TYPOLOGY AND POLICY FOR SMALL FARMS

Luther Tweeten, G. Bradley Cilley, and Isaac Popoola

The trend toward larger and fewer farms has alarmed many persons who view the small farm as an integral part of American society. Advocates of the small farm have called for policies to halt the continuing decline in the number of small farms in the United States. In evaluating the merits of potential policies, understanding the composition of small farms in the U.S. is critical.

Appropriate public policy would be very different if small farms were operated solely by households with substantial off-farm income and who need no public assistance, solely by households pursuing an alternative to urban-industrial society's lifestyle and who want no public assistance, or solely by households who are aged and disabled and who want and need public assistance to avoid absolute deprivation.

Carlin, Carlin and Crecink, Lewis, and Larson and Lewis provide data on the composition of small farms. The purpose of our article is to present additional information on the composition of small farms by state and region using a typology designed to be helpful in research and public policy formulation. The data (from the U.S. Census of Agriculture for years 1959, 1964, 1969, and 1974) suggest hypotheses for public policy as well as further refinements in the way data are collected and classified in subsequent Censuses.

Farm size has been defined by various criteria, including acres of land, units of livestock, value of farm products sold, total assets, total inputs, total output, level of farm income, and amount of labor supplied by the operator. For the purposes of our article, we define small farms as those having annual sales of farm products greater than $2,500 but less than $20,000. This definition has shortcomings, but has the advantage of data consistency and availability over time. Census of Agriculture (U.S. Bureau of the Census) data are confined to the years 1959, 1964, 1969, and 1974 to maintain continuity in the definition of a farm

over time. "Consistency" is not entirely complete, however, because inflation shifts some farms with constant real sales volume from one pecuniary sales class to another. The effect was minor in the 1959-69 period when the index of prices received increased only 11 percent. However, between 1969 and 1974 the index increased 79 percent, making comparisons between 1974 and other years difficult. Nearly as many farms entered as left the small farm category; hence 1969-1974 inflation decreased farm numbers in the $2,500-20,000 sales category by only 1.9 percent (Lin and Emerson, Table 1).

We classify small farms into three basic categories: part-time farms, defined as units where the operator works 200 days or more per year off the farm, farms operated by an aged head (65 years of age or older), and "bona fide" small farms, approximated by the difference between the number of all small farms and the number of farms with part-time and aged operators. "Bona fide" small farms tend to be ocupied by operator households who depend on the farm for their livelihood but with breadwinners who are not aged.

The typology is designed to render small farms relatively homogenous within and heterogeneous among classes. Suggested public policies for each class, chosen to raise incomes of households to at least the poverty threshold in the most efficient or cost-effective manner, can be viewed as hypotheses and are set forth in the concluding section. Tests of these hypotheses await improved data, not only on the classification of small farms but also on the impact of public policy on the subclasses.

RESULTS

Tables 1 through 4 contain basic U.S. data by region and state on the number and percentage of all small farms and of small farms in each of the three categories.

Luther Tweeten is Regents Professor, G. Bradley Cilley is Graduate Assistant, and Isaac Popoola is former graduate student, Department of Agricultural Economics, Oklahoma State University, Stillwater.

All Small Farms

The number of small farms in the U.S. dropped from 1,752,429 in 1959 (Table 1) to 888,710 in 1974 (Table 4), a decline of 50.7 percent in 15 years. The largest decrease in the actual number of farms occurred between 1959 and 1964 when 339,333 farms disappeared. However, the largest percentage decrease in the number of small farms took place between 1969 and 1974 when the number of farms decreased by 24.6 percent, of which 1.9 percentage points were due to inflation.

The West North Central region had the largest number of small farms during the 1959-1974 period. In this region the number of small farms decreased by 303,842 or 58.7 percent between 1959 and 1974. The region with the fewest small farms for the entire period was New England, where the number decreased by 18,397 or 73.9 percent over the 15 years, the highest percentage decrease in the number of small farms in any region for 1959-1974. The East South Central region had the smallest percentage decrease (26.7) of any region in the number of small farms between 1959 and 1974.

Table 5 shows the relative ranking of regions in terms of their contribution to the total number of small farms in the U.S. for 1959 and 1974. The West North Central and East North Central maintained the first and second rankings, respectively, for the two periods. The third place ranking which was held by the

TABLE 1. NUMBER AND PERCENTAGE OF ALL SMALL FARMS, SMALL FARMS WITH OPERATORS WORKING MORE THAN 200 DAYS OFF THE FARM, SMALL FARMS WITH OPERATORS OVER 65 YEARS OF AGE, AND BONAFIDE SMALL FARMS FOR 1959.

STATE AND REGION	ALL SMALL FARMS (SALES $2500-$19999) NUMBER	% OF US	FARM OPERATOR WORKS MORE THAN 200 HOURS OFF THE FARM NUMBER	% OF US	FARMS WITH AGED OPERATORS (65+) NUMBER	% OF US	BONAFIDE SMALL FARMS NUMBER	% OF US
MAINE	6346.	0.36	1094.	0.50	1104.	0.58	4148.	0.31
NEW HAMPSHIRE	2542.	0.15	456.	0.21	479.	0.25	1607.	0.12
VERMONT	7253.	0.41	908.	0.41	992.	0.52	5353.	0.40
MASSACHUSETTS	4856.	0.28	1056.	0.48	933.	0.49	2867.	0.21
RHODE ISLAND	652.	0.04	163.	0.07	90.	0.05	402.	0.03
CONNECTICUT	3237.	0.18	581.	0.26	655.	0.34	2001.	0.15
NEW ENGLAND	24886.	1.42	4255.	1.93	4253.	2.23	16378.	1.22
NEW YORK	45213.	2.58	6491.	2.94	6695.	3.51	32027.	2.39
NEW JERSEY	7488.	0.43	1143.	0.52	1362.	0.71	4983.	0.37
PENNSYLVANIA	46507.	2.65	7213.	3.27	6036.	3.16	33258.	2.48
MIDDLE ATLANTIC	99208.	5.66	14847.	6.72	14093.	7.39	70268.	5.24
OHIO	70000.	3.99	11948.	5.41	8513.	4.46	49539.	3.69
INDIANA	67765.	3.87	11886.	5.38	8311.	4.36	47568.	3.55
ILLINOIS	94213.	5.38	9714.	4.40	9915.	5.20	74584.	5.56
MICHIGAN	53789.	3.07	11378.	5.15	5980.	3.14	36431.	2.72
WISCONSIN	95587.	5.45	10140.	4.59	8366.	4.39	77081.	5.75
EAST NORTH CENTRAL	381354.	21.76	55066.	24.93	41085.	21.54	285203.	21.27
KENTUCKY	56666.	3.23	6008.	2.72	7035.	3.69	43623.	3.25
TENNESSEE	50632.	2.89	4357.	1.97	5991.	3.14	40284.	3.00
ALABAMA	29770.	1.70	5113.	2.31	2660.	1.39	21997.	1.64
MISSISSIPPI	35710.	2.04	5010.	2.27	3383.	1.77	27317.	2.04
EAST SOUTH CENTRAL	172778.	9.86	20488.	9.27	19069.	10.00	133221.	9.94
ARKANSAS	31590.	1.80	2934.	1.33	2846.	1.49	25810.	1.93
LOUISIANA	18307.	1.04	3374.	1.53	1532.	0.80	13401.	1.00
OKLAHOMA	43303.	2.47	8036.	3.64	4542.	2.38	30725.	2.29
TEXAS	91632.	5.23	17532.	7.94	13425.	7.04	60675.	4.53
WEST SOUTH CENTRAL	184832.	10.55	31876.	14.43	22345.	11.72	130611.	9.74
MONTANA	16981.	0.97	1485.	0.67	2340.	1.07	13456.	1.00
IDAHO	19097.	1.09	2328.	1.05	1855.	0.97	14914.	1.11
WYOMING	5549.	0.32	621.	0.28	807.	0.42	4121.	0.31
COLORADO	17696.	1.01	2073.	0.94	2340.	1.07	13583.	1.01
NEW MEXICO	5581.	0.32	944.	0.43	5581.	0.48	3718.	0.28
ARIZONA	2228.	0.13	763.	0.34	357.	0.19	1111.	0.08
UTAH	8537.	0.49	1933.	0.87	932.	0.49	5675.	0.42
NEVADA	878.	0.05	136.	0.08	130.	0.07	582.	0.04
MOUNTAIN	76547.	4.37	10307.	4.67	9080.	4.76	57160.	4.26
MINNESOTA	101197.	5.77	5721.	2.59	6521.	3.42	88955.	6.63
IOWA	119000.	6.79	7484.	3.39	9941.	5.21	101575.	7.58
MISSOURI	83242.	4.75	10389.	4.70	10150.	5.32	62703.	4.68
NORTH DAKOTA	42296.	2.41	1627.	0.74	2535.	1.33	38134.	2.84
SOUTH DAKOTA	40881.	2.33	1517.	0.69	2856.	1.50	36508.	2.72
NEBRASKA	64556.	3.68	3146.	1.42	5602.	2.94	55808.	4.16
KANSAS	66471.	3.79	7878.	3.57	8322.	4.36	50271.	3.79
WEST NORTH CENTRAL	517643.	29.54	37762.	17.09	45927.	24.08	433954.	32.37
DELAWARE	2446.	0.14	450.	0.20	356.	0.19	1640.	0.12
MARYLAND	11607.	0.66	1880.	0.85	1661.	0.87	8066.	0.60
VIRGINIA	30930.	1.76	4218.	1.91	4864.	2.55	21848.	1.63
WEST VIRGINIA	6930.	0.40	1387.	0.63	1331.	0.70	4212.	0.31
NORTH CAROLINA	88945.	5.08	7759.	3.51	6586.	3.45	74600.	5.56
SOUTH CAROLINA	26331.	1.50	3549.	1.61	2311.	1.21	20471.	1.53
GEORGIA	41840.	2.39	7099.	3.21	4327.	2.27	30414.	2.27
FLORIDA	14463.	0.83	4010.	1.82	2728.	1.43	7725.	0.58
SOUTH ATLANTIC	223492.	12.75	30352.	13.74	24164.	12.67	168976.	12.60
WASHINGTON	18732.	1.07	3554.	1.61	2261.	1.19	12917.	0.96
OREGON	15679.	0.89	3064.	1.39	2125.	1.11	10490.	0.78
CALIFORNIA	37278.	2.13	9346.	4.23	6336.	3.32	21596.	1.61
PACIFIC	71689.	4.09	15964.	7.23	10722.	5.62	45003.	3.36
U. S. TOTAL	1752429.	100.00	220917.	100.00	190738.	100.00	1340774.	100.00

South Atlantic region in 1959 was taken over by the East South Central region in 1974. The large decreases in the number of small farms in the New England and South Atlantic regions are further emphasized by this table.

Interestingly, in 1959 the three states with the largest number of small farms were Iowa, Minnesota, and Wisconsin whereas in 1974 the three states with the largest number of small farms were Texas, Kentucky, and Missouri.

Part-Time Farms

Part-time farms are usually defined as small farming units characterized by operator-households whose income is derived mostly from labor or resources devoted to the nonfarm sector. We initially categorized the number of part-time small farms according to four alternative criteria: (1) small farms with operators who define their occupation as other than farming, (2) small farms with more than $5,000 of annual off-farm family income, (3) small farms with operators working 150 days or more annually in off-farm jobs, or (4) small farms with operators working 200 days or more annually in off-farm jobs. By these respective definitions, 40.0, 43.6, 36.3, and 31.3 percent of small farms were part-time in 1974. Although the numbers of part-time farms were fewer under definition 4, the *shares* of part-time farms among states and census divisions as a proportion of the U.S. total were similar under each of the four definitions. Because of

TABLE 2. NUMBER AND PERCENTAGE OF ALL SMALL FARMS, SMALL FARMS WITH OPERATORS WORKING MORE THAN 200 DAYS OFF THE FARM, SMALL FARMS WITH OPERATORS OVER 65 YEARS OF AGE, AND BONAFIDE SMALL FARMS FOR 1964.

STATE AND REGION	ALL SMALL FARMS (SALES $2500-$19999) NUMBER	% OF US	FARM OPERATOR WORKS MORE THAN 200 HOURS OFF THE FARM NUMBER	% OF US	FARMS WITH AGED OPERATORS (65+) NUMBER	% OF US	BONAFIDE SMALL FARMS NUMBER	% OF US
MAINE	3372.	0.24	979.	0.43	600.	0.35	1793.	0.18
NEW HAMPSHIRE	1626.	0.12	364.	0.16	301.	0.17	961.	0.09
VERMONT	4947.	0.35	693.	0.31	703.	0.41	3551.	0.35
MASSACHUSETTS	3358.	0.24	717.	0.32	686.	0.40	1955.	0.19
RHODE ISLAND	400.	0.03	73.	0.03	76.	0.04	1955.	0.02
CONNECTICUT	2092.	0.15	447.	0.20	424.	0.24	251.	0.02
NEW ENGLAND	15795.	1.12	3273.	1.45	2790.	1.61	9732.	0.96
NEW YORK	33115.	2.34	5836.	2.59	5231.	3.02	22048.	2.17
NEW JERSEY	4442.	0.31	776.	0.34	870.	0.50	2796.	0.28
PENNSYLVANIA	36204.	2.56	6741.	2.99	4933.	2.85	24530.	2.42
MIDDLE ATLANTIC	73761.	5.22	13353.	5.91	11034.	6.37	49374.	4.87
OHIO	57247.	4.05	13910.	6.16	8021.	4.63	35316.	3.48
INDIANA	53830.	3.81	13739.	6.09	8391.	4.84	31700.	3.13
ILLINOIS	70307.	4.98	11694.	5.18	9645.	5.57	43968.	4.83
MICHIGAN	44520.	3.15	13043.	5.78	5624.	3.25	25853.	2.55
WISCONSIN	80612.	5.70	11684.	5.18	7870.	4.54	61058.	6.02
EAST NORTH CENTRAL	306516.	21.69	64070.	28.38	39551.	22.84	202895.	20.01
KENTUCKY	54973.	3.89	7454.	3.30	6405.	3.70	41114.	4.05
TENNESSEE	43001.	3.04	6810.	3.02	5498.	3.17	30693.	3.03
ALABAMA	25263.	1.79	5202.	2.30	2499.	1.44	17562.	1.73
MISSISSIPPI	25290.	2.07	4205.	1.86	3149.	1.82	21936.	2.16
EAST SOUTH CENTRAL	152527.	10.79	23671.	10.49	17551.	10.13	111305.	10.98
ARKANSAS	21538.	1.52	3037.	1.35	2136.	1.23	16365.	1.61
LOUISIANA	14416.	1.02	2532.	1.12	1271.	0.73	10613.	1.05
OKLAHOMA	35749.	2.53	7456.	3.30	4484.	2.59	23809.	2.35
TEXAS	65683.	4.93	14028.	6.21	11299.	6.52	44356.	4.37
WEST SOUTH CENTRAL	141386.	10.01	27053.	11.98	19190.	11.08	95143.	9.38
MONTANA	15615.	1.11	1666.	0.74	1897.	1.10	12052.	1.19
IDAHO	15170.	1.07	2385.	1.06	1646.	0.95	11139.	1.10
WYOMING	4886.	0.35	596.	0.26	613.	0.35	3677.	0.36
COLORADO	14238.	1.01	1911.	0.85	1637.	0.95	10690.	1.05
NEW MEXICO	4856.	0.34	879.	0.39	4856.	0.44	3211.	0.32
ARIZONA	1749.	0.12	539.	0.24	280.	0.16	930.	0.09
UTAH	6792.	0.48	1860.	0.82	853.	0.49	4079.	0.40
NEVADA	848.	0.06	154.	0.07	107.	0.06	587.	0.06
MOUNTAIN	64154.	4.54	9990.	4.43	7799.	4.50	46365.	4.57
MINNESOTA	86250.	6.10	6397.	2.83	7001.	4.04	72852.	7.18
IOWA	93223.	6.60	9888.	4.38	9513.	5.49	73822.	7.28
MISSOURI	66515.	4.71	10199.	4.52	9201.	5.31	47115.	4.65
NORTH DAKOTA	36890.	2.61	1730.	0.77	2703.	1.56	32457.	3.20
SOUTH DAKOTA	35886.	2.54	1909.	0.85	3210.	1.85	30767.	3.03
NEBRASKA	52445.	3.71	3457.	1.53	5459.	3.15	43529.	4.29
KANSAS	55810.	3.95	7747.	3.43	7754.	4.48	40309.	3.55
WEST NORTH CENTRAL	427019.	30.22	41327.	18.31	44841.	25.89	340851.	33.61
DELAWARE	1733.	0.12	409.	0.18	339.	0.20	985.	0.10
MARYLAND	8939.	0.63	1717.	0.75	1514.	0.87	5708.	0.56
VIRGINIA	27880.	1.97	4565.	2.02	4367.	2.52	18948.	1.87
WEST VIRGINIA	5069.	0.36	1028.	0.46	953.	0.55	3088.	0.30
NORTH CAROLINA	72476.	5.13	9156.	3.61	6050.	3.49	58270.	5.75
SOUTH CAROLINA	20071.	1.42	2962.	1.31	2072.	1.20	15037.	1.48
GEORGIA	30521.	2.16	6334.	2.81	3892.	2.25	20295.	2.00
FLORIDA	11680.	0.83	3438.	1.52	2154.	1.24	6088.	0.60
SOUTH ATLANTIC	178369.	12.62	28609.	12.67	21341.	12.32	128419.	12.66
WASHINGTON	14499.	1.03	3469.	1.54	2067.	1.19	8963.	0.88
OREGON	12613.	0.89	3170.	1.40	2023.	1.17	7420.	0.73
CALIFORNIA	26457.	1.87	7771.	3.44	5014.	2.89	13672.	1.35
PACIFIC	53569.	3.79	14410.	6.38	9104.	5.26	30055.	2.96
U. S. TOTAL	1413096.	100.00	225756.	100.00	173201.	100.00	1014139.	100.00

this pattern and because only data based on the 200-day off-farm work criterion are available for each census year, only definition 4 data are shown herein.

We caution that the data do not, but ideally should, exclude age or disabled farm operators. Definition 4 of the part-time farm category is expected implicitly to exclude most part-time farms with aged and disabled breadwinners, but census data are not suitable for testing this hypothesis, nor do they allow us to exclude disabled operators from the bona fide farm class. One advantage in eliminating the off-farm income category is to reduce the effects of inflation on the number of part-time farmers.

Between 1959 and 1974, the number of part-time farms increased by 57,733 farms or 26.1 percent, the largest increase taking place between 1964 and 1969. During the 1964-1969 period the number of part-time farms increased by 83,369 farms or 36.9 percent. Between 1969 and 1974 the number of part-time farms appears to have decreased by 30,475 farms or 9.8 percent. Because of alleged undercount in the 1974 Census, we cannot be certain that the number of part-time farms is actually decreasing. We await data from the 1978 Census of Agriculture to resolve the issue.

The largest decrease in the number of part-time farms between 1969 and 1974 occurred in the West South Central region where 10,938 farms (21.6 percent) were lost. This percentage decrease in the number of part-time farms was

TABLE 3. NUMBER AND PERCENTAGE OF ALL SMALL FARMS, SMALL FARMS WITH OPERATORS WORKING MORE THAN 200 DAYS OFF THE FARM, SMALL FARMS WITH OPERATORS OVER 65 YEARS OF AGE, AND BONAFIDE SMALL FARMS FOR 1969.

STATE AND REGION	ALL SMALL FARMS (SALES $2500-$19999)		FARM OPERATOR WORKS MORE THAN 200 HOURS OFF THE FARM		FARMS WITH AGED OPERATORS (65+)		BONAFIDE SMALL FARMS	
	NUMBER	% OF US	NUMBER	% OF US	NUMBER	% OF US	NUMBER	% OF US
MAINE	2482.	0.21	513.	0.16	655.	0.34	1317.	0.19
NEW HAMPSHIRE	915.	0.08	242.	0.08	190.	0.10	483.	0.07
VERMONT	2123.	0.18	423.	0.14	379.	0.20	1324.	0.20
MASSACHUSETTS	2011.	0.17	547.	0.18	401.	0.21	1063.	0.16
RHODE ISLAND	251.	0.02	69.	0.02	42.	0.02	140.	0.02
CONNECTICUT	1432.	0.12	469.	0.15	314.	0.16	649.	0.10
NEW ENGLAND	9214.	0.78	2257.	0.73	1981.	1.02	4976.	0.74
NEW YORK	18252.	1.55	4777.	1.55	3481.	1.80	9994.	1.48
NEW JERSEY	2957.	0.25	874.	0.28	610.	0.32	1473.	0.22
PENNSYLVANIA	23497.	1.99	7022.	2.27	3586.	1.85	12889.	1.91
MIDDLE ATLANTIC	44706.	3.79	12673.	4.10	7677.	3.97	24356.	3.60
OHIO	48727.	4.13	17364.	5.62	7393.	3.82	23970.	3.55
INDIANA	46850.	3.97	17695.	5.72	7449.	3.85	21706.	3.21
ILLINOIS	57997.	4.92	16323.	5.28	9349.	4.83	32325.	4.78
MICHIGAN	32741.	2.78	12665.	4.10	4477.	2.31	15599.	2.31
WISCONSIN	53068.	4.50	12353.	4.00	7021.	3.63	33694.	4.98
EAST NORTH CENTRAL	239383.	20.31	76400.	24.71	35689.	18.45	127294.	18.83
KENTUCKY	53081.	4.50	13352.	4.32	8360.	4.32	31369.	4.64
TENNESSEE	43166.	3.41	6779.	2.19	11381.	5.88	22006.	3.26
ALABAMA	21223.	1.80	6699.	2.17	3287.	1.70	11237.	1.66
MISSISSIPPI	19797.	1.68	5567.	1.80	3368.	1.74	10862.	1.61
EAST SOUTH CENTRAL	134267.	11.39	32397.	10.48	26396.	13.64	75474.	11.16
ARKANSAS	21495.	1.82	5199.	1.68	2805.	1.45	13491.	2.00
LOUISIANA	13068.	1.11	3508.	1.13	1732.	0.90	7828.	1.16
OKLAHOMA	41196.	3.50	13427.	4.34	7177.	3.71	20592.	3.05
TEXAS	91197.	7.74	28594.	9.25	18395.	9.51	44208.	6.54
WEST SOUTH CENTRAL	166956.	14.17	50728.	16.41	30109.	15.56	86119.	12.74
MONTANA	12207.	1.04	2156.	0.70	1748.	0.90	8303.	1.23
IDAHO	12102.	1.03	3138.	1.02	1682.	0.87	7282.	1.08
WYOMING	4133.	0.35	930.	0.30	677.	0.35	2526.	0.37
COLORADO	13122.	1.11	3013.	0.97	2037.	1.05	8075.	1.19
NEW MEXICO	5051.	0.43	1351.	0.44	5051.	0.48	2781.	0.41
ARIZONA	2044.	0.17	842.	0.27	291.	0.15	911.	0.13
UTAH	5938.	0.50	2246.	0.73	937.	0.48	2755.	0.41
NEVADA	932.	0.08	300.	0.10	149.	0.08	483.	0.07
MOUNTAIN	55529.	4.71	13973.	4.52	8440.	4.36	33116.	4.90
MINNESOTA	62201.	5.28	10302.	3.33	7558.	3.91	44341.	6.55
IOWA	64802.	5.50	13606.	4.40	8810.	4.55	42386.	6.27
MISSOURI	67096.	5.69	17610.	5.70	12342.	6.38	37144.	5.49
NORTH DAKOTA	30050.	2.55	2818.	0.91	3140.	1.62	24092.	3.56
SOUTH DAKOTA	25584.	2.17	2923.	0.95	3448.	1.78	19213.	2.84
NEBRASKA	36913.	3.13	5495.	1.78	5669.	2.93	25749.	3.81
KANSAS	47396.	4.02	12913.	3.53	9047.	4.68	27436.	4.02
WEST NORTH CENTRAL	334042.	28.34	63667.	20.60	50014.	25.85	220361.	32.59
DELAWARE	1335.	0.11	471.	0.15	284.	0.15	580.	0.09
MARYLAND	6892.	0.58	1943.	0.63	1257.	0.65	3692.	0.55
VIRGINIA	24740.	2.10	6767.	2.19	4801.	2.48	13172.	1.95
WEST VIRGINIA	5590.	0.47	1763.	0.57	1163.	0.60	2664.	0.39
NORTH CAROLINA	50971.	4.32	10575.	3.42	6936.	3.59	33460.	4.95
SOUTH CAROLINA	13384.	1.14	3658.	1.18	1926.	1.00	7800.	1.15
GEORGIA	23996.	2.04	6897.	2.23	4008.	2.07	13091.	1.94
FLORIDA	13442.	1.14	5301.	1.71	2671.	1.38	5470.	0.81
SOUTH ATLANTIC	140350.	11.91	37375.	12.09	23046.	11.91	79929.	11.82
WASHINGTON	12604.	1.07	4088.	1.32	2084.	1.08	6432.	0.95
OREGON	10849.	0.92	3568.	1.15	2038.	1.05	5243.	0.78
CALIFORNIA	30741.	2.61	11999.	3.88	5980.	3.09	12762.	1.89
PACIFIC	54194.	4.60	19655.	6.36	10102.	5.22	24437.	3.61
U. S. TOTAL	1178641.	100.00	309125.	100.00	193454.	100.00	676062.	100.00

matched by the decrease in the New England region. These two regions were followed by the East South Central region which had a decrease of 20.6 percent between 1969 and 1974. The New England, Middle Atlantic, and Pacific regions deviate from the remaining six regions in that they had decreases in the number of part-time farms for the whole period 1959-1974. Between 1959 and 1974 the number of part-time farms decreased in the New England region by 58.4 percent, in the Middle Atlantic region by 18.6 percent, and in the Pacific region by 1.3 percent. The Pacific region realized an increase of 5,245 part-time farms, or 34.6 percent, between 1965 and 1969. However, the New England and Middle Atlantic regions show decreases in the number of part-time farms in each of the three intermediate periods between 1959 and 1974.

The number of part-time farms in the United States increased as a percentage of all small farms between 1959 and 1974. The number of part-time farms in relation to the number of all small farms was largest in 1974, but the greatest census year-to-year increase in this percentage occurred between 1964 and 1969. Although the number of part-time farms in the New England and Middle Atlantic regions declined sharply throughout the period 1954-1974, the number of such farms as a percentage of all small farms increased. Thus, any decrease in numbers of part-time farms was attended by a larger decrease in numbers of other small farms.

TABLE 4. NUMBER AND PERCENTAGE OF ALL SMALL FARMS, SMALL FARMS WITH OPERATORS WORKING MORE THAN 200 DAYS OFF THE FARM, SMALL FARMS WITH OPERATORS OVER 65 YEARS OF AGE, AND BONAFIDE SMALL FARMS FOR 1974.

STATE AND REGION	ALL SMALL FARMS (SALES $2500-$19999)		FARM OPERATOR WORKS MORE THAN 200 HOURS OFF THE FARM		FARMS WITH AGED OPERATORS (65+)		BONAFIDE SMALL FARMS	
	NUMBER	% OF US	NUMBER	% OF US	NUMBER	% OF US	NUMBER	% OF US
MAINE	1664.	0.19	441.	0.16	415.	0.21	808.	0.20
NEW HAMPSHIRE	691.	0.08	205.	0.07	156.	0.08	330.	0.08
VERMONT	1422.	0.16	373.	0.13	349.	0.17	703.	0.17
MASSACHUSETTS	1479.	0.17	393.	0.14	384.	0.19	702.	0.17
RHODE ISLAND	189.	0.02	54.	0.02	51.	0.03	84.	0.02
CONNECTICUT	1044.	0.12	306.	0.11	259.	0.13	479.	0.12
NEW ENGLAND	6489.	0.73	1769.	0.63	1614.	0.80	3106.	0.76
NEW YORK	12798.	1.44	4356.	1.56	2933.	1.46	5509.	1.35
NEW JERSEY	2668.	0.30	875.	0.31	701.	0.35	1092.	0.27
PENNSYLVANIA	18673.	2.10	6862.	2.46	3763.	1.88	8050.	1.97
MIDDLE ATLANTIC	34139.	3.84	12091.	4.34	7397.	3.69	14651.	3.58
OHIO	41688.	4.69	18132.	6.51	8535.	4.26	15021.	3.67
INDIANA	39425.	4.44	17092.	6.13	8165.	4.07	14168.	3.46
ILLINOIS	39091.	4.40	13385.	4.80	8977.	4.48	16729.	4.09
MICHIGAN	29063.	3.27	12248.	4.40	5823.	2.90	10992.	2.68
WISCONSIN	36452.	4.10	10646.	3.82	7460.	3.72	18346.	4.48
EAST NORTH CENTRAL	185719.	20.90	71503.	25.66	38960.	19.43	75256.	18.38
KENTUCKY	52874.	5.95	15437.	5.54	11609.	5.79	25828.	6.31
TENNESSEE	38843.	4.37	11977.	4.30	9231.	4.60	17635.	4.31
ALABAMA	18346.	2.06	6364.	2.28	3928.	1.96	8054.	1.97
MISSISSIPPI	16598.	1.87	5294.	1.90	3836.	1.91	7468.	1.82
EAST SOUTH CENTRAL	126661.	14.25	39072.	14.02	28604.	14.26	58985.	14.40
ARKANSAS	15989.	1.80	4596.	1.65	3181.	1.59	8212.	2.01
LOUISIANA	9520.	1.07	2692.	0.97	1970.	0.98	4858.	1.19
OKLAHOMA	30809.	3.47	10205.	3.66	7552.	3.77	13052.	3.19
TEXAS	69168.	7.78	22257.	8.00	17808.	8.88	29063.	7.10
WEST SOUTH CENTRAL	125486.	14.12	39790.	14.28	30511.	15.21	55185.	13.48
MONTANA	7924.	0.89	1764.	0.63	1500.	0.75	4660.	1.14
IDAHO	8555.	0.96	2965.	1.06	1630.	0.80	3990.	0.97
WYOMING	3184.	0.36	778.	0.28	649.	0.32	1757.	0.43
COLORADO	9241.	1.04	2502.	0.90	2003.	1.00	4736.	1.16
NEW MEXICO	4432.	0.50	1201.	0.43	4432.	0.48	2276.	0.56
ARIZONA	1842.	0.21	741.	0.27	343.	0.17	758.	0.19
UTAH	5359.	0.60	1971.	0.71	1228.	0.61	2160.	0.53
NEVADA	765.	0.09	226.	0.08	157.	0.08	382.	0.09
MOUNTAIN	41302.	4.65	12148.	4.36	8435.	4.21	20719.	5.06
MINNESOTA	37865.	4.26	8823.	3.17	7443.	3.71	21599.	5.27
IOWA	36549.	4.11	10794.	3.87	7293.	3.64	18452.	4.51
MISSOURI	52690.	5.93	15934.	5.72	12443.	6.20	24313.	5.94
NORTH DAKOTA	14059.	1.58	1552.	0.70	2753.	1.37	9354.	2.28
SOUTH DAKOTA	15897.	1.79	2384.	0.86	3504.	1.75	10009.	2.44
NEBRASKA	23391.	2.63	4316.	1.55	5667.	2.83	13408.	3.27
KANSAS	33350.	3.75	9468.	3.40	9188.	4.58	14694.	3.75
WEST NORTH CENTRAL	213801.	24.06	53671.	19.25	48291.	24.08	111839.	27.31
DELAWARE	1111.	0.13	397.	0.14	269.	0.13	445.	0.11
MARYLAND	5593.	0.63	1900.	0.68	1355.	0.68	2338.	0.57
VIRGINIA	22403.	2.52	6554.	2.35	5843.	2.91	10006.	2.44
WEST VIRGINIA	4827.	0.54	1103.	0.40	1261.	0.63	2463.	0.60
NORTH CAROLINA	38892.	4.38	9219.	3.31	8860.	4.42	20813.	5.08
SOUTH CAROLINA	11065.	1.25	3432.	1.23	2631.	1.31	5002.	1.22
GEORGIA	18157.	2.04	5695.	2.04	4304.	2.15	8158.	1.99
FLORIDA	12023.	1.35	4551.	1.63	2998.	1.49	4474.	1.09
SOUTH ATLANTIC	114071.	12.84	32851.	11.79	27521.	13.72	53699.	13.11
WASHINGTON	8958.	1.01	3498.	1.26	1854.	0.92	3606.	0.88
OREGON	9194.	1.03	3373.	1.21	2080.	1.04	3741.	0.91
CALIFORNIA	22890.	2.58	8884.	3.19	5272.	2.63	8734.	2.13
PACIFIC	41042.	4.62	15755.	5.65	9206.	4.59	16081.	3.93
U. S. TOTAL	888710.	100.00	278650.	100.00	200539.	100.00	409521.	100.00

TABLE 5. RELATIVE RANKING OF REGIONS BY NUMBER OF ALL SMALL FARMS

Year				
1959			**1974**	
Region	% of U.S. Total		Region	% of U.S. Total
West North Central	29.54		West North Central	24.05
East North Central	21.76		East North Central	20.89
South Atlantic	12.75		East South Central	14.24
West South Central	10.55		West South Central	14.12
East South Central	9.86		South Atlantic	12.83
Middle Atlantic	5.66		Moutain	4.65
Moutain	4.37		Pacific	4.62
Pacific	4.09		Middle Atlantic	3.81
New England	1.42		New England	..73

Few operators who work 200 days or more off the farm are expected to be aged or disabled. Nonetheless, a precise statement requires yet unavailable data which cross-classify small farms into aged-disabled part-time subcategories. It would be helpful to be able to divide part-time small farms (excluding those operated by the aged and disabled) into subcategories of those with operators above and below the poverty line as well as other income thresholds. The hypothesis is that the proportion of part-time farmers in poverty is small. The capacity of part-time farmers to respond profitably to research-extension programs is restrained by intense claims on their time and by limited farming resources and output.

Farms With Aged Operators

In the period between 1959 and 1974 the number of small farms with aged operators increased by 9,801 farms or 5.1 percent. The largest increase, 20,253 farms or 11.7 percent, occurred between 1964 and 1969. As in the case of part-time farms, the increases in the number of farms with aged operators appear to have slowed between 1969 and 1974. The number of farms in this category increased by only 7,085 or 3.7 percent between 1969 and 1974.

Regionally, only four areas had increases in the number of farms with aged operators between 1959 and 1974—the East South Central, West South Central, West North Central, and South Atlantic regions. Of the four, the East South Central region had the largest increase.

The New England and Middle Atlantic regions showed losses in the number of farms with aged operators throughout the 15 years. The number of farms in this category decreased by 62.1 percent and 47.5 percent between 1954 and 1979 in the New England and Middle Atlantic regions, respectively. The decreases in the number of farms with aged operators in these two regions appear to be slowing.

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Between 1964 and 1969 the number of farms in this category decreased by 29 percent in New England and 30.4 percent in the Middle Atlantic region. However, between 1969 and 1974, the number of such farms decreased only 18.5 percent in New England and 3.6 percent in the Middle Atlantic region.

With the exception of the New England, Middle Atlantic, and East North Central regions, each region had increases in the number of farms with aged operators between 1964 and 1969. The East North Central region is unique in that the number of farms in this category decreased between 1959 and 1964 as well as between 1964 and 1969, but increased 9.2 percent between 1969 and 1974.

Although the number of farms with aged operators increased little during the 15 years between 1959 and 1974, the relative importance of this category in terms of all small farms increased. Nationally the number of farms with aged operators as a percentage of all small farms increased from 10.9 percent in 1959 to 22.6 percent in 1974.

We hypothesize that programs to improve productivity and human and material capital of this category of small farms have low benefit-cost ratios because of high costs of programs and limited work life expectancy and present value of increased productivity. Data are needed to identify two subclasses of the aged-disabled category: those with adequate income and net worth and those without. The former are of low priority for additional public programs. The latter can probably be helped most cost effectively (most income generated per Treasury dollar spent) by social welfare (transfer) programs.

Bona Fide Farms

The final category of "bona fide" small farms is ideally defined and measured by the number of farms occupied by operator-households who depend on the farm for their livelihood but with breadwinners neither aged nor disabled. However, published data do not identify the number of disabled operators. This third category of small farms is approximated herein by the total number of small farms less the number of small farms with aged operators and with part-time operators. Problems of over- and undercounting are unavoidable. Double counting of some aged part-time farmers causes undercounting of the number of bona fide farms. Inability to identify the physically and mentally disabled causes overcounting of the number of bona fide farms, other things equal. It should also be kept in mind that the use of the most restrictive of the four definitions of part-time farms results in the greatest number of bona fide farms, a residual.

The number of bona fide farms decreased by 931,253 or 69 percent between 1959 and 1974. As in the case of part-time farms and farms with aged and disabled operators, the largest adjustment in the number of bona fide farms occurred between 1964 and 1969 when the number decreased by 338,077. However, the largest percentage decrease occurred between 1969 and 1974 when 266,541 farms or 39.4 percent disappeared.

The smallest numbers of bona fide farms were in the New England and Middle Atlantic regions. These two regions also had the largest percentage decreases in the number of bona fide farms between 1959 and 1974, an 81 percent decline in New England and a 79 percent decline in the Middle Atlantic region over the 15 years. The decreases in the number of bona fide farms in these two regions appear to be slowing.

Absolute and percentage reductions in the number of bona fide small farms appear to be slowing in several other regions as well. In the East South Central region the number of bona fide small farms decreased by 32.2 percent between 1964 and 1969 but by only 21.8 percent between 1969 and 1974. The number of such farms in the South Atlantic region decreased by 37.8 percent between 1964 and 1969 but by only 32.8 percent between 1969 and 1974.

The number of bona fide farms is decreasing in relation to the total number of small farms, but the rate of decrease is declining. In 1964 bona fide farms constituted 71.8 percent of all small farms. By 1969 this percentage had dropped to 57.4, a decrease of 14.4 percentage points. The percentage of all small farms that were bona fide farms was 46.1 in 1974, a decrease of 11.3 percentage points from 1969.

The bona fide small farm class is of special interest to scientists and administrators because of potential benefits from agricultural research-extension programs. We hypothesize that the proportion of operators in poverty is high and that the prospects for efficiency gains from agricultural research-extension focused on the entire class are favorable although much lower than for commercial family farms (see Smith, Hall, and Simon, Ladiwig and Edmondson, West et al.). Because of limited public funds, priority for such efforts within the bona fide small farm category would be given to farmers with low income but potential to increase earnings. How many are in poverty and what are their socioeconomic-demographic characteristics? Fragmentary evidence suggests that poverty is very high in the under $10,000 sales class (Smith, Hall, and Simon). How many are alternative lifestyle operators with adequate human resources to earn much more in nonfarm employment but who are of nonfarm origin, accept low incomes to pursue

ideologies of organic farming or energy conservation, seek to escape urban-industrial culture, and have no plans to increase the size of their operations or to obtain off-farm employment? How many have adequate basic management skills, potentially can obtain competitive rates of return on use of additional capital, and desire to expand in farming but lack credit to do so? How many desire or plan to obtain off-farm employment? How many have not taken off-farm employment for lack of marketable skills and/or local off-farm job opportunities? How many are new entrants into farming and/or in young and prime age groups with potential for growth into commercial farming units?
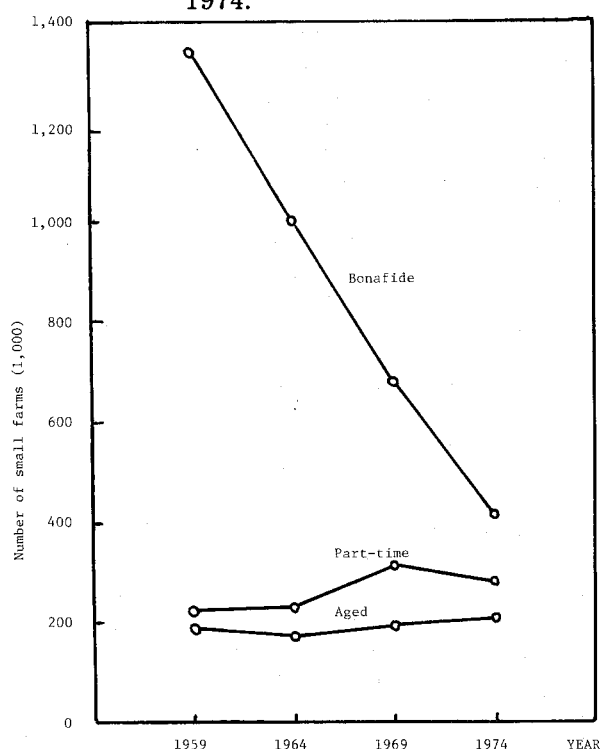
A number of the foregoing dimensions can be measured with data from sample surveys. Analytical issues requiring in-depth research include the extent to which operators are using their resources efficiently; how many can be helped by research-extension programs providing a favorable social benefit-cost ratio? A hypothesis is that benefit-cost ratios can be favorable for research and extension directed at small farm operators but that comparatively few dollars (not enough to raise most target families out of poverty) are added to income before marginal net benefits fall short of marginal costs. Additional research topics are suggested by Madden and Tischbein.

SUMMARY AND CONCLUSIONS

Extrapolation of either the 1959-1969 or the 1959-1974 trend in Figure 1, which would suggest that bona fide small farms will vanish in the 1980s, is not realistic and we predict a major slowdown in the rate of decline in number of small farms. The large decrease in the number of bona fide small farms indicated by Figure 1 cannot continue. With a slowdown in demise of bona fide farms and steady or even increasing numbers of farms with aged and with part-time operators (see trend in Figure 1), the total number of small farms will tend to stabilize or to grow! However, the sharp reduction in the number of bona fide farms suggests that if efforts to retain substantial numbers of this class by reversing the sharp downtrend are to be successful, major public efforts to that end must begin soon.

Projections of future trends in the number of small farms are obscured somewhat by the confounding of (1) the predicted slowdown in demise of small farms, (2) the 1974 Census undercount, and (3) inflation moving small farms to larger *apparent* sales classes. Farms entering the $2,500-20,000 sales category solely because of inflation between 1969 and 1974 totaled 250,700; farms exiting totaled

FIGURE 1. NUMBER OF SMALL FARMS
IN THE U.S. BY CATEGORY
FOR CENSUS YEARS, 1959-
1974.

Source: U.S. Bureau of the Census.

We do not know the extent of Census of Agriculture undercount in 1974 and have no reason to believe the undercount was especially great for any one category of small farms. Preliminary findings of the 1978 Census of Agriculture reported to the Census Advisory Committee (of which the senior author was a member) provide a basis for expecting a more complete count in 1978 and a foundation for resolving concerns about the 1974 Census.

The following hypotheses regarding effective remedial measures are advanced for further study.

1. Incomes of the small-farm households with aged and disabled breadwinners can be raised most cost effectively by public assistance transfer payments.
2. Incomes of part-time farmers are for the most part above the poverty threshold and gains in farm output from public efforts to improve their efficiency will be modest in relation to costs. Therefore, such farmers are not of high priority for public policy on either equity or efficiency grounds.
3. Incomes of the bona fide, able-bodied small-farm operators who depend on the farm for their livelihood can be raised with agricultural research-extension programs within current fencelines as indicated in the text, but scope for increased income with favorable benefit-cost ratios under such programs is limited because such farms have few resources and exhibit diseconomies of size. Significant gains are possible only by expansion of the size of farming operations, specialty enterprises, or by off-farm employment.

273,200 for a net loss of 22,500 or 1.9 percent of the 1969 total number of small farms. Bias is also present within the small farm category. Farms with sales of less than $2,500 which entered the small category because of inflation had comparatively high proportions of part-time and of aged operators whereas farms with sales of over $20,000 which exited because of inflation had comparatively high proportions of "bona fide" operators. Estimates of the shares of farms by category as shown in Table 4 and as adjusted for inflation by use of inflation-adjusted economic class data from Lin and Emerson for 1974 follow.

Small Farm Category	Percentage	
	Unadjusted	Adjusted for Inflation
Part time	31.3	30.9
Aged	22.6	22.3
Bona fide	46.1	46.8
Total	100.0	100.0

Though identification of subgroups and their characteristics is important for policy purposes, identification of regional trends also is related to the success of policies. Regional differences in numbers, composition, and trends of small farms, as shown herein, are great. For example, nationally the decline in number of all small farms showed few signs of abating by 1974. However, the decrease in the number of small farms for the second and third largest regions in terms of farm numbers (East North Central, East South Central) leveled off.

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