The Landless Worker:
An Index of Economic and
Social Change in Chester
County, Pennsylvania, 1750-1820

When slavery shall cease or be inhibited, in our country, where or how are means of cultivating the lands of the southern and middle states to be found?” wrote John Beale Bordley in 1801.¹ Bordley, a founder of the Philadelphia Society for Agriculture, went on to outline a solution to the question he posed. He urged his fellow planters to follow the English and European example and use hirelings. English farmers, he pointed out, met the varying labor demands of the agricultural year by combining two types of labor: that of servants in husbandry, hired usually by the year though occasionally by the month, and that of cottagers hired by the day. Servants were taken into the household and received

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board and lodging in addition to wages. Cottagers either found their own housing or rented a small house on the employer's farm year to year, but they worked for the farmer on a daily basis as needed. The system, Bordley asserted, worked to the advantage of all. Not only did the farmer enjoy the convenience of extra laborers available at harvest or when the work load was heavy, but the cottage was "a great comfort to the cottager having a wife"; it was "a snug home for her and their little cares." That this class of people was happier and more independent than the farmer who hired them, Bordley claimed, was "evident from the known fact that more marry than do farmers, as 9 to 6."

Bordley's suggestion that farmers substitute cottagers and servants in husbandry for slaves is not surprising in itself. What is important

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2 Ibid., 389.
3 Ibid., 390. For the guidance of the landholder, Bordley elaborated on his proposal. He recommended that cottages be no more than 12 feet by 16 feet but of two stories. Each cottager should be provided with a small garden for the employment and comfort of his wife and children, but, Bordley cautioned, do not allow him even an inch of ground for cultivation of any other sort for such "might tend to draw the cottager from the farmer's business to attend to an enlarged employment of his own." It is important, he counseled, that the farmer and his hirelings be on the best of terms. The farmer should regard the cottager's family "as part of his own" and stand as a friend. Ibid., 387-96 (particularly 390 and 394).
4 Many of Bordley's readers were familiar with similar English and western European practices. For servants, see Ann Kussmaul, Servants in Husbandry in Early Modern England (Cambridge, 1981); for cottagers in eighteenth-century England, see, for example, H.J. Habakkuk, Population Growth and Economic Development since 1750 (Leicester, 1972), 40-42; for a comparison of peasants and cottagers in Austria, see Michael Mitterauer, "Peasant and Non-Peasant Family Forms in Relation to the Physical Environment and the Local Economy" (unpublished paper, University of Minnesota, 1988). A cottager system is generally seen in the modern period as creating economically dependent wage laborers as replacements for personally dependent slaves. Proposals similar to Bordley's were tried in the West Indian sugar plantations following the emancipation in 1834-1838, as well as in English colonies in Africa. See, for example, Stanley L. Engerman, "Economic Adjustments to Emancipation in the United States and British West Indies," Journal of Interdisciplinary History (hereafter, JIH) 12 (1982), 199-200; Philip J. McLEWIN, Power and Economic Change: The Response to Emancipation in Jamaica and British Guiana, 1840-1865 (New York, 1987), 104-12, 167-75; Alan H. Adamson, "The Reconstruction of Plantation Labor," in Stanley L. Engerman and Eugene D. Genovese, eds., Race and Slavery in the Western Hemisphere: Quantitative Studies (Princeton, 1975), 437-73; Susan Newton-King, "The Labour Market of the Cape Colony, 1807-28," in Shula Marks and Anthony Atmore, eds., Economy and Society in Pre-Industrial South Africa (London, 1980), 171-207. I am grateful to Stanley Engerman and Luise White for calling this literature to my attention.
and may come as a surprise is Bordley's statement that he had been told that "there are farmers, particularly in Chester County, and as I am informed, in some of the Eastern states, whose practices are very superior, and nearly altogether by the aid of labourers or servants, as above." Contemporary sources confirm Bordley's observation. Account books of farmers and artisans provide a composite picture of the arrangements with workers that tallies closely with the one Bordley envisaged. Agreements assured landholders of a labor force dependent on wages while allowing them to retain control of their lands. Tax records indicate that in 1800 approximately one in four families in Chester County (the county in southeastern Pennsylvania used most frequently by historians as a model for the Philadelphia hinterland) lived and worked as cottagers. Moreover, the assessments show that the system was well-established in the county by 1760, with approximately one in five families situated as cottagers.

The existence of a substantial cottager population, a population of non-landowning, wage-dependent families, has widespread significance. In prosperous southeastern Pennsylvania the presence of many cottagers and servants implies markets and commercialization. Why then has the presence of these free but landless laborers not given rise to substantial studies similar to those on slavery and indentured servitude in Pennsylvania? A number of factors have delayed the

5 Bordley, Essays, 389.
6 Detailed information on arrangements between landholders and cottagers is provided by the more than 300 eighteenth- and early nineteenth-century farmers', manufacturers', and workers' account books in the collection of the Chester County Historical Society (hereafter, CCHS). The Historical Society of Pennsylvania (hereafter, HSP), the American Philosophical Society (hereafter, APS), and the Friends Historical Library at Swarthmore College, as well as the libraries of township and county historical societies, provide additional examples of this genre.
7 The lists of tax rates for the years 1715-1764 at the Chester County Archives (hereafter, CCA) are virtually complete; for the period 1765-1820, either the constables' returns, assessors' lists, or rates are extant for each year and in some cases all three sets of records are available. For the Chester County tax return for 1760, see Shippen Collection (HSP); for original and more accurate copies of the taxes published in the Pennsylvania Archives, see Record Group 4: Comptroller General: Tax and Exoneration Lists, Chester County, 1765-1788, Microfilm Reels #1, #2, #3 (from the originals in the Pennsylvania State Archives, Harrisburg).
8 On slavery in rural Pennsylvania, see Jean Soderlund, Quakers and Slavery: A Divided Spirit (Princeton, 1987); and Gary Nash and Soderlund, Freedom by Degrees: Emancipation
study of wage workers in the Delaware Valley. Particularly significant have been the obscure terminology of the local tax records and the widely held belief that farm households in Pennsylvania made little use of hired labor except, perhaps, at harvest time. Not expecting to find numerous wage-dependent families in Chester County, historians were taken by surprise when a large group of landless workers came to light during early efforts to study the county from the bottom up.9

This article, drawn from an in-progress study of wage labor, focuses on two dimensions of the cottager system: on the size and growth of the cottager population over time, and on the meaning of the system in terms of the lives of the free but landless workers.10 Relying on data from the ongoing, larger study, the essay assumes: (1) the importance of wheat, the primary staple for export, in determining labor needs both directly as well as indirectly through its impact on other sectors of the economy; (2) the frequent union of manufacture

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9 For an example of continued acceptance of this view, see Salinger, "To Serve Well and Faithfully," 15, 22, 68-69, n.98. Salinger, following James T. Lemon (see below, note 13), argues that "Pennsylvania farmers continued to utilize non-family members only sparingly," usually only at harvest time. For an important statement arguing the self-sufficiency position, see James A. Henretta, "Families and Farms: Mentalité in Pre-Industrial America," William and Mary Quarterly 35 (1978), 3-32 (particularly 19). The present article takes a step toward the resolution of the issue of self-sufficiency by estimating the size of the population supporting themselves as wage laborers.

and agriculture in the person of the entrepreneurial landholder and a high level of bi-occupationalism throughout the area due to the seasonal underemployment characteristic of wheat-growing areas; and (3) a definite market orientation shaping the responses of the population. Moreover, the supporting research indicates that the development of the cottage class went hand-in-hand with the commercialization of agriculture and the intensification of rural manufacturing, both helping to pave the way for industrialization.\footnote{For a brief statement of the staples approach to the early American economy, see John J. McCusker and Russell R. Menard, \textit{The Economy of British America, 1607-1789} (Chapel Hill, 1985), 5-13; on the interrelationship between cottage industry and preindustrial development, see James A. Henretta, “The War for Independence and American Economic Development,” in Ronald Hoffman, et al., eds., \textit{The Economy of Early America: The Revolutionary Period, 1763-1790} (Charlottesville, 1986), 45-87. For an introduction to the literature on preindustrial development, see Peter Kriedte, Hans Medick, and Jurgen Schlumbolm, \textit{Industrialization before Industrialization: Rural Industry in the Genesis of Capitalism}, trans. by Beate Schempp (Cambridge, 1981); Joan Thirsk, “Industries in the Countryside,” in F.J. Fisher, ed., \textit{Essays in the Economic and Social History of Tudor and Stuart England} (Cambridge, 1961); and Gay Gullickson, \textit{Spinners and Weavers of Auffay: Rural Industry and Sexual Division of Labor in a French Village, 1750-1850} (Cambridge, 1986).}

In looking at the rise of the wage laborers and the emergence of the industrial economy, this essay builds on recent studies of non-free labor and views the free but landless worker and the non-free slave and bound servants as comprising a single labor pool available to the market-oriented, landholding families characteristic of the Philadelphia region. At the same time, it recognizes the continuum of labor in this region. The traditional stress on the labor of the landholders and their families is, as their account books testify, appropriate. But it is only part of the story. Wage laborers, the largest sector of the landless labor force from 1750 to 1820, offer a promising measure for the study of economic growth and a vital indicator of social change in the Delaware Valley. But first, it is important to arrive at a working estimate of the size and composition of the total labor force and a clearer understanding of the cottager system.

The study of wage labor in the Philadelphia hinterland has been handicapped by the archaic terminology of the eighteenth-century tax laws and records. In evaluating equality and economic and social opportunities in Chester County in the 1760s, Jackson Turner Main and, later, James T. Lemon asked: What proportion of the population
of southeastern Pennsylvania was landed and what proportion was landless? Both turned to local records for an answer; both were puzzled by their findings. Main counted the landed and landless men who appeared on a sample of 1765 tax lists for Chester County. He estimated that 47 percent of the men listed were landless. Taking into account that some were artisans, Main concluded that at least one-third of the population were members of a laboring class. In making his estimate, however, he encountered a term that was to plague succeeding historians: “inmate.” Noting that from 15 to 20 percent of the landless were classified on the tax lists as “inmates” and that the remaining landless taxables were identified as “freemen” (that is, as single, free men), Main hypothesized that inmates were indentured servants (non-free men).  

Analyzing data from the tax records for 1760 and 1782, Lemon also found what he considered was an unexpectedly high proportion of landless persons on the tax lists, particularly, “if we presume, as did some in the eighteenth century and later, that land was freely available and that America was a nation of freeholders.” Lemon also tripped on the term “inmates.” He granted that it might refer to indentured servants and apprenticed persons as Main had suggested, but since many inmates were married and most were taxed,

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12 Jackson Turner Main, *The Social Structure of Revolutionary America* (Princeton, 1965), 33-34. The tax laws do not define the term “inmate.” They merely state, for example, in 1700: “And wherever any freemen are found . . . that have no houses or plantations of their own, but are moving from place to place, as they can find labor . . . , the owner of the place where such are hired or are inmates shall be chargeable for levy assessed upon such freemen as aforesaid; and the said freemen shall work for or otherwise repay the same to such persons.” James T. Mitchell, et al., eds., *The Statutes at Large of Pennsylvania from 1682 to 1801* (16 vols., Harrisburg, 1896-1915), 2:35. A study of tax lists reveals that in 1750 the term “inmates” was reserved for workers who headed non-landed households (married men, widows, or widowers). The 1764 tax form to be filled out by owners of estates requested information on both single men and inmates as well as bound servants and Negro and mulatto slaves. “Inmate” was not defined; at the time the term seems to have required no explanation. Ibid., 6:351. Although “inmate” did not appear in the law passed in 1779, it remained in use on the tax lists for Chester County until the beginning of the twentieth century. See Chester County tax records through 1902, at the CAA.

13 James T. Lemon, *The Best Poor Man’s Country: A Geographical Study of Early Southeastern Pennsylvania* (Baltimore, 1972), 12. Lemon estimated that in 1760 and 1782 30 percent of the married taxables (tenants and inmates) were landless and pointed out that the number of landless single men increased from 9 percent of the total taxable population in 1730 to nearly 20 percent by 1800. Ibid., 12, 93-95.
he was dubious of Main’s interpretation. He dropped the matter, stating: “The most that can be said with certainty, however, is that inmates lived in someone else’s house and were craftsmen and laborers rather than farmers.”

The analysis of the process of settlement and economic development in eighteenth-century Chester County by Duane E. Ball, work that quickly followed Lemon’s, relied almost exclusively on the tax records. In an assessor’s note on a 1796 tax list, Ball came upon a straightforward definition of the troublesome term: “Inmates are Such as live in Small cottages through the township and have no taxable property, except a cow, very few have a horse.” As Ball observed, and as later studies confirm, inmates were heads of families but were landless. He noted that not all inmates were poor; some were taxed for possessing servants, plate, and even a sedan chair, but these were the rare exceptions. Most were wage workers. Having safely avoided one quagmire, Ball slipped into one avoided by Main and Lemon. He assumed that all (not some) landholders were landowners and that the freemen (the taxable single men) were the sons of the landholders. Subsequent studies have demonstrated that landholders could be either owners or tenants and that freemen might or might not be related to the landholder for whom they worked or with whom they probably lived. This misreading of the tax lists invalidates some of his tables and conclusions. However, his findings emphasizing the rise in the number of nonagricultural families, their high mobility

14 Ibid., 12 and 234, n.28.
17 Some freemen were sons of landowners, and others were sons of landless laborers; a number were former indentured servants or apprentices hired by local farmers or craftsmen. Unmarried landowners were usually taxed as landholders, and the head tax on freemen (single men) was added to the property assessment. For the early nineteenth century, one occasionally finds double listings for such men: they appear on the lists as landholders and then again in the list of freemen. These bachelors with double listings (single but landed men) were for the most part the Quakers whom Barry Levy describes as “a social curse for Quaker discipline and Quaker households.” See Levy, Quakers and the American Family: British Settlement in the Delaware Valley (New York, 1988), 248.
rate, the increase over time in the size of the labor force engaged in nonagricultural work, and the growing inequality provide important insights, supplementing the studies of Main and Lemon.\textsuperscript{18}

Main, Lemon, and Ball—working independently, using local data and basic quantitative methods—uncovered an unexpectedly large landless population in Chester County. But the records necessary to provide layers of detail and establish the framework for the study of this population were for the most part not yet readily available. Tax lists and probate records exist in overwhelming quantity, but account books, the primary source of information relative to a study of wage-labor, were not well-identified and catalogued; their value was not yet fully appreciated.\textsuperscript{19} To make the leap from the cottagers described by Bordley to Chester County inmates requires the support of work agreements and accounts kept between employer and employee, found in the account books. Only in the last decade have such materials and more come to light and, along with county records, been processed.

New data infused fresh vitality into the study of eighteenth- and early nineteenth-century Pennsylvania history. Recent studies of Philadelphia and the surrounding area demonstrate the importance of non-free labor, whether provided by slaves or bound servants.\textsuperscript{20} A wide range of writings confirm the significance of the household unit

\textsuperscript{18} See especially Ball's analysis of the structure of the labor force in his "Process of Settlement," 104-15. For landholders, see Lucy Simler, "Tenancy in Colonial Pennsylvania: The Case of Chester County, Pennsylvania," \textit{William and Mary Quarterly} 43 (1986), 542-69. Ball's estimates of family size should be read as estimates of household size. The count of inhabitants per dwelling frequently included hired help and, at times, even the families of cottagers. See an analysis of the 1783 census: Simler and Clemens, "The 'Best Poor Man's Country' in 1783," 234-61.


\textsuperscript{20} See note 8.
and family labor.\(^\text{21}\) A survey of the manuscripts now available indicates that the substantial labor force uncovered by Main, Lemon, and Ball can be studied in similar detail. Its size and structure can be examined. The often repeated statement that the rural householder made little use of non-family labor, except perhaps at harvest time, can be directly addressed.\(^\text{22}\) Moreover, the data substantiate arguments for the existence of a market economy and an appropriate labor force in southeastern Pennsylvania by 1775.\(^\text{23}\) Yet, as Mary Schweitzer noted, "until the dimensions of the category of 'inmates' are better understood, it is hard to tell what the increase in the number of inmates means."\(^\text{24}\)

Our ability to deal with wage laborers in quantitative terms prior to 1750 remains quite limited, although the roots of the cottager system date back into the period of first settlement. The presence of both married and single wage workers, at least in small numbers, is evident in early court records and personal accounts; the laws provide for their taxation. Yet, few single men and almost no inmates appear on the tax lists until the 1740s. There are several plausible explanations: in the first decades after settlement, dependent wage laborers...
were indeed few in number—tenants better met the need of early landholders; most married but landless laborers were not taxed because they were "too poor" or had "a charge of children"; and because householders were responsible for the taxes of all individuals living and working within their households, they simply paid them and deducted the tax from the wages due.

In the late seventeenth century and during the first decades of the eighteenth century, married but landless persons were more apt to become landholders (tenants) under a farm-lease or sharecropping agreement than to become cottagers. The clearing, improving, and maintenance of land was of primary importance. Landholders sought families to clear their extra acres and to build houses, barns, and fences, and keep them in repair until needed. Tenants, holding property under carefully written leases, better met the needs of the period than would cottagers. A farm lease relieved the landowner of responsibility for an extra family on a day-to-day basis, added to household income, and at the same time provided the desired service—care and improvement of the land not yet needed by the family. In return, the landless family obtained access to land and the attending opportunities land tenancy offered. The chances were good that such tenants would acquire the capital necessary to purchase property of their own. Evidence confirms their optimism. In the first decades of the eighteenth century, most couples acquired land either as owners or tenants at or soon after marriage.

The appearance of inmates on the tax lists in large numbers in 1750 and their rapid increase over the next decade directs attention

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25 In 1700, for example, assessors were instructed to have "a due regard to such as have a charge of children, the clear value of whose estates, both real and personal, amounts not to thirty pounds," excepting "household goods and implements used in trade and getting a livelihood." Mitchell, et al., eds., Statutes at Large, 2:35.

26 See, for example, the law for raising county taxes passed in 1700 in ibid., 2:36. The extant tax lists for the early eighteenth century are, for the most part, only lists of taxables showing sums to be paid. Only one constable's return has survived, the 1726 return for Thornbury Township showing 24 householders, 3 inmates, 4 freemen, 17 bound servants, and 6 slaves. Assuming inmates were equally distributed by township, there were some 150 inmates in the county by 1726. Only the landholders and freemen for Thornbury appear on the final list, the type of list available for the other townships. See Chester County Tax Records, Co. Taxes C-8 and C-8a (CCA). For evidence of wage labor, see Account Book of Phebe Buffington, 1746-1752, Buffington Family Files (CCHS).

to the economic expansion accompanied by demographic growth that began some twenty-five years earlier and signals a change in the size and composition of the labor force as well as a tighter land market. In the 1720s, as new and more profitable markets for wheat opened, the stagnating economy of the early eighteenth century improved, faltered briefly in the 1740s, and then continued its upward path at an accelerated rate to 1760. Economic growth continued through the fifteen years preceding the American Revolution with only minor set-backs. Population increase accompanied economic expansion. Beginning about 1727 and continuing into the early 1750s, substantial influxes of German and Irish families, as well as bound servants, augmented the already substantial population growth by natural increase.

During this long period of economic and demographic growth, the cottager system took root. Landholders needed additional laborers but not necessarily year-round workers nor even the same types of workers throughout the year. Agriculture had become more intensive and more diversified; it was less seasonal in its demands on labor. In addition, the numerous households engaged in manufacture as well as agriculture offered jobs to both skilled artisans and unskilled laborers. Cottagers provided the flexibility needed. Laborers would be available when there was work to be done and, when not needed, they could take on other jobs or engage in cottage industry to supplement their incomes. There is no evidence that either party to the arrangement saw it as a system that would become permanently embedded or as one that would provide conditions leading to the development of a substantial labor force conducive to industrial development. The system worked to the convenience of both. The householder’s family rid themselves of the burden and cost of caring

28 In 1740 there were 11 inmates listed; in 1750 there were 183. See Chester County Tax lists C-16 and C-19 (CCA).
29 For an overview of the Pennsylvania economy and demographic growth, see McCusker and Menard, The Economy of British America, 200-8; and Lemon, The Best Poor Man’s Country, passim. See also Schweitzer, Custom and Contract, passim. For a full discussion of Irish and German immigration into this area, see Wokeck, “A Tide of Alien Tongues,” 110-14, 244-90; Wokeck, “The Flow and Composition of German Immigration to Philadelphia,” 249-78; and Wokeck, “Irish Immigration to the Delaware Valley.” See also Farley Grubb, “German Immigration to Pennsylvania, 1709 to 1820,” JIH 20 (1990), 417-36.
for so many extra hands, and the worker was free to marry and start a family.\(^{30}\)

By 1750 the cottager system was sufficiently well-established to make quantitative study possible and profitable. Not only did township tax assessors regularly identify freemen, but they noted cottagers with increasing frequency and often in substantial numbers. Recent scholarship and data from account books provide a basis for expanding the tax records to estimate the size of the total labor force and the relative strength of its various sectors. A series of three tables has been constructed to this end: Table 1 summarizes the tax data for Chester County, 1750 to 1820. Table 2 fleshes out the overview by introducing women, adolescents, and free blacks into the picture. Table 3 combines data from Tables 1 and 2 to provide a rough description of the size and structure of the labor pool one might anticipate finding as the study of the rural labor force continues. The tax lists yield only rough estimates of population size, and admittedly, the methods of calculation used in constructing Tables 2 and 3 are far from ideal. As a group, however, the tables reveal patterns consistent with current findings arguing for a dynamic view of the regional economy.\(^{31}\) But, as E.P. Thompson once observed, “there is no such thing as economic growth which is not, at the same time, growth or change of a culture.”\(^{32}\)

The balance of this essay offers glimpses of those who worked for wages under the cottager system. What did the cottager system mean in their terms and how did they operate within that system over their life cycle? The account relies heavily on the rich body of data available from the account books of the period. It demonstrates that the day books and ledgers that serve so well as a basis for the study of farmers, manufacturers, and markets are equally useful when examining the

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\(^{30}\) H.J. Habakkuk described similar developments in England resulting from the redistribution of landholdings following the Act of Enclosure: “An increase in labor requirements per farm meant it was increasingly difficult to house laborers within the farm.” He noted that by providing a cottage, the farmer enabled the worker to marry earlier, and he argued that this led to higher birth rates. See Habakkuk, *Population Growth and Economic Development*, 40-42.

\(^{31}\) For the tables and commentary on them, see the appendix to this article.

rural experience from the vantage point of the cottagers and their families. These records, coupled with the court documents, tax lists, and diaries, provide data that lead to a better understanding of the dimensions of the category "inmates." As such, they further can help historians to begin to comprehend the flexibility of the system in accommodating the needs of married couples, young women and men anticipating marriage, families with children to raise and educate, and older women supporting themselves on their earnings. The records of the Poor House point to some grim realities faced by many of the landless incapacitated by age or illness.

The agreements between cottager laborers and landholders formed the cornerstone of the cottager system. The contracts between Samuel Scott and two of the landholders of Birmingham are representative. In 1781 Scott agreed to pay Edward Darlington £4 for a cottage, a garden plot, and the right to gather firewood for one year. The rent was to be paid by reaping and mowing at 2 shillings 6 pence (2s./6d.) per day. "If the above four pounds should not be paid in reaping and mowing, it was to be paid in money or other work at the going rate." Labor and living space were being exchanged, not cash and living space. It would have taken thirty-two days' harvest work to pay off the rent, but it is unlikely that reaping and mowing provided more than twenty-four days of work or total wages of £3. It is probable, then, that about a quarter of the rent was paid at 2 shillings per day (the rate paid during the growing season) or 1s./6d. per day (the rate paid during the slack winter season).

Rent as a rule was only one item to be worked off. By the end of the year, Scott would owe Darlington for the use of the horses to transport his household possessions, and to plow his garden and carry firewood, for foodstuffs purchased on the farm, and for cash advanced for such miscellaneous expenses as a trip to town, shoe repairs, or a quart of whiskey. Typically, cottagers such as Scott worked for their principal employer about 250 days but spent most of their earnings before settlement at the end of the year.\footnote{Wage rates for farm labor were seasonal. A "common" wage was paid during the growing season. Harvest wages were higher and in general competitive with wages paid to journeymen. Winter wages were lower through most of the eighteenth century; however, as the demand for farm labor became year-round, the distinction between common and winter wages became blurred and winter wages tended to rise. Scott was paid at the going rates for 1781.} Scott remained at Dar-
lton's for only one year and then moved to one of the five cottages on Caleb Brinton's farm. The new contract was essentially the same as the first, though Brinton included the right to the apples from certain trees and the privilege of running a pig in the lane as part of the £4 rent.  

Agreements between landholders and artisans differed from those with farm laborers, such as Scott, in that artisans were expected to pay their rent by work at their trade. For example, in 1785 Richard Barnard agreed to let a house, the adjoining cleared land, and sufficient pasture for a cow, and to provide the necessary firewood to Hosea Rigg for the year at a rent of £4 to be paid in weaving at the rate of a penny a hundred linen. Rigg was to put Barnard's work "in the loom as soon as it is empty after it comes to him." He also worked in the fields, spreading dung, reaping, and making hay at the customary wages, although such work was not required under the terms of agreement.

Nineteenth-century arrangements followed the same pattern, but landholders promised day-to-day, year-round employment, weather permitting. In 1814 Clement Hathway agreed to work for Benjamin Sharpless for a second year, beginning April 1. Hathway paid $10.00 (£3 1s.) for a house and garden and woodleave (in this case, the right to purchase up to four cords of wood at $2.00 per cord) and the horses to draw his wood. He was to find food for the horse on the days he used them. Wages were set at 75 cents (5s./71/2d.) for harvest work, at 50 cents (3s./9d.) for work from April 1 to October 1, and at 40 cents (3s.) for the remainder of the year. Sharpless promised "constant work when the weather was fit to work." Hathway

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34 For Scott's agreement with Darlington, see Edward Darlington Account Book, Ms.1978 (CCHS); for his agreement with Brinton, see Caleb Brinton Files, 1727-1826, Murtagh Collection (CCHS). In 1820 a Samuel Scott of Birmingham, age seventy years, applied for a Revolutionary War pension. He stated he had no property beyond necessary clothing and that due to the infirmities of old age, he could no longer follow the cooper's trade. See "Declaration of Sam'l Scott, #3281, filed August 1, 1820" (CCA). Samuel Scott, pensioner, died in the poor house, April 21, 1824. See Poor House Records (CCA). Possibly, Scott learned the cooper's trade after he left Birmingham in 1785.

35 For Barnard's agreement with Rigg, see Richard Barnard Diary, 1785, AM.1985 (HSP). For examples of similar agreements, see Clemens and Simler, "Rural Labor and the Farm Household," 106-9 and 108, n.1. Summaries of agreements between landholders and workers can often be found in ledgers at the beginning of the year's account with the worker.
worked 125 days during the winter months, 84 during the growing season, and 25 days harvesting, a total of 234 days. At the end of the year when he and Sharpless balanced credits (income earned by Hathway and his wife) against debits (claims against the couple such as cash advanced to Hathway or for Hathway's bills from the shoemaker, the tailor, and the storekeeper paid by Sharpless, goods provided by Sharpless, and rent), there was still about $10.00 (£3 15s.) due to Hathway. Since Hathway was moving on, Sharpless settled in cash.\footnote{For Clement Hathway, see Account Book of Benjamin Sharpless, 1802-1816, Sharpless Family Files (CCHS). Generally, if cottagers were rehired, the balance either way was carried over. Nathan Sharp, for instance, who worked at Sharpless's during the recession following the War of 1812, ended in the red for a number of years. His debt was regularly carried over. If the balance in favor of the cottager was substantial, it was apt to be left with the employer, but at interest until needed. For Nathan Sharp, see Account Book of Benjamin Sharpless, 1816-1828, Sharpless Family Files.}

Cottagers and servants operated within a familiar, local labor market. Within this market, high rates of geographic mobility marked workers' lives.\footnote{Cottagers generally moved short distances, a township at a time. When these moves are plotted, they frequently form a circle around one township.} Cottages were let by the year, April to April, with contracts renewable in the winter. If the householder intended to replace the cottager, he sent a formal notice telling him to vacate the cottage by a given date, usually April 1, the beginning of the agricultural year. The cottager who intended to move gave notice verbally. Permanent departures in mid-season usually indicated extreme dissatisfaction. It left the landholder shorthanded and the cottager homeless. Moving meant loading all one's goods and clothing into a wagon rented for the occasion and driving off to another cottage, one apt to be less comfortable than that just left if the move was out of season, forced by dismissal.\footnote{Bordley had recommended that cottages be 12' $\times$ 16' but two storied. In the 1790s the average cottage, judging from tax records, was a one-story log cabin of about 18' $\times$ 20'. See, for example, the County Tax Assessments for 1796, C-46a (CCA).}

An idea of how frequently many of these cottagers moved can be obtained by studying the rate at which cottagers on series of tax lists move out. Considering each list of cottagers taxed in East Bradford, 1810-1821, as a separate population, we find that on average only 67 percent stayed through the second year and only 51 percent were
still there at the end of the third year. After ten years, less than 1 percent of the original group remained. Combining the results of a series of such tests reveals that, on the list of 57 cottagers taxed in East Bradford in 1820, there were 3 who had moved into the township by 1810, 1 arrived in 1813, 2 in 1814, 1 in 1815, 4 in 1816, 5 in 1817, 5 in 1818, and 10 in 1819. The other 26 were there for their first year. Furthermore, out of the 57 there in 1820 only 31 (57 percent) would be there in 1821.39

Despite such indications of the cottagers' almost constant shifting of place, evidence from marriage records and from the few probate records filed by cottagers suggests that, by the beginning of the nineteenth century, kinship ties within the landless population were beginning to show linkages similar to those existing within the landed population. Daughters of cottagers married sons of cottagers. Sons of cottagers appeared on the tax lists first as single men and then as cottagers. Occasionally, one or even two sons followed the same trade as their father and even lived in the same township as their parents. The last names of working girls and women repeat ones already familiar. They can be spotted on the lists of factory workers. Tracking this group is difficult but using the now well-developed methods of the micro-historian and aided by the computer, it is by no means impossible.

Increasing dependence on wage labor is evident in the change in the manner of calculating wages that occurred about the beginning of the eighteenth century. In the colonial period, because cottagers were hired by the day as needed but were often not required on a regular basis, wages were set by the day at seasonal rates. The account books for these years provide day-to-day data on days worked, tasks done, and wages paid. In contrast, in the early nineteenth century as the demand for labor increased, employers frequently set wages by the month or by the year at monthly rates reflecting seasonal demand. It was assumed that the individual hired would work daily, sun up to sun down (Sundays excepted). At settlement, wages for days lost due to weather or for personal reasons were deducted at the rate set for the particular month of the absence.

Earlier account books, therefore, provide considerable insight into the work year but yield little information on what the workers did when they were not needed. But by combining data on "days lost" from nineteenth-century books with the records of debts incurred, it is possible to learn much about how cottagers and their families spent their "free time." Nathan Sharp, for example, regularly lost days to go to church meetings and to elections. He traveled to his brother's home, and to Trenton, Philadelphia, and Wilmington. David Watt, a hired hand, receiving room and board, took a half-day in August to get married, spent a day moving his wife, and then was absent for a day in October when he went to find "a good home"—that is, a job as a cottager. George Harkins, another hired hand, took several days to visit his mother and a day to go to the court to be naturalized. Cottager Edward Devin started out badly and was warned that his contract with Benjamin Sharpless would not be renewed in April. In February he took several days to look for a cottage and job, spent a day in bed after spending three-quarters of a day drinking, and in March lost two days to moving. Several years later Benjamin Sharpless rehired Devin, helped him move back, and later, although he charged Devin the customary rate for harvest work, helped him bring in his hay in the fall. Over the next three years Devin lost a number of days working for himself planting cabbages, hoeing his corn, sowing flax, and beating his flax seed.  

Friendships and family life had a place in this working world. In September 1804, while Hannah Baldwin was working at the Marshalls' farm, there was a barn raising which required, by Moses Marshall's account "about 25 hands, 2 1/2 gals of Rum." In February 1805 she "lost a few days at Abraham Marshall about quilting, say 3 or 4." In May she went to Abraham's again. She returned ten days later but was "taken unwell, got better next day." Members of families joined in common tasks. James Evans was paid for mowing; his daughter Ann spent a day and a half hoeing corn and two days making hay. James reaped rye for a half-day, and Ann spread flax for a day and a half. In the same month James Griffin mowed, and his wife Polly and his son Frank raked. The Darlingtonons hired first

40 See the account books of Benjamin Sharpless for 1802-1816 and 1816-1828, Sharpless Family Files.
Hannah Crosby and then her younger sister Betty. Benjamin Sharpless paid both Nathan Sharp’s wife and his mother for work done in 1822. Samuel Taylor hired both Isaac Taylor and his son; when Isaac, Sr., went away, he left his son to work for Samuel. John Nethery, another of Taylor’s workmen, bound his son to Samuel’s father.\footnote{For Hannah Baldwin, see Account Book of Moses Marshall, 1802-1805, Ms.636 (CCHS); for the Evans family, see Account Book of John Jones, 1786-1789, Ms.3474 (CCHS); for the Crosbys, see Account Book of Edward Darlington, 1786-1803, Ms.37092 (CCHS); for the Sharps, see Account Book of Benjamin Sharpless, 1816-1828; and for the Taylors and Nethery, see Diary of Samuel Taylor, 1798-1799, Diaries (CCHS).}

What comes through quite clearly as one goes through day-books and ledgers is that these cottagers were free to operate within the labor market. Wages were uniform within the region but responsive to changes in supply and demand and to market conditions generally. Earnings were usually held by the employers until settlement, but cash was advanced as needed or paid to a third party presenting a bill. All evidence indicates that it was advanced promptly and without question. Nathan Sharp lost a day’s pay and was advanced half a day’s wages to pay the admission fee, even though he was only going to town to view an elephant on tour.\footnote{Account Book of Benjamin Sharpless, 1816-1828.} In the days before local banks and credit cards, credit with a landowner was a reasonable alternative to the risk of robbery and the loss of savings hidden in a mattress.

What is equally clear is that the landless workers had not yet been shaped into a disciplined labor force.\footnote{Thompson captured the spirit and the culture of these cottagers in his essay on time-discipline; the growing number of textile and paper mills in the area have not yet imposed a sense of time. See Thompson, “Time, Work-Discipline, and Industrial Capitalism,” 56-94.} Except during periods of recession, workers were probably able to find as much work as they wanted. Year-round work did not necessarily mean working at one job or for one employer. Artisans and workers moved with considerable freedom from one job to another, and over the working year they made personal decisions as to the allocation of their time and income. Hosea Rigg, for example, was free to weave for others as long as he gave priority to Richard Barnard’s work.\footnote{Richard Barnard Diary.} Many gave up a day’s wages to visit their friends or relatives. They planted their gardens, hoed their corn, brought in hay for their cows, and kept fowl and...
pigs. They provided and cared for their own tools but had access to plows, horses, and wagons as needed at low rents. They paid the shoemaker and tailor and enjoyed white bread on occasion. Many took advantage of the opportunity to keep a cow, although the price of a cow was about equal to the cottage rent set in their work agreements and pasture rent was about equal to half that rent.

In addition to account books, a second important source of information about the lives of the landless is the data set generated between 1805 and 1836 by the laws providing free schooling for all children (both girls and boys) ages five to twelve whose parents were "too poor to pay." In general, the children were from cottager families. Any child, identified by the assessors as poor, could attend the nearest private school at county expense. Bills for tuition, books, paper, and fuel were to be sent by the teachers to the county commissioners for payment. Between 1810 and 1825 children from approximately 1,600 families attended school under these conditions. The significance of these data to a consideration of the condition of the workers is twofold. First, many parents who qualified were not "too poor" to take advantage of the opportunity offered. They were able to forgo the contribution to family income that a young child could make. Second, a relatively small number of the cottagers qualified. In 1820 the 505

45 Although the Pennsylvania Constitution called for the establishment of free schools, the first public school law was not enacted until 1834, with implementation left up to the individual townships. The laws passed in 1802, 1806, and 1810 temporized. They sent the children of the poor to the local private schools at county expense. Bills for tuition, fuel, school books, and other supplies were submitted by the teachers to the county commissioners. A list of parents of low income having children between the ages of five and twelve years or, alternatively, a list of such children by age were submitted along with the tax returns and reviewed by the assessors. The extant records include almost complete runs from 1810 to 1836 of the lists submitted with the tax returns and of the approved lists as well as approximately half of the bills submitted by the teachers. Not only do the lists provide long sought after demographic data for cottager families, but they greatly increase our ability to track this constantly moving population as they go from one township to the other. At this time computer entry is still in progress, but preliminary tests have been run and provide the basis for the above observations. For general information on the establishment of public schools and colleges, see James Pyle Wickersham, A History of Education in Pennsylvania, Private and Public, Elementary and Higher, from the Time the Swedes Settled on the Delaware to the Present Day (Lancaster, 1886), especially 258-388. For a basic chronological description of legislation establishing public education in New England and Virginia, for comparative purposes, see Marcus W. Jernegan, Laboring and Dependent Classes in Colonial America, 1607-1783 (New York, 1931), especially 59-128, 141-56.
children attending school at county expense came from 286 families (1.77 children per family). The cost to the county was $1,567.38, approximately $3.10 per student per year.

To place the cost of schooling in context, consider the following case. In 1820 Nathan Sharp paid $10.00 rent annually for a cottage and garden and horses to draw his firewood. Nathan worked for Benjamin Sharpless at 62 ½ cents per day harvest work, 40 cents per day common work, and 35 cents per day for the four winter months. At the end of the year Nathan and his family had earned $106.54 and had received $108.52 in goods and services. At the time he had at least two children, William (age four) and Abigail (age two). These children started school in 1824 and both attended through age eleven. Nathan was probably representative of the cottager who was "too poor" to pay. However, assuming that half of the cottagers had children of school age, 80 percent of the families with children did not qualify for aid.46

Book learning was followed by work experience: helping at home, serving an apprenticeship, or working for wages. An examination of the experiences of the twenty-five women and girls who came to live and spin between 1790 and 1796 at the home of Hannah and Edward Darlington provides insight into the early lives of young women before they married and, with their cottager husbands, set up homes on one farm or another. That both women and girls are included in the twenty-five is indicated by the range in weekly wages. Wages reflected age and skill. For example, in 1790 girls were paid 1s./6d. to 3s. a week, but women received 3s./6d. a week. The group can be identified as single by the nature of their spending patterns. Characteristically, both single women and single men spent a large part of what they earned during the period when they were working. The lists of their purchases remain markedly similar from generation to generation: in the case of women, a pair of calfskin shoes, a handkerchief, a ribbon, fabric, and some flax or wool to spin on their own time to sell or have woven; in the case of men, a fine linen shirt, a beaver hat, a watch, and tobacco.

46 The School Children Records are at CCA; for Nathan Sharp, see Account Book of Benjamin Sharpless, 1816-1828.
The Darlingtons hired the twenty-five female laborers primarily as spinners. There was some overlapping of terms of employment. On average the spinners remained about seventeen weeks. One stayed only five weeks. One died while there, and one remained for sixty-three weeks. The overall group picture provided by the twenty-five is representative. It could have been compiled by using individuals of similar age and status from a series of account books.

Why did spinners and often other domestics stay for such short periods? It was not because all the fiber had been spun for the year; one spinner was quickly followed by another, who also stayed only a short time. What accounts for their spending patterns, for the sense of gaiety in the shoes and trinkets and the earnestness suggested by the purchase of extra flax to spin? It seems probable that the finery was part of the courting process and the cash saved contributed to a dowry. The shortness of stay and the variation in length of stay suggests that these women and girls were spared at home to give them a chance to earn some money of their own for just such purposes, as well as to gain experience as spinners or in running a dairy.

Single men or women did not send their earnings to their families. Instead, their earnings seem to have been considered their own. This speaks to attitudes toward young adults that allowed them economic independence and perhaps indicates also that these single workers were not, as a group, coming from situations of abject poverty. Their earnings were not essential to the survival of the family. Instead, the cottagers were in a position to allow their children to move out and, in the best circumstances, they provided financial and psychological support. Days were lost with seeming unconcern in order to go home to visit or to attend fairs, elections, spinning contests, or religious meetings. 47 A young girl who entered a household received room and

47 Account Book of Edward Darlington, 1786-1803, Ms.37092 (CCHS). Findings described in these last three paragraphs are remarkably similar to those rising out of Thomas Dublin’s study of the women at Lowell. He, too, finds true poverty was not driving the women to work. Rather, it was a stage in a woman’s life cycle. Women at Lowell worked to earn money for clothes, or a dowry, or to pursue various goals of their own. They frequently worked for only a brief period, left, and in some cases returned. Most eventually married. Popular view that these women were selflessly seeking to save the family farm or feed the younger members of their families is not confirmed by his evidence, nor by mine. See Dublin, Women at Work: The Transformation of Work and Community in Lowell, Massachusetts, 1682-1860 (New York, 1979), 23-57.
board as well as training and cash. Generally, these women eventually married. In some cases, they married landholders. In other cases, they became cottagers’ wives.

Older women also “came to work.” A few may have been childless widows or widows who had left their children with relatives (a mother or sister perhaps) and were working to support their family by living-in. Many seem to have been unmarried women who had special skills; these women operated from within a household, working for that family, “working for themselves,” or leaving temporarily to help in another family. Elizabeth Pearson, for example, had been living at Benjamin Sharpless’s home in East Bradford for at least a year before we pick up her story. In January 1807, Sharpless settled accounts with Elizabeth and gave her a note for the $65.00 (£24/7s./6d.) due her. Elizabeth remained at Sharpless’s. No record survives stating what her responsibilities were, but it seems likely that she was a spinner and probably a good one, as is indicated by her wage of 5 shillings per week. On September 10, 1808, 86 weeks and 1 day after the last settlement, she and Sharpless balanced accounts again. He found that she had lost 12 weeks and 5 days, deducted her indebtedness to him and paid her £1/13s./3/2d. Two years later the process was repeated and they agreed that she had put in 87½ six-day weeks and was owed £7/7s./4d. This time he gave her a note for $110.00 (£41/5s.). In February 1811, they had a final settlement and she went to Philadelphia to live.48

What happened to the 12 weeks and 5 days lost out of 86 weeks and 1 day in 1807-1808? Elizabeth spent 3 weeks spinning for herself, 2 days spinning stocking yarn, and 1 day sewing for herself. She lost 3 days going to Philadelphia and on her return was sick and sewing for herself for 3 more days. She spent 1 day sewing her sheets, spooling her piece, and taking it to the weaver’s. There was 1 day at John Welsh’s before he moved, 1 at Clark’s quilting, 1 at Amos Way’s, and 2 at Ann Welsh’s burial. She lost a week going to Isaac Yearsley’s and working for herself. She took 1 week to knit and then was away for 5½ weeks spinning at Isaac Sharpless’s and Ezra Coope’s.

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48 For Elizabeth Pearson, see Account Book of Benjamin Sharpless, 1802-1816. One dollar equaled 7s./6d.: $110.00 = £41/5s./6d. The account book provides no information that fully explains the note of $110.00 given by Sharpless.
The accounts for the next period are similar but include a trip to Wilmington and a day to go to a Quaker Quarterly Meeting. In the period before she moved, she took four weeks to nurse Sarah Sharpless.

Elizabeth's pattern of activity is one that is found throughout the colonial period. Frequently, such women were Quakers (perhaps a bias in the sample of account books) and often they were educated. What is more important, they also had a marketable skill, in this instance, spinning and nursing. It is useful to think of Elizabeth and similar women as analogous to cottagers in their living and working arrangements. The cottager system evolved out of both the householder's need for a large but flexible labor force that would be available when the work load demanded and yet would not be a year-round burden, and the cottager's need for a place to live if he were to take advantage of the market demand for his labor. Similarly, landholders such as Sharpless needed spinners, but not necessarily year-round spinners. A spinner who lived in the house but earned part of her income elsewhere, on her own initiative, was an appropriate solution. A home in which to spin for herself, to receive wool or flax on a putting-out basis, and a home from which to go for short periods or on an outing was what landless women such as Elizabeth Pearson needed.

The woman's world of work was not limited to domestic chores, spinning, and butter-making. Many single women in service and cottagers' wives worked in the fields as occasion demanded or, in some cases, as a matter of preference. Generally, women's weekly wages for work in the household were well below what a man earned in the fields or shops over the same period.49 When men spun, however, they were paid at the same rate as women. In 1800 spinners received one shilling per dozen, tow or wool. Similarly, when women went into the field at harvest, they were paid according to the male pay scale. There was a wage range. Payment within that range was determined by skill. Boys were usually found to contribute about half as much labor to the harvest crew as men and received half the daily

49 For example, in 1775 a woman earned 3s. to 3s./6d. per week. A man earned 1s./8d. per day doing regular farm work during the growing and harvesting season, but he earned 2s./6d. when harvesting grain or mowing. For a discussion of farm labor, see Jensen, Loosening the Bonds, 36-56.
wage. The account books indicate that women, too, were judged on ability and the skill relative to the task. If a woman had the necessary skill and worked as efficiently as a man, she received the same wage. In 1775, for example, Sally Whitesides was paid for 6 days’ reaping at 2s./6d. per day and for 5 days’ haying at 1s./6d. per day. In the same year Rachel Mathers worked 2 days as a reaper and was paid a total of 5 shillings.  

The same equality of men’s wages and women’s wages is found in the records for the 1780s and the 1820s. In 1786: “To Joe (Jones) and Nelly Griffin 1 Day each Reaping 5-0.” In 1788 eighteen reapers were hired by this farmer; four were women, and one was a girl. In 1822 Mary Smith was paid at the rate of 25 cents a day (1s./10½d.) for making hay, pulling flax, raking clover hay, spreading flax, picking potatoes, and butchering. When Thomas Powell cradled, he earned $1.00 a day (7s./6d.); when he was reaping, he earned 50 cents a day (3s./9d.); but when picking potatoes, making hay, and “working,” he earned 25 cents a day. When women or girls were hired by the week to do indoor and outdoor work, their regular weekly rates placed them on a lower pay scale than men or lower than they could earn on a daily basis.

To what degree ethnicity affected the employment of women in the field is still not clear. To date the evidence reveals no cultural pattern. The examples already cited are from the northern townships where there was a high concentration of Germans. John Jones, the landholder in the eighteenth-century examples, was probably of Welsh origin. The landholder who hired Mary Smith has not been satisfactorily identified, but the most likely candidate was of English background. Moreover, account books from across the county provide

50 Account Book of Joseph Jones, 1775-1778, Ms.3473 (CCHS). Arthur Cecil Bining cites the wage of 2s./3d. paid to Mary Fields in 1751 for reaping to show that women workers were paid much less than were men for reaping. The example is open to question. William Smedley and other Chester County farmers were also paying men at that rate in 1751. Perhaps, to bring iron workers into the fields, a higher wage than customary was paid to men at harvest. Unfortunately, Bining does not cite a comparable wage for male reapers. See Bining, Pennsylvania Iron Manufacture in the Eighteenth Century (Harrisburg, 1938), 130.

51 Account Book of John Jones, 1786-1789, Ms.3474 (CCHS).

examples of women who were not only hired by the week for indoor and outdoor work but by the day at the going rate for field work. In 1800 Benjamin Jones of Honeybrook paid Thomas McCollough for six days' reaping and his wife for one day reaping, but each received the same daily wage (3s./9d., the going wage that year). Betsy Sharp of East Bradford, Nathan's wife, was paid for "work done at hay, barley, and spinning."53

The account book of George Irwin, a farmer and tailor of Honeybrook, adds further insight. In 1772 Sarah Gardner "entered his book." Charged against her were the following items: 4½ yards of linsey, 3 yards of dimity, and 1 yard of tow cloth, a pair of shoes, and a pair of buckles, a sickle, and "cash paid." She was credited with reaping 3½ days and for haying 6 days. As in the earlier examples, she was paid 2s./6d. a day for reaping, as was Jacob Millison. For haying she received 1 shilling per day. Two things make her case particularly interesting. First, she purchased her own sickle. Skilled reapers usually furnished their own tools. Second, her harvest work was entered as a separate record and calculated at the daily rate for those tasks in spite of the fact that she was working for Irwin that year at 12 shillings per month (about 3 shillings per week).54

The following newspaper clipping symbolizes the transformation taking place in 1819. It brings the history of wage labor in southeastern Pennsylvania to the point at which many of the numerous nineteenth-century studies by historians and economists begin.

TO LET
Two or three houses at Adelphia Cotton Works (near West Chester) to those who can furnish from 2 to 4 or more children, to work in the factory, where good wages will be given for those who can come well

53 Account Book of Benjamin Jones, 1797-1821; Account Book of Benjamin Sharpless, 1816-1828 (CCHS).
54 Account Book of George Irwin, 1755-56, 1772-1774, Ms.3509 (CCHS). See also account with Peggy Stahl in Account Book of John Jones, 1787-1791, Ms.3474 (CCHS). Peggy was paid for pulling cockle, hoeing corn, and planting corn at 1 shilling per day; she was paid 2s./6d. per day for reaping, but for spinning she was paid 3s./6d. a week. In some cases, women began work in the field at 9 a.m., probably reflecting the time they completed their routine chores or milking. In such instances, their wages were cut proportionally.
recommended for obedience and industry, as well as their parents with sobriety and morality. Apply to the subscriber at the works.\textsuperscript{55}

The cottagers at the Adelphia Cotton Works are of the generation of working families Anthony Wallace describes in his account of the mill at Rockdale as living at mid-century in small houses at low rents, frequently with the right to a garden plot and cow pasture.\textsuperscript{56}

In the 1750s in providing a cottage and garden, and by offering horses and plows for rent, the householder bartered land and capital for labor. Given the scale and nature of working conditions, bi-occupationalism provided a natural solution to seasonal unemployment and underemployment of the cottager. It is important to stress the continuing dependence of landowners on wage labor through the second half of the eighteenth century and the beginning of the nineteenth century. The cottager was free. Many were able to move out. But they were also in a position to operate within the expanding economy of the transitional period; they moved within the continuity of a familiar yet competitive labor market. They lacked land and capital but were a labor force essential to the local economy. To keep such a labor force in place, retain control of the land, and remain competitive in both regional and foreign markets, it was necessary to provide year-round work. The landholders' successful efforts to solve this problem, aggravated as it was by the expanding continent and growing competition with European markets, were, in the long run, a major factor in the rapid growth of the Philadelphia hinterland and in the industrialization of the region. But as the agricultural and nonagricultural sectors of the economy expanded, bi-occupationalism faded. The union of agriculture and manufacture was pulled apart in fits and starts as cottage industry became less possible, less necessary, and less profitable, and as spinning mills replaced spinning wheels and power looms competed with custom work. The wage laborer, working within the framework provided by the cottager arrangement, enabled rural Pennsylvania to move on to the early years of industrialization.

\textsuperscript{55} West Chester, \textit{Village Republican}, Jan. 20, 1819.

In 1750 wage workers made up only a small fraction of the labor force available to the householder. Within a decade they dominated the labor pool and continued to do so through the colonial period. They were not, however, a well-defined group in the sense that householders, slaves, or indentured servants were. The group described as cottagers and hired servants consisted of former slaves, bound servants, and apprentices, as well as immigrants who paid their own passage and sons and daughters of landholders. Their numbers increased rapidly at the end of the eighteenth century. Slaves gradually obtained freedom, married, and became cottagers; when terms of servitude ended, indentured servants became wage laborers, married, and took a cottage; with increasing frequency, sons and daughters of landholders faced the decision to move out or accept cottager status. As the opportunities for upward mobility declined and discipline over workers increased, cottaging became the caldron from which poured a modern labor force.

Two broad questions underlie this essay. First, why were landholders, both manufacturers and farmers, so successful in keeping the landless wage worker in place? The expectation of a steady income, concerns of kinship, and ease of movement within a familiar local labor market were significant factors in keeping wage workers in the Philadelphia hinterland. Cottagers generally accepted the system as one that met their needs. Landholders and cottagers each had something to offer the other. That Bordley who had purchased a farm in Chester County in 1794 in order to pursue his agricultural experiments had to be informed in 1801 that the cottager system was already in place in Chester County suggests that workers there were relatively content. Consistent with this positive view is the possibility that the phrase “keep the landless laborer in place” should be changed to “keep a landless labor force in place.” That is, did a significant number find that cottager status was a rung on a ladder leading not

57 See, for example, Earle and Hoffman, “The Foundation of the Modern Economy,” 1055-94. They argue that the rapid growth and industrialization of the Philadelphia area was due to the availability of a cheap labor force, not to labor scarcity and high wages. Evidence of a substantial cottager class supports their argument. Earle and Hoffman are responding to H.J. Habakkuk’s argument that America’s rapid industrial growth was propelled by labor scarcity resulting in high labor costs. Habakkuk, American and British Technology in the Nineteenth Century: The Search for Labor-Saving Inventions (Cambridge, 1967).
necessarily to landownership or even farm tenancy but possibly to other opportunities such as a position of factory manager? In a period of transition from an agricultural to an industrial economy was south-eastern Pennsylvania still "the best poor man's country?"

Second, what was the effect of the cottager system on the economy of the Philadelphia region? The need of the landed entrepreneur to keep a free labor force in place without losing control of his land, while at the same time remaining competitive with European markets, played a significant role in economic growth. This need provided incentives for risk-taking, technological development, mechanization, and intensification and integration in both agriculture and non-agricultural enterprises, as well as for reinvestment of earnings. Collectively, these incentives contributed to the rapid development of the economy as well as to the development of a stable work force dependent on wages, a work force ready to move into the factories early in the nineteenth century.

APPENDIX

Table 1 presents a summary of tax data, 1750 to 1820. The straightforward count of taxables, similar to those of Main, Lemon, and Ball, offers a familiar overview of the society. The number of landholders, counted from township lists, has been reduced for each year by 10 percent to offset the effect of multiple listings occurring in cases where individuals owned land in more than one township. A name-by-name review of the tax schedules used in assembling the data on Table 1 reveals that the table does not actually provide an overview of the population and the social structure but only an estimate of the number of adult males (householders, cottagers, and freemen) and of non-free laborers (slaves and bound servants).

The phrase "tenurial ladder" is usually used to suggest the climb of landless farm laborers first to tenancy, then to the acquisition of land subject to a mortgage, and finally to a clear title to farm land. In the case of Chester County, it is appropriate to think of the ladder as one climbed by workers who often combined agricultural and non-agricultural labor and for whom a farm was not necessarily the final goal. A shop or even a factory might constitute the final rung.

Land was taxed in the township where it was located. A farm that extended into a second township was taxed in both townships; a wood lot in a second township meant a second entry. In 1783, for example, 11 percent of the landholders found by counting them by township appeared on more than one list. See Simler and Clemens, "The 'Best Poor Man's Country' in 1783," 239.
in the county. For the most part, women, adolescents, and free blacks do not appear on the tax lists. Table 2 brings them forward.

Using information drawn principally from account books, tax laws, and censuses, and profiting from the studies of slavery and indentured servitude, Table 2 offers an estimate of the probable size and composition of the less visible labor pool: married and single women, minors above the age of thirteen years, and free blacks. The arrangement of the columns on Table 2 reflects the labor continuum and the integration of the landed and landless labor force: adolescents and single adults are placed between landholders and inmates. Whether minors and unmarried persons in the labor pool came from landholding or cottager families, they were apt to live for a period of time in the household of the landholder. Some were there as apprentices, some as wage laborers, and others were simply members of the landholder's family. Free blacks participated in the labor force on much the same terms as did the cottagers and their families. They are treated on the table as a separate group since, in general, they do not appear on the tax lists. One must turn to the federal censuses to estimate their numbers.60

Column one of Table 2, Landed Females, repeats the count of landholders given on Table 1. Approximately 92 percent of the landholders on the tax lists were males and 8 percent were females. However, a comparison of the 1820 tax lists with federal census schedules indicates that in the case of landholders one can expect to find a female (in most cases a wife) in each male-headed household and an adult male (perhaps a kinsman) in about half of the female-headed households. This fact seemed of sufficient importance to warrant using the count of landholders as a count of female heads of households. The final estimated counts of single women were accordingly reduced on the assumption that 5 percent of the female heads of household were not wives or female landholders but were actually single women formally or informally engaged as housekeepers.61

Adolescents provided a pool of young workers. Slaves became taxable at twelve years of age and indentured servants at fourteen or fifteen years of age (depending on the law for the particular year); it is probable then that by age thirteen the sons and daughters of the landholders and cottagers

60 The problem is summed up in a statement by a township official who noted on a return of taxable inhabitants for West Marlborough, 1835, that in addition to the 273 people listed, "there are besides some fifteen or twenty colored men in the Township who have not usually been taxed and for that reason their names have not been added." Septennial Census, Ms. Collection (CCHS). Widows of cottagers, also, very rarely appear on tax lists.

61 For the 1820 census, see Microcopy M33, Roll 96 (Chester County) and Roll 103 (Delaware County), "Population Schedules of the Fourth Census of the United States" (National Archives).
<table>
<thead>
<tr>
<th>Year</th>
<th>Total Taxables²</th>
<th>Land-Holders³</th>
<th>Inmates (Cottagers)⁴</th>
<th>Freemen (Single Men)⁵</th>
<th>Slaves⁶</th>
<th>Bound Servants⁷</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
</tr>
<tr>
<td>1750</td>
<td>3,633</td>
<td>2,849</td>
<td>183²</td>
<td>601 n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>1760</td>
<td>5,209</td>
<td>3,281 (63)</td>
<td>883 (17)</td>
<td>665 (13)</td>
<td>231 (4)</td>
<td>149 (3)</td>
</tr>
<tr>
<td>1767</td>
<td>5,709</td>
<td>3,384 (59)</td>
<td>734 (13)</td>
<td>1,027 (18)</td>
<td>280 (5)</td>
<td>284 (5)</td>
</tr>
<tr>
<td>1769</td>
<td>5,749</td>
<td>3,412 (59)</td>
<td>682 (12)</td>
<td>1,061 (18)</td>
<td>272 (5)</td>
<td>322 (6)</td>
</tr>
<tr>
<td>1774</td>
<td>5,608</td>
<td>3,269 (58)</td>
<td>802 (14)</td>
<td>994 (18)</td>
<td>222 (4)</td>
<td>321 (6)</td>
</tr>
<tr>
<td>1775</td>
<td>5,732</td>
<td>3,296 (58)</td>
<td>863 (15)</td>
<td>929 (16)</td>
<td>208 (4)</td>
<td>436 (8)</td>
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<td>6,153</td>
<td>3,320 (54)</td>
<td>1,377 (22)</td>
<td>1,169 (19)</td>
<td>244⁴ (4)</td>
<td>43 (1)</td>
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<td>1,386 (22)</td>
<td>1,065 (17)</td>
<td>255 (4)</td>
<td>55 (1)</td>
</tr>
<tr>
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<td>3,652 (58)</td>
<td>1,222 (20)</td>
<td>1,151 (18)</td>
<td>144 (2)</td>
<td>77 (1)</td>
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<td>4,500 (58)</td>
<td>1,557 (20)</td>
<td>1,649 (21)</td>
<td>37 (1)</td>
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<tr>
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<td>12,539</td>
<td>6,602 (53)</td>
<td>3,030 (24)</td>
<td>2,899 (23)</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>1799-C</td>
<td>5,326</td>
<td>3,154 (59)</td>
<td>1,035 (19)</td>
<td>1,103 (21)</td>
<td>34 (1)</td>
<td>-</td>
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<tr>
<td>1799-D</td>
<td>2,417</td>
<td>1,346 (56)</td>
<td>522 (22)</td>
<td>546 (23)</td>
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<td>-</td>
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<tr>
<td>1820-C</td>
<td>9,340</td>
<td>5,044 (54)</td>
<td>2,126 (23)</td>
<td>2,163 (23)</td>
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<td>-</td>
</tr>
<tr>
<td>1820-D</td>
<td>3,199</td>
<td>1,558 (49)</td>
<td>904 (28)</td>
<td>736 (23)</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

1 Includes Delaware County after 1789.
2 Landholders plus inmates, freemen, slaves, and bound servants.
3 Residents of the county holding land either as owners or tenants.
4 Landless heads of households, residing on the premises of a landholder but generally in a cottage or in separate quarters, usually bound to the landholder by a labor agreement.
5 Single men, over 21 years of age, residing with their families or lodging elsewhere in the township where listed, usually nonlandowners.
6 Slaves over 12 years of age.
7 Bound laborers or artisans, male or female—prior to 1779 over 15 years of age, after 1779 over 14 years of age.
8 This count is an undercount. In 1750 inmates were identified on slightly less than half of the township lists. The custom of separating inmates from landholders took hold as the position of the inmate became more clearly defined. When the township lists on which no inmates are identified in 1750 are compared (1) with those listing inmates and (2) with the corresponding lists for 1760, it seems clear that if each assessor had identified the inmates in his township, the county-wide count would have been substantially higher, probably close to 350.
9 The Gilpin List of Slaves in Chester County, compiled in 1780 for the General Assembly of Pennsylvania, listed 278 taxable slaves (slaves between 12 and 50 years of age). The original is in the Manuscript Collection of the Historical Society of Pennsylvania (HSP). Sources: For 1750 and 1760, see County Tax Rates, C-19; C-24 (CCA); for 1767, 1774, 1775, see Provincial Assessments, P-10, P-17, P-18 (CCA); for 1779, see State Tax Assessments, S-3 (CCA) and Record Group 4: Comptroller General: Tax and Exoneration Lists, Chester County, 1765-1788, Microfilm Reel #2 (original in Pennsylvania State Archives). Since the 1779 and 1780 taxes were laid on the same returns, those for 1779, the data is entered here under 1779, the year it reflects; for 1769, see Tax and Exoneration List, Chester County, 1765-1788, Microfilm Reel #2; for 1781, see ibid., Reel #3; for 1783, see State Assessments, S-12b (CCA); for 1789, see State Tax S-18b (CCA); for 1799, see County Tax C-49a, C-49b (CCA). The count of slaves and servants for 1760 was taken from Chester County Tax Returns for 1760, Shippen Collection (HSP). To make the counts comparable to those for other years, only slaves from 12 to 50 years and servants from 15 to 50 years were included. Because of the division of Chester County (the southeastern part became Delaware County in 1789), Delaware County assessments were added to the Chester County figures for 1799 and 1820. The sources would not allow meaningful estimates of the number of servants in 1799 or of the number of servants and slaves in 1820. The count of slaves for 1799 includes all slaves regardless of age. The original tax records for Chester County are at the CCA. The Delaware County assessments are at the Neumann College library. The Delaware County tax records for the early nineteenth century are incomplete and, furthermore, do not always provide data similar to that found on Chester County lists. To provide flexibility, a breakdown of the 1799 and 1820 figures has been added below the double line.
Table 2
Crude Estimates of Undercount of Labor Pool, Chester County, 1750-1820

<table>
<thead>
<tr>
<th>Year</th>
<th>Landed $^1$</th>
<th>L-Minors $^2$</th>
<th>Single Women $^3$</th>
<th>C-Minors $^4$</th>
<th>Cottager $^5$</th>
<th>Free Blacks $^6$</th>
<th>Total Pool $^7$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1750</td>
<td>2,849</td>
<td>1,605</td>
<td>1,095</td>
<td>399</td>
<td>103</td>
<td>67</td>
<td>183</td>
</tr>
<tr>
<td>1760</td>
<td>3,281</td>
<td>1,848</td>
<td>1,261</td>
<td>434</td>
<td>497</td>
<td>322</td>
<td>883</td>
</tr>
<tr>
<td>1767</td>
<td>3,384</td>
<td>1,906</td>
<td>1,301</td>
<td>755</td>
<td>413</td>
<td>268</td>
<td>734</td>
</tr>
<tr>
<td>1769</td>
<td>3,412</td>
<td>1,922</td>
<td>1,241</td>
<td>784</td>
<td>384</td>
<td>249</td>
<td>682</td>
</tr>
<tr>
<td>1774</td>
<td>3,269</td>
<td>1,841</td>
<td>1,189</td>
<td>732</td>
<td>452</td>
<td>293</td>
<td>802</td>
</tr>
<tr>
<td>1775</td>
<td>3,296</td>
<td>1,856</td>
<td>1,199</td>
<td>671</td>
<td>486</td>
<td>315</td>
<td>863</td>
</tr>
<tr>
<td>1779</td>
<td>3,320</td>
<td>1,870</td>
<td>1,208</td>
<td>886</td>
<td>777</td>
<td>502</td>
<td>1,377</td>
</tr>
<tr>
<td>1781</td>
<td>3,470</td>
<td>1,955</td>
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<td>781</td>
<td>504</td>
<td>1,384</td>
</tr>
<tr>
<td>1783</td>
<td>3,610</td>
<td>2,034</td>
<td>1,313</td>
<td>780</td>
<td>782</td>
<td>505</td>
<td>1,386</td>
</tr>
<tr>
<td>1789</td>
<td>3,652</td>
<td>2,058</td>
<td>1,328</td>
<td>893</td>
<td>689</td>
<td>445</td>
<td>1,222</td>
</tr>
<tr>
<td>1799</td>
<td>4,500</td>
<td>2,536</td>
<td>1,637</td>
<td>1,327</td>
<td>878</td>
<td>567</td>
<td>1,557</td>
</tr>
<tr>
<td>1820</td>
<td>6,602</td>
<td>3,720</td>
<td>2,401</td>
<td>2,520</td>
<td>1,708</td>
<td>1,103</td>
<td>3,030</td>
</tr>
</tbody>
</table>

1 Includes Delaware County after 1789.
2 Females heading landed households, estimated by using the count of landholding units provided on Table 1. Evidence from the 1820 Census indicates that landed households almost invariably included an adult woman although households of widows frequently did not include a white, adult male. Approximately 5 percent of the females were not wives but were engaged as housekeepers. (The count of Single Women has been reduced to take this into account.)
3 Males 13 to 21 years, estimated by interpolation using 1820 Census count of males between ages 16 and 18 and males under 10 years, divided proportionately between landholding and cottager households.
4 Females 13 to 18 years (females came of age at 18), estimated from data on males between 16 and 18 years.
5 Single females, 18 years or over, estimated from the count of single men provided by the tax lists by reducing the numbers by 10 percent for years 1750-1783, and then in accordance with sex ratios estimated from counts of males and females 16 years to 26 years provided by the federal censuses for entries for 1789, 1799, and 1820. The count was further reduced to take into account the estimated number of single women acting as female heads of households in homes of landed widowers.
6 Males 13 to 21 years, estimated as for landed minors. It is assumed that these males were from cottager families but did not necessarily belong to local families. The 1820 Census indicates that a substantial number from this group were living in the households of the landed.
7 Females 13 to 18 years, of cottager origins, living at home or in the household of a landholder.
8 Female heads of cottager households. Because of the nature of cottager arrangements, it has been assumed that all cottagers had wives.
9 Free blacks age 14 and upward, male and female. The estimates for 1781 and 1783 were calculated from data provided by Jean Soderlund. The counts for 1789, 1799, and 1820 are derived from the federal censuses.
10 Total pool is the sum of the columns displayed on Table 2.

Sources: For the most part tax lists and censuses used in compiling the data for Table 1 provided the data necessary for construction of Table 2. Jean Soderlund graciously shared information on the number of free blacks in 1781 and 1783. Local account books, diaries, and probate records offered support in making assumptions necessary to bridge gaps in the tax and census data.
were contributing to the family income. The count of males between ages sixteen and eighteen provided by the 1820 federal census served as a basis for calculating the number of males thirteen to twenty-one years for the period 1750-1820. It was assumed that the proportion of adolescents to landowners and cottagers was constant over time. Estimates of the number of adolescent females thirteen to eighteen years were derived from the numbers calculated for males; that women came of age three years earlier than men was taken into account. The results indicating approximately .9 adolescents per household unit are perhaps high for the colonial period and low for the first decades of the nineteenth century. Data on the size of households provided by the 1783 census indicate that in that year there were on average 5.3 white inhabitants per white household, possibly two adults and two to three children or perhaps two children and a hired hand or relative. It is probable that in 1820 the average white household included about 5.5 white persons.

The number of single women in the labor force was estimated from the count of single men and took into account changing sex ratios. Sex ratios for single men and women were approximately 101.7 (per 100 females) in 1820, 106 (per 100 females) in 1800, and 107 (per 100 females) in

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62 The 1820 census provides a count of males under 10 years of age and of males between 16-18 years of age. By interpolation it was possible to estimate the size of the male population from ages 13 to 20. This estimate served as a benchmark in calculating the number of minors for the earlier years. On linking census data to tax records for 1820 at the household level, it was found that children under 10 years of age were divided proportionately between landholders and inmate families. Using the tax records, one can estimate what proportion of adolescents were from landed and from landless families over time. For the 1820 census, see Microcopy M33, Roll 96 and Roll 103, “Population Schedules of the Fourth Census.”

63 At this point in my study it is necessary to make this assumption. As work progresses I intend to develop a more robust model for estimating the size of various sectors of the population over time, one that will take into account the effects of morbidity and mobility. The computer program, “Populate,” based on Ronald Lee’s inverse method of population projection, seems in its flexibility well suited to the data available. See Lee, “Inverse Projection and Back Projection: Comparative Results and Sensitivity Tests for England,” Population Studies 39 (1985), 233-48; Robert McCaa and Hector Perez Brignoli, “Populate: From Births and Deaths To the Demography of the Past, Present, and Future” (Working paper 89-06-1 [June 1989], Center for Population Analysis and Policy, Humphrey Institute of Public Affairs, University of Minnesota, Minneapolis).

64 An analysis of the 1783 census for Chester County reveals that on average there were 4.58 white inhabitants per inmate unit and 6.18 per landed unit. For the year 1820, roughly 9,600 families are represented by Table 1; the 1820 census reports a white population of about 55,000. However, in general, the families of the poor do not appear on tax lists and are not included in the 9,600 count. If the number of families is increased to 10,000 to include an estimate for the poor, family size is about 5.5.
1790. Due to in-migration, it seems probable that during the colonial period males outnumbered females at the rate of ten to nine. The count of single men (Table 1) was reduced accordingly to provide an estimate of single women. These estimates were in turn reduced by 5 percent to cover the shortfall in female landholders (column 1).

The count of cottagers provided an estimate of the number of landless married women. The purpose of a cottage was to provide housing for families. That cottages were used to that end is confirmed by linking census data to tax records. Inmate households included both an adult male and female. The exceptions are too rare to be taken into account at this level.

Given the lack of tax data for the free black population, and problems of defining "free" that arise out of the gradual process by which slavery was abolished, it is useful at this point in my research to deal with free blacks as a separate group and rely primarily on census data. The 1820 census again offers a basis for calculation. It provides two sets of data on free blacks, one for the free black population living in white households and the second for those living in black households. Analysis of the totals is revealing. In 1820 the sex ratio for free blacks fourteen to forty-five years of age was 126 (per 100 females); 60 percent of the black males were living in white households. Household size for the some 440 black households (some landed but most cottager) was on average 4.8 in the two-county area. The 1820 estimate of the black labor force in Table 2 is the sum of men and women of both groups fourteen years of age and upward. The estimates for 1789 and 1799 assume that a constant proportion of the free black population was in the labor force and made use of the 1790 and 1800 census statistics, respectively, in calculating their number. Data generously shared by Jean Soderlund served as a basis for calculating the size of the free black labor force in 1781 and 1783. The free black population was negligible before 1775.

To ignore the blacks included in the tax counts of landholders and inmates results in some double counting but not enough to be significant at this stage in constructing estimates. Free blacks and landless widows are the two groups least visible in public records. Fortunately, the account books are proving a rich source in both cases.

See U.S. Bureau of the Census, *Heads of Families at the First Census of the United States Taken in the Year 1790: Pennsylvania* (Baltimore, 1970), 9; for the Second Census, see Microcopy M32, Roll 36 (Chester County) and Roll 38 (Delaware County), "Population Schedules of the Second Census of the U.S." (National Archives); for the Fourth Census, see Microcopy M33, Roll 96 and Roll 103, "Population Schedules of the Fourth Census." The estimates for 1781 and 1783 are derived from data compiled by Jean Soderlund from manumissions from Chester County wills, deeds, and records of the Court of Quarter Sessions (CCA), and the records of Bradford, Chester, Concord, Darby, Goshen, Kennett, New Garden, Nottingham, Radnor, Sadsbury, and Uwchlan Monthly Meetings (Friends Historical Library, Swarthmore College).
<table>
<thead>
<tr>
<th>Year</th>
<th>Landholders</th>
<th>L-Minors</th>
<th>Single</th>
<th>C-Minors</th>
<th>Cottagers</th>
<th>Free Blacks (^1)</th>
<th>Slaves (^2)</th>
<th>Bound Servants (^3)</th>
<th>Total Pool (^4)</th>
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</thead>
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<tr>
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<td>601</td>
<td>103</td>
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<td>734</td>
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<td>96</td>
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<td>-</td>
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<td>6,074</td>
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<td>2,899</td>
<td>3,030</td>
<td>8</td>
<td>-</td>
<td>35,375</td>
<td></td>
</tr>
</tbody>
</table>

1 The count of landholders on Table 1 was reduced by 8 percent (roughly the percent of widows among landholders) to provide an estimate of the number of male heads of households, with few exceptions white.
2 Female heads of households of the landed, 95 percent of whom are assumed to have been wives or widows of landholders, with few exceptions white.
3 White male minors from landed households, 13 to 21 years of age.
4 White female minors from landed households, 13 to 18 years of age.
5 Single white males, 21 years of age and upward.
6 Single white females, 18 years of age and upward.
7 White male minors from cottager households, 13 to 21 years of age.
8 White female minors from cottager households, 13 to 18 years of age.
9 White male heads of cottager households. Although there were black cottagers, they were rarely included in the lists of inmates on tax lists and must be identified through the census. Therefore, on this table they are included in the count of Free Blacks.
10 White female heads of cottager households, generally assumed to be wives.
11 Free blacks, males and females, 14 years of age and upward.
12 Black or mulatto slaves, male and female, over 12 years of age.
13 Black, mulatto, or white bound laborers or artisans, male or female; prior to 1779 over 15 years of age, after 1779 over 14 years of age.
14 The sum of all columns.
Table 3 combines data from Tables 1 and 2. It provides an overview of the size and structure of the labor force, landed and landless, represented by the data in Table 1. Approximately 8 percent of the landholders on the tax lists were women. The count of landholders (Table 1) was reduced accordingly to provide an estimate of the number of landed males. Since households headed by widows often did not include an adult male, no effort was made to increase the number of males by shifting populations. The original counts of inmates and single freemen were accepted as counts of married and single male wage workers. No change in the count of slaves and bound servants (non-free laborers) was necessary. Slaves between ages twelve and fifty and bound servants of fifteen (later fourteen) years and upward were taxed individually as assets.\(^67\)

The totals provided for each year indicate the size of the population of working age. The total of 35,375 for 1820 compares favorably with the population counts provided by the 1820 censuses for Chester and Delaware Counties. Total population for the counties was approximately 58,800 (55,000 white and 3,800 colored). When whites under thirteen years of age and blacks under fourteen years are eliminated (as on Table 3), about 36,550 persons remain, approximately 1,200 over the labor force size described on the table. No attempt has been made to estimate the number of whites “too poor to be taxed.” The widows and orphans of cottagers are conspicuously absent. The 1,200 remainder seems tight enough to indicate that Table 3 provides the maximum count for the labor pool as of 1820.

The changes over time in the absolute and relative sizes of the taxable categories are for the most part the results of economic and social change rather than of changes in the tax laws. An exception is the disappearance of bound servants from the lists by 1799. For example, the decline in the number of slaves is due to the Act for the Gradual Abolition of Slavery, passed in 1780.\(^68\)

Yet, the seeming complete disappearance of bound servants is due to a change in tax law. The number of indentured servants increased in the period 1750 to 1775 to peak in 1775 at 436 servants.\(^69\) By 1799 bound servants became taxable was changed from fifteen years to fourteen in 1779. See Mitchell, et al., eds., Statutes at Large, 6:356, and 9:466.

\(^{67}\) The age at which bound servants became taxable was changed from fifteen years to fourteen in 1779. See Mitchell, et al., eds., Statutes at Large, 6:356, and 9:466.

\(^{68}\) Ibid., 10:67-73.

\(^{69}\) Most of the indentured servants can be accounted for by reference to the mayor’s list of servants sold in Philadelphia, 1771-1773. Between Oct. 1771 and Oct. 1773, Chester County residents bought 393 of the listed servants. About 70 percent of those purchased were purchased in ones and twos. See “Record of Indentures of Individuals Bound out as Apprentices, Servants, Etc. and of German and other Redemptioners in the Office of the Mayor of Philadelphia, October 3, 1771, to October 5, 1773,” The Pennsylvania German Society: Proceedings and Addresses 16 (1905), 1-325.
servants had been removed from the list of taxable assets and can therefore no longer be counted from the tax records.\textsuperscript{70}

The tables are not without problems. The 1750 count of cottagers (inmates) is suspect. The data for 1760 suggests that the 183 figure for 1750 arrived at by counting persons identified on the lists as inmates is an undercount. A study of the tax records supports this hypothesis. In 1750 there were probably about 350 cottagers in the county.\textsuperscript{71} Judging from the rates levied and similar internal evidence, it seems probable that in 1740 there were already between 150 and 175 cottager families.\textsuperscript{72}

The overall population increase between 1775 and 1779 also requires some explanation. The numbers provided by the 1779 tax are probably the most accurate on Table 1. The tax law of that year differs from the previous laws in its directions to the assessors. Every effort was to be made to obtain a complete list of the taxable population and its taxable property. Assessors were required, under oath, to go from house to house and ascertain who was living in each dwelling and to record all information, without prejudice. Some of the reported increase in the population between 1775 and 1779 is undoubtedly due to these more rigorous tax information procedures. A part of the increase can be attributed to migration out of Philadelphia because of the British occupation. The general return of these refugees to the city does not really begin until the early 1780s. Furthermore, many of the indentured servants in the county in 1775, if still there, would have completed their terms of servitude and become part of the free labor force.

Finally, the timing of the population increase following the Revolution warrants comment. The population of the U.S. tripled between 1781 and 1820. In his careful analysis of European immigration, Hans-Jürgen Grabbe shows that only a small part of this increase (about 10 percent) can be attributed to in-migrants. He finds that the primary cause of the rapid

\textsuperscript{70} See, for example, the tax laws passed in 1795 and 1799: Mitchell, et al., eds., \textit{Statutes at Large}, 15:323 and 16:379.

\textsuperscript{71} Inmates were identified as such on less than half of the township lists for 1750. Judging from tax lists on which none of the taxables are identified as inmates, it seems probable that in many cases inmates and householders were intermixed and order on the list reflects the order in which the data was collected. In other cases, a group of seeming inmates were placed at the end of the list of landholders but were not identified as inmates although, in a few instances, they were described as poor. To separate inmates from landholders on such lists, it would be necessary first to identify the landowners and the tenants through the land records.

\textsuperscript{72} A comparison of the 1740 tax lists with lists for 1750 on which the inmates are identified reveals similarities between population size and names that strongly suggest that the practice of setting inmates off had not yet become customary. By 1750 about half the townships had adopted the practice.
increase was an exceptionally high birth rate, “a baby boom of unprecedented proportions” in the years immediately following the Revolution. That the labor force in Chester County only shows signs of tripling between 1789 and 1820 is not surprising. A baby boom in the early 1780s would only begin to affect the size of the population of working age in the 1790s. The children of the baby boomers would not appear in the labor market until the early nineteenth century.\textsuperscript{73}


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\textsuperscript{73} See Hans-Jürgen Grabbe, “European Immigration to the United States in the Early National Period, 1783-1820,” \textit{PAPS} 133 (1989), 190-214 (particularly 196). Grabbe finds that immigration accounts for 8 percent of the increase between 1780 and 1790 and for 9 percent in the next three decades. He sets natural growth for the country at 40.4 percent for the period 1780 to 1790.