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The Rise and Fall of Indentured Servitude in the Americas: An Economic Analysis

DAVID W. GALENSON

Indentured servitude appeared in Virginia by 1620. Initially a device used to transport European workers to the New World, over time servitude dwindled as black slavery grew in importance in the British colonies. Indentured servitude reappeared in the Americas in the mid-nineteenth century as a means of transporting Asians to the Caribbean sugar islands and South America following the abolition of slavery. Servitude then remained in legal use until its abolition in 1917. This paper provides an economic analysis of the innovation of indentured servitude, describes the economic forces that caused its decline and disappearance from the British colonies, and considers why indentured servitude was revived for migration to the West Indies during the time of the great free migration of Europeans to the Americas.

INDENTURED servitude appeared in use in Virginia by 1620, little more than a decade after the initial British settlement of North America at Jamestown. Servitude became a central institution in the economy and society of many parts of colonial British America; a leading historian of indentured servitude in the colonial period, Abbot Emerson Smith, estimated that between one-half and two-thirds of all white immigrants to the British colonies between the Puritan migration of the 1630s and the Revolution came under indenture.[1] Although it

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[1] Abbot Emerson Smith, *Colonists in Bondage: White Servitude and Convict Labor in America, 1607–1776* (Chapel Hill, 1947), p. 336.

dwindled in importance over time, servitude continued to exist in mainland North America until at least the fourth decade of the nineteenth century. In that same decade, indentured servitude was brought back into large-scale use in the West Indies and parts of South America.[2] It remained in legal use in those areas until 1917.

This paper will consider some of the central economic factors underlying the appearance and disappearance of indentured servitude in the Americas. The following section will provide an economic analysis of the innovation of indentured servitude and of the problems the early English settlers solved in order to make servitude a useful institution. Subsequent sections will then consider how and why servitude declined in importance and disappeared from the English West Indies and mainland North America during the late eighteenth and early nineteenth centuries, as well as why the institution was revived in the Caribbean and South America in the mid-nineteenth century. The broad purpose of this paper is an economic interpretation of specific institutional changes; the paper seeks to provide a basis for understanding the economic forces that initially created and molded an institution that played a major role in American labor markets for three centuries, as well as the forces that later led to the disappearance of that institution.[3]

THE SEVENTEENTH-CENTURY ORIGINS OF INDENTURED SERVITUDE IN NORTH AMERICA

Perhaps the most critical economic problem facing early investors in the Virginia Company and the settlers they sent to North America in the decade after 1607 was that of recruiting and motivating a labor force. An institutional solution to this problem, the system of indentured servitude, emerged after a series of experiments by the Company. A brief review of the historical context within which the settlement of Virginia occurred, and of the sequence of adaptations introduced by the Company, will demonstrate how and why this solution was reached.

Recent estimates indicate that a majority of all hired labor in

[2] Indentured, or contract, labor was also used elsewhere in the nineteenth century, as, for example, significant movements of bound workers occurred within Asia. This paper will not treat these episodes, but will focus only on migrations to the Americas.

[3] Throughout this paper, with reference to indentured servitude the term "institution" will be used broadly to refer to the sets of practices and rules—including both statute and common law—that governed the use of labor contracts written for specified periods and entered into by workers in order to finance migration. Contracts of servitude typically differed from hire labor contracts in specifying relatively long terms—e.g., in the colonial period four years or more—and by involving a greater degree of control of the worker's living and working conditions by the employer, and from debt contracts of service in failing to provide for automatic dissolution of the agreement at any time upon repayment of a stated principal sum by the worker. These differences tended to make indentured servitude a distinctive status at most times and places, with a set of rules and practices specific to it, although of course these might differ among particular episodes, or for a single episode over time.

preindustrial England was provided by "servants in husbandry"—youths of both sexes, normally between the ages of 13 and 25, who lived and worked in the households of their masters, typically on annual contracts.[4] In view of the pervasiveness of service in husbandry as a source of labor supply in seventeenth-century England, it is not surprising that the notion of moving that institution to America occurred to members of the Virginia Company when the results of their initial efforts to recruit a sustained flow of adult workers to their colony proved disappointing.[5] Several problems had to be solved, however, before the English institution could be successfully transplanted to the New World; in their solution lay the origins of the system of indentured servitude.

The most obvious of these problems was that of the transportation costs of the settlers. Passage fares to Virginia in the early seventeenth century were high relative to the annual wages of English servants in husbandry or hired agricultural laborers, and few prospective migrants were able to pay the cost of their voyage out of their own accumulated savings, or those of their families.[6] Existing English capital market institutions were patently inadequate to cope with the problem, considering difficulties that included the high transactions costs entailed in making loans to individuals and enforcing them at a distance of 3,000 miles. The Virginia Company's solution was to use its own funds to fill the gap left by this unavailability of capital from other sources—by advancing the cost of passage to prospective settlers. The Company's advance took the form of a loan to the migrants, who contracted to repay this debt out of their net earnings in America.[7]

[4] Peter Laslett, *The World We Have Lost*, Second edition (London, 1971), Ch. 1; Ann Kussmaul, *Servants in Husbandry in Early Modern England* (Cambridge, 1981); also Alan Macfarlane, *The Origins of English Individualism* (New York, 1979).

[5] On early attempts to attract settlers, and the Virginia Company's difficulties, see Sigmund Diamond, "From Organization to Society: Virginia in the Seventeenth Century," *American Journal of Sociology*, 63 (Mar. 1958), 457–75; Edmund S. Morgan, *American Slavery, American Freedom: The Ordeal of Colonial Virginia* (New York, 1975), Ch. 4.

[6] The passage fare normally quoted until the middle of the seventeenth century was £6; for example, John Smith, *The Generall Historie of Virginia, New-England, and the Summer Isles* (London, 1624), p. 162. A survey of wages in Cambridge, Canterbury, Dover, Exeter, Oxford, Westminster, Winchester, and Windsor for 1620 found a range of daily wages in skilled trades from 12–20d., and for unskilled laborers from 8–12d.; British Library of Political and Economic Science, Records of International Scientific Committee on Price History (Beveridge Price Commission). Implied annual wages for full-time skilled workers would be approximately £15–25, and for unskilled workers £10–15. The wages of unskilled servants in husbandry in the teen ages would presumably have been lower.

For further discussion of the influence of transportation costs relative to income and wealth on the form of migrations, see *infra*, "The Decline—and Revival—of Indentured Servitude in the Americas."

[7] The large size of the debt meant that repayment would normally take longer than the single year that characterized the employment of farm servants in England. Thus although the early arrangements did not have all the characteristics of indentured servitude that would later develop, one important element of the indenture system—contracts binding the worker to a master for a number of years—appeared at an early stage.

Under the first scheme in which Company funds were used to pay transportation costs, the migrants were to work directly for the Company in Virginia. In return for passage to the colony and maintenance there during their terms of service to the Company, the workers were to become "adventurers" (investors) in the enterprise, with claim to a share in the division of the Company's profits that was to occur at the end of seven years. This system had appeared in use by 1609.[8] The arrangement, under which large groups of men lived and worked communally under quasi-military conditions, proved to be very unpopular with the recruits. Conditions for the workers were hard. One observer commented, in explaining the colony's high rate of mortality, that "the hard work and the scanty food, on public works kills them, and increases the discontent in which they live, seeing themselves treated like slaves, with great cruelty."[9] The response of some workers was to run away to live with the Indians. The Company clearly felt that this action threatened the continued survival of their enterprise, for they reacted forcefully to this crime. In 1612, the colony's governor dealt firmly with some recaptured laborers: "Some he apointed to be hanged Some burned Some to be broken upon wheles, others to be staked and some to be shott to death." The underlying motive of maintaining labor discipline was apparent to an observer, who remarked on the punishments that "all theis extreme and crewell tortures he used and inflicted upon them to terrify the reste for Attempting the Lyke." Another related problem perceived by Company managers was a lack of work effort by their bound workers.[10] These difficulties of supervising and motivating the discontented workers led the Company to seek a new solution to the labor problem.

By 1619 a new system had been introduced. New colonists bound for a term to the Company were sent over at the Company's expense, and the free planters of the colony were allowed to rent them from the Company for a year at a fixed rate, in addition to providing their maintenance.[11] The Company believed that this system would yield them a number of advantages. The dispersal of the groups of new

[8] Smith, *Colonists in Bondage*, p. 9. On this early scheme, see also J. R. T. Hughes, *Social Control in the Colonial Economy* (Charlottesville, 1976), pp. 55–57.

[9] Alexander Brown, ed., *The Genesis of the United States* (Boston, 1890), Vol. II, p. 648.

[10] Morgan, *American Slavery, American Freedom*, pp. 74, 78.

[11] This system was clearly used in 1619; Susan Myra Kingsbury, ed., *The Records of the Virginia Company of London* (Washington, D.C., 1933), Vol. III, pp. 226–27. It is not clear whether it was in use earlier. A regulation of Virginia in 1616 mentions a covenanted obligation of "every farmer to pay yearly into the [Company's] magazine for himself and every man-servant, two barrels and a half a piece of their best Indian wheat"; Historical Manuscript Commission, *Eighth Report*, Vol. 2, No. 208, p. 31. The payment made by the farmer for himself was apparently a rental payment for an allotment of land from the Company (e.g., see Charles M. Andrews, *The Colonial Period of American History* [New Haven, 1934], Vol. I, p. 124), but it is not specified whether the payment to be made for each servant was a rental fee for a possible additional allotment of land or a rental payment to the Company for the services of the servant himself.

arrivals was expected to improve both their health and their industry, "for asmuch as wee find by experience, that were abundaunce of new men are planted in one body they doe overthrowe themselues . . . by Contagion of sicknes . . . and Cause thereof, ill example of Idlenes." The new migrants' placement with established planters would provide them with a place to live immediately after arrival, and the old planters would train them in the "vsuall workes of the Country," so that when their year of private service expired, they would "returne to the publique busines and be able to instructe other new Commers as they themselues had bine instructed."[12]

Yet this modification apparently aggravated some existing problems and created several new ones. By 1619 the tobacco boom had begun in Virginia, and the value of labor had risen sharply. The Company was acutely aware, in the celebrated words of the speaker of Virginia's first House of Burgesses, that "Our principall wealth . . . consisteth in seruants."[13] Enticement of servants by private employers seems to have occurred, for in 1619 the General Assembly ordered "that no crafty or advantagious means be suffered to be put in practise for the inticing awaye the Tenants or Servants of any particular plantation from the place where they are seatted;" in case of violations, the governor was "most severely to punish both the seducers and the seduced, and to returne these latter into their former places."[14] Perhaps more seriously, the rental arrangement introduced an additional principal-agent relationship, between the Company and the private planters, that became a source of concern to the Company. The Company ordered that planters were to be responsible for maintaining their servants if the latter fell ill, and were to be liable for rental payments to the Company for servants who died, with the amounts to be determined "proportionably for their life time."[15] The speed with which the system of rental agreements was abandoned was probably a response to the Company's perception of the insufficient incentives of the planters to protect the Company's investment in the labor of their hired workers, not only in providing adequate maintenance and provision for health care in an environment where all settlers suffered extraordinarily high rates of mortality, but also in preventing runaways.[16]

[12] Kingsbury, *Records of the Virginia Company*, Vol. III, p. 226; also pp. 246, 257–58.

[13] Ibid., p. 221.

[14] Ibid., p. 167.

[15] Ibid., p. 227.

[16] The difficulties of devising rental agreements that would provide the proper incentives for planters would have been enormous in view of the problems involved in determining the presence of negligence by masters in the case of death or escape by servants under the conditions of high mortality and poor communications that existed in early Virginia. Sale of the contracts to masters was therefore superior to rental, and it appears that the Virginia Company realized this very quickly, as the only definite evidence of rentals dates from the same year—1619—in which the first outright sales of servants' contracts occurred. Rentals do not appear to have continued in later years.

The rapid termination of the use of this rental arrangement was apparently a result also of the Company's recognition of an alternative to the rental system that avoided the agency problem it had created. As part of an effort by a new group of Company officers to increase Virginia's population, transactions occurred in 1619 that contained the essential elements of the indenture system; migrants, transported at Company expense from England to Virginia and bound for fixed terms of years, were sold outright for the duration of these terms to planters upon the servants' arrival in the colony.[17] These bargains were enthusiastically received by the planters, and an early example of the indenture system's characteristic form on a quantitatively significant scale appeared in 1620, when the Company sent to Virginia "one hundred seruants to be disposed amongst the old *Planters*."[18] The cost of passage was advanced to the migrants by the Company, and the recruits in turn promised to work for stated periods; in Virginia, title to the migrants' labor during these periods was transferred to individual planters upon the planters' reimbursement of transportation costs to the Company. Thus by 1620 the development of the transaction that was to become prevalent for English indentured servants for nearly two centuries was complete as colonial planters obtained the services of immigrants for a specified time upon payment of a lump sum to an importer.

INSTITUTIONAL STRUCTURE AND WORK INCENTIVES UNDER INDENTURED SERVITUDE

Indentured servitude therefore emerged as a new institutional arrangement that was devised to increase labor mobility from England to America.[19] The colonization of America made available for cultivation

[17] Smith, *Colonists in Bondage*, p. 12. The contract that came to be used in these bargains was of a type commonly used in England for a variety of legal transactions, known as an indenture.

[18] Kingsbury, *Records of the Virginia Company*, Vol. III, p. 313.

[19] Lance E. Davis and Douglass C. North, *Institutional Change and American Economic Growth* (Cambridge, 1971), p. 211. Like its English counterpart, the system of service in husbandry, in the early British colonies indentured servitude increased labor mobility at a relatively low cost, for it involved the migration only of individual laborers who were currently in the labor force. Unlike most migratory movements, the system therefore did not have to bear the costs of transportation for "tied" movers in families, who would make no immediate contribution to production.

It might be argued that indentured servitude was adapted directly from the English system of apprenticeship. Some connections did exist. During 1619–1622 the Virginia Company sent several shipments of vagrant children to Virginia; their passage had been paid by the City of London, and in return the Company agreed to place them with planters as apprentices; see Robert C. Johnson, "The Transportation of Vagrant Children from London to Virginia, 1618–1622," in Howard S. Reinmuth, Jr., *Early Stuart Studies* (Minneapolis, 1970), pp. 137–51. This was an example of the compulsory power of parish apprenticeship, an institution distinct from the older system of craft apprenticeship; see Margaret Gay Davies, *The Enforcement of English Apprenticeship* (Cambridge, Massachusetts, 1956), pp. 12–13. Yet servitude, in which a capital sum was initially

vast amounts of new land, and in those American regions where crops could be grown that used this land to satisfy the demands of both the large English market and the European markets that lay beyond it, the result was a marginal productivity of labor considerably higher than that found in English agriculture. Labor productivity in many parts of colonial America eventually proved to be sufficiently high to allow many bound European workers to repay the cost of passage to the colonies in periods of as little as four years. Yet when English colonization of North America began, a difficult problem existed, a problem of how workers unable to afford the cost of the passage fare out of their own savings could obtain the necessary funds. The requirements of the situation, with the need for the emigrant to repay the funds over an extended period from a location far distant from England, posed enormous problems of enforcement for prospective British lenders, and it is not surprising that with the existing technology British financial institutions were inadequate to the task. As was seen in the above description of the Virginia Company's early experiments, the initial solution was for a large firm directly engaged in colonial production to advance the cost of passage to workers, who then became servants of the firm for a period agreed upon in advance, during which the loan would be repaid. The problems of motivation and supervision that resulted from this scheme soon led the Company to rent out the workers it transported to individual farmers who produced on a smaller scale. This modified scheme was itself short-lived, as the Company appears to have perceived quickly the advantages of simply selling the workers it imported to individual planters for the period necessary for repayment of their loans, as specified in the workers' contracts. By doing this, the Company unambiguously transferred all costs of labor supervision and enforcement of the contracts to the planters, including all risks of capital

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provided by the master to the servant (to be paid off by the servant's labor), posed very different problems of contract enforcement and labor motivation than did apprenticeship, in which the initial payment was made by the servant, with the master's obligation, in the form of training, to be paid over the course of the agreement. Thus, although some elements drawn from apprenticeship influenced the development of servitude, the incentives of both master and servant were quite different in the two systems, and servitude was more than a transfer of apprenticeship to the colonies.

Although indentured servitude was primarily used in order to facilitate migration, once the legal basis of the institution had been laid down it could also be used to improve the functioning of markets for credit for other purposes. Thus, for example, in 1640 a Barbados planter named Richard Atkinson borrowed the sum of 2,000 pounds of cotton from John Batt. The agreement provided "that if the said two thousand pounds of Cotton shall not be paid upon the day aforesaid, that then and immediately upon default of the said payment, it shall bee for the said John Batt, or his assigns, to take the body of me Richard Atkinson, servant for the terme of sixe yeares, without any further trouble or sute of law . . ."; quoted in Vincent T. Harlow, *A History of Barbados, 1625–1685* (Oxford, 1926), p. 294. Although indentured servitude could have been used in a wide variety of other situations involving debt, that it was overwhelmingly used for transportation was clearly because enforcing repayment of debts was relatively inexpensive when borrowing was done locally, and servitude was therefore unnecessary in these cases.

loss from such sources as the escape or death of the servant during the contract period.

Once the practice of outright sale of the contract had been established, a large firm no longer had any significant economic advantage in most aspects of servant transportation and supervision. The supervision and enforcement of the labor contracts could apparently be done quite efficiently by small planters responsible for only a small number of servants. The capital requirements for European merchants who advanced the funds to cover immigrant transportation were reduced from the full period of time specified by the contract to the time between the signing of the contract in England and its sale in the colonies (principally the two to three months during which the servant was on the ship). The cost of entry into the servant trade was low, and the industry soon became one in which many European merchants who traded with the colonies participated.

Work incentives for indentured servants appear to have been more varied in practice than a simple description of the system's form might imply. The question of incentives was a significant one, for the major benefit to the servant from the bargain—passage to America—was provided at the outset, before the servant had begun to work. Edmund Morgan concluded that physical violence was the principal means by which masters extracted work from servants in early Virginia; he argued that servants had little other reason to work hard, for few wished to be rehired at the end of their terms, while masters lacked an incentive to treat their servants well for precisely the same reason, since it was unlikely in any case that they could induce their servants to stay on after their terms ended.[20] And although colonial laws protected servants from excessive corporal punishment, and masters who killed their servants would be tried for murder, masters generally were permitted considerable latitude in beating their servants.[21] Yet it would be surprising if severe physical abuse had been very common, for it would obviously have interfered with servants' work capacity, to the detriment of their masters' profits. Significant positive work incentives clearly existed for servants, and a variety of scattered evidence suggests the potential flexibility of the system in practice. Colonial laws generally guaranteed servants access to adequate food, clothing, and lodging, but many planters exceeded the minimum required levels in providing for their servants.[22] Similarly masters could, and did, increase the freedom dues they gave to favored servants above the statutory minimum levels. Wages were sometimes paid to servants during their terms, and their

[20] Morgan, *American Slavery, American Freedom*, p. 126.

[21] Richard B. Morris, *Government and Labor in Early America* (New York, 1965), pp. 461–500.

[22] Indeed, Gloria Main concluded that servants' material condition in seventeenth-century Maryland was typically no worse than that of many small planters; Main, *Tobacco Colony: Life in Early Maryland, 1650–1720* (Princeton, 1982), p. 113.

amounts could be varied. Masters could make bargains with their servants under which the latter could be released early from their terms of servitude.[23] The frequency with which these positive incentives were used is difficult to determine, for within the operation of servitude it was only abuses by either masters or servants that were monitored by colonial courts, and therefore of which systematic legal records survive. Occasional references do show, however, that some servants were able to accumulate significant wealth during their terms.[24] The judgment of John Hammond, writing of the Chesapeake colonies in 1648, that "Those Servants that will be industrious may in their time of service gain a competent estate before their Freedomes, which is usually done by many," cannot be subjected to systematic test, and may have been overly optimistic. Yet it is likely that Hammond's description of the form of rewards given to some servants, including livestock and land on which to grow tobacco on their own account, came from actual observation, and it is also plausible that, as he admonished, these benefits "must be gained . . . by Industry and affability, not by sloth nor churlish behaviour."[25]

THE EVOLUTION OF INDENTURED SERVITUDE IN COLONIAL BRITISH AMERICA

Indentured servitude was an initial solution to an acute problem of obtaining a labor supply that existed in many regions of colonial America, and the basic form of the institution developed by the Virginia Company was widely adopted and used throughout the British colonies in the seventeenth and eighteenth centuries. Although precise estimates of the total numbers of servants are not available, an indication of their overall quantitative importance is given by Abbot Emerson Smith's judgment, noted earlier, that between half and two-thirds of all white immigrants to the American colonies after the 1630s came under indenture; their importance at times in particular regions was even greater, as is suggested by Wesley Frank Craven's estimate that 75 percent or more of Virginia's settlers in the seventeenth century were servants.[26] Although initially all the servants came from England, in the course of the colonial period migrants from other countries joined the flow of servants to British America, and especially in the eighteenth

[23] Russell R. Menard, "From Servant to Freeholder: Status Mobility and Property Accumulation in Seventeenth-Century Maryland," *William and Mary Quarterly* (Third series) 30 (Jan. 1973), 50.

[24] Main, *Tobacco Colony*, p. 118.

[25] Clayton Colman Hall, ed., *Narratives of Early Maryland, 1633–1684* (New York, 1946), p. 292.

[26] Craven, *White, Red and Black: The Seventeenth-Century Virginian* (Charlottesville, 1971), p. 5.

century sizeable numbers of Scottish, Irish, and German immigrants arrived in the colonies under indenture.

Active markets for indentured servants arose in Europe and in the colonies. Hundreds of English merchants in the major British ports participated in binding emigrants for servitude overseas. Transportation costs varied little across individuals or destinations, and differences in the emigrants' productivity, which affected the rate at which they could repay the implicit loans, were therefore reflected in variation in the length of the terms for which they were bound. Surviving collections of indentures clearly show that characteristics that raised the expected productivity of a servant tended to shorten the term for which the servant was indentured. Thus the length of indenture varied inversely with age, skill, and literacy, while servants bound for the West Indies received shorter terms in compensation for their undesirable destinations.[27] The presence of these markets provided a consistent link between European labor supply and the labor demand of colonial planters from the 1620s through the time of the American Revolution. The efficiency of the institution within the colonies was further increased by the fact that indentures were generally transferable, and masters could therefore freely buy and sell the remaining terms of servants already present in America in response to changes in economic circumstances.

Even in those regions where it became quantitatively most important, however, indentured servitude was not the final solution to the problem of colonial American labor supply. For it was precisely in those regions that had initially depended most heavily on white servants for their labor needs—the West Indies, the Chesapeake, South Carolina, and Georgia—that planters eventually turned to black slaves as their principal source of bound labor. The transition from servants to slaves, which occurred at different times in these regions, and at different rates, appears explicable in terms of the changing relative costs of the two types of labor faced by colonial planters.[28]

Indentured servants were quantitatively most important in the early history of those colonies that produced staple crops for export. The primary demand was for workers to grow the staple, and initially planters relied on white indentured labor. In addition, as output increased there was an increasing demand for skilled workers to build houses and farm buildings, to make the hogsheads and barrels to pack and ship the sugar, tobacco, or rice, to make clothing for the planters and their labor forces, and to perform a variety of other crafts. Over time, in a number of colonial regions the price of indentured agricultural

[27] David W. Galenson, *White Servitude in Colonial America: An Economic Analysis* (Cambridge, 1981), Ch. 7.

[28] The following four paragraphs are based on the analysis in Galenson, *White Servitude in Colonial America*, Chs. 8–9.

labor increased. In mid-seventeenth-century Barbados and later in the century elsewhere in the West Indies, this was the result of sugar cultivation, as the introduction of the valuable crop both greatly increased the demand for labor and produced harsh working conditions for field laborers that made Englishmen avoid the region.[29] In the Chesapeake colonies the cost of indentured labor rose by nearly 60 percent within a decade when white immigration to that region fell off during the 1680s, apparently as a result of improving conditions in the English labor market and the increasing attractiveness of Pennsylvania for new arrivals; the relative cost of bound white labor increased by an even greater amount, for the price of African slaves reached the bottom of a deep trough during the 1680s.[30] In South Carolina, high mortality rates and the rigors of rice cultivation combined to reduce the flows of new white immigrants during the late seventeenth century, and the importance of rice as a staple crop later had the same effect in Georgia.[31] In each of these cases, the rising price of English servants tended to make the more elastically supplied African slaves a less expensive source of unskilled agricultural labor than additional indentured workers, and the majority of the bound labor force changed from white to black.

Yet the transition from servants to slaves was not a complete one at this stage, for newly arrived Africans normally did not have the traditional European skills required by planters in the colonies. Furthermore, colonial planters typically did not train adult Africans to do skilled jobs, preferring to wait and train either slaves imported as children or the American-born offspring of African adults in skilled crafts.[32] In an intermediate period in the growth of staple-producing colonies of the late seventeenth and early eighteenth centuries, a racial division of labor by skill therefore appeared; unskilled labor forces were

[29] Richard S. Dunn, *Sugar and Slaves: The Rise of the Planter Class in the English West Indies, 1624–1713* (Chapel Hill, 1972), pp. 59–72, 110–16, 301–34; Richard B. Sheridan, *Sugar and Slavery: An Economic History of the British West Indies, 1623–1775* (Barbados, 1974), pp. 131–33, 164, 194, 237–38.

[30] Russell Menard, "From Servants to Slaves: The Transformation of the Chesapeake Labor System," *Southern Studies*, 16 (Winter 1977), 355–90; David W. Galenson, "The Atlantic Slave Trade and the Barbados Market, 1673–1723," this JOURNAL, 42 (Sept. 1982), 491–511. For additional evidence and discussion of slave prices, see Galenson, *Traders, Planters and Slaves: The Atlantic Slave Trade and the English West Indies, 1673–1725* (forthcoming).

[31] Peter H. Wood, *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion* (New York, 1975), pp. 62–69.

[32] Thus John Oldmixon noted in 1708 that slaves "that are born in *Barbadoes* are much more useful Men, than those that are brought from *Guinea*"; *The British Empire in America* (London, 1708), Vol. 2, pp. 121–22. On the relation between place of birth and training, see Russell R. Menard, "The Maryland Slave Population, 1658 to 1730," *William and Mary Quarterly* (Third Series), 32 (Jan. 1975), 36–37; Gerald W. Mullin, *Flight and Rebellion: Slave Resistance in Eighteenth-Century Virginia* (London, 1972), pp. 39, 47; John Donald Duncan, "Servitude and Slavery in Colonial South Carolina, 1670–1776" (Ph.D. dissertation, Emory University, 1971), pp. 436–37.

increasingly made up of black slaves, while white servants continued to perform skilled crafts and services, and in many cases to act as plantation managers and supervisors of the slaves.

But this was not the final phase of development. As agricultural production continued to grow, the demand for both skilled and unskilled labor increased further. The price of skilled white servants tended to rise sharply. The result was investment in the training of slaves to take over the skilled jobs of the plantation. Although the dates at which labor supply conditions and the level of demand for skilled labor combined to produce this result differed across colonies, the tendency was present in all the British staple economies, as the relative price of skilled white servants apparently rose significantly over the course of the late seventeenth and eighteenth centuries. The differences in timing across colonies meant that the substitution of slaves for servants had not been completed throughout British America by the time of the Revolution, but the advance of the process described here was sufficient to make its result clearly visible in all the staple-producing colonies by the end of the mainland's colonial period, as in many colonies significant numbers of plantations were based almost exclusively on black labor, with considerable numbers of skilled slaves as well as unskilled slave field hands.

The large-scale use of slaves as field laborers in those regions of British America that were characterized by plantation agriculture therefore did not bring a complete end to the immigration of white servants, but it did produce shifts in their composition by skill, and eventually in their principal regions of destination. By the time of the American Revolution, the British West Indian colonies had ceased to import white servants on a significant scale, and on the mainland only the colonies of the Chesapeake region and Pennsylvania continued to receive sizeable flows of indentured labor.[33]

In considering the career of indentured servitude in the British colonies, one characteristic that emerges is the flexibility of the institution. A single basic form of contract and method of enforcement proved useful in the colonies continuously between 1620 and the American Revolution in spite of major changes in the European places of origin of indentured labor, its colonial destinations, and its principal functions in

[33] For quantitative outlines of the servants' destinations over time, see Smith, *Colonists in Bondage*, pp. 307–37, and Galenson, *White Servitude in Colonial America*, Ch. 6.

During the eighteenth century a modification of indentured servitude appeared, particularly among German immigrants to Pennsylvania. Under the redemptioner system, a migrant would board a ship in Europe under a promise to pay for his passage after arriving in America. If he were unable to pay within two weeks after arrival, he would be indentured for a term sufficient to raise the fare. This arrangement is treated here as a variant of indentured servitude, for the basic form of the contract was similar, and there was no legal difference between indentured servants and redemptioners once the latter had been bound. For further discussion and references, see *Ibid.*, pp. 13–15.

the American labor market. Thus, from its beginnings as a supplier of unskilled labor to the southern mainland colonies and the islands of the West Indies, the indenture system ultimately evolved into a source of skilled labor to the Chesapeake region and the Middle Colonies of the mainland. The ability to satisfy the changing demands of the colonial labor market at critical periods helped make indentured servitude one of the central institutions of colonial American society.

The Revolution did not put an end to the importation of indentured servants. The war did disrupt the operation of the indenture system by temporarily curtailing immigration, but the servant trade revived in the early 1780s.[34] An apparent tendency for the postwar indenture system to rely even more heavily on German and Irish relative to English immigrants than before the war might have been due in part to English legislation of the 1780s and 1790s aimed at preventing the emigration of artisans and of workers bound to servitude for debt. Legislation passed by individual American states in the aftermath of the Revolution affected the legal basis of servitude in only minor ways, and the system persisted in use, although apparently on only a limited scale, into the nineteenth century.[35]

THE DECLINE—AND REVIVAL—OF INDENTURED SERVITUDE IN THE AMERICAS IN THE NINETEENTH CENTURY

The history of the final disappearance of indentured servitude in the United States remains rather obscure. Although isolated cases of the indentured servitude of immigrants can be found as late as the 1830s, the system appears to have become quantitatively insignificant in mainland North America much earlier, perhaps by the end of the eighteenth century. It remains unclear whether indentured servitude dwindled in importance in the last quarter of the eighteenth century and the first quarter of the nineteenth primarily because of a general decline in the rate of immigration to the United States, or whether in the period the share of total immigration made up of servants declined. Nor does there appear to be a consensus on the role of legal changes in reducing the attractiveness of indentured servants to employers, as historians have variously cited English passenger acts and the legislation of American states abolishing imprisonment for debt as the system's "death blow."[36] It is known that by the time large-scale Atlantic migration

[34] Cheesman A. Herrick, *White Servitude in Pennsylvania* (Philadelphia, 1926), p. 254.

[35] William Miller, "The Effects of the American Revolution on Indentured Servitude," *Pennsylvania History*, 7 (July 1940), 131–41.

[36] For a survey of these views, and a discussion of the timing and causes of the decline of indentured servitude for Europeans migrating to the United States—and its subsequent failure to revive—see Charlotte Erickson, "Why Did Contract Labour Not Work in the 19th Century USA?" (unpublished paper, London School of Economics, 1982). It might be noted that recent research has raised the possibility that the volume of immigration to the United States in the late eighteenth

revived, after 1820, indentured servitude was little used by Europeans, and the great nineteenth-century transatlantic migration from Europe to the United States was composed of free workers and their families.

The use of indentures to facilitate migration to the Americas had not ended, however. At the same time the indenture system was finally disappearing from the United States, the abolition of slavery in the British West Indies in the 1830s produced a renewed demand for indentured labor. Plantation owners there, primarily engaged in sugar production, were unhappy with the large reduction of black labor supply that followed emancipation, as a large increase in wage rates was accompanied by greater irregularity in the blacks' hours of work and a perceived decline in the intensity of their labor. The planters lobbied the British government for a number of measures designed to promote immigration to their colonies in order to lower labor costs and allow them to recapture their positions in international sugar markets; one of these measures was the right to indenture their imported workers to prevent them from deserting their estates. After resisting this proposal for fear of creating the appearance of a new slave trade, the Colonial Office yielded, and finally agreed to permit the use of indentures under which immigrants were imported to work for specific employers for fixed terms.[37]

This nineteenth-century revival of the use of indentured labor in the British West Indian sugar colonies, and in parts of South America, constituted a historical episode quite different from the earlier use of bound workers in the British colonies of the seventeenth and eighteenth centuries. Whereas the indenture system had earlier involved the immigration of Europeans to America, in the nineteenth century it was Asia that furnished American planters with a supply of bound labor. Indentured Indians began to arrive in British Guiana in 1838, and that colony was soon joined as an importer by Trinidad and Jamaica. Shipments of indentured Chinese began to arrive in Cuba in 1847, and within a decade British Guiana, Trinidad, and Peru had also received cargoes of bound Chinese workers.[38]

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and early nineteenth centuries was substantially greater than has generally been believed; Henry A. Gemery, "European Emigration to the New World, 1700–1820: Numbers and Quasi-Numbers" (unpublished paper, Colby College, 1983). Both the overall magnitude of immigration and the role of indentured servitude during this period remain to be established firmly.

[37] K. O. Laurence, "The Evolution of Long-Term Labour Contracts in Trinidad and British Guiana, 1834–1863," *Jamaican Historical Review*, 5 (May 1965), 9–27.

[38] On the Indian indentured migration, see Alan H. Adamson, *Sugar Without Slaves: The Political Economy of British Guiana, 1838–1904* (New Haven, 1972); Donald Wood, *Trinidad in Transition: The Years After Slavery* (London, 1968); Hugh Tinker, *A New System of Slavery: The Export of Indian Labour Overseas, 1830–1920* (London, 1974). On Chinese indentured migration see Duvon Clough Corbitt, *A Study of the Chinese in Cuba, 1847–1947* (Wilmore, Kentucky, 1971); Watt Stewart, *Chinese Bondage in Peru: A History of the Chinese Coolie in Peru, 1849–1874* (Durham, North Carolina, 1951); Persia Crawford Campbell, *Chinese Coolie Emigration to Countries Within the British Empire* (London, 1923). In addition to these movements, during the

The form of the contracts typically used in this nineteenth-century migration differed somewhat from that used in the earlier period; for example, wages were generally paid to the Asian servants, and their contracts often provided for their return passage to their country of origin upon completion of the term. Yet the immigrants normally worked for fixed terms of years, without the power to change employers, under legal obligation of specific performance of their contracts with penalties including imprisonment, and they were therefore bound under genuine contracts of servitude rather than simply service contracts of debt that could be terminated by repayment of a stated principal sum.[39]

In the second half of the nineteenth century another significant flow of migrants from Asia to the Americas occurred. Bound Chinese laborers were imported to work on the sugar plantations of Hawaii beginning in 1852, and they were joined there by a migration of Japanese workers that began in 1885. From 1852, Chinese workers also began to come to California to work as miners and to build the western railroads. The Asian migrants to Hawaii worked under true indentures, which bound them to work for specified planters for fixed periods of years, with legal provision for compulsion of specific performance or imprisonment.[40] Those bound for California immigrated under debt contracts, agreeing to repay the passage fare advanced to them out of their earnings in America; in principle they were free to change employers, or to repay their outstanding debt and become free.[41]

The question of why indentured servitude was revived for the facilitation of large-scale migration to the West Indies at the same time that it had finally disappeared from use for migration to the United States is of considerable historical significance; the arrival of Asians bound to servitude in the Caribbean had very different implications from the arrival of Europeans free to choose their jobs and places of residence in the nineteenth-century United States. These divergent outcomes resulted from the operation of powerful underlying economic

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nineteenth century relatively small migrations of indentured workers occurred from Africa and Madeira to the West Indies and South America. For an overview of these bound migrations, see Stanley L. Engerman, "Contract Labor, Sugar, and Technology in the Nineteenth Century," this JOURNAL, 43 (Sept. 1983), 635–59; also G. W. Roberts and J. Byrne, "Summary Statistics on Indenture and Associated Migration affecting the West Indies, 1834–1918," *Population Studies*, 20 (July 1966), 125–34.

[39] For example, see Tinker, *A New System of Slavery*, Ch. 6. It might be noted that the Asian migrants to the West Indies often appear to have chosen not to return to their native countries after becoming free.

[40] Katharine Coman, *The History of Contract Labor in the Hawaiian Islands*, Publications of the American Economic Association, Third series, 4 (Aug. 1903), 7–10; Clarence Glick, "The Chinese Migrant in Hawaii: A Study in Accommodation" (unpublished Ph.D. dissertation, University of Chicago, 1938), pp. 38–39.

[41] Kil Young Zo, *Chinese Emigration into the United States, 1850–1880* (New York, 1978), pp. 95–96.

forces, and a consideration of the economic basis of indentured rather than free migration can serve to suggest the source of the basic difference in the character of these two major nineteenth-century migrations to the Americas.[42]

Large-scale net migration may be warranted by economic conditions wherever sizeable differences in average labor productivity exist between two regions. An additional necessary condition for migration to occur in such situations is the absence of political barriers to migration. When a large-scale migration does occur, it will consist of free workers if the migrants can afford to pay the costs of migration out of their savings, or if existing sources of capital permit them to borrow these funds at a reasonable cost. As was seen in the discussion earlier in this paper, the migration will tend to be made up of bound workers if the migrants cannot readily pay the costs of migration out of their own wealth, or borrow the required funds; under these circumstances, the use of indentures can provide a new source of capital, as the intermediation of merchants can effectively allow migrants to borrow the cost of their passage from those who demand their services in their country of destination, in the form of advances against their future labor. Once again, it should be noted that existing political conditions in both sending and receiving areas must permit servitude in order for bound migration to occur.

This analysis suggests that a possible explanation for the contrast described above—a free European migration to the United States occurring coincidentally with a bound Asian migration to the West Indies, South America, Hawaii, and California—might lie in a differential ability of the two groups of migrants to bear the cost of migration. Precise empirical tests of this hypothesis are elusive because of the difficulties involved in measuring both the full costs of migration and the wealth of migrants. Examination of related evidence, however, can serve to indicate whether the explanation is plausible. Specifically, what can be done is to compare a major component of the cost of migration, the cost of passage, to a potential index of the wealth of migrants, the per capita income of their country of origin. Both of these variables are less than perfect proxies for the desired variables. Passage costs of course constituted only a share of the full cost of migration, and this

[42] The magnitudes of these population movements were very different. Thus it has been estimated that 45.2 million free Europeans migrated to the Americas during 1846–1920, compared to a total of 775,000 bound Indians and Chinese who migrated to the West Indies and South America in the nineteenth century, and another 100,000 bound Chinese and Japanese who migrated to Hawaii; Stanley L. Engerman, "Servants to Slaves to Servants: Contract Labor and European Expansion," in H. van den Boogart and P. C. Emmer, eds., *Colonialism and Migration: Indentured Labour Before and After Slavery* (The Hague, forthcoming), Table II. Yet in spite of the imbalance between these relative magnitudes, due to the enormity of the free European migration, the migration of bound Asians was clearly a significant one for the Americas. For some interesting recent comments on these nineteenth-century migrations, see William H. McNeill, *The Great Frontier: Freedom and Hierarchy in Modern Times* (Princeton, 1983), pp. 39–55.

share could vary from case to case. Nor can the relation of wealth to income be determined with precision in most instances. Yet these variables should generally have been correlated with the true variables of interest here. Therefore if the analysis outlined above is valid, it would imply that the ratio of passage fare to per capita income should have been substantially higher for the bound Asian immigrants than for the free Europeans.[43] Although the test does have significant shortcomings, it can suggest whether the explanation suggested here is sufficiently plausible to be worth pursuing with measurements of greater precision.

Table 1 presents evidence on annual per capita income in a number of countries from which significant emigrations occurred in the nineteenth century, together with passage fares to some of the emigrants' principal countries of destination. Although the precision of both the estimates of income and the quotations of fares should not be exaggerated, most of the figures shown are drawn from careful studies, and should serve as reliable indicators of the relative magnitudes involved.

The most striking feature of the table is the contrast between the ratios of fares to per capita income for European and Asian countries of origin. During the nineteenth century, the evidence suggests that the cost of passage to America was consistently equivalent to less than one half the level of per capita income in Great Britain, Scandinavia, and Germany, whereas potential Chinese and Japanese emigrants faced fares to the Americas of an amount consistently greater than three times the level of per capita income in their own countries. The absence of indentured servitude from the great nineteenth-century migration from Europe to the United States therefore appears understandable, for the cost of migration was apparently sufficiently low relative to the wealth of the migrants to render credit transactions unnecessary.[44] The con-

[43] The test proposed here might be seen as an implication of a special case drawn from a more general analysis. In general, a migrant might choose between financing migration costs out of savings or by borrowing by comparing the levels of his income before and after the move; if income after moving is expected to be considerably higher than before, the migrant might prefer to repay moving costs out of the higher post-migration income, in order to smooth the path of his consumption over time. Therefore, if the question is simply one of whether the migrant will borrow in order to migrate, the answer would depend on a comparison of income levels in the countries of origin and destination. Yet although indentured servitude was a form of credit, it involved more than many credit transactions. For an indentured migrant not only agreed to repay his loan, but to give up much of his freedom during the period of repayment; thus servants typically gave up the freedom to marry during their terms, to engage in business on their own account, to determine where they would live, and so on. The assumption is therefore made here that given these conditions, migrants would strongly prefer not to borrow to migrate by indenturing themselves, but would instead prefer to save prior to migration in order to migrate as free workers. The test of the difficulty of doing this therefore involves a comparison of the wealth of migrants and the costs of migration; the variables examined in the text are intended to be considered as proxies for these less readily measurable variables.

[44] An interesting feature of the fares shown in Table 1 is the significant decline in passage costs from Great Britain to the United States during the early nineteenth century. Although the greater

TABLE 1
COMPARISON OF COST OF PASSAGE TO PER CAPITA INCOME OF SENDING COUNTRIES, SELECTED COUNTRIES AND DATES

Sending Country	*Destination*	*Date*	*Form of Migration*	*Passage fare (current prices)*	*Per capita income, sending country (current prices)*	*Ratio of passage fare to per capita income*
(1) Great Britain	American colonies	1688	⅔ indentured, ⅓ free	£5	£9.8	.51
(2) Great Britain	United States	1816–1821	free	£10–12	£20.5	.49–.59
(3) Great Britain	United States	1831–1832	free	£4–6	£20.8	.19–.29
(4) Great Britain	United States	1841	free	£3–7	£24.4	.12–.29
(5) Great Britain	United States	1848–1851	free	£3.5–5	£25.1	.14–.20
(6) Great Britain	United States	1859–1861	free	£3.25	£28.8	.11
(7) Great Britain	Canada	1867–1871	free	£4.5	£35.0	.13
(8) Great Britain	United States	1881	free	£6–6.3	£35.3	.17–.18
(9) Great Britain	United States	1890–1891	free	£3.5	£38.9	.09
(1) Ireland	United States	1841	free	£3–7	£15	.20–.47
(1) Denmark	United States	1870	free	$24.33	$91.4	.27
(2) Denmark	United States	1880	free	$24.33	$105.3	.23
(3) Denmark	United States	1890	free	$24.33–36.50	$117.7	.21–.31
(4) Denmark	United States	1900	free	$36.50	$146.9	.25
(1) Norway	United States	1865	free	$24.33	$75.6	.32
(2) Norway	United States	1887	free	$24.33–36.50	$88.2	.28–.41
(3) Norway	United States	1899	free	$36.50	$127.3	.29
(1) Sweden	United States	1860	free	$24.33	$55.2	.44
(2) Sweden	United States	1870	free	$24.33	$57.6	.42
(3) Sweden	United States	1880	free	$24.33	$77.5	.31
(4) Sweden	United States	1890	free	$24.33–36.50	$86.3	.28–.42
(5) Sweden	United States	1900	free	$36.50	$124.4	.29
(1) Germany	United States	1880	free	$24.33	$104.5	.23
(2) Germany	United States	1890	free	$24.33–36.50	$133.8	.18–.27
(3) Germany	United States	1900	free	$36.50	$137.1	.27
(1) China	West Indies	1859–1880	indentured	$39–72	$7.3	5.3–9.9
(2) China	Hawaii	1852–1880	indentured	$50	$7.3	6.8
(3) China	California	1877–1880	contract labor	$40–50	$7.3	5.5–6.8
(1) India	West Indies	1859–1901	indentured	$35–77	$6.5–9.7	3.6–11.8

Sources: *Great Britain*

(1) GNP: Phyllis Deane and W. A. Cole, *British Economic Growth, 1688–1959*, Second ed. (Cambridge, 1967), p. 156. Population: E. A. Wrigley and R. S. Schofield, *The Population History of England, 1541–1871: A Reconstruction* (Cambridge, Massachusetts, 1981), p. 533. Fare: David W. Galenson, *White Servitude in Colonial America: An Economic Analysis* (Cambridge, 1981), pp. 251–52.

(2) GNP and population: Deane and Cole, *British Economic Growth*, pp. 8, 166. Fare: Marcus Lee Hansen, *The Atlantic Migration, 1607–1860* (Cambridge, Massachusetts, 1940), p. 198.

(3) GNP and population: see (2), above. Fare: see (2), above.

(4) GNP and population: see (2), above. Fare: Hansen, *The Atlantic Migration*, p. 249, also Philip Taylor, *The Distant Magnet: European Emigration to the U.S.A.* (New York, 1971), p. 94.

(5) GNP and population: see (2), above. Fare: Taylor, *The Distant Magnet*, p. 94; also Charlotte Erickson, ed., *Emigration from Europe, 1815–1914* (London, 1976), p. 248.

(6) GNP and population: see (2), above. Fare: Taylor, *The Distant Magnet*, p. 94.

(7) GNP and population: see (2), above. Fare: William Fraser, *The Emigrant's Guide* (Glasgow, 1867), p. 30.

(8) GNP and population: see (2), above. Fare: Evan R. Jones, *The Emigrant's Friend*, Revised edition (London, 1881), advertisements following p. 351.

(9) GNP and population: see (2), above. Fare: Taylor, *The Distant Magnet*, p. 94.

Ireland

(1) Per capita GNP: Joel Mokyr and Cormac O Grada, "Emigration and Poverty in Prefamine Ireland," *Explorations in Economic History*, 19 (Oct. 1982), 361; fare: see Great Britain, (4), above.

Denmark

(1) GNP: Kjeld Bjerke and Niels Ussing, *Studier over Danmarks Nationalprodukt 1870–1950* (Copenhagen, 1958), p. 146. Population: B. R. Mitchell, *European Historical Statistics* (London, 1975), p. 19. Exchange rate: Ainsworth R. Spofford, ed., *American Almanac. . . for the Year 1889* (New York, American News Company, 1889), p. 329. Fare: U.S. House of Representatives, *Reports of the Industrial Commission on Immigration*, 15 (Washington, D.C., 1901), p. 104.

(2)–(3) See Denmark (1).

(4) Per capita GNP and Fare: see Denmark (1). Exchange rate: *The Statesman's Yearbook: Statistical and Historical Annual of the States of the World for the Year 1899* (New York, 1899), p. clxxix.

Norway

(1) GNP: Juul Bjerke, *Trends in Norwegian Economy, 1865–1960* (Oslo, 1966), p. 38. Population: Mitchell, *European Historical Statistics*, p. 22. Exchange rate: Spofford, *American Almanac*, p. 329. Fare: U.S. House of Representatives, *Reports of the Industrial Commission on Immigration*, Vol. XV, p. 104.

(2) See (1), above.

(3) Per capita GNP and fare: see (1), above. Exchange rate: *Statesman's Yearbook . . . 1899*, p. clxxix.

Sweden

(1) GNP: Olle Krantz and Carl-Axel Nilsson, *Swedish National Product, 1861–1970* (Stockholm, 1975), pp. 150–51. Population: Mitchell, *European Historical Statistics*, p. 23. Exchange rate: Spofford, *American Almanac*, p. 329. Fare: U.S. House of Representatives, *Reports of the Industrial Commission on Immigration*, Vol. XV, p. 104.

TABLE 1 (Continued)

(2)–(4) See (1), above.
(5) Per capita GNP and Fare: see (1), above. Exchange rate: *Statesman's Yearbook . . . 1899*, p. clxxix.

Germany

(1) GNP: Walther G. Hoffmann, *Das Wachstum der Deutschen Wirtschaft Seit der Mitte des 19. Jahrhunderts* (Berlin, 1965), pp. 826–27. Population: Mitchell, *European Historical Statistics*, p. 20. Exchange rate: Spofford, *American Almanac*, p. 329. Fare: U.S. House of Representatives, *Reports of the Industrial Commission on Immigration*, Vol. XV, p. 104.
(2) See (1), above.
(3) Per capita GNP and Fare: see (1), above. Exchange rate: *Statesman's Yearbook . . . 1899*, p. clxxix.

China

(1) GNP and population: Albert Feuerwerker, *The Chinese Economy, 1870–1911* (Ann Arbor, 1969), pp. 2–3. Exchange rate: *The Daily News Almanac and Political Register for 1894* (Chicago, 1894), p. 125. Fare: Public Record Office, London, CO 386/179 and CO 386/188. The range of fares covers quotations from Hong Kong and Canton to British Guiana, Trinidad, and Grenada in the years 1859, 1860, 1861, 1864–1866, and 1868.
(2) Per capita GNP: see China (1). Fare: Katharine Coman, *The History of Contract Labor in the Hawaiian Islands*, Publications of the American Economic Association (Third Series), 4 (Aug. 1903), p. 11.
(3) Per capita GNP: see China (1). Fare: Kil Young Zo, *Chinese Emigration into the United States, 1850–1880* (New York, 1978), pp. 92, 185.

India

(1) Per capita GNP: M. Mukherjee, *National Income of India: Trends and Structure* (Calcutta, 1969), pp. 83–84. Exchange rate: Spofford, *American Almanac*, p. 329. Fare: Public Record Office, London, CO 386/179 and 386/188. The range of fares covers quotations from Calcutta and Madras to Jamaica, Trinidad, British Guiana, and Grenada in the years 1859–1862 and 1868–1870. Also see Panchanan Saha, *Emigration of Indian Labour, 1834–1900* (Delhi, 1970), p. 16, and I. M. Cumpston, *Indians Overseas in British Territories, 1834–1854* (London, 1953), p. 96.

trasting ubiquity of indentured servitude in the Asian trans-Pacific migrations of the nineteenth century appears equally understandable, for the high passage fares facing emigrants from countries with very low levels of per capita income must have meant that few could afford to pay the cost of migration out of their savings.

The evidence of Table 1 nonetheless appears to raise several questions, as the result of apparent inconsistencies within these broad conclusions. One concerns the British migration to America in the colonial period: Why was a majority of the migration made up of bound workers when the ratio of passage fare to per capita income shown for the late seventeenth century, of about one half, is not far above many of the ratios found for the free European migrations of the nineteenth century? Part of the explanation may lie in the demographic composition of the migrations. In the American colonial period, indentured servitude was strongly, although not exclusively, associated with the migration of unrelated individuals, most of whom were in their late teen ages and early twenties.[45] The European migration of the nineteenth century might have been made up to a greater extent of migrants in families than had generally been the case earlier.[46] The difference might have been important, for most migrating families began their voyages by liquidating the assets—most often land, homes, farm equipment, and livestock—they had accumulated over the course of the working lives of the parents. These family groups might as a result have had more capital on hand to pay for their voyages than the younger, single migrants who indentured themselves to gain passage to colonial America. Few of the latter would have had time to accumulate significant savings in their

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regularity of the schedules of steamships apparently did reduce the variability of fares due to such factors as seasonality and the decisions of individual shipping agents—and the greater speed of the steamships reduced the full cost of passage by the opportunity cost of the saved time of passengers—the major decline in fares appears to have been complete by about 1830, well before steamships replaced sailing vessels in the Atlantic passenger trade in the 1860s. For discussion see J. D. Gould, "European InterContinental Emigration 1815–1914: Patterns and Causes," *Journal of European Economic History*, 8 (Winter 1979), 611–14; also see Douglass C. North, "Sources of Productivity Change in Ocean Shipping, 1600–1850," *Journal of Political Economy*, 76 (Sept. 1968), 953–70.

[45] For example, see Galenson, *White Servitude in Colonial America*, Ch. 2.

[46] For example, see Kristian Hvidt, *Flight to America: The Social Background of 300,000 Danish Emigrants* (New York, 1975), pp. 91–102; Charlotte Erickson, "Emigration from the British Isles to the U.S.A. in 1831," *Population Studies*, 35 (July 1981), 175–97; and Robert P. Swierenga, "International Labor Migration in the Nineteenth Century: The Dutch Example," paper presented to Economic History Workshop, University of Chicago, May, 1979. During the colonial period, virtually all English indentured servants were unmarried (indeed, standard servant contracts in the eighteenth century included a declaration that the individual bound was single, as shown in Galenson, *White Servitude in Colonial America*, pp. 201–02). The same was not true for German redemptioners, who often came in families; quantitative information on their distribution by family status is poor, but the proportions in families generally appear to have been low. For a discussion of the evidence see Marianne Wokeck, "The Flow and the Composition of German Immigration to Philadelphia, 1727–1775," *Pennsylvania Magazine of History and Biography*, 105 (July 1981), 249–78.

short working careers. Their families might in some cases have given them the capital necessary to pay their passage to America, but many may have found it difficult to raise the sums necessary without threatening the survival of their family farms or businesses. Demographic differences might therefore account in part for the apparent greater availability of capital among the migrants of the nineteenth century.[47] This hypothesis must be considered speculative, for information on the composition of both the colonial and the nineteenth-century migrations by family status of the migrants is incomplete. And even if present in some degree, these differences are unlikely to account fully for the nineteenth-century decline of indentures among Europeans, for many families had been indentured as redemptioners in the eighteenth century, and many young individuals without families were included in the transatlantic migration of the nineteenth century.

A more general factor might be of much greater importance in explaining this puzzle, for a likely solution lies in a significant discrepancy between the theoretical analysis suggested earlier and its implementation in Table 1. The analysis implied that the important variable determining migrants' ability to pay the costs of their migration was their wealth; Table 1 then presented evidence on per capita income as a proxy for wealth. National income and wealth are strongly and positively related over time, but during periods of transition from preindustrial to industrial economic conditions their relationship does not generally remain constant. Rather there is a long-run tendency for the share of savings in gross national product to rise, producing a tendency for the ratio of wealth to income to increase over time.[48] The significance of this for the empirical test considered here might be considerable in view of the substantial differences in per capita income and the level of industrialization among the economies examined, for potential migrants from countries in which many people are not far above what are considered to be subsistence levels might have relatively little ability to accumulate wealth in comparison with migrants from wealthier countries. Thus nineteenth-century Englishmen might have found it considerably easier on average to save an amount equivalent to one-half of annual per capita income than their poorer counterparts in England 200

[47] Farley Grubb has found that among German immigrants arriving in Philadelphia during 1785–1804, 51 percent of single males and 59 percent of single females were indentured, compared with only 35 percent of married adults and 40 percent of children traveling with parents; "Indentured Labor in Eighteenth-Century Pennsylvania" (dissertation in progress, University of Chicago). This result is consisent with the hypothesis that an increase in the importance of families in migration would have tended to reduce the amount of servitude.

[48] Simon Kuznets, *Modern Economic Growth: Rate, Structure, and Spread* (New Haven, 1966), pp. 235–40. On the rising ratio of wealth to per capita output in Great Britain in the second half of the eighteenth century, see C. H. Feinstein, "Capital Formation in Great Britain," in Peter Mathias and M. M. Postan, eds., *The Cambridge Economic History of Europe*, Vol. VII, Part 1 (Cambridge, 1978), pp. 90–92.

years earlier, and this could well explain why the importance of indentured servitude among English and perhaps other European migrants to America declined so substantially in the long run.

A second question concerns the nineteenth-century Chinese migration to California. The quantitative evidence of Table 1 shows no obvious economic difference between this and the other Asian migrations to the Americas. Yet as discussed earlier, unlike the other Asian emigrants, the Chinese destined for California were not indentured. Why did similar economic conditions not lead to similar conditions of migration? A likely answer to this question appears to be that the conditions were in fact similar, and that a difference more apparent than real might have existed for political reasons. In practice it is not clear that the Chinese who migrated to California under debt contracts were actually able to take advantage of the fact that their contracts, unlike indentures, allowed them to repay their debts and become free workers before the end of the contracts' normal terms, nor is it clear that they were in fact free to choose their employers in America, and to change employers at will. Much remains unknown about the actual operation of the system under which Chinese, and later Japanese, migrants worked in the western United States, but many contemporaries believed these workers were effectively indentured, in being tied to specific employers for fixed terms. The question of why legal contracts of indenture were not used in these circumstances is an intriguing one; indentures for immigrants were not illegal in the United States when the Chinese migration to California first began in the 1850s, and indentures remained legal within some limits until 1885.[49] Yet the contemporary discussion of the Chinese migration appears to carry an implicit assumption that the use of indentured labor—or "servile" labor in the language of the day—was not acceptable in the United States on a large scale.[50] More work on both the attitudes surrounding this episode and the Asians' conditions of work might prove rewarding, for it appears that even at a time when the U.S. government was encouraging the importation of indentured workers from Europe, Americans were not willing to tolerate the large-scale importation of indentured Asians. Thus in 1864

[49] Charlotte Erickson, *American Industry and the European Immigrant, 1860–1885* (Cambridge, Massachusetts, 1957). The Act to Encourage Immigration of 1864 made it legal for immigrants to pledge their wages for a period of up to one year to repay costs of their migration that had been advanced to them. That indentures were not openly used for Chinese might have been due to the fact that in practice they were held for terms substantially longer than one year, but evidence on their actual terms is elusive.

[50] For example, see the defense of the system by George F. Seward, *Chinese Immigration, In Its Social and Economical Aspects* (New York, 1881), pp. 136–58. For a brief but interesting discussion of the actual contractual agreements of the Chinese immigrants in California, see Elmer Clarence Sandmeyer, *The Anti-Chinese Movement in California* (Urbana, 1973), Ch. 2. I plan to present a further investigation of these arrangements, and of their deviation in practice from the descriptions given at the time by the "Chinese Six Companies" largely responsible for the importation of the Chinese, in a forthcoming paper coauthored by Patricia Cloud.

Congress passed the Act to Encourage Immigration, which attempted to revive the indenture system by providing for immigrant labor contracts to be registered with the U.S. Commissioner of Immigration, and for unfulfilled contracts to serve as a lien upon property acquired by the immigrant in the future. Yet this act was aimed at encouraging the immigration of skilled Europeans, and does not seem to have been intended in any way to promote the immigration of unskilled Asians.[51]

CONCLUSION: THE ECONOMICS AND POLITICS OF INDENTURED SERVITUDE IN THE AMERICAS

Indentured servitude, as developed by the Virginia Company within little more than a decade after the first settlement at Jamestown, was an institutional response to a capital market imperfection. Designed for those without access to other suppliers of capital, the device of the indenture enabled prospective migrants to America to borrow against their future earnings in America in order to pay the high cost of passage across the Atlantic. After a series of unsuccessful early experiments, the Virginia Company solved a severe problem of enforcing the repayment of the initial capital outlay by selling the servant's contract outright to a colonial planter for a lump sum, thereby making the migrant's master at his destination also the source of his loan. The sale solved the agency problem that had existed when the Company had rented out servants for whom it had paid passage costs, for the colonial planter had then had insufficient incentive to protect the Company's investment in the worker.

The particular form of the solution devised by the Virginia Company to this problem of increasing long-distance labor mobility was of course not the only one possible. Other solutions to the problem of enforcing long-term labor contracts in order to facilitate migration have appeared, and some of these have been used successfully in significant historical episodes.[52] Yet the form originally used in early Virginia, in which an

[51] Erickson, *American Industry and the European Immigrant*, Ch. 1. On the politics of contract labor in the late nineteenth-century United States, and the opposition of unions, see Ibid., Chs. 8–10.

[52] The experience of the Chinese in California might offer an example of a significant additional means of enforcement. Gunther Barth wrote of the enforcement of their debt contracts that "the kinship system supplied an extra-legal control in a country where courts and customs failed to support any form of contract labor," as the families the migrants had left behind them in China remained "as hostages within the reach of their creditors;" Gunther Barth, *Bitter Strength: A History of the Chinese in the United States, 1850–1870* (Cambridge, Massachusetts, 1964), pp. 56, 86. Yet it might be noted that even in this case the ownership of the debt contract by the worker's immediate employer apparently remained typical; Ibid., pp. 55–56. The *padrone* system used in Italy and Greece in the late nineteenth century was based on securing the loan of passage money to the migrant through mortgages on land held by relatives who remained behind; Philip Taylor, *The Distant Magnet: European Emigration to the U.S.A.* (New York, 1971), p. 98. It might be noted here that the American Emigrant Company and the other companies that recruited laborers for

employer obtained the services of an immigrant for a specified period—usually a number of years—upon payment of a lump sum to the importer proved by far the most important quantitatively. Once introduced in the second decade of the seventeenth century, the indenture system in this same basic form remained in almost uninterrupted use on a significant scale in the Americas for nearly 300 years.

Entry into an indenture nearly always must have involved a substantial sacrifice of personal freedom for the migrant. Neither an Englishman bound to serve in colonial America nor a nineteenth-century Indian bound to labor in the West Indies would have much control over their conditions of work during the years in which their loan was repaid, and their ability to make decisions about most aspects of their lives in that time was severely circumscribed by the control of their masters. As a result, even many migrants accustomed to societies in which the rights of workers were less than those of their employers might have been reluctant to enter into long-term indentures. Yet the consequences of production that brought into use the natural resources of the Americas, with the resulting promise of economic opportunity for workers, provided a powerful attraction to prospective settlers drawn from the populations of Europe and Asia. The attraction was sufficient to prompt many migrants over the course of three centuries to enter indentures, giving up much of their freedom for a period of years "in hope thereby to amend theyr estates."[53]

But not all migrants to America during the colonial period and the nineteenth century entered indentures. The analysis presented in this paper suggested that flows of migrants would be composed of bound workers only when the migrants were unable to bear the costs of migration out of their accumulated wealth. Examination of empirical evidence supported the plausibility of this analysis, for the evidence suggested that indentured servitude assumed an important role in a migration when the direct cost of passage was high relative to the per capita income of the migrants' country of origin. Thus that the great nineteenth-century migration of Europeans to the Americas was composed of free individuals and families appears to have been a consequence of both falling transportation costs and rising European income levels.

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northern manufacturers during the mid-1860s in effect operated on a basis similar to the English merchants who sent servants to colonial America, for these companies relied on American employers to provide the working capital to pay for transportation of workers, as well as to secure repayment from the wages of the contract laborers; Erickson, "Why Did Contract Labour Not Work in 19th Century USA?," p. 19.

[53] The quotation is from the prophetic formulation of the indenture system of Sir George Peckham in 1583 in his *A True Reporte, of the late discoveries, and possessions, taken in the right of the Crowne of Englande, of the Newfound Landes, By that valiaunt and worthy Gentleman, Sir Humfrey Gilbert Knight*, Ch. 7.

The termination of the use of indentured labor in the Americas occurred as the result of political action. The use of indentured Asians in the West Indies, which originated with the abolition of slavery in the 1830s and continued into the twentieth century, had long been a source of concern to the governments of the sending countries, as well as the object of attacks by the same organized groups that had led the campaign to abolish slavery. A series of political actions, growing in intensity from the late nineteenth century, finally led to a decision by the British government in 1917 to prohibit further transportation of Indians for purposes of servitude for debt.

This legal abolition of the indentured emigration of Indians brought to an end a cycle in the use of bound labor in British America that had begun when indentured workers were used to provide an initial solution to the problem of labor shortage in the New World, then had seen the rise of slavery lead to an abandonment of servitude, and still later had seen the abolition of slavery produce a revival of servitude. In some of the phases of this cycle, economic forces determined outcomes with relatively little constraint from political considerations; such was the case, for example, in the original innovation of indentured servitude, in the substitution of slaves for servants in the sugar islands of the West Indies and the southern colonies of the British mainland in the course of the seventeenth century, and in the nineteenth-century revival of servitude in the West Indies. In another set of cases, political considerations appear to have dominated economic concerns; apparent examples include the decision of the British government to abolish slavery in its possessions during the 1830s, the termination of indentured servitude in Hawaii, imposed upon annexation to the United States, and the British government's later decision to abolish servitude for Indians. And in yet a third category of cases, a blend of significant economic and political forces appears to have produced outcomes that are less fully understood, and indeed in some instances have not even been fully described. Cases in point may include a number of episodes involving contract labor in the United States, such as the dwindling of importance of indentured servitude in the early national period, and the failure explicitly to use the common form of indentured servitude for the Chinese immigrants to California in the second half of the nineteenth century. Further study of this last group of phenomena might help to illuminate the ways in which economic and ideological forces contend when neither type clearly dominates, and thus might add to our understanding of how outcomes are determined when political attitudes and economic motivations collide.