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# Costs and Benefits of High Skilled Immigration

**June 20, 2007**

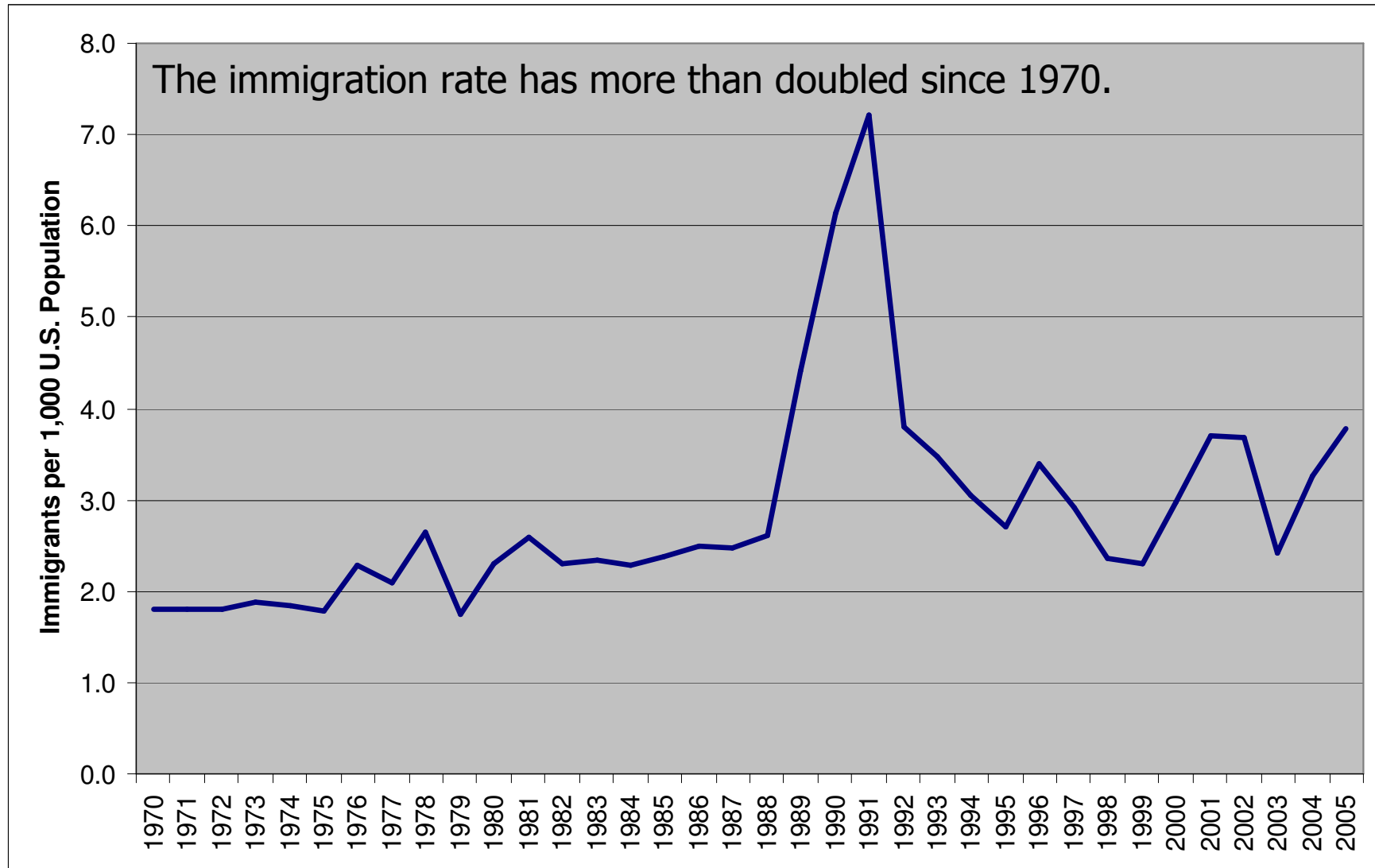
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How significant is immigration?

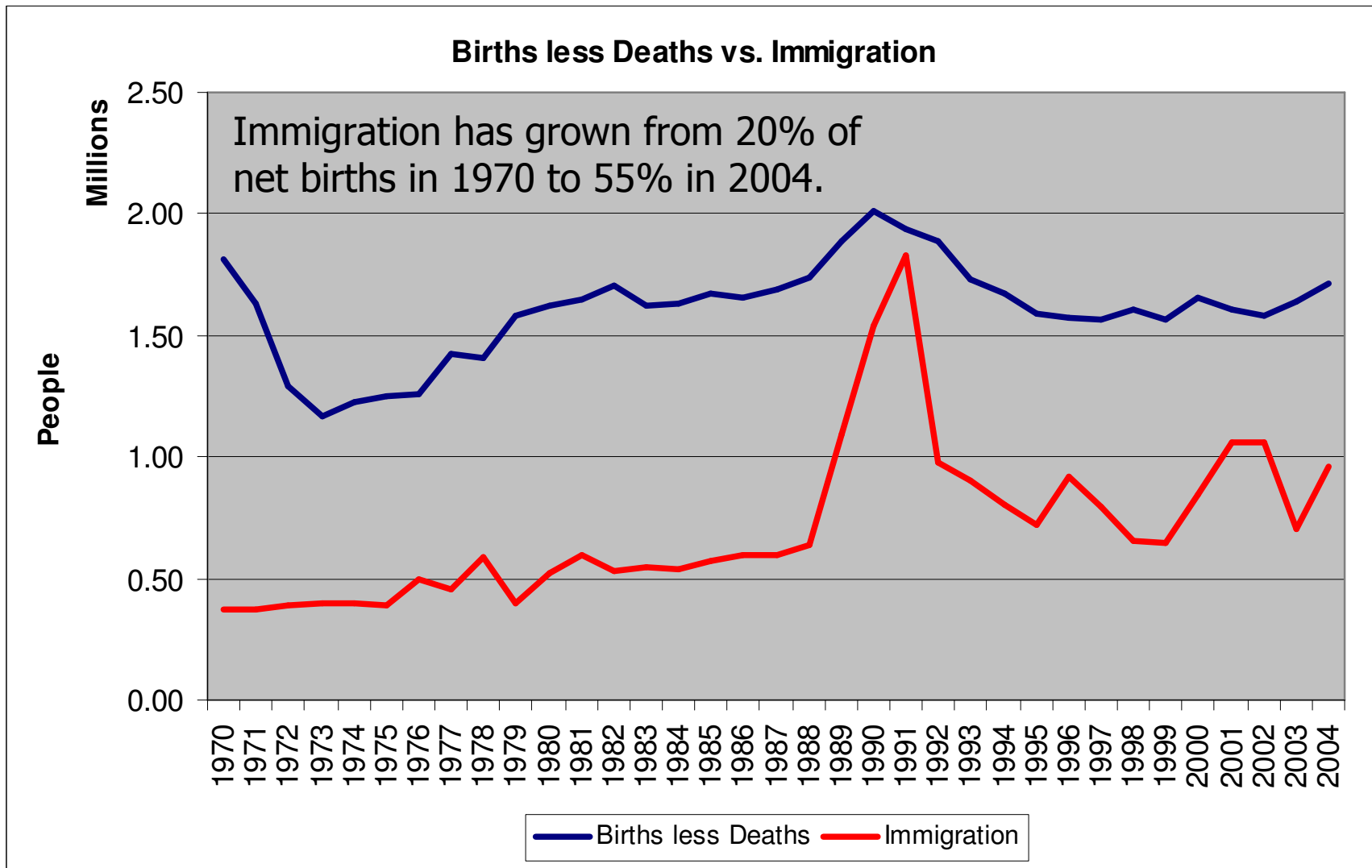
- All production has its roots in technology, capital, materials, and labor.
- Technology, capital, and materials are created by labor.

→ Labor is the root of all production.



Source: 2005 Yearbook of Immigration Statistics, Office of Immigration Statistics, US Department of Homeland Security.

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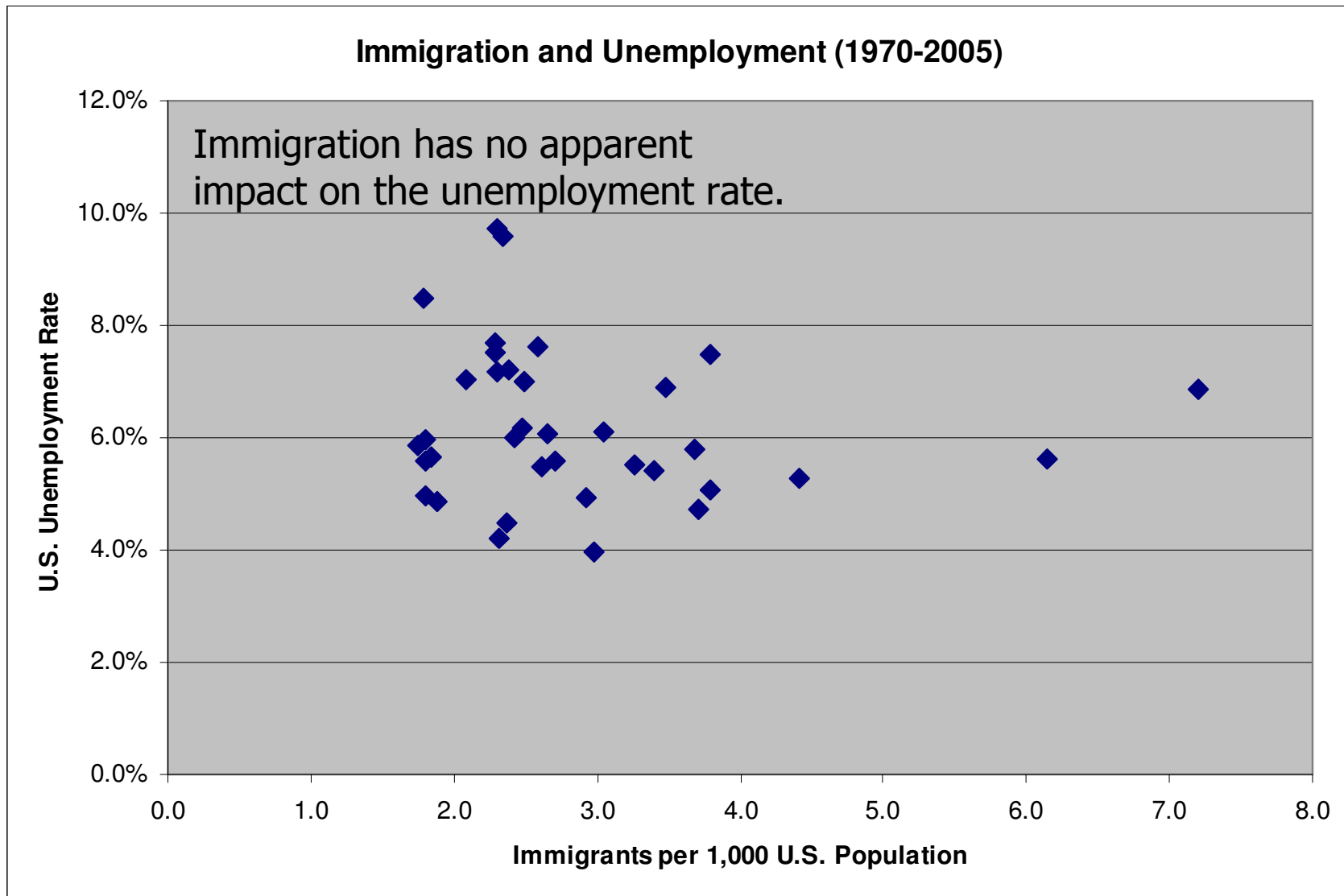


Source: *Current Population Survey, 2005*, Minnesota Population Center; *Statistical Abstract of the US*, Bureau of the Census.

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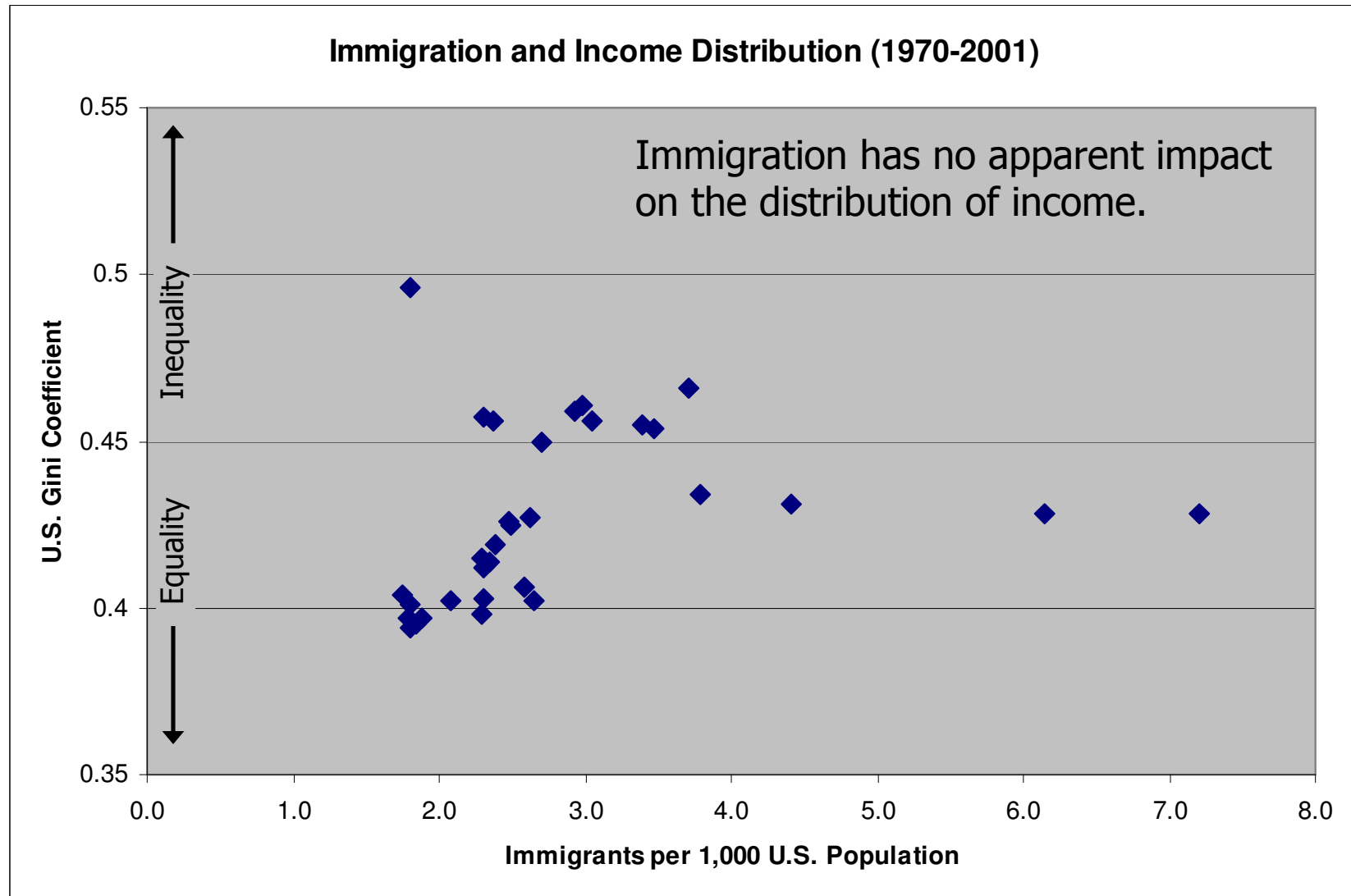
## What is the impact of immigration on jobs and incomes?

- Unemployment rate?
  - Conventional wisdom: Immigrants take jobs away from Americans thereby increasing the unemployment rate.
- Income distribution?
  - Conventional wisdom: Immigrants represent an influx of lower income people thereby worsening the distribution of income.



Source: *Current Population Survey, 2005*, Minnesota Population Center; *Statistical Abstract of the US*, Bureau of the Census.

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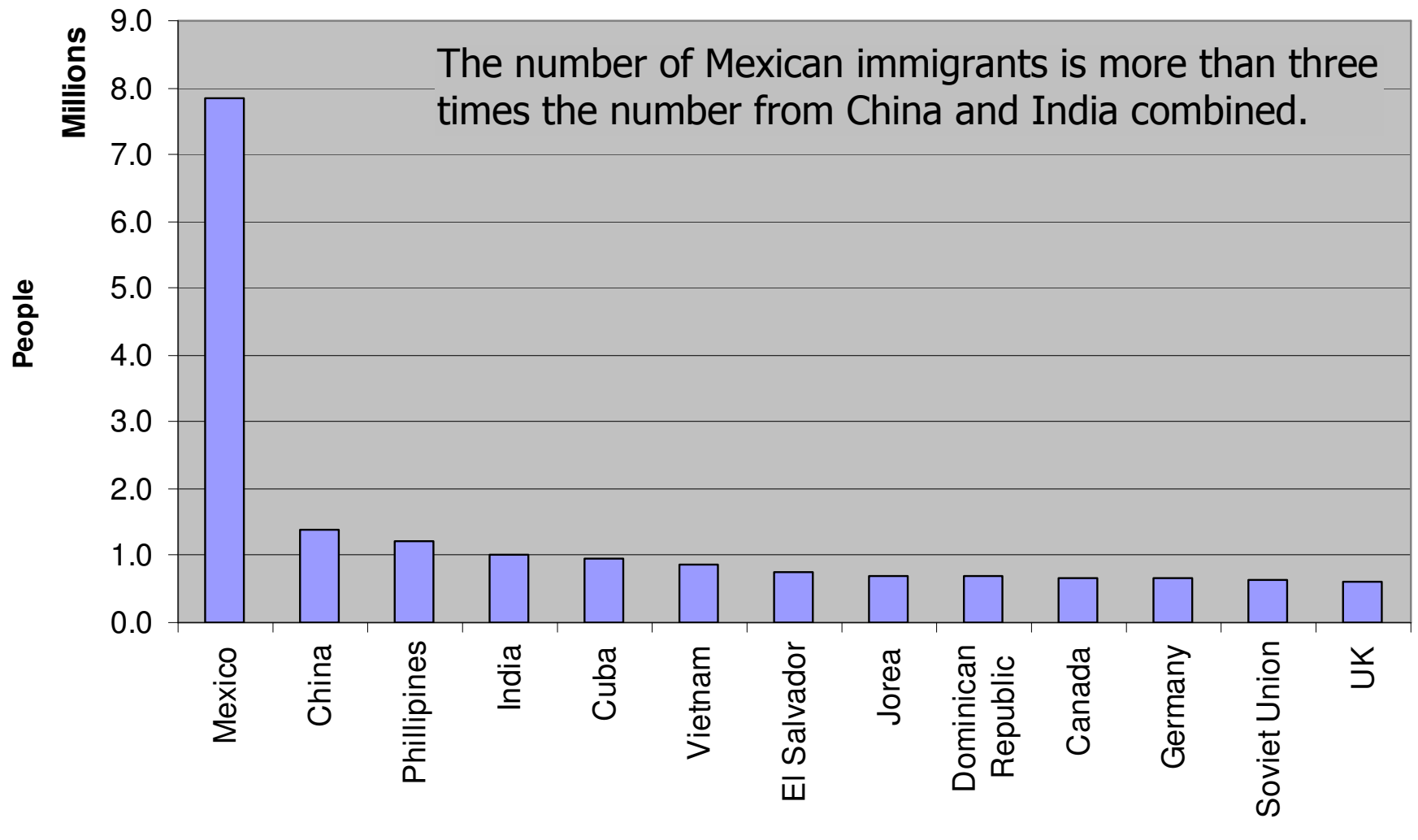
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Whence do immigrants come and where do they go?

- Mexico!
- California!



### Birth Countries of US Foreign-Born Population



Source: *Statistical Abstract of the US*, Bureau of the Census.

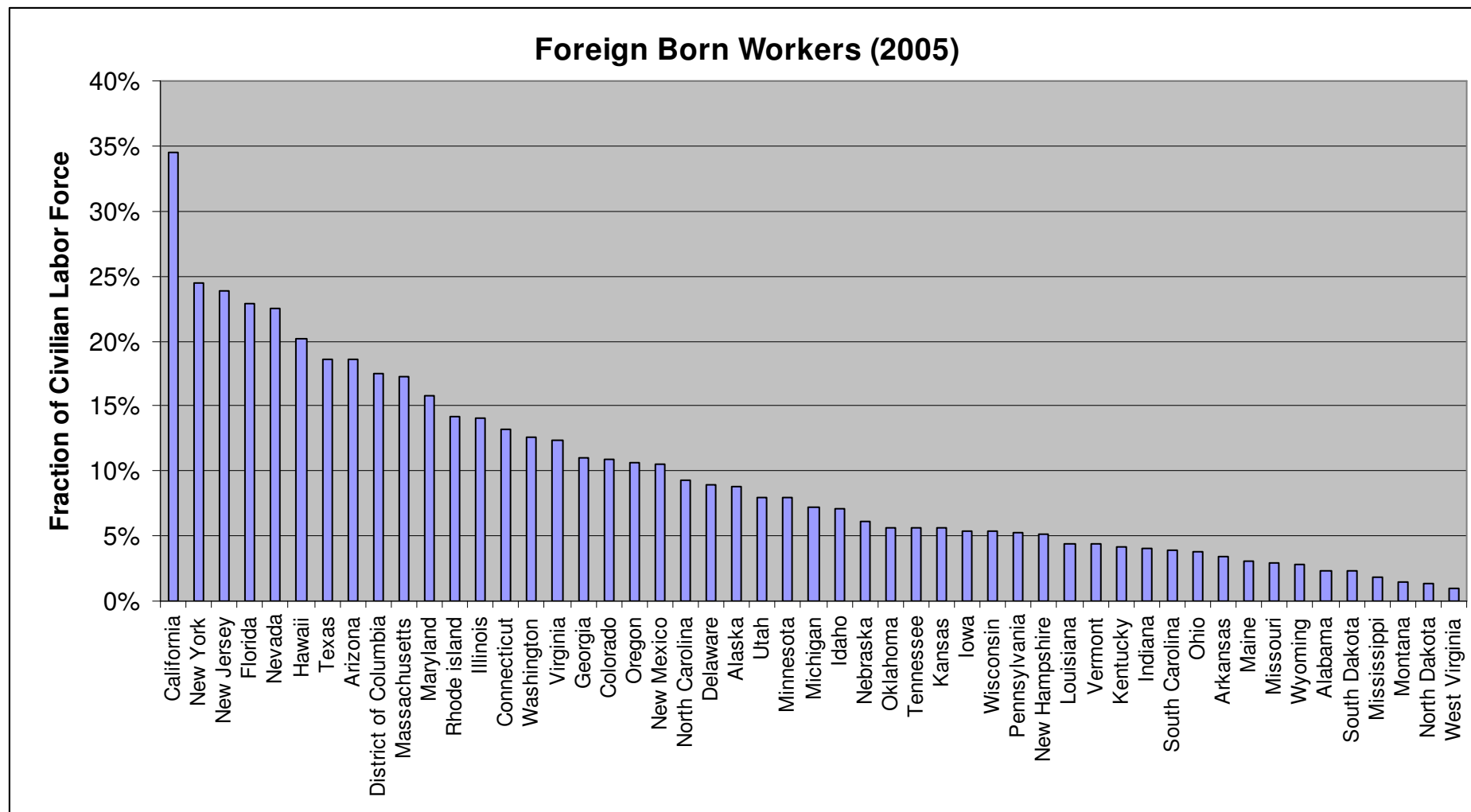
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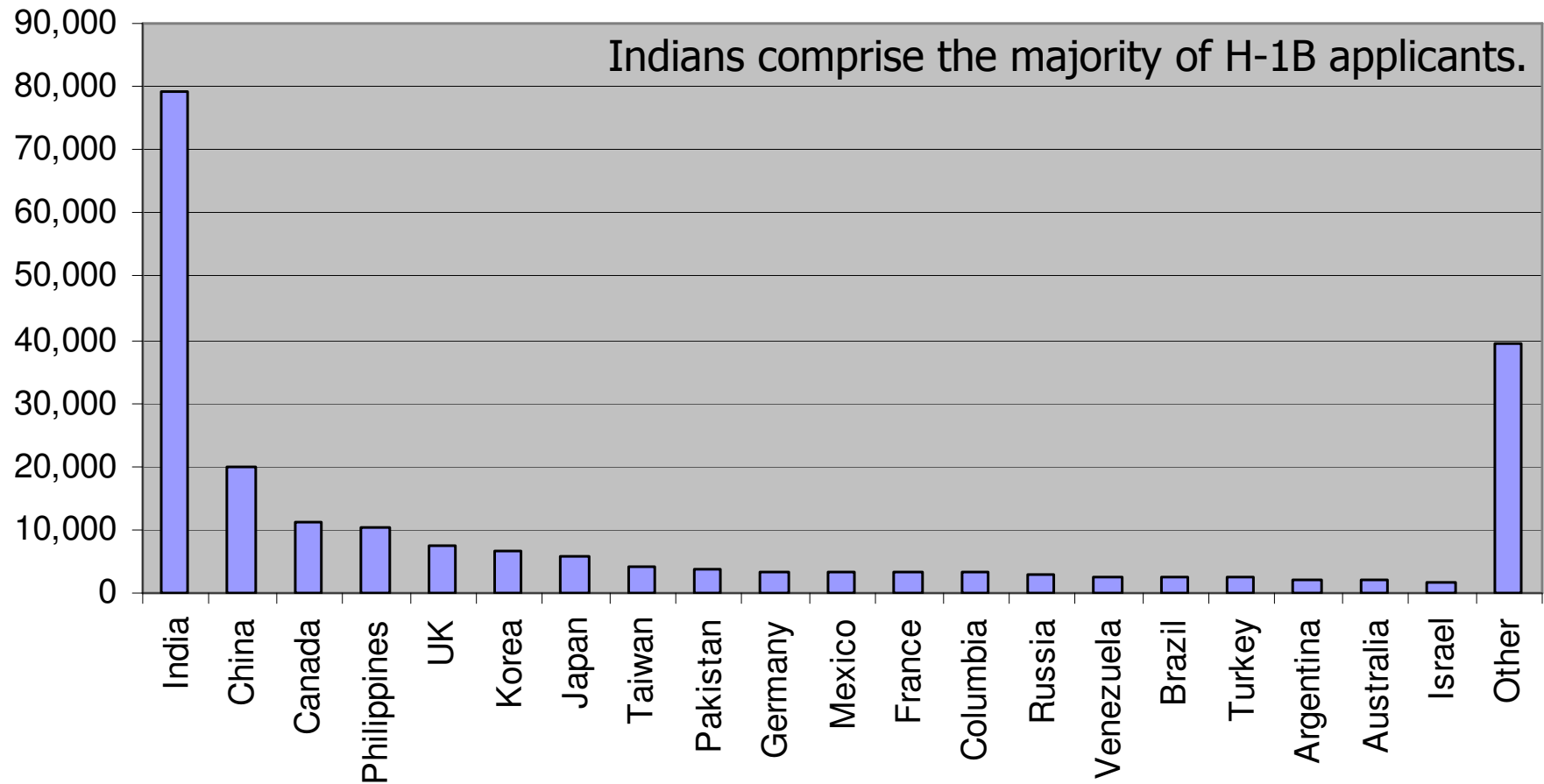
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Source: *Current Population Survey, 2005*, Minnesota Population Center.

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## H-1B Applications Approved by Birth Country (2003)



Source: Office of Immigration Statistics, Department of Homeland Security.

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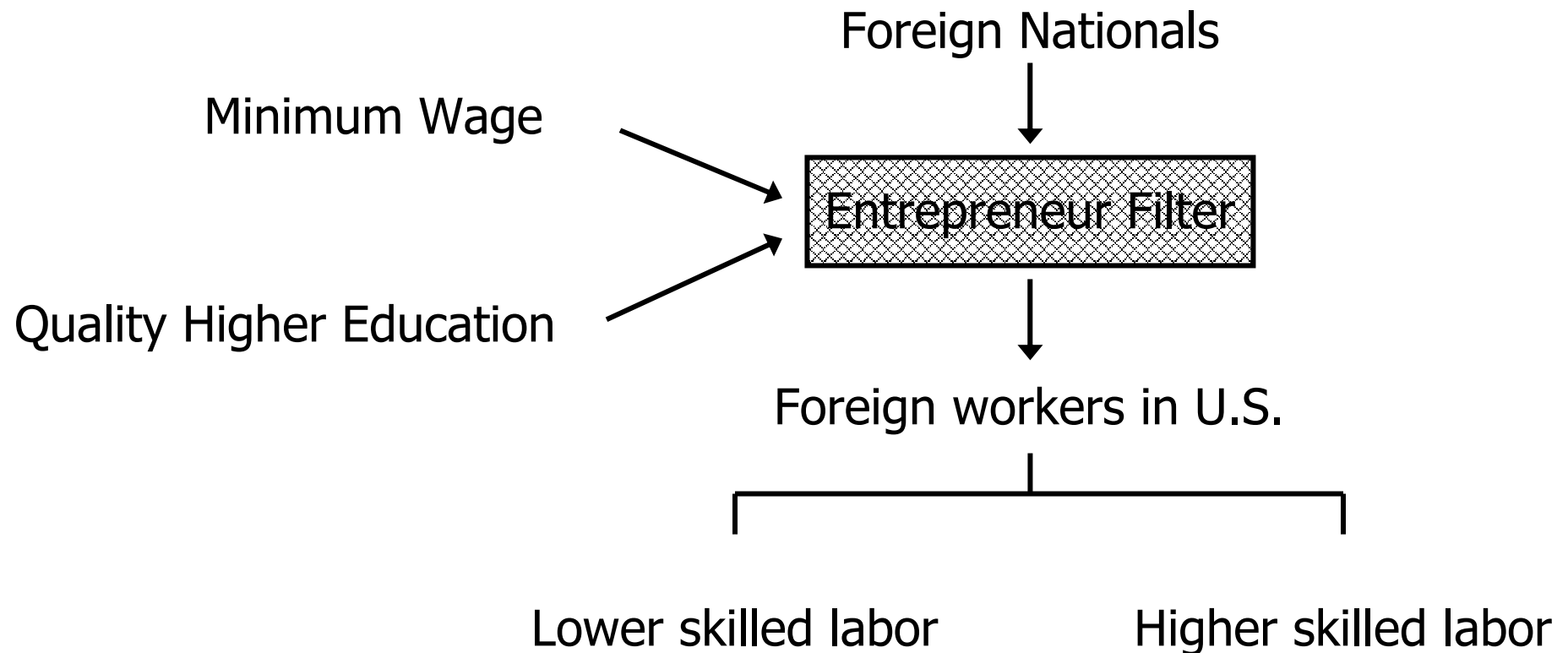


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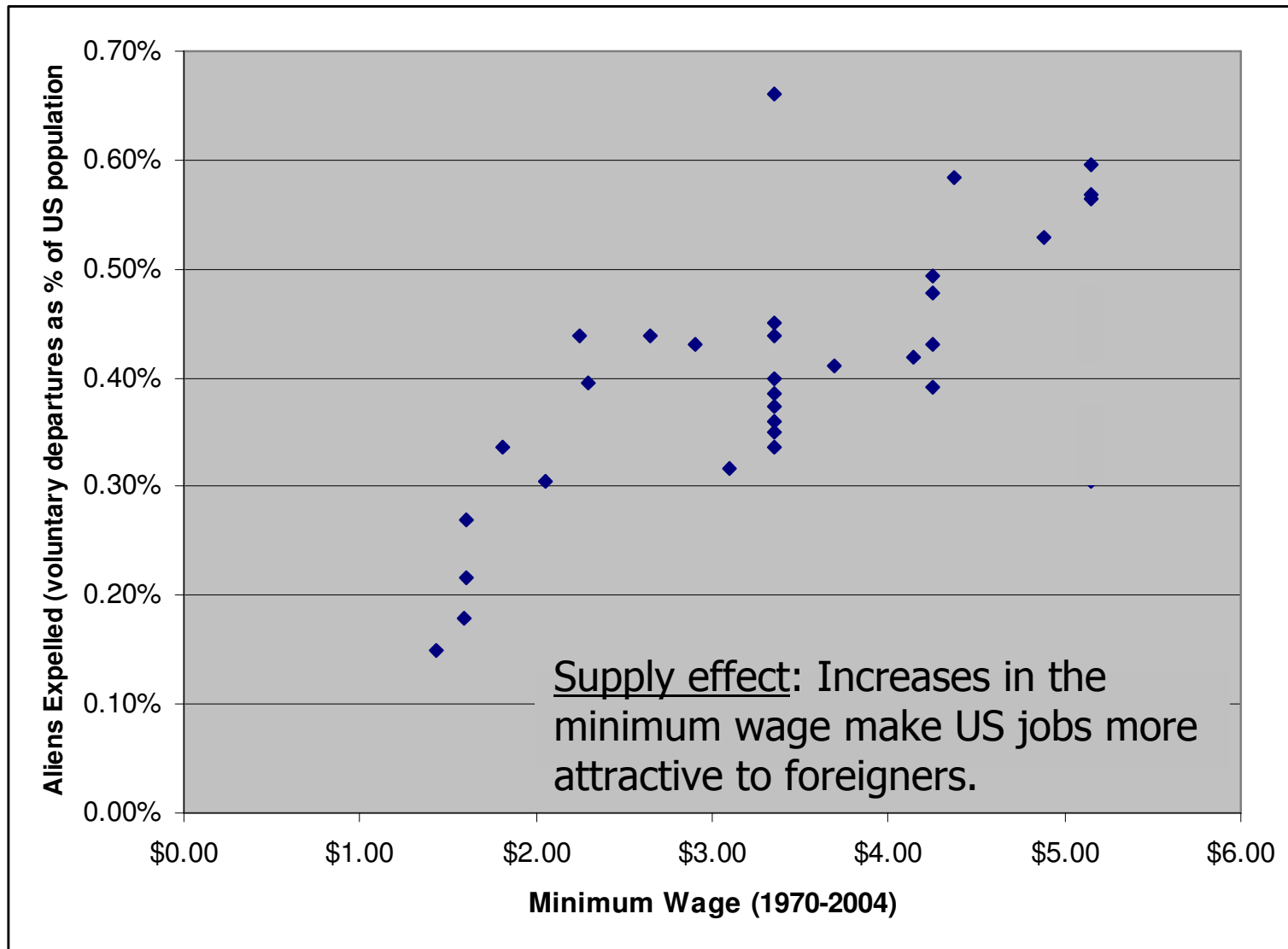
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## Immigration is a Filter



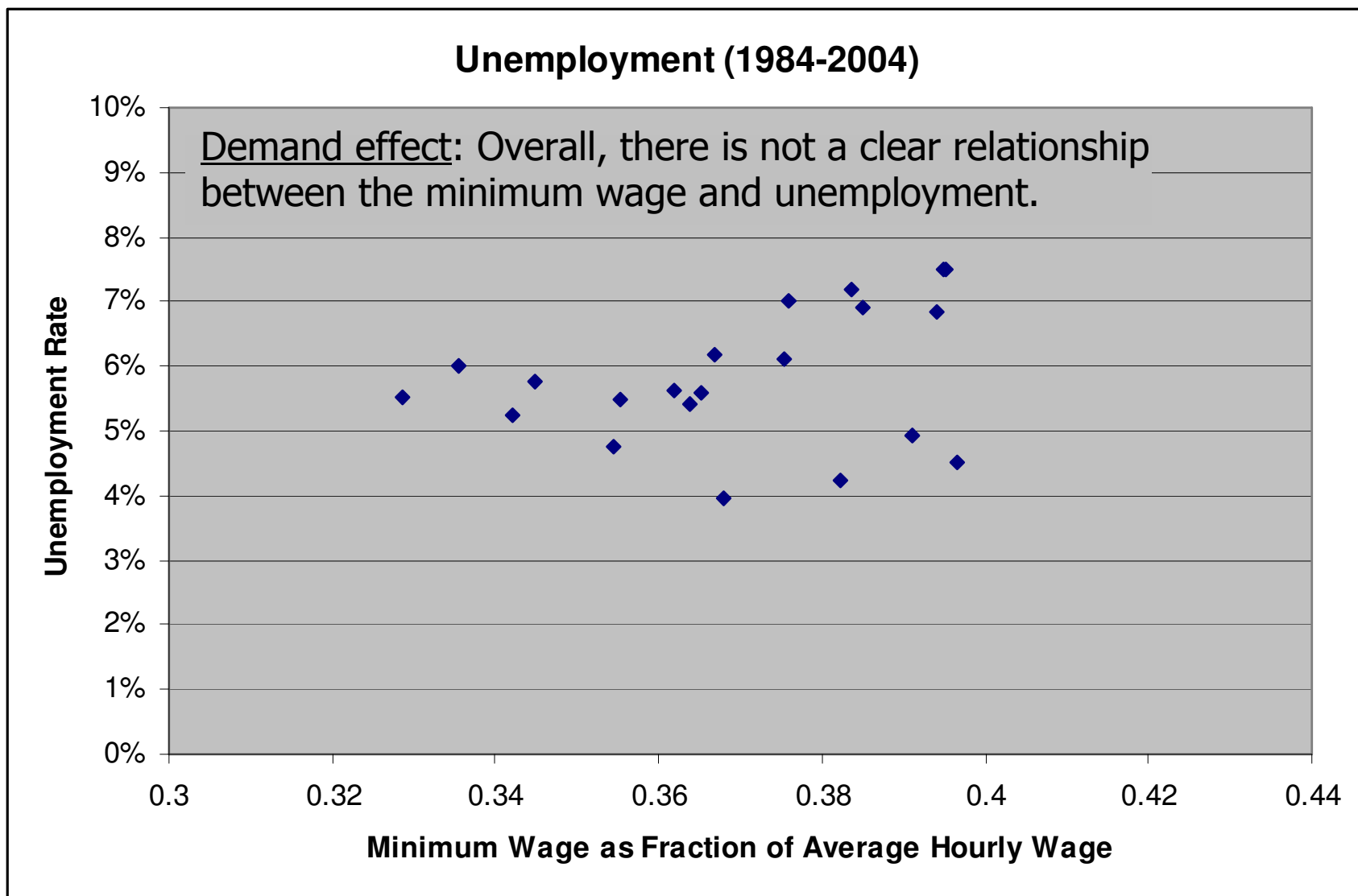
## Factors influencing influx of foreign unskilled labor

- Supply effect: Increase in the minimum wage increases the attractiveness of U.S. jobs to potential immigrants.
  - Difficult to measure because legal immigration is capped.
  - Look at supply of illegal immigrants as a proxy.
- Demand effect: Increase in the minimum wage forces employers to favor more productive workers over less productive workers.
  - Difficult to measure because differences in productivity are hard to measure.
  - Look at unemployment of skilled vs. unskilled as a proxy.



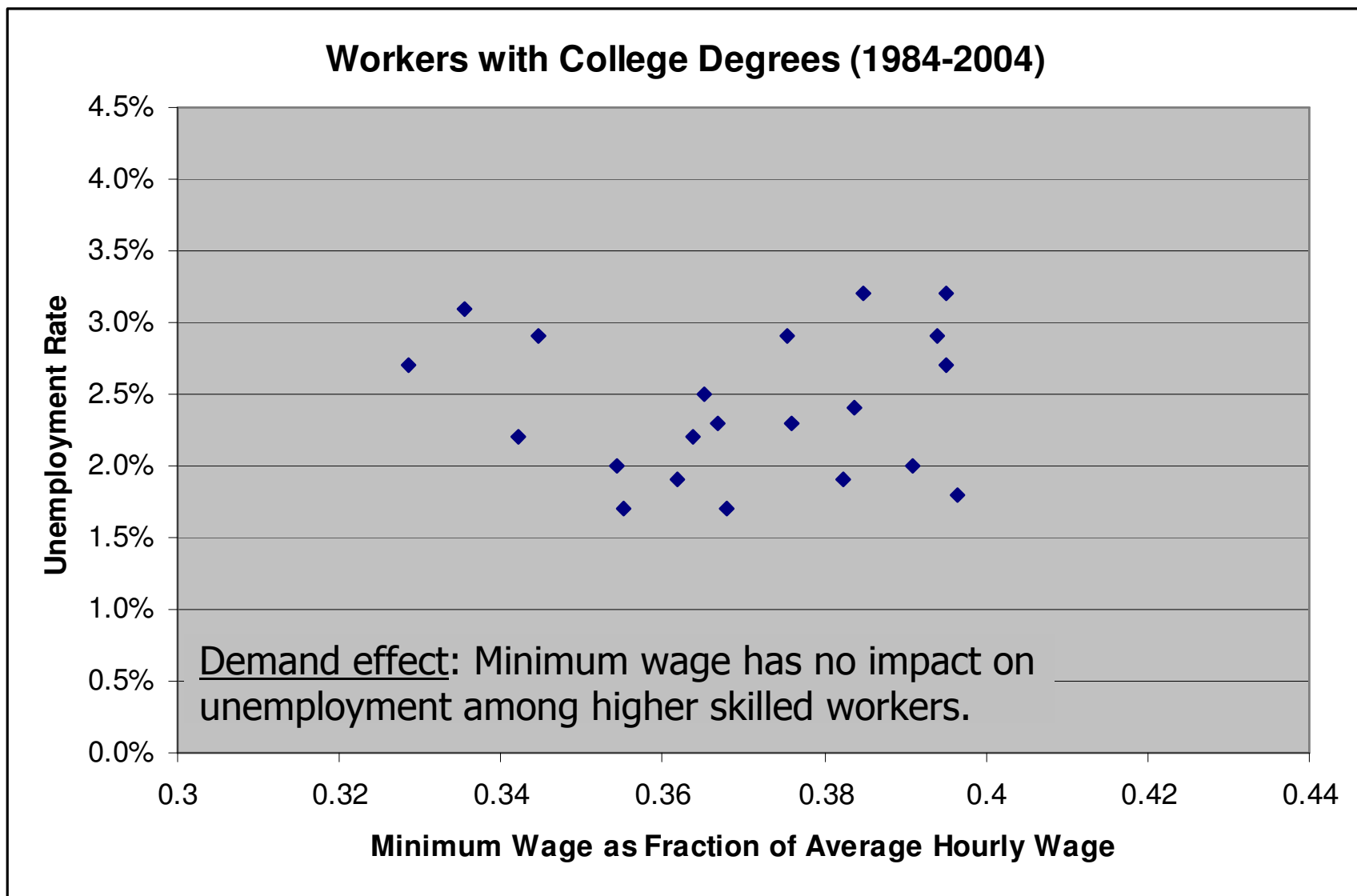
Source: Department of Homeland Security and Bureau of Labor Statistics

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Source: Statistical Abstract of the United States, and Bureau of Labor Statistics

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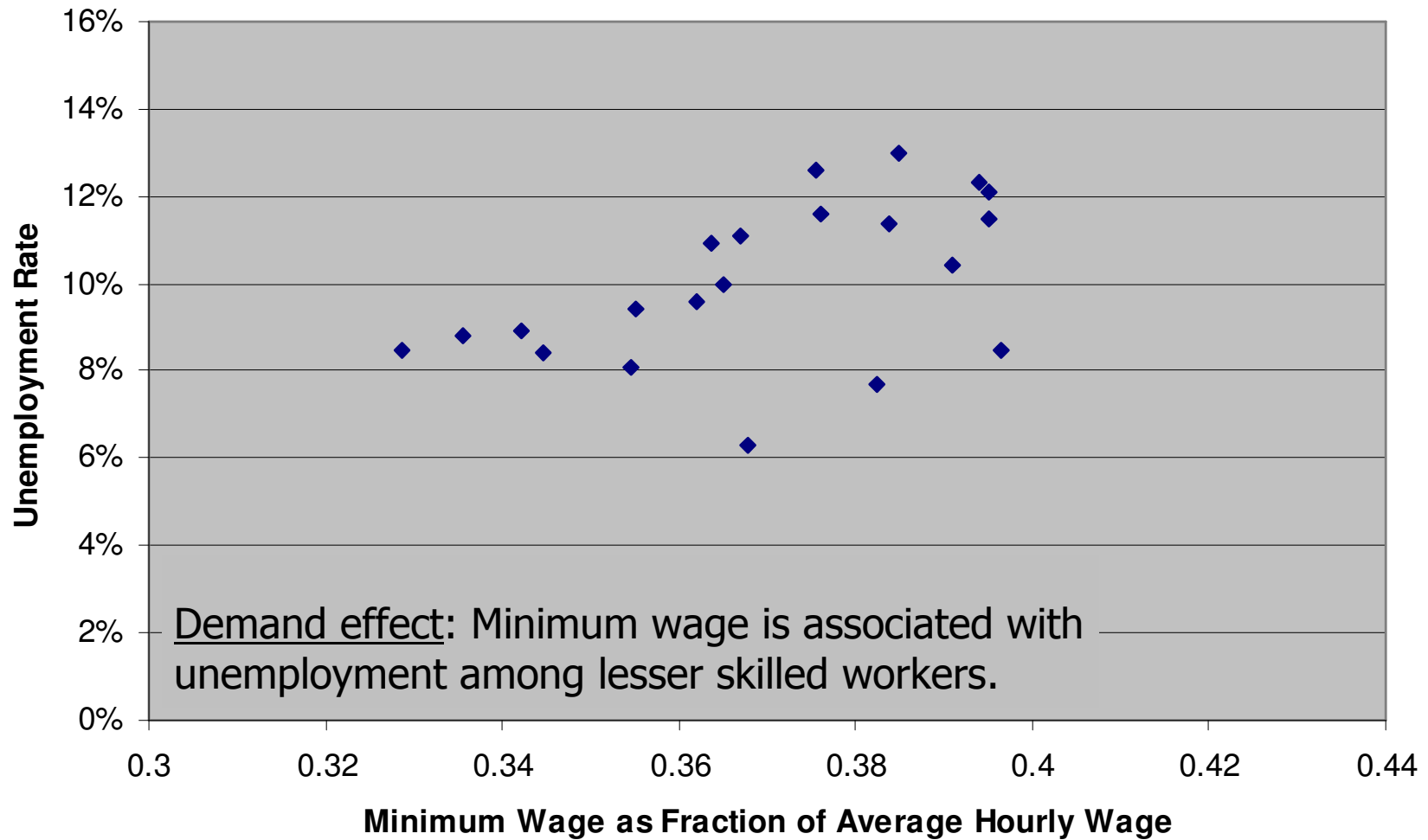
Source: Statistical Abstract of the United States, and Bureau of Labor Statistics

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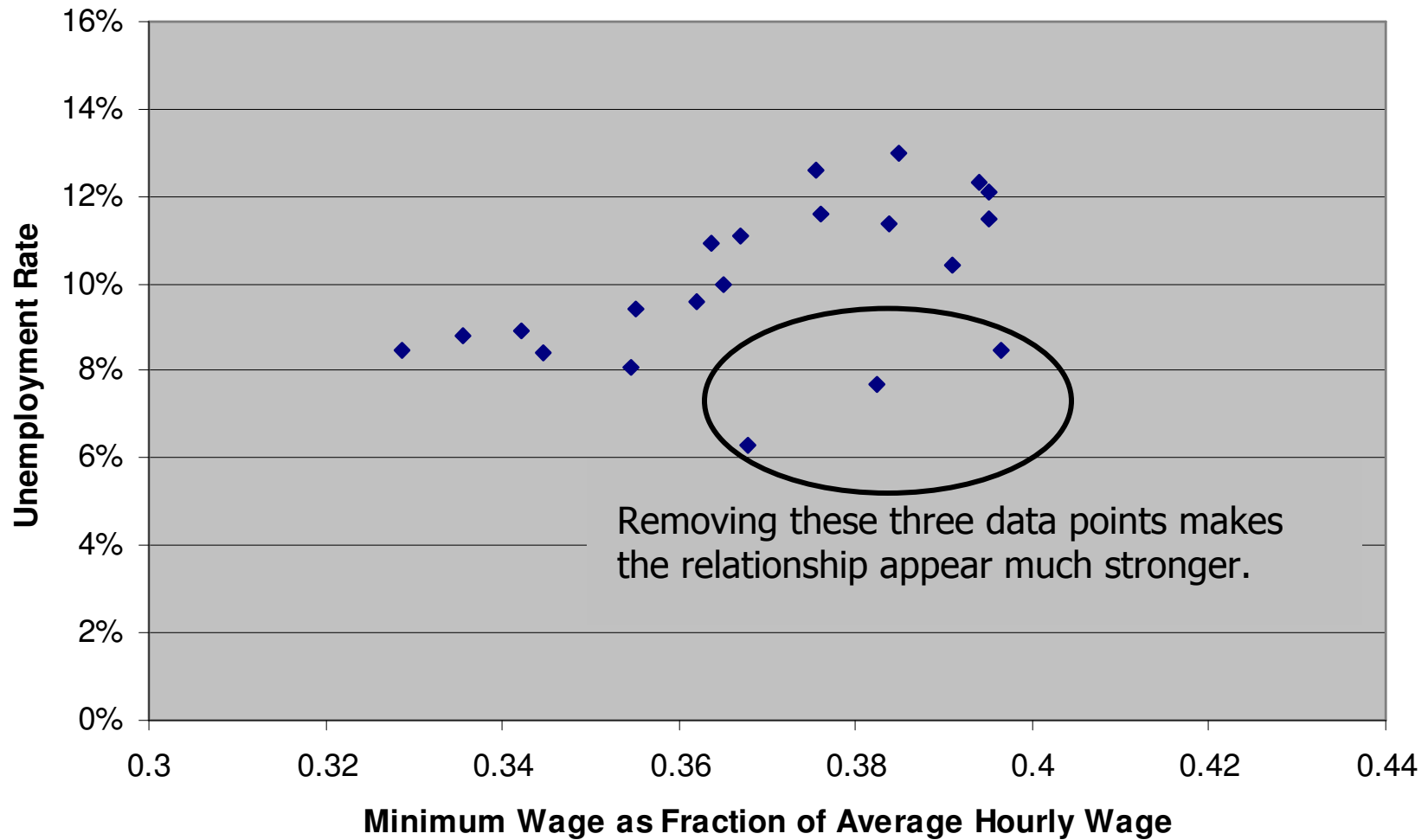
### Workers with Less than a High School Education (1984-2004)



Source: Statistical Abstract of the United States, and Bureau of Labor Statistics

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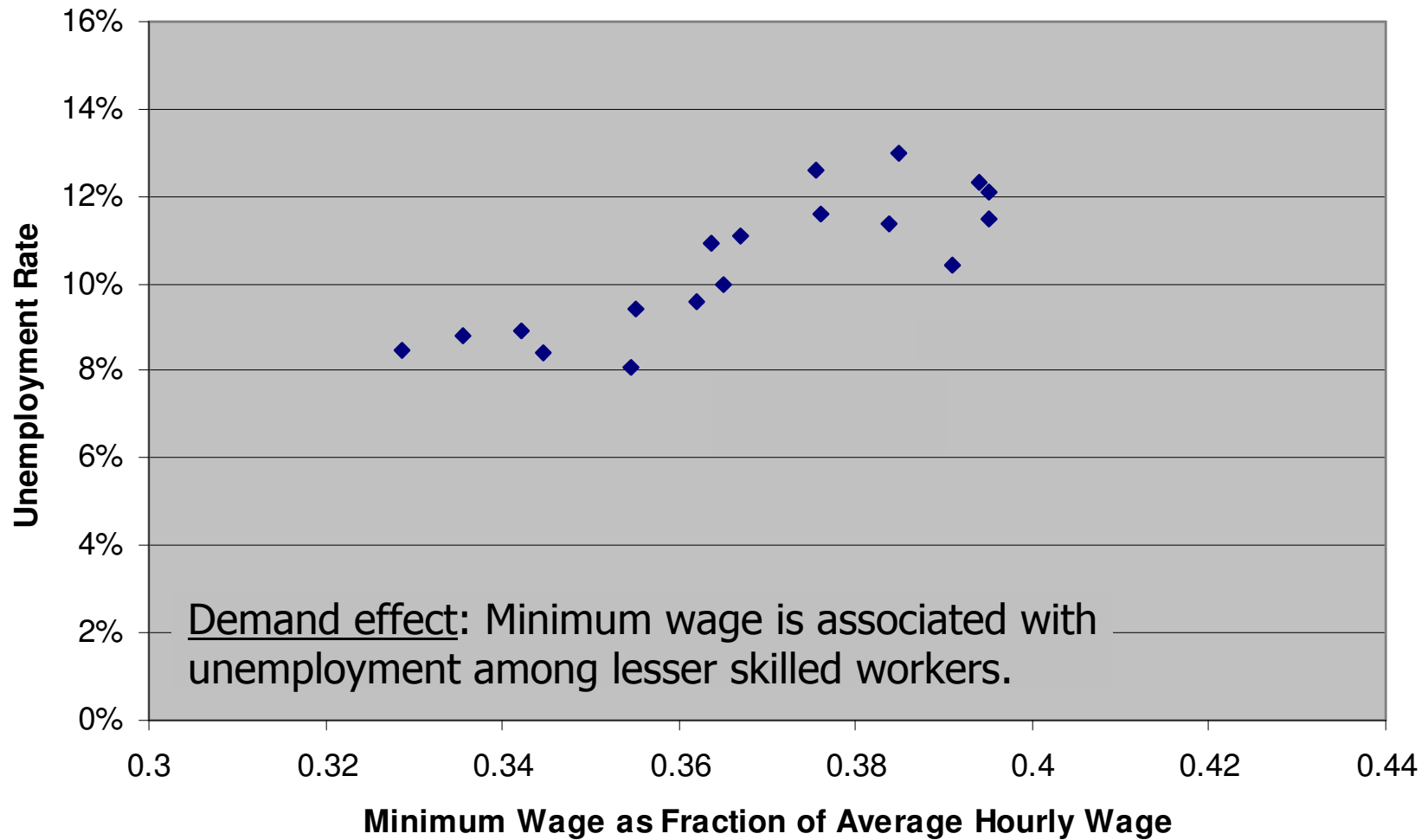
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Source: Statistical Abstract of the United States, and Bureau of Labor Statistics

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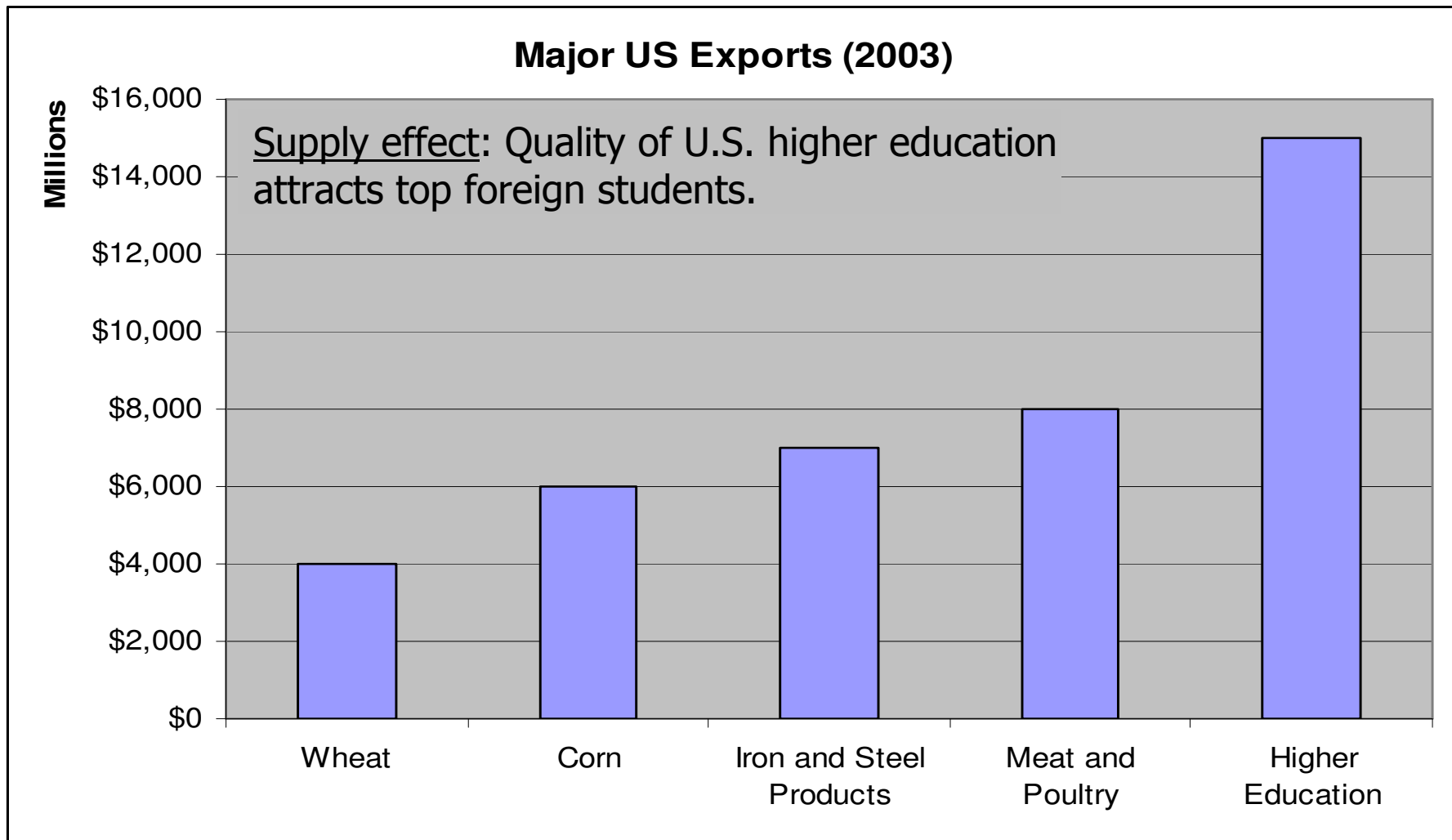


Source: Statistical Abstract of the United States, and Bureau of Labor Statistics

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## Factors influencing influx of foreign high-skilled labor

- Supply effect: High quality of U.S. higher education attracts top foreign students who then want to stay on in the U.S.
  - 75% of F-1 graduate students surveyed stated that they wanted to reside in the U.S. following their studies.
- Demand effect: Increases in technology require higher skilled workers for R&D and implementation.
  - Fiscal year 07 quota of H-1B visas was reached four months prior to the start of fiscal year 07. As of April 07, fiscal year 08's caps have been reached.

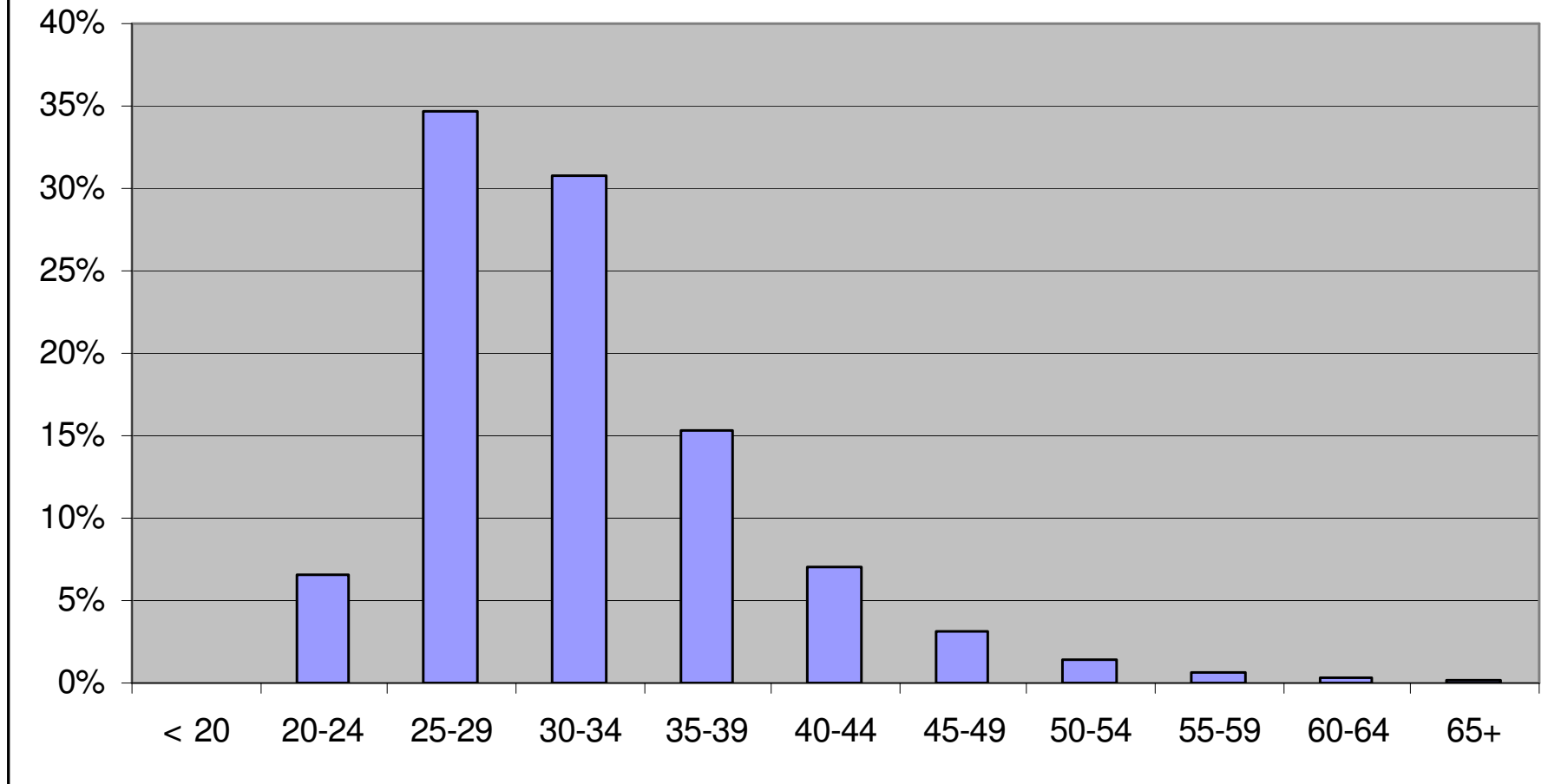


Source: Survey of Current Business, Bureau of Labor Statistics.

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# How do high-skilled H-1B approvals alter U.S. demographics?

### Approved H-1B Applications Broken Down by Age (2003)



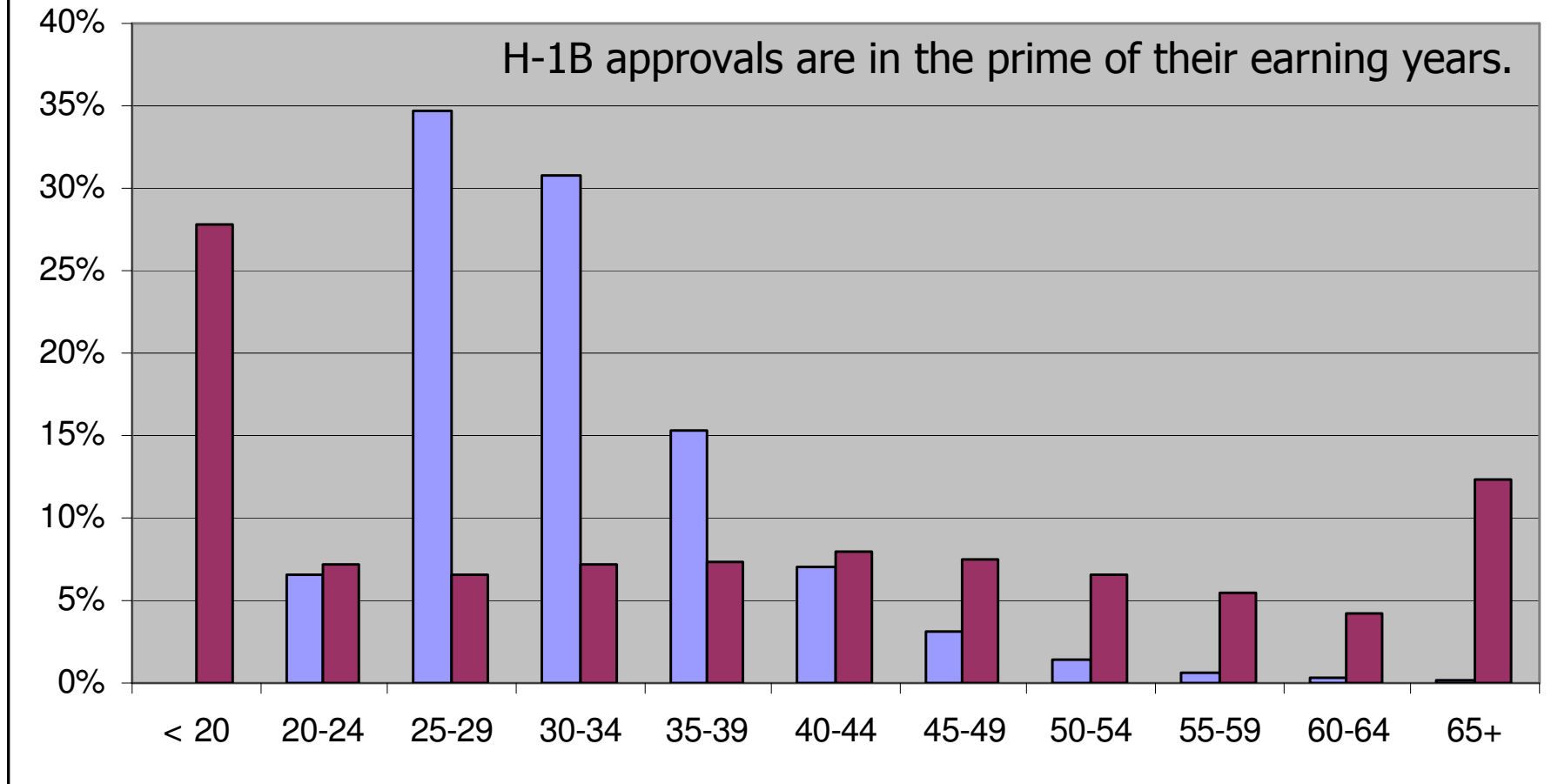
Source: Office of Immigration Statistics, Department of Homeland Security.

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## Approved H-1B Applications vs. US Population (2003)

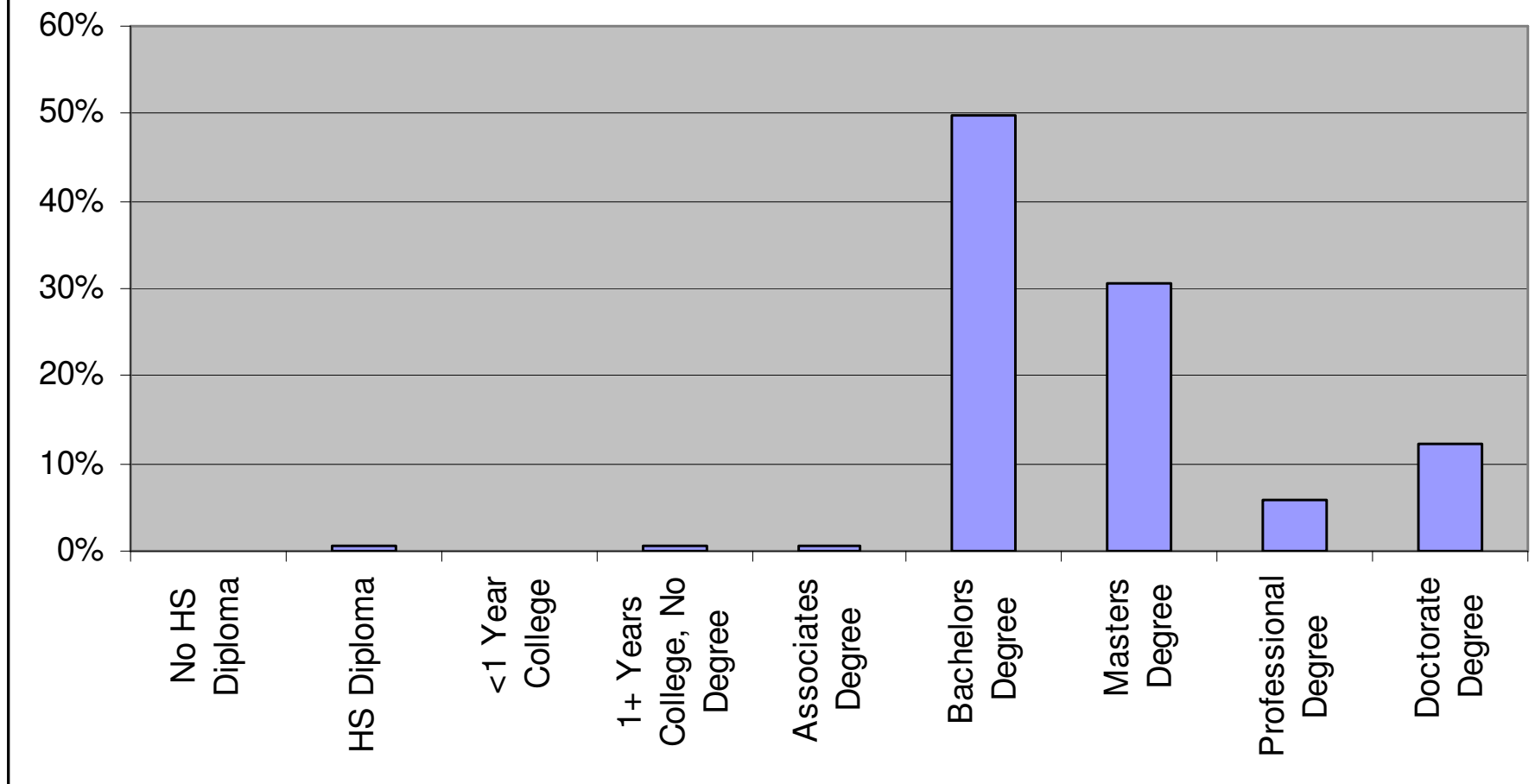


Source: Office of Immigration Statistics, Department of Homeland Security; Statistical Abstract of the United States, Bureau of the Census.

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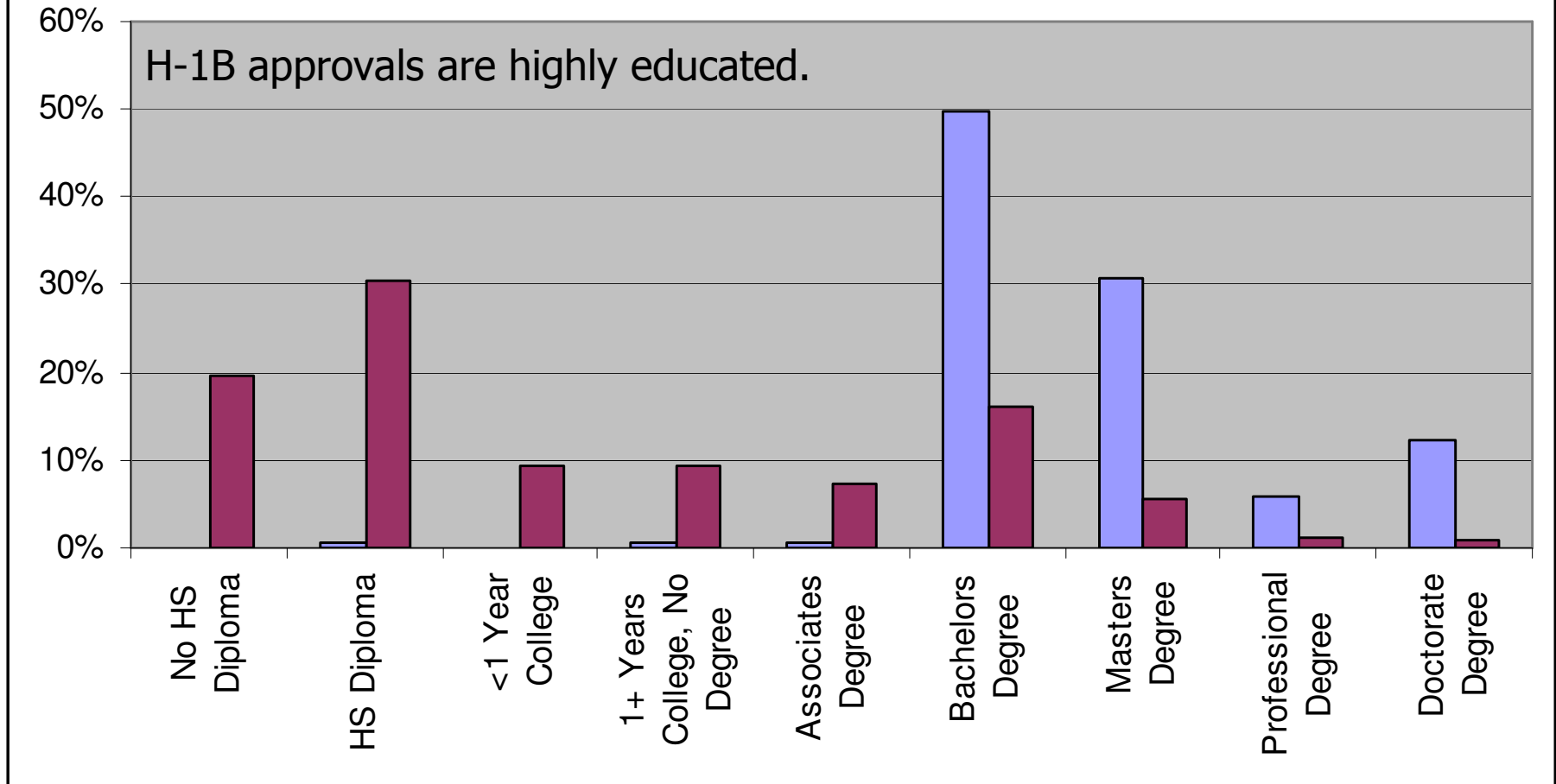
## Approved H-1B Applications by Education (2003)



Source: Office of Immigration Statistics, Department of Homeland Security.

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## Approved H-1B Applications vs. US Population (2003)



Source: Office of Immigration Statistics, Department of Homeland Security; Statistical Abstract of the United States, Bureau of the Census.

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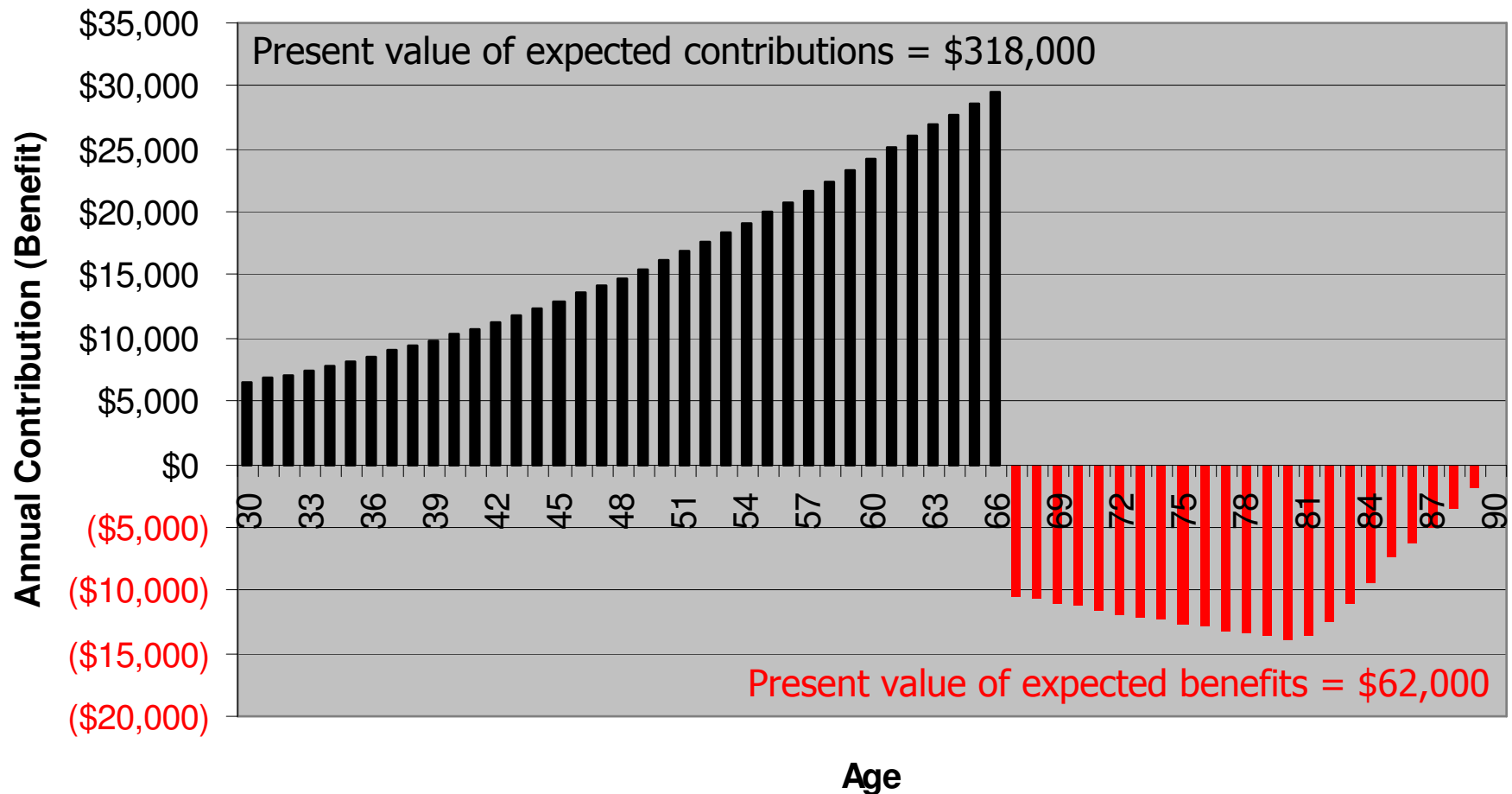
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# Are H-1B approvals a drain on the welfare system?

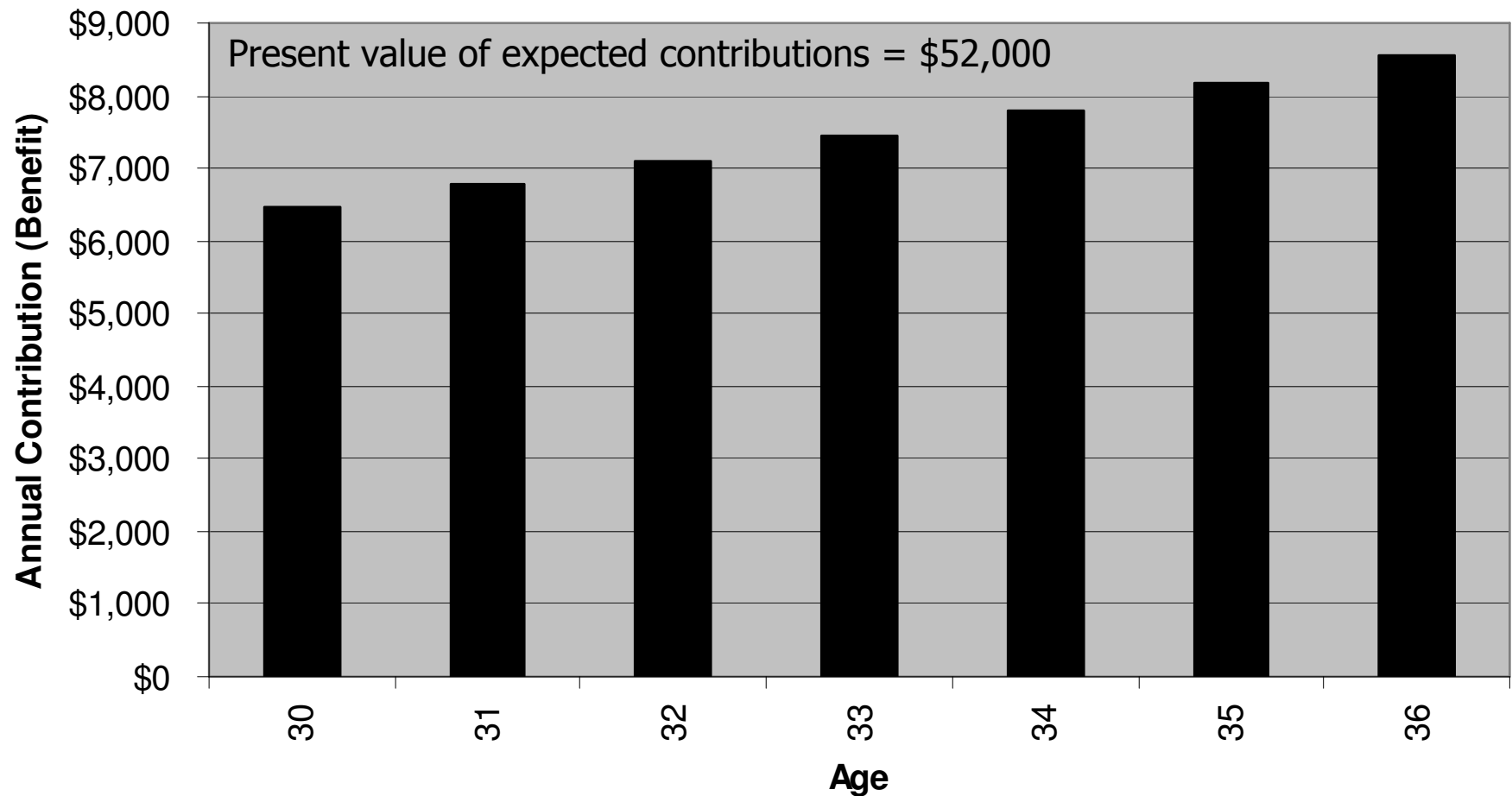
## Expected Impact on Social Security of Permanent Residency



Source: Office of Immigration Statistics, Department of Homeland Security; Statistical Abstract of the United States, Bureau of the Census; Social Security Administration

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### Expected Impact on Social Security of Return to Native Country



Source: Office of Immigration Statistics, Department of Homeland Security; Statistical Abstract of the United States, Bureau of the Census

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Are H-1B approvals a drain on the welfare system?

The median H-1B who remains in the country contributes a net positive of more than \$250,000 to Social Security.

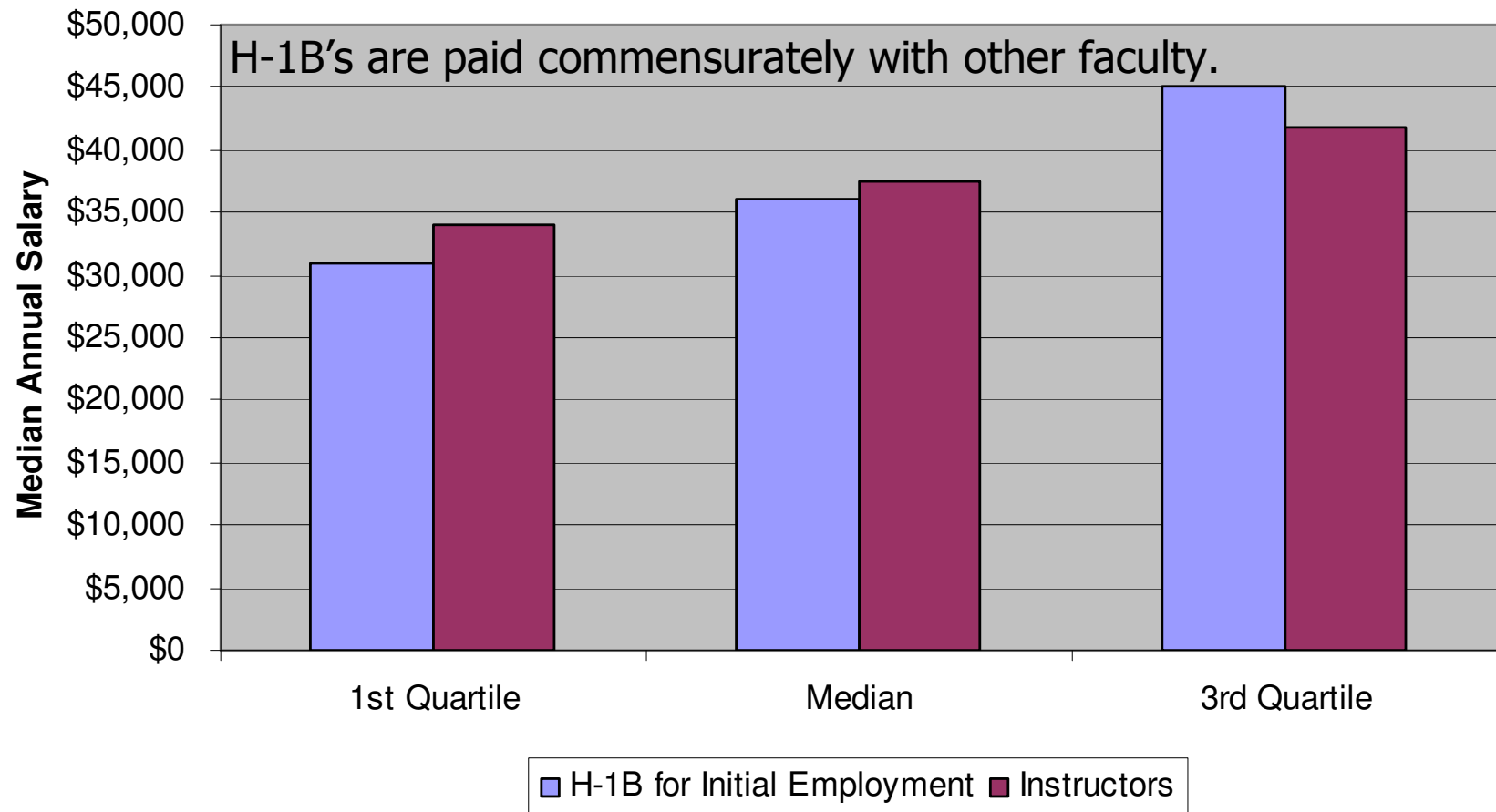
The median H-1B who leaves the country when the visa expires contributes a net positive of more than \$50,000 to Social Security.

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Are U.S. employers taking advantage of H-1B's by paying them a lower wage?

→ Look at wages paid at colleges and universities because higher education is exempt from many of the H-1B hiring restrictions.

## Entry-Level Faculty Salaries in Higher Education (2003)



Source: Office of Immigration Statistics, Department of Homeland Security; Chronicle of Higher Education

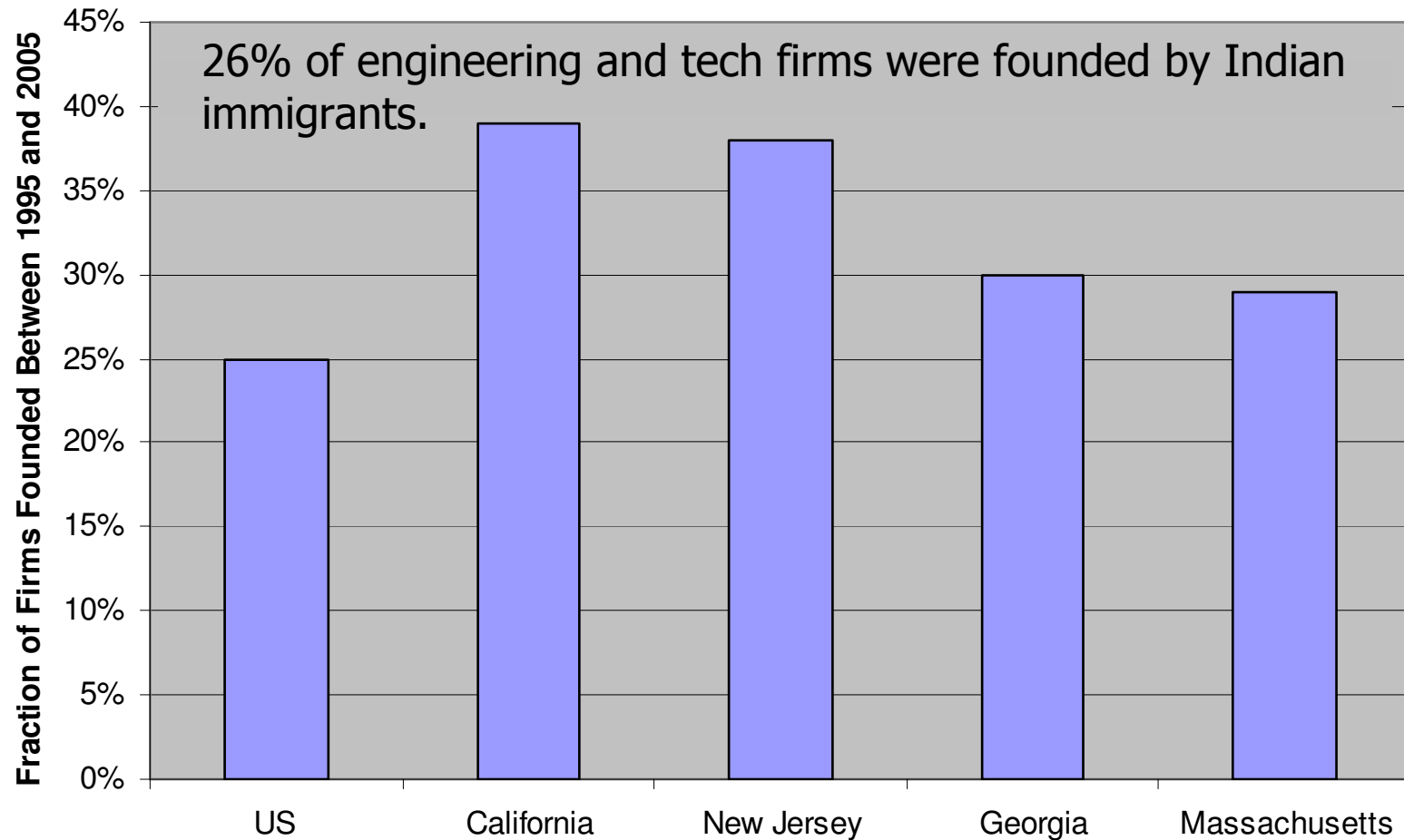
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# What do high-skilled H-1B workers do besides work?

## Engineering And Tech Firms For Which At Least 1 Founder Was Foreign-Born

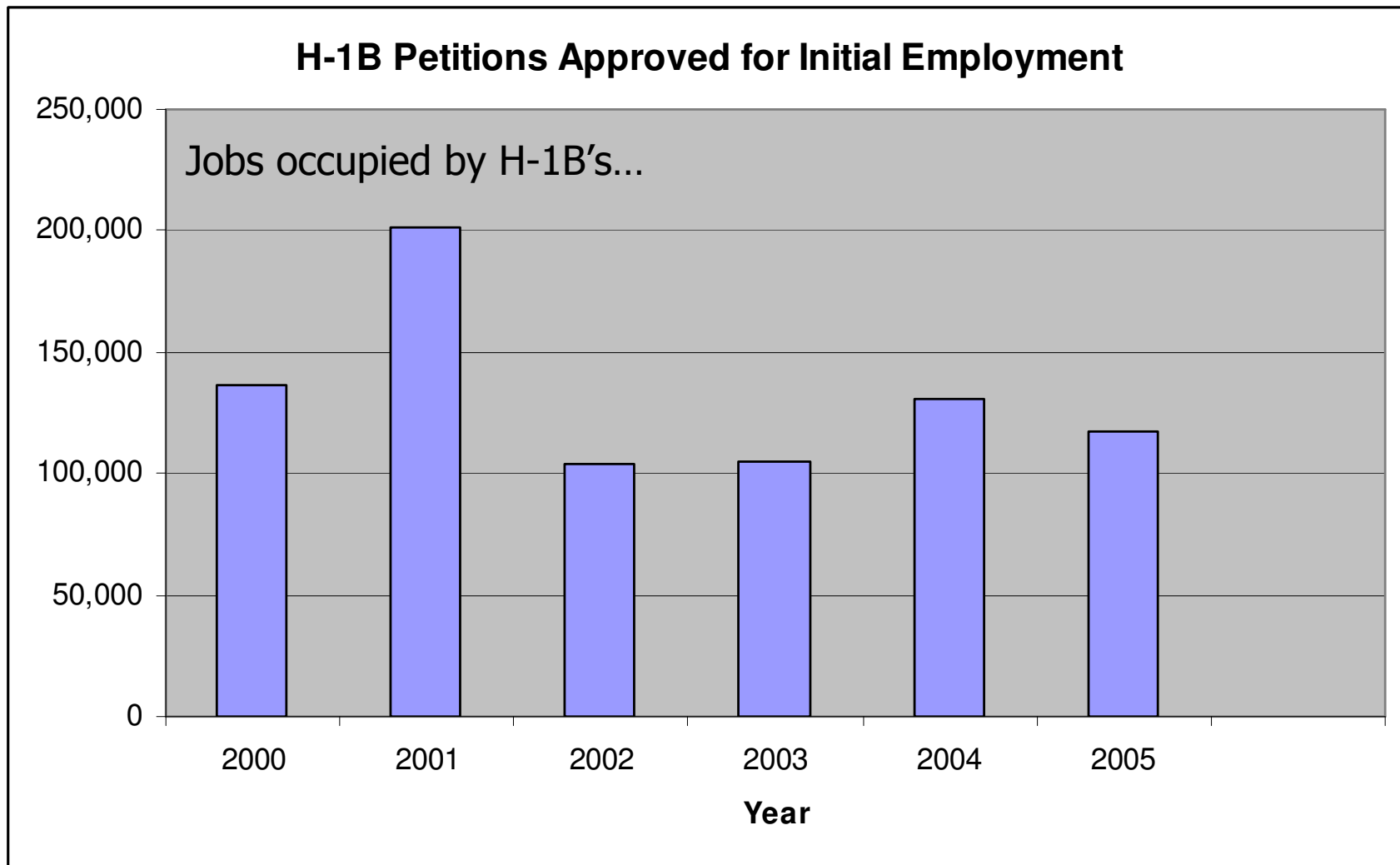


Source: *America's New Immigrant Entrepreneurs*, UC Berkeley and Duke University, 2007.

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How many jobs do they create?



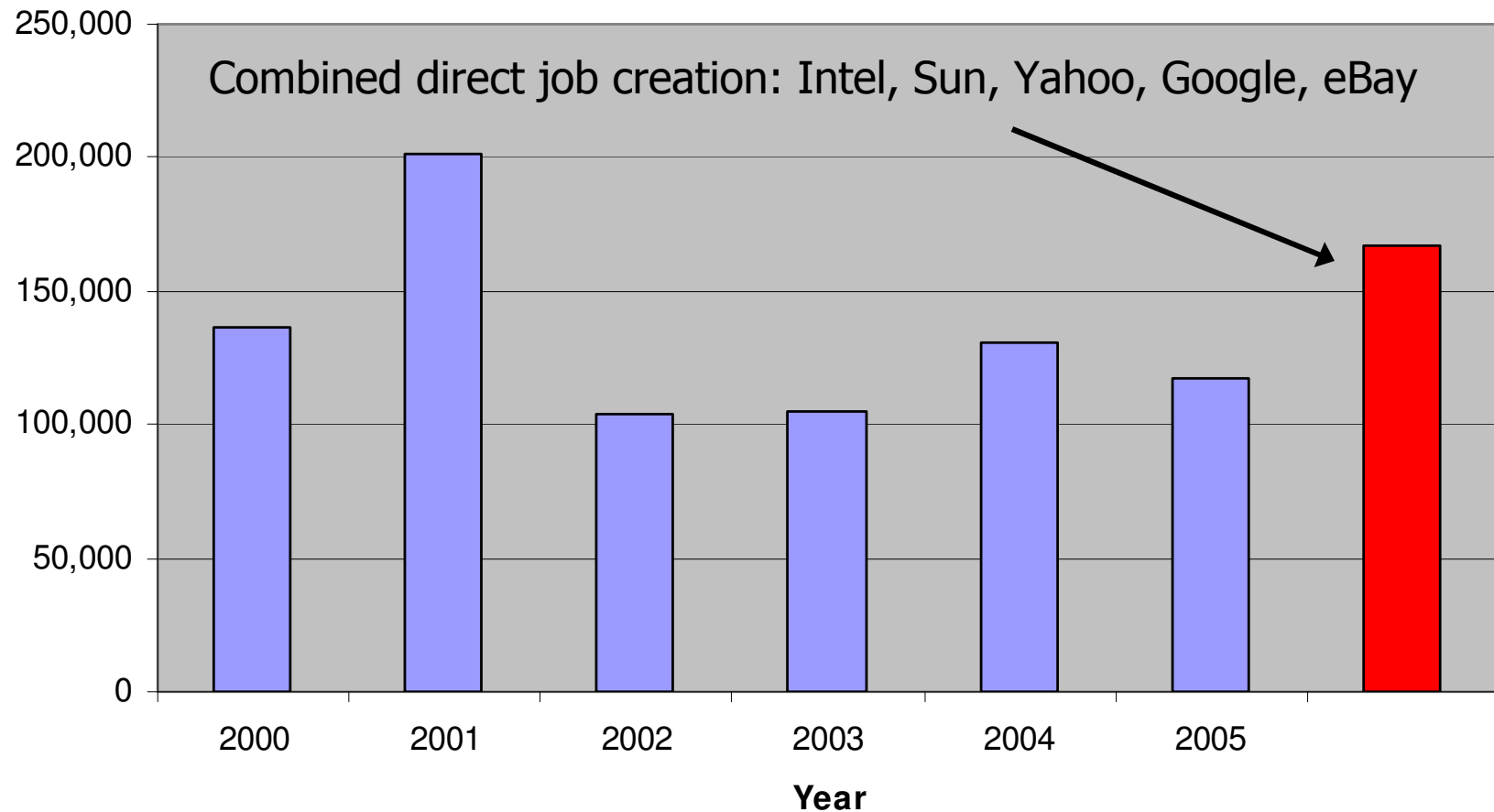
Source: Office of Immigration Statistics, Department of Homeland Security

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## Jobs created by H-1B's

<b><u>Company</u></b>	<b><u>Founder</u></b>	<b><u>Country of Origin</u></b>	<b><u>Employees</u></b>
Intel	Andy Grove	Hungary	94,100
Sun	Bechtolsheim/Khosla	Germany/India	38,000
Yahoo	Jerry Yang	Taiwan	11,400
Google	Sergey Brin	Russia	10,700
eBay	Pierre Omidyar	France	13,200

## H-1B Petitions Approved for Initial Employment

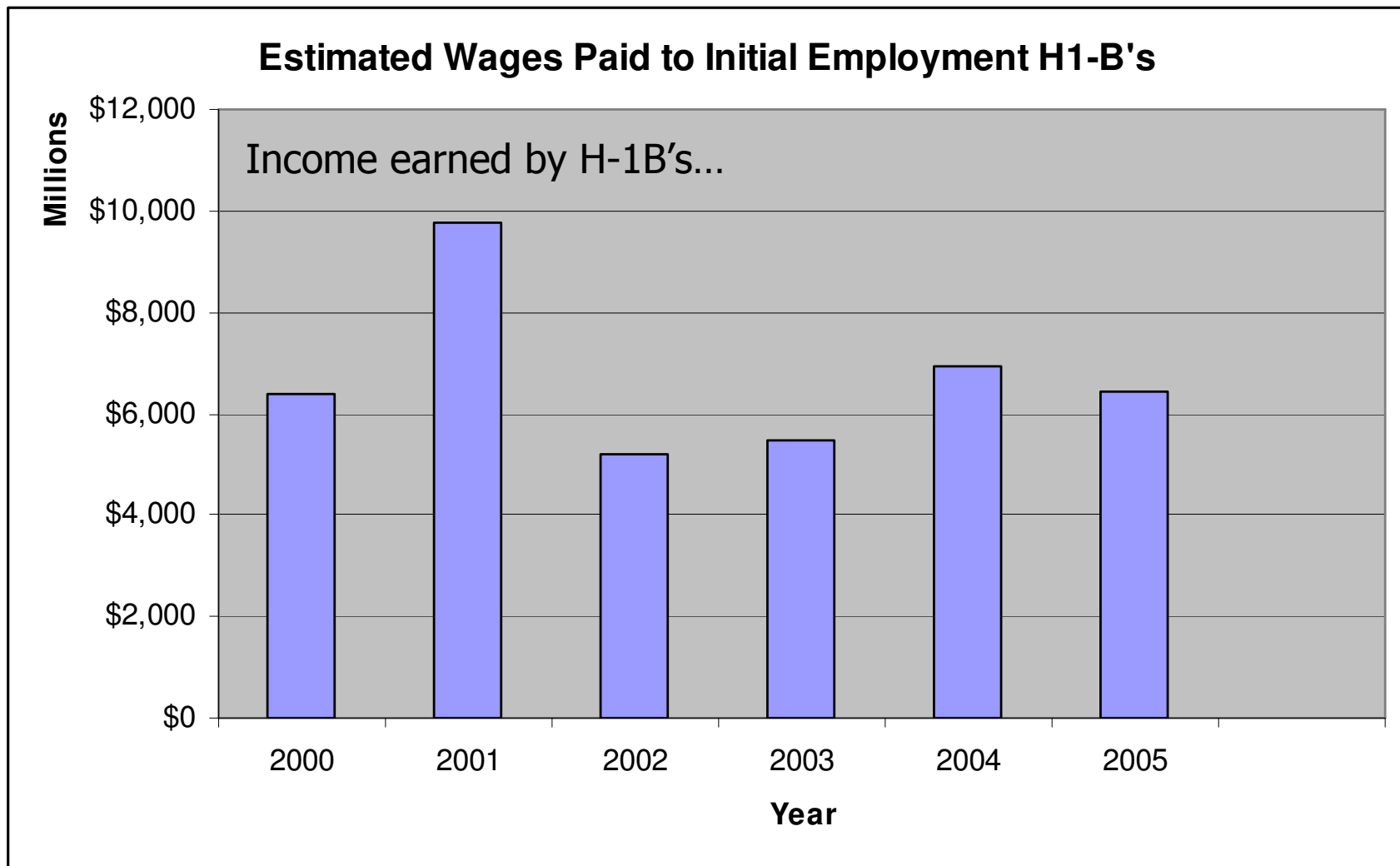


Source: Office of Immigration Statistics, Department of Homeland Security; SEC filings of the indicated companies

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How much wealth do they create?



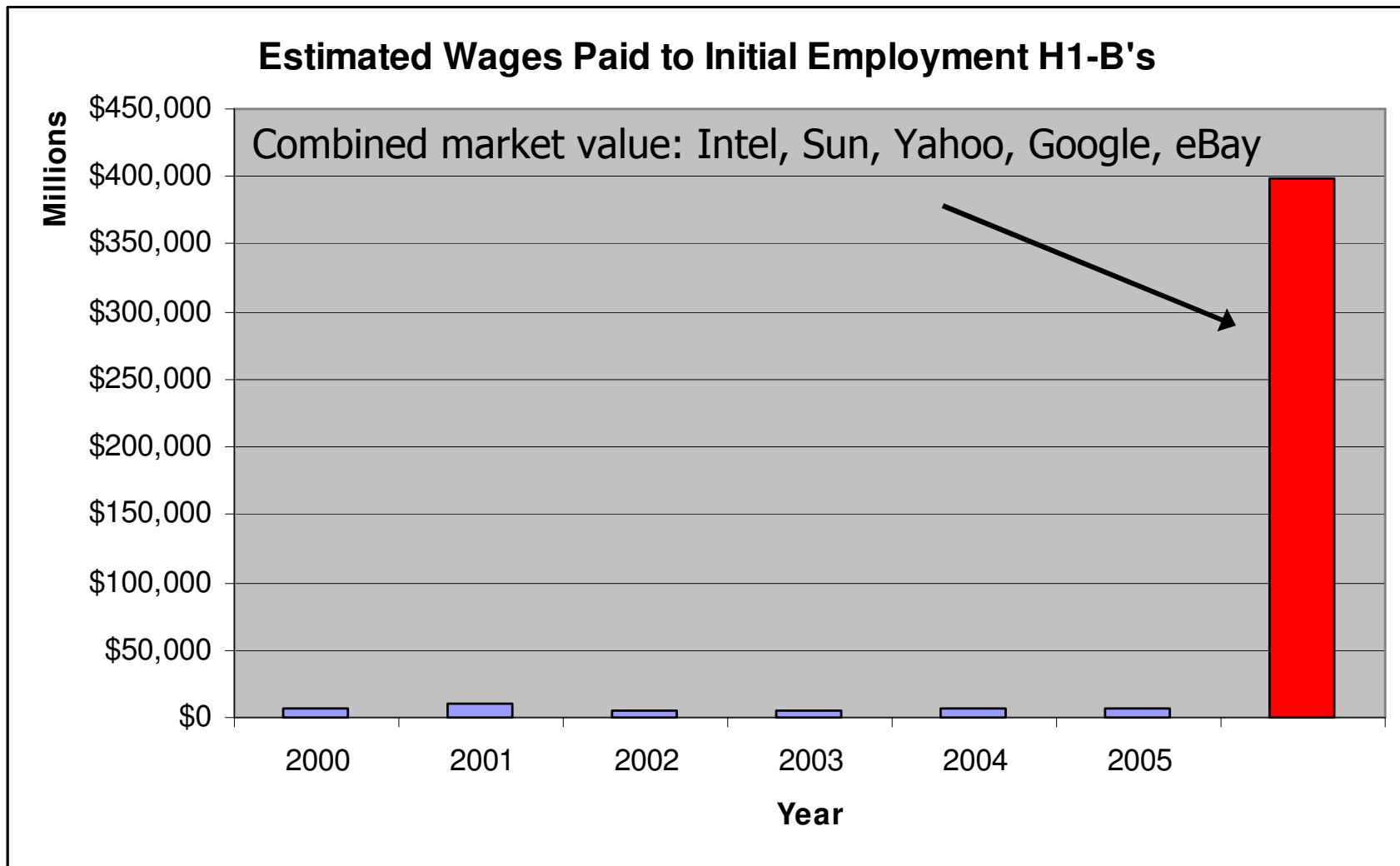
Source: Office of Immigration Statistics, Department of Homeland Security

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## Wealth created by H-1B's

<b><u>Company</u></b>	<b><u>Founder</u></b>	<b><u>Country of Origin</u></b>	<b><u>Market Cap</u></b>
Intel	Andy Grove	Hungary	\$141 billion
Sun	Bechtolsheim/Khosla	Germany/India	\$18 billion
Yahoo	Jerry Yang	Taiwan	\$37 billion
Google	Sergey Brin	Russia	\$160 billion
eBay	Pierre Omidyar	France	\$43 billion



Source: Office of Immigration Statistics, Department of Homeland Security; SEC filings of the indicated companies

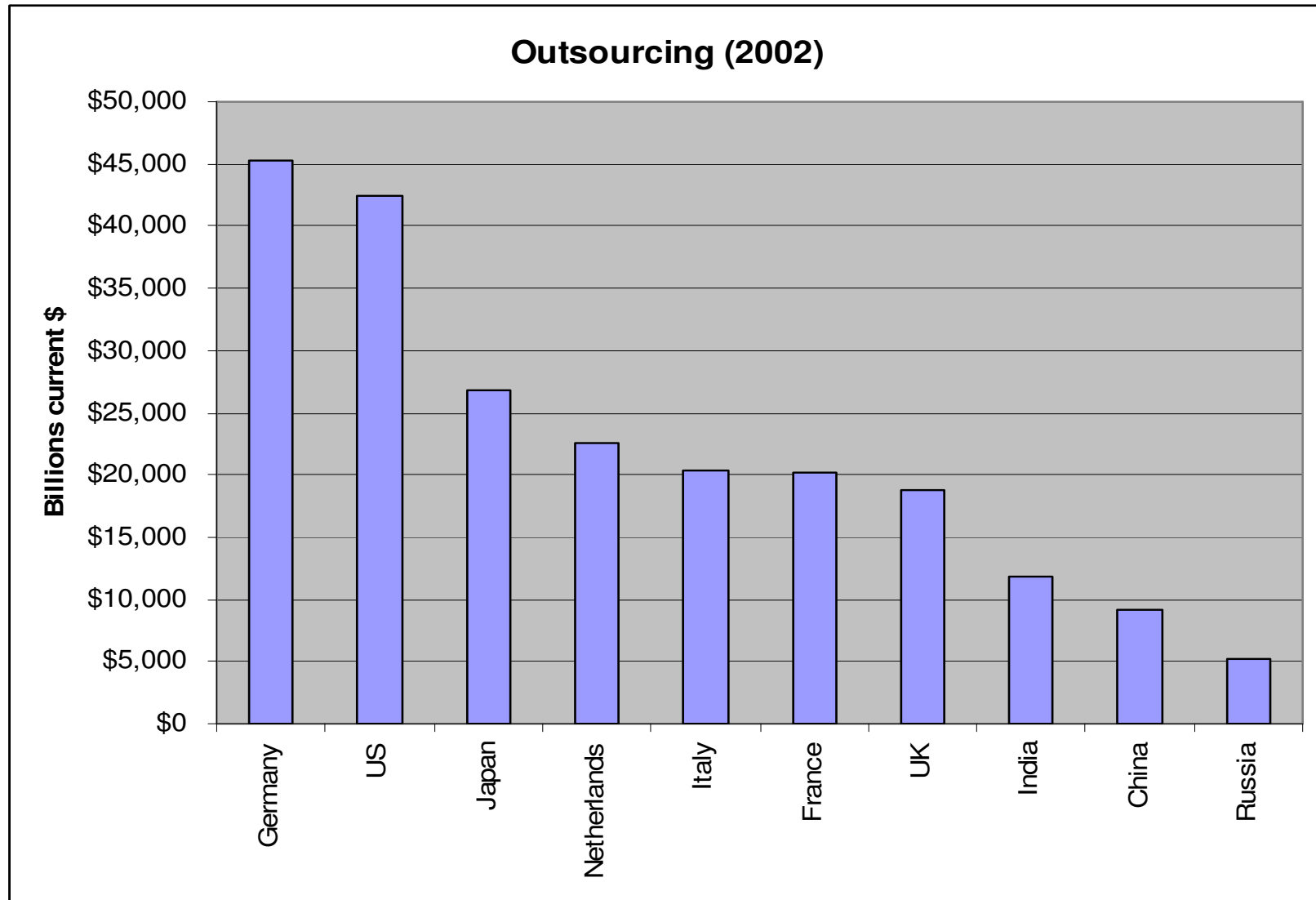
Increasing H-1B labor reduces outsourcing.

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H1-B labor is similar to outsourcing with the exceptions:

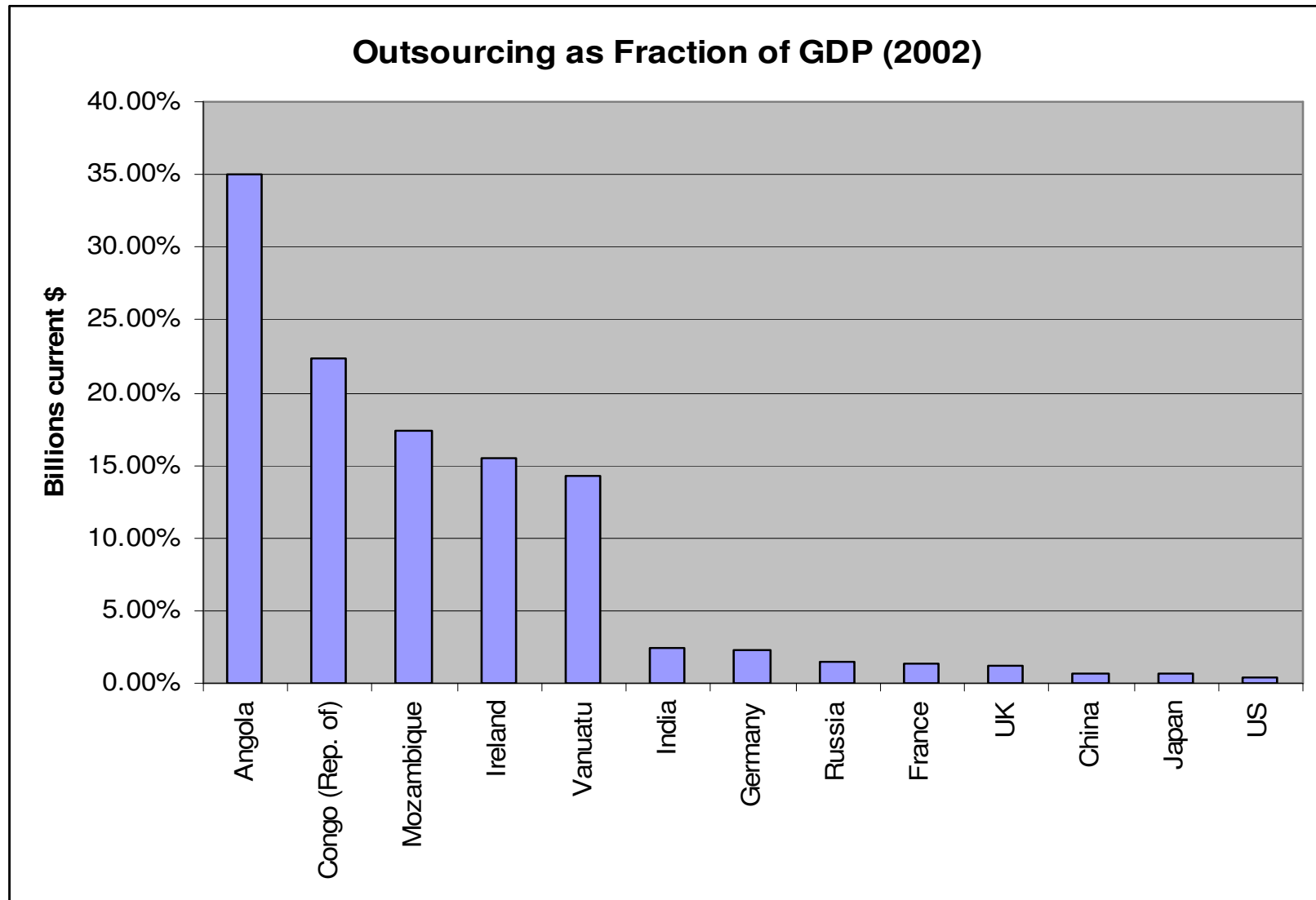
- Workers spend money directly in the US rather than importing from the US.
  - More consumption and improved tax base.
- There are “spillover” effects in the form of community involvement and enrichment.
  - Diversity.
- The children of educated immigrant labor will tend to become educated themselves and to remain in the U.S.
  - More educated populace.

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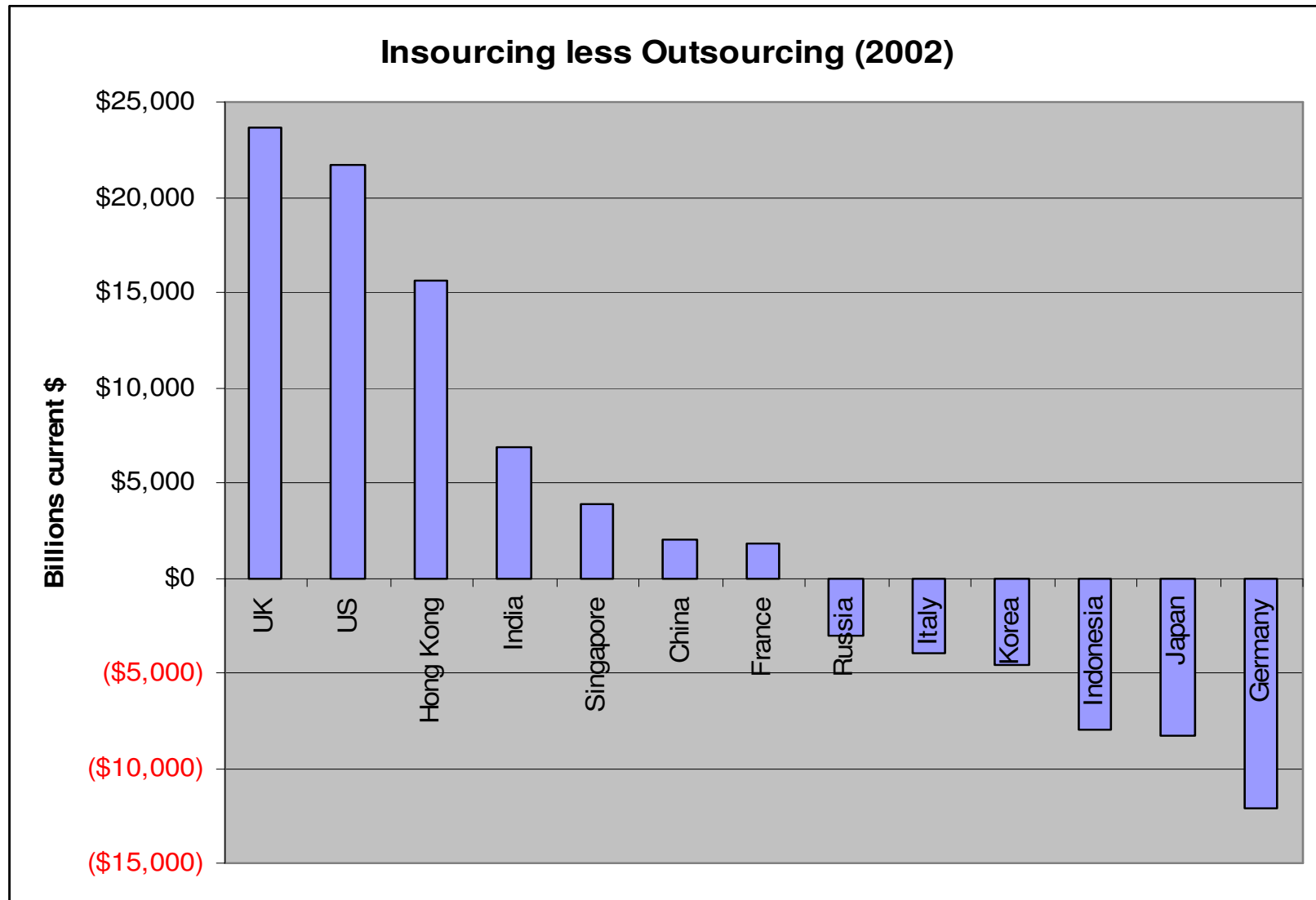
Source: Balance of Payment Statistics Yearbook, IMF

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Source: Balance of Payment Statistics Yearbook, IMF

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Source: Balance of Payment Statistics Yearbook, IMF

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H-1B labor and outsourcing are simply forms of trade in which labor is imported.

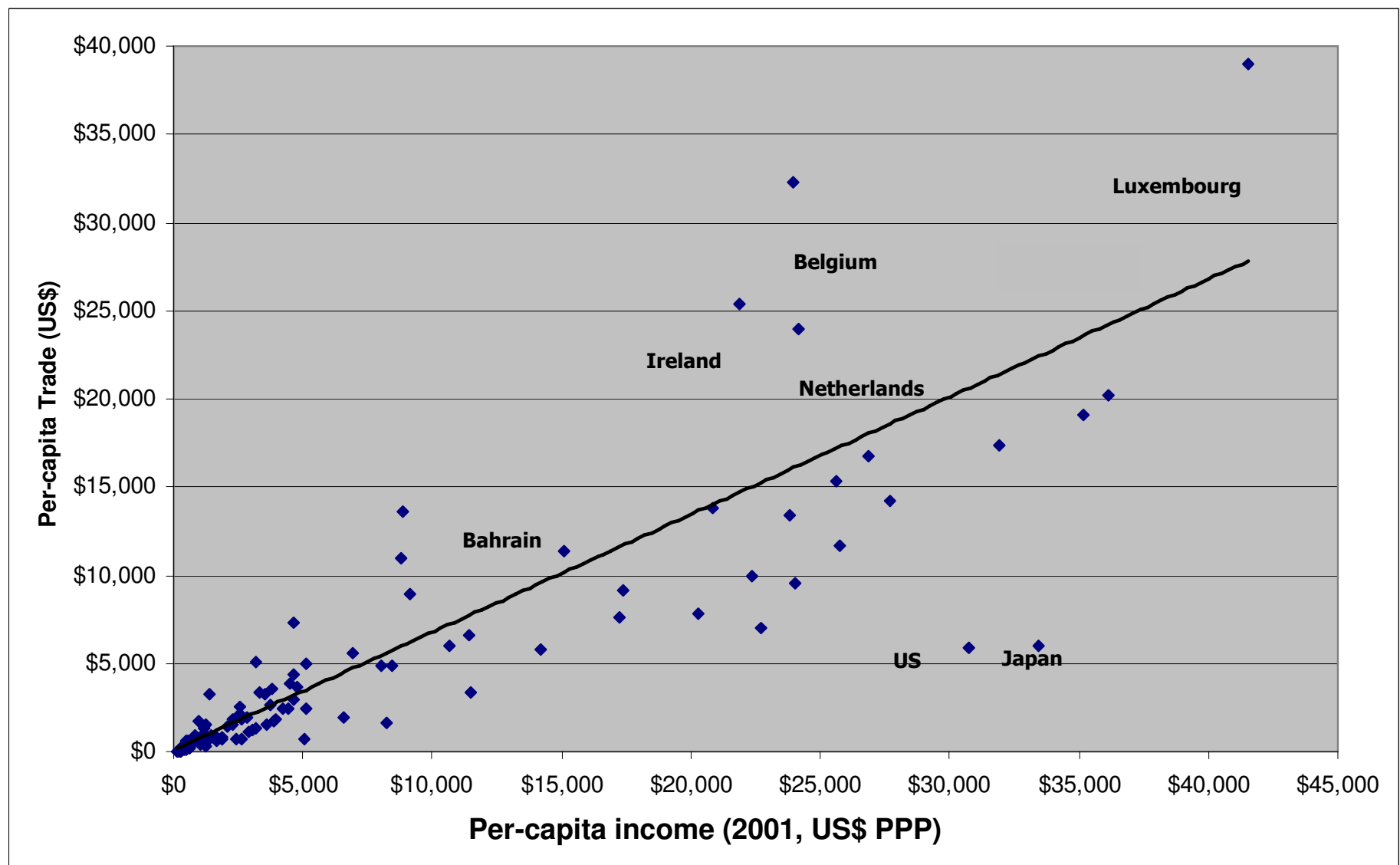
The money paid for the labor comes back as increased exports of US goods to foreigners.

In general, what is the impact of trade?



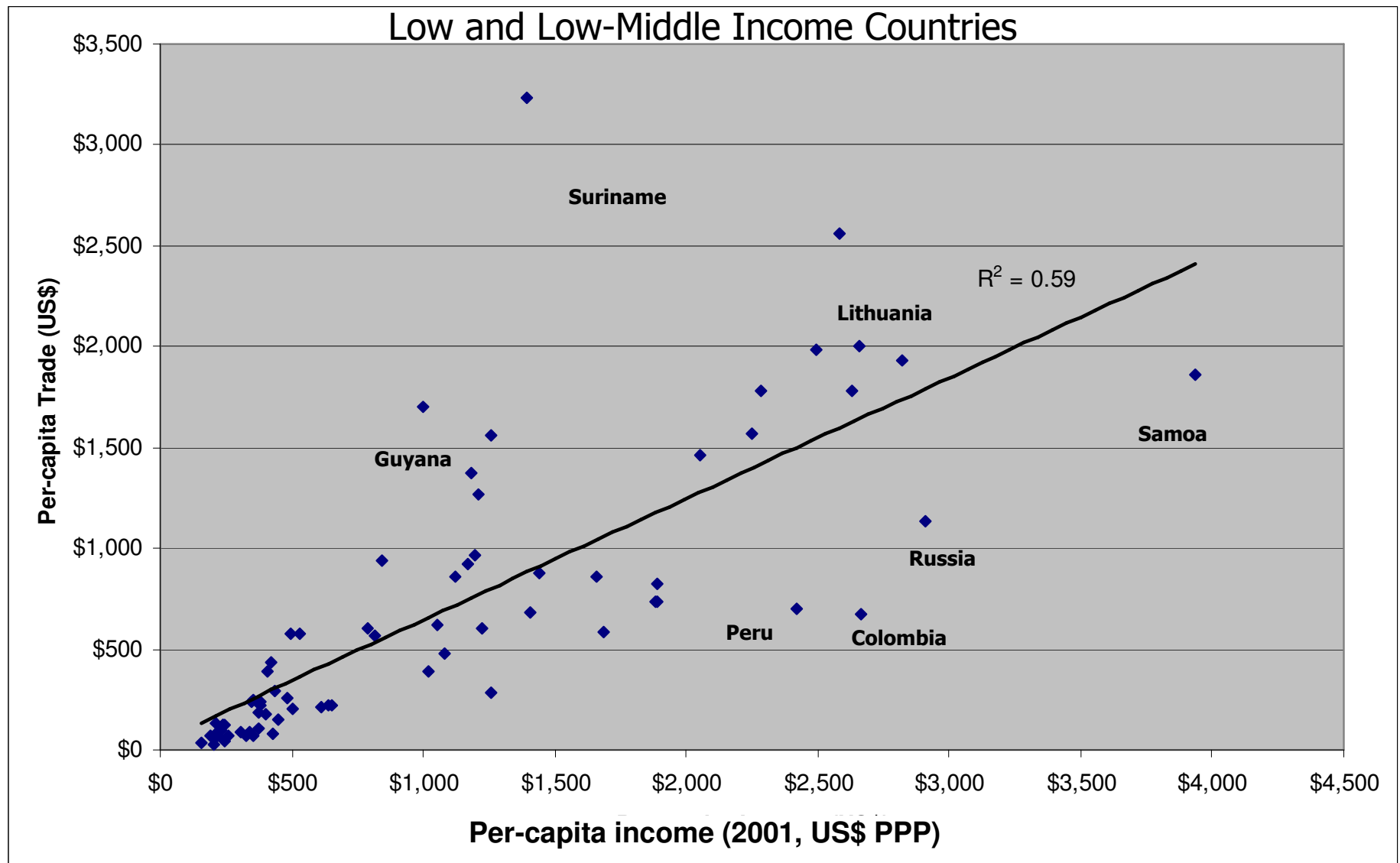
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Ignoring the specifics of what is traded, what is the impact of trade on national incomes?



Source: *International Financial Statistics*, International Monetary Fund

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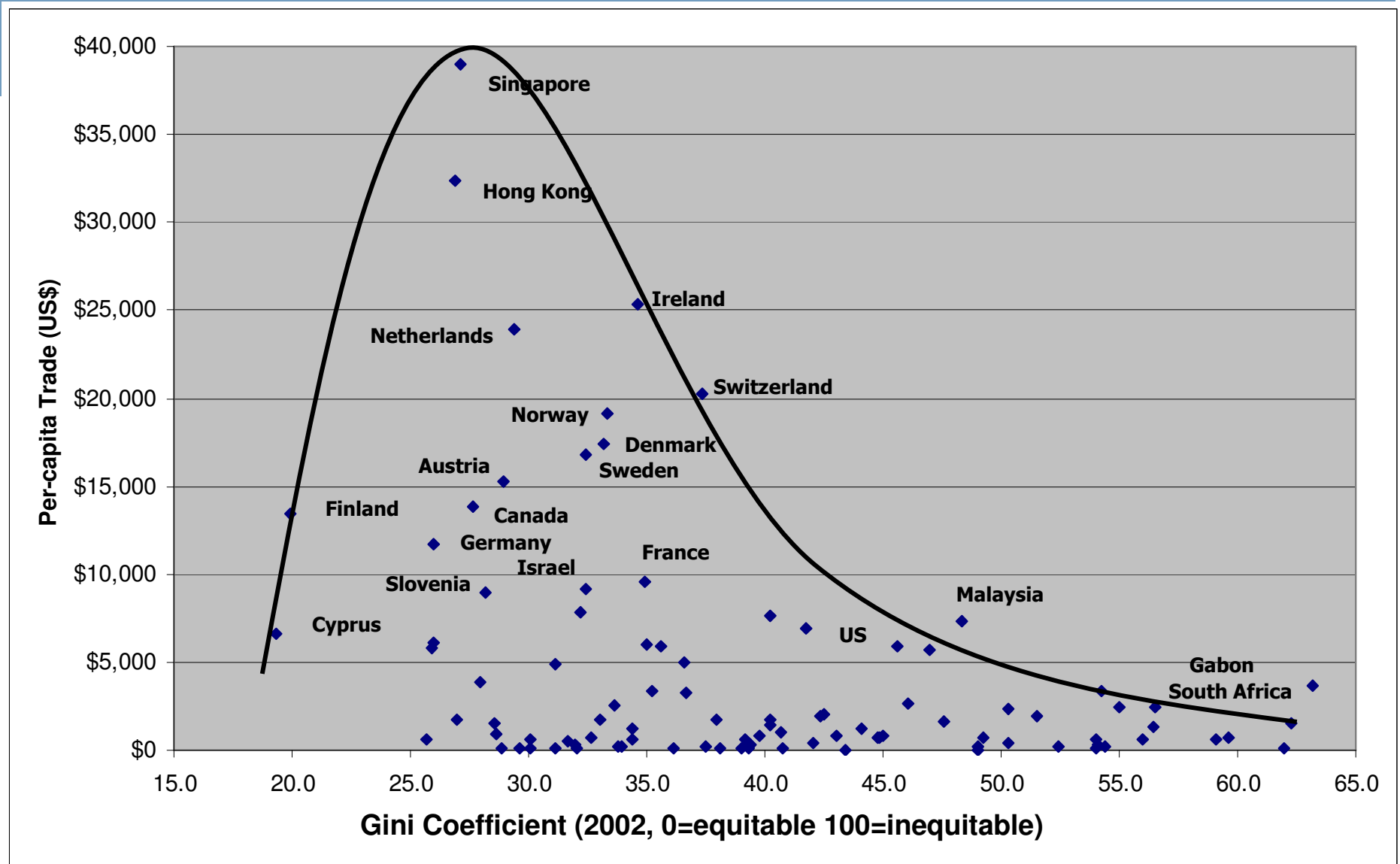


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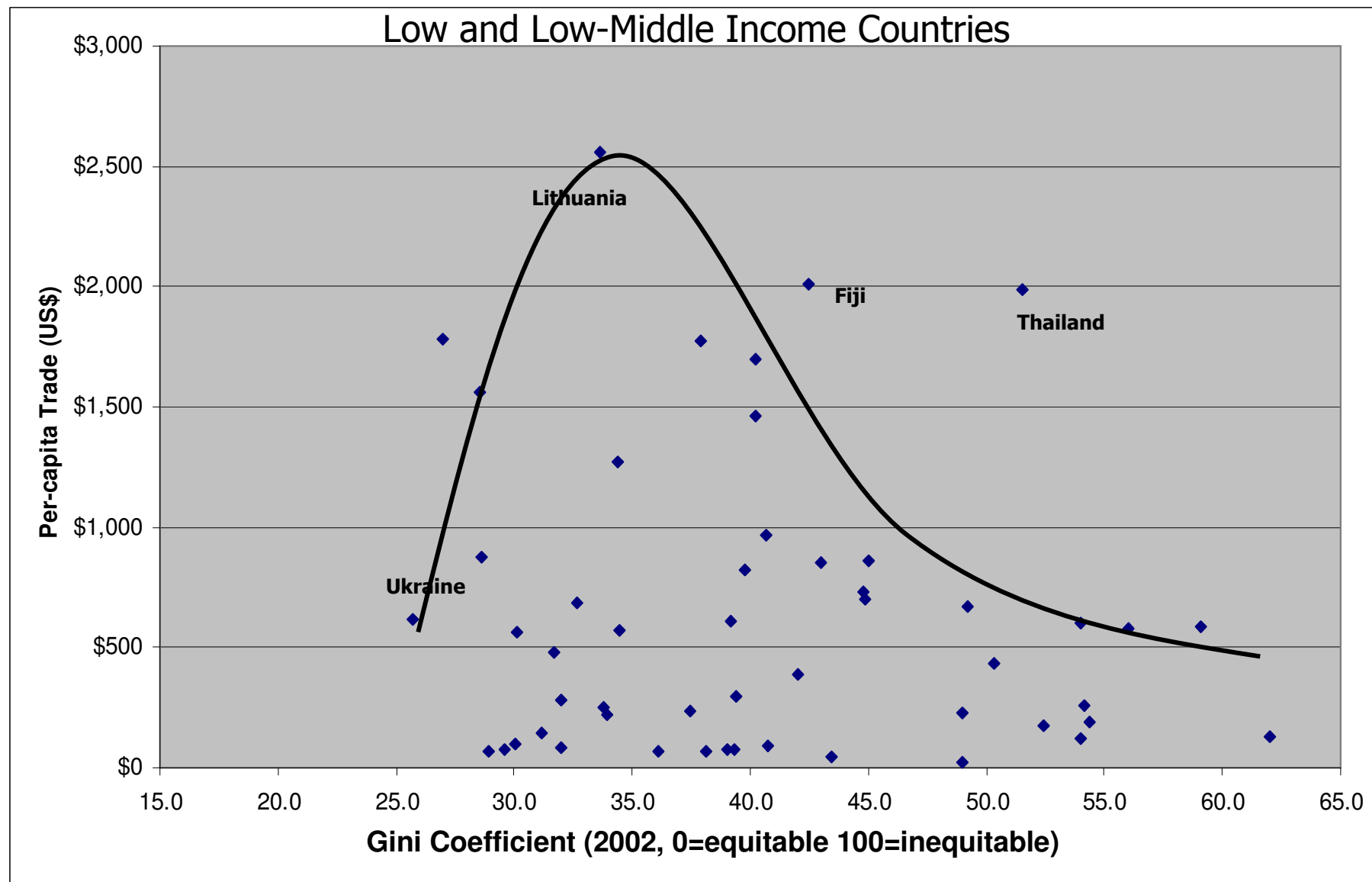
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Ignoring the specifics of what is traded, what is the impact of trade on income distributions?



Source: *International Financial Statistics*, IMF; *Measuring Income Inequality: A New Database*, Deininger, Klaus, and Lyn Squire, World Bank

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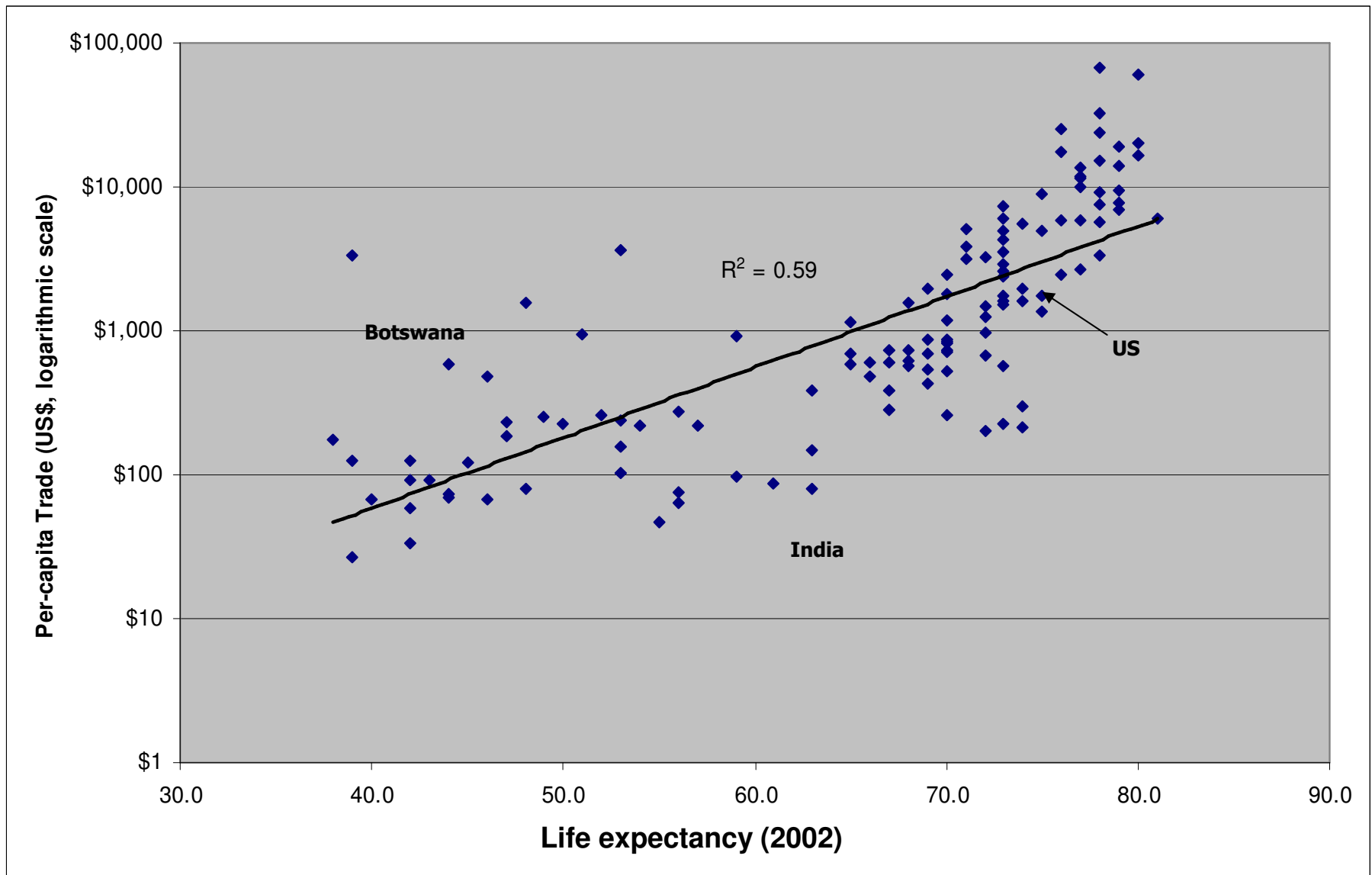


Source: *International Financial Statistics*, IMF; *Measuring Income Inequality: A New Database*, Deininger, Klaus, and Lyn Squire, World Bank

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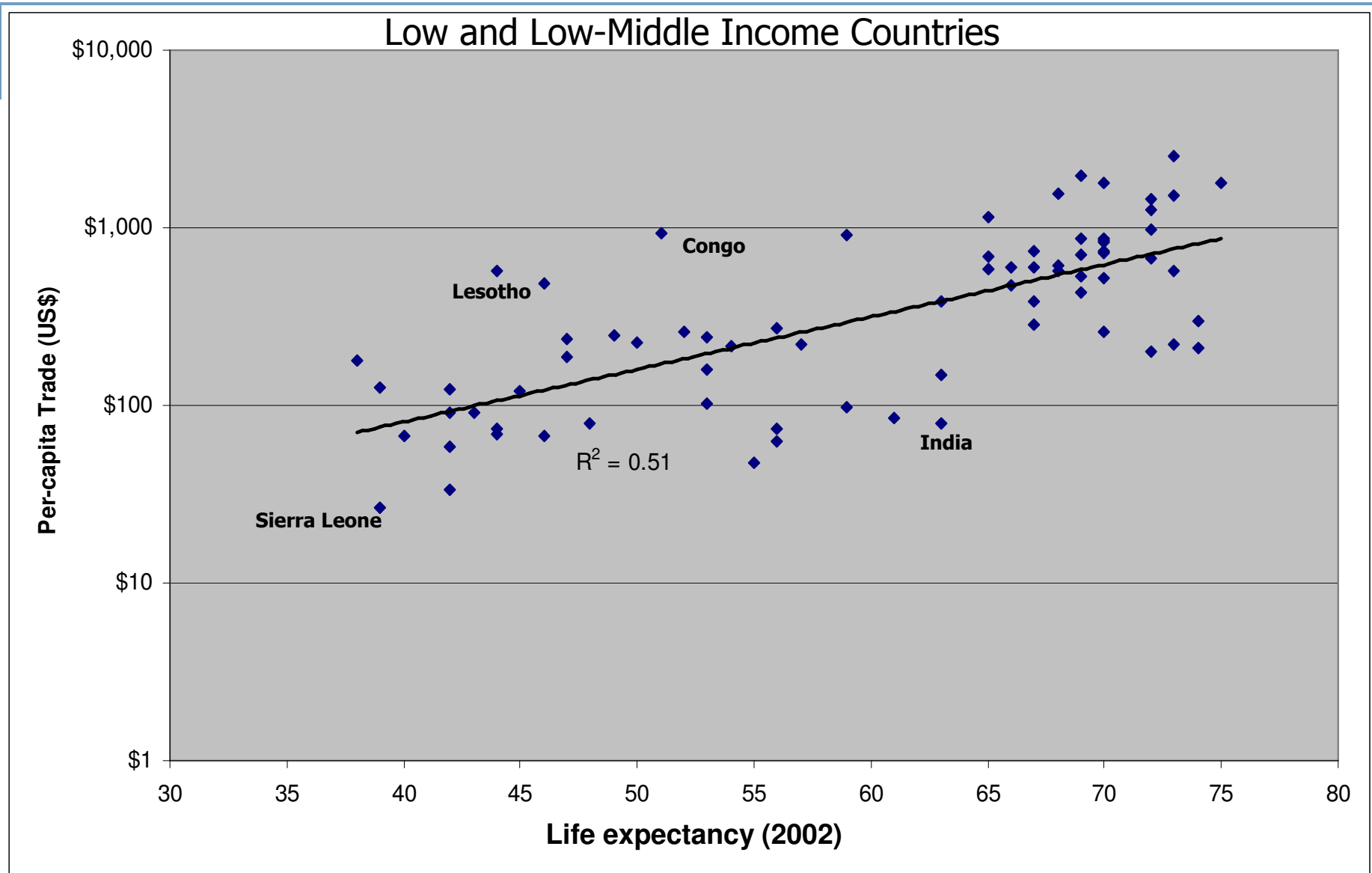
Ignoring the specifics of what is traded, what is the impact of trade on health measures?



Source: *International Financial Statistics*, IMF; *World Development Indicators*, World Bank

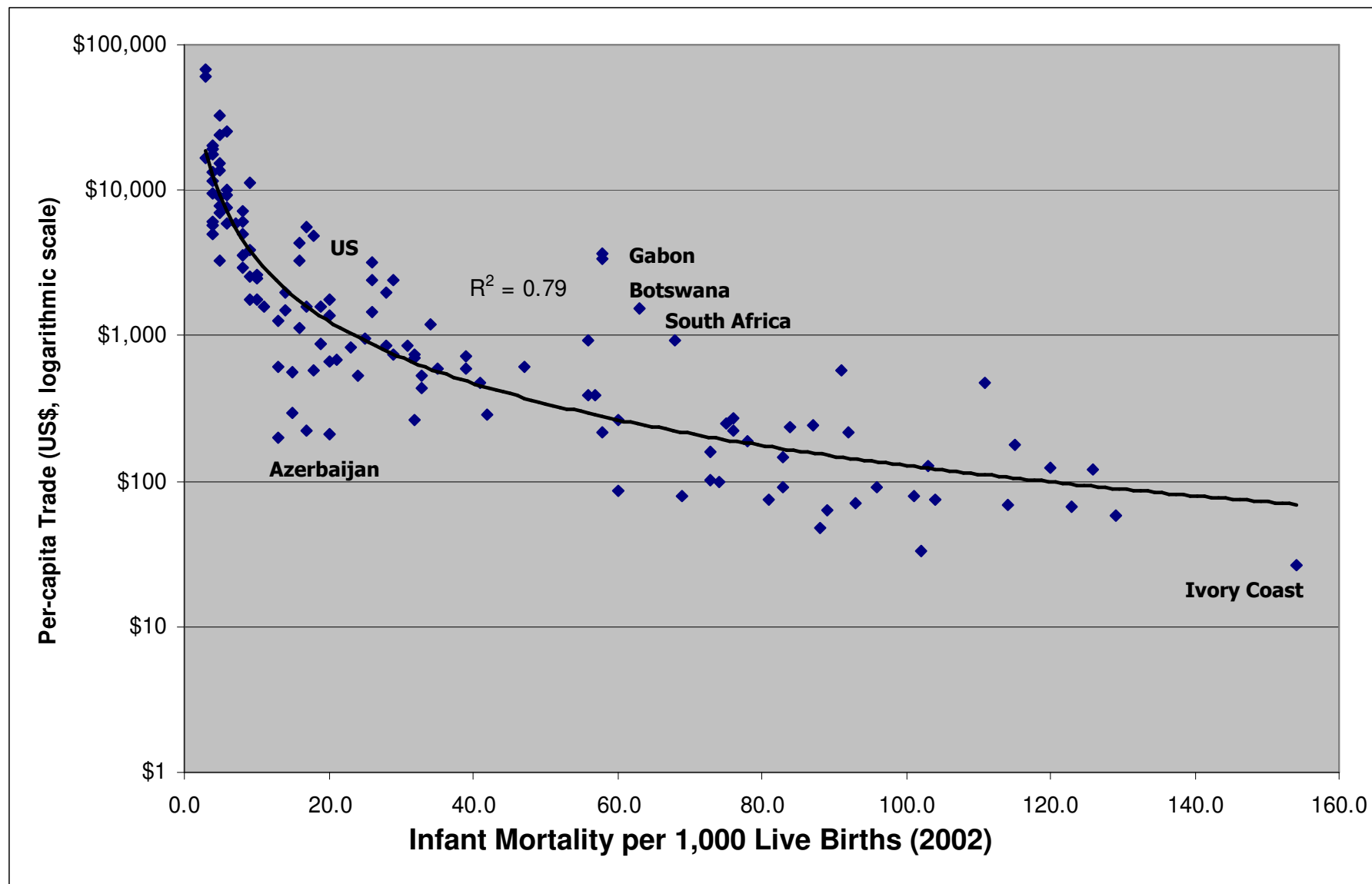
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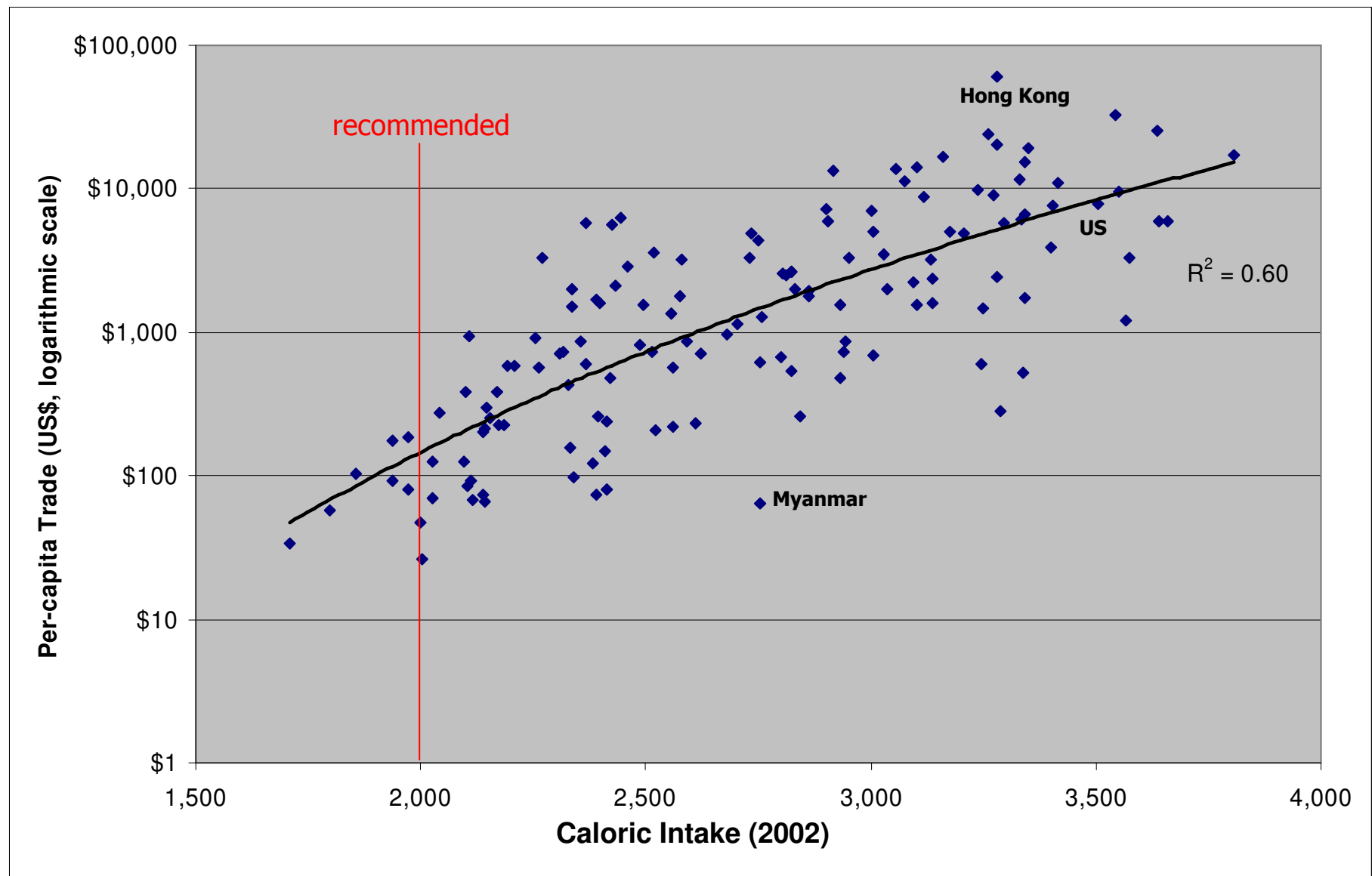
Source: *International Financial Statistics*, IMF; *World Development Indicators*, World Bank

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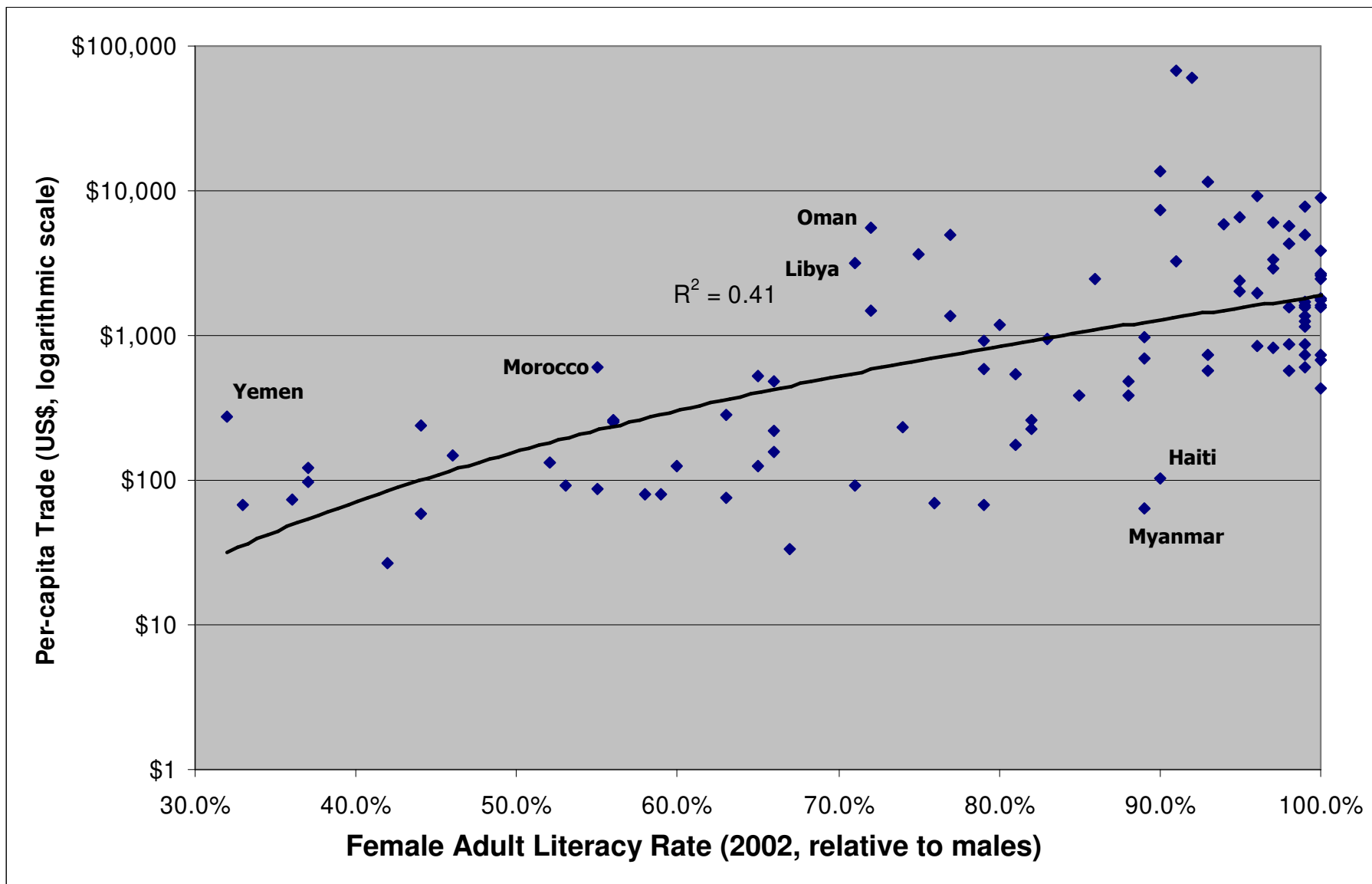


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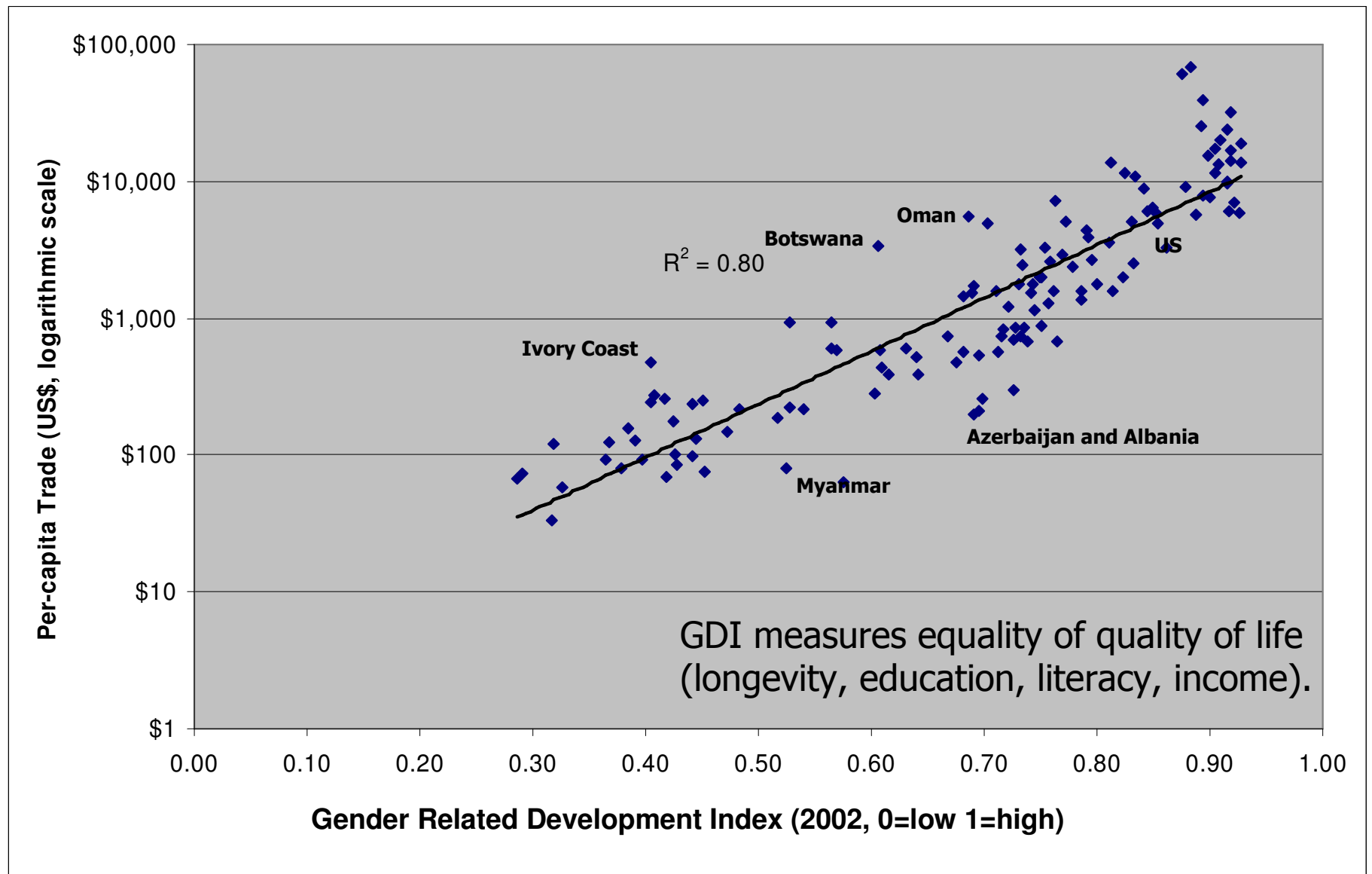
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Ignoring the specifics of what is traded, what is the impact of trade on social equality?



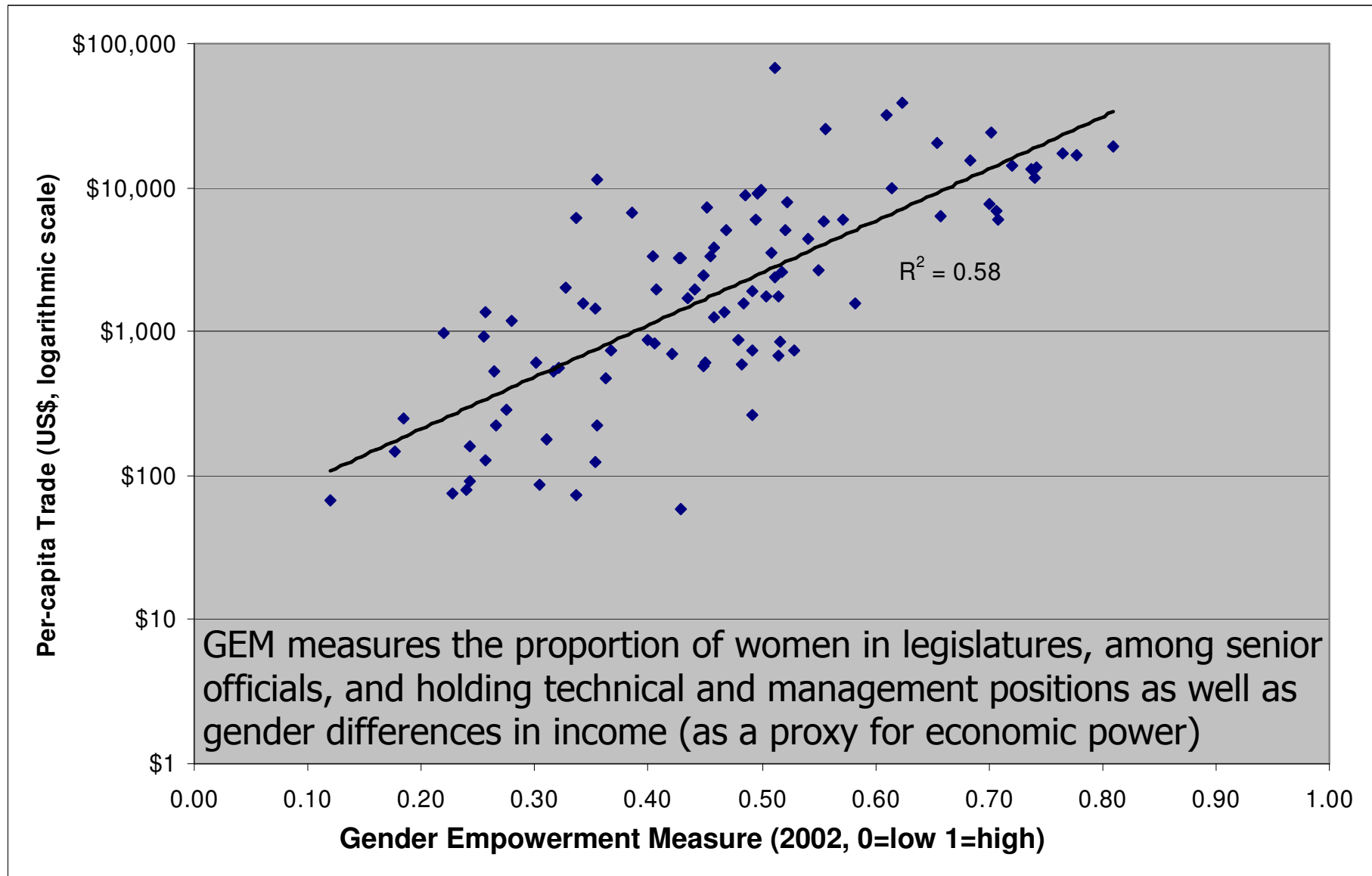
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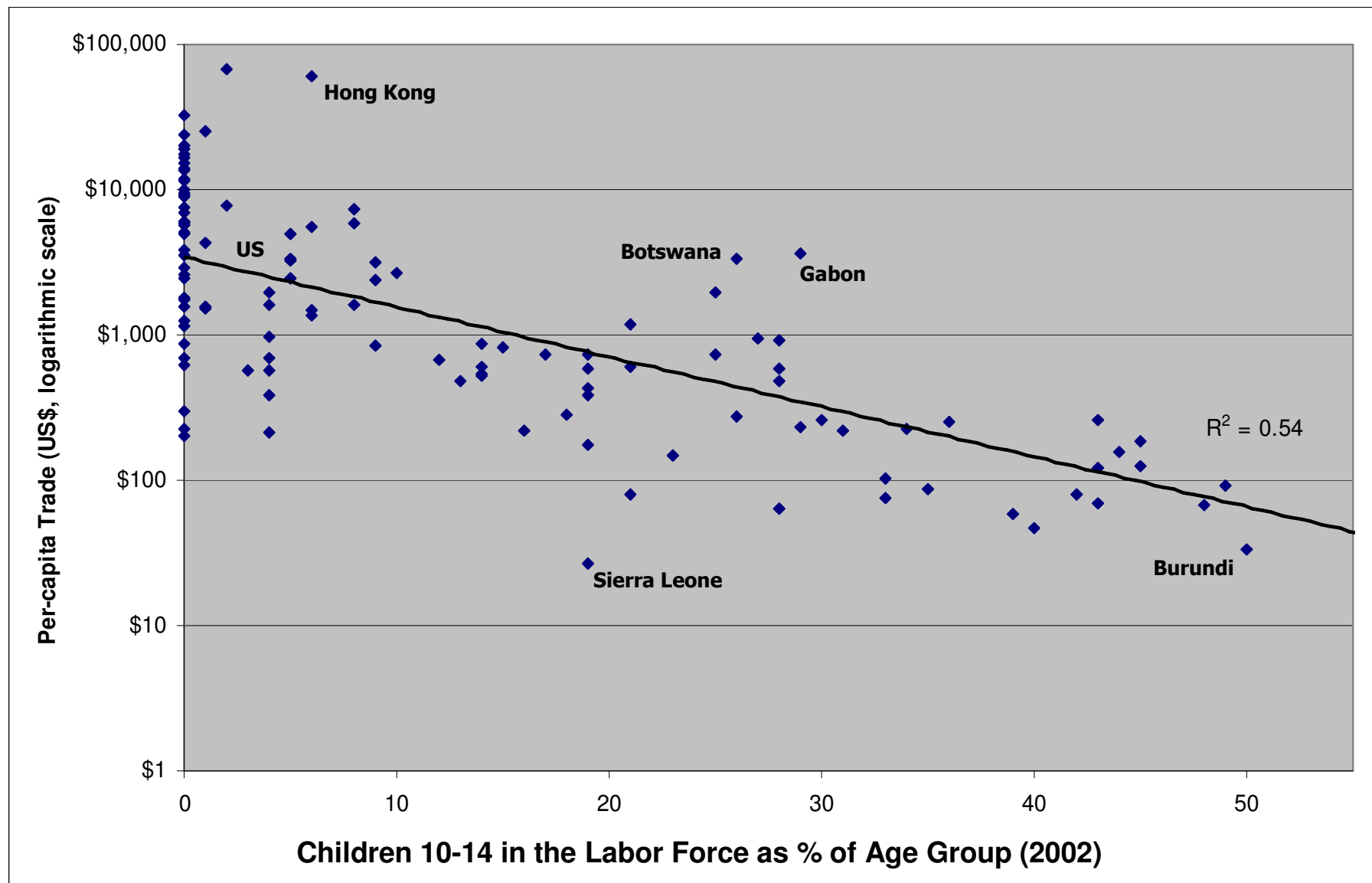
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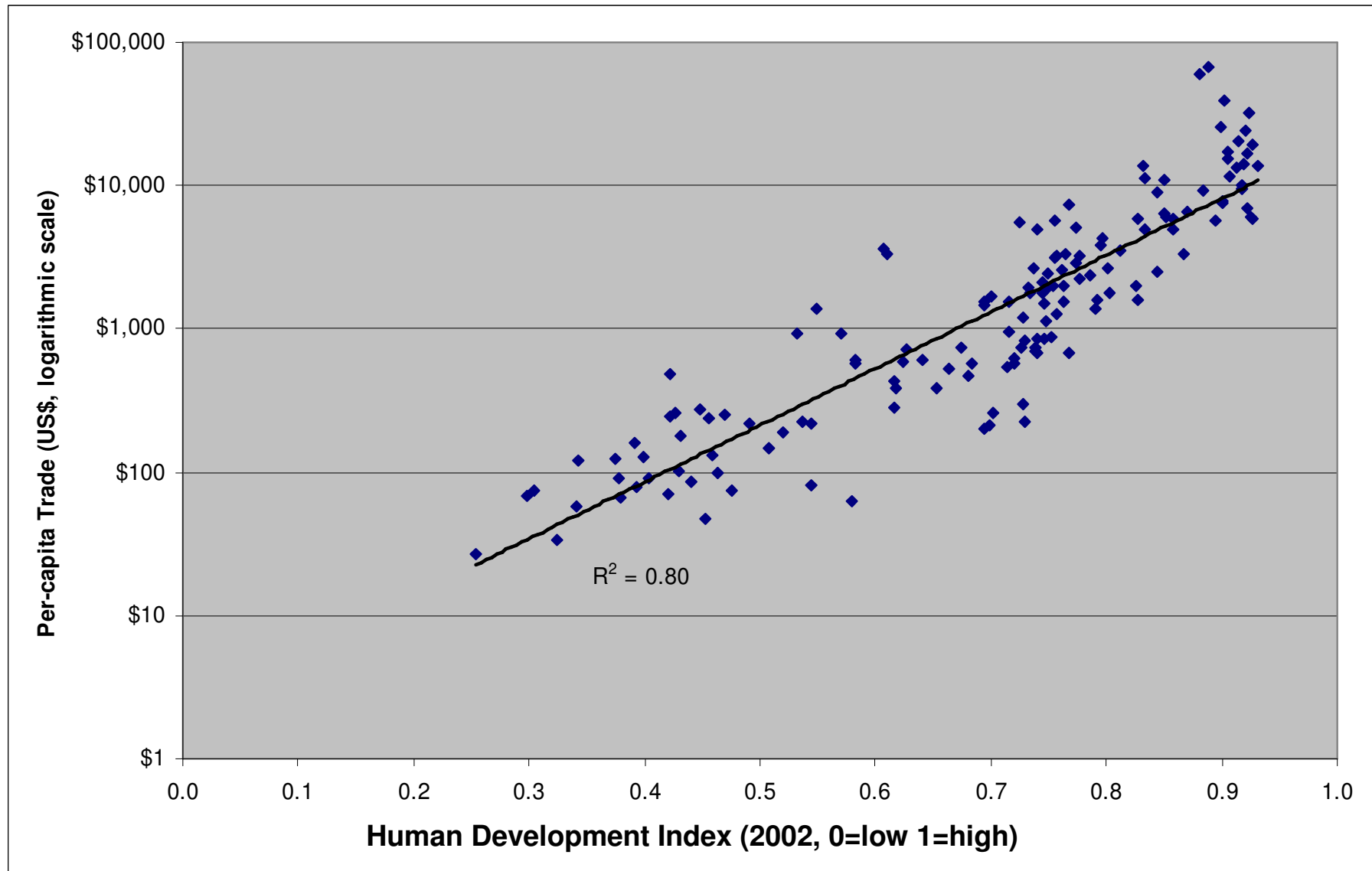
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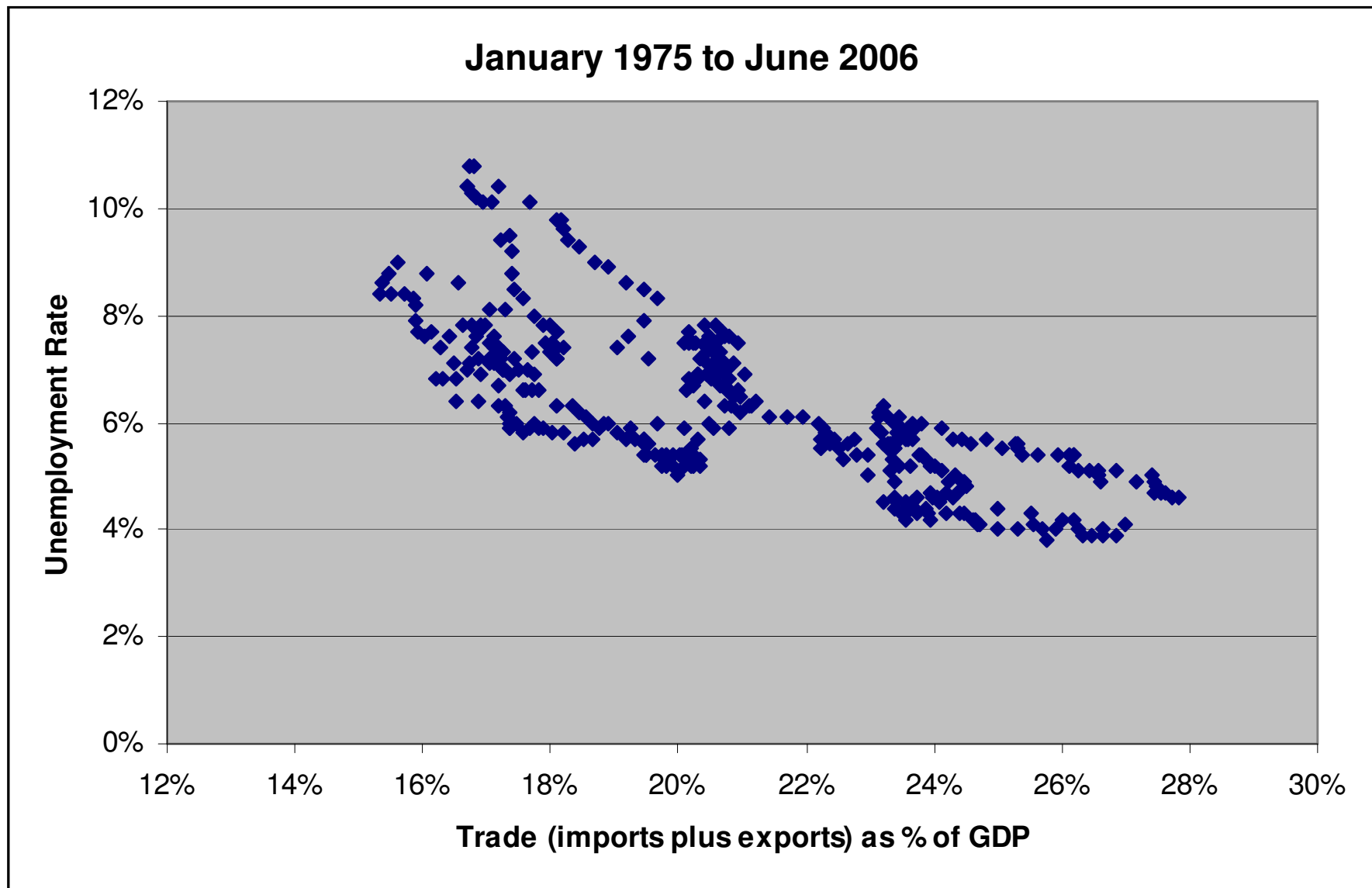


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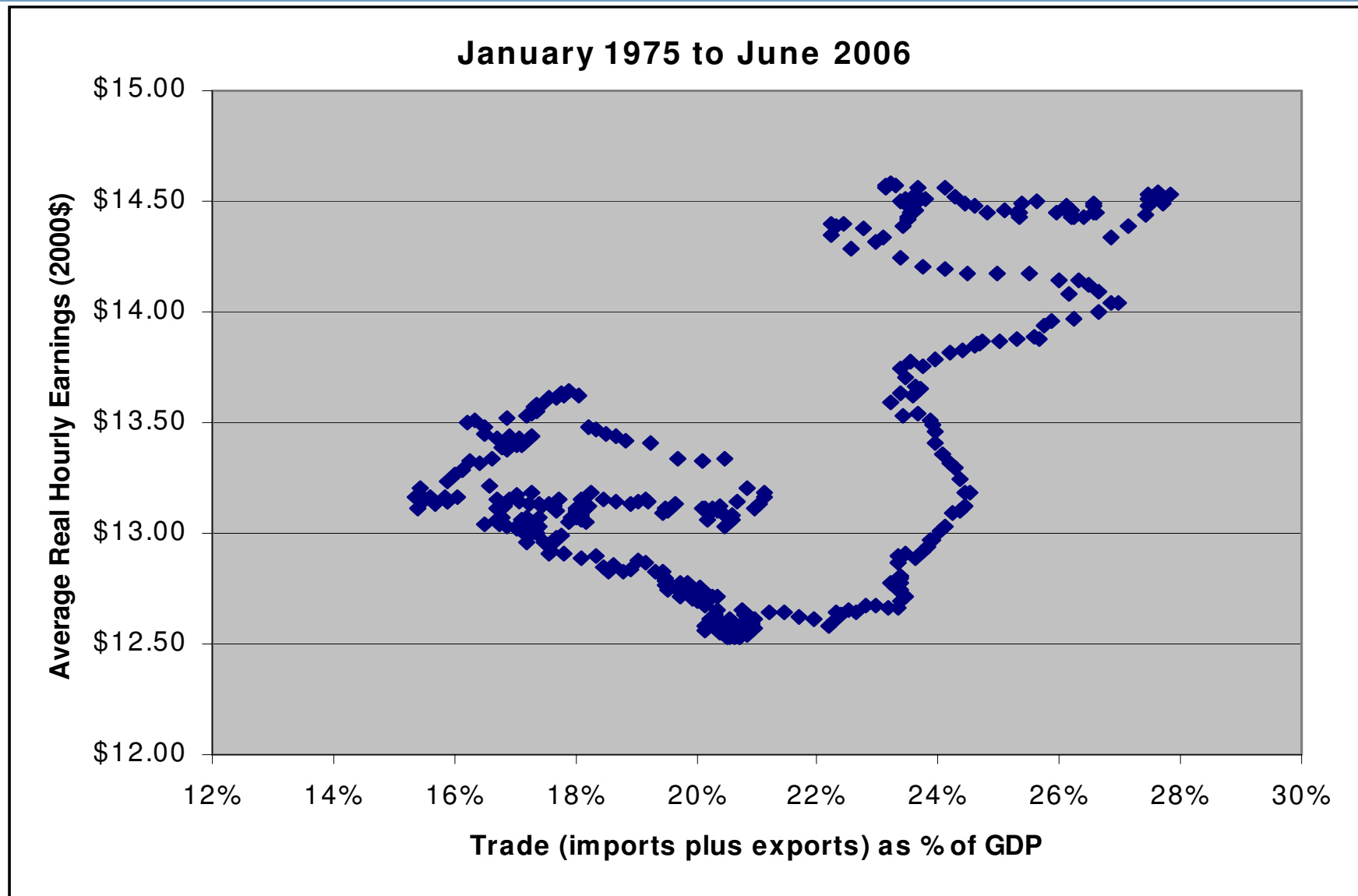
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Ignoring the specifics of what is traded, what is the impact of trade on U.S. unemployment and earnings?



Source: Bureau of Labor Statistics, and Bureau of Economic Analysis

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Source: Bureau of Labor Statistics, and Bureau of Economic Analysis

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