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GETTING STARTED IN FARMING 1910, 1930, 1950 AND 1978: IS IT MORE DIFFICULT?

James M. Lowenberg-DeBoer and B. F. Stanton

ABSTRACT

This study examined the null hypothesis that getting started in farming in the 1970's was not more difficult than it was in earlier periods in the twentieth century. Comparative budgets were constructed using farm survey and farm account data for three different regions at four different time periods. In terms of years of farm wages required to earn beginning equity and cash flow to meet debt payments and family living costs, the null hypothesis was accepted. In general 1978-80 was more like 1910-12 than the more difficult times of 1930-32 and 1950-52.

INTRODUCTION

In recent years the public perception has grown that getting started in farming has become increasingly difficult without substantial inherited wealth or family backing. A comparative study of conditions faced by young farmers in Livingston and Jefferson County, New York, and Lyon County, Minnesota in 1910-12, 1930-32, 1950-52 and 1978-80, found that perception open to question. In 1978 the real equity required to start farming in these locations was greater than in earlier periods and this increase was most noticeable for tenants. However, when measured in terms of years of farm wages required to earn the original downpayment, the amount of equity required for beginning owner operators declined between 1910 and 1978 for all three locations. In addition, the debt repayment positions estimated for young farmer budgets for the period 1978-1980 were comparable to that of the 1910- 1912 period, which has been sometimes characterized as the "Golden Age of American Agriculture."

THE POLICY ISSUES

During the 1970's public concern about entry into agriculture has grown steadily. Increased farm capital requirements, especially for land, have sparked public discussions and legislation. A repeated assertion in the debate is that it is harder to start farming now than it was in the past (Sherman and Webb, p. 1, U.S. House of Representatives, p. 5, p. 19). This assertion is central to the reasoning in favor of the credit subsidy and tax incentive programs to aid beginning farmers that have been legislated in Minnesota, North Dakota, Iowa, Texas, Louisiana and Georgia.

The Minnesota Farm Security Program (Minnesota Statutes Annotated, subsections 41.51 to 41.62) offers loan guarantees on the purchase of farm real estate, partial deferment of interest payments and exemption of interest on seller sponsored loans to qualified farmers from state income taxes. The Louisiana program (Louisiana Revised Statutes, Title 3, Chap. 3A, Sec. 251-259) is similar to the Minnesota program, but has less restrictive eligibility standards.

North Dakota has a many faceted group of programs for beginning farmers. The programs include: a joint FmHA and Bank of North Dakota lending agreement to provide 100 percent financing; exemption from state taxes on income obtained from sale or rental of farm real estate to qualified farmers (North Dakota Century Code, 57-38-67 to 57-38-70); a Minnesota style guarantee program for seller sponsored loans (North Dakota Century Code, 54-17-29 to 54-17-31) and the North Dakota Agricultural Development Act (North Dakota Century Code, 4-31-01 to 4-36-28) which empowers the state to use tax exempt bonds for farm credit. The Iowa Family Farm Development Authority (Code of Iowa, Chap. 175) uses private offerings of tax exempt bonds to finance real estate and nonreal estate purchase by beginning farmers. The Texas and Georgia programs are dormant because of difficulties in meeting federal regulations for tax exempt bonds. All of these state beginning farmer programs have been described in detail by Lowenberg-DeBoer and Boehlje (1983).

Concern for entry into agriculture is not limited to the U.S. Foreign programs with provisions that may be relevant to U.S. conditions are the Saskatchewan Land Bank (Statutes of Saskatchewan, 1972, Chap. 60) which allows purchase of farm real estate for lease and sale to young farmers and the New Zealand Farm Ownership Savings Act (Statutes of New Zealand, 1974, No. 45) which offers grants to young farmers purchasing real estate. The New Zealand grants are available only to those who have participated in a farm purchase savings program (Hill, p. 43-44).

All the signs, however, do not point toward increasing difficulty of entry. Lower downpayment requirements and longer repayment periods have tended to offset increased capital requirements (LaDue, p. 112). Tight margins and scarce capital are not new phenomena in American agriculture. At least since the public land available for homesteading ran out around 1900, starting farming has always been difficult. The real question for study is whether or not it has become even more difficult to start farming in recent years.

Many studies have considered the problems of beginning farmers, but few have considered changes in those problems over time. The scattered locations and periods of studies that focus

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James M. Lowenberg-DeBoer is a graduate assistant in the Ph.D. program at Iowa State University, Ames, Iowa, and B. F. Stanton is a professor of agricultural economics in the Department of Agricultural Economics, Cornell University, Ithaca, New York.

This paper is based on the research presented by Lowenberg-DeBoer in his M.S. thesis at Cornell University, "Getting Started in Farming: 1910, 1930, 1950 and 1978," May, 1982. Details of methodology and the procedures used in developing budgets for this study are documented in the thesis.

on the difficulties at a specific point in time preclude systematic comparisons between studies. In a study that did look at changes over time, LaDue found that in spite of easier credit terms the length of time necessary to save the equity to start an average U.S. farm operation increased substantially between 1945 and 1977 (p. 120). He also found that repayment was difficult throughout the 1945-1977 period, but repayment capacity had not deteriorated (p. 122).

The highly aggregated nature of LaDue's data may have influenced his results. He used USDA nationwide average capital figures to estimate beginning farmer equity requirements, but beginning farmers may choose enterprises with lower than average capital requirements. The repayment capacity was calculated from nationwide average cash flows, but if the enterprise mix of the beginning farmer is not average, the cash flows may also differ. In addition, the tenure choices of beginning farmers affect their capital requirements and cash flows, but these tenure decisions are not adequately reflected in the aggregated data. Nonreal estate capital and tenant capital are not synonymous. Under some tenancy arrangements landlords provide substantial amounts of capital in addition to land.

OBJECTIVE

The major goal of this study was to test objectively, in ways that are sensitive to tenure and enterprise choices, the hypothesis that starting farming in the late 1970's was not more difficult than it was during earlier periods in this century. The study concentrates on the financial problem of starting farming because that has been the primary issue in the legislative activity and surrounding policy debate. The focus of this study is on those who start farming full-time without major help from family or other outside resources, hence part-time farming, father-son partnerships and family corporations are not considered.

METHODOLOGY

The study periods 1910-12, 1930-32, 1950-52 and 1978-80, were chosen so the initial year coincided with the Census of Agriculture. Other factors in the choice of periods were the availability of data and the desire to avoid wartime and other times of rapid economic change which might complicate analysis. In spite of the comparability problems, the study was extended to the years prior to World War II because of important changes that occurred then and continue to affect beginning farmers. These changes are the formation of the Federal Land Bank in 1916 and the massive government intervention in agriculture that began in 1933.

The locations for the study were chosen on the basis of the availability of data, the need for areas that were in agricultural production throughout the 1910-1980 period and the desire to avoid urban areas that would affect prices of agricultural land. New York and Minnesota were the sites of some of the earliest farm survey and cost account work in the United States. Livingston County is in western New York south of Rochester on some of the best soils in the state. Typical farm enterprises in Livingston County are dairying, cash grain and vegetables. Jefferson County is on the east shore of Lake Ontario. Dairying has been the major farm enterprise in Jefferson County throughout the 1910 to 1980 period. Lyon County is in southwest Minnesota about 200 miles west of Minneapolis. Cash grain, hogs and beef cattle are common enterprises on Lyon County farms.

The methodology of this study is based on the concept of comparative statics. Information for individual farmers under the age of 35 were sought out in the records of farm labor income surveys conducted by Cornell University researchers, farm business summary records compiled at Cornell and the records of the Southwest Minnesota Farm Business Association. Early cost account records compiled by University of Minnesota researchers were also used although they did not contain the ages of farmers involved. For each time period and location average capital and cash flow figures were calculated and these averages were used to establish representative young farmer budgets for three year periods. The budgets reflect the amount of capital a young farmer would have needed to set up a farm operation like that of his peers as well as the returns that could have been expected under average conditions from such a farm. Livestock numbers and crop acres were based on the young farmer records. USDA average prices and yields were used. It was assumed that the crop and livestock production mix remain constant over the three year period. The changes in the difficulty of starting farming were measured primarily by (1) the change in the number of years of farm wages required to earn beginning equity and (2) by the ratio of cash flow available for debt service.

COMPARABILITY OF DATA SOURCES

The major methodological problem is the development of comparable resource combinations and cash flows. Any comparative analysis depends on holding some variables constant, but in making comparisons across time, technology, social norms and economic conditions change. Complicating the comparability problems are the differences between the three types of records used. Because of the way in which the data were collected the samples in each data set represent differing farm business sizes and management levels. The labor income surveys were conducted almost like a census and hence yield data which approximate the census averages. The cost account records reflect a self-selected group of farmers with an over-representation of larger than average farm businesses and above average management levels. The selectivity of the farm business summaries is greater than that of the surveys, but less than that of the cost accounts.

The method used to improve the comparability between data sources was to multiply the capital and cash flow means by an estimate of the degree to which the data set differed from the census average. The estimate of the degree of difference for each tenure category was the ratio of the tenure type's census average farm acreage for the county to the mean acreage of young farmers with that tenure category in the data set. This ratio relies on the assumptions that, on average, better managed farms will be larger and that farm acreage is an acceptable measure of farm business size. In spite of the changes in farm definition, census acreage was chosen as the most consistent measure of the "average farm" available over the 1910-1980 time period.

Comparable farm budgets also demand consistency in tenure categories. The categories used for the study were full owner operation and the tenancy arrangement, common to the area, that required the lowest operator equity. The owner-operator category was chosen because of its prominence in current public policy debate. The tenant category was chosen because lack of initial equity is often cited as a major problem for beginning farmers, and a category requiring the lowest equity would be most relevant to further policy discussion. In the 1910, 1930 and 1950 periods livestock share tenancy was used. In 1978 crop share was used for Lyon County and cash rent for the New York locations.

An additional comparability problem involved the cash flow available for debt service. It was defined as gross cash income minus funds required for family living. This study used the average annual wage of a farm worker before taxes to estimate family living expenditures. This seemed reasonable because average farm wages generally approximate the lowest standard of living acceptable in an area. In addition, the degree to which farm workers depend on farm produced food and fuel probably has changed in much the same way as it did for young farm families. The composite wage estimates from the USDA publication Farm Labor were used for both the beginning equity measure and family living costs.

One of the primary changes affecting beginning farmers between 1910 and 1980 is the liberalization of credit terms. This study uses the most generous institutional credit terms available because these terms can be identified in legislation and other sources, while average terms are not always well documented. In addition, young farmers with low equity are likely to have tried for the most liberal terms available in any period.

RESULTS

Young farmer capital and cash flow estimates calculated from the adjusted figures under the most liberal credit terms and average yields and prices indicate little to contradict the hypothesis that for owner-operators starting farming was no more difficult in 1978 than it was in 1950, 1930, or 1910. For tenants there is evidence that the accumulation of capital has become more difficult. For both owners and tenants the real value of initial capital has increased, but for owners the number of years of farm wages required to earn that equity has decreased, while for tenants the number of years has increased (Tables 1 and 2). Factors influencing the change in equity required for tenants are (1) an increase in the nonreal estate capital used on farms, (2) a trend away from livestock share agreements and other rental arrangements in which the landlord provides capital in addition to land, and (3) the fact that real estate credit terms have been liberalized more than nonreal estate terms.

The repayment ratios for both owners and tenants indicated that debt service under the most generous credit terms was generally difficult in all four periods; however, the repayment positions in 1978-80 were at least as good as in the other periods (Tables 3, 4 and 5). LaDue interprets the repayment ratios as measures of how much more efficient than average a young farmer had to be to service his debt. The ratios may also be interpreted as a measure of the amount of outside help from family, government or other sources that a young farmer needed. If FmHA 100 percent loan terms are used in the budgets, the repayment positions generated were usually worse than those in the budgets using non-FmHA institutional credit terms. The lower equity requirement of the FmHA terms created the need for larger loan repayments. If Minnesota Farm Security Program terms are used, improved loan repayment positions are generated because of the 4 percent interest subsidy. For both the owner and the tenant budgets the change in net worth during the three year period was positive for 1978-80 and 1910-12 and generally negative for 1930-32 and 1950-52.

CONCLUSIONS

Any conclusions drawn from these results must be tempered by recognizing that the methodology cannot ensure perfect comparability between the time periods and that the analysis is sensitive to the times and locations chosen. The results do raise questions, however, about the direction of recent public policy efforts, even if they do not give definitive answers to those questions. If starting farming is not more difficult now than before, can more aid to beginning farmers be justified? One can argue that beginning farmers have always needed help and that they need it now as much as ever. Or it can be argued that the smaller numbers of family farmers make it more important to aid each one. If the problem of accumulating equity has affected the situation of tenants more than that of other, the emphasis of beginning farmer programs on land ownership credit in individual states may need to be re-examined. If the capacity of young farmers to service loans at existing credit limits is in doubt, the logic of further liberalization of terms is questionable. An alternative may be to encourage the development of non-debt capital sources, such as (1) subsidizing the savings of prospective farmers as in the New Zealand Farm Ownership Savings Act, (2) expanding the availability of rental land to beginning farmers as the North Dakota Beginning Farmers Assistance Act tries to do, or (3) encouraging off farm partners to provide the nonreal estate capital to beginning farmers that livestock share arrangements once offered.

Table 1. BEGINNING FARM EQUITY[1] IN YOUNG FARMER BUDGETS

Selected locations, 1910, 1930, 1950 and 1978

Location	1910	1930	1950	1978
		Adjusted to 1980 dollars[2]		
Lyon County, Minnesota				
Owner	$53,000	$68,000	$60,000	$85,000
Tenant	6,000	14,000	30,000	61,000
Livingston County, New York				
Owner	32,000	33,000	31,000	61,000
Tenant	9,000	8,000	14,000	43,000
Jefferson County, New York				
Owner	24,000	30,000	34,000	51,000
Tenant	5,000	6,000	15,000	27,000

[1] The equity required under most liberal credit conditions.

[2] Adjusted by the all commodity Producer Price Index.

Table 2. YEARS OF FARM WAGES[1] REQUIRED TO EARN BEGINNING EQUITY

Under Maximum Credit Terms, Selected Locations, 1910, 1930, 1950 and 1978

Location	1910	1930	1950	1978
Lyon County, Minnesota				
Owner	21.5	21.1	8.4	10.8
Tenant	2.5	4.3	4.2	7.7
Livingston County, New York				
Owner	14.0	8.3	4.6	8.1
Tenant	4.0	2.0	2.1	5.7
Jefferson County, New York				
Owner	10.6	7.5	4.9	6.9
Tenant	2.0	1.4	2.2	3.7

[1] The average before tax earnings of a farm worker. For 1950 and 1978, the wage is the composite wage rate per hour for the state multiplied by the hours in a work week and by 52. For 1910 and 1930, the wage is the average monthly rate by region multiplied by 12.

Table 3: TENANT'S RATIO OF DEBT PAYMENT TO FUNDS AVAILABLE FOR DEBT SERVICE*
(Young Tenant Budgets Under Varying Credit Terms)

	Most liberal terms of institutional farm lenders excluding the Farmers Home Administration			Most liberal Farmers Home Administration Credit Terms		
Year	Lyon County	Livingston County	Jefferson County	Lyon County	Livingston County	Jefferson County
1910	1.2	1.7	0.6			
1911	1.0	1.2	0.4			
1912	1.2	1.5	0.4			
1930	1.1	no funds	0.7			
1931	no funds	no funds	1.1			
1932	no funds	no funds	no funds			
1950	10.1	no funds	no funds	12.4	no funds	no funds
1951	2.9	no funds	10.0	3.2	no funds	10.8
1952	22.5	no funds	no funds	15.4	no funds	no funds
1978	0.5	1.0	1.3	0.6	1.3	1.6
1979	0.8	0.7	1.0	1.0	0.9	1.3
1980	1.4	0.8	1.2	1.8	1.1	1.7

* The funds available for debt service are defined as cash income minus family living expenditures. Family living costs are approximated by the annual average wage of farm workers in the state.

Table 4: OWNER'S RATIO OF DEBT PAYMENT TO FUNDS AVAILABLE FOR DEBT SERVICE*
(Young Owner Budgets Under Varying Credit Conditions)

	Most liberal terms of institutional farm lenders excluding the Farmers Home Administration			Most Liberal Farmers Home Administration credit terms		
Year	Lyon County	Livingston County	Jefferson County	Lyon County	Livingston County	Jefferson County
1910	3.5	1.9	1.9			
1911	3.3	1.8	1.6			
1912	6.0	2.1	1.6			
1930	1.1	no funds	1.1			
1931	10.0	no funds	1.8			
1932	no funds	no funds	no funds			
1950	2.9	15.4	19.6	4.1	21.0	25.8
1951	2.4	5.8	6.3	3.4	7.5	7.6
1952	6.1	no funds	no funds	6.3	no funds	no funds
1978	1.0	1.7	1.6	1.1	1.8	1.8
1979	1.4	1.4	1.4	1.3	1.5	1.5
1980	2.8	1.8	1.9	2.5	1.8	1.9

* The funds available for debt service are defined as cash income minus family living expenditures. Family living costs are approximated by the annual wage of farm workers in the state.

Table 5: THREE YEAR CHANGE IN WEALTH UNDER MAXIMUM CREDIT TERMS
Young Farmer Budgets, 1910, 1930, 1950 and 1978

Location	1910-12	1930-32	1950-52	1978-80
	Adjusted to 1980 dollars			
Lyon County, Minnesota				
Owner	$+48,000	$-73,000	$+ 7,000	$+76,000
Tenant	+ 2,000	-15,000	- 9,000	+45,000
Livingston County, New York				
Owner	+ 4,000	-31,000	- 2,000	+26,000
Tenant	+ 2,000	- 8,000	- 7,000	+58,000
Jefferson County, New York				
Owner	+ 5,000	-21,000	- 5,000	+26,000
Tenant	+ 6,000	- 2,000	- 9,000	+26,000

REFERENCES

Hill, L. J. "Farm Ownership Savings Scheme," New Zealand Journal of Agriculture 35, No. 4 (October 1977):42-46.

Iowa, Code of Iowa. "Family Farm Development Act." Chap. 175, 1981.

LaDue, Eddy. "Financing the Entry of Young Farmers," Agricultural Finance Review 39 (November 1979):101-122.

Louisiana, Louisiana Revised Statutes. "Louisiana Family Farm Credit Program," Title 3, Chap. 3A, Sec. 251-259, 1980.

Lowenberg-DeBoer, James M. "Getting Started in Farming: 1910, 1930, 1950 and 1978," M.S. Thesis, Cornell University, Ithaca, New York, May 1982.

Lowenberg-DeBoer, James M., and Michael Boehlje. Valuation of Beginning Farmer Legislative Alternatives," Staff Report Series 126, Department of Economics, Iowa State University, Ames, Iowa, January 1983.

Melichar, Emanuel, and Paul T. Balides. Agricultural Finance Databook, Monthly Series, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC, December 1980.

Melichar, Emanuel, and Marian Sayre. Agricultural Finance Databook, Annual Series, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC, September 1976.

Minnesota, Minnesota Statutes Annotated. "Family Farm Security Program," Vol. 4, Sections 17-42, Subsections 41.51 to 41.62.

New Zealand, Statutes of New Zealand. "Farm Ownership Savings Act," No. 45, 1974.

North Dakota, North Dakota Century Code. "North Dakota Agricultural Development Act," 4-36-01 to 4-36-28.

North Dakota, North Dakota Century Code. "Industrial Commission Loan Guarantees on Seller Sponsored Loans," 54-17-29- to 54-17-31.

North Dakota, North Dakota Century Code. "Beginning Farmer Assistance Acts," 57-38-67 to 57-38-70.

Sherman, Jay, and Lee Webb, ed. Assisting Beginning Farmers: New Programs and Responses. Conference on Alternative State and Local Policies, Washington, DC, 1981.

U.S. Department of Agriculture. Farm Labor, Dec. 1950; Jan. 14, 1952; June 10, 1952; Sept. 10, 1952; Dec. 10, 1952; Jan. 13, 1953; Dec. 10, 1953; May 25, 1978; Aug. 23, 1978; Nov. 22, 1978; May 22, 1980; Nov. 24, 1980 and Feb. 21, 1981.

U.S. House of Representatives, Subcommittee on Forests, Family Farms and Energy and Subcommittee on Conservation, Credit, and Rural Development. Beginning Farmer Assistance Act Hearings, Serial No. 97-M, 97th Congress, First Session, 1981. Washington, DC: U.S. Government Printing Office, 1981.