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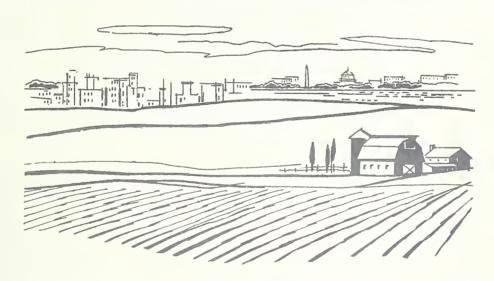
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FARM TAXES ON THE RURAL-URBAN FRINGE

A Case Study of Fairfax County, Virginia



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U.S. DEPARTMENT OF AGRICULTURE Farm Production Economics Division Economic Research Service

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Summary

The 1961 assessed value of properties in Fairfax County classed as farms was found to average \$266 per acre. Over a 5-year period, assessed values of all farm properties had increased 163 percent. For unimproved properties with no change in acreage, the increase was about 300 percent. Farm properties were found generally to carry a lower assessment per acre than did nonfarm properties of 10 acres or more. There is some evidence that farm properties, especially in heavily urbanized parts of the County, are assessed at a lower fraction of full market value than are other properties. For the County as a whole, farms were found to be assessed at about 35 percent of full value. This compares with the County target ratio of 40 percent.

Taxes on all farm real estate in Fairfax County averaged \$8.02 per acre or about 10 times the statewide average. The range was from \$5 per acre in the lowest district to \$50 in the highest. Over the 5-year period, taxes had more than tripled. Taxes on farm real estate in Fairfax County represented slightly more than 1 percent of the estimated full market value of \$754 per acre. This was about the same as the national average, but double the average for Virginia. By these comparisons, the rate in Fairfax County appears relatively high. The average farmer in Fairfax County would find it difficult to pay his taxes out of farm income alone. Many farmers, however, have outside sources of income.

FARM TAXES ON THE RURAL URBAN FRINGE

A Case Study of Fairfax County, Virginia

By Peter House, Economist, Farm Production Economics Division,

Economic Research Service 1/

Recent sessions of the legislatures of at least a dozen States have considered proposals to hold down assessed values of farmland in urban fringe areas. This action reflects a widely held belief that high taxes are responsible for the disappearance of agriculture from the fringe of many growing cities.

The rationale for these proposals is expressed in a portion of a law enacted in Maryland in 1960:

. . . it being the intent of the General Assembly that the assessment of farm land shall be maintained at levels compatible with the continued use of such land for farming and shall not be adversely affected by neighboring land uses of a more intensive nature. The General Assembly hereby declares it to be in the general public interest that farming be fostered and encouraged in order to maintain a readily available source of food and dairy products close to the metropolitan areas of the State, to encourage the preservation of open space as an amenity necessary to human welfare and happiness, and to prevent the forced conversion of such open space to more intensive uses as a result of economic pressures caused by the assessment of land at a rate or level incompatible with the practical use of such land for farming. 2/

The case for such legislation depends on the extent to which taxes have discouraged farm operations, forcing land out of the hands of owner-operators and into hands of investors. This question in turn depends partly on the quantitative significance of taxes to the suburban farmer. The purpose of this paper is to determine the level of and variation in taxes on farm properties in a county undergoing many of the changes typical of other formerly rural areas. Procedures used in assessing the farm properties in this county are described.

Characteristics of Fairfax County, Va.

The area chosen for study was Fairfax County, Va. The County, with a population of 275,000, is part of the Washington, D. C., metropolitan area.

^{1/} Acknowledgment is made to Samuel Patterson of the Assessment Office in
Fairfax County, Va., William Burrage, Director of Planning, and Joseph E.
Beard, County Agent, who supplied valuable data and advice.
2/ 1960 Maryland Laws, Ch. 52, Sec. 1 (b).

Because of its highly impacted location it receives large payments from the U.S. Government. Other pertinent factors which may affect the County's tax structure are the lack of a county road system; strict limits on subdividing farmland for housing developments in certain areas; the high average income of its residents; and construction of a new college (University of Virginia Extension), partly at County expense.

Urbanization in Fairfax County, Va.

As recently as 1950, nearly three-quarters of the County's population was rural (table 1). During the 1950's the total population almost trebled; by 1960 the Census Bureau classed only 22 percent of the population as rural. In 1961, population density was almost 700 per square mile.

This rapid growth in population created a strong demand for land for subdivision. The demand for suburban land in Fairfax County was intensified with the construction of the Woodrow Wilson Bridge and the Cabin John Bridge which provide access to the County from Maryland above and below the District of Columbia. The near completion of the circumferential highway ringing the entire area also helps to connect Fairfax County with other parts of the metropolitan area, thus increasing land values and tax rates.

The rapid urbanization of Fairfax County is reflected in statistics from the 1959 Census of Agriculture. In that year there were 428 farms in the County, or little more than a third of the number existing 5 years earlier. The advancing urban fringe accounted for most of the decline, but the change in Census definition of a farm and an increase in average size of farm also contributed. In 1959, about 62,000 acres, or 23 percent of the land area of the County, was in farms. Five years earlier there had been more than 89,000 acres of farmland (table 2).

About half the farms remaining in 1959 were classed as part-time or part-retirement farms. Only 180 were commercial farms, and of these only 78 sold as much as \$10,000 worth of farm products.

Crop production in Fairfax County is limited by generally unproductive soils. In 1959, nearly all the farms that could be classed by type were either dairy farms or livestock farms. Nearly half the value of all farm products sold were dairy products, and another 30 percent were livestock and livestock products other than dairy and poultry. Twenty years ago, the County Agricultural Agent's job required primarily a knowledge of animal husbandry. Today the majority of the calls to the Agent's office concern lawn, insect, and other suburban problems.

Assessed Values

The assessed value of all real property in Fairfax County grew substantially during the 1950's, largely because of addition of new properties to the tax rolls. There was no general reassessment from 1950 until 1960-61. During the period 1950-60 most assessments were carried forward from year to year without change, unless there was a physical change in the property. Most farms therefore experienced no increase in assessment for 10 years. Any new

Table 1.--Rural and urban population of Virginia and Fairfax County, 1950 and 1960 $\underline{1}/$

1/ U. S. Eureau of the Census. U. S. Census of Population: 1960. Number of Inhabitants, Virginia. Final Report PC(1)-48A, 1961; Census of Population: 1950, vol. 1, Number of Inhabitants, Ch. 46: Virginia, 1951.

Table 2.--Selected agricultural statistics for Fairfax County, 1954 and 1959 1/

Category	1954	1959
Number of farms:	1,159	428
Farms by size: Under 10 acres	339 401 90 76 84 40 41 19 56 10	44 142 39 41 48 26 16 14 40 13
Reduction in number of farms due to : change in definition:		50
Land in farms (acres)	89,432	62,291
Average size farm (acres)	77.2	145.5
Average value per acre of land and buildings (dollars):	633.36	753.53

^{1/} U. S. Bureau of the Census. U. S. Census of Agriculture: 1959. vol. 1, Counties, Pt. 24, Virginia.

assessments made in this decade were adjusted to 1950 base-year prices. This figure was further reduced by 60 percent to conform with the overall target level of 40 percent of the estimated 1950 market value.

In 1960 a general reassessment was initiated, which resulted in a 41-percent increase in 1961 assessed valuations over that of the preceding year (table 3). The assessed valuation of land alone increased 127 percent. As the years immediately before 1961 had been an era of rapid urbanization, the 1961 reassessment reflects the influence both of generally rising prices and of suburban competition for undeveloped land.

With assessed valuations held at the 1950 level, growing revenue requirements during the decade led to successive increases in the County tax rate. From \$2.65 per \$100 in 1951, the rate rose to \$3.75 in 1960. In 1961, the increase in tax base resulting from the reassessment was partly offset by a reduction in the tax rate to \$3.00. In 1962, however, the real property rate was increased to \$3.35 (table 4).

Table 3.--Total assessed values and taxes for Fairfax County, 1956, 1960, and 1961

	Asses	Assessed value							
Year	: Land alone	Land alone Land and improvements							
	: : Million dollar	s Million dollars	Million dollars						
1956 1960 1961	: 72.6	260.8 392.1 553.2	8.7 15.1 17.1						
	Percent	Percent	Percent						
Percent increase 1956-1961 1960-1961		112 41	97 13						

Source: Fairfax County Assessor's Office.

Table 4.--Tax rates, farm real and personal property, Fairfax County, 1951-1962

Year	Tax rate on real property per \$100 assessed value	Percent change from preceding year	Tax rate on personal property per \$100 assessed value	Percent change from preceding year
:	Dollars	Percent	Dollars	Percent
1951	2.65 2.70 2.70 2.70 3.20 3.25 3.30 3.75 3.75	0 1.9 0 0 18.5 1.6 1.5 13.6 0	2.65 2.65 2.70 2.70 2.70 3.20 3.25 .01 .01	0 1.9 0 0 18.5 1.6 -99.7 0

Source: Department of Assessments and Taxation, Fairfax County.

Although real and personal property were assessed at different rates, farm personal property was assessed on the same basis as all other personal property in the County until 1958. At that time the County, exercising an option available under State law, classified personal property for tax purposes and reduced the rate on all farm personal property used in the production of food to 1 cent per \$100 of full value. In 1961, this rate was still in effect. Because of the expense of collection, taxes under \$1.00 were excused. This administrative decision, coupled with the 1-cent rate, had the effect of exempting owners of less than \$10,000 of farm personal property from taxation and helped offset the rise in the real property rate in the year 1958-59. In 1961, less than a dozen farmers had over \$10,000 of taxable personal property.

Assessment Procedure

In a 1960 handbook on assessment the Bureau of Public Administration of the University of Virginia describes three methods of determining true market value of property. 3/ The market data approach involves examining the sales of representative properties in a given area. The cost approach attempts to estimate what it would cost to replace property, and makes use of standard replacement cost estimates less depreciation. The third method, the income approach, described as a check for the other two methods, consists of the capitalization of income derived from property. All of these methods are used in Fairfax County to estimate the true market value of various kinds of property.

A more detailed procedure is explained in the handbook for valuing land exclusive of buildings. The method cited is primarily an extension of the market data approach. Land is classified according to its use and a value is assigned to each use category on the basis of property sales in the category. Many variables are suggested for adjusting this value to fit the particular situation under examination.

Land in Fairfax is valued by using the market data approach described above. Base values, derived from recent sales in an area, are assigned to each area in the rural portion of the County, enabling an assessor to arrive at a range of value for a tract of any size.

For several years the assessors in Fairfax County have made use of a soils inventory card in the appraisal of farmland. This card contains information on soil types and engineering characteristics such as topography, erosion potential, and percolation ratings. Agricultural characteristics, including productivity, are also given. When this card was first used the agricultural characteristics were given predominant weight in establishing land values. As suburban value of land increased, engineering characteristics assumed predominance for valuation purposes.

^{3/} Virginia Association of Assessing Officers. Fundamental Practices and Procedures of Assessing Real Estate. Bur. Pub. Admin., Univ. Va., Charlottesville, 1960.

To illustrate the method of assessing farmland the chief assessor explained the step by step procedure followed in appraising three representative parcels in Fairfax. One was a rural farm property, the second a farm that was about to be developed as a subdivision, and the third a farm that was surrounded by subdivisions.

The first of these parcels contained approximately 320 acres and was located in a predominantly rural portion of the County, about 15 miles from Washington. In the assessor's opinion it was good farming land and, because of its location, was not likely to reflect suburban value for a number of years. This particular tract was zoned for l-acre lots. It had an overall productivity rating of 70 percent (good) and the majority of the land would percolate.

In 1960, before the general reassessment, this parcel was assessed for \$18,000; in 1961 the assessment was brought up to date and the assessed value increased by about 180 percent to \$50,000. The assessor explained that in this area large acreage tracts were selling for \$250 to \$500 an acre. Primarily because of a lack of road frontage, the assessor believed that this parcel would not sell for more than \$375 an acre. At a 40-percent assessment ratio this results in an assessment of about \$150 an acre.

The value of the structures on this land had been reduced in 1961, not because of normal depreciation, but because the assessor reasoned that the farm buildings actually detracted from the total value of the property. This method of valuing farm improvements is consistent with the appraisal of farmland at its highest use. If the land is assessed on the basis of its value for subdivision then the buildings on this land must be subject to this same test. When a farm is bought for subdivision, the buildings may be used for storage and workshops, but eventually are to be razed. Consequently, the value of the buildings to a subdivider is small.

The second parcel contained 73 acres and was directly in the path of urban growth. Development was imminent, but at the time it was a cattle farm. 4/ This parcel, like the first, was zoned for 1-acre lots and was contiguous to other properties having either commercial or industrial zoning. In 1960 it had been on the assessment rolls at \$34,000. The land market in this area had been active and much of the land had been rezoned. Consequently, this property has been revalued several times since 1950. The 1961 reappraisal increased its assessed value to \$55,000 (at a 40-percent assessment level). Although the land value map of the area showed that parcels of this size were selling for upwards of \$5,000 an acre, this particular parcel was not as well situated as others in the area. The assessor believed it to be worth about \$1,500 an acre on the market. In addition, buildings on the land were given an estimated market value of \$32,000.

The third property was a 65-acre farm encircled by subdivisions. It lay in the northeast sector of the County and did not have a soils card.

^{4/} This farm is located in a part of Fairfax County for which soils information was not available in 1960.

The land, like all the surrounding area, was zoned for one-half acre lots and had sewer connections available, making it attractive to subdividers. This farm was also a cattle farm. In 1960 it was carried on the assessment rolls at \$26,000. After the 1961 reassessment the total assessed value was increased by 92 percent to \$50,000. According to the assessor the market value of this property was in the neighborhood of \$1,800 an acre or slightly under the average for the area. This farm, like the others, received an absolute reduction in the assessed value of its buildings. The near doubling of the total assessed value was attributable wholly to the land.

Assessed Values and Taxes

To measure the effects of suburbanization on assessed values of farmland, 1961 assessed values were copied off the public assessment records for all parcels of 10 acres or more. Each parcel was traced back to 1956 by reference to the name of the 1961 owner. If the owner was not listed on the 1956 assessment rolls then it was assumed that he had acquired the parcel within the last 5 years. 5/ Information was obtained for each parcel on the 1961 and 1956 total assessment, including land and improvements, assessments on land alone, and acreage and taxes for these years. 6/ In addition, the distance from Washington was estimated for each property.

Since there was no way of knowing from the assessor's records which properties could be classified as farms, identification was made from a master list of farmers obtained from the local Soil Conservation Service office and a detailed land map showing the location of all farms. On the basis of this information parcels in the survey were classified as farm or nonfarm.

Properties of 10 acres or more, farm and nonfarm, were found to have a 1961 average assessed value of land and buildings of \$360 per acre (table 5). About three-fourths of this amount represented the value of land, and one-fourth the value of improvements. Taxes on these properties averaged \$11 per acre.

Properties classed as farms were assessed at an average of \$266 per acre, or about one-fourth lower than the other tracts of 10 acres or more. This assessment compares with an average "full value" of \$754 per acre reported by farmers responding to the 1959 Census of Agriculture. Comparison of average assessed value with the stated full value implies an assessment ratio for farm properties of 35 percent. This is slightly below the County-wide target ratio of 40 percent of market value. In part, the difference may reflect the rise in market value of farmland from 1959 to 1961. It is not known how this ratio of 35 percent compares with the ratio of assessment to actual sales prices of farmland in the County.

^{5/} Of a total of 536 farm properties 80, or 15 percent, were purchased between the years 1956 and 1961 and of the 1,647 nonfarm properties 727, or 44 percent, were purchased in this same period. Because of the turnover, comparable assessment figures were not obtainable for about one-third of these parcels.

^{6/ 1956} was chosen for comparison with 1961 because it was the earliest year for which comparable data were available.

Table 5.--Assessed values and taxes per acre on properties of 10 acres or more, Fairfax County, 1956 and 1961

	Э	Tax per	acre	Percent	133	T M E E	0 0 0 0 0 0	350	175 350	267	100	333	900	167	150	129	120	100	227	221
Percent change	ed value acre	Land and buildings	Percent	170	156 99	100	324	158 361	295	124	361	907	27.	165	149	156	119	195	190	
	Pe	Assessed per a	Land alone	Percent	381	331	194	492	234 552	314	240 318	243	603 186	424	77 20 20 20 20 20 20 20 20 20 20 20 20 20	7100 7300 7300	272	274	274 220	281
	•	Tax per	acre	Dollars	m 0	m vo	アント	77		m	m m	10	N) M	0 (U [~	· 7V	0	3.31	[
	1956	d value acre	Land and buildings	Dollars	282	792	154	131	136	76	82 9 8	195	166 205	82	0 V	105 209	149	268	122	<u> </u>
		Assessed per a	Land alone	Dollars	33	42 103	83	88	90	26	700	166	773	7. 1,1	W [70T	85	123	73	80
		Tax per	acre	Dollars	29	_ LL	10 6	18	118	11	9 6	56	0 00	√ 0	JV (76	11	18	10.81	12.25
	1961	d value acre	Land and buildings	Dollars	221	241 382	308	77. 70.	351 598	371	184	899	1,672	258	164	310 520	382	73 88 88	360	60†7
		Assessed per a	Land alone	Dollars	173	181 289	244	521	301	244	136	269	1,013	215	145	259	316	7160	273	305
		District	•• •• ••	••	Centreville: Farm	Nonfarm:	Harm	Falls Church:	Farm: Nonfarm:	Tee	Farm	Mason:	Farm:	Mount Vernon:	Farm:	Nontarm: Providence:	Farm:	Nonfarm: Average, all :	districts: Farm	E

Assessed values per acre ranged from an average of \$221 per acre in Centreville District, one of the least urbanized areas of the County, to \$899 in Mason District, one of the most urbanized. Taxes based on these assessments showed a similar pattern, ranging from \$7 per acre in Centreville to \$26 per acre in Mason District. The average for the County was \$10.81 per acre. Properties classified as farms were taxed at an average of \$8.02 per acre or slightly more than 1 percent of estimated full market value.

In every district except Mason, properties classed as farms carried a lower average assessment than did nonfarm tracts of 10 acres or more. 7/ The differences ran as much as \$266 per acre in Falls Church District.

There are several possible explanations for this difference. One possibility is that farm properties may be larger on the average than nonfarm. If so, a tendency for larger properties to have smaller per acre values would account for the disparity between average assessments on farm and nonfarm properties. In this particular case, however, no significant difference was found between the average size of farm and nonfarm properties. Further, a simple correlation of size of tract with assessed value per acre revealed no significant relationship. This lack of correlation suggests that in the assessment process a standard per acre value was applied to all properties in an area, regardless of size.

A second possibility is that farm properties may, on the average, be less well located than nonfarm with respect to sewer and water connections, paved roads, and similar suburban amenities. The best located properties, in other words, may already have been taken over for nonfarm uses.

It was not possible to test this possibility fully, because of scattered urban development in Fairfax County and the difficulty of evaluating the locational advantages of each tract. Analysis of the most obvious factor - distance from downtown Washington - showed that distance explained a little over 10 percent of the variation in assessed value per acre ($r^2 = 11.6$).

Such a low coefficient suggests that the speculative value of land for subdivision depends on many other factors, such as road frontage, topography, zoning status, and percolation rating. It also suggests that there has been little control over the pace and direction of urban growth so that it might cluster in areas closer to Washington.

A third possible explanation is that the assessor may tend to underassess properties that he knows are being used for farming. Supporting this explanation is the fact that the districts in which farm and nonfarm tracts differ the most in average assessed value per acre are, generally speaking, those in which urban influences are strongest. However, for the County as a whole farm properties appear to be assessed not much below the County target ratio of 40 percent.

^{7/} In Mason District, where farm properties carried a higher average assessment, the process of urbanization had gone so far that there remained only a few farm properties, and very high assessed values on several of these affected the average greatly.

Increase in Assessed Values and Taxes

The above findings are based on analysis of data for all parcels of 10 acres or more, farm and nonfarm. To isolate the influence of economic forces on farm assessments and taxes, it is desirable to consider only those properties that apparently were physically unchanged from 1956 to 1961. Many properties were carried on the assessment rolls in 1961 at a different acreage from that of 1956, the change often being attributable to sale of a piece of the property, possibly with improvements. In addition, it was impossible to determine for improved properties whether physical changes had occurred in the improvements between 1956 and 1961. Therefore the following analysis of changes in assessed values between 1956 and 1961 was based only on unimproved properties that showed no change in acreage.

In 1961, properties (farm and nonfarm) in this category were assessed at an average of \$200 per acre (table 6). This was about 4 times the average for these same properties in 1956. Nonfarm tracts were again found to be assessed slightly higher than farm properties. Taxes per acre averaged \$5.32 for farm properties and \$6.92 for nonfarm.

Increases in assessed value of land varied widely by districts. The largest increases were found in Falls Church and Mason Districts, where pressures of urbanization were strongest. Dranesville District, one of the more rural areas in the County, had the smallest increase (172 percent).

While the point cannot be made with certainty, because of possible physical changes in property between 1956 and 1961, the evidence in table 5 strongly suggests that the assessed value of land increased more rapidly than that of buildings. This is plausible in view of the strong nonfarm demand for undeveloped tracts, and the practice of devaluing farm buildings on potential subdivision land in line with their functional and economic obsolescence.

Falls Church and Masch were the only two districts in which the increase in assessed value and taxes on farm properties was less than that on unimproved nonfarm tracts. In all other districts, farm properties were increased as much or more than nonfarm.

It is interesting also that these two districts, together with Providence District, are the only ones in which farm properties were assessed in 1961 at per acre values substantially below those for nonfarm. Of course, trends and levels of market value of farmland may in fact have diverged from that of nonfarm properties in these districts. Another possibility, however, is that in those districts where farms are fast disappearing, a conscious or unconscious tendency exists for holding down assessments on land in active farm use.

Farm Taxes in Relation to Income

In relation to farm income, taxes on farms in Fairfax County appear high. The 1959 Census of Agriculture reported that the average farm in Fairfax County produced approximately \$7,000 worth of farm products, or about \$55 per acre. This does not suggest a rich farming community. The average farmer would

Table 6.--Assessed value and taxes per acre on unimproved farm and nonfarm properties that had no change in acreage between 1956 and 1961, Fairfax County

	1961	L	1950	Percent		
District	Assessed value land alone	Taxes	Assessed value land alone	Taxes	increase in assessed value, 1956-1961	
	Dollars	Dollars	Dollars	Dollars		
Centreville: Farm: Nonfarm	: 150	4.48 4.51 4.44	35 34 37	1.03 .97 1.10	326 341 300	
Dranesville: Farm: Nonfarm	: 243	7.59 7.30 7.74	93 74 102	2.55 1.99 2.80	172 228 153	
Falls Church Farm Nonfarm	241	9.58 7.24 10.22	55 57 55	1.50 1.58 1.48	480 323 520	
Lee	: 132	4.11 3.93 4.11	39 30 39	1.11 .80 1.12	249 340 2 51	
Mason Farm Nonfarm	104	8.35 3.12 10.43	52 54 52	1.39 1.47 1.41	435 93 569	
Mount Vernon Farm Nonfarm	: 156	4.60 4.68 4.40	34 34 36	1.55 1.74 .98	350 359 308	
Providence Farm Nonfarm	305	11.81 9.15 12.72	110 85 119	3.09 2.43 3.31	258 259 256	
TotalFarm	: 178	6.00 5.32 6.92	53 44 56	1.53 1.42 1.57	277 305 275	

probably have difficulty paying taxes such as those in Fairfax County out of farm income alone.

A large proportion of farm owners in Fairfax County, however, appear to have outside sources of income. More than half of all farms were classed as part time or part retirement. Close to two-thirds reported other family income exceeding the value of farm products sold.



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