RURAL LAND MARKET TRENDS AND SOME ISSUES FOR RESEARCH

by

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THE CHANGING RURAL LANDSCAPE

America's rural landscape is made up of a large and diverse acreage. By excluding the vast holdings of all levels of government (amounting to about 40 percent of all U.S. land) the private market for rural land amounts to slightly less than 1.3 billion acres -- about six acres for each American. It is from these privately owned acres that nearly all the nation's food is produced, and three fourths of its wood fiber is grown. Along with representing a large share of our national wealth, these acres also provide minerals, grazing, water, wildlife habitat and a wide array of recreation for both rural and non-rural population.

During the decade of the '70s something new happened to the nation's rural landscape. New patterns of migration and human habitation emerged in rural areas which could have far-reaching implications for the future use and conservation of our rural land resources. These changing patterns showed that for the first time in U.S. history, people with urban backgrounds are

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*The present paper is based on information and research presented in, Robert G. Healy and James L. Short, The Market for Rural Land: Trends, Issues, Policies (Washington, D.C.: The Conservation Foundation, forthcoming, Fall 1981). The paper also draws from an earlier paper by the same authors, "Changing Markets for Rural Land: Patterns and Issues," presented before the American Association of Geographers' National Conference on Land Use Issues of Non-metropolitan America, College Park, Maryland, June 23-25, 1980.

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increasingly gravitating toward nonurban areas -- high amenity places, farms, small country towns, and exurban areas. History tells us that until recently just the opposite was the case; generations of people with rural backgrounds were an important source of urban population growth and change. Earlier, material and economic progress in the cities, combined with technological progress in the agricultural sector, stimulated a migration pattern which was unidirectional -- from farm to city. The decade of the '70s turned around this historical pattern.

The data now clearly show that for the first time in U.S. history, with the exception of a brief rural population surge during the Depression, nonmetropolitan areas are growing faster than metropolitan areas. This phenomenon has been multicausal and virtually nationwide in its distribution. National statistics show that between 1970 and 1980, population increased by 15.4 percent in nonmetropolitan areas, and by only 9.1 percent in metropolitan areas. The nonmetropolitan population increase is nearly evenly split between gains due to natural increase and those due to net inmigration. This implies that nonmetropolitan areas are increasingly able, not only to attract new residents from the cities and suburbs, but also to hold onto young people who in the past would have left for the cities.

The fastest nonmetropolitan growth is taking place in counties bordering metropolitan areas, so-called "exurban sprawl." Here, one of the factors influencing such growth has been the increased availability of jobs in suburban areas. This has created a new breed of long distance commuter from homes or farms beyond the metropolitan limits. But the more remote rural areas actually have shown the most marked turnaround. After experiencing high and protracted net outmigration during the 1950s and 1960s, even counties outside metropolitan commuting fields and with no city over 2,500 people are starting to grow. Between 1970 and 1977, counties <u>not</u>

adjacent to metropolitan areas grew 8.3 percent. Even more important, these areas experienced a net inmigration of more than a million people, after showing a net loss of 2.3 million people bewween 1960 and 1970![1] It should be noted, however, that remote counties tend to grow only if they are rich in natural amenities -- those less well-endowed generally continued to lose population.[2]

Such population dispersal has increased the demand for rural land of all types, and the landscape is changing -- though visual evidence of the change is not always apparent in the way land is currently being used. Due largely to the diversity of new demands for rural land, current land uses increasingly conceal the reality of owner identities and owner intentions. For example, hundreds of acres of cornfields in one rural county outside Washington, D.C., are not owned by farmers, but by real estate speculators biding their time until sewers become available and zoning is changed. In several coastal areas of California, pastoral landscapes hide the fact that long ago the land was subdivided into small building lots. In many forest areas, an apparent abundance of greenery covers up the reality that often the best timber has been removed and the land owned by weekend recreationists.

By themselves, new patterns of growth and population dispersal to rural areas probably do not involve a terribly large number of acres -- many of the new arrivals live in mobile homes or on small building lots. Nevertheless, throughout the nation's rural areas a new psychology has been introduced into the market, and this will affect large amounts of land. Places that long have been declining are believing again in the possibility of growth. New types of owners are appearing in the marketplace -- the "traditional" owners of rural land are being joined by "nontraditional" owners whose backgrounds, interests, and perspectives on the future use of the land are often sharply different. Thus, new motives are beginning to

influence decisions about rural land use, and new issues are being raised about use efficiency and resource conservation. The stage is being set for a new focus on greater public regulation of rural land, with an increasing emphasis on rural land use planning.

THE CONSERVATION FOUNDATION'S STUDY OF THE RURAL LAND MARKET

The issues raised by new population growth in rural areas are many and varied; and fundamental to understanding these issues is a better knowledge of the market for rural land. How does the rural land market work? What patterns of ownership and use are emerging? What do various market trends imply for the use of land? What new policies might be introduced to deal with the changing issues? To explore these issues and attempt to answer such questions, in 1977, The Conservation Foundation began a study of the rural land market. The book which reports on this research -- to be published by Fall 1981 -- will be the first comprehensive attempt to explain in detail the workings of the rural land market and to document changes that have occurred.

Since our study began, there has been a significant increase in research activity focused on rural land. Most obvious has been the development of new governmental data sources such as the 1978 national landownership survey by the Department of Agriculture,[3] and new data on foreign ownership of rural land.[4] The CF study differs from these other attempts, in part, due to the time period covered. We studied changes in rural land markets over substantial periods of time, based on a belief that events in the land market precede, and often preordain, changes in the way land is used. Public concern and research on preserving the productivity of rural land, and the beauty of the rural landscape, usually focus only on the moment at which the use of land is actually changed. Our study, in contrast,

looks at the much longer period during which expectations about future uses are formed and institutional arrangements created that commit land to a given use. These expectations and arrangements are frequently revealed in the land market long before any change occurs on the land itself. For example, the expectation that a piece of land will be put to urban use is often reflected in the land's price years before a single building is built on it. The purchase of land by a mining or agribusiness corporation may occur long before any visible change in its use. And potentially productive timberland may be split into recreational parcels too small to economically produce wood products, yet the land itself will appear unchanged. Thus, wherever possible we collected data and obtained information covering up to two decades.

Another difference bewween the CF study and new national data sources and studies is that due to the latter's aggregate nature, such information sheds little light on the diversity and local nature of rural land markets throughout the country. Rather than duplicate these aggregate data sources, we concentrated on collecting data at the local level from representative rural places where intensive interviewing and data collection were undertaken. We selected six rural places for data collection and study, utilizing land ownership and land transfer records available at local county courthouses. The six local study sites were:

> Hardy and Pendleton counties, West Virginia--a remote area of steep, timbered mountains and fertile bottomlands whose former isolation has been disturbed by urbanites seeking recreational properties;
>
> West Windsor Township, Vermont and Plainfield Township, New Hampshire--the first a recreational haven for persons from New York and Connecticut; the second an area of low density rural living for persons working in medium-sized New Hampshire cities;
>
> Loudoun County, Virginia (outlying portion)--part of Virginia's

"horse country," this exurban portion of the Washington, D.C., metropolis preserves a rural lifestyle for commuters and retirees;

Tyler County, Texas--located in the east Texas "pineywoods" in the midst of some of the nation's most productive softwood timberland;

San Luis Obispo County, California--an area of dry, rolling grazing land, this county along the central California coast has become a magnet for persons moving out of crowded southern California cities;

Douglas County, Illinois--an almost exclusively agricultural county in the center of the Midwestern Corn Belt, one of the most fertile farming regions in the world.

The six areas chosen are widely separated geographically and include a variety of types and uses of land -- fertile and marginal farmland, hardwood and softwood timberland, and land in demand for recreation and rural settlement. The six places also illustrate a continuum of remoteness, ranging from places just beyond the metropolitan fringe to places quite distant from any metropolis. Although not all regions of the country could be included in a sample of this size, the areas selected cover a wide range of regional diversity. Thus, combined with new national level data sources which serve as benchmarks for comparison, the information we collected for local markets gives us some unique insights into what is happening in diverse rural land markets around the nation.

TRENDS IN THE RURAL LAND MARKET

Forces have been developing, and continue to develop, in rural places that may have significant effects not only on the appearance of America's countryside, but also on the availability of rural land to provide food, fiber, and recreation, and on the distribution of rural wealth. These forces are given their first expression through the market for rural land. Yet most research to date has focused on aggregate demographic data (e.g., population shifts and migration to rural areas), or on certain types of

land use policies meant to affect the use of rural land (e.g., use-value taxation or agricultural districting). Little attention, however, has been concentrated on changes in the land market itself.

We have found that the rural land market in the U.S. has been characterized by three major trends: (1) rapidly rising prices for all types of rural land; (2) an increased demand for rural land with changes in the identities of rural landowners; and (3) changes in the size distribution of landholdings -- the phenomenon of "parcellation." These trends have their roots as far back as the beginning of the post World War II period, but they have accelerated greatly since the late 1960s. They are trends which cut across all types of rural land and are setting the stage for economic, physical, and social change in rural America.

Rapidly Rising Prices

Perhaps the most dramatic of the new rural land market phenomena has been the rise in land prices. A plethora of examples from our case study files makes it clear that even after accounting for general inflation, rural land prices have risen rapidly over the past two decades. However, formulating a consistent series of land prices has always been difficult. Thus, for documenting this trend anecdotal evidence from local markets has been combined with available national data. At the national level, best documented is the increase in the price of farmland.[5] Between 1970 and 1980, the average price of farmland rose by 245 percent. Comparing 1950 and 1980, the average price rose tenfold. By contrast, during 1950-80 the general price level rose some 231 percent. Every part of the country participated in the long price boom, although the more heavily urbanized states and states in the deep south did rather better than average before 1970, while the Corn Belt showed the greatest increases after 1973.

Figure 1 compares the performance of farmland prices through 1979 with both a general price index and with Standard and Poor's index of 500 common stocks. It shows that during the 1950s and 1960s, farmland prices rose about twice as rapidly as the general price index, but not nearly so rapidly as did the stock market. Beginning in 1970, however, farmland prices continued to far outpace inflation, even as the stock market average stagnated.*

Nonfarm rural land prices (e.g., timberland and recreational land) have risen even more rapidly in percentage terms than have farmland prices. While there is no source of national data on these land prices, substantial anecdotal evidence points to high rates of increase. A New Hampshire researcher reports, for example, that "common talk among foresters is that forestland prices in New Hampshire have gone from $10 an acre to nearly $100 per acre in a single decade."[6] A U.S. Forest Service land buyer notes that low-grade timberland in Arkansas sold for $12-$18 an acre in the early 1960s, $50 by 1970, and by 1977 brought $150 or more an acre.[7]

Especially difficult to estimate are trends in values of rural land used for recreation, because such land can range from waterfront properties on Cape Cod or Chesapeake Bay to rugged wilderness in the far West. In 1975 the National Park Service told a congressional committee that land purchased by that agency was appreciating at an average of about 12 percent annually.[8]

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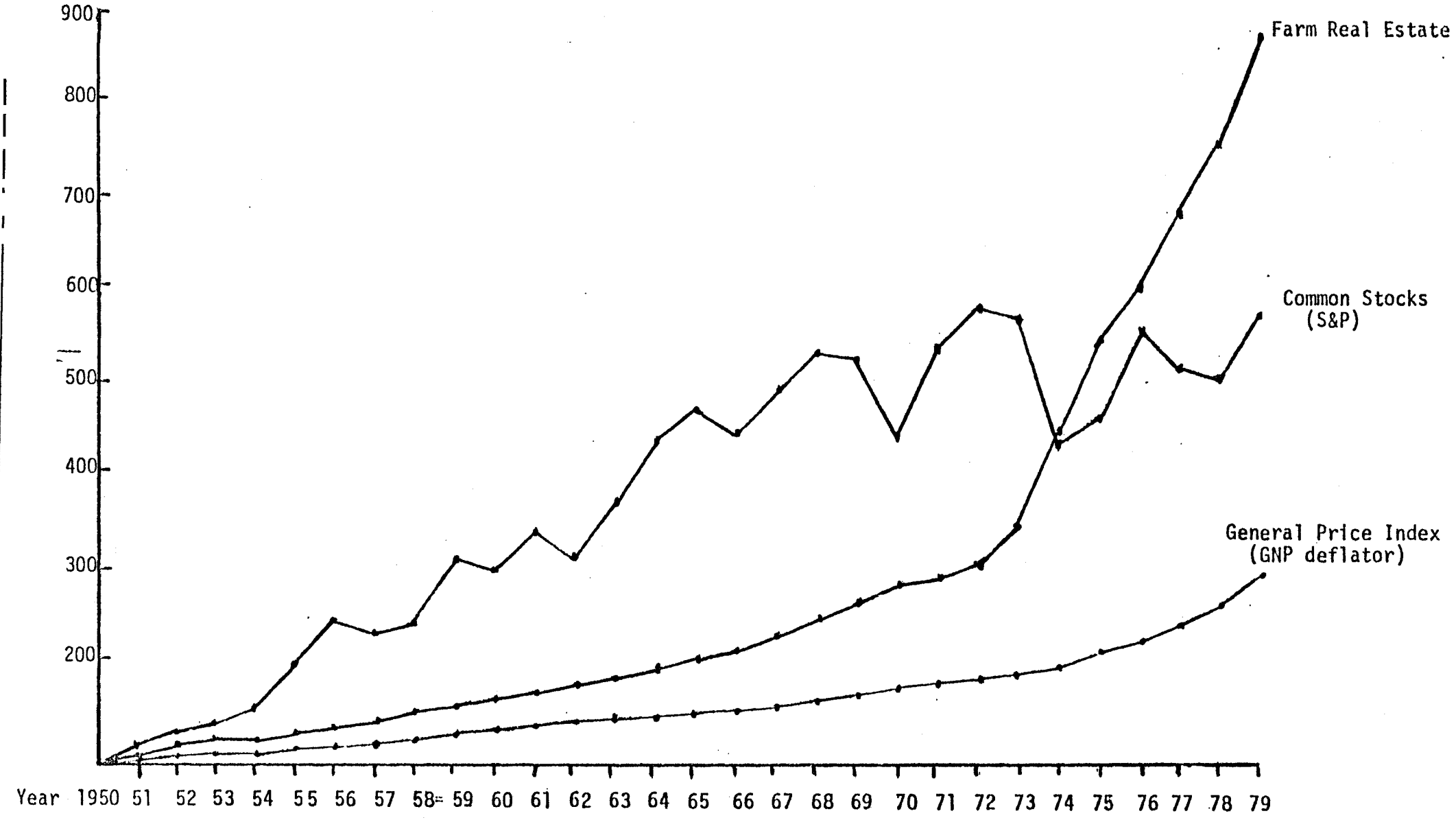
*For the one-year period, February 1980 - February 1981, average farmland prices increased nationally by only 9.3 percent. This was close to but slightly below the rate of inflation as measured by the GNP deflator, and below the increase in the stock market index. This relatively slower growth in farmland prices is likely due to record high interest rates over the period, combined with a poor year for farm income. Thus, from 1980 through early 1981 there have been some slight changes in the pattern of farmland price increases. However, it is clearly too early to speak of any significant alteration in the general trends addressed above.

FIGURE 1

COMPARATIVE RECORD OF PRICE CHANGES

(1950 = 100)



In 1979, a NPS research appraiser estimated that smaller recreational tracts were rising in price by pershps 15 percent a year.[9] Several real estate experts interviewed for our case studies pointed to the extremely high demand for water frontage, whether on the ocean or on inland lakes, and the consequent very rapid rise in the prices of such properties.

The change in value of timberland and recreation land for a large area of the country may be approximated by prices of land acquired by the U.S. Forest Service, using two distinguishable pools of funds. First is money appropriated under the Weeks Act, used since 1912 to buy land for timber and watershed purposes, primarily in the 49 national forests east of the Rockies. The other source of funds is the Land and Water Conservation Fund, used since 1966 to buy land primarily for recreational purposes, nationwide.[10]

A comparison of these two sets of prices with those of farmland is shown in Figure 2 for the period 1969-79. Clearly, both general timberland and recreation land have risen extremely rapidly during the 1970s, their percentage rates of increase dwarfing even those of farmland.

It is also useful to consider how rural land prices have changed in comparison with prices of urban land. Unfortunately, there is no suitable series for such prices.[11] As a substitute, the National Association of Realtors' series on prices of existing homes is used in Figure 2. It indicates that home prices rose rapidly during the period in question, but not nearly so rapidly as did prices of the principal types of rural land.

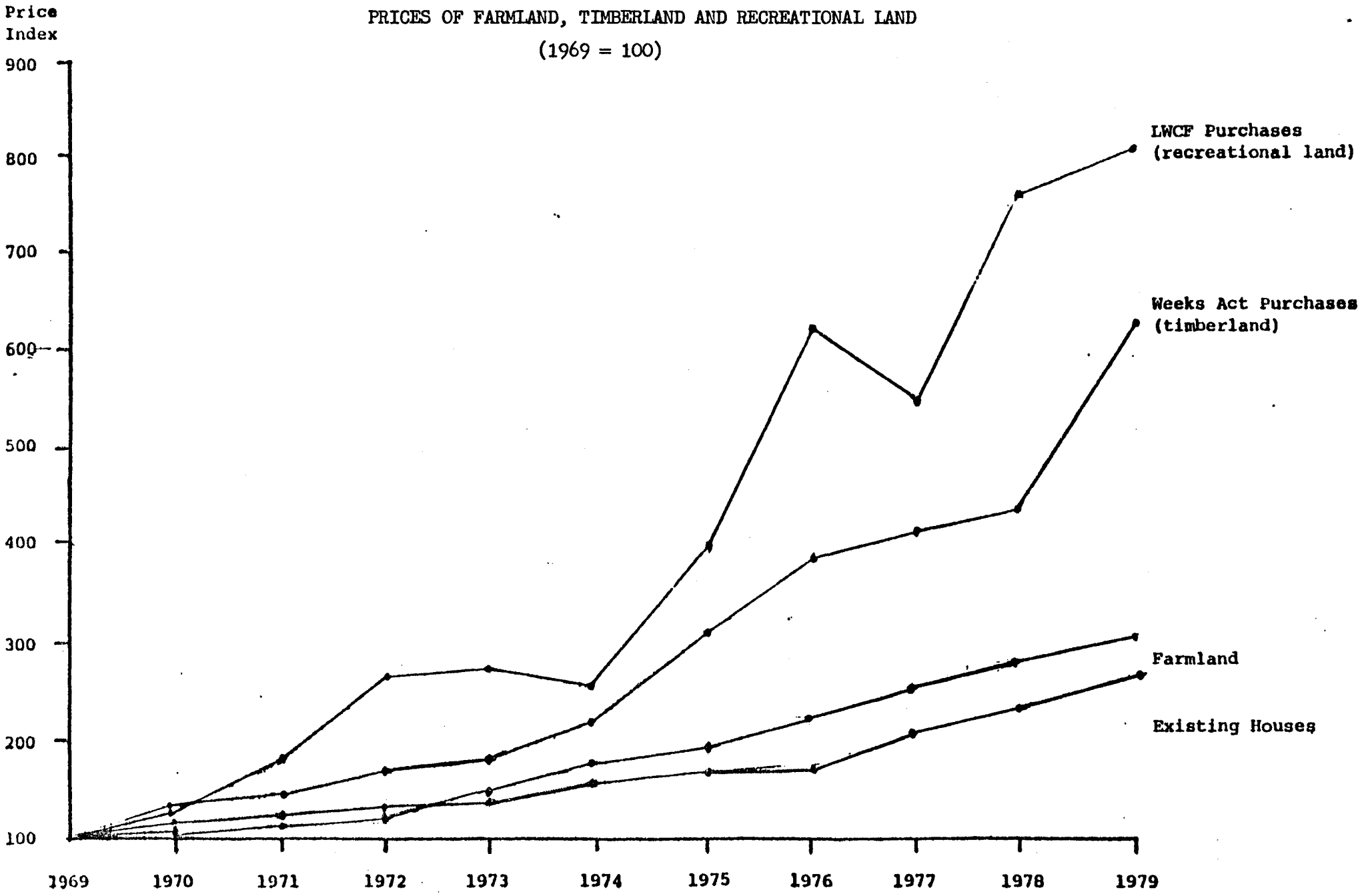
Increased Demands and New Identities

While prices increase, new names are appearing in the land ownership books in musty county courthouses. Some are urbanites buying land for use or investment; others are corporations or real estate syndicates; still

FIGURE 2

PRICES OF FARMLAND, TIMBERLAND AND RECREATIONAL LAND

(1969 = 100)



others are local people now living in cities, who have bought for retirement or have acquired the land through inheritance. Some of these new owners have moved onto the land, but many have not. A few are residents of foreign countries.

There has been a notable leap in the demand for rural land of all types, beginning in the late 1960s and continuing, only slightly diminished, to the present. Figure 3 shows yearly rates of land transfers for rural portions of five of our six study sites.[12] Despite considerable diversity in their locations and physical geographies, the five showed similarities in the way land transfers varied over time. In each place, there was a notable acceleration in the rate of transfer in the late 1960s, usually becoming most apparent in 1969. In each, a peak level of transfers was reached in 1972-73, followed by a sharp decline in the recession/energy crisis years 1974-75. Except for one study site, land transfers have since recovered strongly from the recession low, with transfers in most places at or close to an all-time high. This pattern contrasts with that observed for transfers of operating farms which, nationwide, declined steadily from 1950 to 1971, quickened somewhat in 1972-74, then went to new lows thereafter. In 1950, 280,000 transfers of farm real estate took place; in 1980 only 86,000 occurred. The drop reflects both a major drop in the number of farms, and some decline in the rate of transfer per 1,000 farms.[13]

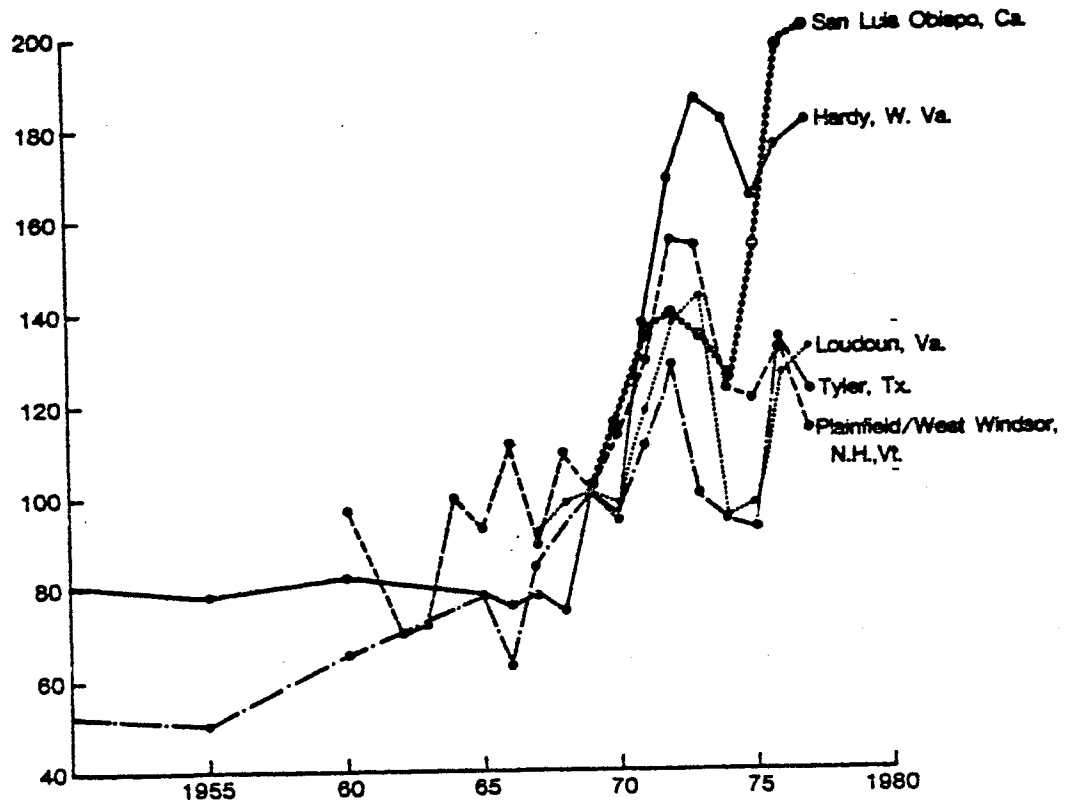
This rise in market activity has been associated with increases in several types of demand for rural land, including speculative demand, demand for land as an inflation hedge, demand associated with higher prices for farm and forest products, demand for rural primary and recreational homesites, retirement demand, and demand by foreign investors.

Particularly significant in the nonfarm market has been the increase

FIGURE 3

LAND TITLE TRANSFERS

(1969 = 100)



Source: Conservation Foundation Rural Land Project

in demand for land by "nontraditional" owners. Traditional farmers or small town owners of rural land are now being joined by urban professionals whose income and flexible work schedules allow a mixture of rural amenities with urban business; by urban workers looking forward to retirement in quieter environments with lower living costs; by young professional couples combining weekend "hobby farming" with close attention to their land's potential as a long-term investment.

As with most aspects of rural land markets, we simply do not have national statistics describing this trend of increased demand and new identities. The Department of Agriculture's 1978 nationwide landownership

survey does give us a picture of ownership patterns for all land at a single moment in time.[14]

According to the survey, and not surprisingly, the biggest owners of land in the U.S. are farmers, who own more than half a billion acres, 38 percent of all privately owned acreage. However, it is interesting to note the study's finding that 44 percent of farm and ranch land is owned by nonfarmers.

Next in importance are retirees, who hold 190 million acres, or 14 percent of all private land. The remainder of U.S. land is owned by white-collar workers (13 percent); nonfamily corporations (11 percent); blue collar and service workers (8 percent); family corporations (5 percent); housewives (3 percent); and "others," including estates (6 percent).

However, this picture remains a static one and tells us little about how demands and ownership patterns have been changing over time. Because of the lack of studies showing changes over time, such an inquiry became a major goal of our own study and research. For our six local area case studies, we compared ownership patterns in 1954 with those in 1976. In five of the six areas, we found that over that two-decade period there was a substantial increase either in rural land owned by absentees, or in parcels purchased by new, formerly urban, residents, or both. For example, in our West Windsor, Vermont study site, in 1954 only 6 percent of all land parcels were owned by persons living more than 30 miles away; by 1976, some 39 percent of parcels were owned by such persons, nearly all of them from out-of-state. In Tyler County, Texas, 31 percent of landowners in 1954 lived outside of the county; by 1976, 58 percent were non-county residents. In Loudoun County, Virginia, absentee ownership of rural land doubled simultaneous with an influx of new, formerly urban, residents.

Other than the case studies, information on ownership changes over time is either indirect or impressionistic. One indirect indicator of the direction of change is the level of the farm population. It has fallen precipitously, from 23 million in 1950 to 7.5 million in 1979. Undoubtedly, many who left the farm sold their land to some local farmer. Nevertheless, there must be a huge number of persons from farm backgrounds -- including farm heirs -- who no longer live on farms, but who continue to own farm property.

Another indicator is change in the amount of land in farms. (A farm is defined as land selling a miniumum amount of agricultural products, currently $1000 worth, each year.) Land in farms reached a high-point of 1.2 billion acres in the early 1950s, but has since fallen by more than 150 million acres. This change, which involves a land area half again as large as the state of California, by definition put land in the hands of nonfarm people.

Also likely to change patterns of rural landownership is the revival of growth in rural population that began around 1970. Its impact is most easily measured by looking at the changing number of rural housing units. Between 1960 and 1970, urban housing units grew by 23 percent, while rural units grew by only 6 percent.[15] But then came a very dramatic reversal. Between 1970 and 1977, while urban housing units grew by 14 percent, those in rural areas increased by 35 percent. Demographic studies have indicated that the rural population revival has touched all regions of the country, and rural places of all sizes.[16] The migrants themselves tend to have higher levels of both education and job status than do the long-time residents. They have helped change the composition of rural land holders and have injected new funds into rural land markets.

These changes in farming and in rural settlement patterns would, by themselves, have caused a significant shift in the identity and motivations of rural landowners. But they have been accompanied by some other strong forces as well. For example, new demands for rural land also come from increasing numbers of people who are retiring or anticipating retirement. The number of people over 65 is expected to increase from 16 million in 1960 to an estimated 31 million by the year 2000. A greater than ever proportion of these now have pensions, enabling them to buy property and retire in places they consider pleasant. Nationally, it has been shown that sizable numbers of retirees have gone not just to traditional sunbelt destinations but to such places as the Ozarks, the North Carolina highlands, upper Michigan, and the coastal Pacific Northwest.[17] While we have no hard data from our case studies focusing on retirement, it was common to hear interviewees speak of fear of urban crime, outdoor recreational opportunities, improved medical services in rural areas, and a desire for low living costs as making rural areas attractive for retirees. Many people are simply returning to areas where they lived as youngsters or had previous experience during vacations.[18]

Corporate demands for rural land are also of concern to many observers of the rural scene. Although it is not clear from our own data or from the research of others that increased demands for rural land by corporations are a significant part of the surge in market transactions during the early 1970s which was shown earlier (Figure 3), nonfamily corporate demands for rural land do appear to be significant -- current holdings amount to about 11 percent of all land. Nevertheless, lack of data allow little more than speculation on how these demands have changing in the past or how they can be expected to change in the future.

In sum, there is a broad array of new demands and identities in the market for rural land. Such changes affect large amounts of land, and they seem to have grown substantially during the past decade. Only a few have been treated here, and certainly only in summary form. Demand for land by foreigners, corporations, and speculators, demands due to inflation hedging, urban conversion, and population dispersal generally, and other diverse new demands for rural land are treated in detail in the forthcoming book by Healy and Short.[19]

Changing Parcel Sizes

The changing composition of demand for rural land has also modified the size of parcel in which land is held. In some parts of the country, scale economies in farming have led to land consolidation; elsewhere demand has been strongest for small acreage parcels, causing landowners and land dealers to respond by creating lot splits.

The size of parcel in which land is held is mainly a function of custom (e.g., the 80/160/320/640 acre plots based on the rectangular survey) and the economics of past land uses. As economic forces change, the size of holdings slowly changes to reflect them. Thus, in response to technological change in agriculture, the average size of operating farms has more than doubled since 1950 to 452 acres per farm in 1980. In fact, in 1980 farm enlargement accounted for 63 percent of all farmland purchases, up from 29 percent in 1954.[20] This trend is particularly evident in the more fertile farming areas of the country.

In other parts of the country, rural land -- particularly woodland and marginal cropland -- was being divided. A relatively small, but often quite noticeable, number of acres were cut up into small lots for recreational development. A far larger amount was being divided into the 5 to

40 acre parcels newly in demand by urban investors and seekers of homesites.

Changes in parcel sizes are intimately connected with the changing composition of demand and with rising land prices. Because the most desirable size of parcel for a second home or for timber management or for modern farming is rarely the same as that which had been most efficient for the predominantly agricultural uses of the past opportunities for changing parcel sizes occur.

Price also has influenced parcel size. When land prices were low, persons buying land for investment or recreation could afford the relatively large parcels which had formerly been used in agriculture. In fact, such buyers frequently approach the market with a better idea of the amount of money they have to spend than they do of the exact amount of land they require. As long as property taxes remain low, they are happy to accept more land than they really need. Rising land prices, however, mean that a given amount of money buys a smaller parcel -- incentive in itself to break traditional sized parcels into smaller ones.

Land parcellation has particular relevance to the efficient use of rural land. Data from our local case studies reveals the enormous popularity of splitting large tracts of land into a small number of small to medium sized (5-40 acres) parcels. This practice has been encouraged by changes in both supply and demand. On the supply side, multiple-acre lot splits can be created by a local real estate agent or an individual landowner, without need for elaborate planning, legal, or sales organization, and front-end costs are minimal. If no inter-state sales are intended and fewer than 50 lots are created, no HUD property registration is required. And in many cases, multiple-acre lot splits are not regulated by state or local subdivision laws. On the demand side, moreover,

many consumers have become disenchanted with the recreational subdivisions so popular during the late 1960s, in part because they have found that an unimproved 10-acre parcel can cost no more than just a single acre in a rural development project.

On a national scale, only recently has any data been available on the size distributions of landholdings. Data shown in Table 1 indicate clearly that the vast majority of privately held land in the U.S. is in units large enough for efficient commodity production. For example, 94 percent of cropland is held in units of 50 acres or more, and 90 percent of rangeland is in units of 260 acres or more. Of course, a 50-acre farm or 260 acres of rangeland are not regarded as optimal in most rural areas, but they do seem large enough to make consolidation into still larger units at least feasible, should this be desired.

Still, some areas bear watching. Foresters, for example, may disagree on what constitutes the minimum size of parcel for efficient timber management; but the fact that nearly 22 percent of the nation's private forestland is owned in units of less than 100 acres is likely to raise questions as to profitable management on these lands. Similarly, the fact that only somewhat less than 6 percent of all cropland is held in parcels below 50 acres becomes more striking when one recognizes that well over 20 million acres of land are involved. Considerable attention has recently been focussed on the urbanization of farmland, virtually none on acreage whose production potential may have been severely limited by parcellation.

To obtain a better understanding of how parcellation has been changing over time, ownership and parcel size information was collected at our case sites for the 22 year period between 1954 and 1976. These data indicate that parcellation has been quite high during the last two decades. This is

TABLE 1

U.S. LAND USE IN 1977 BY SIZE OF HOLDINGS[a/]
(Excluding Alaska)

Size of Holdings[b/]	Land Use						
	Cropland	Pasture	Range	Forest	Other[c/]	Urban & Water[d/]	Total
Acres	Percent						
Less than 10	1.28	2.59	.87	3.12	4.69	32.82	3.32
10 - 49	4.45	9.47	1.59	8.53	9.73	11.84	5.82
50 - 69	2.25	4.57	.45	3.70	3.39	3.23	2.49
70 - 99	5.41	9.41	1.14	6.16	8.05	4.03	5.00
100 - 139	6.19	9.07	.92	6.69	7.25	2.96	5.20
140 - 179	10.77	9.14	2.21	5.65	5.28	3.84	6.67
180 - 259	10.87	12.21	2.39	7.79	5.97	4.55	7.65
260 - 499	20.64	16.71	7.64	10.85	10.80	8.71	13.64
500 - 999	16.88	11.71	11.00	8.08	8.96	6.38	11.91
1,000 - 1,999	10.20	6.06	12.75	4.87	6.47	4.80	8.69
2,000 and over	11.07	9.06	59.04	34.56	29.40	16.86	29.63
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

a/ Data provided by Linda K. Lee, Oklahoma State University

b/ Landowners' total holdings within a specified county

c/ Includes farmsteads, other land in farms, strip mines, quarries, gravel pits, borrow pits, barren land, and all other land not defined elsewhere including greenbelts and large unwooded parks

d/ Includes urban and built-up land, transportation uses, water, and miscellaneous land uses for which limited Soil Conservation Service data are available

shown in Table 2. The increase in total number of rural parcels over the twenty-two year period ranged from 16 percent in Douglas County, Illinois, to 266 percent in Tyler County, Texas. On an annual basis, this translates into compound changes ranging from 0.7 to 6.1 percent per year.

At all but one study site, there was an increase in the number of small holdings at the expense of large ones. The exception was Douglas County, Illinois, where the market was overwhelmingly dominated by expanding farms. In the Texas and West Virginia counties, the greatest increase in number of

TABLE 2

TOTAL NUMBER OF LAND PARCELS AT SIX STUDY SITES

Study Site	1954	1976	Annual Percent Change
Hardy Co., W. Virginia*	2,186	3,688	2.4
Loudoun Co., Virginia (rural portions)	4,034	6,425	2.1
San Luis Obispo Co., California (rural portions)*#	46,399	54,037	1.5
Tyler County, Texas*	3,080	11,264	6.1
W. Windsor, Vt./Plainfield,, N.H. N.H.	741	1,492	3.2
Douglas Co., Illinois*	841	972	0.7

Source: Conservation Foundation Rural Land Market Project.

*Adjoining or nearby parcels in single ownership counted as single parcel.
#Data are for 1967 and 1977.

parcels was found in the very smallest size class, those less than one acre. (In Tyler these rose more than sixteenfold, from 351 to 5,745.) In the New England case study, the greatest growth was found in tracts of 10-25 acres.

Despite the very dramatic increase in the number of small parcels, the number of acres affected has proven to be rather low. In Tyler, for example, although the number of parcels of less than 10 acres rose more than 5.5 times, the percent of acres held in less than 10 acre tracts rose only from 2.0 to 5.6 percent. In the New England site, the proportion of land area held in less than 10 acre parcels was 1.4 percent in 1954 and 4.5 percent in 1976.

The 10-25 acre parcels, on the other hand, showed more moderate growth

in number, but increased their acreage more impressively. In Tyler County, they rose from 4.1 to 10 percent of total acreage; in Loudoun from 5.3 to 10.7 percent; and in West Windsor/Plainfield from 3.5 to 9 percent.

Perhaps the most comforting aspect of these data, as noted earlier for the national-level data, is the finding that, despite the parcellation that has occurred, more than half of the area of each county is in holdings of more than 100 acres in size. Despite rapid change, the land resource base has, at least for the present, not been fragmented beyond repair. But to repeat, certain areas bear watching.

EMERGING ISSUES FOR FURTHER RESEARCH

The rural land market trends discussed in this paper raise numerous complex issues. Ownership and use patterns are changing and it is important that we begin to understand the motives behind these changes and the diversity they represent. The rural land market is indeed an arena of private individuals and private interests. In their buy-sell decisions, millions of market participants have exercised their good judgements or their lucky guesses, their family obligations and personal dreams. In the rural land market private choices continue to reign supreme. But land has also aptly been described as "a commodity affected with a public interest."[21] Thus, if we are to continue to rely on the private land market to allocate lands among their most efficient uses, and to address public policies to that market for socially desirable distributions of those uses, we must not misinterpret the motives and changing patterns in the private marketplace. To do so, will be to construct inappropriate public policies with very uncertain results.

Some Issues Related to Rising Prices

The issues raised by the significant rise in rural land prices will

affect farmers, investors, new and old landowners, local bankers, planners and conservationists. Existing farmers may find that higher prices mean additional land cannot be purchased for farm expansion, and this during an era in which larger units tend to be more efficient. For young, would-be farmers the cost of going into business may be simply prohibitive. Timber companies find it difficult to expand their holdings of new productive timber because land prices have reached levels not justified by the production of timber. On the other hand, the expectation of steady increases in land value has probably kept many farmers in business, despite low rates of curent income. Capital gains from land have made it possible for farmers to borrow for expansion and to look forward to a secure retirement. And local rural bankers, many of whom recently financed high-priced land purchases, are likely to be quite concerned over any policy (e.g., new land use regulations) which might have potential for reducing the market value they assumed would continue to secure their loans. All in all, the issues are complex.

First, it is not just increased demands that have pushed prices up. Factors are also at work on the supply side of the market that help keep land prices high and rising. The supply of land in rural areas is affected by the personal circumstances of the owners of land as well as economic forces in the market place. And this may be a potent source of research for better understanding rural land price changes. One of the most notable aspects of rural land supply is how landowners' personal circumstances can often take precedence over economic market forces in the decision to sell land. For example, in many rural land markets the supply of land is controlled by only a few long-time landowners, and there is often a reluctance to place land on the market. Estate sales and land auctions are major sources of land supply and these have more to do with demographics and life cycles

than with market phenomena and prices. In one rural Virginia area, a real estate broker was talking about the sluggish response of land supply in that area: "Divorce and death are the big things here ... divorce is how we got our farm." A recent survey of farmland owners in three Vermont counties found that health and age were the two most important reasons for selling land. Ranking only third was the price-oriented response: "received a good offer for the land."[22]

At the same time, our case study evidence shows that non-economic factors may have more impact on the timing of sales than on the eventual outcome. A Texas real estate dealer noted that the current local land supply there is "mostly from estates where the heirs want their part ... they're selling to developers ... land values are getting to the point where you see you can make a few bucks."

A second factor affecting the rise in rural land prices is the expectation an owner or purchaser has about future price changes. A significant portion of current land price is the capitalized value of future expected price appreciation. During a period of continuously rising land prices, this can lead to what one rural Texas attorney described as the "you'd better get it while you can" attitude -- an inflation psychology leading people to "buy now before the price goes higher." This could also help explain why farmland prices have risen more rapidly than cash rents in recent years, and generally continued to rise even though crop prices fell from their 1974-75 highs. Simply put, many people who expect land prices to continue to increase, may make purchase decisions having little to do with how "productive" the land is. The result is higher land prices over the short run.

There is another aspect of rising prices that calls for further

investigation. Higher land prices may hinder existing farmers from expanding their operations, but perhaps even more important from a policy perspective, high prices block access to the market of smaller scale or beginning operators. During times of high farmland prices and costly credit for the purchase of land, new owners interested in farming are priced out of the market much the same way many potential urban homebuyers have been denied their part of the "American Dream." Thus, to increase access to the land market for beginning farmers, more creative credit arrangements need to be explored. For example, a "shared appreciation" mortgage is being experimented with in several urban areas. Applied to the farm real estate market, a beginning farmer could give up to the lender the right to some of his future price appreciation in exchange for a current concessionary interest rate. The lender, in turn, might then sell the appreciation right in a secondary market to other investors (e.g., pension funds) interested in participating in the farmland market (without actually owning) for purposes of inflation hedging.

Of course, inflation hedging itself has been one of the contributing demand factors at work in rural land markets. The expectation that the price of rural land will increase at least as rapidly as the general level of prices appears to have been particularly strong during the past decade. Not only has this expectation been born out, the returns to investment in rural lands have been relatively stable compared to other investment vehicles. Gertel and Lewis,[23] for example, compared investors' returns from cash rented farmland (in four states) and from the stock market (using the S&P 500 index) with rates of price appreciation for the 1940-1979 period. For stocks and farmland, returns included both current income (dividends or rents) and price appreciation over time. They found both farmland and common stocks have been

good hedges aginst price inflation, but with widely varying performances, depending on the time period considered. Although average annual returns for the entire 39 years were not markedly different between the two assets (12.9 percent for farmland, 10.7 percent for stocks), their data show that farmland has exhibited two characteristics giving it an advantage as an inflation hedge. First, the return to farmland was highest during the two periods of greatest general inflation, the 1940s and the 1970s. Second, inflation adjusted returns to farmland were much more stable than those of common stocks. For example, inflation adjusted farmland returns ranged between 5 and 10 percent, while those for common stocks varied between 17 percent and -2.5 percent.

In sum, demand for land in America's rural areas continues to be strong, and there are few signs that the relatively sluggish supply noted earlier will work very differently to keep price increases down. While one cannot predict the future course of land prices, rural land clearly has some fundamental reasons to attract nonfarm as well as farmer investors. It can thus be pointed out that we need more research on the determinants of rural land prices and issue a call for more continuous monitoring of market behavior. With the majority of data and research having focused on farmland prices, a priority area would be to more closely monitor prices of forest land, recreation land, and urban fringe development land.

Implications of Diverse New Demands and New Market Participants

Issues raised over the diversity of new demands for rural land and new faces in the market frequently focus on conflicts between traditional and nontraditional landowners and on resident versus absentee control over the land. The differing values and motivations of new owners and old, residents and non-residents, have important implications for how land is used.

Traditional owners tend to view land in terms of its productive capacity. The fact is that farmers, ranchers, and forest managers must make a living off the soil. Thus, to such owners the economic role of the land tends to take precedence over its esthetic values. In contrast, nontraditional landowners focus more on their land's amenity values and often disregard its productivity. They tend to view resource protection in environmental quality terms rather than in terms of "conservation for use."

Clearly many new owners from urban backgrounds are less than familiar with the craft of farming or forestry. But in part their protectionist views also reflect their basic motives for buying rural land. Our case study interviews showed a wide variety of motives for land purchases, but the overriding concern of the nontraditional owners of rural land was with the quality of life in the countryside. Coming anew to the apparently pristine rural setting, many new owners may feel that what they see is the way the land has always been, and hence automatically merits preservation. The long-time owners, on the other hand, may remember that a dense forest was once an open field or (as in our Texas case) that the woods were once dotted with oil derricks. They tend to have a greater appreciation than the newcomers of the ability of the rural landscape to absorb change and to recover from environmental damage. Long-time residents have also known past hard times as people and capital fled to the cities. They have watched local commerce and public services decline as a direct result of falling population. Thus the prospect of new highways, new public works, and new population growth is a welcome one. But many of the new owners, having witnessed the effects of unplanned, land consuming growth in suburban settings, seek fervently to avoid seeing the process repeated in their new rural surroundings.

Differences between old and new landowners can also condition their receptivity to implementing various land conservation practices. This has particular significance for management of the nearly 300 million acres of commercial forestland (more than half the national total) held by non-industrial private owners. Studies have found that adoption of improved forest management practices is positively correlated with a landowner's education and income level.[24] Since many newcomers to rural areas are often wealthier and more educated than many long-time residents, they might be more receptive to tree planting, timber stand improvement, and wildlife improvement programs. However, desires to improve their land can falter when newer non-traditional owners face the hard work and expense that land management actually requires. At one of our case sites a forester claimed "you can get (the newcomers') ear a lot better than the old timer," but his colleague added that "if it requires their own labor to accomplish, you may as well forget about it." In addition to these broad motivational differences, an owners's place of residence may make a difference on how the land is used, and some feel that absentee ownership is a source of potential land abuse. This is particularly true for cropland leased under a short-term arrangement to a farm operator. In 1978 about a third of all farmland, some 282 million acres, was rented rather than owned by its operator. Leasing is a long-standing practice in some parts of the country, including the Corn Belt. But some observers contend that leased land is more likely to be abused by its operator, particularly if the owner lives far away or knows little about farming practices and where the lease is only for a year at a time.

Some support for what might be termed the "careless tenant" hypothesis comes from a recent study in western Iowa, which found that renters were losing an average of 20.9 tons per acre of topsoil annually to erosion, while

owner-operators were losing only 15.6 tons.[25] If additional studies bear this conclusion out, it would tend to confirm the wisdom of a proverb frequently cited by land reform advocates, "The best fertilizer for the land are the footsteps of the owners."

Aside from how the land is used, other issues focus on who controls the land. Concern about corporate, foreign and other absentee ownership has been heightened by the fact that we truly know very little about "who owns rural America." Lack of data has historically been a severe impediment to research addressed to this question, and evaluation of many issues is simply not possible until large data gaps are filled, especially those concerned, as our study has been, with how ownerships have been changing over time.

One issue which will only be mentioned briefly here is foreign ownership of U.S. land. Receiving a good deal of attention in the press, foreign ownership of rural land combines all the issues of absenteeism with an added dash of nationalism. Needless to say, a large land purchase by a foreign investor can significantly affect a given local land market, and we certainly need more research in such cases to determine the economic and social effects of such purchases on the local market. However, available data indicate that, nationwide, foreign residents own less than one percent of all privately owned land.[26] The overwhelming majority are Western Europeans or Canadians -- very few are residents of oil exporting nations. Many real estate experts believe that, while foreigners are taking a greater investment interest in U.S. real estate, the bulk of their holdings appear significantly concentrated in improved urban real estate (office buildings and shopping centers) compared to unimproved rural acreage (farms and timberland).

Finally, there has been a great deal of political controversy over both

corporate and foreign ownership. Main arguments have emphasized political and social impacts, charging, for example, that widespread corporate ownership in Appalachia has led to undue influence on state and local government, resulting in lax regulation of mining practices, corruption, and unfairly low property tax assessments of mineral bearing and timber lands. Similarly, foreigners might use their control of land to influence U.S. policies. (Though a contrary argument is that foreign-owned land in the U.S. is theoretically expropriable and hence gives the U.S. greater leverage over foreign interests.)

Issues Raised by Changing Parcel Sizes

The researchable issues posed by the phenomenon of parcellation, in many ways are more focused than for the other two trends presented earlier. Implications of the trend toward smaller and smaller parcels center mainly on the efficiencies of long-term resource management. Parcel size is an important consideration for rural land market research because there are scale economies in farm and forest commodity production. And while there continues to be disagreement over the extent of these economies, there is surely some parcel size below which many otherwise feasible management practices are unlikely to be profitable. Thus, research on scale economies continues to be needed.

At the outset it should be recalled from Table 1 that nearly 85 percent of the privately held land in the U.S. continues to be held in units of 100 acres or more. Yet trends toward increased parcellation of rural land can be troublesome, especially if these smaller parcels are underutilized or left idle by the multitudes of new owners coming to the countryside.

Parcellation is perhaps most worrisome with respect to forestland. Again, from Table 1, 22 percent of forest land is in ownerships of less

than 100 acres, and 12 percent is in ownerships of less than 50 acres. A small tract raises costs even in simply harvesting timber. A timber buyer for one large lumber company in Texas observes that:

> We have people coming to us all the time trying to sell timber in 2, 3, and 5 acre blocks. We just refer them someplace else. We hardly ever buy anything less than 25 acres, and we prefer 50 or more. Our contractor loses a day's work just moving his equipment to the next site.

But the real impact of parcellation is on the economics of applying productivity-raising management methods. Row,[27] for example, has found that tract size has substantial impacts on the financial returns to intensive forest management practices, and that scale economies are found as parcel size rises up to at least 160 acres. On the other hand, tract size influences returns from minimal management only for parcels smaller than about 40 acres. He concludes that "where tracts are small, owners may accurately perceive that <u>for them</u> intensive timber growing would not be worth the effort, unless it facilitates other objectives."

Naturally, parcellation also affects agricultural land, although agriculture is so varied that even rather small tracts can be used profitably (e.g., specialty crops with a high value of product per acre). Generally, however, agriculture depends on scale economies, and as noted earlier, there has been a continuing tendency for farm enlargement to be a major force in many farm real estate markets. Hall and LeVeen, citing many studies of the relation of farm size to efficiency, note that "most of the benefits of technology are achieved by modestly sized farms, e.g., farms of 100-300 acres (depending on crop) and selling less than $75,000 in total output.[28] But even with these findings it is safe to say that the division of high quality farmland into the sort of 2 to 10 acre building lots typically found in rural subdivisions precludes commercial agriculture of most currently practiced

types. Nor do the larger 10 to 40 acre "farmettes" and "ranchettes" that have been created in so many rural places promise much future crop or livestock production beyond perhaps for home use.

In fact, the 10-40 acre tracts typically associated with "hobby farms" may turn out to be more than the owner can profitably manage without substantial capital investment in farm equipment -- an investment which itself would then likely be underutilized given the size of his parcel. More than once we heard of newly arrived owners of hobby farms who were willing to give away crops they had planted if a local farmer would just furnish the equipment and harvest the crop. As an urban-based owner of 37 rural acres told us during an interview:

> There's a farmer down the road who has cut the hay in the field for the past three years. We let him keep the hay in return for cutting it. ... It's much easier than mowing it ourselves, we have no equipment.

Certainly more empirical research is needed on the parcellation phenomenon. This information would be particularly useful in those rapidly growing rural areas where various large minimum lot size zoning has been introduced in the attempt to curtail real estate market activity affecting land uses there. "Building lots" (e.g., commonly from 5 to 40 acres minimum) created by these controls may indeed help preserve an area's bucolic character, but they also drastically increase the number of acres of land locked up in parcels too small to be efficient production units.

For purposes of research and policy formulation, the parcellation phenomenon needs to be looked at from two levels. First, in some cases land is divided into lots so small as to preclude any efficient resource-based utilization of the aand. Lots of, say, less than 10 acres may be used for campsites, trailers, recreational cabins, and "farmettes" and can indeed provide benefits to the owners; but as productive units they are too small.

On the other hand, parcellation also occurs when very large tracts of land are broken into, say, 20-50 acre parcels for sale to urban recreationists and other land investors. At this scale, the production efficiencies may be hindered on individual tracts of land, but it is still possible to combine parcels into more efficient units should this become desirable. Suggested research for new land policies will differ depending on which level of parcellation we are dealing with.

In the first case -- very small lot parcellation -- there are dramatic examples to be found in remote recreational subdivisions throughout the country -- particularly in Florida and the arid West. Between 1968 and 1974, HUD's Office of Interstate Land Sales Registration had files on nearly 4,000 recreational subdivisions. They involved more than 3 million recreational lots, and 7 million acres of land.[29] While dramatic examples of small lot parcellation, the consolidation of such small parcels into larger, more efficient production units is not really at issue due generally to the remote locations of the land involved and its lack of suitability for other uses.

However, our case study evidence did show small lot parcellation to be potentially troublesome in areas where, for example, recreation lots compete with land in very large parcels desired by local timber companies. In such cases the possibility for consolidation of unutilized lots into larger parcels for more efficient timber management seems to exist.

Direct approaches to the consolidation of small losts into larger parcels is possible through either public or private sector purchases of the land involved. Once purchased, small lots could be combined into desired larger parcels that could then be sold, leased, or protected by permanent easements in more efficient and desirable parcel sizes. We know of no

private sector example specifically focused on consolidating lots from poorly platted subdivisions. But one public sector example of which we are aware is the California Coastal Conservancy, created in 1976 to, among other things, restore poorly planned developments through lot consolidation and resale, and to preserve agricultural lands.[30] However, budgeting and political problems have minimized the Conservancy's effects to date. Certainly more research is needed, but it may be that the reparcelling of small lots into larger ones may be attractive only for lands of unusual scenic quality or wildlife value (where the alternative is outright acquisition) or where the governmental body has already acquired most of the parcels through tax default.

A second approach to researching the parcellation phenomenon would address medium-sized tracts of land, say, 20 to 100 acres in size, which have been created by the division of larger parcels. Here research and policy would focus not on the consolidation of ownerships into larger units, but rather on bringing together the use of several contiguous or nearby parcels so that they could reach the scale necessary for production efficiency. This could be done, for example, by exploring methods for bringing together individually owned parcels under common management. Such methods would simultaneously address the problems of parcel size and the related problems of the small owner's lack of information and lack of motivation. An obvious example is professional management services, such as those available from individual consulting foresters and farm managers, as well as from larger firms that may manage land in several states.[31] Other approaches to the management of relatively small tracts, especially for forest land owners, are variously called "landowner assistance programs," "Tree Farm families," and "cooperative forest management programs,"

sponsored by lumber and paper companies.[32]

Finally, at both levels of parcellation, a major factor continues to be that there is a considerable demand for small-to-medium sized parcels and, as a result, land is worth far more in the market when subdivided than when it remains in a large tract. Thus there is a community of interest uniting landowners and land buyers against controls on subdividing. If we are to seek realistic alternatives to parcellation, we need to research new forms of landownership and land development which may make it possible for people to satisfy objectives of resource protection, investment, and the enjoyment of ownership without breaking land into smaller tracts. If new forms of ownership and development could be devised, we could reduce the need for minimum lot size zoning, and could also allow landowners to garner parcelling value without actually dividing the land. The key to this result is subdividing landownership and/or land use without subdividing the land itself.

Examples of alternatives to which further research needs to be directed are only mentioned here, but are considered in more detail in the final report of our study. Some of these alternative ownership approaches are mixed-use developments, transferable development rights, rural planned developments, and community land trusts.

A FINAL NOTE ON RURAL LAND POLICIES

For the most part, the rural land market issues raised in the preceding pages are long-term ones, and for some may not seem particularly pressing. However, it may be that the slower developing problems are potentially the most worrisome, for the long time needed for them to build up is likely to be matched by an equally long time in effectively dealing with them. If large quantities of potentially productive rural land are devoted to

urban, residential, or recreational uses; if parcel sizes are too small for efficient management; or if land and timber are neglected or abused by their owners, it may take literally decades to cope with the results. Is it not advisable to begin now to better understand and monitor the changes occuring in rural areas? The effects of these changes have found their early expression in the land markets of these areas. Using our experience with the decline of the central cities as a lesson, why wait until there is a "crisis" in the countryside analogous to the "urban crisis" of the 1960s before we begin to act?

As research into the trends and issues begins, and as rural land policies are formulated, we might start with a recognition that it will be neither possible, nor desirable, to try to stand in the way of the widespread popular desire to buy land in rural areas or the desire to relocate there. The changing rural land market reflects personal choices about investment and about recreational and residential patterns, as well as the changing economics of using rural land for productive purposes. Many of the impacts of the entry of new people and new money into rural land markets are desirable -- or can be made so if we can harness some of these private energies in the service of social goals. Any policies that might be suggested will not be without drawbacks, but they must encompass ways to keep rural land productive and esthetically pleasing and ways to mitigate disparities in the control of land and in the distribution of costs and benefits among rural people.

In this task we face a number of challenges. First in priority for rural land policy might be to create new models of rural physical development and land use. At present, a great deal of rural residential growth merely replicates suburban development patterns, but at much lower densities.

More innovative forms of rural settlement would make it possible for rural population growth to continue without interfering with the productive role of rural land.

Conklin sums up this challenge:

> ... it simply is not practical to think in terms of chasing the nonfarmers out of (rural) areas any more than it is worthwhile to try putting legal fences around the suburbs ... (the newcomers) will not be chased out, nor will they be made "nonconforming users" under exclusive agricultural zoning ordinances. Rural areas have an intermingled pattern of heterogeneous land uses. The best we can do is work on means for facilitating the pleasant and productive coexistence of the elements in this intermingled pattern.[33]

Second, new institutions can be created for holding and managing rural land. For example, timber cooperatives and community land trusts need further experimentation; and more appropriate institutional arrangements need to be explored to better incorporate the roles of absentee owners and nonfarm capital.

A third challenge is for the land use planning process to recognize the very obvious, but often overlooked, fact that "rural" differs from "urban." In the few rural areas where land use planning is in existence, there has been a tendency to continue to rely on the traditional tools of zoning, subdivision controls, building permits and health codes to solve land use problems. It is as though we can preserve the old rural uses by making sure thay are separated from the new nonrural users. But these tools were formed and applied primarily in response to urban-oriented issues and implemented under circumstances uniquely urban. The blanket application of such tools to problems in rural areas is naive as best, and may even be counterproductive.

Finally, those concerned with the changes occurring in America's rural land markets must also become more aware of the diversity of interests,

motives, and goals within the rural areas themselves. For example, while newly arriving landowners may perceive a need to "pull up the ladder" in order to protect their newly acquired rural tranquility, older traditional landowners are likely to view with great suspicion any program that calls for reducing the rate of population growth or limiting their ability to make land use decisions. Over the years these owners have watched the value of their lands escalate, certainly causing some problems for them (e.g., higher taxes and more difficulties expanding their operations), but also improving their prospects for future retirement, which may have been quite bleak prior to current growth pressures. Indeed, the typical farmer or rancher views his land as a "bank account" to be tapped whenever circumstances warrant it.

These challenges can help give focus to further research into the changing land markets of rural areas. Rural land is one of our most valuable resources, and the trends and issues presented here pose several difficult long-run problems concerning the efficient and equitable use of this resource. The plans and policies that we formulate will hopefully recognize that an important starting point for better understanding the changes occurring is in the land markets of rural America.

FOOTNOTES

1. From unpublished data supplied by Calvin Beale, USDA.

2. Richard Lamb, "Intra-regional Growth in Non-Metropolitan America: Change in the Pattern of Change," paper presented to the annual meeting of Association of American Geographers, April 1977. Also, Kevin McCarthy and Peter Morrison, The Changing Demographic and Economic Structure of Nonmetropolitan Areas in the 1970s (Santa Monica: The Rand Corporation, January 1978). Both showed higher growth in nonmetropolitan counties specializing in retirement and recreation.

3. James A. Lewis, Landownership in the United States, 1978 (Washington: Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture, 1980), Information Bulletin No. 435.

4. U.S. Department of Agriculture, Foreign Ownership of U.S. Agricultural Land (Washington: ESCS-NRED, USDA, 1980), Agricultural Economic Report No. 447.

5. U.S. Department of Agriculture, Farm Real Estate Market Developments, various issues. In using this series, prices of "farm real estate" are assumed as synonymous with land prices. In fact, the value of structures has dropped over time, from 29 percent of total real estate value in 1950 to just over 16 percent in 1980. Thus, the data presented here actually understate the rise in the value of bare land.

6. O.P. Wallace, Sr., Some Factors Influencing Forest Land Pricing in New Hampshire (Durham, N.H.: New Hampshire Agricultural Experiment Station, 1973).

7. John F. Welsh, U.S. Forest Service, Atlanta, August 1977. Interview by R.G. Healy.

8. U.S. House of Representatives, Committee on Interior and Insular Affairs, Hearing, To Amend the Land and Water Conservation Fund Act, July 28, 1975, p. 44.

9. Peter Langer, National Park Service, Washington, D.C., September 1979. Interview by R.G. Healy.

10. Naturally, some timberland has recreational value, and some recreation land is also used for forestry purposes. Nevertheless, it is fair to say that Weeks Act land is a reasonable sample of lower priced forest land with no special recreational features. LWCF land typically sells for 3 to 4 times as much per acre as does Weeks Act land.

11. Perhaps the most likely candidate is the series of prices per square foot of land used in building new homes insured under the Federal Housing Administration's section 203(b) program. Unfortunately, over the 1969-79 period, limits on the maximum mortgage that could be insured under the program changed in such a way that the type of home and regions of the country served by the program changed substantially from year to year. Thus a comparison of yearly averages of land prices would be misleading.

FOOTNOTES (continued)

12. Transfer data for Douglas County, Illinois were not available.

13. U.S. Department of Agriculture, Farm Real Estate Market Developments, August, 1980.

14. James A. Lewis, op.cit.

15. U.S. Bureau of Census, Annual Housing Survey H-150-77, various issues.

16. Glenn Fuguitt and Paul Voss, "Recent Nonmetropolitan Population Trends," in Growth and Change in Rural America (Washington: Urban Land Institute, 1979); Kevin McCarthy and Peter A. Morrison, The Changing Demographic and Economic Structure of Nonmetropolitan Areas in the 1970s (Santa Monica: The Rand Corporation, January 1979).

17. J.C. Doherty, "Public and Private Issues in Nonmetropolitan Government," in Growth and Change in Rural America (see note 16).

18. Glenn Fuguitt and Paul Voss, op.cit.

19. Robert G. Healy and James L. Short, The Market for Rural Land: Trends, Issues, Policies (Washington: The Conservation Foundation, forthcoming, 1981).

20. U.S. Department of Agriculture, Farm Real Estate Market Developments, August 1980.

21. Richard F. Babcock and Duane A. Feuer, "Land as a Commodity Affected with a Public Interest," in Richard N.L. Andrews Land in America (Lexington, Mass.: D.C. Heath, 1979).

22. Robert L. Bancroft, et al., Attitudes Toward Preserving Agricultural Land in Vermont (Burlington: University of Vermont, Agricultural Experiment Station, 1977), Miscellaneous Publication 93.

23. Karl Gertel and James A. Lewis, "Returns from Absentee-Owned Farmland and Common Stock, 1940-1979," in Agricultural Finance Review, Vol. 40 (April 1980).

24. T.A. McClay, Rating Private Nonindustrial Forest Ownerships for Increased Timber Productivity and Supply (Washington: U.S. Forest Service, 1971).

25. John F. Timmons and Wade Hauser, Soil Erosion Control in Western Iowa: Obstacles and Remedies (Iowa State University: Department of Agricultural Economics, forthcoming).

26. James A. Lewis, op.cit.

27. Clark Row, "Economics of Tract Size in Timber Growing," in Journal of Forestry, Vol. 76, No. 9 (September 1978).

FOOTNOTES (continued)

28. Bruce F. Hall and E. Phillip LeVeen, "Farm Size and Economic Efficiency: The Case of California," American Journal of Agricultural Economics, Vol. 60, No. 4 (November 1978).

29. Calculated from data in U.S. Council on Environmental Quality, Subdividing Rural America (Washington D.C.: GPO, 1976), appendix A, p. 135.

30. See Robert G. Healy and James L. Short, op.cit., Chapter 7.

31. Examples of the latter are Doane Agricultural Service (farmland, St. Louis), James Vardaman Co. (timberland, Jackson, Mississippi), and Oppenheimer Industries (ranches, Kansas City).

32. Howard S. Muse, Jr., "Helping Private Landowners Help Themselves," American Forests (July 1978).

33. Howard E. Cocklin, "Planning for a New Distribution of Rural People (with a postscript on why zoning cannot preserve agriculture)" Cornell Agricultural Economics Staff Paper No. 79-37, November 1979.