other sectors (such as government)
A. Finished goods	
B. Purchased materials	
C. Work-in-progress	
Total capital stocks	Capital stocks by ownership

Table 7--Capital stocks inventory for the food and fiber system based on the establishment concept

I. Fixed capital	III. Ownership
A. Major product activity	A. Proprietorship
B. Ancillary product activity	B. Partnerships
II. Inventories	C. Corporations
A. Finished goods	D. Cooperatives and other sectors (such as government)
1. Major products	
2. Ancillary products	
B. Purchased inputs	
C. Work-in-progress	
1. Major products	
2. Ancillary products	
Total capital stocks	Capital stocks by ownership

Table 8--Capital flows account for the food and fiber system based on the product concept

I. Fixed capital formation	V. Fixed capital consumption
A. Own-account production	VI. Sales of capital items
B. Capital purchases	VII. Disappearance of inventories
II. Valuation adjustments	
III. Additions to inventories	
A. Finished goods	
B. Purchased materials	
C. Work-in-progress	
IV. Net capital disappearance (Balancing item)	
Gross formation	Gross disappearance

credit side of the capital flows account reflects capital stock used during the current production period as reflected on the debit side of the production account. Any direct sales of capital items and inventories are also recorded on the credit side of the capital flows account to give gross capital disappearance.

Four items constitute fixed capital formation on the debit side. Own-account production, a credit item on the production account, and direct capital purchases from outside sectors are familiar at this point. Valuation adjustment captures the appreciation in the value of physical assets in the accounting period. The item is included here to emphasize its importance in explaining the changes in the market value of capital stocks more than a true capital formation activity. The item of primary concern is land which constitutes the largest single asset in the farming subsector. Additions to inventories are included on the debit side. Net capital disappearance is a balancing item in the account suggesting that the sector is either increasing or reducing the capacity of the plant. Thus, fixed capital formation, inventory additions, and net capital disappearance constitute gross capital formation.

The capital flows account, establishment concept, differs only slightly from the product concept counterpart (table 9). Ancillary activities of food and fiber establishments are included in the account and food and fiber output of nonagricultural establishments are excluded.

A balance sheet, establishment concept, presents both physical and financial capital controlled by agricultural establishments on the debit side (table 10). Claims, both debt and quantity, against these assets are presented on the credit side of the account. Because financial assets are rather difficult to identify on a product concept, a balance sheet, product concept,

Table 9--Capital flows account for the food and fiber sector based on the establishment concept

I. Fixed capital formation	V. Fixed capital consumption
A. For major product activity	A. Major product output
B. For ancillary product activity	B. Ancillary product output
II. Valuation adjustments	VI. Sales of capital items
III. Additions to inventories	A. From major products enterprise
A. Of major product output	B. From ancillary products enterprise
B. Ancillary products	
IV. Net capital disappearance (Balancing item)	VII. Disappearance of inventories
A. Major product enterprise	A. On major product account
B. Ancillary product enterprise	B. On ancillary product account
Gross capital formation	Gross capital disappearance

Table 10--Establishment concept Balance Sheet Food and Fiber System

I. Physical assets	III. Debit claims
A. Fixed capital	IV. Equity claims
B. Inventories	
II. Financial assets	
Total assets	Total claims

would not be unlike the capital stocks account only with claims on the credit side.

The accounts developed above represent the basic business accounts for the food and fiber sector. They reflect the size of the sector, its output, structure and control. But, information is still needed on the income of farm operator families, hired farm laborers, laborers in processing plants and other participants in the sector. To accomplish this, a personal income and outlay account could be developed for each target group (table 11). Income received from food and fiber establishments (e.g., proprietary income, wages and salaries, etc.) could be transferred to the appropriate personal income and outlay account where the income from all other sources would be added to obtain total income of the group. Income could then be allocated between personal taxes, savings, and personal consumption.

Concluding Comments

The alternative concepts and accounting system proposed above has several advantages. They provide an indication of the total output of the food and fiber sector both that which reaches final demand and that which is used for intermediate product purposes. The system is consistent across all subsectors within the food and fiber sector--all rely on the same basic unit of measurement. It can better reflect the economic interaction of the sector with external sectors. A value added system gives a more realistic picture of the viability of the agricultural plant from a business perspective. Finally, the system also provides a measure of the personal income of sector participants.

Income generated by the agricultural sector in the United States is currently under-identified. This is due basically to the concept that is portrayed for the industry. Many others beside the farm operator receive income

Table 11--Personal income and outlay account for each target group

I. Personal taxes	IV. Operating surplus from food and fiber establishments (proprietary income)
II. Savings	V. Operating surplus from other establishments (proprietary income)
III. Personal consumption	VI. Wages and salaries (employee compensation)
	VII. Rental income
	VIII. Interest and dividends
	IX. Social security benefits
	X. Other income transfers
Total outlay	Total income

from the economic activity of farming. The total labor and capital commitment to agriculture is much larger than portrayed by the national family farm in our present accounting framework.

Some may view this paper as an obituary for the family farm. The family farm is still a strong viable concept if it is equated with a proprietary business; a family controlled proprietary business. The establishment view of the agricultural industry can accommodate the concept of a family controlled proprietory business. But the family farm of 1974 is much less of a social institution than the family farm of 1940. Most businessmen will concede that mixing nostalgia with business practices can have dire consequences. The time has come to separate the view of farming as a business activity from that of farming as a way of life.

Although the proposed accounting system described above is rather straightforward, implementing the system is quite another matter. Although many of the elements could be estimated with available data, considerable information is needed before many of the elements can be completed. Even our current data are not conceptually consistent in themselves and with the proposed new concepts. For example, current gross receipts reported in the Farm Income Situation are estimated from product data, thus, more consistent with the product concept. There is less certainty on production expenses where the estimates are suspected of being closer to an establishment basis. Thus, realized net farm income is not completely an establishment income estimate although it is portrayed as such. The marketing bill on the other hand, is estimated from benchmark establishment data. Even many of the components of farm production expenses and the marketing bill are not conceptually consistent with one another. For example, depreciation is estimated on a replacement

cost basis in farm production expenses but is based on book value in the marketing bill. These differences must be rectified before the above system can be instigated.

The national family farm and the marketing bill are useful concepts and provide the basis for series which answer many questions asked of the agricultural establishment. Efforts to up-date and improve these series should continue as long as demand persists. However, they do not give an accurate picture of the role of the food and fiber sector in our national economy nor its size, structure and performance. These are the questions increasingly being asked today. The above ideas represent but a rough preliminary outline for building a data system designed to answer such questions. This challenge we lay before the agricultural economics profession.

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Footnotes

1/ The following definitions will be very general rather than specific. At some future time, someone must be concerned with what is specifically included in the food and fiber sector and what is not.

2/ The level of net farm income has long been of major policy interest and extensive effort was exerted to measure that variable. Interest was particularly strong following World War I when the farm economy went into severe recession. Although the Farm Income Situation was first published in 1940, estimates of the incomes of farmers date back to at least 1913. The farm income series today still reflects this basic purpose.

3/ The balance sheet was a product of a study launched in 1944 to determine the impact of the war on the financial structure of the farming sector. Considerable effort has been made to improve the series but, like the farm income series, the balance sheet still maintains its same conceptual base. Assets and claim information is available for other industries from the Bureau of the Census, Federal Trade Commission and the Internal Revenue Service. These data are based primarily on reports and questionnaires completed for the respective agencies.

4/ A 50-State Balance Sheet of the Farming Sector is currently being developed and should be released within the year.

5/ The current series was first published in 1945, however, USDA research on the topic dates back to 1929. ERS is currently expanding the scope, coverage and detail of the marketing bill concept.

6/ The establishment concept is new only to the farming sector. The establishment has long been the basic unit of account used in the BEA's National Income and Product Accounts. For a detailed description of classification see [5].

7/ An establishment is defined as an economic unit, generally at a single physical location, where business is conducted or where services or industrial operations are performed. Where distinct and separate economic activities are performed at a single physical location, each activity should be treated as a separate establishment wherever: (1) no one industry description in the classification includes such combined activities, (2) the employment in each such economic activity is significant, and (3) reports can be prepared on the number of employees, their wages and salaries, sales or receipts and other establishment-type data.