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The Economics of Small Farms*

Secretary of Agriculture Bob Bergland elevated "structure" to center stage in the farm policy debate during the Carter Administration. The debate dealt with questions of desirable size, number, type, tenure, and legal organization of farms; as well as with market conduct and performance of firms dealt with by farmers in their buying and selling activities [*1*]. The farm structure issue has been muted within the Reagan Administration, but continues among the various publics concerned with agriculture. The issue is likely to reemerge on the future political agenda.

A central issue in the structure debate is the role of the small farm in American agriculture. In this article I take as hypotheses to be tested the following more or less conventional assertions concerning small farms:

1) Small farms provide a higher quality of life to operators and their families than do larger farms.

2) Small farm operators take better care of their soil than do larger farm operators.

3) Small farms are more energy efficient than larger farms.

4) Small farm preservation and encouragement avoids the trauma of outmigration of farm people to cities.

5) Society would be better off if publicly supported research and extension education were focused on small farms.

6) Federal government programs have hastened the demise of small farms.

7) Small farms provide the social and economic support necessary to maintain vitality of nearby towns and cities.

8) Preservation of small farms is essential to economic competition because it avoids concentration of production on a few large farms which would practice monopoly pricing and raise food costs.

For purposes of this analysis, small farms are defined, unless otherwise indicated, as units with crop and livestock receipts of under $40,000 per year. In 1981, farms with $20,000 to $40,000 in sales averaged $360,000 in assets (excluding dwelling) and about 135 hectares [*2*]. However, assets and hectares vary widely within sales classes from, for example, intensive cattle feedlot operations in the Texas Panhandle to extensive cattle ranching operations in Nevada.

Evaluation of Hypotheses

Small farms provide a higher quality of life. Coughenour and Christenson [*3*] empirically examined the "small is beautiful" thesis by relating farm size to attitudes about personal well-being, community well-being, and perceived adequacy of community services. They found no evidence that small farmers were more satisfied than large farmers with their personal life, with the social aspects of community life, or with the social services available to them. Small differences that did emerge from the study suggest that farmers on commercial, family-size units with sales of $40,000 or more expressed a higher level of perceived well-being than did small-scale farmers.

On the basis of a detailed study of approximately 800 rural families in Iowa and North Carolina from 1970 to 1972, Harper and Tweeten [*4*] found that income, occupation, education, and age were the principal determinants of personal well-being. Early studies [*5*] revealed that persons on small, low-income farms were characterized by anomie—feelings of alienation, demoralization, and pessimism. It seems likely that anomie prevalent on small farms is more the product of low income than of small farm size per se. Able-bodied, full-time operators of small farms have a high incidence of low income, and it is difficult to separate positive feelings of independence and pride of ownership of a small farm from negative feelings arising from poverty and underemployment. Small farms with sales of $20,000 to $40,000 per year received operator-family labor income from farming that averaged less than $4000 per year from 1975 to 1981; smaller farms received even less.

If full-time small farms are providing a low quality of life, we should observe a mass exodus from these farms or a shift of operators from full-time to part-time status. That adjustment is precisely what we observe in Fig. 1, which shows trends for U.S. farms with sales of $2500 to $20,000 per year [*6*]. The upper graph indicates that continuation of the 1959–1969 or 1959–1974 trends would leave no full-time, able-bodied small farm operators by the early 1980's. With stability or growth in numbers of small farms with aged operators (lower graph) and part-time operators (middle graph) and with stability or small decline in the number of small farms with full-time, able-bodied heads, the number of small farms can be expected to grow—a turnaround apparent in the *1978 Census of Agriculture* data [*7*]. The additional small farms in 1978 are not back-to-nature subsistence operations but are an extension of the urban-industrial process to the farm as evidenced by the dominance of part-time operations.

In short, small is beautiful mostly for farm operators who have substantial income from off-farm sources.

Operators of small farms and owner-operators take better care of their soil than do other farmers. Studies prior to 1960 indicated that soil conservation was inhibited by crop share leasing arrange-

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ments, small farm size, low income, high time discount rate, and owner resistance to cooperation [*8*].

In a recent and far more comprehensive study, Lee [*9*] analyzed merged data from 37,000 completed land ownership questionnaires, providing basic data reliable for the nation and for individual states on land use, land quality, potential cropland, and erosion. The results revealed no significant differences nationally in mean soil losses on cultivated cropland among different types of farms as measured by legal organization. In none of the ten regions of the United States did average rates of erosion by nonfamily corporations exceed those of other types of ownership. In the Southeast region, family ownerships averaged 14.3 metric tons more soil loss annually per hectare than did nonfamily corporations. Almost 57 percent of land owned by nonfamily corporations in this region was operated with soil-conserving minimum tillage or residue practices, whereas only 36 percent of land owned by families used these practices. Yet the need for conservation practices as measured by erosion hazards was as great or greater on land owned by families.

Nationally, Lee's analysis did not reveal significant differences in soil erosion rates on cultivated cropland among noncorporate tenure groups. For those who operated only land that they owned, higher income levels were associated with lower rates of erosion both nationally and within five out of ten regions of the United States.

In a subsequent extensive analysis covering the nation, Lee and Stewart [*10*] found that 44 percent of full-owner operators used minimum tillage on cultivated cropland as opposed to 52 percent of part owners and 51 percent of nonoperator landlords. Nationally, only 40 percent of farms with under 57 hectares compared to 47 percent of farms with 57 to 284 hectares and 61 percent of farms with over 284 hectares employed minimum tillage on cultivated cropland.

The above studies did not examine environmental impacts of chemical pesticides and fertilizers. The lower total input cost per dollar of output on large farms is partly due to greater use of chemicals. Although chemical use could be reduced under proper management without loss of yields, a large reduction in chemicals or major increase in the proportion of farmland operated by small farmers with current efficiency would reduce productivity and require extension of cropland to erosion-prone soils to maintain food output.

In short, the foregoing results gave no basis to conclude that tenants have more soil losses than full- or part-owner operators. Small farms and low income, often associated with the small farms, are factors in poor soil conservation practices.

Small farms are more energy efficient than large farms. Estimates from the *1974 Census of Agriculture* of total cost of petroleum fuels for the farm business, of commercial fertilizer, and of weedicides and pesticides ranged from 6 cents per dollar of farm sales on farms with gross receipts of over $500,000 to 24.5 cents per dollar of sales on farms with gross receipts of $2500 to $5000 per year [*11*]. For the eight farm size classes considered, energy costs per dollar of gross receipts per acre and per unit of production expenses were consistently higher for the smaller of any classes of farms compared.

These data may underestimate the energy inefficiency of small farms because they do not include all energy used for nonbusiness purposes. A population dispersed on many small farms requires greater transportation energy for school buses and for shopping and other trips to town than does a small population on larger farms. In the unlikely event that energy supplies become so short that on-farm energy production is economically feasible, large farms would have an advantage because of size economies in alcohol or methane production from crop residues, manure, grain, or other stocks.

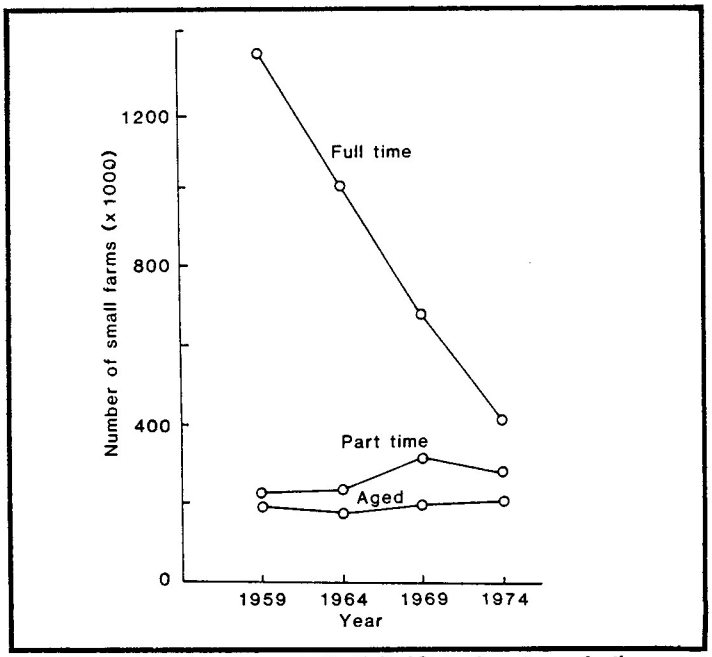

Fig. 1. The number of small farms in the United States by category for the census years 1959 to 1974 [*6*].

In short, small farms are less energy efficient than large farms and higher energy prices are unlikely to improve the competitive position of the small farm.

Small farms offer an alternative to the trauma of outmigration of farm people to cities. This issue has two components. One is whether small farms offer an alternative to outmigration and the second is whether outmigration has been traumatic.

The great farm-urban exodus is over and comparatively few established farmers leave farming except for retirement in town. As indicated earlier, small farms are growing in numbers primarily because town and city workers choose to reside on the farm. These people do so despite the recognized lower economic efficiency (to be discussed later) of small farms because people are willing to use their nonfarm income to pay for consuming the farm way of life, because tax benefits accrue from having a farm business, and because rural services are subsidized by taxpayers.

Charging residents the full cost of now subsidized water, electrical, telephone, mail, and school bus services would slow urban sprawl, promote orderly development, and reduce the need for land-use planning and zoning. Fewer part-time small farms entering agriculture would leave more land for expansion of established farms into economic size units.

The second component of this issue is whether rural people became worse off when they moved to the city. It is well recognized that the heaviest migration from farms was by youth who were never farm operators and who had fewer problems adjusting to a new environment than did families who formerly were established farmers.

A review of studies of rural-urban migrants, most of whom were formerly established on farms, revealed that all studies were in agreement that objective measures indicated a better life off the farm [*12*]:

> Migrants substantially increased their real income and national income. Farmers who remained at home also received higher incomes because

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they could farm larger units and did not have to share the home farm operation with others. Available data also show that migrants in vast majority improved their housing and medical and welfare service opportunities, as well as educational opportunities for their children. Very few became part of the urban unrest problem.

Subjective measures such as the migrants' perceptions of whether they were better off for leaving the farm also supported the conclusion that the exodus improved quality of life.

Middle-class migrants quickly adapted to urban middle-class culture, but adjustments were often difficult for the lower class. Especially for the latter, inadequate human investment in the form of job information, training, and general schooling created undue friction in the great farm-urban exodus. But given the choice between staying with the poverty, discrimination, underemployment, and squalor left behind and a move with inadequate preparation, the exodus was more attractive to the disadvantaged and disenfranchised.

Redirection of publicly supported agricultural research and extension can save the small farm and redistribute benefits from the rich to the poor. An estimated 85 percent of publicly supported agricultural production research was scale-neutral in 1979 [*13*]. Of the 15 percent of the public agricultural production research that was scale-related, 7 percentage points were directed to farms under $20,000 gross sales, 5 percentage points were directed to moderate size farms, and 3 percentage points were directed to large farms with over $100,000 in gross sales. The payoff from agricultural production research and extension (R & E) has been exceedingly high, typically averaging a 50 to 100 percent rate of return on investment. This return is achieved by savings in conventional inputs such as land and irrigation water, by lower food and fiber costs to consumers, and by foreign exchange earnings through exports.

Farmers who adopt the results of R & E early benefit from it but the competitive farming industry on the whole is unable to retain the benefits. Farm productivity gains averaged 1.7 percent per year from 1970 to 1978, saving consumers over $2 billion annually in food costs. If productivity gains were solely on small farms, productivity advances as measured by output per unit of conventional inputs on farms with under $20,000 in sales would need to average at least 20 percent annually or, on farms with sales of $40,000 or less, would need to average 9 percent annually to produce benefits comparable to current benefits. Such productivity gains are unattainably and absurdly high even if R & E could somehow be confined only to small farms.

Because publicly supported R & E is mainly related to biological sciences and output-increasing, its impact on farm structure is modest, serving mainly to fill the growing demand for food without increasing conventional production inputs. This contrasts with private machinery firms which emphasize labor-saving technology such as the tractor and its complements. Private investment would continue to expand farm size and diminish farm numbers even if public R & E were terminated for large farms. But output-increasing R & E from the land grant university system would no longer produce benefits that lower real spending for food, expand exports to earn foreign exchange, and save soil.

Data for 1974 show that public agricultural research alone supplied $12.37 in benefits for each tax dollar provided for such research by U.S. families with incomes of under $5000 and $1.20 of benefits per tax dollar provided for such research by families with incomes of over $20,000 [*14*]. Thus taxes to support R & E have redistributed income from the rich to the poor.

Research and extension is not an effective tool to redistribute income to small farms. Part-time farmers, now the modal small-farm category, are often distracted from improving farm productivity by lack of time, scale, or need for additional income; aged farmers have short earnings horizons which detract from their commitment to make needed investments in greater productivity. Full-time, able-bodied small farm operators often have limited human and material resources to raise output and income substantially from R & E. I am by no means contending that R & E should not be for small farmers but rather that agricultural R & E has the highest payoff to society by emphasizing scale-neutral practices and technology made available to all farms, including of course the largest 300,000 farms which account for nearly three-fourths of farm output. In short, public R & E is for consumers, and if it is to benefit consumers it must work through the mid-size and large farms that account for 83 percent of farm output as well as through small farms.

Federal government programs have hastened the demise of small farms. Of the major federal government programs, only three categories are considered here—credit, commodity supports, and aggregate demand expansion.

The Farmers Home Administration, the major federal credit agency for farmers, provided 22 percent of its farm loan volume to farms with sales of under $40,000 in 1979 [*15*]. These farms accounted for 12.3 percent of all sales of farm commodities in the same year, hence lending was much more concentrated on small farms than on large farms as measured by farm receipts. Loan subsidies were even more concentrated than loans on small farms because interest rates were lower for small than for large farms.

Government commodity price and income support payment benefits average much more per large farm than per small farm. But overall income benefits are larger per dollar of output on small farms than on large farms. Economies of size may be measured by a unit cost curve (by size of farm) defined as all costs (including opportunity costs of operator family labor, management, and equity capital) divided by gross farm income from receipts and government payments. By this measure, commodity programs flatten the unit cost curve, reduce economies of size, and diminish incentives for expansion.

On the other hand, government programs provide price security and payments that enable a given net worth to be leveraged further than under a free market to purchase a larger farming unit. The two effects tend to offset each other. This is one reason why the most comprehensive analysis to date of the impact of commodity programs on farm structure concluded that "On net, the mass of data, evidence and professional judgments provide little basis for any conclusion other than that government price and income payment policy has generally been neutral in its effect on farms of varying sizes producing program commodities" [*16*].

Government monetary-fiscal policies to stimulate aggregate demand and promote full employment have been a major source of inflation. Inflation has created severe cash-flow problems for farmers and raised barriers to entry into farming but has not significantly influenced growth rates in net worth of established farms [*17*]. Because small farmers receive most of their income from off-farm sources, they have been less restrained by farm cash-flow problems than other farmers. Mid-size family farms have been most disadvantaged by cash-flow problems stemming from inflation because they have less off-farm income than small farms and less access to debt and equity capital than large farms. This is one reason why numbers of mid-size family farms have declined while numbers of small farms have increased in recent years.

In summary, the empirical evidence provides no support for the proposition that the three major government programs or policies considered above have hastened the demise of small farms. The two principal forces requiring farms to grow larger are labor-saving

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technology and growth in labor income. Regarding the latter, with given prices and technology, farms must grow in scale for their operators to keep abreast with growth of personal income in other sectors.

The social and economic vitality of rural towns and small cities is drained by farm enlargement and consolidation. Dating at least from the famous Goldschmidt study of Arvin and Dinuba, California, in the early 1940's, the socioeconomic relation of the rural town or small city to its surrounding farming area has been of interest. Those who inferred that results for Dinuba showed that community vitality was favored by small farms failed to realize that Dinuba was a town surrounded by family-size farms (slightly larger than average size) and not by small farms [*18*]. Many towns in the South are surrounded by small, low-income farms. These communities frequently display lack of economic and social vitality and are hardly models to be emulated. Given the importance of income and employment to well-being, the socially optimal size of a farm from the standpoint of the community is not a small low-income farm.

Much of the decline in rural nonfarm population attributed to the decline in farm population would have occurred in the absence of farm consolidation and enlargement. The principal reason for the decline of the small town is the improvement of transportation—automobiles and roads. The impact not only influenced the local general store but also schools and medical facilities, because people could afford to travel greater distances to obtain a higher quality and variety of services.

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Notes for Tables 1 and 2: (1) The "distributive" indicator represents a composite of wholesale and retail trade; transportation, communication and utilities; finance, insurance, and real estate; and selected services. (2) The "physical volume" indicator and its components represent the dollar volume indicator and its components adjusted for price changes using appropriate price indexes—see Table 5, page 5.

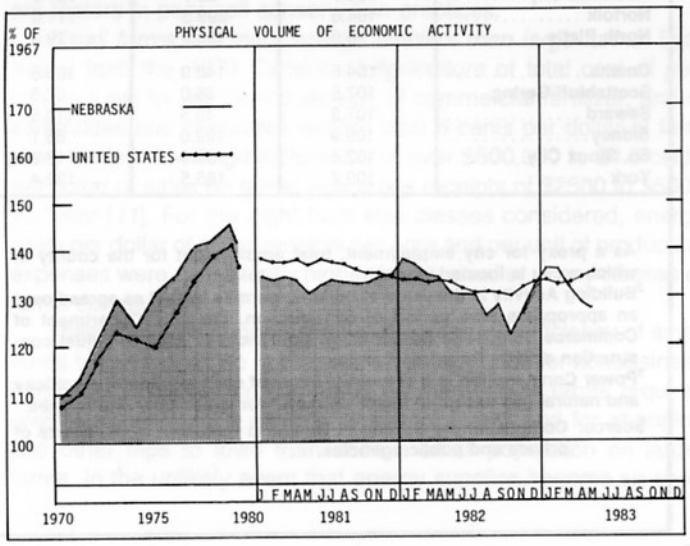
ECONOMIC INDICATORS: NEBRASKA AND UNITED STATES

1. CHANGE FROM PREVIOUS YEAR

May, 1983	Current Month as Percent of Same Month Previous Year		1983 Year to Date as Percent of 1982 Year to Date	
Indicator	Nebraska	U.S.	Nebraska	U.S.
Dollar Volume	100.5	104.5	101.4	103.1
Agricultural	78.0	96.0	97.0	99.0
Nonagricultural	103.9	104.7	102.1	103.3
Construction	130.9	109.6	100.8	108.6
Manufacturing	96.2	97.5	88.3	93.9
Distributive	103.8	106.9	105.0	106.2
Government	108.3	106.7	107.9	105.9
Physical Volume	97.2	100.9	97.9	99.7
Agricultural	80.4	97.1	97.4	99.7
Nonagricultural	99.8	101.1	97.9	99.7
Construction	127.4	106.6	99.3	107.1
Manufacturing	95.1	96.6	87.2	93.3
Distributive	100.4	103.3	101.3	102.5
Government	99.5	99.3	99.4	99.2

2. CHANGE FROM 1967

	Percent of 1967 Average	
Indicator	Nebraska	U.S.
Dollar Volume	357.9	379.0
Agricultural	273.9	321.9
Nonagricultural	370.4	380.9
Construction	251.6	336.9
Manufacturing	316.7	285.9
Distributive	398.2	435.1
Government	390.4	392.4
Physical Volume	127.6	135.1
Agricultural	109.1	131.4
Nonagricultural	130.3	135.2
Construction	74.7	100.0
Manufacturing	131.2	116.0
Distributive	134.0	146.5
Government	141.4	146.6

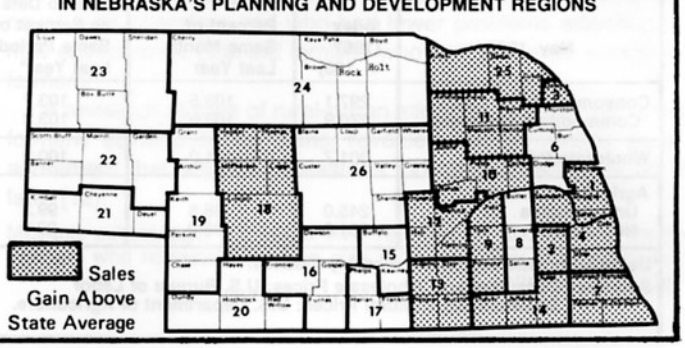


3. NET TAXABLE RETAIL SALES OF NEBRASKA REGIONS AND CITIES

Region Number and City	City Sales* May 1983 as percent of May 1982	Sales in Region* May 1983 as percent of May 1982	Sales in Region* Year to date '83 as percent of Year to date '82
The State	103.9	107.3	101.0
1 Omaha	104.3	108.3	104.2
Bellevue	115.7		
Blair	106.3		
2 Lincoln	110.9	112.9	105.9
3 So. Sioux City	100.0	109.1	104.5
4 Nebraska City	103.8	113.9	104.1
6 Fremont	109.3	112.6	102.9
West Point	123.2		
7 Falls City	108.1	107.2	100.8
8 Seward	115.6	115.1	104.0
9 York	104.8	106.9	102.5
10 Columbus	115.3	117.2	105.0
11 Norfolk	111.8	115.6	105.0
Wayne	123.2		
12 Grand Island	104.5	109.4	104.9
13 Hastings	100.9	106.4	103.5
14 Beatrice	110.9	116.3	106.3
Fairbury	132.3		
15 Kearney	109.8	110.3	102.8
16 Lexington	106.7	111.0	99.8
17 Holdrege	112.6	113.9	100.2
18 North Platte	107.1	113.6	107.4
19 Ogallala	107.0	110.4	99.4
20 McCook	111.7	115.5	103.1
21 Sidney	97.3	99.0	91.2
Kimball	97.0		
22 Scottsbluff/ Gering	102.6	105.3	97.5
23 Alliance	111.5	110.6	101.5
Chadron	116.3		
24 O'Neill	111.8	105.1	96.5
25 Hartington	120.8	115.6	103.3
26 Broken Bow	110.6	114.9	103.0

*State totals include sales not allocated to cities or regions. The year-to-year ratios for city and region sales may be misleading because of changes in the portion of unallocated sales. Regional totals include, and city totals exclude, motor vehicle sales. Sales are those on which sales taxes are collected by retailers located in the state. Compiled from data provided by Nebraska Department of Revenue.

1983 YEAR TO DATE AS PERCENT OF 1982 YEAR TO DATE IN NEBRASKA'S PLANNING AND DEVELOPMENT REGIONS



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Rural communities have shown remarkable vitality in the face of declining farm employment. Since 1970, employment and population have grown more rapidly in rural communities than in metropolitan communities. The well-documented demographic transition is characterized by employment and population growth not only in counties adjacent to metropolitan counties but also in hinterland counties. Mostly because of the dispersal of nonfarm industry to rural communities, the probability of towns of 1000 inhabitants growing was as great as the probability of larger towns and cities growing even in the 1960's [*19*].

Preservation of small farms is essential to preserve competition and avoid concentration of production on a few large farms. Small farms with sales under $40,000 in 1981 accounted for 72 percent of all farms but for only 12.6 percent of all farm receipts. The remaining 694,000 farms of larger size alone constitute a highly competitive market.

For selected commodities, concentration is much greater than for the farming industry as a whole. The most concentrated major component of animal agriculture is broiler chicken production and processing. An estimated 97 percent of all broilers are produced under vertical coordination—90 percent under production contracts and 7 percent directly by integrated broiler processing firms [*20*]. In 1975, 30 percent of broilers were processed by the eight largest firms and 50 percent by the 11 largest firms. Through production contracts with growers or company-owned growing operations, these firms could effectively control broiler production for their processing facilities. Despite or because of this high degree of concentration, broiler production efficiency has increased more rapidly than efficiency in beef and pork production and the cost savings have been reflected quite fully in wholesale broiler prices.

My intent is not to make a case for concentration of production among fewer firms, but to indicate that agricultural production in the foreseeable future is in no danger of being concentrated in so few firms that monopoly pricing or reduced efficiency will be a problem. Furthermore, small farms contribute too little to aggregate production to be an effective source of market competition.

Is the Optimal Farm a Small Farm?

A large number of studies of economies of size indicate that small farms produce less efficiently than large farms but most production economies are realized by farms with sales of approximately $60,000 per year [*21*]. Modest market economies in the form of input price discounts and product price premiums continue to accrue to sales of $100,000 and more. The optimal size of a farm varies a great deal by individual (or family) and commodity.

The optimal size of farm depends not only on production and market economies but also on the marginal utility of resources and income. As farm size expands to approximately $100,000 of sales (a size normally providing a labor-management return to the full-

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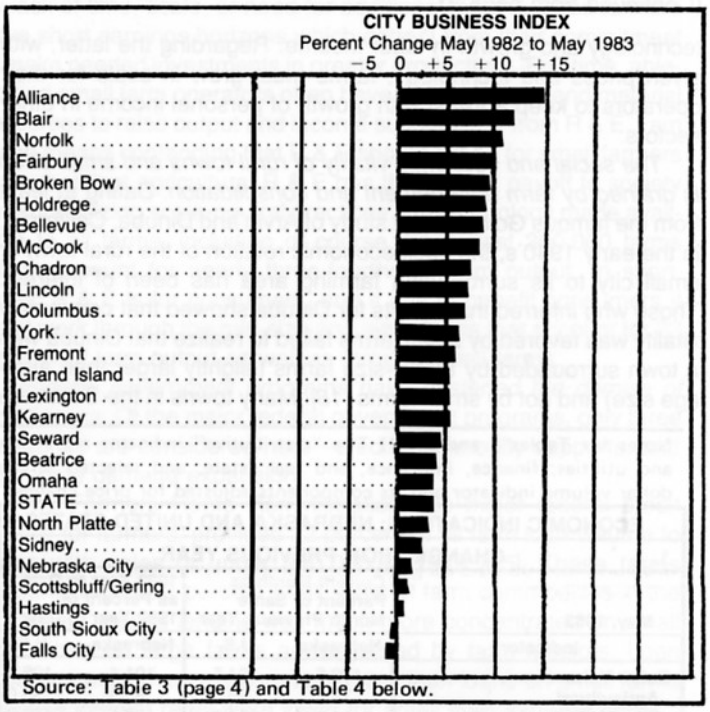

Source: Table 3 (page 4) and Table 4 below.

4. MAY CITY BUSINESS INDICATORS

The State and Its Trading Centers	Percent of Same Month a Year Ago		
	Employment[1]	Building Activity[2]	Power Consumption[3]
The State	105.6	140.6	102.1
Alliance	106.9	561.1	107.6
Beatrice	106.8	70.3	80.8
Bellevue	104.8	156.2	111.7
Blair	109.9	371.9	117.0
Broken Bow	110.7	150.5	126.3
Chadron	105.7	94.3	116.8
Columbus	106.1	91.3	98.5
Fairbury	104.0	44.1	106.8
Falls City	106.7	30.1	98.2
Fremont	107.2	107.8	88.7*
Grand Island	106.9	141.7	136.5
Hastings	101.7	117.3	102.2
Holdrege	110.5	125.9	96.7
Kearney	108.2	77.3	104.0
Lexington	107.9	106.3	75.0
Lincoln	103.2	181.5	97.0
McCook	114.5	86.7	99.2
Nebraska City	106.7	65.7	104.9
Norfolk	104.6	299.3	111.6
North Platte	96.9	198.9	79.0
Omaha	104.6	148.9	105.5
Scottsbluff/Gering	107.5	65.0	87.5
Seward	107.3	46.5	116.5
Sidney	109.9	122.0	85.1
So. Sioux City	102.4	104.9	118.3
York	109.7	165.5	102.4

[1]As a proxy for city employment, total employment for the county in which a city is located is used.
[2]Building Activity is the value of building permits issued as spread over an appropriate time period of construction. The U.S. Department of Commerce Composite Construction Cost Index is used to adjust construction activity for price changes.
[3]Power Consumption is a combined index of consumption of electricity and natural gas except in cases marked * for which only one is used.

Source: Compilation by Bureau of Business Research from reports of private and public agencies.

5. PRICE INDEXES

May, 1983	Index (1967 = 100)	Percent of Same Month Last Year	Year to Date as Percent of Same Period Last Year*
Consumer Prices	297.1	103.5	103.7
Commodity component	270.9	103.6	103.3
Wholesale Prices	301.7	101.0	100.8
Agricultural Prices			
United States	245.0	98.8	99.3
Nebraska	251.0	96.9	99.6

*Using arithmetic average of monthly indexes.

Sources: Consumer and Wholesale Prices: U.S. Bureau of Labor Statistics; Agricultural Prices: U.S. Department of Agriculture.

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time operator near the median income of nonfarm families), economic efficiencies are obtained which are passed on to consumers to increase their utility. As farm size expands further efficiencies are minor but, given declining marginal utility of income, total utility from farm income declines [22]. Relying on a system of smaller farms would not reduce utility of the farm population from the optimal level of $100,000 of sales per farm if farm people continue to have off-farm jobs to bring income of smaller farms on the average to that of optimal size farms—as apparent in farm income statistics. But consumers would experience substantial loss of utility because of lower farming efficiency and attendant higher cost of food.

Numerous studies of farm-community interactions reveal that moderate size farms are most closely consistent with the well-being of rural communities. Middle-class families support churches, schools, clubs, and commercial businesses. Although the optimal size of a farm, if there is one, varies widely and no one size fits all conditions, the size of farm consistent with increased well-being of society as best measured with our crude tools is neither a small nor a very large farm but rather is a moderate-size family operation.

In short, the optimal size of farm to increase well-being as best that can be measured appears to be the typical-size commercial farm of today—approximately $100,000 in sales and $1 million in production assets. The nation could currently support approximately 1.2 million such farms, or twice the existing number of family-size farms [23]. All persons do not possess the human resources to be family farmers; some must begin as hired laborers, renters, and part-time owners. There is much value in a heterogeneous farming economy that keeps options and opportunities open to the working class as individuals and society strive to improve human and material resources.

Conclusions

The evidence provides no basis to accept any of the eight small farm hypotheses tested in this article. Valid reasons may exist to maintain and even encourage small farms, but they are not the reasons commonly given and embodied in the eight tested hypotheses.

LUTHER TWEETEN*

References and Notes

1. See U.S. Department of Agriculture, *A Time to Choose: A Summary Report on the Structure of Agriculture* (Office of the Secretary, Washington, D.C., January 1981).
2. For farm income and balance sheet data reported here and elsewhere in this article, see U.S. Department of Agriculture, *Rep. ECIFS 1-1* (U.S. Department of Agriculture, Economic Research Service, Washington, D.C., August 1982).
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