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CAPITAL FINANCE AND CAPITAL FLOWS
ACCOUNTS: DISCUSSION

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AN OVERVIEW

In these comments, I will concentrate on the capital flows and finance aspects of the Penson and Simunek articles and related previous publications (6, 7, 9, 10).^{1/} It seems useful at the outset to establish in simple terms the principal difference between the capital finance accounts that have been published by Simunek and Penson, respectively. One approach is to examine the way in which each improves on the type of account first set up by Tostlebe, updated by D. Gale Johnson, Kuznets, and Goldsmith in their respective studies of capital formation, and represented in current work by the farm business sector of the Federal Reserve Board's flow-of-funds accounts (1, 2, 3, 4, 11,).

These accounts all share two distinguishing characteristics: (1) capital formation is the only use of funds shown but (2) the full increase in farm debt is listed as a source of funds. Johnson noted in 1963 that this mixture was analytically deficient. Technically, two general remedies were available. One could attempt to estimate and list only the borrowing which finances capital formation, thus creating a true "capital finance" account. Or one could broaden the uses of funds to include the other capital flows being financed by the total increase in debt.

Initially, analysts went in the direction of broadening the account. Because much of the increase in debt not associated with capital formation was clearly associated with purchases of real estate, analysts first worked on the estimation of capital flows involved in the purchase of real estate from persons leaving the farming sector. They created a "capital flows" account in which the uses of funds, while restricted to capital items, covered not only capital formation but also transactions in which existing farm assets were purchased from discontinuing proprietors (4, 5).

USDA analysts broadened the account further by adding income flows, both farm and nonfarm, to the sources of funds, and noncapital items to the uses of funds, thus creating a "sources and uses of funds" account. This was the first account to be published by USDA, and it has appeared annually since 1973 in the Agricultural Finance Outlook. The residual item in this account has consisted of consumption and nonfarm investment, commingled.

The Penson Capital Finance Account

Penson has described a major advance within the framework of the broad type of account (6, 7). He presents an empirical measure of consumption, which allows total saving to be calculated as the residual item in an income and outlay account. In the capital finance account which is a subaccount of his overall broad fund flows account, the residual item becomes nonfarm capital formation (equity portion only, since borrowing for such purposes remains unknown). This is a major analytical gain (provided that the estimated data are not too speculative) in that answers are

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^{1/} Underscored numbers in parentheses refer to items in References at the end of this discussion.

provided for such questions as: in recent good farm income years, how much did farmers put away in the form of nonfarm investments; and, in years of poor farm income, do nonfarm investments get drawn down to finance farm investments and consumption? Tentative answers based on Penson's data are that farmers began placing significant sums into nonfarm investments in 1969, and that nonfarm capital formation was in fact negative in some years of the fifties.

The Simunek Farm Capital Finance Account

As indicated earlier, there is a second way in which the deficiency in the early accounts (or the current Federal Reserve account) can be remedied; namely, by continuing to limit uses of funds to capital formation while deleting the debt incurred for purposes other than capital formation. Simunek has accomplished the latter operation through use of survey and other data on the purposes of farm loans. The result is a capital finance account limited to farm capital formation (9, 10). It can be regarded as a subaccount of a broader total capital finance account such as that presented by Penson.

Penson recognizes this fact, that the two accounts can clearly coexist. He takes issue with some of Simunek's claims, however. Simunek, for instance, claims that the internal financing residually estimated in his account represents the full amount of saving by farmers, which would permit consumption to be estimated by subtracting that saving from income. Penson appears to be on sounder ground in counterclaiming that only the broader account can hope to reveal total saving. As already noted, he obtains that figure residually by directly estimating consumption and subtracting that estimate from income.

Simunek's problem is explicitly revealed in table 10 in his article. He attempts, in the first column, to inflate consumption of "purchased goods" to a level that will keep the "statistical discrepancy" from being the largest outlay in the table--but this maneuver is not legitimate. Farmers' consumption of purchased goods as found in the 1973 expenditures survey cannot be both \$36.5 billion (column 1) and \$19.7 billion (column 2). If Penson has presented the expenditures survey data correctly, actual consumption was around the latter figure, leaving total net saving by farmers in 1973 considerably higher than the \$4.6 billion derived by Simunek in his farm capital finance account. That \$4.6 billion represents only the internal financing of farm capital formation; in 1973, an even larger portion of total savings apparently financed nonfarm capital formation. And, as Penson points out, in years of poor farm income, the situation might be reversed. Total savings in such years might be smaller than the internal financing indicated by the farm capital finance account, with the shortfall made up from disinvestment (negative net capital formation) in nonfarm capital.

To summarize this overview, the Simunek and Penson capital finance accounts are each a legitimate creation, with the Simunek farm capital finance account conceptually a subaccount of the Penson total capital finance account. Each account can yield certain analytical insights, but those potentially available from the broader account will tend to be wider in scope and interest.

SPECIFIC COMMENTS

I turn next to a discussion of specific procedures and data, which will tend to indicate that the development of these accounts is far from finished. Many conceptual as well as empirical problems remain.

Data Needs and Estimates

It should not be overlooked that Simunek and Penson urge the construction of series measuring own-account capital formation in several areas--livestock, orchards, and buildings--and that Penson recommends series measuring changes in stocks of production inputs such as fertilizer.

Penson suggests that, at least for buildings, balance sheet changes may be used to estimate total net capital formation (expenditures plus own-account formation). He apparently overlooks that intersector transfers will confound this shortcut approach to estimating own-account capital formation.

Penson also again argues for a fundamental change in the computation of depreciation allowances for farm machinery, the detailed discussion of which appeared in the May 1977 issue of the American Journal of Agricultural Economics (AJAE) (6, 8). The principal rebuttal to the engineering evidence which supports Penson's suggestion is the evidence from the marketplace for used machinery. Prices of used machinery tend to fall geometrically with age. This puts Penson in the position of arguing not against an arbitrary formula, but rather against values arrived at in free markets. It will be interesting to see how he handles this consideration, and whether he also believes that used machinery should be valued, for balance sheet purposes, at prices significantly different from the apparent market prices.

The Simunek Farm Capital Finance Account

Net Real Estate Transfers

Simunek makes a contribution in introducing net real estate transfers out of the farming sector as a potential source of funds. However, his procedure in estimating such transfers appears to need some conceptual and perhaps also some empirical improvement. Penson comments briefly on both aspects of this item, but his remarks are somewhat off-target.

Simunek shows as a source of funds the estimated value of the net transfers of farm real estate to the nonfarm sector regardless of the nature of the transfer. This entry is appropriate in his "capital flows account" (table 6 in his article), which should be regarded as simply a reconciliatory account showing that the stock of assets and debts is affected both by the net capital formation recorded in the capital finance account (table 5, column 3 minus column 4, rather than column 7) and by intersector intransfers (column 5).

In many cases, an intersector transfer involves no transactions whatsoever; that is, a person simply ceases (or resumes) farming operations, which automatically moves his assets out of (or into) the farming sector. The effect is identical when a retiring farmer sells his real estate to the nonfarm sector and simultaneously also retires himself (and his cash and other assets and debts) into the nonfarm sector. In neither case is any entry appropriate in the capital finance account.

Of the total sales of assets to nonfarm sectors, therefore, only the net sales by continuing proprietors represent a source of funds to be recorded in the capital finance account. Simunek's estimates for this series are thus inappropriate. He should be credited, however, with noting a source of funds that Penson appears to have overlooked.

Penson's several comments on the Simunek net transfer series also indicate that it is inappropriate as presented, but the comments fall just short of correctly specifying the concept.

It may also be useful to point out that this entry in the Simunek account should not be confused with or regarded as an alternative to the series "purchases of real estate from discontinuing proprietors" which appears as a use of funds in broader accounts not restricted to capital formation. Such purchases do not constitute capital formation; thus, they do not appear in the Simunek account.

In estimating the net transfer series, Simunek assumes that land entering the farming sector has the same value per acre as land leaving it. Penson reasons that the assumption is probably harmless, given that the current flow of land is very much in one direction. But, there may be two problems with the assumption and the reasoning.

One, the annual net change in land in farms was positive as recently as 1953. Thus, any attempt to extend the account to years before 1954 would require a different procedure. Second and more important, the net change has not been heavily one-sided since 1972. From 1954 through 1971, the net decrease in land in farms each year exceeded 4 million acres, but from 1973 to 1975 the annual decrease moved to much lower figures (column 2 of table 6, in Semunek's article). Survey data reported in Farm Real Estate Market Development do not show a correspondingly large decline in the purchases of farmland for nonfarm uses. Very likely, therefore, significant amounts of marginal land re-entered the farming sector in these years, perhaps largely through simply a resumption of farming operations. These considerations indicate potential problems in estimating the modified series suggested in these comments.

Depreciation

Simunek's use of book value depreciation is technically incorrect in that the label "saving" applied to the residual item in the account becomes misleading, as part of it then consists of funds that are not net income but rather a return of capital used up in the course of production. Perhaps one need not be unduly concerned about this procedure because both "depreciation" and "saving" comes from the same commingled source of funds--cash flow (gross income less operating expenses). Still, clarity of the account would be enhanced by employing replacement-value depreciation.

In this connection, it is good to see that Simunek has not repeated his previous incorrect claims that replacement-value depreciation allowances "do not in any way generate internal funds" (10, p. 48), and that they "in no way...accurately record internal funds available for capital financing." (9, p. 538). However, he claims that cost-basis depreciation allowances do represent such funds. In reality, all cash flow is initially available for capital spending. The portion farmers actually spend on capital items bears no relationship to the portion that accountants label "depreciation allowances" of either type.

The Penson Capital Finance Account

Penson is to be commended for providing, in his February 1977 AJAE article, detailed information on the constructs and sources of the series in his accounts (7). These data proved very useful in studying the substantially identical accounts in his current article.

Estimating Net Intersector Transfer of Assets

In constructing his series, Penson frequently employs the annual percentage reduction in the number of farms to estimate net intersector transfer of assets. For instance, if ΔC represents "net additions to currency by continuing farm operator families," in years of declining farm numbers it is estimated as:

$$\Delta C = C_t - C_{t-1} - \frac{C_{t-1}}{N_{t-1}} (N_t - N_{t-1})$$

where C is the stock of currency and N is the number of farms on January 1. The recognition that assets such as money and household furnishings are withdrawn by discontinuing proprietors is an improvement over previous accounts in which such refinements were ignored.

However, Penson's use of the change in farm numbers to estimate this adjustment is conceptually inadequate, as there are many circumstances in which it would not accurately reflect the relative extent of intersector transfers. For instance, as judged from the rate of real estate transfers, withdrawals of assets by discontinuing proprietors may have been relatively large in recent years (especially in 1973). The percentage change in farm numbers, however, has been very small, and thus a poor measure of those withdrawals. Conversely, in earlier years, large changes in farm numbers mainly reflected the withdrawal of small, marginal farmers who had relatively few assets to take with them.

Thus series such as those in columns 2 and 3 of table 5 in Penson's article are probably overestimated for the fifties and sixties, when a large part of the values shown arises from the adjustment based on the change in farm numbers. Conversely, the series may be greatly understated in recent years, when most of the value shown is the actual change in the balance sheet.

If the basis for the adjustment were the annual farm transfer rate rather than the change in farm numbers, rough calculations indicate that recent values might be increased around 50 percent. But even this procedure is inaccurate if, in fact, the proportion of older, wealthier farmers among discontinuing proprietors has increased in recent years. Direct measures or indications of actual withdrawals are needed. Meanwhile, if in recent years farm capital formation has been understated, the nonfarm capital formation shown in Penson's account is correspondingly overstated.

Financing From Nonfarm Equity Capital

Readers may misinterpret Penson's statement to the effect that, in 1955, for example, \$2.7 billion in nonfarm equity capital was needed to finance farm capital accumulation, (table 5, Penson article). Some may envision the activities of nonfarm corporations, limited partnerships, and the like. But what is meant, for the most part, is that nonfarm assets of farm operators were drawn down by \$2.7 billion to finance farmers' spending, whether it be farm investment or consumption.

Such behavior seems reasonable in years of relatively poor farm income such as the midfifties and 1959-60. By the same token, I would not expect large amounts of nonfarm capital formation in 1969-71. However, the account indicates just that. This surprise led me to some interesting explorations.

Upward Trend in the Savings Rate--Fact or Fiction?

Suspicious concerning the validity of the 1969-71 data led me to calculate the implied gross savings rate over the time period covered by the account (table 3, Penson article, last column divided by the first column). The rate displays a

remarkable upward trend from 16 percent in 1955 to 40 percent in 1971. Much of this rise can, in a sense, be traced to the rapid growth in off-farm income. It is therefore important that the off-farm income series be soundly based.

Consumption Understated?

In further examination of the data for 1969-71, it becomes evident that the increases shown for consumption are suspiciously small. In fact, the gains in 1969 and 1970 did not keep up with the rate of consumer price inflation for farm families--behavior which does not square particularly well with the jump shown in the savings rate in 1969. Why would saving increase sharply while living levels were being reduced?

A CONCLUDING SUGGESTION

I have thought it important to discuss a sampling of specific series, problems, and other considerations from both accounts to indicate that their further development and maintenance is a complex task replete with potential false starts and blind alleys. Such work may benefit from a task force approach which can effectively expand the number of competent individuals providing constructive ideas and critical review on a continuing basis, even as the bulk of the work may continue to be performed by a smaller number of analysts. Recall that such a task force--Norman Wall, Alvin Tostlebe, Don Horton, Roy Burroughs, Harald Larsen, and Larry Jones--in the midforties created one of the alltime greats, the Balance Sheet of Agriculture (12). That project was motivated by the need to examine the impact of an ongoing boom on the financial structure of agriculture. Analogous motivating factors now again exist, and a task force approach centered around further development and analytical exploration of the new capital accounts might be rewarding.

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