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A study of the relationship between agricultural efficiency and urban growth in the post-Revolutionary War period

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A STUDY OF THE RELATIONSHIP BETWEEN AGRICULTURAL EFFICIENCY AND URBAN GROWTH IN THE POST-REVOLUTIONARY WAR PERIOD

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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

For some years there has been an apparent difference of opinion as to the United States' agricultural sufficiency in those years immediately following the Revolutionary War. This disagreement is revealed in contradictory statements in regard to various matters involving social and economic aspects of the history of the United States. Some years ago this statement was made: "In 1787, the year the Constitution was framed, the surplus food produced by 19 farmers went to feed one city person."[1] The point was used to illustrate the great increase in agricultural efficiency which has occurred since that time, because in recent years though less than one fifth of the population has been engaged in farming, yet the farmer has been able to supply all domestic needs plus a surplus for export. In a discussion of the factors in urban growth, Gist and Halbert observe:

> It has been estimated that in 1787, the year the Constitution was framed, nineteen farmers were needed to produce a surplus sufficient to support a single city person. With such low productivity it is apparent that

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[1] Roy F. Hendrickson, "Technology: Its Advance and Implications," in Technological Trends and National Policy (Washington, D. C.: National Resources Committee, Government Printing Office, 1937), p. 99.

an overwhelming majority of the population must be on the soil.[2]

In 1790 there was a rural-urban population ratio of about 18.5 to 1,[3] so it seems that the same ratio in 1787 must have been approximately 19 to 1.[4] It will be seen, therefore, that any agricultural surplus for export would have been insignificant or non-existent since there were, in this country, only 19 rural dwellers for each urban resident; and that one urban resident would have required for his support approximately the total surplus of the other 19 inhabitants.

However, it is frequently assumed by historians that the problem of disposing of an agricultural surplus had an important bearing on early American foreign relations and domestic policies. The following is quoted as an example of this line of reasoning.

> By 1785 some 50,000 adventuresome pioneers had trekked over the Alleghenies and had settled on the rich lands of what are now Tennessee and Kentucky. The cost of transporting their bulky agricultural produce over the mountains was prohibitively high. But nature had placed at their very doors a huge waterway, the Mississippi River,

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[2] Noel P. Gist and L. A. Halbert, Urban Society (New York: Thomas Y. Crowell Company, 1949), p. 85.

[3] U. S. Bureau of the Census, Historical Statistics of the United States, 1789-1945 (Washington, D. C.: 1949), p. 25.

[4] Rural population refers to those living in communities of less than 2,500; urban, to those in cities whose limits include a population of 2,500 or more.

> which was capable of bearing their grain and tobacco inexpensively to ocean-going ships.[5]

The agitation of western farmers for the use of that river as an outlet for their produce has been considered a very important factor in the series of negotiations which finally culminated in the purchase of Louisiana in 1803. However, it would seem that too much importance has been given to that factor if American agriculture was no more efficient than is indicated by the opinions previously quoted. Thus it will be seen that there is a certain incompatibility between the two schools of thought regarding early American agricultural production.

I. THE PROBLEM

Statement of the problem. It was the purpose of this study to determine whether the approximate rural-urban population ratio of 19 to 1 in 1787 was dictated by the limits of agricultural efficiency, thus necessarily making the United States rural to that extent, or whether total agricultural production was clearly greater than was required for the support of the urban five per cent of the population.

Importance of the study. If surplus farm products

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[5] Thomas A. Bailey, A Diplomatic History of the American People (New York: Appleton-Century-Crofts, Inc., 1946) p. 45.

were in such small quantity during the early years of the country's existence as some believe, then that fact would have a vital bearing upon the size and number of early American cities. It would be a valid assumption that lack of the means of subsistence was an important factor in the retardation of the growth of cities in the eighteenth century, and that their further development had to await an improvement in agricultural methods which would result in considerably increased efficiency. This premise would necessitate the conclusion that the problem of disposing of an agricultural surplus in the postwar years has been too greatly emphasized as a motivating factor in the nation's domestic policies and foreign relations. But if it appears that there was actually a surplus of farm production during this period, then an explanation of the lack of urban growth can not properly include agricultural inefficiency, and estimates of the productive capacity of the post-Revolutionary farmer will need some revision. As the matter now stands, conflicting opinions previously noted affect an understanding of early United States history.

II. DEFINITIONS OF TERMS USED

Urban. This term is used in accordance with the practice of the Bureau of the Census which classifies as a city that community which has attained a population of at

least 2,500 within its city limits.

Rural. In a similar manner, rural population refers to that portion of the population living in communities of less than 2,500.

Post-Revolutionary War period. For the purpose of this study, the period comprises those years from 1785 to 1795.

III. ORGANIZATION OF REMAINDER OF THE THESIS

The remainder of this thesis is organized as follows: Chapter II presents a detailed view of United States agriculture, crop by crop, whereas an examination of the actual amount of exports is reserved for Chapter III. Chapter IV is devoted to a consideration of whether or not the United States agricultural production represented the potential capacity of the country. Finally, Chapter V contains a summary of the preceding chapters and conclusions drawn therefrom.

IV. REVIEW OF THE LITERATURE

Very little material is available which specifically refers to the problem with which this study has been concerned. However, since there have been some studies made of the history of agriculture in the United States, a brief

description of those found most useful will be given. In addition, certain statistical records have been found of considerable value.

Literature on the history of United States agriculture. Bidwell and Falconer have written a history of agriculture in the northern United States which gives a detailed treatment of various crops and livestock in the period 1620-1860. This work concerns crops and crop yields, tillage, harvesting, tools and implements, and agricultural trade, both domestic and foreign.[6] A similarly complete treatment of southern agriculture is found in Gray's History of Agriculture in the Southern United States to 1860.[7] Taken together, these two studies probably form the best obtainable picture of agriculture's status in the early years of the nation's existence.

Literature on the statistics of agricultural trade. The most complete statistics on the subject of international trade in agricultural products are found in the reports of the Department of the Treasury contained in American State

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[6] Percy Wells Bidwell and John I. Falconer, History of Agriculture in the Northern United States, 1620-1860 (New York: Peter Smith, 1941).

[7] Lewis Cecil Gray, History of Agriculture in the Southern United States to 1860 (Washington, D.C.: Carnegie Institution of Washington, 1933).

Papers, Commerce and Navigation.[8] These reports have been relied upon for data concerning United States exports from 1790 to 1794.

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[8] American State Papers, Commerce and Navigation (Washington, D.C.: Gales and Seaton, 1832).

CHAPTER II

A VIEW OF SOME COMMON AGRICULTURAL PRODUCTS, 1785-1795

In order to secure a better understanding of agricultural production during the period under study, the individual status of some common crops will be considered with the object of attempting to determine their actual condition as to abundance or scarcity.

Corn. When the first settlers came to America, they found the Indians growing corn of several varieties which were substantially the same as those found in this country today. By the end of the eighteenth century, corn was the predominant cereal in the United States because of peculiar characteristics which especially adapted it to the needs of early farmers. Not only was it an important food for both men and animals, but it was easily prepared for human consumption by grinding. It did not require the complete breaking of ground for its planting, but could be planted with the hoe among the rocks and stumps or girdled trees. Furthermore, the ease with which it was harvested was an important consideration in those days of relatively crude agricultural implements.

A comparatively large acreage was planted to corn, but yields showed much variation and in some sections of the country were very low. In Virginia, for example, George

Washington estimated that corn would average 12 1/2 bushels per acre;[1] however, he explained later that such yields referred mainly to the tobacco states where the soil had been exhausted by constant cropping.[2] It seems that in more northern regions the crop was considerably better, averaging perhaps 20 to 25 bushels per acre. Bogart and Thompson quote Gilbert Imlay as saying that in Kentucky, corn planted among girdled trees yielded as much as 50 to 60 bushels per acre the first year, and that the next crop was even better in that fertile soil.[3]

Despite locally reduced yields due to impoverishment of the soil, there is no indication in contemporary accounts that there was any lack of corn either for domestic use or for export. Washington expressed the opinion in 1788 that the United States was capable of exporting various grains; and while he made no specific mention of corn, this must have been one of those he had in mind.[4] Indeed, in some sections

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[1] Letter of George Washington to John Beale Bordley, August 17, 1788, in John C. Fitzpatrick, editor, The Writings of George Washington (Washington, D.C.: United States Government Printing Office, 1939), XXX, 51.

[2] Corn in Virginia has yielded 35 to 40 bushels in recent years, which is approximately the national average.

[3] Ernest Ludlow Bogart and Charles Manfred Thompson, Readings in the Economic History of the United States (New York: Longmans, Green and Co., 1916), p. 235.

[4] Letter of George Washington to Count De Moustier, August 17, 1788, in Fitzpatrick, op. cit., XXX, 45.

of the country the production of corn equalled or surpassed the combined total of all other grain crops.

Wheat. One reason why corn so largely predominated in some parts of the country was that wheat had become a failure in some sections by the latter part of the eighteenth century. In general, it must be admitted that American farmers were notoriously poor husbandmen; extravagant in the use of soil as well as other natural resources, and it is not surprising that yields had begun to decline in some of the older regions. In addition to this cause, wheat, especially in New England, suffered from the ravages of rust and the Hessian fly, the latter pest receiving its name from the belief that it was introduced in the straw used by the Hessian troops during the Revolution. By the time of the period under consideration, the combined effects of poor farming, plant diseases, and insect pests had caused wheat growing to decline to a position of minor importance in most parts of New England except those more newly settled regions to the north and west.[5] The Middle Colonies had been visited by the same pests, but with the initial advantage of better soil, the Pennsylvania and New York farmers

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[5] Percy Wells Bidwell and John I. Falconer, History of Agriculture in the Northern United States, 1620-1860 (New York: Peter Smith, 1941), p. 93.

gave their wheat fields better tillage and developed crops which were better able to resist the attacks of insects and parasites. Even before the Revolution, experiments were being undertaken which demonstrated that some varieties of wheat were much better suited to conditions than others. As a result, wheat production in the Middle Colonies was maintained; and the vicissitudes of the farmers even resulted in some good through the introduction of new varieties of wheat, and by the adoption of better methods of farming.

George Washington's letters again provide information on wheat yields in the South where he said 9 bushels per acre might be expected.[6] This, too, is indicative of poor farming, for Washington later explained to an incredulous Arthur Young that he was referring mainly to the tobacco states where the land had been worn out;[7] however, he reported that better husbandry had resulted in yields of 30 to 40 bushels per acre.[8] Such production was evidently in excess of the nation's requirements, for Representative Thomas Fitsimons of Pennsylvania noted in Congress that the United States was the sole dependence of the West Indies

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[6] Letter of George Washington to John Beale Bordley, August 17, 1788, in Fitzpatrick, op. cit., XXX, 51.

[7] Virginia wheat has recently averaged 16 to 17 bushels per acre, or about the national average.

[8] Letter of George Washington to Arthur Young, June 18, 1792, in Fitzpatrick, op. cit., XXXII, 68.

for flour.[9] William Smith of Maryland mentioned that England had restrictions on American exports of wheat and flour,[10] and Washington had previously observed that the States had wheat for export.[11] Therefore it seems well established that there was a surplus production of that crop in the postwar years.

Rye. Rye was another widely grown crop because of its general utility and because it could thrive in those localities less suited to other grains. In New England, where wheat farming had greatly declined, a substitute was found in rye, which was often ground into flour and mixed with corn meal to make the standard "rye and Injun" bread of the farm families.[12] The thrifty Germans of Pennsylvania, though growing large crops of wheat for market, raised rye for their bread. However, the grain seems to have been principally employed in the production of liquor. William Strickland wrote of conditions in 1794 as follows:

> All the back country of America is very favourable to the growth of rye; crops, producing from twenty to thirty

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[9] Annals of Congress, 1789-1791 (Washington, D.C.: Gales and Seaton, 1834), I, 179.

[10] Ibid., p. 206.

[11] Letter of George Washington to Count De Moustier, August 17, 1788, in Fitzpatrick, op. cit., XXX, 45.

[12] Bidwell and Falconer, op. cit., p. 96.

> bushels, are commonly met with; this grain is entirely consumed in the distillation of whiskey, chiefly for the consumption of the Irish frontiersmen, except among the Germans of Pennsylvania, who use it for bread.13

Such figures on yields per acre should not be accepted as an average for all localities because the amount was probably nearer one half than mentioned.[14] However, in spite of the quantities consumed in distillation, a few thousand bushels were exported in 1790, although the amount was never large enough to be significant and declined thereafter.

Minor grains. Judging by the amounts exported, oats must have been the most important of the minor grains, although it seems that a considerable quantity of New England barley was transported to the Middle States for brewing purposes. Locally, at least, barley seems to have been of some importance, for Fisher Ames, in the First Congress, procured a tax on that grain because considerable quantities were being imported from a state which had not yet ratified the Constitution.[15] Both buckwheat and oats were used as feed for animals, but the demand for them as human food seems to have been of little consequence except in local situations.

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13 Ibid., p. 97, quoting William Strickland, Observations on the Agriculture of the United States of America (1801).

14 Rye now averages about 12 bushels per acre.

15 Annals of Congress, op. cit., p. 156.

Contemporary accounts express no lack of these minor grains, perhaps because the demand was not particularly significant and not because they were produced in large quantities.

Cotton. The status of no other crop of this period is so controversial as that of cotton. An examination of the export statistics is of no value because the origin of the exports is not indicated. One estimate places world cotton production about 1787 at 1,000,000 bales, of which the United States produced 3,000 and exported 250 bales.[16] A different opinion is expressed by another source which claims that the first American-grown cotton was exported in 1791, and that only in the amount of 19,200 pounds;[17] but Gray mentions exports of Virginia cotton as early as 1768 in the amount of 43,350 pounds.[18] It may be noted, however, that while members of the First Congress were much concerned about markets for some agricultural products, they maintained a significant silence in regard to cotton. Evidently the amount was not sufficient to create any problems in regard

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[16] Harris Dickson, The Story of King Cotton (New York: Funk and Wagnalls Co., 1937), p. 7.

[17] Bogart and Thompson, op. cit., quoting Adam Seybert, Statistical Annals. . . . of the United States of America (Philadelphia: 1818), p. 92.

[18] Lewis Cecil Gray, History of Agriculture in the Southern United States to 1860 (Washington, D.C.: Carnegie Institution of Washington, 1933), I, 184.

to the disposition of a surplus. It is also probably true that the crop was not even adequate for the country's needs since considerable quantities of foreign textiles were imported.[19] Tench Coxe investigated the conditions of cotton production in 1787, and came to the conclusion that the new nation had a vast potential capacity for growing the crop, but he seemed puzzled by the South's lack of interest even though prices were as high as 44 cents per pound.[20] In general, most of the cotton was probably grown and processed as a family enterprise. The amount grown was largely determined by the amount of time which could be spared for the tedious task of removing the seeds. Sometimes slaves were required to clean a certain quantity of cotton each week in addition to their other duties, but such procedures did not result in any considerable amounts of clean cotton. The few local exceptions to this generalization are reserved for a later chapter.

Tobacco. In the First Congress, the extent of American tobacco production was indicated by the prohibitive duties imposed on imports of that crop. Indeed, it was

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[19] Within the last decade the United States has produced about 12,000,000 bales of cotton per year although there has been considerable yearly variation.

[20] Tench Coxe, A Statement of the Arts and Manufactures of the United States of America for the Year 1810 (Philadelphia: A. Cornman, Jr., 1814), part I, p. xxiv.

mandatory that tobacco be exported since it was a principal cash crop of the South, and was grown in much larger amounts than could be consumed in domestic use. Representative James Jackson of Georgia said that 5,000 hogsheads of tobacco were lying in warehouses for lack of shipping, and stated that the price was so low that it was scarcely worth exporting anyway.[21] Jackson and others were opposed to the discouragement of foreign shipping by the imposition of tonnage duties because they believed such measures would further aggravate the conditions wherein surplus produce was accumulating in warehouses. Apparently there was some basis for their belief, for James Madison had said that it was generally agreed that American shipping was not capable of transporting all the domestic produce of the country.[22] However, Thomas Fitsimons contended that a greater tonnage engaged in the carrying trade would do nothing towards moving stocks from the warehouses, since the accumulation of goods was due to the fact that supply had so far outgrown demand.[23] This would indicate that American tobacco not only exceeded domestic requirements but was beginning to depress the European market as well. It is not possible to determine exactly the amount

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[21] Annals of Congress, op. cit., p. 253.

[22] Ibid., p. 190.

[23] Ibid., p. 277.

of tobacco represented by the 5,000 hogsheads which Jackson mentioned. A hogshead was supposed to weigh 500 pounds, but since it was to the interests of exporters to make them as large as possible, there was much variation despite laws to the contrary.

Flax. Tench Coxe suggested that the United States was lacking in flax in the postwar period.[24] Scotch-Irish immigrants were responsible for an increase in the domestic use of linen, but flax seems not to have attained the degree of importance which might have been expected. Any deficiency in the crop would have to be considered so only in respect to its employment in the manufacture of linen, however, because there was undoubtedly a surplus of flaxseed. John Laurence, Representative from New York, remarked that the United States was obliged to look to the export market for the disposition of flaxseed as well as a variety of other articles.[25] Fortunately, Ireland used large quantities of flaxseed; therefore the United States was able to dispose of surprisingly large amounts of that product by exporting it. This peculiar situation (analogous to shipping coals to Newcastle) was probably due to the Irish practice of cutting flax before the

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[24] Coxe, op. cit., part I, p. xvi.

[25] Annals of Congress, op. cit., p. 177.

seed was ripe as a means of improving the quality of their linen.

Hemp. In the days of sailing ships, commercial nations were heavy consumers of hemp, from which was made the many ropes required by each vessel. The United States was in need of large quantities of the product, but did not grow an amount sufficient to supply the demand. In those years preceding the Revolution, the amount of hemp grown had been increased by subsidies; but after the country won its independence the crop had been permitted to decline. In the First Congress, Fitsimons remarked that before the war it was necessary to import very little of the product, but since that time considerable quantities were being brought in from England. He was of the opinion that a surplus could be grown, but seemed to have no idea as to why it was not.[26] Some members of the Congress thought that the western part of the country should be encouraged to grow the crop on those fertile soils because hemp would bear the cost of transportation to distant markets. Their contention that soils and climatic conditions were such that hemp could be produced in adequate quantities may have been valid, but the fact remained that the country was not producing enough for its own needs. Therefore, hemp may be added to cotton and flax as a third crop in which the

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26 Annals of Congress, op. cit., p. 150.

United States was lacking during those years.

Rice and indigo. Rice and indigo, together with tobacco, had long been among the most important crops of the South. However, as early as 1750 the rice planters began to be troubled by evidences of overproduction with an attendant lowering of prices, and so turned to indigo as a complementary crop. Indigo could be grown on fields not subject to overflow, whereas rice was admirably suited to the lowlands. Indigo could be harvested in the summer, but the rice crop matured in the later months. Such natural advantages availed little, however, unless the crops were a source of cash income, and in the postwar period Representative Thomas Tucker of South Carolina complained that both rice and indigo were becoming so low in price that they were hardly worth their cultivation.[27] James Jackson agreed that rice, tobacco, and indigo were indeed so low that they were no longer worth exporting, and mentioned rice as one of those products lying unwanted in warehouses.[28] Fitsimons had pointed out previously that no other country was capable of supplying the European demand for rice and tobacco,[29] but apparently that demand had not kept pace with the American supply. Other factors prob-

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[27] Ibid., p. 148.

[28] Ibid., p. 253.

[29] Ibid., p. 150.

ably accounted for some of the marketing difficulties, but overproduction must be ascribed as a chief cause, and one that was not of recent origin or temporary duration.

Livestock. When problems relative to the proposed tariff were being debated in the First Congress, James Madison expressed the opinion that every state had a surplus of beef.[30] Other members of the House seemed to concur in the estimate, and they apparently believed that the same could be said of pork and butter. It was also suggested that a tariff ought to include tallow candles as a means of encouraging their domestic manufacture. There was a plentiful supply of tallow at that time, but candles were being imported regularly.

As a matter of fact, livestock was probably more easily produced than were the grain crops. Gray describes the woods as swarming with cattle, hogs, and horses within a few decades after settlement, for the animals multiplied rapidly on the open range.[31] In Virginia and the Carolinas where livestock was raised for export to the West Indies, herds of 1,000 cattle per plantation were not uncommon.[32] Southern cattle could be turned out in the dense cane thickets which

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[30] Ibid., p. 145.

[31] Gray, op. cit., I, 140.

[32] Ibid., p. 150.

flourished from Kentucky to the Gulf, and which provided excellent feed. Similarly, hogs might fare quite well in some localities by subsisting on the natural forage. As a result of his early travels in this country the Reverend William Winterbotham made some interesting remarks relative to American pork.

> The article of pork, so important in navigation and trade, merits particular notice. The plenty of mast or nuts of the oak and beech, in some places, and of Indian Corn elsewhere, occasions it to be very fine and abundant. Two names among them are pre-eminent, Burlington and Connecticut; the first of which is generally given to the pork of Pennsylvania, and the middle and northern parts of Jersey; the second is the quality of all the pork north of Jersey. It may be safely affirmed, that they are fully equal to the pork of Ireland and Brittany, and much cheaper.[33]

American hogs were sometimes described in terms less complimentary; observers felt that the animals had deteriorated since their importation. By European standards this was probably true, especially if the animals were roaming the woods in a semi-domesticated state. Similar changes of conformation compatible with the particular environment are sometimes noticed yet today; but, for the most part, it was agreed that American pork was of good quality, and its abundance was attested by the large volume of exports.

Sheep are said to have been raised more for wool than

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[33] Albert Bushnell Hart, American History Told by Contemporaries (New York: The Macmillan Co., 1906), III, 69, quoting Reverend William Winterbotham, Economic Advantages of the United States.

for mutton, but despite that fact the clip was generally of poor quality. Yet while that was apparently true in the main, there were definite exceptions. George Washington usually kept from 600 to 1,000 head of sheep, and he reported that when he had the time for their management, they yielded fleeces averaging a full 5 pounds in weight and of good quality.[34] As a rule, sheep were inferior because of a lack of attention and the absence of good breeding stock. England had legislation designed to prevent the exportation of such animals from that country; therefore attempts to improve the American breeds were greatly handicapped although some British sheep were smuggled out despite the regulations. Indeed, the Washington flock was improved by descendants of those illegal exportations although Mr. Washington scrupulously refrained from having anything to do with the first generation of smuggled animals. Similarly, Spain jealously guarded her famed Merinos, and none could be procured until after the Napoleonic wars. When they became available, American farmers eagerly seized the opportunity to secure breeding stock and even improved the breed.

In the back country, depredations of wild animals made

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[34] Letter of George Washington to Sir John Sinclair, March 15, 1793, in Fitzpatrick, op. cit., XXXII, 388. The weight of these fleeces is almost identical with those produced in Virginia today. For the United States as a whole, sheep now shear about 8 pounds as an average.

sheep raising an enterprise of doubtful profit; and even in the more populous communities, roving dogs took their toll. On the whole, sheep evidently required more attention than the American farmer was willing to give them, and the industry did not attain any great importance until later years. On the contrary, hogs and cattle could be raised with little attention or expense, and were therefore found more profitable.

CHAPTER III

AGRICULTURAL EXPORTS

In order to throw additional light upon the problem under consideration, it is proposed to examine the amounts of certain products actually exported from the United States in the five-year period, 1790-1794. Before examining those statistics certain limitations must be noted.

I. LIMITATIONS OF STATISTICS

Lack of complete reports. The reports of foreign trade as issued by the Department of the Treasury did not account for all the exports of the United States during the postwar period. This was especially true for the year ending September 30, 1790, and to a lesser degree for the subsequent years. At the beginning, it was naturally difficult for new officials to secure all data which might have been desirable, and for some time afterwards certain ports were not prompt in making returns of the information required. In addition to those difficulties, some products went down the western rivers to the Spanish port of New Orleans. It is not possible to determine the exact extent of that trade, although it has been reported that in 1790, after the reopening of the Mississippi River by Spain, 18 flatboats arrived at New Orleans, principally loaded with

tobacco, beef, and flour.[1] Such an amount was of no particular importance, but the actual volume of such trade was apparently greater than the statistics indicate. A great deal of smuggling went on, and since a large part of the exports from American settlements stopped at the old river port of Natchez, an undetermined amount of United States produce does not appear in the New Orleans records.[2]

Lack of statistics on re-exports. Within a month after the treaty of peace with England in 1783, Yankee traders were on their way to China.[3] Thus it was that products of such distant lands soon found their way to the United States where they might either be consumed or re-exported. Such trading ventures account for some of the exotic items appearing in lists of American exports. This causes no confusion when the articles are clearly of foreign origin, but in other instances, such as exports of cotton, it is impossible to determine whether it was grown in the United States or had been previously imported from some foreign country. Therefore it is possible to overestimate American agricultural production

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[1] Arthur Preston Whitaker, The Spanish-American Frontier: 1783-1795 (Boston: Houghton Mifflin Co., 1927), p. 95.

[2] Loc. cit.

[3] Thomas A. Bailey, A Diplomatic History of the American People (New York: Appleton-Century-Crofts, Inc., 1946), p. 320.

for the period, since distinctions between exports and re-exports were not attempted until 1796, when the amounts of each began to be estimated by the Department of the Treasury.

Value of imports. The tariff of 1789 imposed specific duties on some imports whereas others were subject to ad valorem rates. The value of the former was not determined because the duties could be collected without that information; therefore it is not now possible to discover the total value of United States imports at any time during those years. Statistics purporting to show the value of those imports may be approximately correct, but they are partly the result of estimates. Therefore the value of imports can not be subtracted from the value of exports to determine with accuracy the worth of that portion of the trade which represents the American increment.

II. EXPORTS OF CERTAIN SELECTED COMMODITIES

Volume of exports. Table I, page 28, indicates the average annual exports of certain commodities over the five-year period, 1790-1794. This table is believed to be of considerable assistance in arriving at a reasonably accurate estimation of the United States' agricultural sufficiency in the postwar years, and has been made in conformity with the findings of the preceding chapter. In case there was reason to believe that the amount of any exported article

was significantly affected by imports, that item was not included in the table. That has been true in the case of cotton, which was exported in considerable amounts; but it is believed that those exports were mainly of foreign origin.

TABLE I

AVERAGE ANNUAL EXPORTS OF SELECTED COMMODITIES FOR THE YEARS 1790-1794 INCLUSIVE[4]

Commodity	Amount	Unit
Flaxseed	237,225	Bushels
Buckwheat	4,939	"
Corn	1,702,659	"
Oats	93,757	"
Rye	14,646	"
Wheat	1,028,791	"
Rice	449,870	"
Peas and beans	129,310	"
Bread	80,362	Barrels
Flour	814,134	"
Meal	73,176	"
Beef	70,826	"
Pork, hams, and bacon	36,992	"
Tobacco	92,891	Hogsheads
Tallow	221,843	Pounds
Indigo	434,667	"
Livestock	33,369	Head

[4] American State Papers, Commerce and Navigation (Washington, D.C.: Gales and Seaton, 1832), I, 23 ff.

Importance of exports. The importance to Americans of an export market was indicated by a remark made in Congress by Thomas Scott of Pennsylvania.

> Our country furnishes none of the precious metals or jewels; we have nothing to depend upon but the products of the soil, and the overplus of these productions is of little value unless a market takes it off.[5]

A similar argument was advanced by Representative Laurence in opposing a duty on tonnage because he felt such action would decrease the available shipping, thus causing a piling up of the farmer's produce.[6] "For what stimulus," asked Mr. Laurence, "will the farmer have to raise more produce than is necessary for his own support? Will he toil in cultivating the earth . . . to have the fruits of his labor perish in his granaries?"

Alexander Hamilton, in 1791, remarked:

> The restrictive regulations, which in foreign markets abridge the vent of the increasing surplus of our agricultural produce, serve to beget an earnest desire that a more extensive demand for that surplus may be created at home. . . .[7]

The need for creating a greater domestic demand was thought by Hamilton to be one of the most important reasons why Amer-

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[5] Annals of Congress, 1789-1791 (Washington, D.C.: Gales and Seaton, 1834), I, 150.

[6] Ibid., p. 177.

[7] Alexander Hamilton, "Manufactures," American State Papers, Finance (Washington, D.C.: Gales and Seaton, 1832), I, 123.

ican industry should be encouraged by protecting it from foreign competition. Thomas Jefferson, while United States minister to France, wrote a letter to George Washington in which he noted: "The produce of the United States will soon exceed the European demand; what is to be done with the surplus when there shall be one?"[8] It is significant that, as early as 1788, Jefferson was thinking of a possible surplus in terms of European requirements over and above those of the United States. Presumably, domestic requirements had long since been met. At any rate, Jefferson seemed much concerned and stated that he had laid his shoulder to the opening of the markets of France to United States produce.[9]

A striking example of the dependence of some countries upon American exports is found in the disaster which fell upon the West Indies immediately after the American Revolution.[10] In 1783, Parliament excluded American ships from trade with the British West Indies. This seems to have been done with no thought of the consequences, for the British were in no position to supply the islanders with the neces-

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[8] Letter of Thomas Jefferson to George Washington, December 4, 1788, in H. A. Washington, editor, The Writings of Thomas Jefferson (New York: John C. Riker, 1853), II, 533.

[9] Ibid., p. 536.

[10] Ernest Ludlow Bogart and Charles Manfred Thompson, Readings in the Economic History of the United States (New York: Longmans, Green and Co., 1916), p. 194, quoting the English governor, Bryan Edwards.

sities of life. Governor Edwards reported that by 1787, fifteen thousand Negro slaves had died on Jamaica alone from malnutrition and starvation. He made no attempt to estimate deaths on the other islands.

CHAPTER IV

THE POTENTIAL CAPACITY OF UNITED STATES AGRICULTURE

The actual production of agricultural products during the postwar period did not necessarily represent the country's true capacity. It may have been that agricultural efficiency was such that more could have been produced, but was not because of various influences.

Common farming practices. While the total output of American farms was large, yields expressed in amounts per acre were generally small--considerably less than prevailed in England. In explaining such yields to an English farmer, George Washington, who seems also to have been first in American farming, gave an excellent description of what must have been a common practice in the United States.

> An English farmer must entertain a contemptible opinion of our husbandry, or a horrid idea of our lands, when he shall be informed that not more than 8 or 10 bushels of Wheat is the yield of an Acre; but this low produce may be ascribed, and principally too, to a cause which I do not find touched by either of the Gentlemen whose letters are sent to you, namely, that the aim of the farmers in this Country (if they can be called farmers) is not to make the most they can from the land, which is, or has been cheap, but the most of the labor, which is dear, the consequence of which has been, much ground has been scratched over and none cultivated or improved as it ought to have been. . . .[1]

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[1] Letter of George Washington to Arthur Young, December 5, 1791, in John C. Fitzpatrick, editor, The Writings of George Washington (Washington, D.C.: United States Government Printing Office, 1939), XXXI, 440.

Such a condition was a natural consequence since farmers could hardly have been expected to employ high-priced labor in the face of unsatisfactory outlets for their produce. Their extensive type of farming was not due to their inefficiency, but simply seemed to be the best method to employ under the circumstances. It was not because of the lack of knowledge of better farming practices so much as it was a situation which arose in response to peculiar conditions. Thomas Jefferson was certainly aware of the better farming methods, but he said, ". . . We can buy an acre of new land cheaper than we can manure an old acre."[2] Thus did American agriculture adapt itself to its frontier environment, becoming, in the process, quite different from the same pursuit in England where the demand for its products was much greater, and where the relative value of land and labor tended to be reversed.

Lack of transportation. It has been previously noted that the fertile soils of the western United States were capable of producing unusually large crops of grain. Those lands, however, were severely handicapped by being beyond the mountains where transportation facilities had not yet been provided. There was little reason for the western farmer to

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[2] Letter of Thomas Jefferson to George Washington, June 28, 1793, in H. A. Washington, editor, The Writings of Thomas Jefferson (New York: John C. Riker, 1853), IV, 4.

grow a surplus of grain because the high cost of transportation made it unprofitable. This was an important reason why some advocated the culture of hemp, since it was believed that it could be carried profitably to markets. Surplus corn was sometimes marketed in the form of whiskey in an effort to avoid the labor and expense of transporting the grain for long distances. The New Orleans gateway was of some benefit to market-seeking farmers, but it could not be depended upon until the territory was purchased from France in later years. Even so, river transportation costs were excessively high around the turn of the century. The New Orleans-Louisville rate of 25 cents per hundred pounds in 1840 had been as much as $5 in the old keelboat days.[3] Shortly after the Revolution, an English traveler asserted that the fertile western lands could never be thickly populated because of the impossibility of finding an outlet for the produce.[4] At that time, such a conclusion must have seemed a logical one since the later development of transportation facilities could not be anticipated; but if such facilities had existed in the years following the Revolution, America's productive capacity would have been considerably increased.

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[3] Ray Allen Billington, Westward Expansion (New York: The Macmillan Co., 1949), p. 332.

[4] Lord Sheffield, Observations on the Commerce of the American States, quoted in "The Western Country," Niles Weekly Register, I (September 7, 1811), 9 f.

Lack of processing industries. In some instances crops could be grown and harvested readily enough, but there were no facilities for converting them into useful forms without the large scale employment of expensive hand labor. This seems to have been an industrial deficiency rather than an agricultural one. Cotton was grown in the Colonies long before the Revolution, but the crop failed to achieve any considerable commercial importance until near the close of the eighteenth century. It has been reported that the French settlers in West Florida had improved the roller gin in the pre-Revolutionary period to such a degree that a boy could gin from 70 to 80 pounds of clean cotton per day.[5] Apparently this was not the same variety of cotton later grown so extensively in the South, but was probably one of those kinds from which the seeds could be separated with comparative ease. Therefore this improvement had no effect on the United States cotton crop over the greater part of what later came to be called the cotton belt. There, the green-seeded upland cotton was the most suitable variety, but a roller gin would not remove the clinging fibers from the seeds. Such cotton could be cleaned only by laboriously removing the seeds by hand--a task productive of little more

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[5] Lewis Cecil Gray, History of Agriculture in the Southern United States to 1860 (Washington, D.C.: Carnegie Institution of Washington, 1933), I, 183, quoting Bernard Romans, East and West Florida (New York: 1775), pp. 139-41.

than a pound of clean cotton per day, per worker. The lack of a means of processing the crop was sufficient to keep it in a position of minor importance. Manual labor could be more profitably employed otherwise.

Apparently, sea-island cotton was introduced into the United States in 1786.[6] It was a long-fibered cotton of the highest quality, possessing the advantage of being easily cleaned, but it was suited only to limited localities and therefore could not become a staple crop. Thus American farmers, generally speaking, could not grow varieties of cotton which were easily processed, and could not afford the great amount of labor involved in preparing the green-seed variety for use. It is said that a sample of uncleaned upland cotton sent to England occasioned a British reply to the effect that the exportation of such a product would be useless since there seemed to be no possible way of removing the seeds efficiently. The crop had to await a technological development which enabled planters to have their cotton ginned at low cost. Thereafter, the crop was grown in huge quantities by essentially the same methods of culture previously employed.

Similar difficulty had been experienced with hemp,

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[6] M. B. Hammon, The Cotton Industry (New York: The Macmillan Co., 1897), p. 16.

which required a great deal of labor and was therefore unprofitable. The flax crop, too, usually declined when the prices of other products rose, because farmers preferred to grow those crops which required less labor in preparation. Wheat was grown in Tennessee at an early date, but since there were no good flouring mills available, the crop was largely abandoned.[7] This was one reason why corn was relied upon so heavily; it could be ground, after a fashion, even by the most primitive methods.

Lack of markets. Surpluses noted throughout this paper indicate that American farm production often exceeded the domestic demand, and, in some instances, the foreign demand as well. When the supply became great enough to depress prices, or to cause a piling up of goods in the warehouses, there was no incentive for farmers to produce beyond their own needs. In reality, the number of Americans who had no part in agricultural production was so small that the domestic market barely escaped insignificance.[8]

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[7] Thomas Perkins Abernethy, From Frontier to Plantation in Tennessee (Chapel Hill: The University of North Carolina Press, 1932), p. 151.

[8] Conditions in Louisiana seem to have paralleled those in the United States at that time. Gray, op. cit., p. 150, notes that the Acadians sometimes owned thousands of cattle, but there was no market for the surplus.

CHAPTER V

SUMMARY AND CONCLUSIONS

I. SUMMARY

As a result of the survey of some common agricultural products during the post-Revolutionary period, the following summations may be made. Corn was one of the principal crops grown, and in some localities equalled or surpassed the combined total of other grains, probably because the crop was so peculiarly suited to the conditions which existed. No indications have been found that production was inadequate either for domestic use or for export. Wheat was no longer successfully grown in all parts of the country by the latter part of the eighteenth century, but in the remaining sections its production was such that there was an adequate domestic supply, and enough of a surplus so that the United States was exporting the grain to the West Indies and Europe. Rye found favorable conditions for growth in the back country where good yields supplied the demand for the requirements of distillation, and for occasional use as food. Minor grains such as barley, oats, and buckwheat were grown as required, but there seems not to have been any great demand for them. Tobacco was raised in quantities which threatened to oversupply the foreign market, and the same was true of rice and indigo. Livestock of nearly all kinds was present in abund-

ance, and it seems that each state must have had a surplus.

On the other hand, there is reason to believe that the United States was not producing enough cotton for domestic needs, but was making up the lack by the use of substitutes or by the importation of foreign textiles. The same was true of hemp, which had to be imported in considerable quantities. Possibly a third crop in which the country was deficient was flax for the production of linen, although the seed existed in such quantities that it had to be disposed of by export.

A lack of complete reports, lack of statistics on reexports, and the undetermined value of imports complicate the attempt to fix the amount and value of United States exports of domestic origin. However, the principal exports of farm produce have been tabulated, it is believed with a reasonable degree of accuracy, so as to show the average annual amounts of those items exported during the five-year period, 1790-1794. Among other things, those figures indicate that the United States was able to export an average of more than one million bushels of wheat, exclusive of bread and flour, for each year of the period. Corn, again exclusive of its products, was exported in even larger amounts.

The importance of those exports is indicated by the statements of contemporaries who pointed out the need of foreign markets to remove the domestic surplus and thus en-

courage American farmers to increased productivity. Alexander Hamilton thought increasing foreign restrictions on United States exports made it vitally important that the country increase domestic consumption by encouraging the development of its own manufactures. Finally, an example of foreign dependence on American exports has been noted in the instance of large scale starvation in the West Indies when United States trade was prohibited by Parliament in 1783.

The amount of agricultural produce during the years 1785-1795 was lessened by at least four factors: (1) common farming practices occasioned by the frontier environment; (2) lack of transportation; (3) lack of markets: and (4) a lack of processing industries. A more populous nation, with an attendant growth of cities, development of communications, and increase of industrial facilities, would have eliminated or considerably altered each of those four factors to such an extent that the production of American farmers would have been considerably increased, as was demonstrated in later years. There is no way to determine what maximum production might have been; it is only suggested here that American farmers were operating at less than capacity in the postwar period.

II. CONCLUSIONS

In view of the findings of this study, it has been concluded that the rural-urban population ratio of nineteen

to one in 1787 was not due to the inability of farmers to provide sufficient produce for a greater proportion of urban dwellers. On the contrary, it has been determined that agricultural production was definitely in excess of the amount required by the urban population of the United States. Further, it has been concluded that urban growth could have proceeded on the basis of the then existing surplus, and that American farmers could have increased production still more under the stimulus of an expanding urban population. It appears to be an error to explain urban growth, even in part, by assuming that, in 1787, nineteen farmers were needed to produce a surplus sufficient to support a single city person. Apparently, estimates of the relative efficiency of the post-Revolutionary farmer and his modern counterpart need some revision although it can not be doubted that the productive capacity of the latter has been greatly increased by technological improvements.

The assumption that the disposal of an agricultural surplus was a factor affecting United States foreign relations and domestic policies tends to be substantiated by the findings. However, that phase has been deliberately avoided, in the main, because it did not properly fall within the scope of the problem, and is thought to be better reserved for another study. Also it is suggested that further study might be made of the situation which resulted in the early

United States being almost without a truly urban population, even after nearly two centuries of English settlement.

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