

## 02. The Colonial Economy

Econ 373: US Economic History

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# The Evolution of New World Labor Markets

## Indentured servitude

- The initial labor force that settled Jamestown came as bound servants
  - Poorly treated, little compensated, not incentivized to work, willing to run away
- This was due to a principal-agent problem (due to presence of moral hazard or “hidden actions”) that required changes to the labor system
- In addition, passage to New World was expensive and potential workers were liquidity constrained and there were only imperfect financial markets
- The journey to the New World had to be financed in some other way

## A solution to imperfect capital markets

- Passage to the New World was expensive for a typical European laborer
  - Today, people take loans to move, to go school, to start a business, etc
  - These options were not available to the general population before 19thC
- Indentured servitude is an example of a forward labor contract
  - Payment for labor services came in form of transportation, basic room and board
  - Other dimensions of living conditions and treatment could be contracted
  - Labor services were provided for specific term of indenture, formalized in a contract

**THIS Indenture** witnesseth, That John Reid of  
freehold in the County of ~~Montgomery~~ New York,  
gives with the Consent of his Father, John Reid of place  
hath put himself, and by these Presents doth voluntarily, and of his own free  
Will and Accord put himself an Apprentice to Robert Livingston Esq<sup>r</sup> of New York  
with him to lives and (after  
the Manner of an Apprentice) to Serve from the first Day of November  
Anno Domini, One Thousand Seven Hundred and Forty two  
till the full Term of ~~five years~~  
be compleat and ended. During all which Term the said Apprentice his  
said Master faithfully shall serve, his  
Secrets keep, his lawfull Commands gladly every where obey: he shall do  
no Damage to his said Master nor fee to be done by others without let-  
ting or giving Notice to his said Master he shall not waste his said Masters  
Goods, nor lend them unlawfully to any, he shall not commit Fornication,  
nor contract Matrimony within the said Term. At Cards, Dice or any other  
unlawful Game, he shall not play, whereby his said Master may have  
Damage with his own Goods, nor the Goods of others within the said Term,  
without Licence from his said Master, he shall neither buy nor sell, he  
shall not absen himself Day nor Night from his said Masters Service  
without his Leave, nor haunt Ale-Houles, Taverns or Play-Houses; but in all  
Things as a faithful Apprentice he shall behave himself to his said Master  
and all his during the said Term. And the said Master during the said  
Term shall by the best Means or Method that he can, Teach or cause the said  
Apprentice to be Taught the Art and Mystery of a Merchant  
And also shall find and provide unto the said Apprentice sufficient meat

*Drinking Lodging*

For the true Performance of all and every the said Covenants and Agreements,  
either of the said Parties bind themselves unto the other by these Presents, In  
Witness whereof they have hereunto interchangeably put their Hands and Seals  
this First Day of November in the Seventeenth Year of  
His Majesty's Reign Annoq; Domini, One Thousand Seven Hundred and Forty  
two

Sealed and delivered in  
the Presence of

*John Alexander*  
*Richd Smith*

*John Reid*  
*John Reid Jr.*

<b>name</b>	<b>year</b>	<b>age</b>	<b>female</b>	<b>literacy</b>	<b>length</b>
ABBITT, Abraham	1724	19	0	0	4
ABBOTT, Peter	1733	24	0	0	4
ADAMSON, John	1723	18	0	1	5
ADDAMS, Robert	1725	17	0	1	6
AIKENHOAD, Patrick	1731	20	0	1	4
AINSLY, Thomas	1720	19	0	1	4
ALLAM, George	1723	17	0	0	4
ALLBURY, John	1738	19	0	1	5
ALLEN, James	1728	19	0	1	4
AMPHLETT, Benjamin	1749	20	0	1	4
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ANDERSON, William	1718	18	0	1	4
ANDREWS, Thomas	1737	20	0	0	7

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  - Payment for labor services came in form of transportation, basic room and board
  - Other dimensions of living conditions and treatment could be contracted
  - Labor services were provided for specific term of indenture, formalized in a contract
- There was an economic rationale for indentured servitude
  - Not only result of exploitation, cruelty, etc

## The negative view of indentured servitude

*Many . . . were convicts from jails, transported instead of being hanged; a few were political and military prisoners taken in war or rebellion. There were rogues, vagabonds, whores, cheats, and rabble of all description, raked from the gutter and kicked out of the country.*

# The evolution of indentured servitude

- Initially one firm handled recruiting, shipping, employment in the New World
  - i.e., the Virginia Company of London
  - The explorer John Smith was the company's third president
  - Investigated for poorly managed finances and charter was revoked in 1624
  - Colonists maintained the right to self-government
- In the first place, VA Company funds used to pay transportation costs
  - Migrants worked directly for VA Company
- Under this arrangement large groups of men lived and worked communally in military-type conditions, which was unpopular with recruits

## The evolution of indentured servitude

- Difficulties managing workers led VA Company to seek new solution
- By 1619, new system introduced:
  - New colonists bound for term to VA Company, sent over at the Company's expense
  - Free planters of rented from VA Company at a fixed rate, provided for maintenance
- Final evolution was simply selling workers to individual planters for period necessary to repay loans (as specified in workers' contracts)
- This transferred supervision costs and contract enforcement to planters

# The evolution of indentured servitude

- Active markets for indentured servants arose in Europe and in colonies
  - These markets provided link between European labor supply and labor demand of colonial planters from 1620s through period of American Revolution (and after)
- Indentured servitude was particularly important in the early history of those colonies that produced staple crops for export – sugar, tobacco, or rice
- Single contractual form and enforcement proved useful over long period
  - ~~ Why?

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  - ~~ Why?
- What are labor economics of the market for indentured servants?

# Human Capital and Indentured Servitude

# Economic analysis of labor markets

- What is best way to understand value of labor provided by indentures?
  - ~~ What approaches do economists take to labor (or other) markets today?
- The **human capital** value of labor
  - ~~ Does compensation vary with skill/demographic characteristics?
- The **asset** value of labor contracts
  - ~~ Does price of indentured servant contract reflect value of labor provided?
- The role of **selection** in migration
  - ~~ Does choice of destination reflect unobserved characteristics of labor?

## The human capital of indentured servants

- First approach to evaluating market of indentured servants is to ask whether “wages” reflected productive characteristics, i.e., human capital

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$$\text{length of service}_i = \beta_0 + \beta_1 \text{gender}_i + \beta_2 \text{age}_i + \beta_3 \text{literacy}_i + \dots + \epsilon_i$$

- Implication of human capital theory is that individual characteristics that are correlated with marginal product of labor will predict length of service

## Results for Determinants of Indentured Servant Contract Length

Symbols	(1)
Constant	$\beta_0$
	6.611 (0.0782)
Observations	N
	2,807

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## Results for Determinants of Indentured Servant Contract Length

Symbols	(1)	(2)
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	<b>Symbols</b>	<b>(1)</b>	<b>(2)</b>
Constant	$\beta_0$	6.611 (0.0782)	6.611 (0.0783)
Female	$\beta_1$	0.112 (0.0844)	0.004 (0.0754)
Age	$\beta_2$		-0.099 (0.0037)
Observations	<i>N</i>	2,807	2,807

## Results for Determinants of Indentured Servant Contract Length

	<b>Symbols</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
Constant	$\beta_0$	6.611 (0.0782)	6.611 (0.0783)	6.689 (0.0782)
Female	$\beta_1$	0.112 (0.0844)	0.004 (0.0754)	-0.076 (0.0755)
Age	$\beta_2$		-0.099 (0.0037)	-0.094 (0.0038)
Literacy	$\beta_3$			-0.277 (0.0370)
Observations	$N$	2,807	2,807	2,807

## The asset value of indentured servant contracts

- Second approach is to consider value created by indentured servant from the perspective of an employer for the duration of employment:

$PV$  = present value

## The asset value of indentured servant contracts

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$$PV = \sum_{i=1}^n \frac{NP_i - w_i}{(1+r)^i}$$

where

- $n$  = length of indentured servant contract
- $NP_i$  = expected mean productivity in year  $i$  of contract
- $w$  = cost to employer of maintaining indentured servant in year  $i$  of contract
- $r$  = discount rate

## Indentured servitude and market efficiency

- Analyzing determinants of length of service and contract prices provide two approaches for assessing market efficiency
- It is useful to consider some of the details of the specific context indentured servitude in the Old and New World during this period
  - Prices need not be identical for the market to be efficient
  - Labor demand in Americas and labor supply in Europe may not be matched
  - There could be mistakes or unforeseen events that cause prices to diverge
  - Strictly speaking, only expected prices need to be the same
- Evidence is consistent with this market “working well”

## Destination choice and indentured servitude

- Final consideration is role of selection
- Indentured servants could be contracted to different locations
- We can then think about whether servants moving to two locations (e.g., West Indies versus mainland) had different productive characteristics
  - We want to know whether certain kinds of servants (i.e., “bad” versus “good”) were more likely to move to the West Indies rather than Maryland, Virginia, etc

## Results for Determinants of Indentured Servant Contract Length by Destination

		West Indies	Mainland	
	Symbols	(1)	(2)	Previous
Constant	$\beta_0$	7.794 (0.1252)	5.397 (0.0848)	6.689 (0.0782)
Female	$\beta_1$	-0.271 (0.0954)	0.078 (0.1166)	-0.076 (0.0755)
Age	$\beta_2$	-0.1330 (0.0064)	-0.049 (0.0038)	-0.094 (0.0038)
Literacy	$\beta_3$	-0.276 (0.0550)	-0.1387 (0.0418)	-0.277 (0.0370)
Observations	N	1,429	1,378	2,807

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- ~~ Why? Economic reasoning?

# The Supply of Labor to the New World

## The market of indentured servants in the New World

- Indentured servants were a major source of labor supply to the New World, but were eventually displaced by slave labor
- Let's consider sources of labor supply: free labor, slave labor, and indentured servants

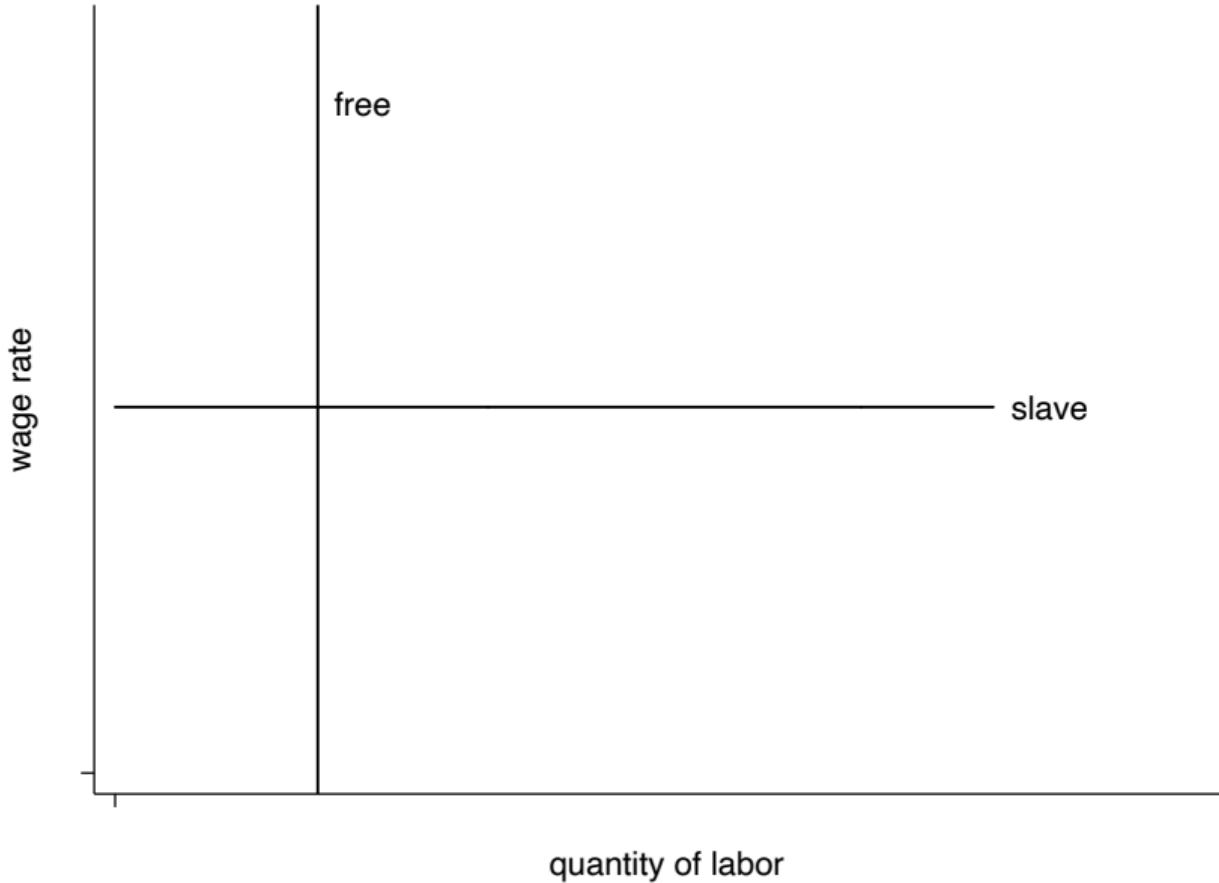
## Aggregate Labor Supply to the New World



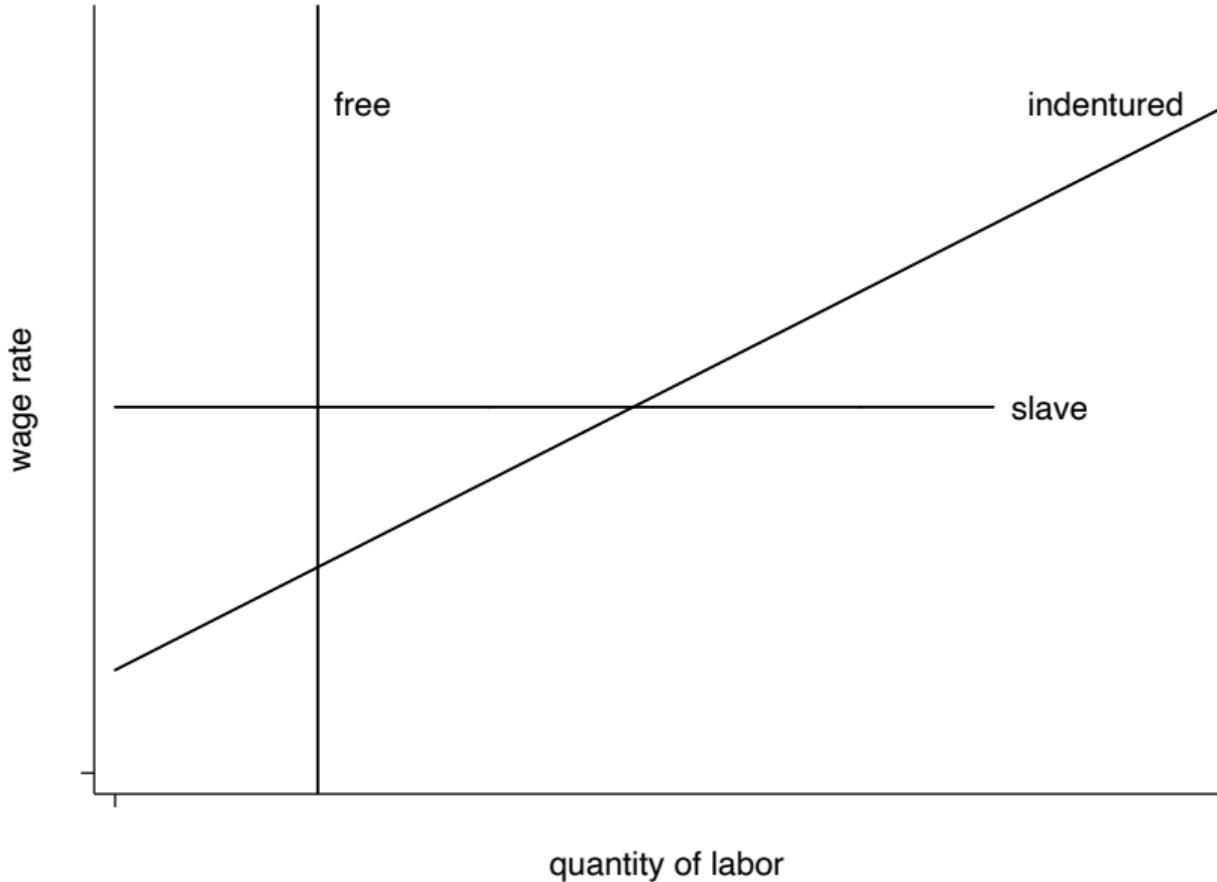
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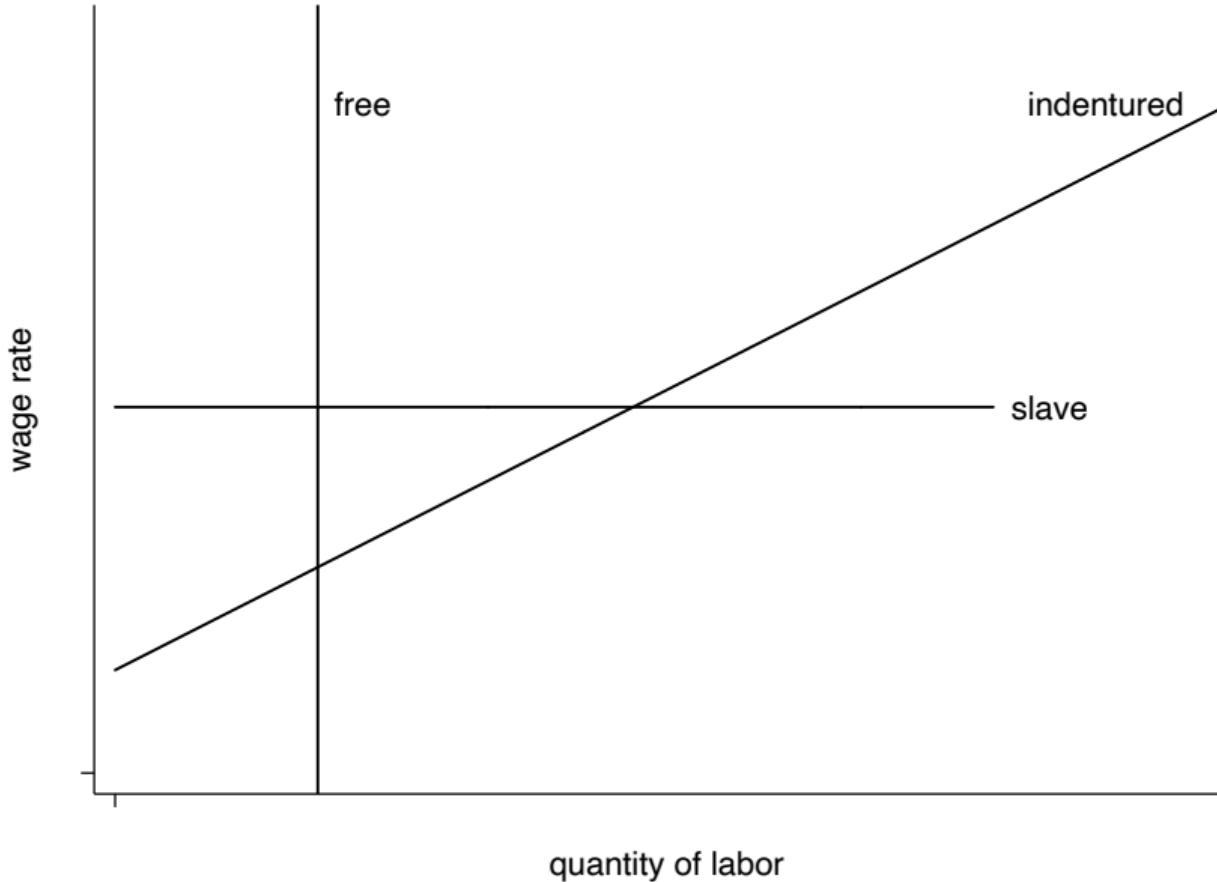
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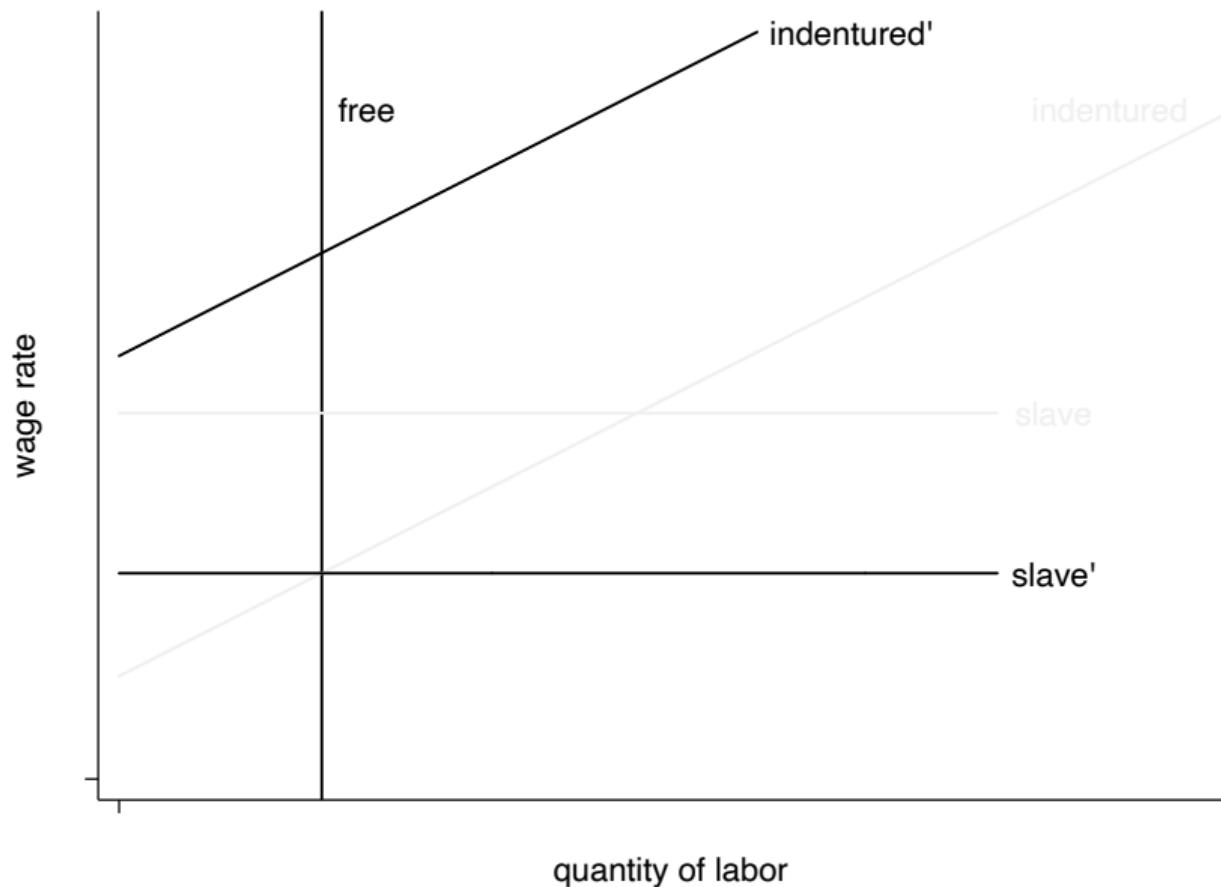
## The market of indentured servants in the New World

- Indentured servants were a major source of labor supply to the New World, but were eventually displaced by slave labor
- Let's consider sources of labor supply: free labor, slave labor, and indentured servants
- To understand the forces behind changes in the composition of the labor force in the New World, consider a decrease in ocean shipping costs
  - i.e., due to increased productivity in transportation services

## Aggregate Labor Supply to the New World



## Aggregate Labor Supply to the New World with a Decrease in Transport Costs



## The market of indentured servants in the New World

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- Let's consider sources of labor supply: free labor, slave labor, and indentured servants
- To understand the forces behind changes in the composition of the labor force in the New World, consider a decrease in ocean shipping costs
  - i.e., due to increased productivity in transportation services
- This is a powerful explanation for disappearance of indentured servitude, its replacement with slavery, and rise voluntary European migration