



Agricultural productivity change and wealth distribution in Hampshire County, Massachusetts
(1700-1779)
by Richard Gerard Fritz

A thesis submitted in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE
in Applied Economics
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Abstract:

This research is an investigation into the wealth concentration, and agricultural productivity change experienced by Hampshire County, Massachusetts for the years 1700-1779.

A discussion of colonial New England sets a backdrop for the study into Hampshire County. Such a historical inspection displays how land ownership progressed from strict church control to individual possession.

Breaking probate record contents down into fixed, working, and household capital allows for investigation of wealth composition. Land, on average, accounts for the major portion of the wealth held by an individual, followed by household capital, livestock, agricultural capital, and crops, respectively.

The richest ten percent of the society is shown to own 42 percent of the wealth, while one-half of the population owns 85.5 percent. All but approximately four percent of society's wealth for this period is owned by the richest 75 percent of the population.

Placing total wealth in real terms demonstrates that the real wealth of the society increased somewhere between 0.3 and 0.54 percent per year, on average. Real wealth is computed by two different standards. The first employs a Consumer Price Index while the second uses a composite value adjuster. This second method adjusts the value of each capital grouping according to the index of items which compose that group.

Through the use of regression analysis, agricultural productivity change over the eighty year period is found not to be significantly different than zero. All economic indicators point to a general stagnation of the county's economy between 1700 and 1779. Such a conclusion is consistent with other research studies conducted on New England for this time period.

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AGRICULTURAL PRODUCTIVITY CHANGE AND WEALTH
DISTRIBUTION IN HAMPSHIRE COUNTY, MASSACHUSETTS
(1700-1779)

by

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A thesis submitted in partial fulfillment
of the requirements for the degree

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in

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TABLE OF CONTENTS

<u>CHAPTER</u>		<u>PAGE</u>
	VITA	ii
	ACKNOWLEDGEMENTS	iii
	TABLE OF CONTENTS	iv
	LIST OF TABLES	vi
	LIST OF FIGURES	vii
	ABSTRACT	viii
1	INTRODUCTION	1
	Objectives	2
2	NEW ENGLAND AGRICULTURAL HISTORY	6
	Introduction	6
	Introduction of European Grains, Grasses and Livestock	9
	Tools	14
	Early Settlement and Church Control ...	17
	Transition Period	19
	Private Land Ownership	20
	Conclusion	21
3	THE PROBATE RECORDS OF HAMPSHIRE COUNTY .	22
	Introduction	22
	Hampshire County	23
	Probate Records	25
	Sampling Technique	27
	People and Places of Probate	31
	Literature Review	36
	Conclusion	40
4	WEALTH IN COLONIAL HAMPSHIRE COUNTY	
	1700-1779	42
	Schools of Thought	42
	Bias in Probate Records	47
	Wealth Inequality	49
	Wealth Composition	55
	Total and Real Wealth Holdings	59
	Conclusion	62

<u>CHAPTER</u>		<u>PAGE</u>
5	PRODUCTIVITY MEASUREMENT	65
	Introduction	65
	Anderson's Method	65
	Regression Analysis	69
	Analysis of Explanatory Variables	78
	Conclusion	82
 <u>APPENDICES</u>		
A	SAMPLING FORM	85
B	CONSUMER PRICE INDEX 1700-1779	91
C	SELECTED COMMODITY PRICES 1700-1779	93
REFERENCES	96

LIST OF TABLES

<u>TABLE</u>		<u>PAGE</u>
1	PROBATE RECORDS AND LOCATION	32,33
2	AVERAGE TOTAL WEALTH	51
3	PERCENTAGE OF NET WEALTH HOLDINGS BY THE PROBATED POPULATION	52
4	POPULATION BY WEALTH HELD BY TOP 10 PERCENT OF POPULATION	53
5	COMPONENTS OF WEALTH BY PERCENTAGE	57
6	WEALTH AND ITS COMPONENTS	60
7	REAL WEALTH VALUES	63
8	TOTAL FACTOR PRODUCTIVITY 1700-1779.....	70
9	PERCENTAGE CHANGE IN REAL WEALTH	71
10	EQUATION 1	74
11	EQUATION 2	76
12	EQUATION 3	80
13	EQUATION 4	81

LIST OF FIGURES

<u>FIGURE</u>		<u>PAGE</u>
1	MAP OF MASSACHUSETTS COUNTIES.....	24

ABSTRACT

This research is an investigation into the wealth concentration and agricultural productivity change experienced by Hampshire County, Massachusetts for the years 1700-1779.

A discussion of colonial New England sets a backdrop for the study into Hampshire County. Such a historical inspection displays how land ownership progressed from strict church control to individual possession.

Breaking probate record contents down into fixed, working, and household capital allows for investigation of wealth composition. Land, on average, accounts for the major portion of the wealth held by an individual, followed by household capital, livestock, agricultural capital, and crops, respectively.

The richest ten percent of the society is shown to own 42 percent of the wealth, while one-half of the population owns 85.5 percent. All but approximately four percent of society's wealth for this period is owned by the richest 75 percent of the population.

Placing total wealth in real terms demonstrates that the real wealth of the society increased somewhere between 0.3 and 0.54 percent per year, on average. Real wealth is computed by two different standards. The first employs a Consumer Price Index while the second uses a composite value adjuster. This second method adjusts the value of each capital grouping according to the index of items which compose that group.

Through the use of regression analysis, agricultural productivity change over the eighty year period is found not to be significantly different than zero. All economic indicators point to a general stagnation of the county's economy between 1700 and 1779. Such a conclusion is consistent with other research studies conducted on New England for this time period.

CHAPTER 1

INTRODUCTION

Harvest time in New England is characterized by entire families cutting and storing grain slowly, and hoarding the kernels which will supply nourishment to themselves and their animals in the year to come. They bank on the weather holding, hoping that the wind, rain, and hail will not lodge the grain in the yet unharvested fields. All available members of the family engage in the work of harvest. These are common sights in the late months of each year. Yet, absent from this scenario are the mechanized tools grinding through the fields performing the many varied tasks.

It is the eighteenth century. Skilled hands hold the scythe and stroke a clear and sharp ark into the unfallen stand. Raked manually and placed upon a cart, the grain journeys to the barn. No member is idle, for time is of the essence. And, hopefully, the farmer will again have reason to be thankful for a bountiful harvest. The grain will remain in the barn until milled by the family, for family use. Little of the grain will go into the marketplace, especially from the farms distant from any popula-

tion centers.

Objectives

The objective of this thesis is to determine the level of wealth and its distribution within Hampshire County, Massachusetts, for the years 1700 to 1779, and to derive a mathematical regression equation that estimates the agricultural productivity change over this period. Unlike today, facts and figures on acres planted, hours worked, yields, seed varieties and countless other statistics are rare or nonexistent for these early American farms. Even with the amount of information available today, measurement of recent agricultural productivity change is difficult. However, such measures are attempted for their importance is vital if the economy is to be understood in its entirety.

Determination of historical productivity figures and wealth distribution are just as important if the history of the nation is to be fully comprehended. Productivity figures give insight into how the nation developed, the direction it moved and why. This thesis is an attempt to further increase understanding of eighteenth-century agricultural productivity figures and their ramifications.

Before embarking upon measurement of productivity changes and wealth distribution in Hampshire County for the years 1700 to 1779, it is advantageous to briefly review the history of the land, the crops grown upon it, and the livestock of the New England area.¹ This background allows greater insight into the data base, the models designed to measure these changes, and the conclusions drawn from these models. The broad discussion of New England history places a perspective upon the study, and gives the reader a greater understanding of what is to follow. Such are the contents of the second chapter.

Moving forward, the focus of the thesis narrows upon the county selected for study. Selection of a particular county has its advantages by placing limits upon the size of the data base and the scope of the analysis. However, cross-county comparisons are sacrificed to some degree. Chapter three introduces the court records which are available for Hampshire County for the 1700's and from which the estate inventories of deceased individuals are selected. Such records supply information about the

¹The 80 year span (1700-1779) was chosen on the basis of probate record availability and relationship to studies previously conducted.

individual and the general living standard for the period. Once these personal inventories are organized into a general framework, the information they contain will be employed in the measurement of agricultural productivity change and wealth estimates.

Upon placing the estate inventories into this framework, the fourth chapter compiles the information around several themes. Of major importance is the construction of a Consumer Price Index and other price adjustments used to place the data in real terms. The wealth structure and distribution within Hampshire County will be determined and compared to that found for other regions during roughly the same time period.

Compilation of the previous material allows for an output/input analysis which estimates the agricultural productivity change experienced by Hampshire County over the years 1700-1779.² As an alternative means of estimating agricultural productivity change, regression analysis utilizing probate data is employed in chapter five. In addition to providing information on the rate of productivity change, this method allows a statistical

²This method should not be confused with the input/output method as developed by Dr. Wassily Leontief.

test of the variables which explain economic growth.

Suggestions are also made about the validity of regression analysis as a viable tool for use in analyzing probate

data. The final chapter will summarize the thesis findings.

CHAPTER 2

NEW ENGLAND AGRICULTURAL HISTORY

Introduction

Before moving into the measurement of agricultural productivity change through employment of probate records, it is advantageous to briefly, and in general terms, review the early years of colonial New England. Such a discussion brings more clarity and understanding into the productivity figures developed later. The material in this chapter is by no means a complete history of New England, but acquaints the reader with the history of the basic commodities which will be encountered in dealing with the estate inventories.

Nature blessed the Eastern seaboard with a variety of edible plants and wild game. Ducks and geese found refuge in the coastal marshes while turkeys, partridge, deer and other game proliferated the dense forests. The rivers and ocean were steady suppliers of fish, oysters, and clams. A profusion of wild berries, including elderberries, strawberries, dewberries, raspberries, and blackberries supplemented the tubular roots of numerous

plants which were readily available.³

Amidst this natural abundance the Indians developed an effective agrarian base in addition to their hunting and gathering activities. Maize constituted a greater proportion of agricultural output than any other cultivated food source due to the fact that it was well adjusted to the level of agricultural development the Indians had attained. Maize was a hardy plant, suited for New England; it was ready for harvest four months after planting and less affected by nature's seasonal changes than European crops. Yields of up to 45 bushels per acre were attained.⁴

In many respects the Indian's knowledge and practice of agronomy was far more advanced than that of the European. The Indians selected seed grains from those strains which returned high yields and were relatively more resistant to climatic variability.⁵ This seed selection was

³Roger Williams, Key Into the Language of the Indians of New England (Boston: Collections of the Massachusetts Historical Society, 1974), pp. 220-221.

⁴Lyman Carrier, The Beginnings of Agriculture in America (New York: McGraw-Hill, 1923), pp. 45-46.

⁵Percy Bidwell and John Falconer, History of Agriculture in the Northern United States (Washington: Carnegie Institution, 1925), pp. 9-10.

accompanied by the practices of fertilization, land rotation, and seed placement rather than the broadcast method. Often intensive land use was practiced by planting a crop, usually beans, between the rows of maize.⁶ Such intensive land use practices were due in part to the large physical task of land clearing. Rather than breaking new ground, the Indian realized the land's ability to produce more at a lower cost of labor when fertilization was used.

The first crops planted by the colonists were located in clearings provided by nature and fields abandoned by the Indians. Problems of land fertility and insufficient size for the agrarian based colonial society soon made it necessary to clear new, productive lands. The opening of these new land tracts followed the Indian practice of girdling the trees and leaving them to die. This permitted sunlight to filter through the standing dead timber to nurture the crops growing between the decaying trees. Eventually, timber not useful in home or fence construction was burned off leaving the labor intensive task of stump removal.

⁶See Bidwell and Falconer; Lyman Carrier; and George Taylor, "American Economic Growth Before 1840: An Exploratory Essay," Journal of Economic History 32 (December, 1964).

Following the example and teachings of the Indians, early immigrants planted maize as their chief staple. "Plowing" was done by digging a hole with a stick, depositing a few seeds within, and covering them with soils in a pattern of equidistant rows of approximately five to six feet apart. As the plants began to grow, earth was piled about their base for support and weeds were removed periodically with a hoe. This weeding procedure continued until harvest.

Introduction of European Grains, Grasses and Livestock

After becoming acquainted with New World crops and the Indian's methods of agriculture, colonists began to experiment with European grains in the sandy rocky soils of New England. Although several crops new to the continent had been introduced by the Spanish as early as 1493, they were later reintroduced by the French and English.

Failure greeted the first attempt at wheat cultivation at Plymouth in 1621. Later tries along the Connecticut Valley proved successful with grain found in estate inventories as early as 1641. A dampening affect on wheat production, caused by the black stem-rust, or "blast,"

was felt about 1660 and extended for several years thereafter.

Rye was a heavy competitor of wheat mainly because of its better yield in the light and gravelly soils of New England. Barley and oats also found their early niche on the farm and were valued for beer production and animal feed. (Oats were not used for human consumption until about 1800.) Flax, buckwheat, and other minor grains were also grown for their special taste or specialized use they provided.

Native grasses found along the coast were thick and lush, but their nutritional value to cattle was negligible. As a result, colonists began to import seeds for forage crops of which English grass or hay was most common. English hay, as it was commonly called in New England, was a combination of blue grass, rye grass, white clover and bent grass. Many of the common grasses of today, such as timothy, bluegrass, and crabgrass found their way to America through such importation. The English grasses grew well, thrived, and readily spread through the New World.

In addition to grasses the colonists presented the New World with European garden vegetables and fruits. New

England farmers favored parsnips, turnips, cabbage and carrots. "To this list the Dutch added beets, endive, succory, finkel, sorrel, dill, spinach, parsley, cresses, and leeks."⁷ Apples also soon became a favorite crop of the colonists.

With the arrival of John Winthrop and his followers in 1630 came one of the first concentrated efforts at livestock production in New England. Transatlantic shipment of livestock was the major barrier to importation. On July 1, 1630, Governor Winthrop wrote, "The Mayflower and Whale arrived safe in Charleston harbor. Their passengers were all in good health, but most of the cattle dead. (Whereof a mare and a horse of mine.) Some stone horses came over in good plight."⁸ Oxen, beef cattle, and dairy cows were the major types of stock shipped to the New England farms. These cattle had their ancestral roots in the Devonshire breed in conjunction with mixed breeds introduced by the Dutch, English, Swedes, and those from the Spanish West Indies.

⁷Bidwell and Falconer, History of Agriculture, p. 5.

⁸James Hosmer, ed., Winthrop's Journal of New England 1630-1649 (New York: Scribner's Sons, 1908), p. 112.

In addition, sheep, swine and goats also found their way to the New World. Due to numerous factors including the lack of proper enclosures, little supervision, and general wilderness conditions, sheep and goats fared poorly. Swine on the other hand adapted well to their new environment, feeding on shellfish, plants and nuts in the woods, and, to many an individual's chagrin, crops. Hogs also had the ability to defend themselves against the bears, and wolves they frequently encountered.

Horses were introduced early into the colonies, but their survival rate varied according to their geographic location, owner, and breed. According to Van derDonck: "There are Curacoan and Arabian horses imported into the country, but those breeds are not very acceptable, because they do not endure the cold weather of the climate well, and sometimes die in winter. The whole of this breed require great care and attention in the winter."⁹ Horses were occasionally used as draft animals although this task was generally delegated to the stronger, more enduring oxen.

⁹ Adrian Van derDonck, A Description of the New Netherlands, trans. and ed., Thomas F. O'Donnell (Syracuse: Syracuse University Press, 1968), p. 165.

For those animals who were lucky enough to survive the transatlantic voyage, their life was not to be one of comfort in the New World. Most cattle were without winter shelter and fed only a light diet of hay and wheat straw or corn husks. The anonymous author of American Husbandry was critical in his statement that the farmers of New England were

the most negligent ignorant set of men in the World. Nor do I know of any country in which the animals are worse treated. Horses are in general, even valuable ones, worked hard and starved: they plough, cart, and ride them to death, at the same time that they give very little heed to their food, after the hardest day's work, all the nourishment they are likely to have is to be turned into a wood where the shoots and weeds form the chief of the pasture; unless it be after the hay is in, when they get a share of the aftergrass.¹⁰

Such mistreatment of livestock was characteristic of the early years. Although valuable assets, individuals found the care and maintenance required of livestock too labor intensive to permit proper management. Attempts to increase grain production and construction of suitable living quarters were deemed more important than giving proper attention to the needs of livestock.

¹⁰American Husbandry, Vol. 1 (London: Pater-Nofter-Row, 1775), p. 80.

After a time, the problem of free roaming livestock was solved through the fencing of former open-field farms and designation of an official cowherder who collected the neat cattle in the morning and returned each to their respective farms at night. Laws were soon passed to establish brands and/or earmarks to designate owners; and by the late 1660's numerous towns selected men to choose and maintain a stud bull. The start of the 18th century thus saw better animal husbandry and a greater use of restrictive enclosures.

Tools

Agricultural implements used by the Indians corresponded roughly to those of the late Neolithic period of Europe.¹¹ Stones, antlers, shoulder blades, shells and sticks comprised the majority of their tools. The early parties of immigrants also relied on these basic tools in conjunction with the ax, mattock, hoe, and shovel. The first plow was not to arrive in New England until 1632, with the number mounting to 30 by 1636 and 150 by

¹¹John T. Schlebecker, Whereby We Thrive--A History of American Farming, 1607-1972 (Ames, Iowa: State University Press, 1975), p. 25.

1650.¹² So few were these instruments that, so long as it was shared, the town was willing to pay the owner to keep it in working order.

The few technological advances in farm implements during the eighteenth century were characterized by changes in shape and structure, the most radical of which was the introduction of the German wheeled plow in 1769. However, use of this plow did not become widespread prior to the American Revolution. About this same time a small minority of farmers experimented with cast iron for use as various plow parts, but on the belief that iron poisoned the soil, others shied away from metal plow shares. In addition, any labor saving developments spread slowly through the society due in part to the lack of trade fairs and journals.

The methods used in farming the land were also quite primitive. After plowing was completed, harrows and rolled logs were used to crush the earth in order to create a finer seed bed. Harvesting was carried out by hand using scythes or reaping hooks, or, just after the Revolution, with a cradle. Once cut, the crops were moved to the barn where threshing or husking took place. After threshing,

¹²Bidwell and Falconer, History of Agriculture, p. 35.

wheat still had to be winnowed with baskets, sieves, or fans, ground, and sifted several times before the flour was fit for bread making.¹³

Early Settlement and the Puritan Church

Since many of the New England towns were religious foundations, knowledge of land settlement and ownership of these communities is helpful in understanding historical productivity figures. Land ownership advanced from strict religious control, through a period of ownership by both the individual and the Church, and, finally, to full individual title. People discovered that working their own land was more rewarding than being a single member in a large and centrally controlled farming community. Private ownership signified that a single individual no longer had to help support those with a family. In addition, he could now experiment with different crops and vary his time and type of planting. In sum, this

¹³See Wayne Rasmussen, ed., Agriculture in the United States--A Documentary History (New York: Random House, 1975); Darrett Rutman, "Governor Winthrop's Garden Crop: The Significance of Agriculture in the Early Commerce of Massachusetts Bay," William and Mary Quarterly 20 (July, 1963); and Douglas Leach, The Northern Colonial Frontier, 1607-1763 (New York: Holt, Rinehart and Winston, 1966).

this gravitation toward individual ownership created a greater feeling of accomplishment by internalizing the benefits and costs of one's own labor.¹⁴

Early Settlement and Church Control

The settlement patterns of early New England was guided and regulated by the Puritan Church. New territories were only approved for settlement by the General Court after being petitioned by twenty or more men and selected by a viewers committee as an appropriate site. Since the Puritans believed the frontier was a breeding ground for dissent, and thus frowned upon the evils that came about through isolation, the land so delegated had to border the existing settlement.

Once the town's petition was approved, the proprietors (the original petitioners) received title of the land from the General Court. The title transfer carried several definite rules regarding the land's future use.

¹⁴See Terry Anderson and Peter Hill, "The Role of Private Property in the History of American Agriculture," American Journal of Agricultural Economics 58 (December, 1976); Lyman Carrier, The Beginnings of Agriculture in America; and William Sachs, "Agricultural Conditions in the Northern Colonies Before the Revolution," Journal of Economic History 13 (Summer, 1953).

Although the original petitioners owned the land, they had to dispose of it as newcomers arrived. Each of the original proprietors was allowed one town lot and several out lots while the church, the minister, and a school received one town lot apiece. Every town lot was of equal value, thus creating unequal size distributions. The remaining land was disposed of on the basis of the settlers contribution to the original cost of the township, the size of his family, and his wealth holdings.

That land not portioned out was retained by the town for the express purpose of the village green, the common field, and other undivided lands. The village green served as a practice field for the militia and a park for the citizens' enjoyment. The common was a land tract where an individual, depending upon the extent of his wealth holdings, might be allowed to graze specified numbers and kinds of animals. In addition, many towns allowed individuals, by predetermined rights, to cultivate the common area. All remaining undivided lands were held in reserve and distributed as the town population increased.

Large expanses near the town were divided into long narrow strips and served as planting fields and meadows. The drawing of lots determined the distribution of these

outlands between families and each family farmed its own strips in accordance with a single pattern determined seasonally by the town. The common fencing of crop land provided the need for a communal agreement as to what crops were planted and when. This also allowed for grazing of cattle once the harvest was completed.

Transition Period

The dicotomy of holding town lots for living purposes and outlands for farming eventually helped lead to the breakdown of the Puritan hold on westward expansion. New immigrants entered the town whereupon, if they were considered worthy, land was allotted to them. The desirable meadows and cropland near the town soon became scarce making it necessary for the new arrivals to construct temporary or permanent housing close to their agricultural land in order to avoid the long daily travel from town and back. These outlying settlements began to form a town structure and soon divorced themselves from the parent settlement. Retension of church control on westward expansion was attempted by granting, with reluctance, a separate town charter to these outlying inhabitants. With increasing population and its accompanying sprawl, the

grip of the Puritan Church on community settlement patterns and westward expansion began to loosen.

Private Land Ownership

In conjunction with the disintegration of church power, consolidation of the separate designated agricultural lands began to take place. Neighbors began to sell land in order to acquire a compactness that facilitated management and production practices. Eventually, even many of the communities divided and sold the town common.

In the advent of private land ownership agricultural pursuits became not only a means of subsistence, but a source of profit as well.

This shift in agricultural activity brought with it a change in perception and behavior. Land and labor came increasingly to be seen not as the source of livelihood, but as commodities which could be bought and sold in the pursuit of wealth and status. Considerations of profit, of possessions, of economic calculations came to figure prominently in the lives of men, inhibiting the development of moribund farming communities with fixed social norms and precapitalistic values.¹⁵

By the start of the eighteenth century most of New

¹⁵James Henretta, The Evolution of American Society, 1700-1815 (Lexington: D.C. Heath and Co., 1973), p. 7.

England agricultural lands had passed from church control to private ownership. Private land holdings made it possible to concentrate production practices and management techniques. The social and economic problems associated with communal land ownership were eliminated by this land assimilation.

Conclusion

Tracing the history of the area provides a framework in which to understand probate records and their contents. Such an understanding will shed more light upon the agricultural productivity figures developed later. Moving from the history of Hampshire County into examination of the area's probate records provides an insight into the development of the agricultural and economic base of the community. The following chapter is devoted to the study of court probate records and their contents.

CHAPTER 3

THE PROBATE RECORDS OF HAMPSHIRE COUNTY

Introduction

In reminiscing about the colonial era, the vision of the fiercely independent family, the trailblazer, and the tough coastal habitat of the seafarer comes into play. Often the thought of a well organized community striving for a single goal is overlooked along with the institutions which would record the lifestyle and living standard of the era.

While not the intent of the Crown court, records kept by the bench have yielded the basic data from which economic historians have estimated growth rates, productivity change, and wealth patterns in pre-Revolutionary America. This thesis will also use these records in an attempt to measure the agricultural productivity change of a single county in Massachusetts.

Chapter 3 presents the reader with an insight into the probate records of Hampshire County, the wealth of information they contain, and the means by which they were sampled from the probate population. A brief review of the current literature is also contained within

this chapter.

Hampshire County

Hampshire County, Massachusetts, offered several advantages of study over other New England counties, the most important of which was the availability and clarity of the court records which supply the data base for this thesis. Other counties contained more voluminous court registries, but these were blemished by periods of missing and/or unreadable material.

Geographic location of this west-central Massachusetts county is presented in Figure I. The reader will note that the county is bisected by the Connecticut River. Since this waterway is present, one may question how representative the selection of this county is. However, for the time period under study, a case can be made that the river did not create a unique situation. In the seventeenth century, the Connecticut did provide a means of transportation for small crafts which led to the heart of the area being settled by 1660. From this base, people spread to the interior and by 1700 much of the county was settled. The river again came into prominence after the American Revolution when agricultural products were

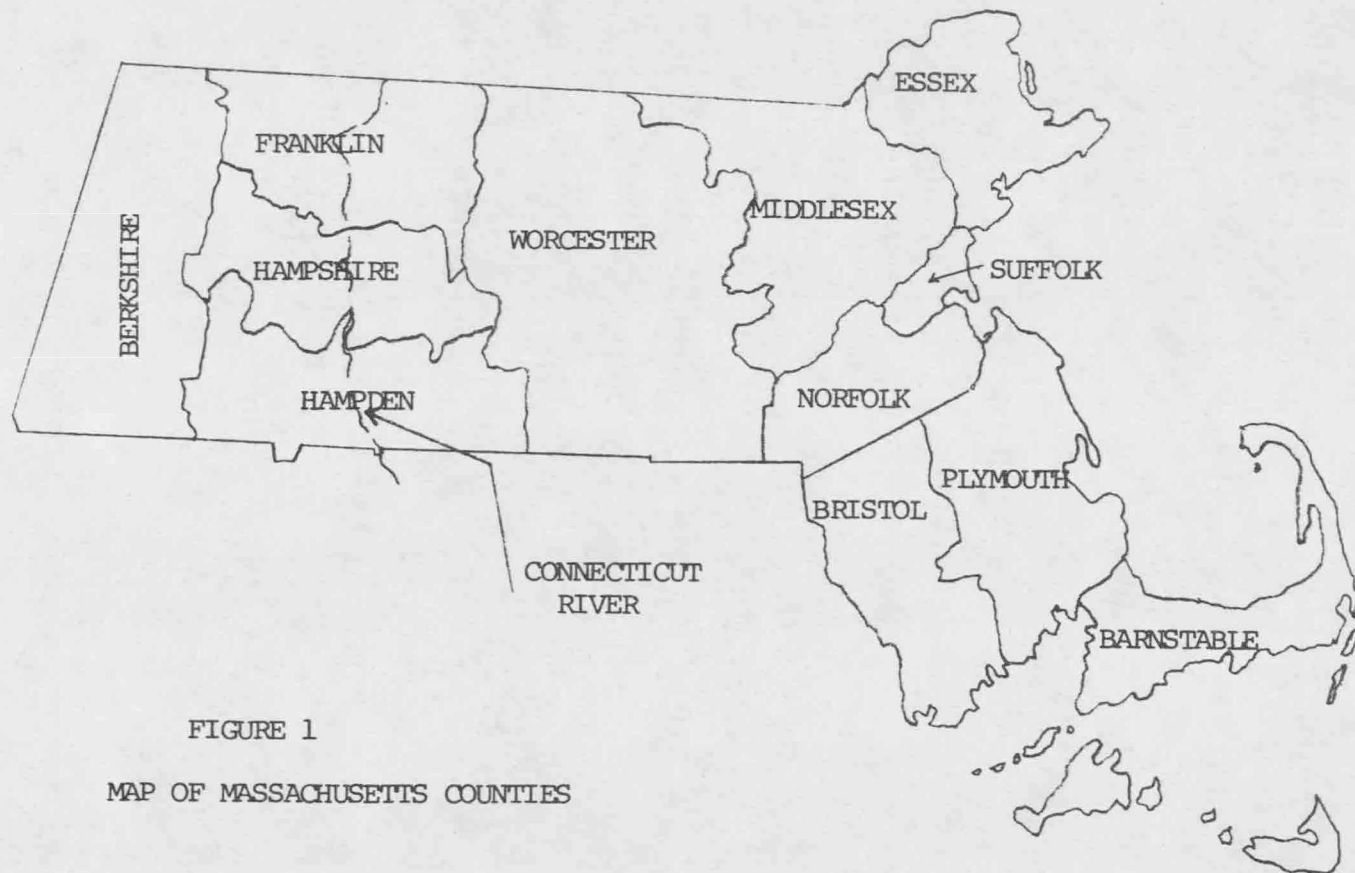


FIGURE 1
MAP OF MASSACHUSETTS COUNTIES

traded in volume and transportation facilities were expanded.

During the interim, the Connecticut River did supply a means of transportation and communication. However, due to the self-sustaining nature of the farm it was unlikely that the farmer traded his products far from their point of origin. This is underscored by the fact that before 1790, the river was commercially navigable only as far as Enfield in Connecticut, 65 miles from the Sound.¹⁶ Thus, even with the presence of the Connecticut River, Hampshire County can be viewed as representative of the settled surrounding area for the time period under study.

Probate Records

Some of the best and most complete court records of the eighteenth century Massachusetts are those of Hampshire County. These records are composed of wills, deeds, notes concerning debtor-creditor relationships, wages paid to individuals, and estate inventories. Such records provide an insight into the standards of living and social structure of the pre-revolutionary society. (The terms

¹⁶Bidwell and Falconer, History of Agriculture, p. 141.

estate inventory and probate record will be used interchangeably throughout the remainder of the thesis.)

Estate inventories are comprised of the input and output factors held by an individual at the time of death or the time at which the inventory was taken. Court appointed administrators were required to construct a complete list of everything the deceased had owned including land, buildings, slaves, livestock, tools, crops on hand, currency, and household goods. Many estate records went so far as to catalogue each differing form of kitchen utensil and often times even items which were broken and unusable were recorded. Each item is valued in the English system of pounds, shillings and pence. Administrators of the estate, usually two neighbors plus the wife or a son of the deceased, valued the inventory according to estimates of what the items would command at a forced sale. The accuracy of the inventory values is indicated by their close agreement with the amounts received at public vendue sales.¹⁷ In addition, since the

¹⁷Alice Hanson Jones, "Wealth Estimates for New England Colonies About 1770," Journal of Economic History 32 (March, 1972), p. 100.

appraisal comprised the individual's total credit, it was in the interest of the major creditors to see that the inventory was not seriously under-valued.

While almost all of these records were extremely detailed and complete, others assembled items into a few large heterogeneous categories. For example, some probates indexed items according to such general headings as livestock, crops, capital, land and buildings, and clothes and household goods. Each such grouping was then assigned a value.

Besides those items mentioned, probate records supplied the name of the individual, his or her place of residence, the date of death or the date which the estate was probated, debts due to or from the estate, and very rarely, the age and occupation of the individual. However, in most cases the occupation of the deceased could be determined through the contents of the estate.

Sampling Technique

After deciding on Hampshire County as the area for study, the large number of probate records had to be sampled in a way which would supply the best information concerning agricultural inputs and outputs. All estate

inventories between the years 1700 and 1779 were surveyed. Since the main focus of this thesis is to determine the change in agricultural productivity over the time period in question, those records providing the best information on agricultural output (that being the major factor contained within the records) were deemed the most desirable. Thus, inventories taken during the harvest months would be more likely to contain the desired information due to the consumption, barter, or selling of goods during the remainder of the year. The months of harvest were considered July through November, inclusive.

All probates dated between and including July first and November thirtieth were transposed onto worksheets. Appendix A contains an example of the worksheet used. The name of the deceased, the town and date of probate, and the number and value of all livestock, crops, slaves, land, buildings and capital equipment was recorded. In addition, all cash on hand at the time of death, all debts due to or from the estate, and the individual's total wealth was registered. Any additional information giving insight into the agricultural practices or standard of living of an individual was documented.

Although input and output items are listed in a single block on the worksheet, each separate item (i.e., horse, cow, etc.) within that category was recorded individually.

In viewing the sample worksheet the reader will note that capital goods have been broken down into groupings as to general usage as fixed or working capital. Fixed capital consists of items used for further production of market goods. This subdivision contains plows, harrows, rakes, carts, wagons, hogsheads, troughs, traps and hunting needs, lumber, iron, and sundry hand tools.

Working capital included all livestock, commercial crops, (hay, wheat, barley, corn, etc.) furs and wool. All grains on hand at the time of probate, either growing, harvested but not gathered, or stored within the barn were measured in bushels and valued. However, only five probates went so far as to state yields per acre. Hay and wool were assessed according to the number of loads or tons, and weight in pounds, respectively. Such items entailed the output of the farm and were likely to be consumed or bartered away in a period of time. Cash has also been included in this category. Livestock on each farm varied in number and value. Sex of the animal was

usually stated but rarely was it further described unless very young, old, or physically handicapped.

Nearly every individual's probate inventory listed land. Unfortunately, land was rarely classified as to its placement in crops, pasture, or lumber production. Land was recorded under the title "homelot" and was valued not only for the immediate grounds, but also for any barns, outbuildings or other improvements (i.e., bridges, fences, etc.) that were constructed. Numerous records listed such holdings in acres, but the use of divisions, lots and parcels was also common.

Slaves and miscellaneous items were recorded in an attempt to better understand the living standards and labor force of the area. Clothing, books, furniture, kitchen utensils and personal items fall under the heading of household capital. While not specifically recorded on the worksheet, this subdivision comprised those items not contained within working or fixed capital. The value of household capital is easily determined by adding all the contents of the worksheet and subtracting it from total net wealth.

Questions arise when an item may be placed in more

than one category. For example, pails and barrels could be classified as either fixed or working capital depending on its major function. Since items of this nature hold relatively low values, their affect upon the summed valuation of any capital subgrouping is minimal. So long as consistency is maintained in classifying these items, productivity measures are not affected.

People and Places of Probate

Table 1 gives the breakdown as to the number of probates falling within the designated harvest months and their location. The eighty year time span was broken down into twenty year periods strictly for organizational purposes. If a year for town settlement could be determined, it is given in column seven of the table.

Several towns supplied probate records of an early period but none afterward. This is due in part to the incorporation of a town into another existing settlement, the dying of the community, district gerrymandering, name changes, or other factors. Table 1 also indicates 369 total probates were sampled. Actually, 395 records exist between the dates designated as those of harvest. Twenty-six of the probates were removed on the basis that the

