

CREATIVE DESTRUCTION AND THE KNOWLEDGE ECONOMY

- **Where people work and how it has changed.**
- **Creative Destruction & the Process of Change**
- **The Second Industrial Revolution & Agriculture Miracle.**
- **The Third Revolution & Services Economy.**
- **Looking for the Knowledge Economy.**

But wait a minute.

What is the Knowledge Economy?

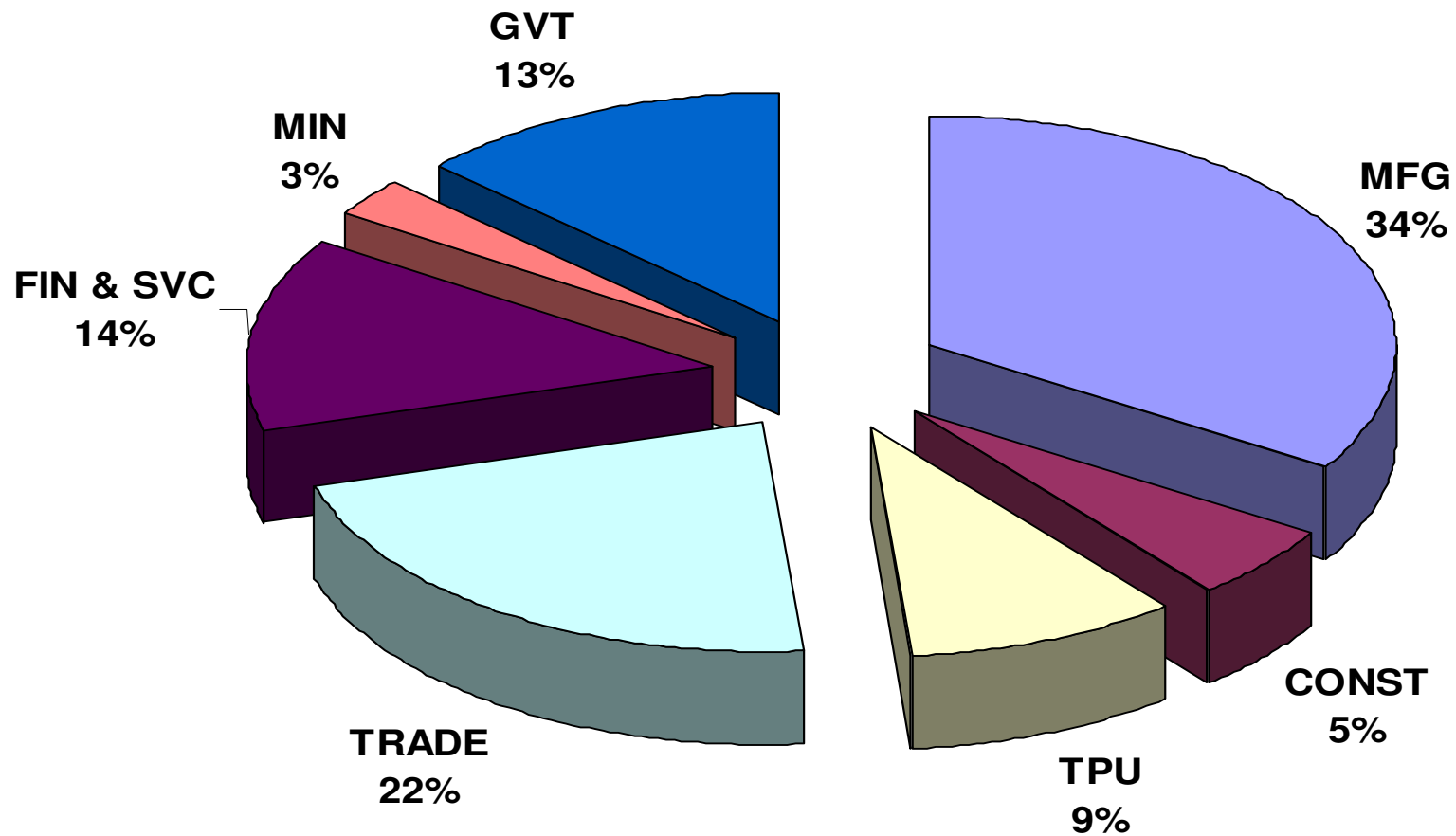
- **A situation where value lies increasingly in new ideas, software, services and relationships.**
- **An economy characterized by the recognition of knowledge as the source of competitiveness, the increasing importance of science, research, technology and innovation in knowledge creation, and the use of computers and the internet to generate, share and apply knowledge.**

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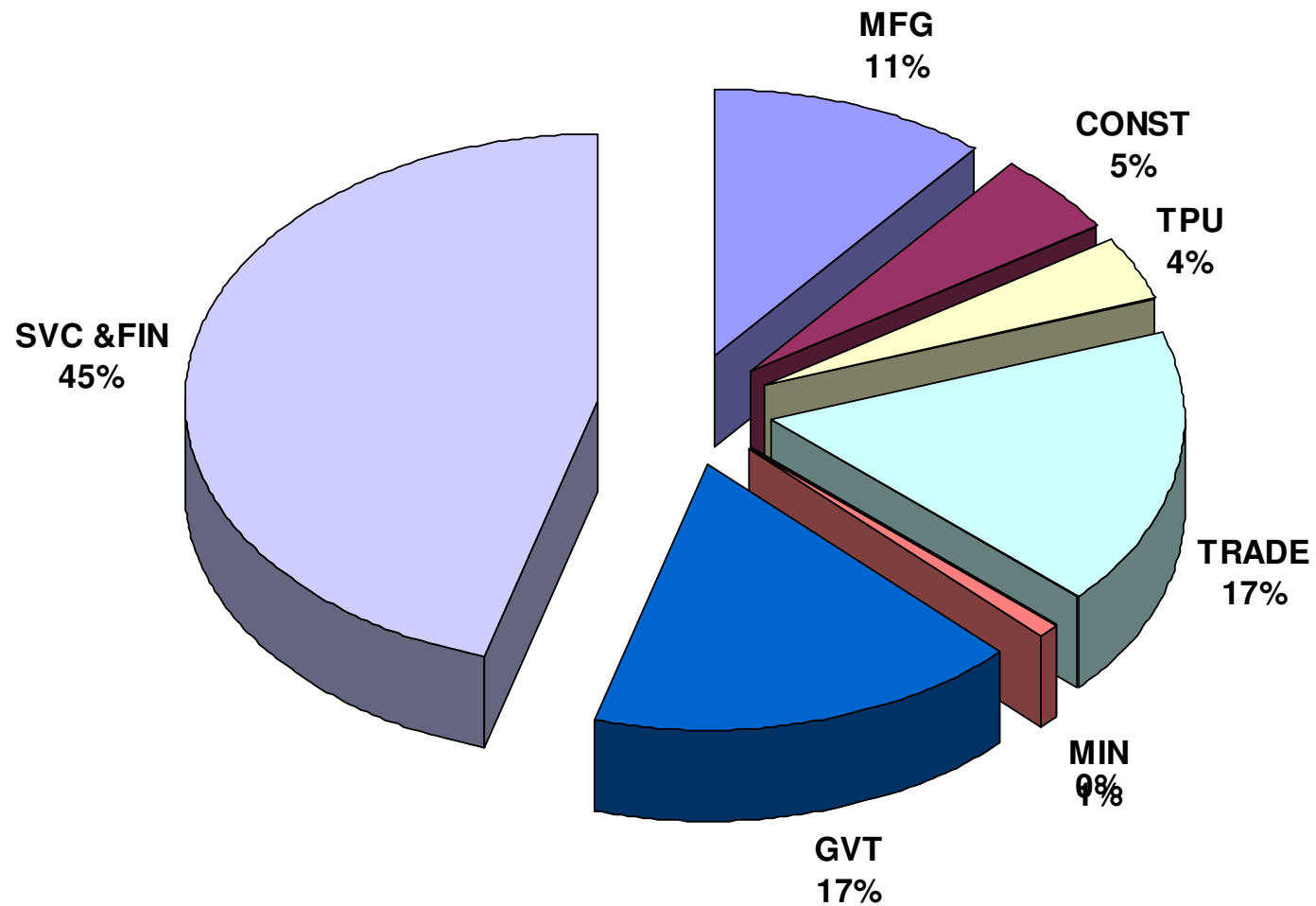
For countries in the vanguard of the world economy, the balance between knowledge and resources has shifted so far towards the former that knowledge has become perhaps the most important factor determining the standard of living—more than land, than tools, than labor. Today's most technologically advanced economies are truly knowledge-based.

U.S. EMPLOYMENT: 1940

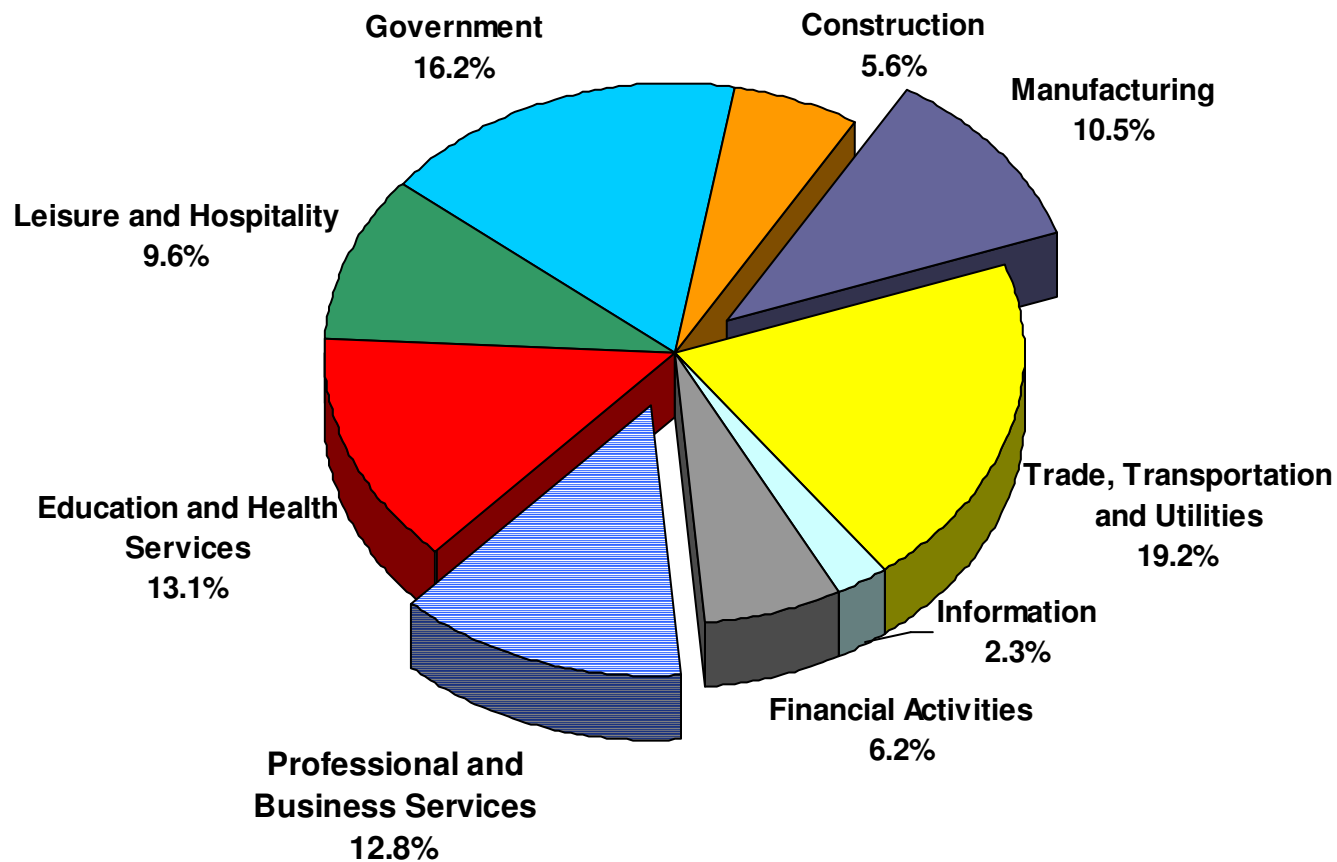
Non-Agricultural



U.S. EMPLOYMENT: 2005



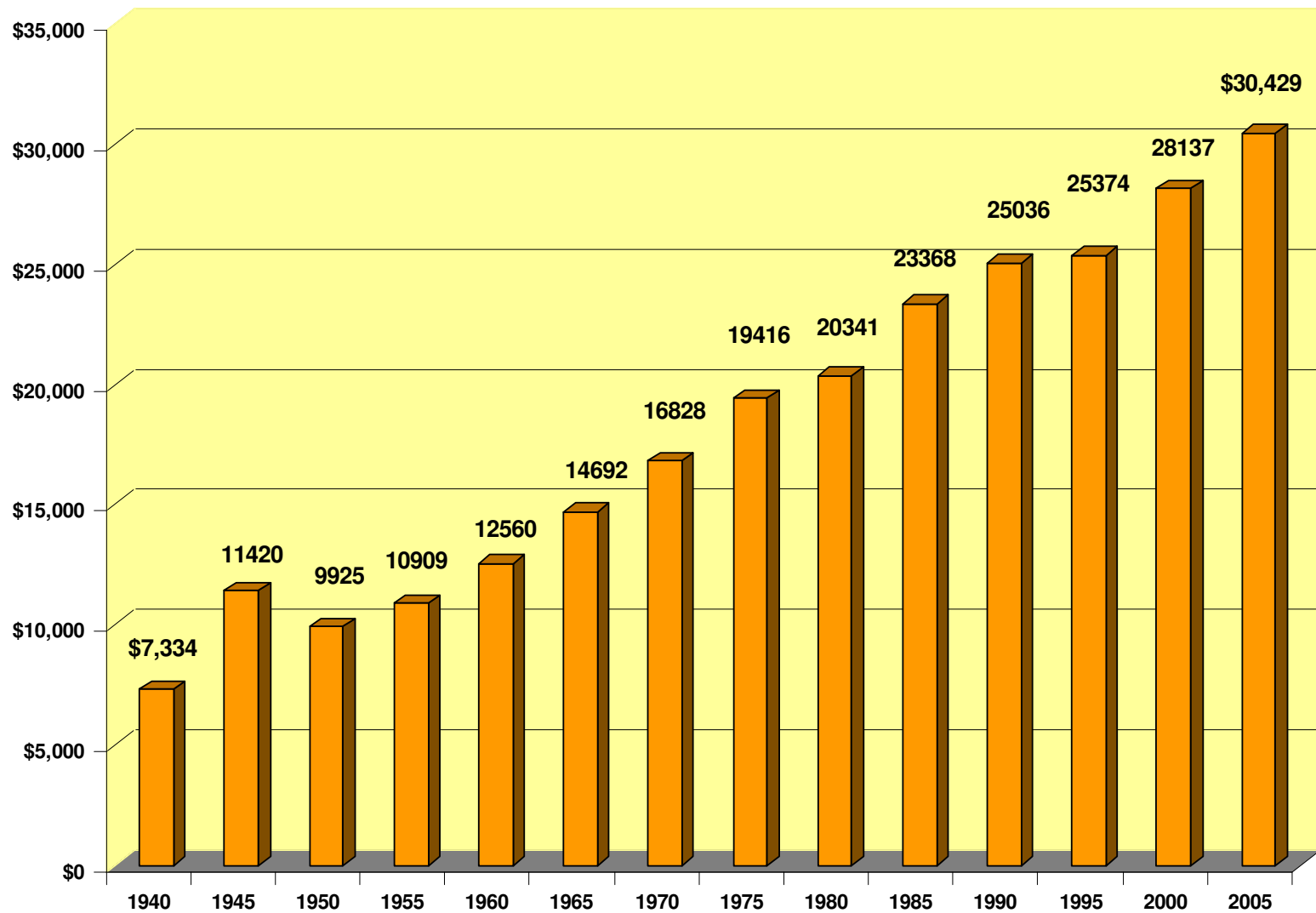
Percent Distribution of US Nonfarm Employment by Industry August 2006



Source: Bureau of Labor Statistics

Real Per Capita Disposable Personal Income

2005 dollars

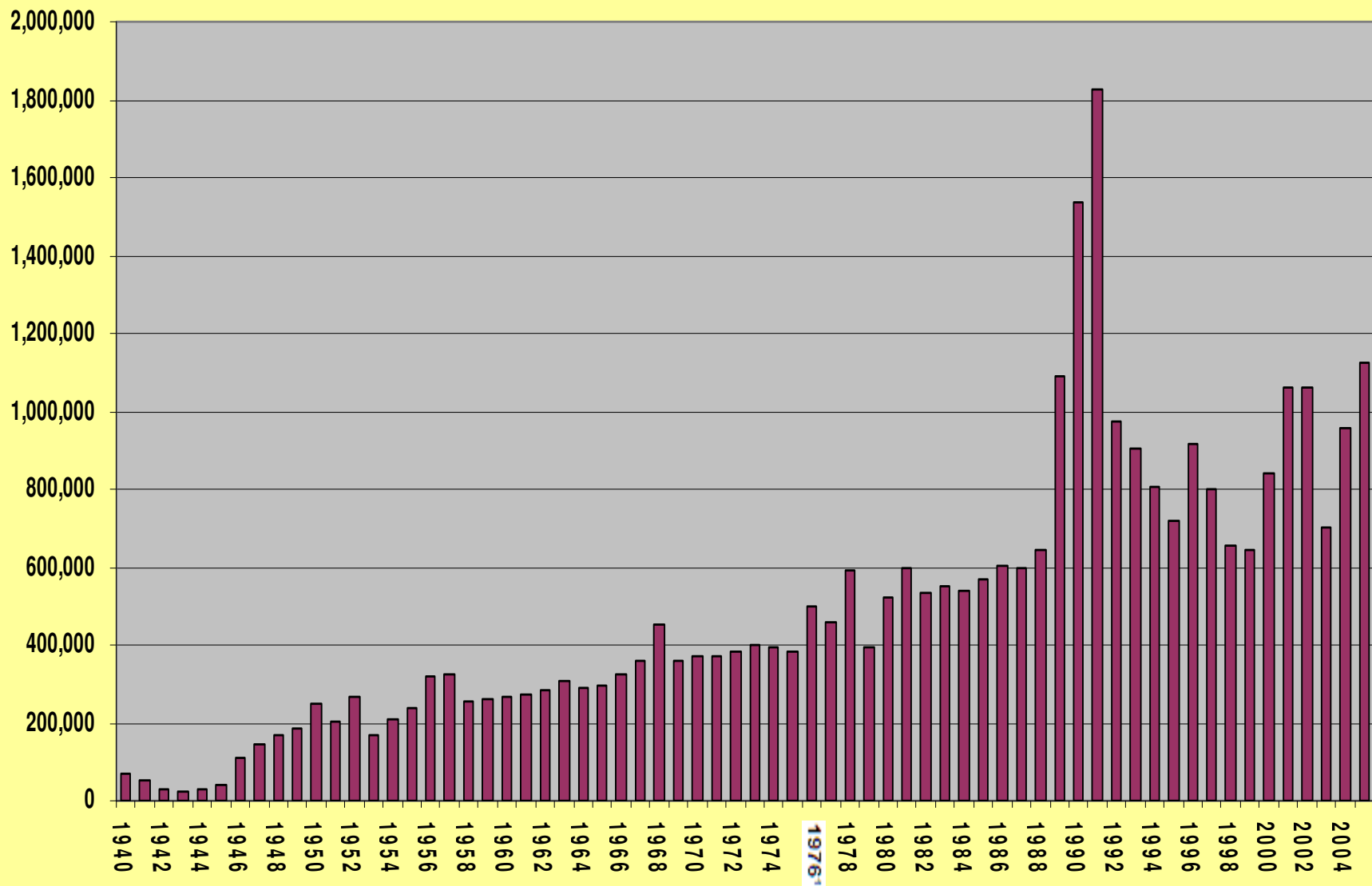


Since 1940

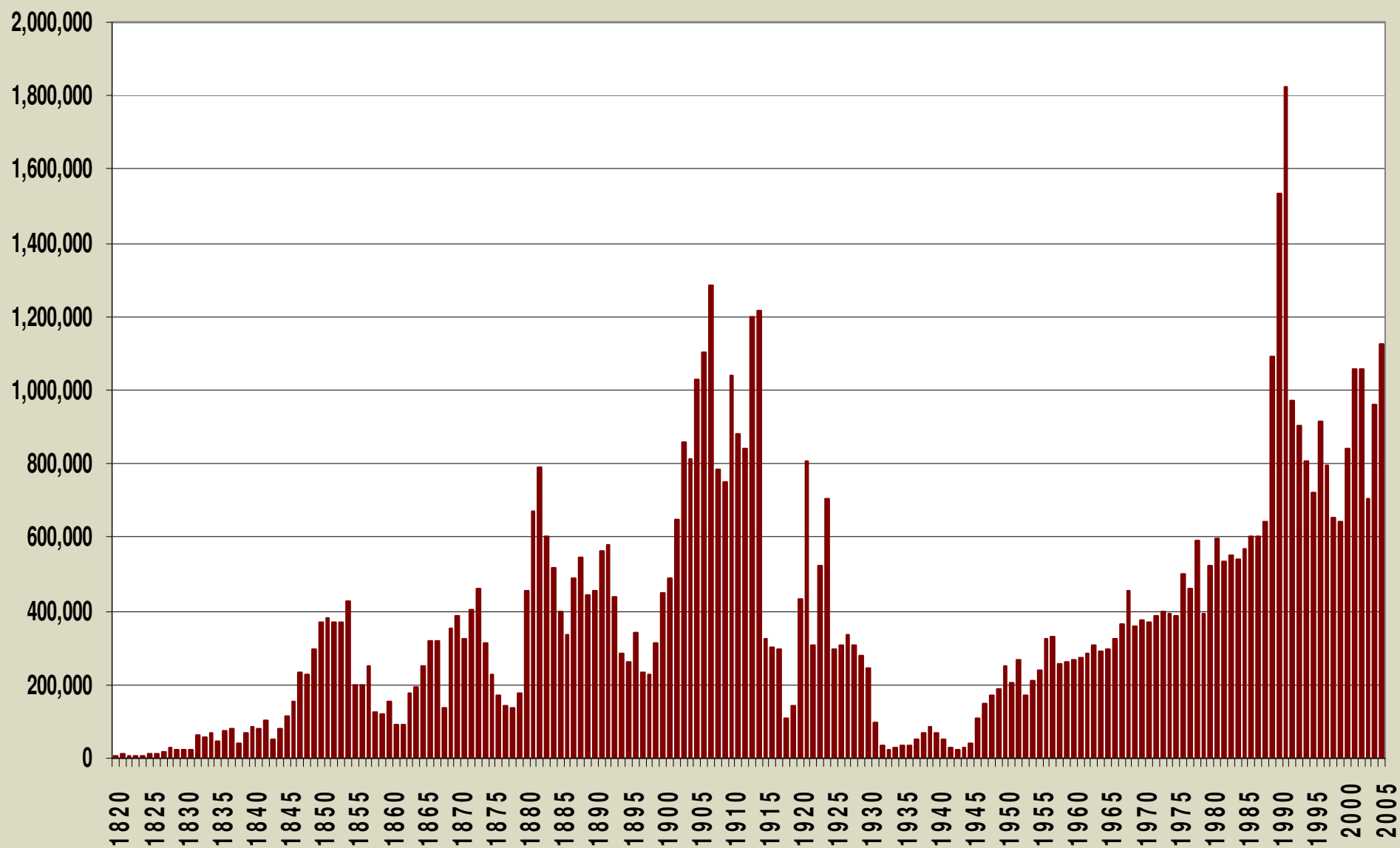
U.S. Population has doubled.

Real per capita Income has quadrupled.

U.S. Immigration to Naturalization 1940 to 2005

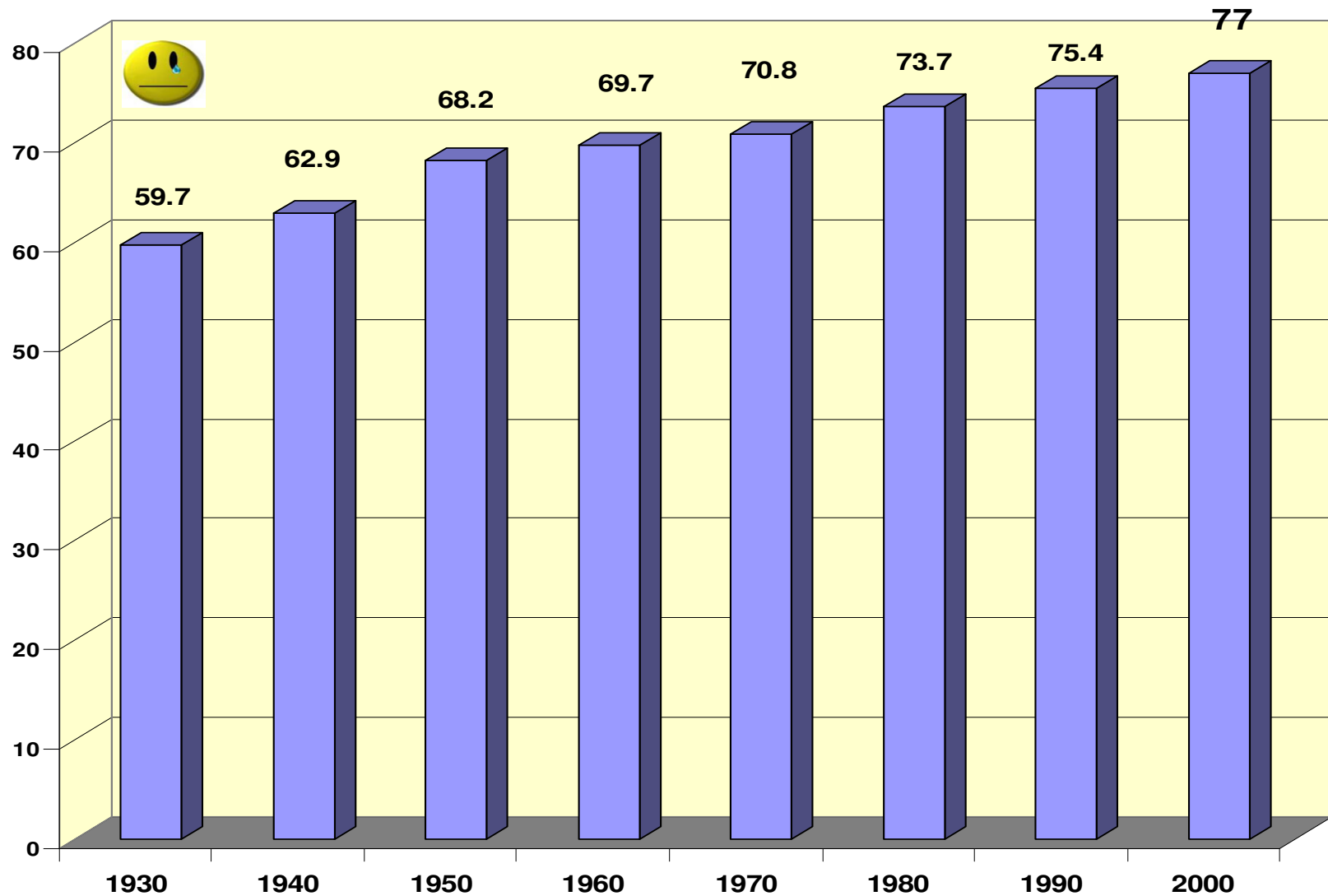


U.S. Immigration to Naturalization 1820 to 2005



Life Expectancy at Birth: 1930-2000

All race and both genders



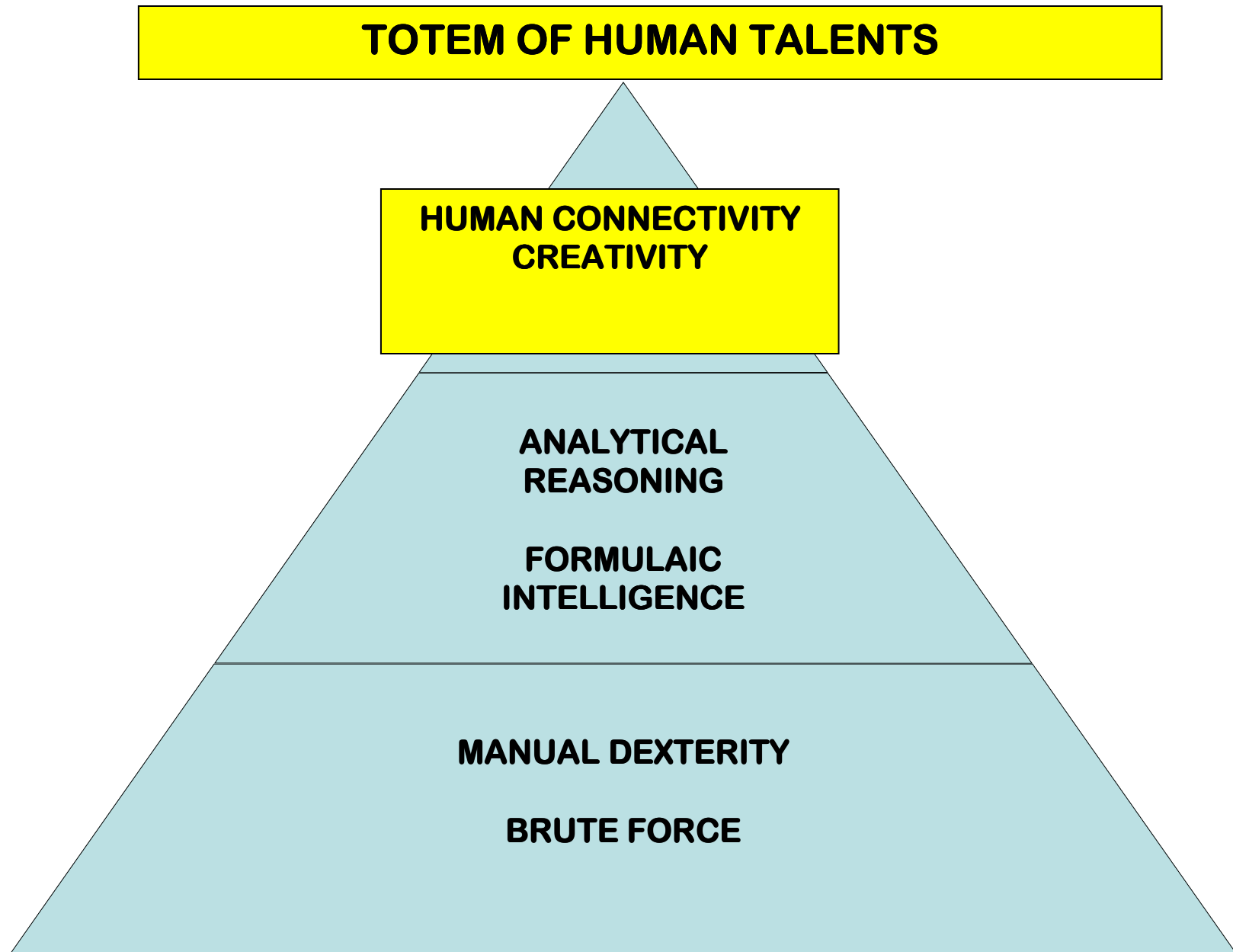
Creative Destruction



The opening up of new markets, foreign or domestic, and the organizational development from the craft shop and factory to such concerns as U.S. Steel illustrate the same process of industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.

This process of Creative Destruction is the essential fact about capitalism.

Joseph A. Schumpeter. *Capitalism, Socialism and Democracy*. 1942



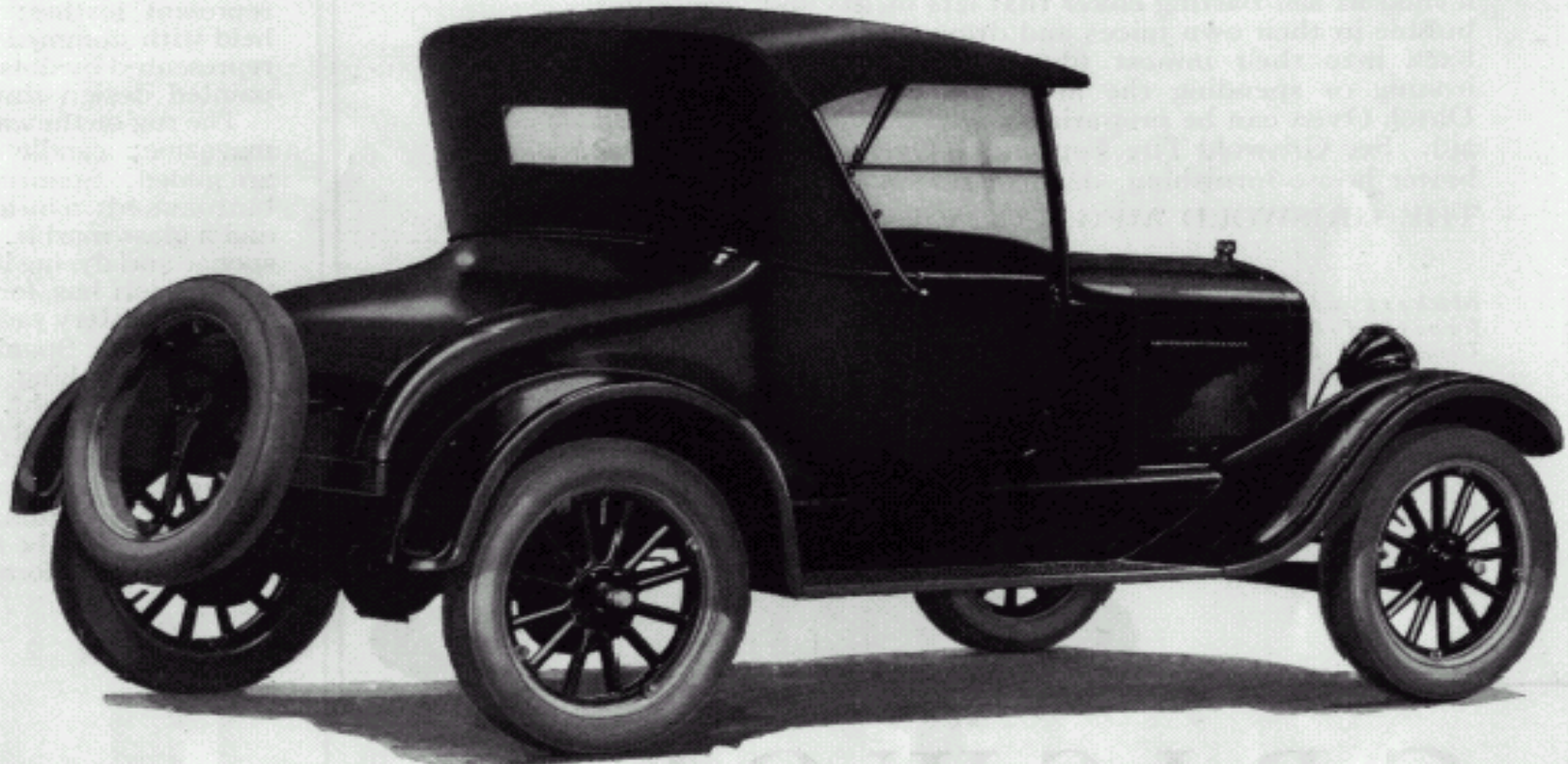
Source: Michael Cox. Federal Reserve
Bank of Dallas

Capitalism in Stages

**Industrial
Financial
Knowledge**



Mr. Ford and His Industrial Miracle

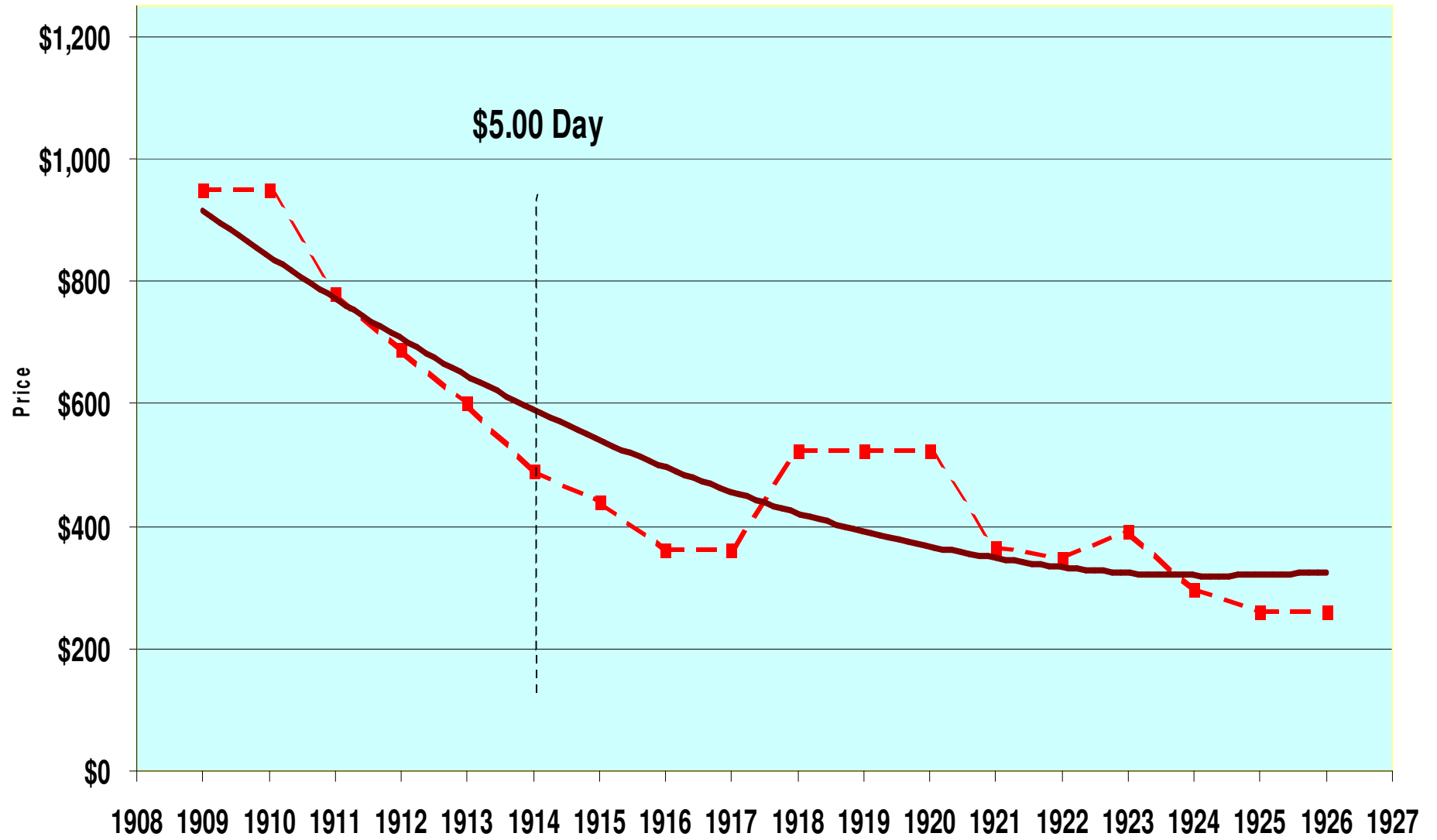


THE RUNABOUT

Black. All-steel body. Large compartment under rear deck. Weatherproof side curtains opening with both doors. Four cord tires, nicked head lamp rims, windshield wiper. Starter and demountable rims \$85 extra. Balloon tires \$25 extra. Price f. o. b. Detroit.

\$260

Mr. Ford's Economies of Scale



Mr. Ford's Contribution

A Detroit newspaper as late as 1909 suggested that former coachmen made the best chauffeurs because of their ingrained habits of obsequious obedience; they would always know “exactly what is expected of them by their masters.”

It will be to Henry Ford's undying glory that he ended all that, that he made the automobile perhaps the most powerful instrument of classlessness, of egalitarian American democracy. Any man who owned a car was on equal terms with any other. And virtually anyone could afford to own a car. The Model T could perform as well as any.

As Ford said in one of his moments of raw wisdom, unadorned by his hovering ghost writers:

Everybody wants to be someplace he ain't. As soon as he gets there he wants to go right back.

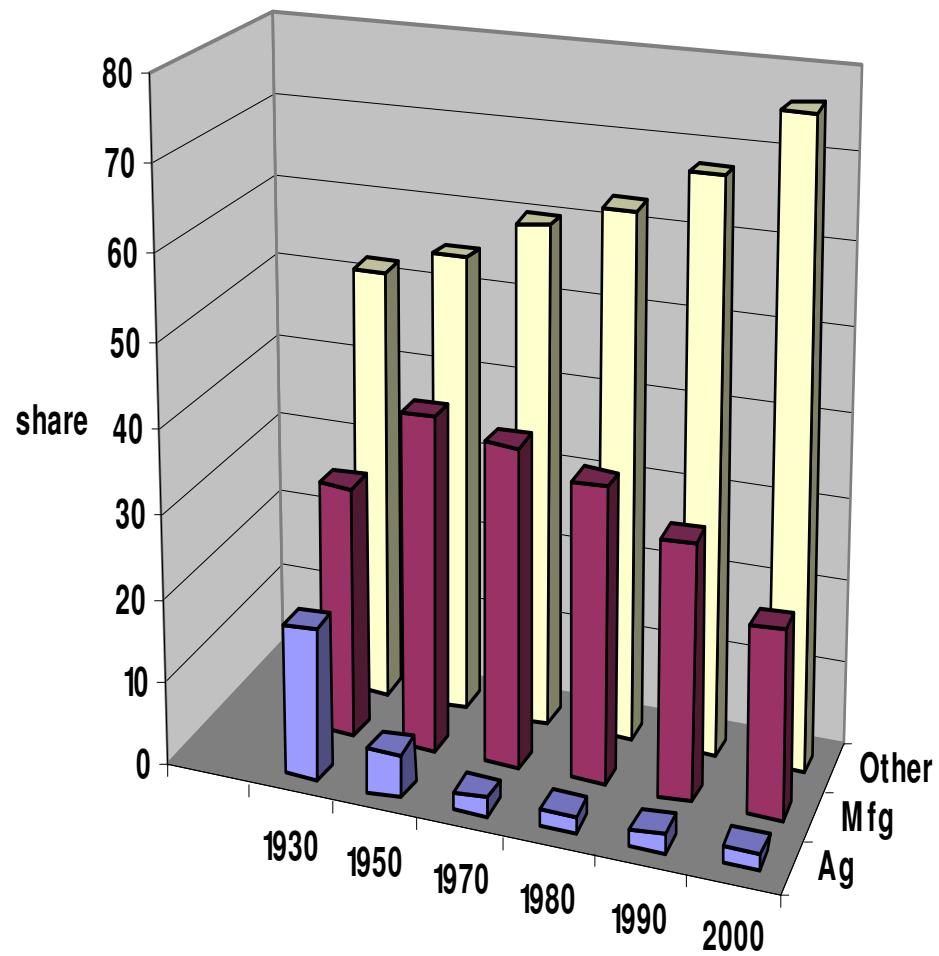
The Wonderful World of Work



Agriculture in 20th Century

<u>Year</u>	<u>Farm Workers As % of Total US Employment</u>
<u>1919</u>	<u>32.8%</u>
<u>1930</u>	<u>29.8%</u>
<u>1940</u>	<u>25.3%</u>
<u>1950</u>	<u>18.0%</u>
<u>1960</u>	<u>11.5%</u>
<u>1970</u>	<u>6.0%</u>
<u>1980</u>	<u>3.9%</u>
<u>1990</u>	<u>2.6%</u>
<u>1999</u>	<u>1.3%</u>

Greenville Employment Shares 1930-2000



U.S. LEADING INDUSTRIES

1860

1. Cotton
2. Lumber
3. Boots
4. Flour
5. Men's Clothing
6. Iron
7. Machinery

1899

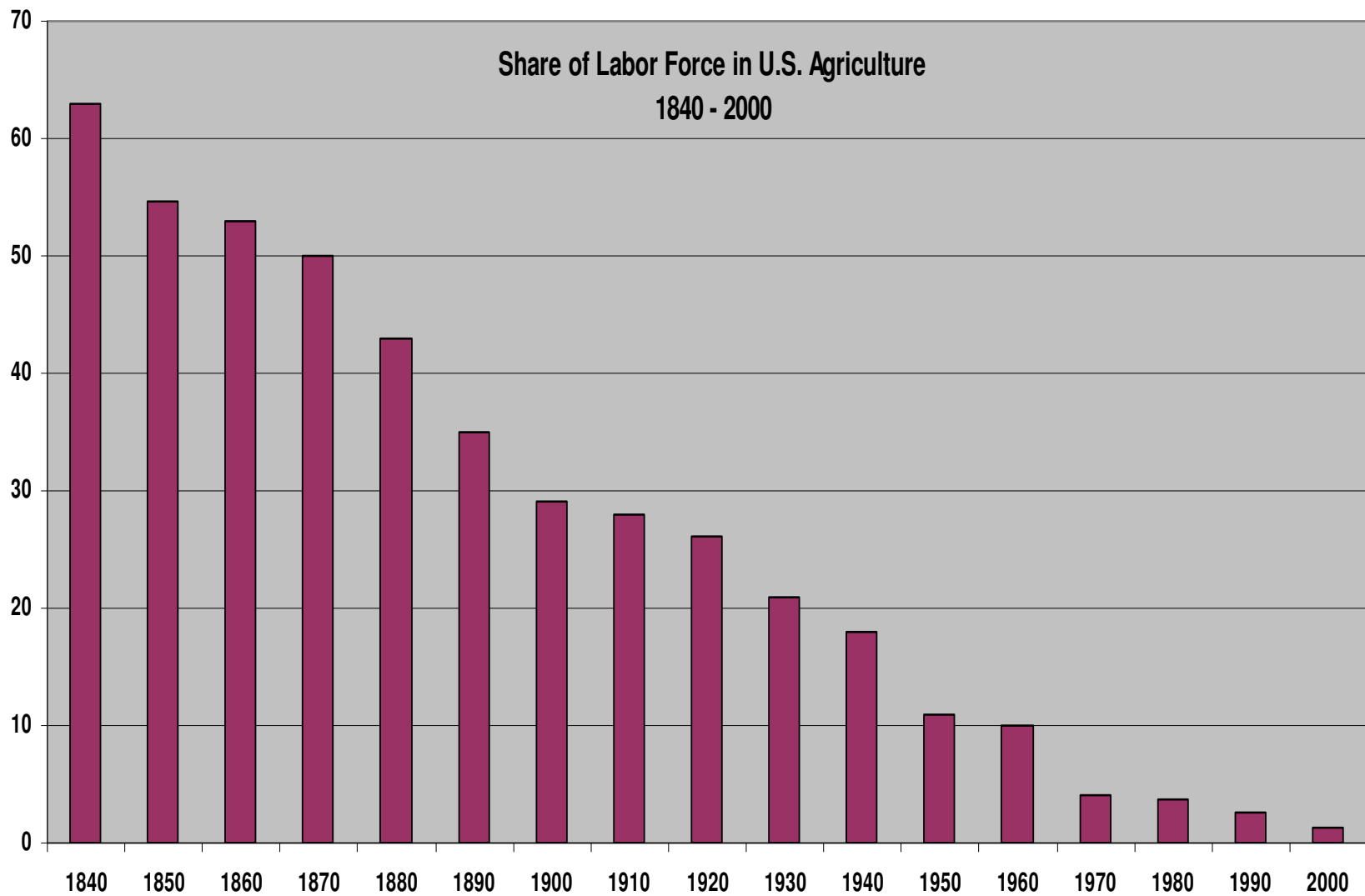
1. Crude Iron
2. Packing
3. Foundry, Mchy.
4. Lumber
5. Flour
6. Men's Clothing
7. Printing

1920

1. Motor Car
2. Iron
3. Packing
4. Printing
5. Petroleum
6. Electrical Mchy.
7. Bread

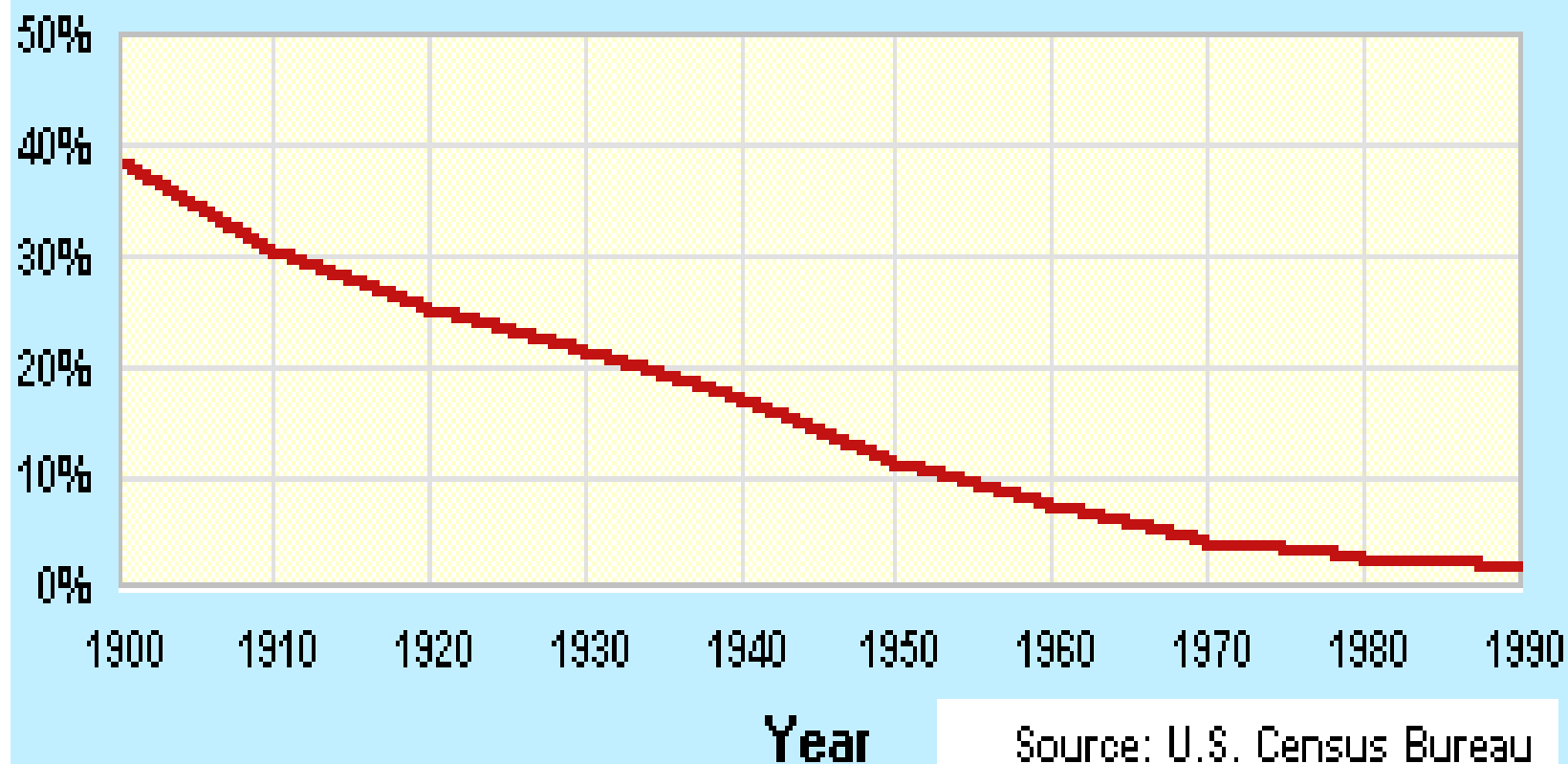
The Agriculture Miracle





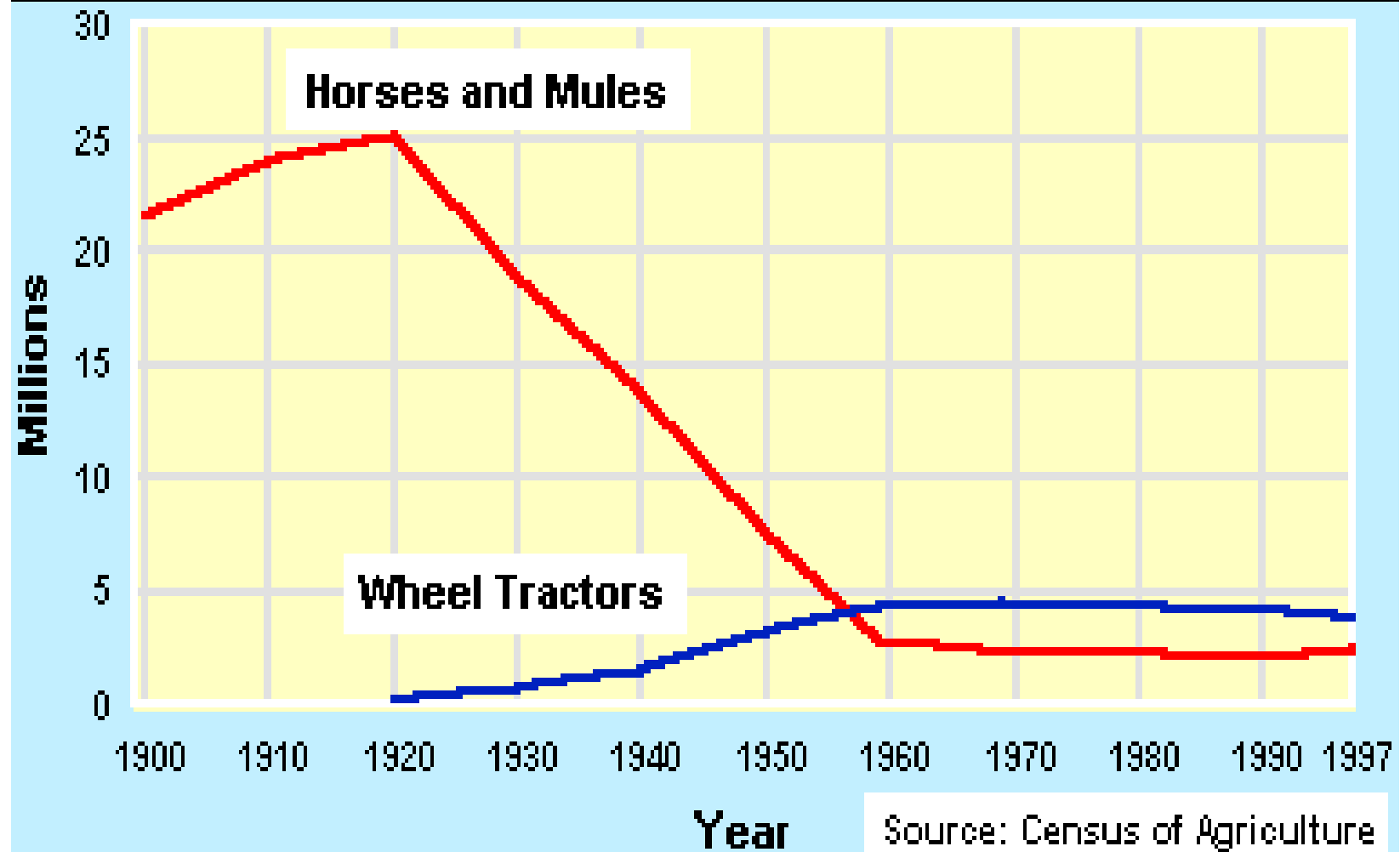
Source: 1930 to 2000, Economic Report of President. 1840 to 1870. Jonathan Hughes, American Economic History, 1990. 1870, 1910-1929. Stephen Broadberry. Agriculture and Structural Change: Lessons from the U.K. Experience in an International Context, 2006. Other years are estimates.

Percent of U.S. Labor Force Working on Farms: 1900-1990

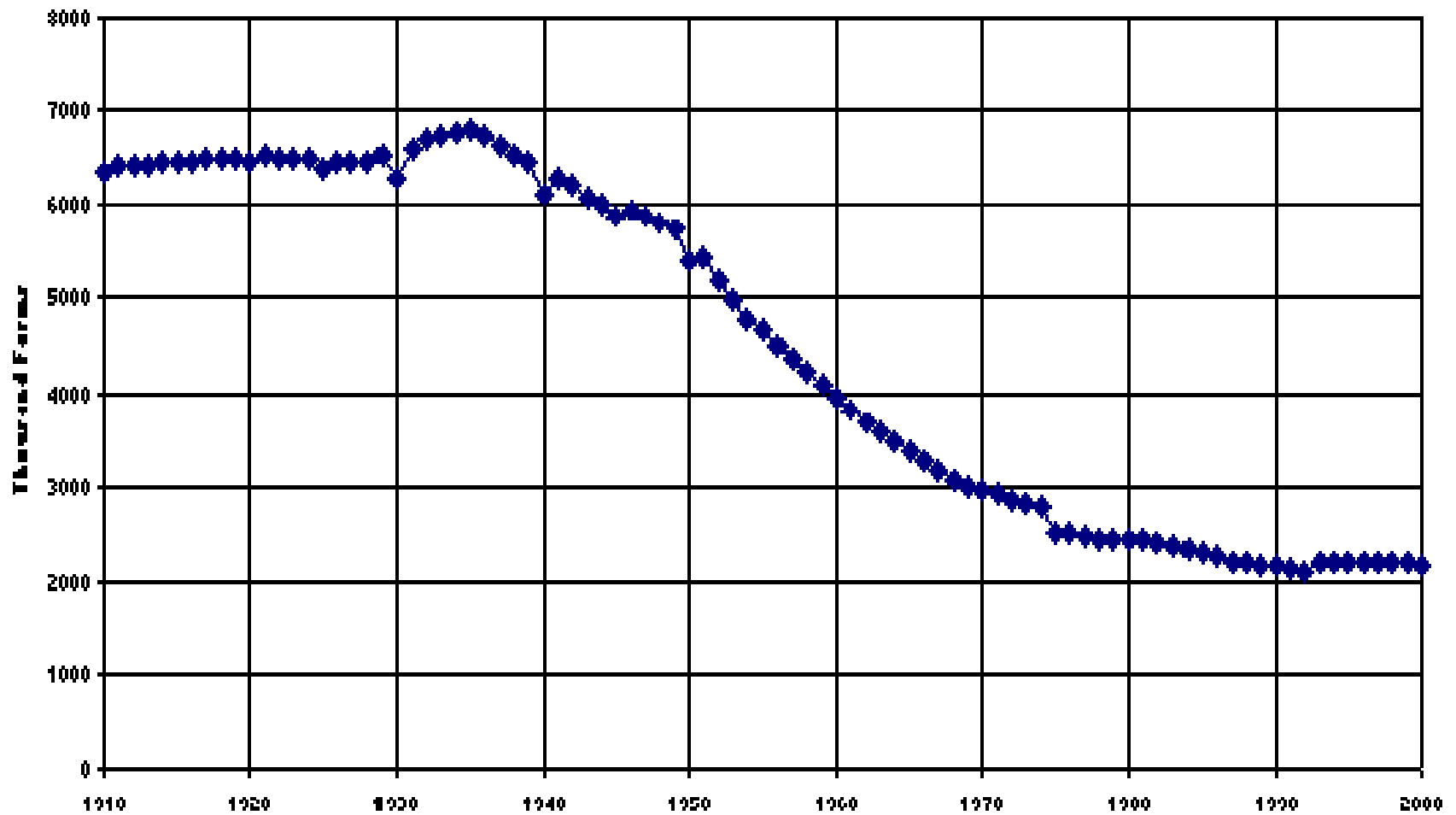


Source: U.S. Census Bureau
U.S. Bureau of Labor Statistics

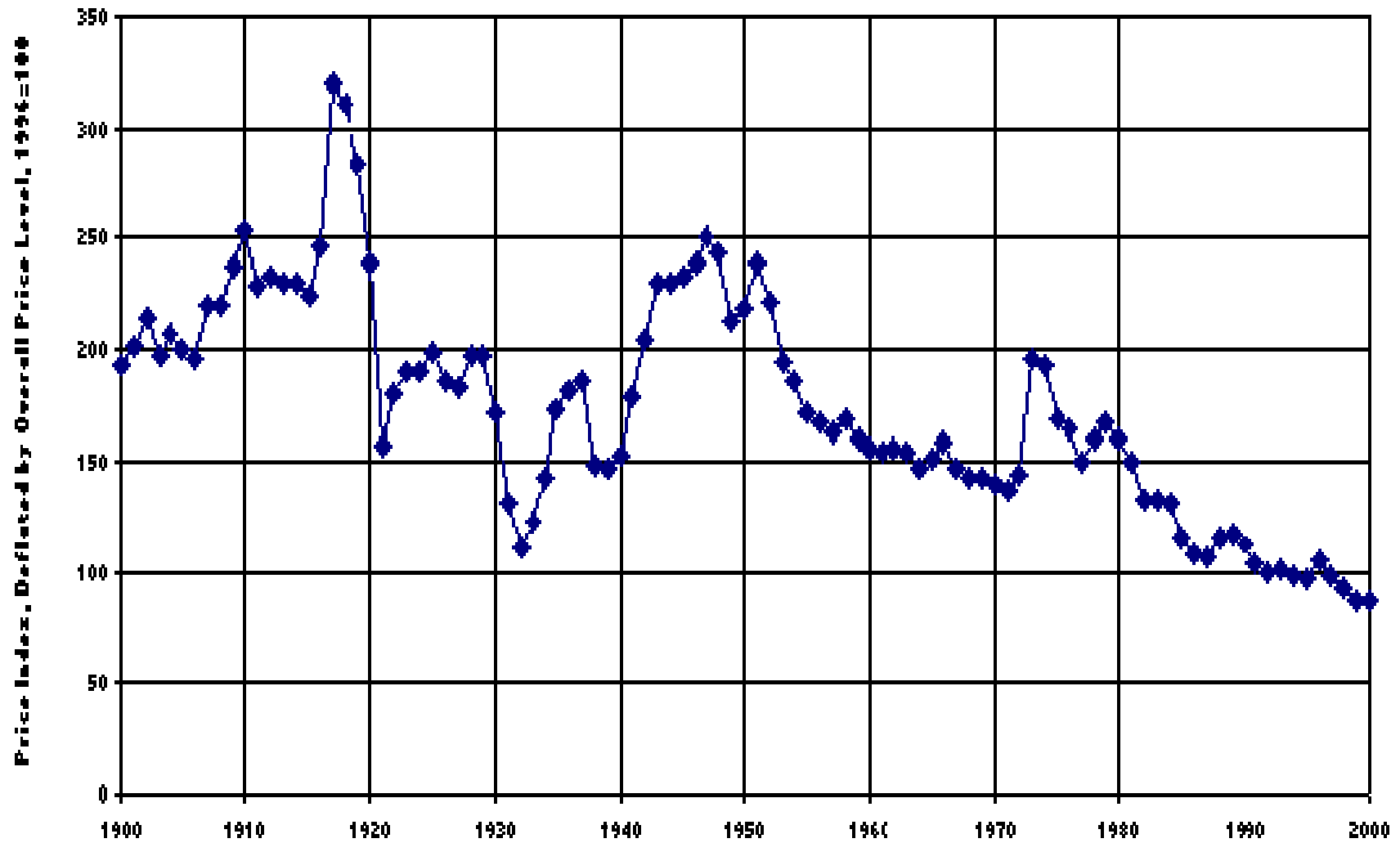
Farm Mechanization: 1900-1997



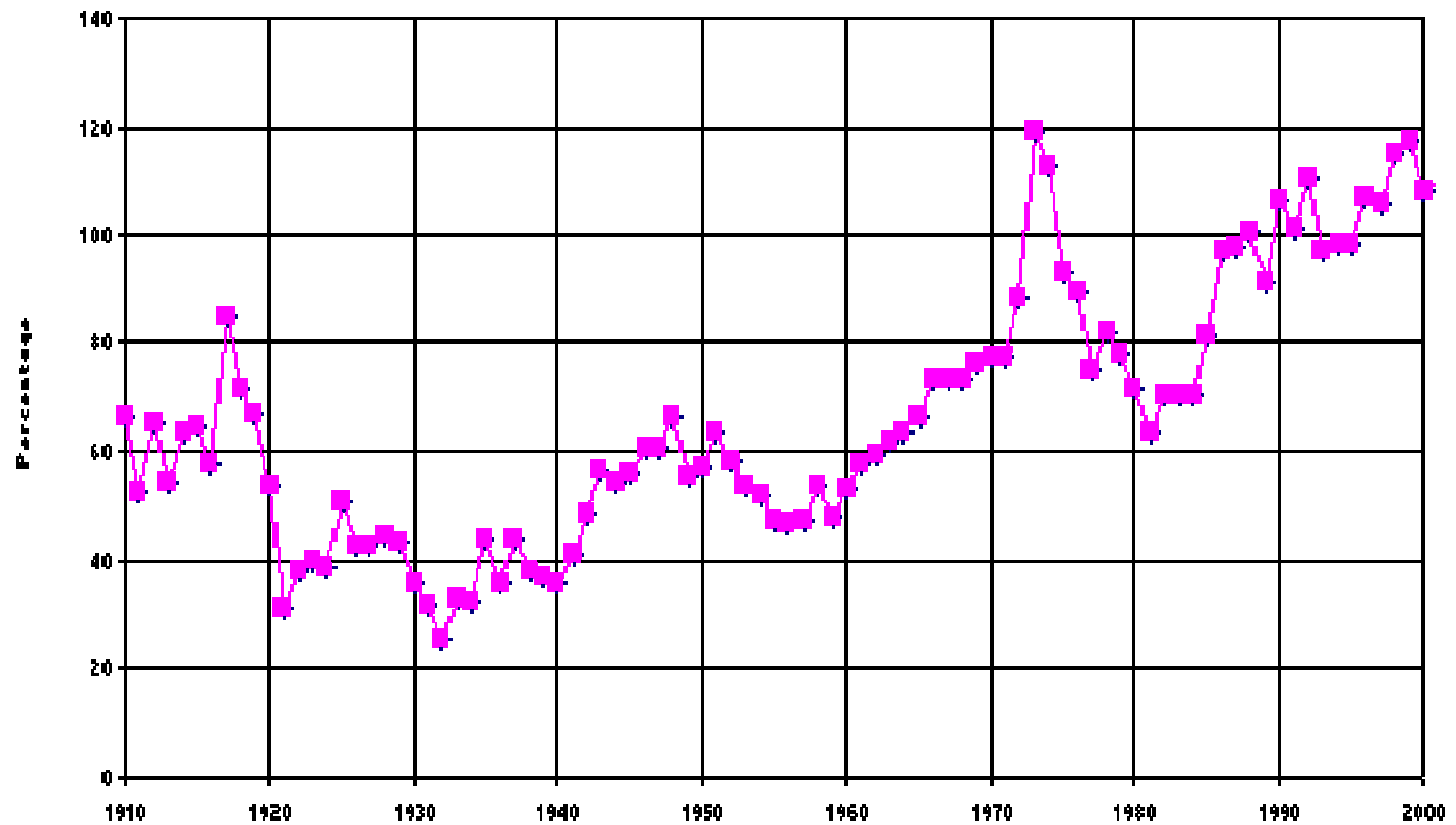
Number of U.S. Farms: 1910-2000



Real Product Prices Received by Farmers



- Farm Income as Percent of Non-Farm Income



The Changing Industrial Scene



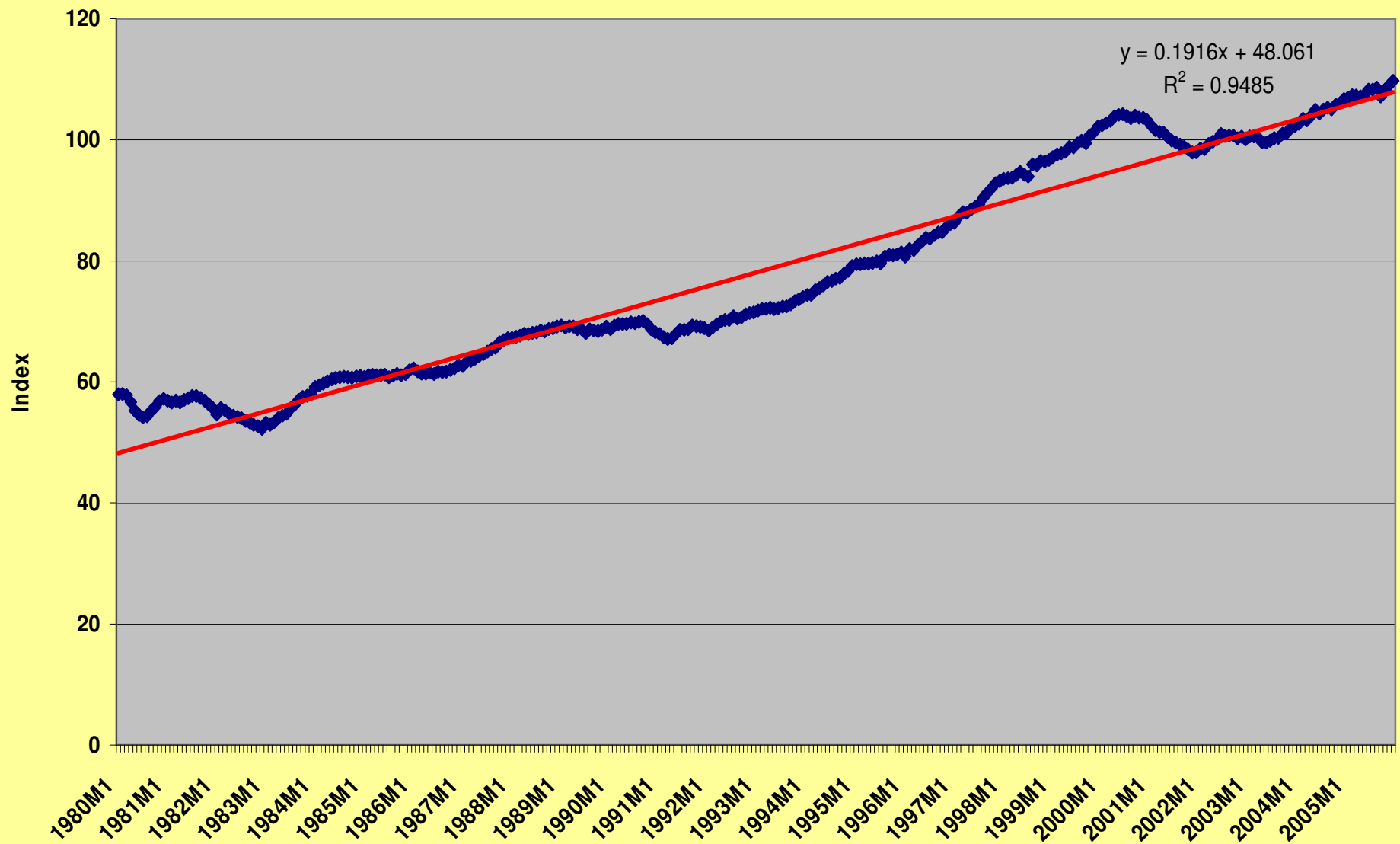
PRODUCTION-BASED INDUSTRY RANKINGS

1972	1980	1990	2000	2004	12.2005
Iron/Steel	Iron/Steel	Printing	Comp/EI	Comp/EI	Comp/EI
Apparel	Apparel	Apparel	Autos	Autos	Machinery
Machinery	Paper	Plast/Rubber	Food	Food	Aircraft
Food	Fab. Metal	Food	Fab. Metal	Chemicals	Fab Metal
Paper	Paper	Chemicals	Machinery	Iron/Steel	Plast/Rubber
Fab Metal	Food	Iron/Steel	Food	Plast/Rubber	Glass
Chemicals	Chemicals	Fab. Metal	Chemicals	Machinery	Autos
Autos	Printing	Machinery	Printing	Fab. Metal	Food
Printing	Autos	Plast/Rubb	Paper	Paper	Chemicals
Plast/Rubb	Plast/Rubb	Autos	Iron/Steel	Printing	Paper

Source: Economic Report of the President, 2005, and Federal Reserve Board.

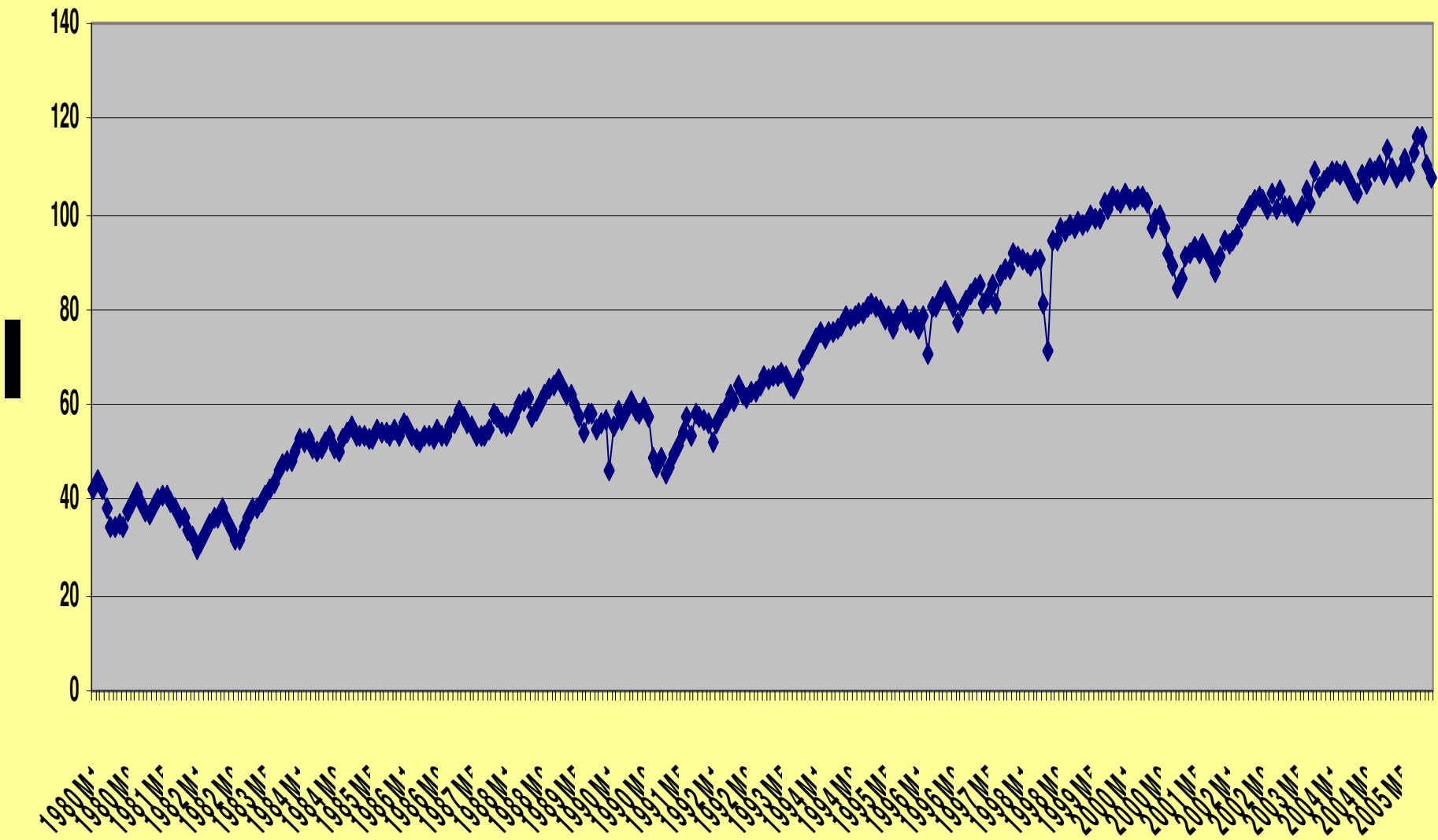
Industrial Production: 1980-2005

Federal Reserve Index



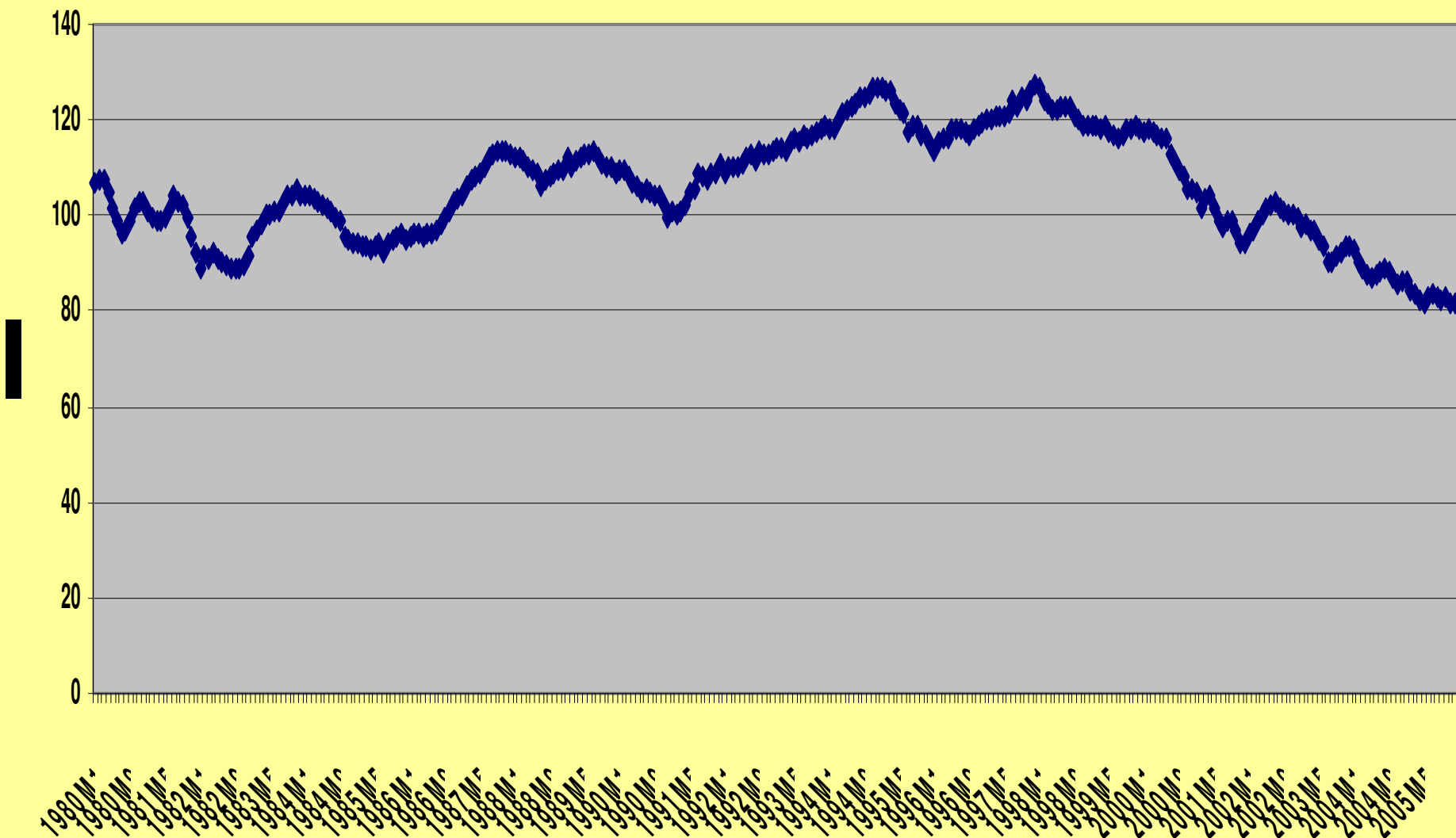
Production of Autos & Parts: 1980-2005

Federal Reserve Index



Textile Mill Production: 1980-2005

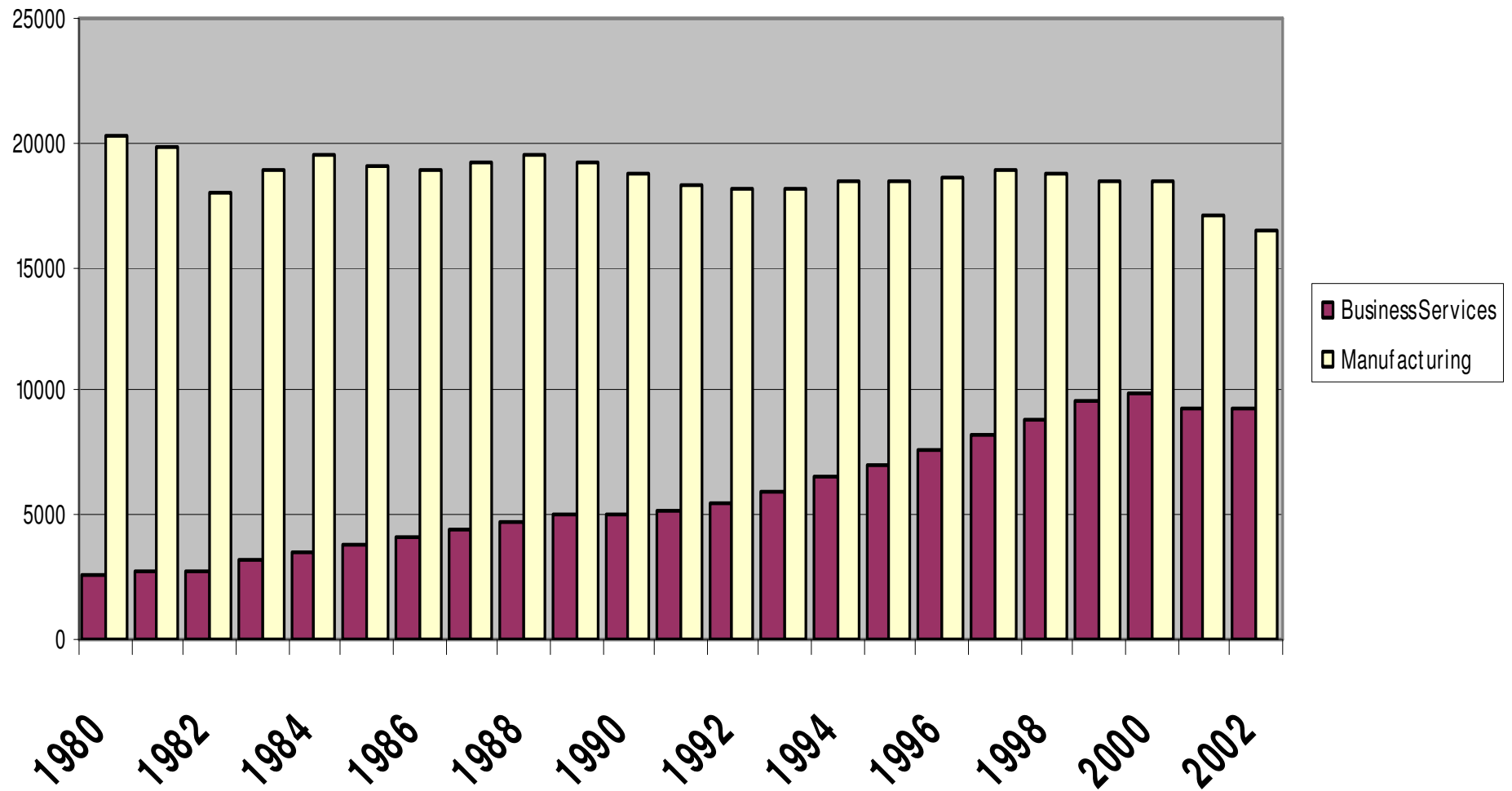
Federal Reserve Index



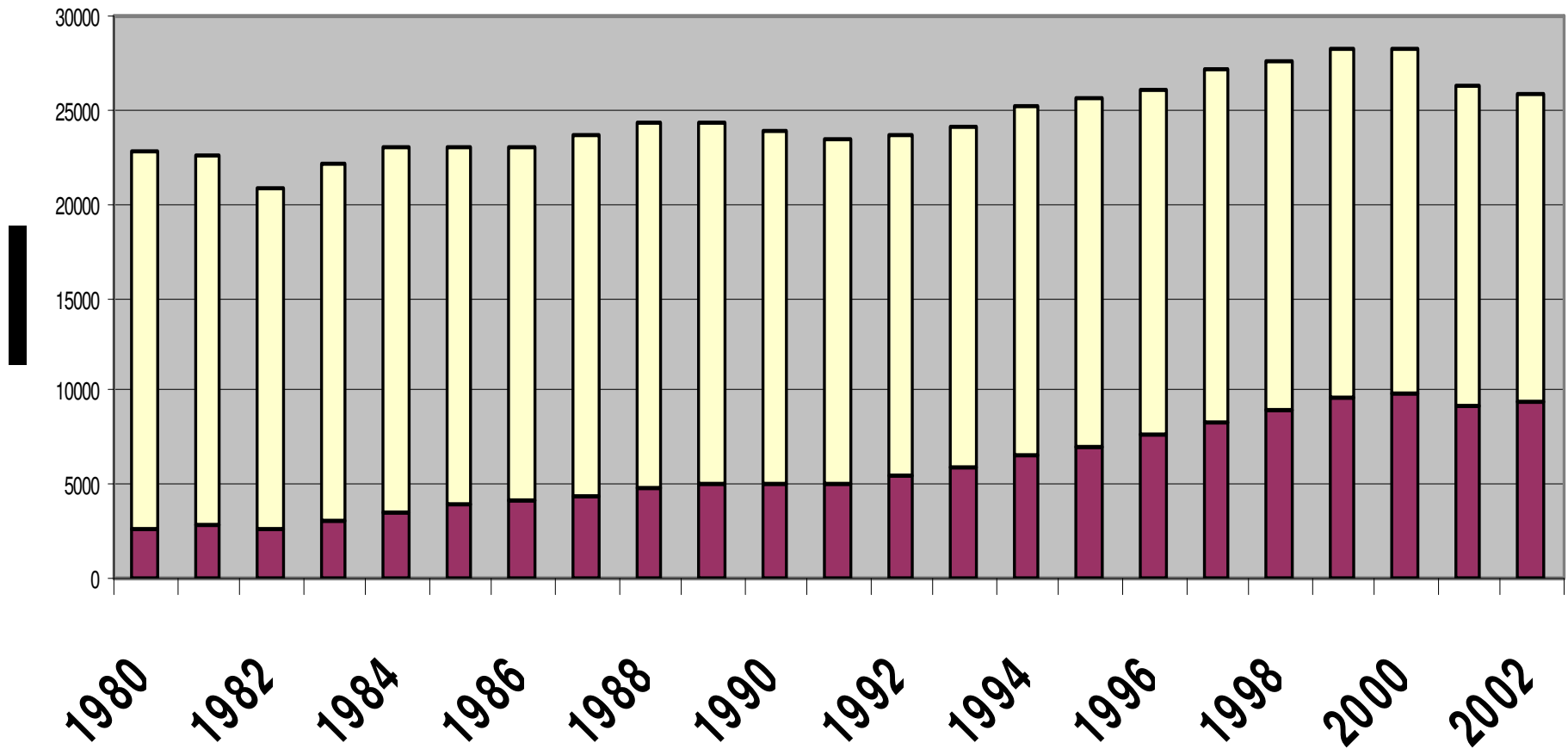
U.S. Manufacturers are Disintegrating

- From doing it all to doing one thing
- And bringing down costs
- While maintaining world leadership

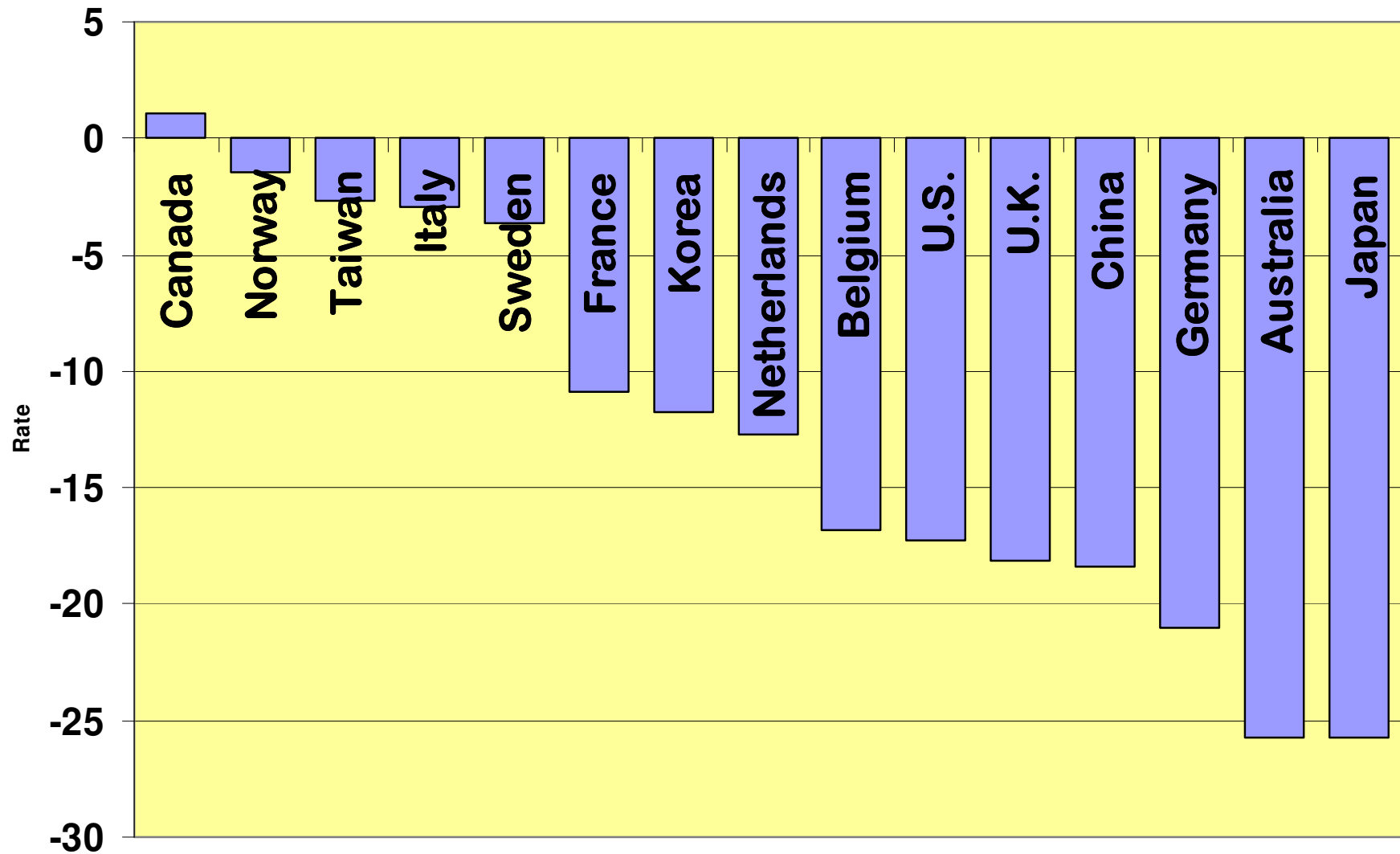
Manufacturing and Business Services Employment, 1980-2002



Total Manufacturing and Total Business Services Employment: 1980-2002



Percentage Change in Manufacturing Employment 1992-2003



Data for The Netherlands and China are for 1990-2002.

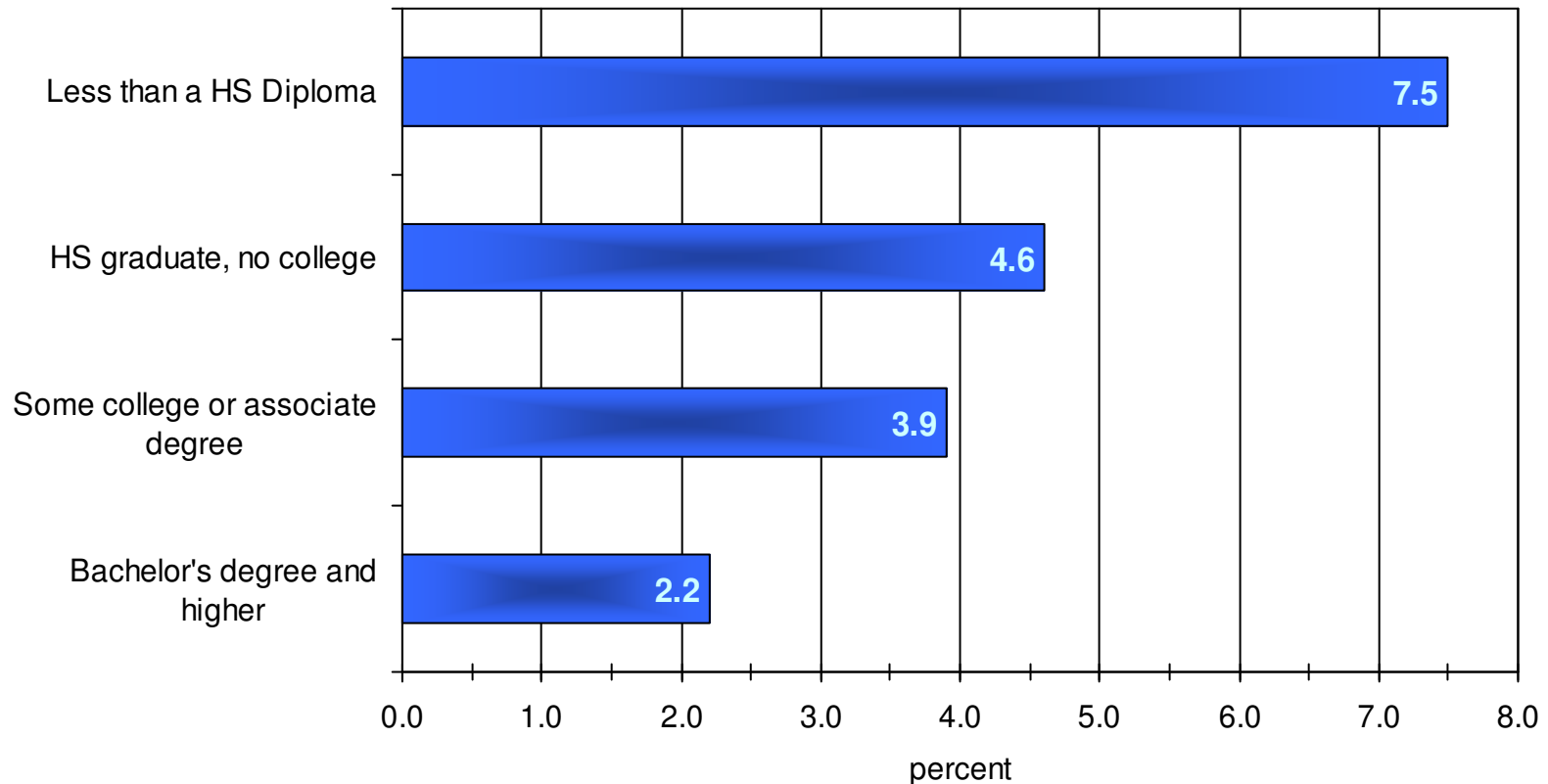
Source: W.A. Ward, Manufacturing Productivity and the Shifting U.S.,
China, and Global Job Scenes, 1990-2005. Center for International Trade,
Clemson University, Clemson, SC.



Looking for the New Economy

US Unemployment Rate by Educational Attainment December 2005

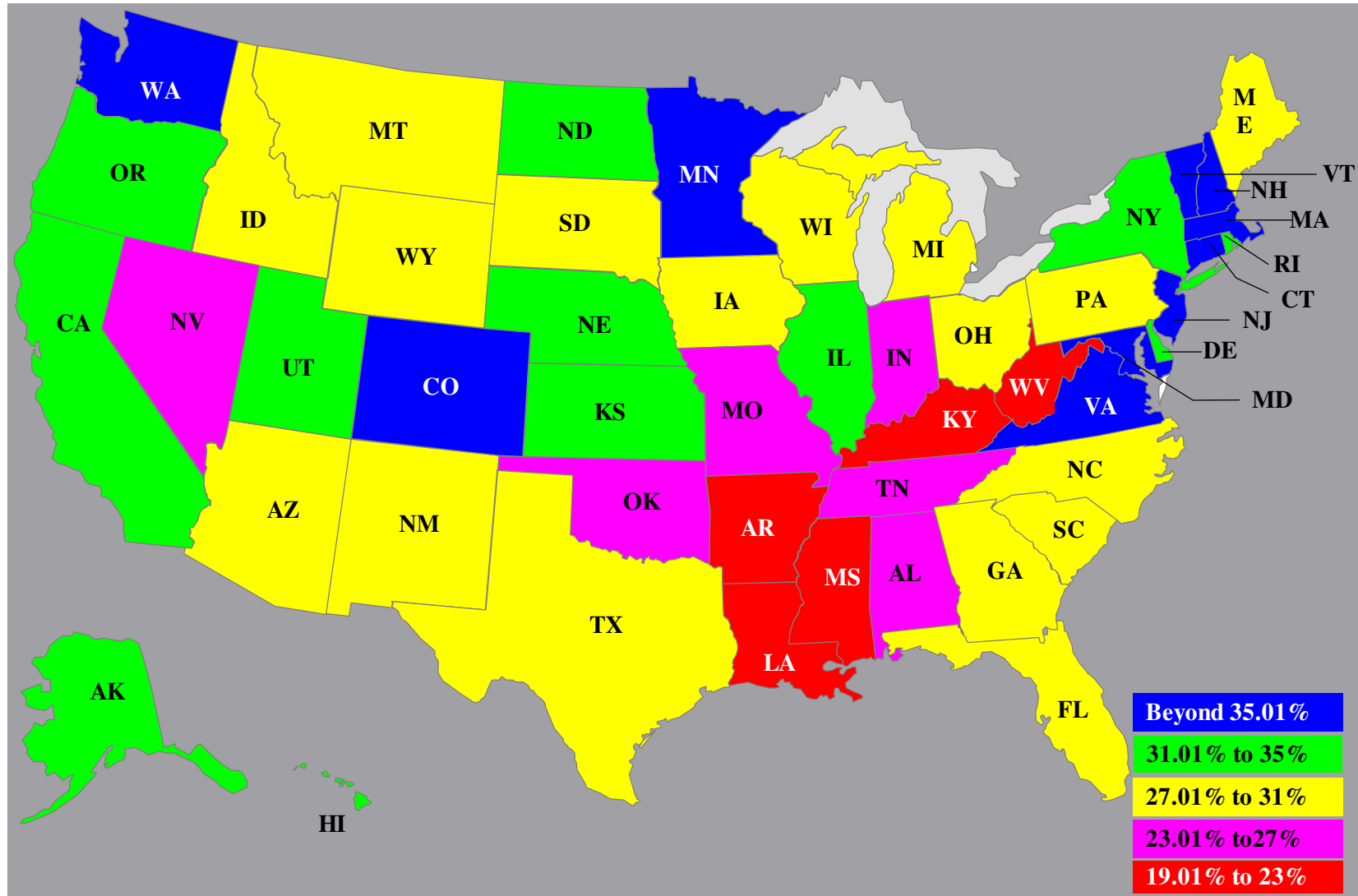
Education is the key to labor market success –The unemployment rate for persons with a bachelor's degree or higher held steady at 2.2%.



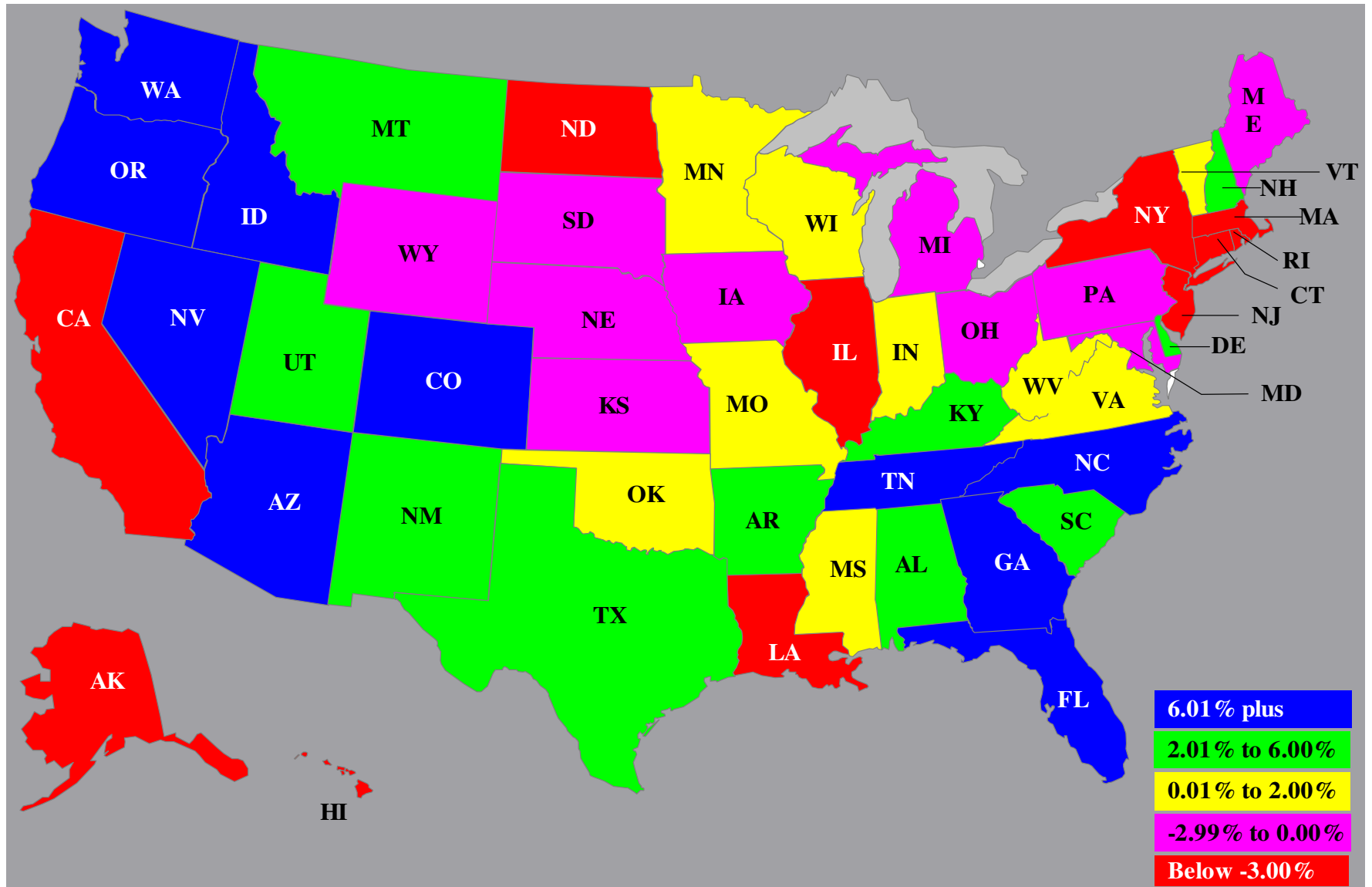
Employment status of the civilian population 25 years and older by educational attainment

Source: Bureau of Labor Statistics

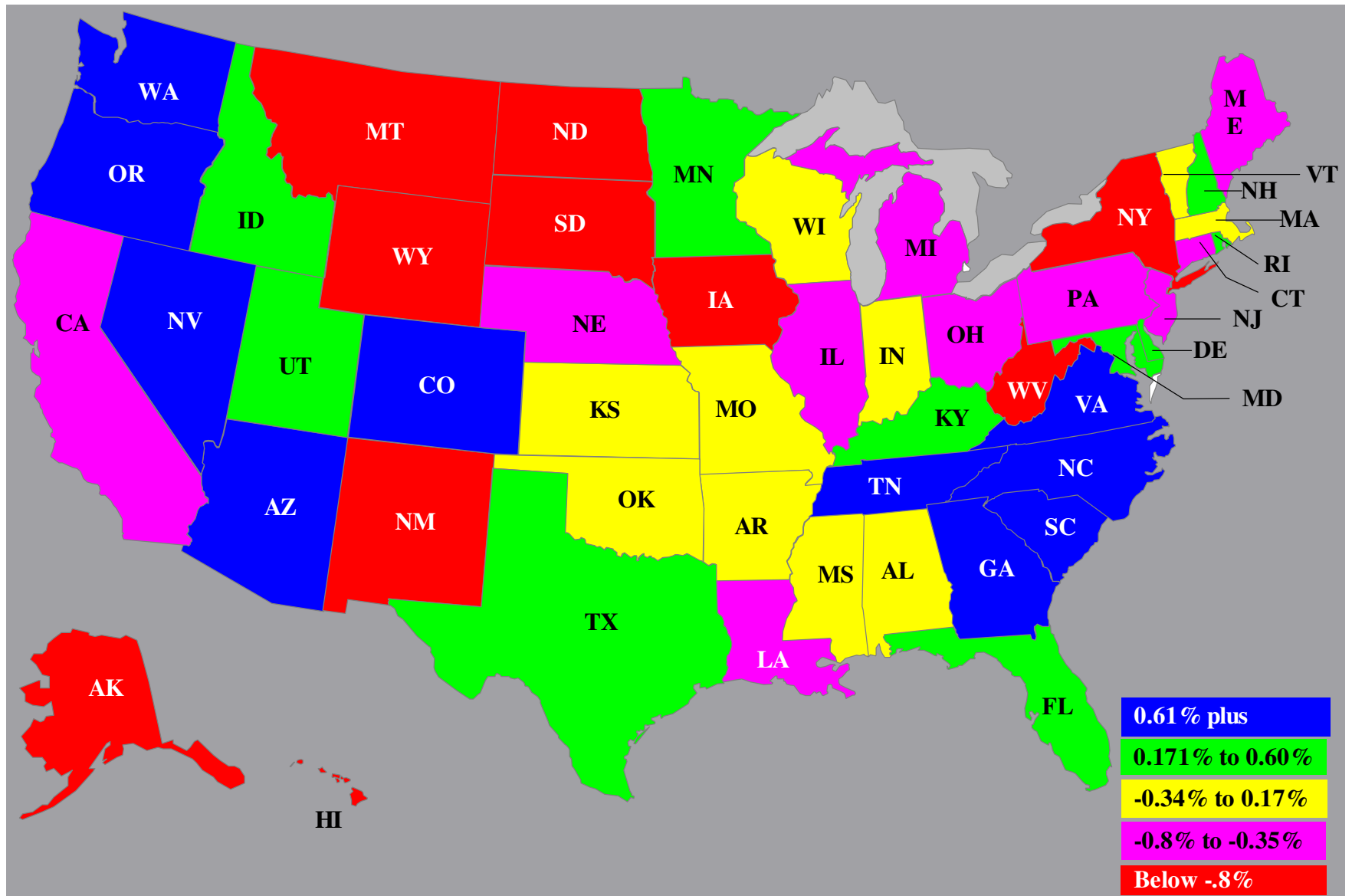
PERCENT OF POPULATION 25 AND OVER WITH A COLLEGE OR PROFESSIONAL DEGREE IN 2000



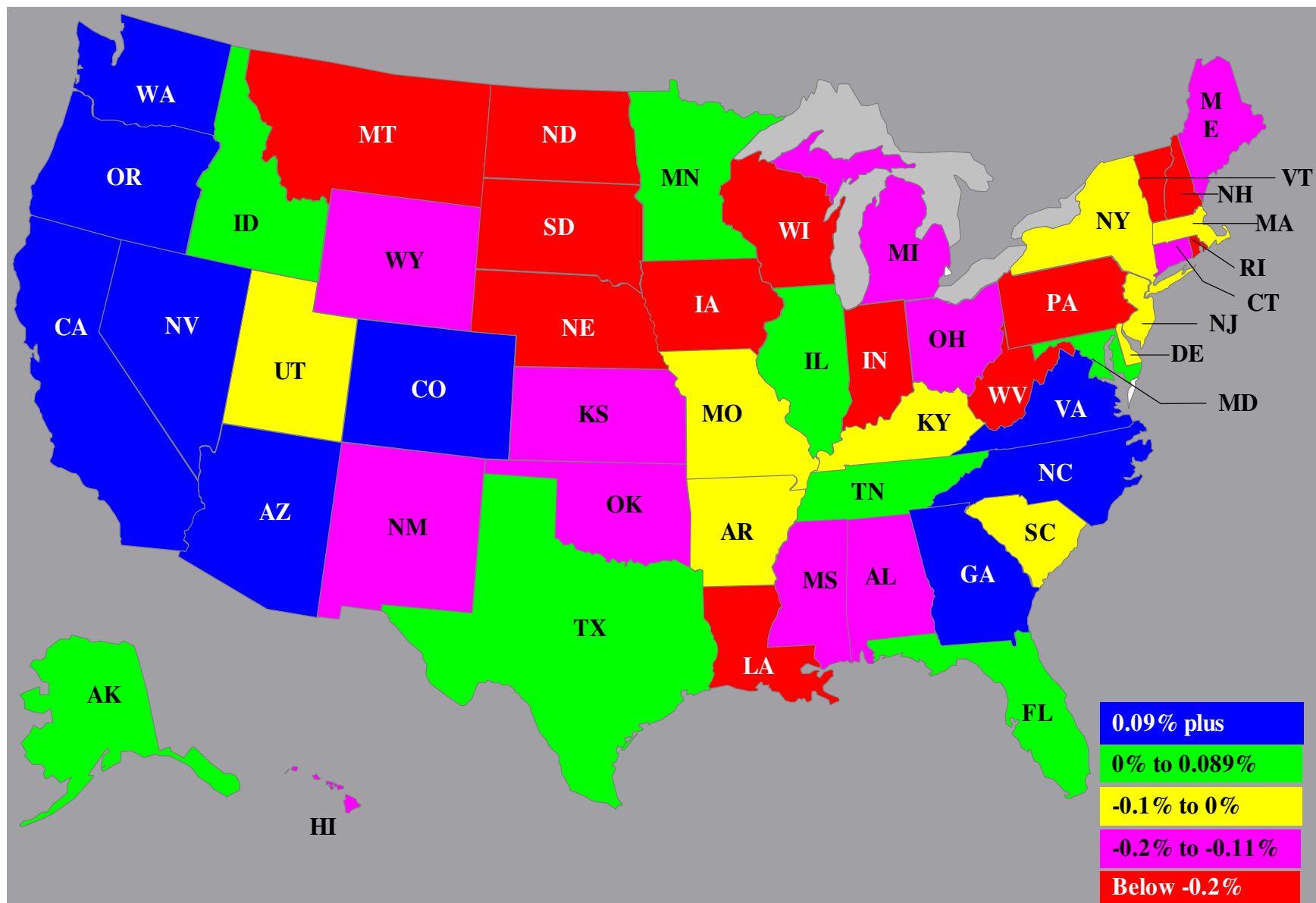
NET 1990-2000 INTERNAL MIGRATION,
PERCENT OF 2000 POPULATION



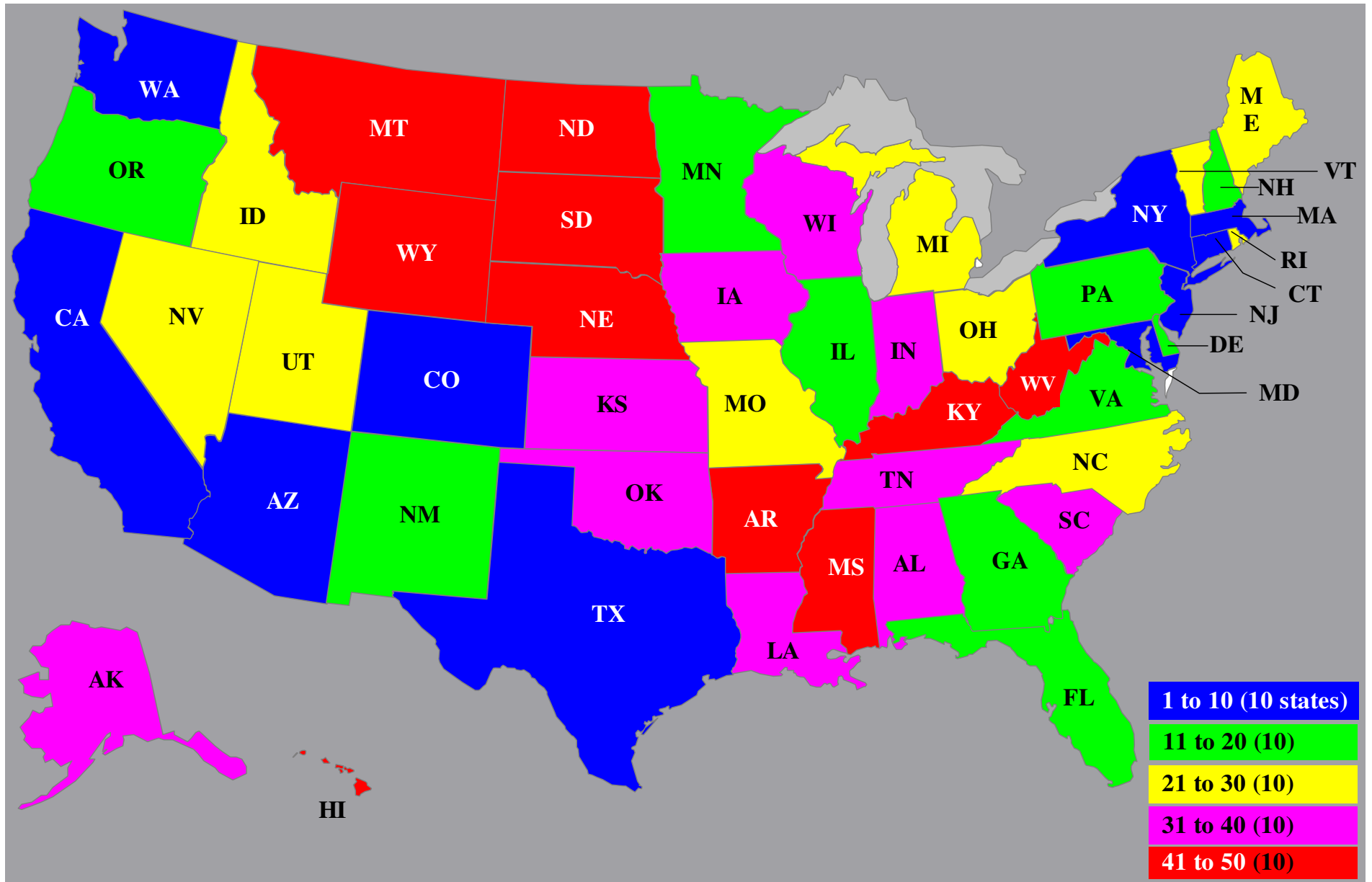
NET 1995-2000 INTERNAL MIGRATION
OF PEOPLE WHO WERE 20 TO 34,
PERCENT OF 2000 POPULATION



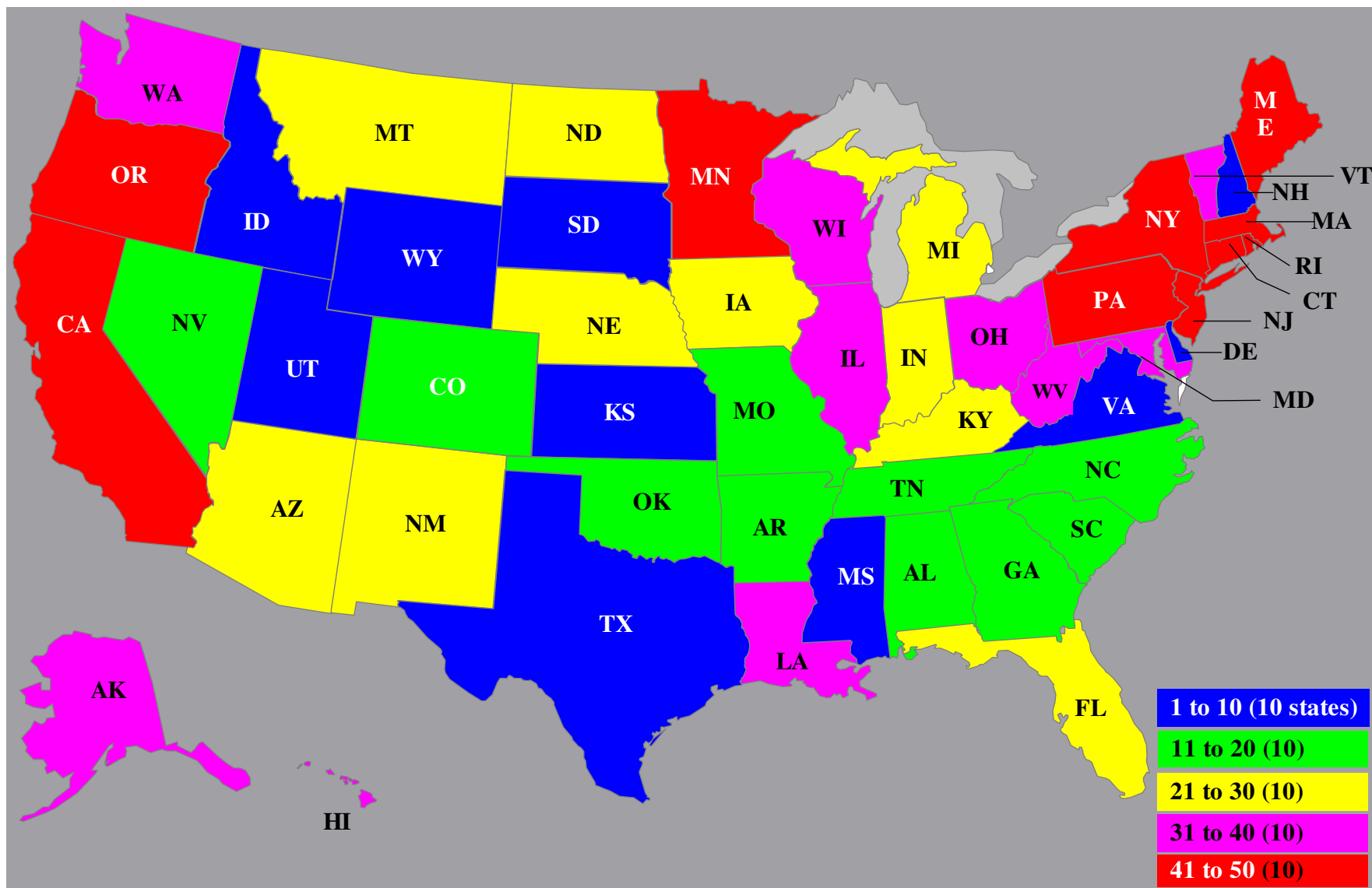
INTERNAL MIGRATION OF PEOPLE WHO WERE 25-39, SINGLE & COLLEGE EDUCATED PERCENT OF 2000 POPULATION



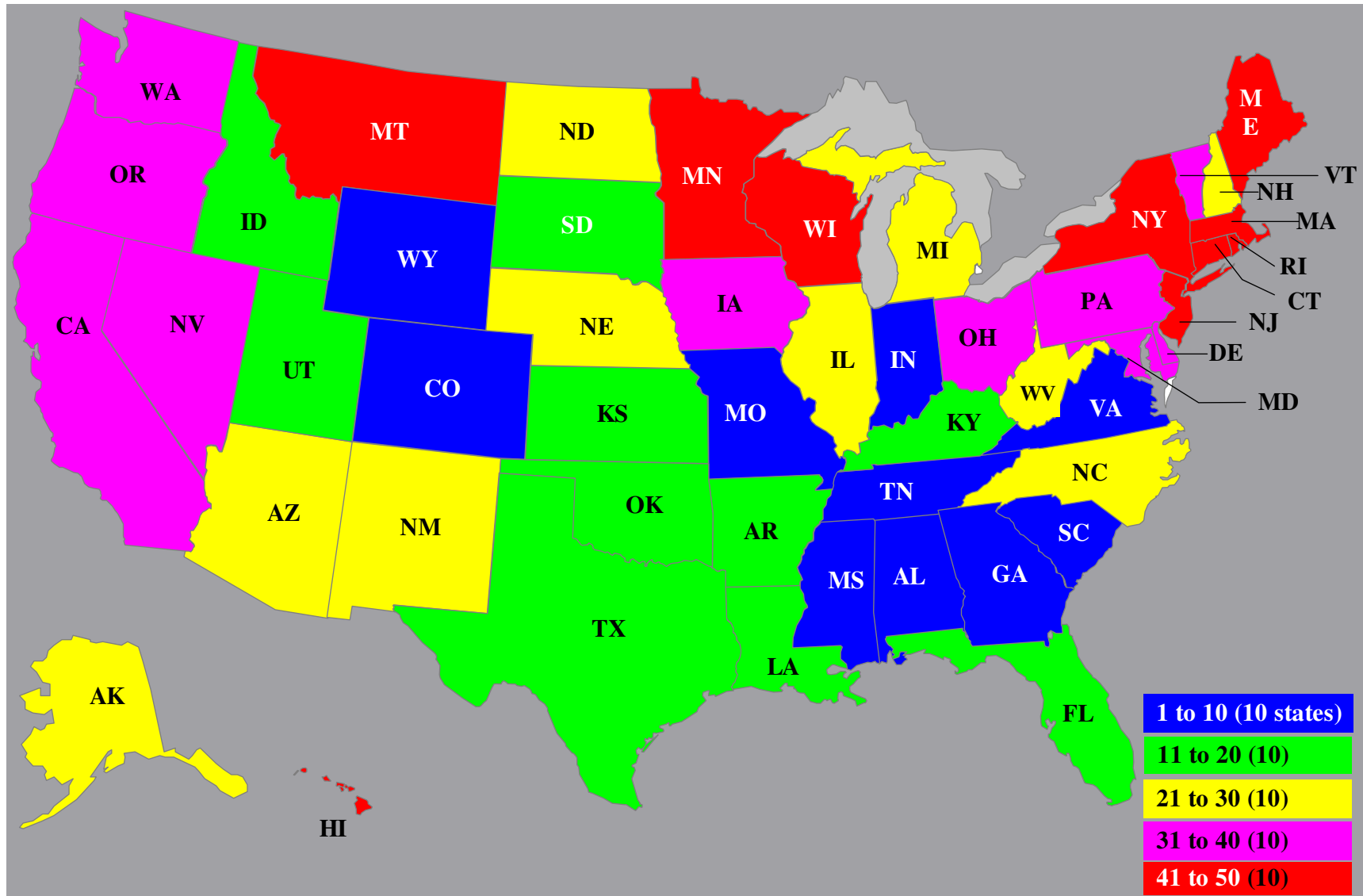
CREATIVITY INDEX 2003 RANKINGS



U.S. ECONOMIC FREEDOM INDEX, 1999



U.S. FREEDOM FISCAL INDEX, 1999



What did we learn?

Go Getters are:

- Highly attracted by service sector jobs.
- Repelled by state taxes.
- Attracted by “cool” locations.
- Are not sensitive to high versus low income locations.

