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Jeffrey S. Royer

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Equity allocated to members plays a crucial role in financing agricultural cooperatives. Although retained earnings not allocated to members have become an increasingly important source of equity in recent years, U.S. Department of Agriculture (USDA) data show that allocated equity still accounted for 55.5 percent of the $47.5 billion in total equity held in U.S. cooperatives in 2020.[1] Allocated member equity differs from unallocated equity from retained earnings in that it is owned by individual members and there is an expectation that it will be redeemed in cash when it is eventually replaced by newer allocations.

A recent study has examined the comparative performance of the revolving fund, percentage-of-all-equities, and base capital plans cooperatives use to systematically accumulate and retire equity as well as special plans for redeeming equity held by retired members and estates.[2] The plans, which are described in detail in the study, were compared using models of a typical cooperative and member based on several key economic variables and data from annual USDA reports of cooperative business statistics and the *Census of Agriculture*. The performance of the plans was assessed according to several criteria, including member cash flow, proportionality, and opportunity costs. Proportionality concerns the extent to which individual members provide equity in proportion to their use of the cooperative.

By almost all indicators, the base capital plan performs better than the other two systematic plans. The best explanation for the low use of the plan is the burden it places on members early in their farming careers when they may need to make additional equity investments in the form of direct cash investments, retained patronage refunds, or per-unit capital retains to meet their equity requirements under the plan. The study examined three modifications of the plan to determine whether they could improve the cash flow of young members without seriously compromising the plan's performance.

Relaxing the equity requirements for underinvested members provides them more time to increase their equity investments without subjecting them to negative after-tax cash flows while resulting in only a modest diminution in performance relative to the other systematic plans. Extending the base period used to calculate a member's equity requirement has similar effects. A variable cash patronage refund program can be used to accelerate the investments of underinvested members by increasing the noncash portions of their patronage refund allocations. It results in the greatest proportionality of the three modifications of the base capital plan, but it does not entirely eliminate the problem of low cash flow for younger members.

Although special plans for redeeming equity held by retired members and estates provide means for improving the performance of systematic plans, two factors may limit their use. In some cases, the loss in equity and the concomitant costs attributable to a special plan may discourage its adoption. This may contribute to explaining the low incidence of special plans used in conjunction with the percentage-of-all-equities plan, for which the loss of equity and the associated costs are large relative to the other systematic plans. In other cases, special plans may do little to improve the performance of a systematic plan that already performs well. This applies to the base capital plan, which performs better than the other systematic plans even without the help of a special plan. By their nature, special plans address problems associated with the equity held by members after they have retired from farming. Special plans do nothing to eliminate the problems of low cash flow associated with the base capital plan, which typically occur early in a member's farming career. In general, special plans may offer the greatest advantages to cooperatives that operate revolving fund plans. Cooperatives with revolving fund plans may experience a balance of potential benefits and costs that encourages the adoption of a special plan.

The percentage-of-all-equities plan performed poorly relative to the other plans. Early redemption provides members with higher cash flow early in their farming careers, which may improve the ability of a cooperative to attract new members. Otherwise, there is little to recommend the plan for use in local or centralized cooperatives. The plan probably works best for federalized regional cooperatives that maintain relatively stable long-term relationships with their cooperative members.

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[1] USDA, *Agricultural Cooperative Statistics 2020,* Rural Development Service Report 84, Washington, D.C. (unpublished).

[2] Jeffrey S. Royer, "Comparative Performance of Cooperative Equity Retirement Plans," *Journal of Cooperatives* 36 (2022): 1–37. Download available at *https://digitalcommons.unl.edu/ageconfacpub/224/*.

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Jeffrey S. Royer
Professor Emeritus
Department of Agricultural Economics
University of Nebraska–Lincoln
jroyer@unl.edu