

# Consumers: still an engine for U.S. job growth?

Consumer spending and jobs from the “Great Recession” through 2022

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Employment Projections Program  
U.S. Bureau of Labor Statistics (BLS)

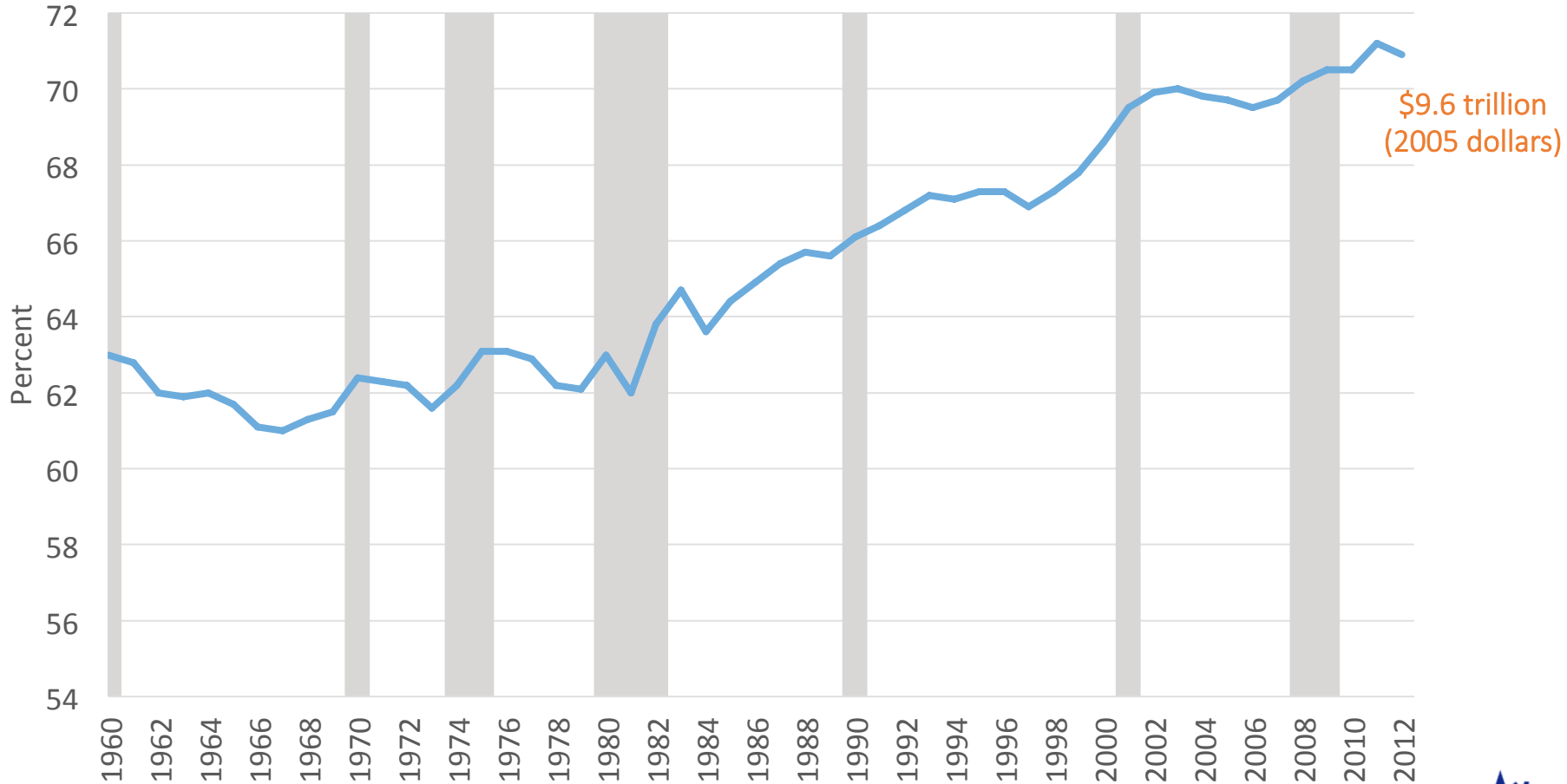
George Washington University  
February 2014



Note:

The following presentation represents the work of the author and is in working draft form. The analysis and conclusions expressed are those of the author alone and not BLS.

# U.S. consumption, percent of U.S. GDP

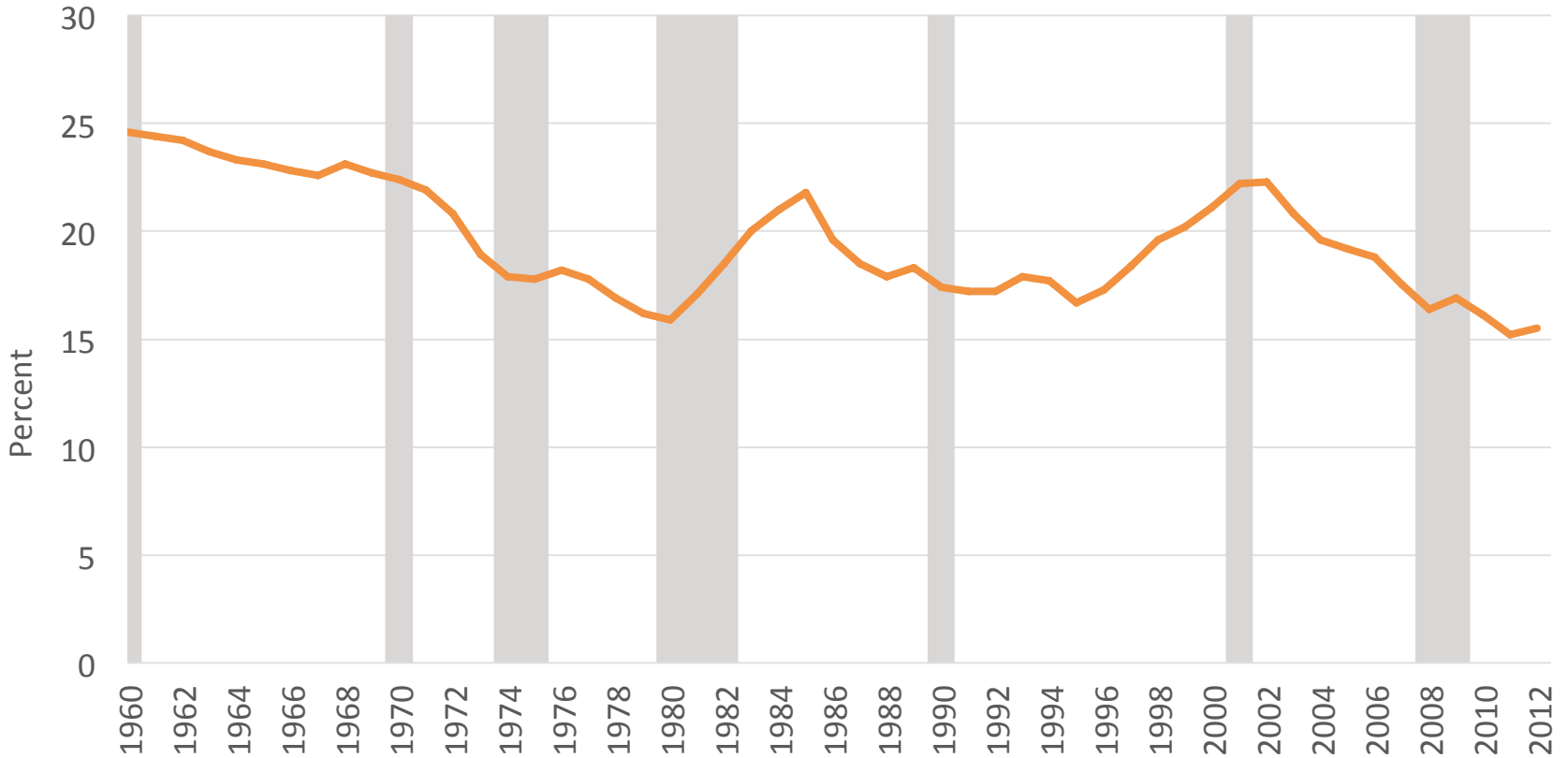


Source: BEA and NBER.

Note: Because the data is presented annually, the recessions of 1980 and 1981-1982 appear as one.



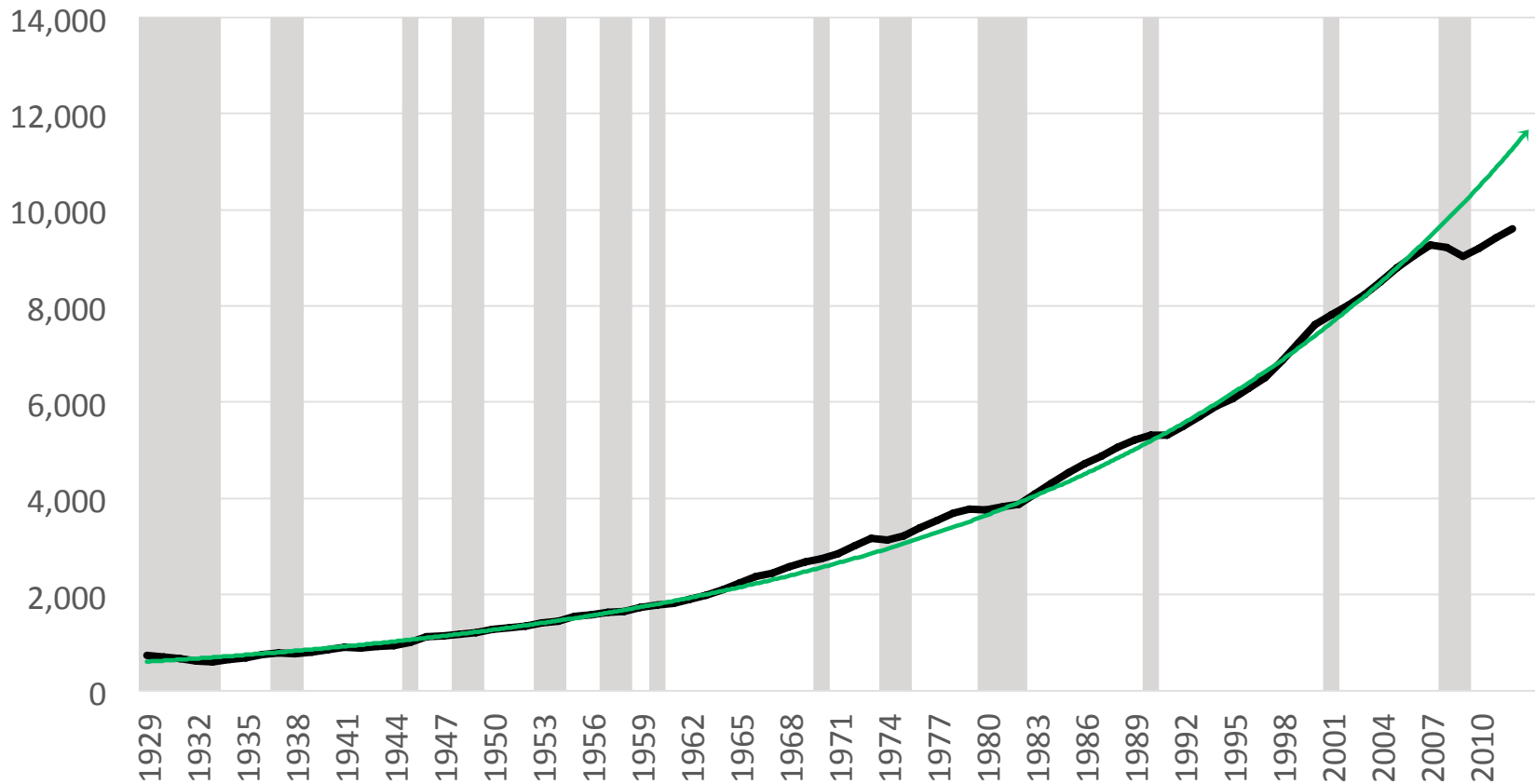
# U.S. consumption, percent of World GDP



Source: BEA and NBER.

Note: Because the data is presented annually, the recessions of 1980 and 1981-1982 appear as one.

# U.S. consumption, billions chained 2005 dollars

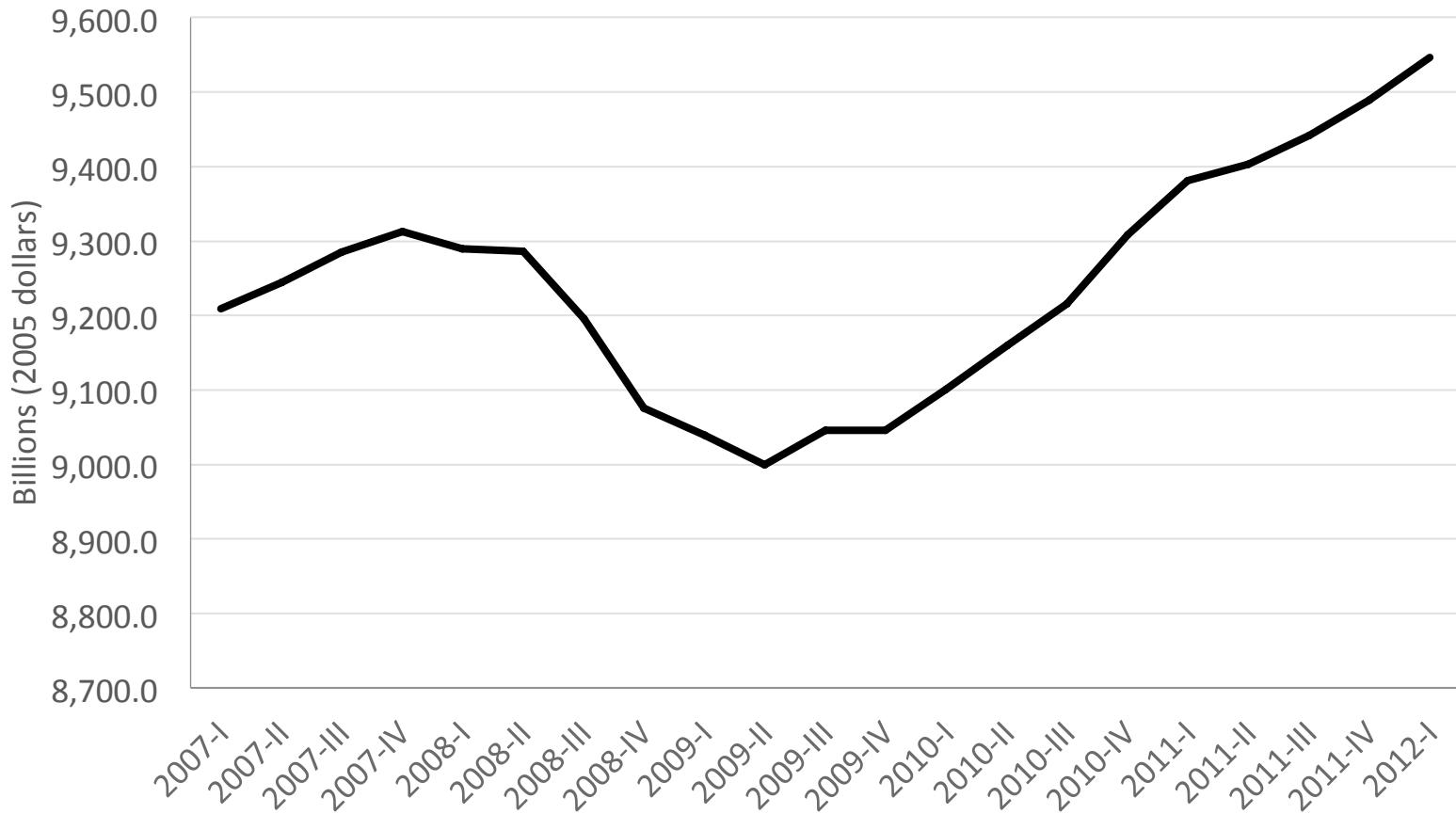


Source: BEA and NBER.

Note: Because the data is presented annually, the recessions of 1980 and 1981-1982 appear as one.

# Consumer spending in the “Great Recession”

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Source: BEA



# Consumer spending in the “Great Recession”

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“Consumer behavior has both reflected and contributed to the slow pace of recovery.”

Ben Bernanke (October 2011)

“Don’t expect consumer spending to be the engine of job growth it once was.”

William R. Emmons, FRBSL (January 2012)

“Sorry, World, U.S. consumers can’t save you.”

Wall Street Journal (May 2013)

“While the downturn has certainly changed the economic landscape, it may also have fundamentally altered the behavior of numerous U.S. consumers...”

McKinsey & Company (December 2009)

# Questions today

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## 1. In the Great Recession...

- What was the impact of consumer spending on job loss and recovery?
- How were long-run historical trends affected?

## 2. In the future...

- What role will consumers play in the economy and growth?
  - Long-run impact of the recession on consumer behavior?
  - Long-run trends (aging population, demand for imports)



# Outline

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1. Methodology
2. Historical trends
3. The “Great Recession”
  - Overall impact on job loss and recovery
  - Major sectors
  - Long-run trends
4. 2022 projections
  - How many jobs
  - Role in overall economy and growth
  - Role in industries with fastest and largest growth
  - What types of jobs

# Methodology

# What is consumer spending?

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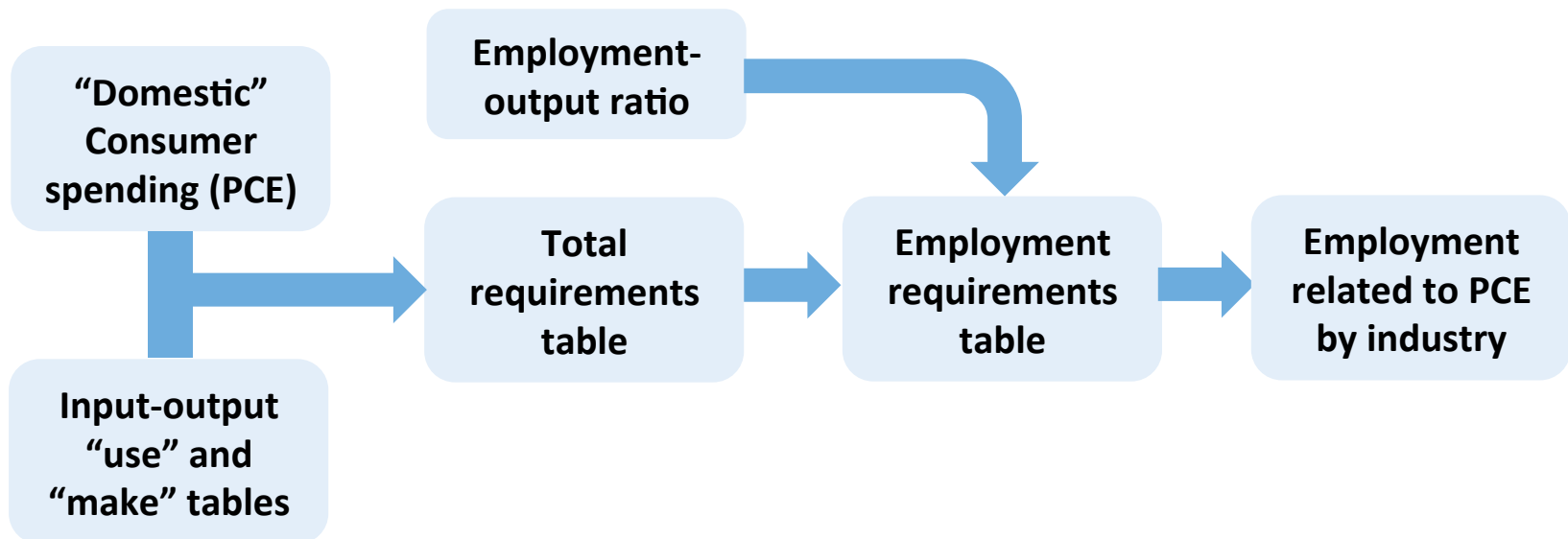
- “Personal consumption expenditures” (PCE)
- PCE measures the **goods** and **services** purchased by “persons” who are resident in the U.S. (BEA)
- PCE includes:
  - Expenditures financed by third-party payers on behalf of households (e.g. healthcare, insurance)
  - Final consumption expenditures of non-profit institutions serving households (NPISHs)



# Translating PCE to Employment

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- “Input-output” system– traces purchase of good or service through entire chain of production
- PCE → “Import-adjusted” PCE (“domestic” PCE)



# Methodology

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- Employment data for 17 major industry sectors and 189 detailed industries

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## **Goods-producing**

Mining

Construction

Manufacturing

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## **Services-providing**

Utilities

Wholesale trade

Retail trade

Transportation and warehousing

Information

Financial activities

Professional and business services

Educational services

Health care and social assistance

Leisure and hospitality

Other services

Federal government

State and local government

Special industries

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# Methodology

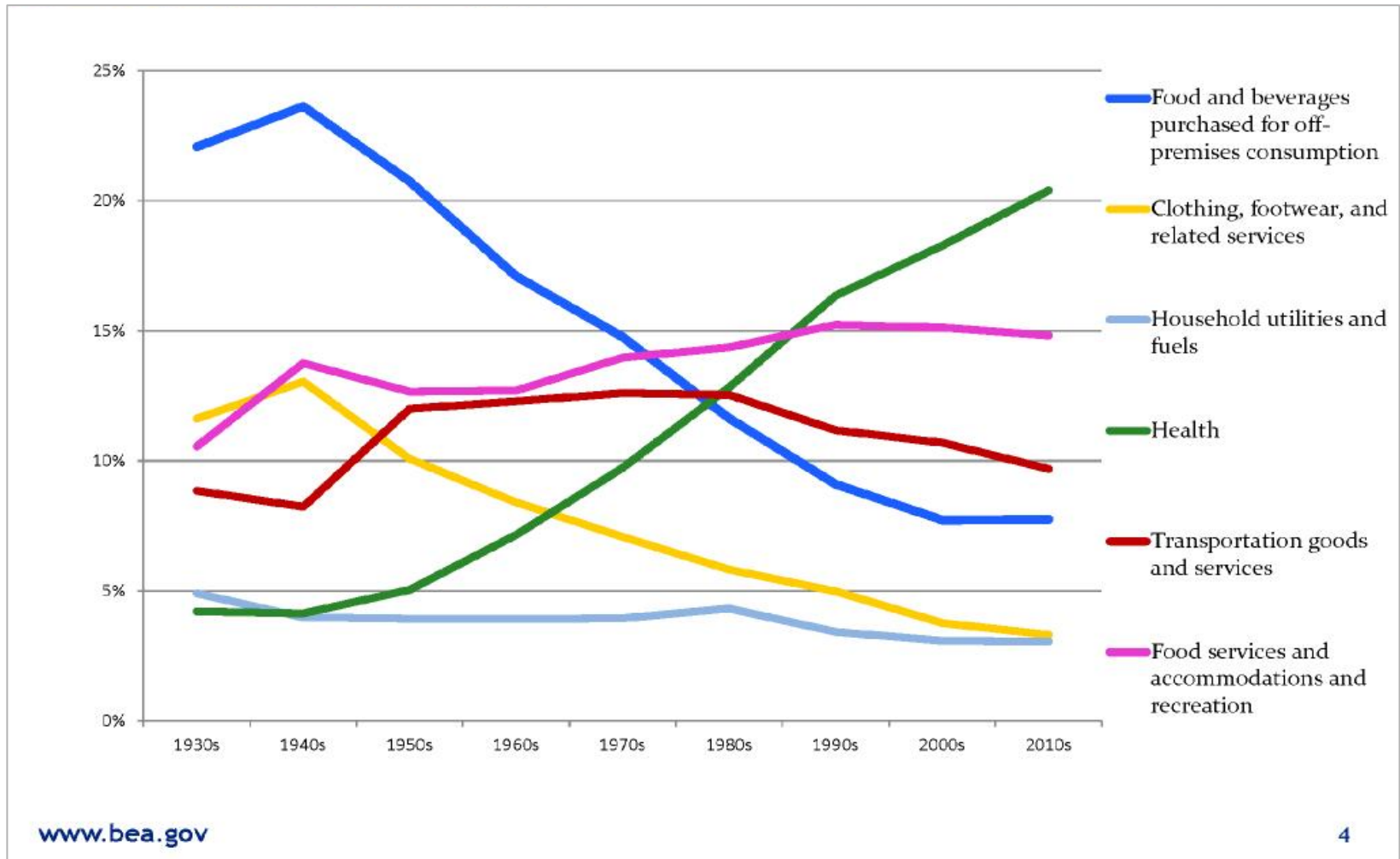
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- 2005 real dollars
- Non-agricultural wage and salary employment
- Employment by major sector and industry, not occupation
- Employment = direct + indirect employment
- Does not include “induced” employment
- March 2013 BEA data used in 2022 BLS Employment Projections
- Historical data for consumer-related employment 1993-2012, projected 2013-2022
- 2011-2012 preliminary historical estimates

# Historical Trends

# What consumers are buying

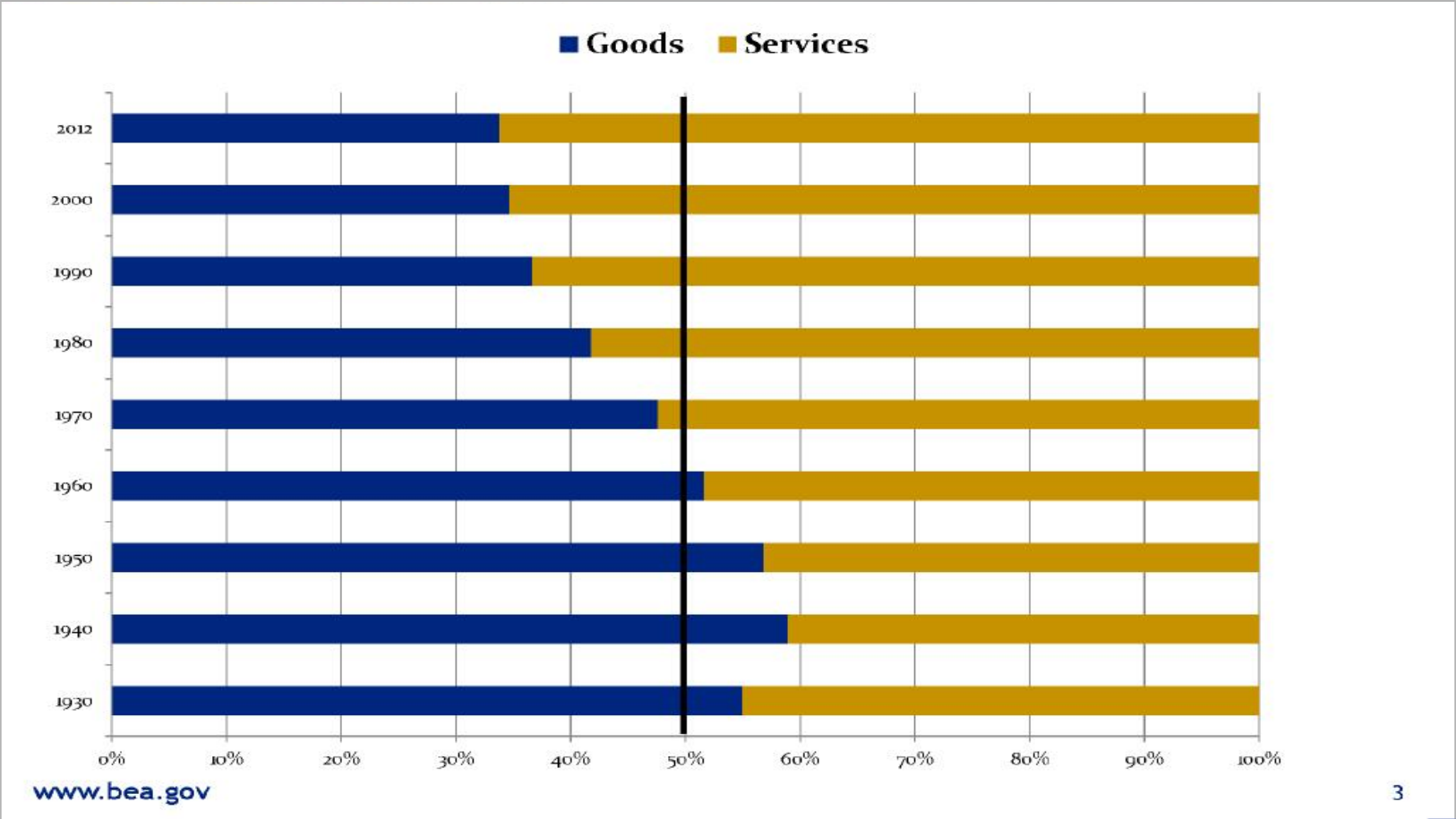
Source: BEA Twitter





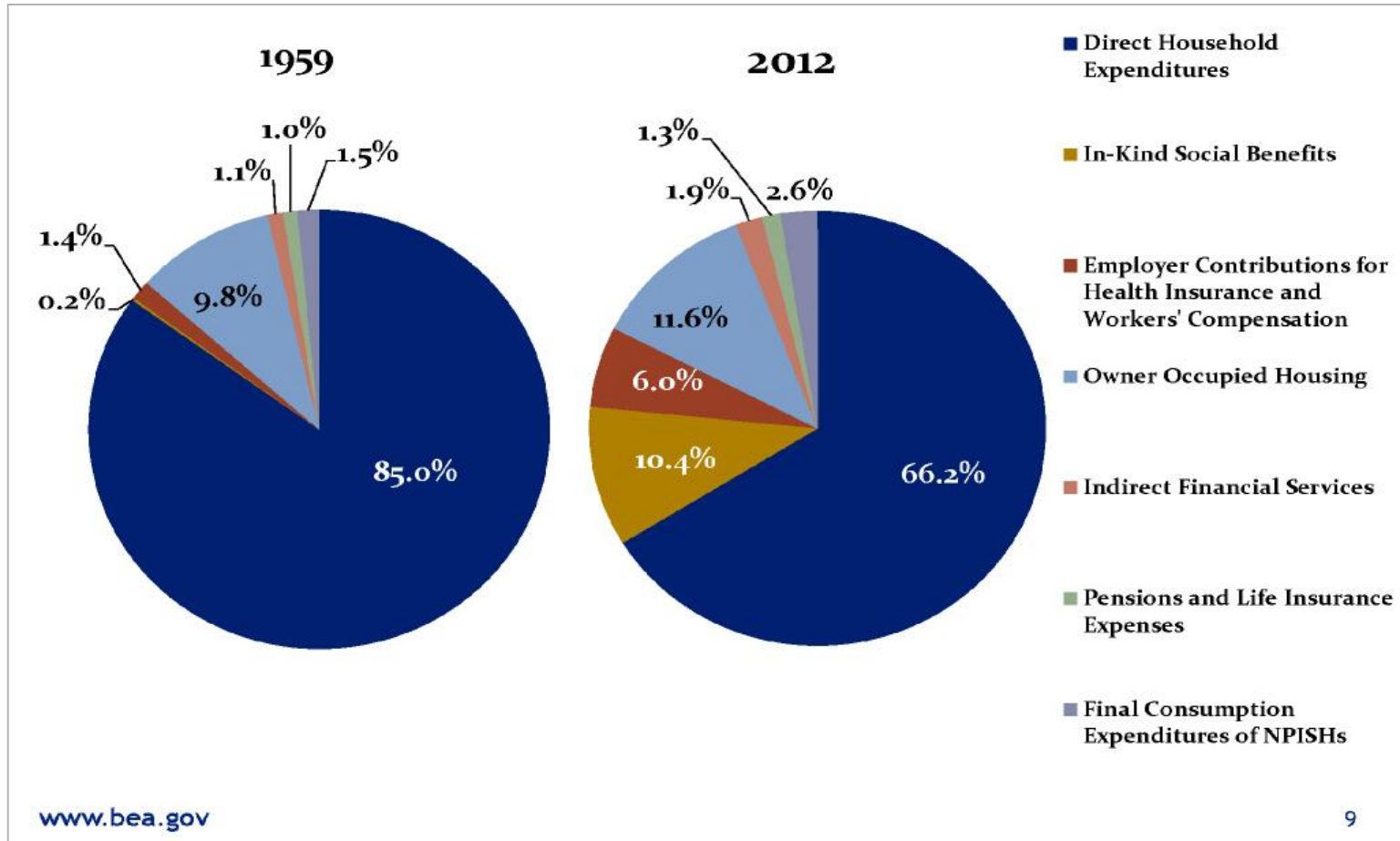
# What consumers are buying

Source: BEA Twitter



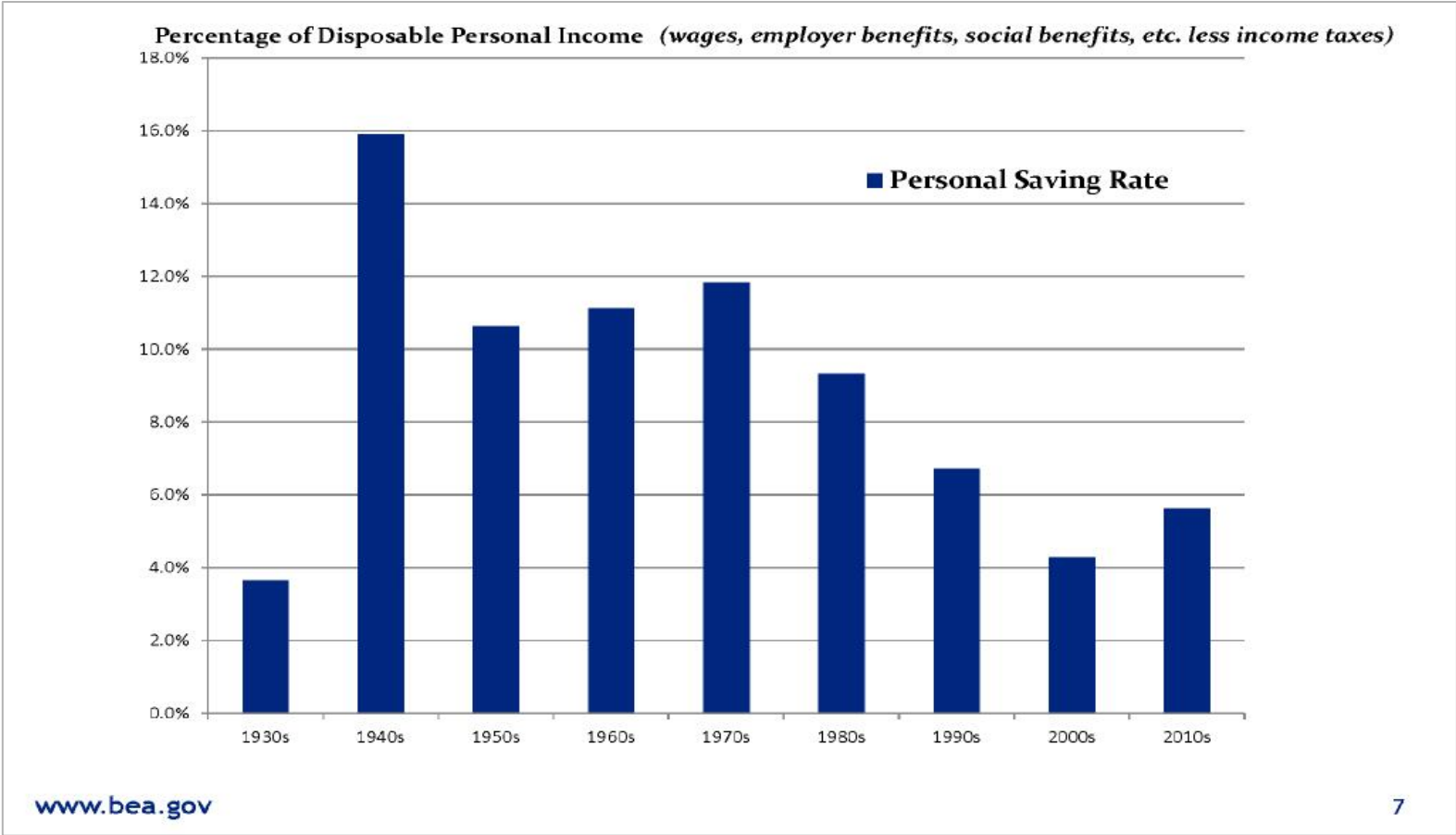
# Composition of “PCE”

Source: BEA Twitter



# Savings habits

Source: BEA Twitter

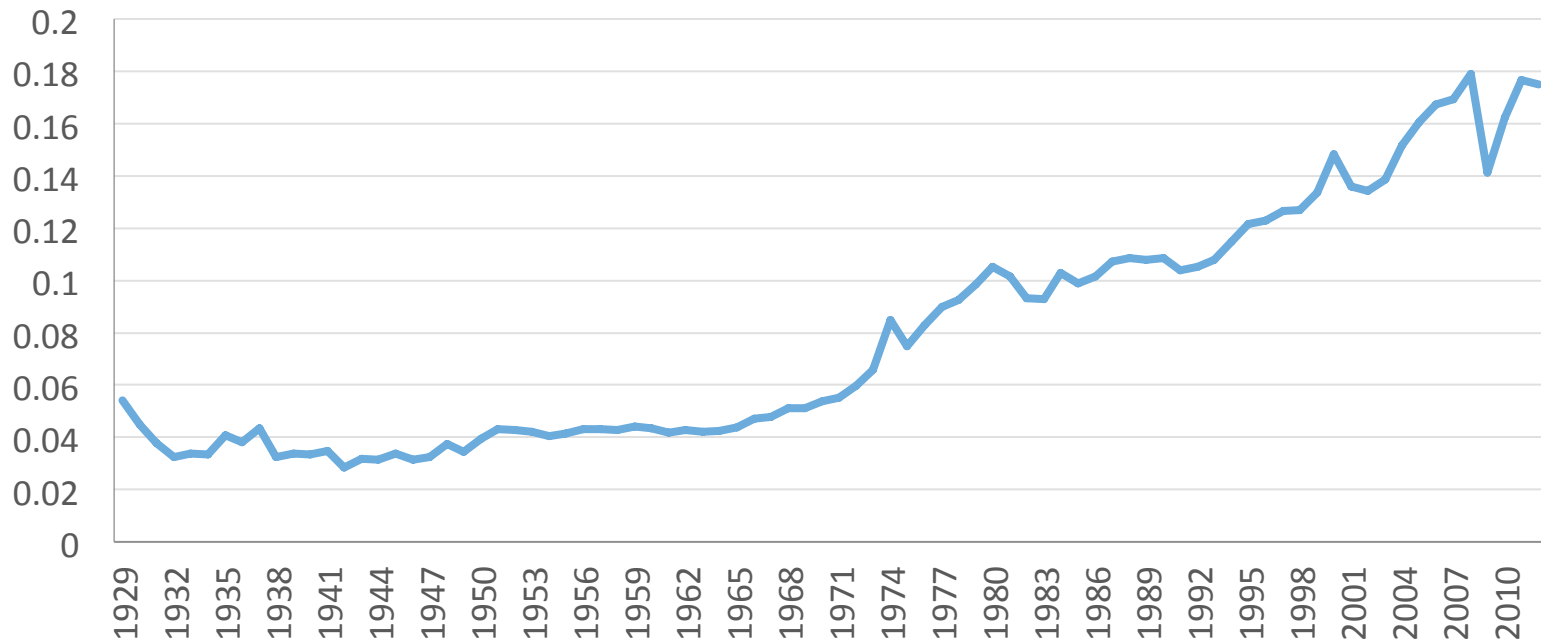


# Demand for imports

Import content of PCE, 2000-2010: 11.7% - 14.2% (FRBSF)



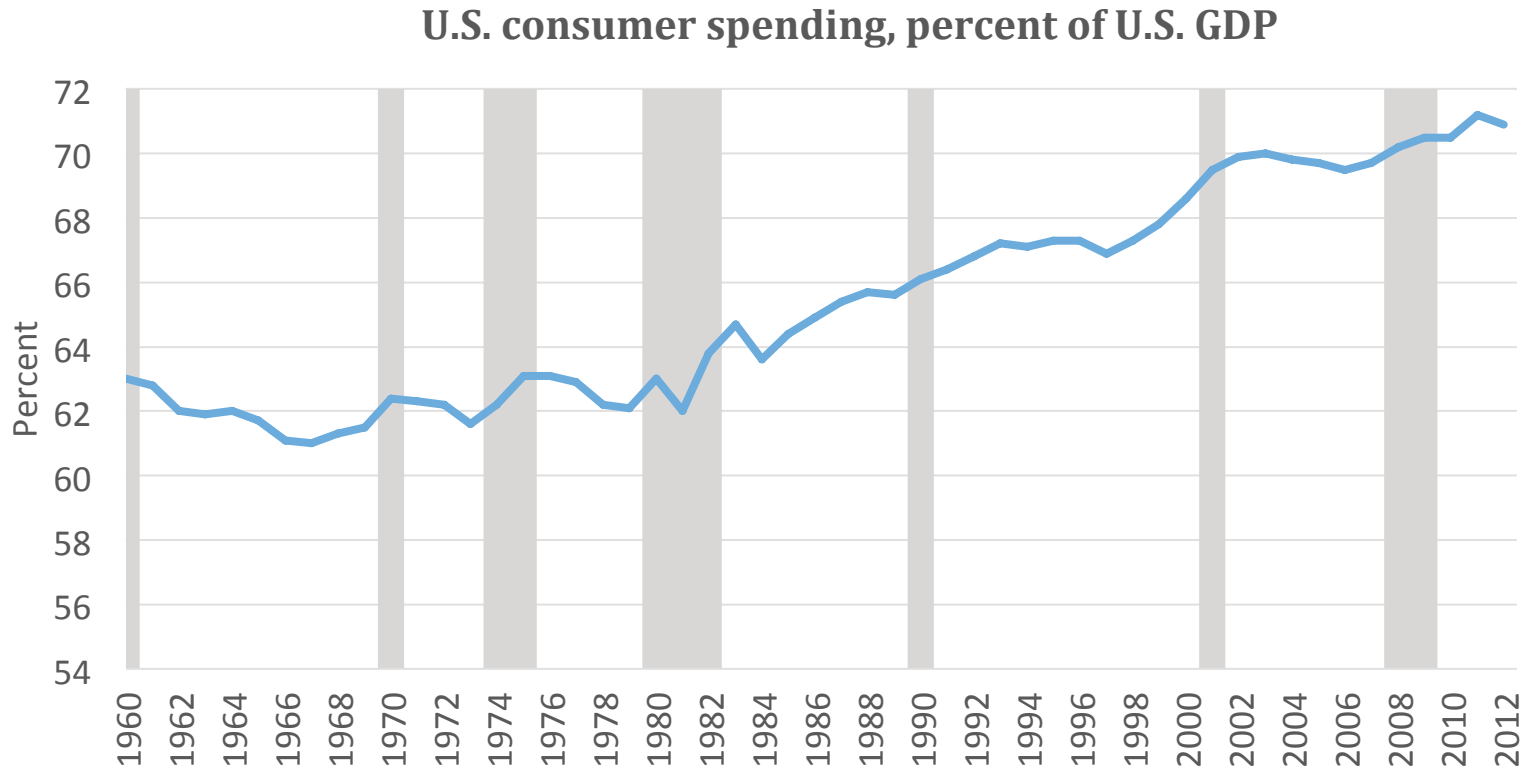
Imports/GDP ratio



Source: BEA

# Role of PCE in U.S. economy

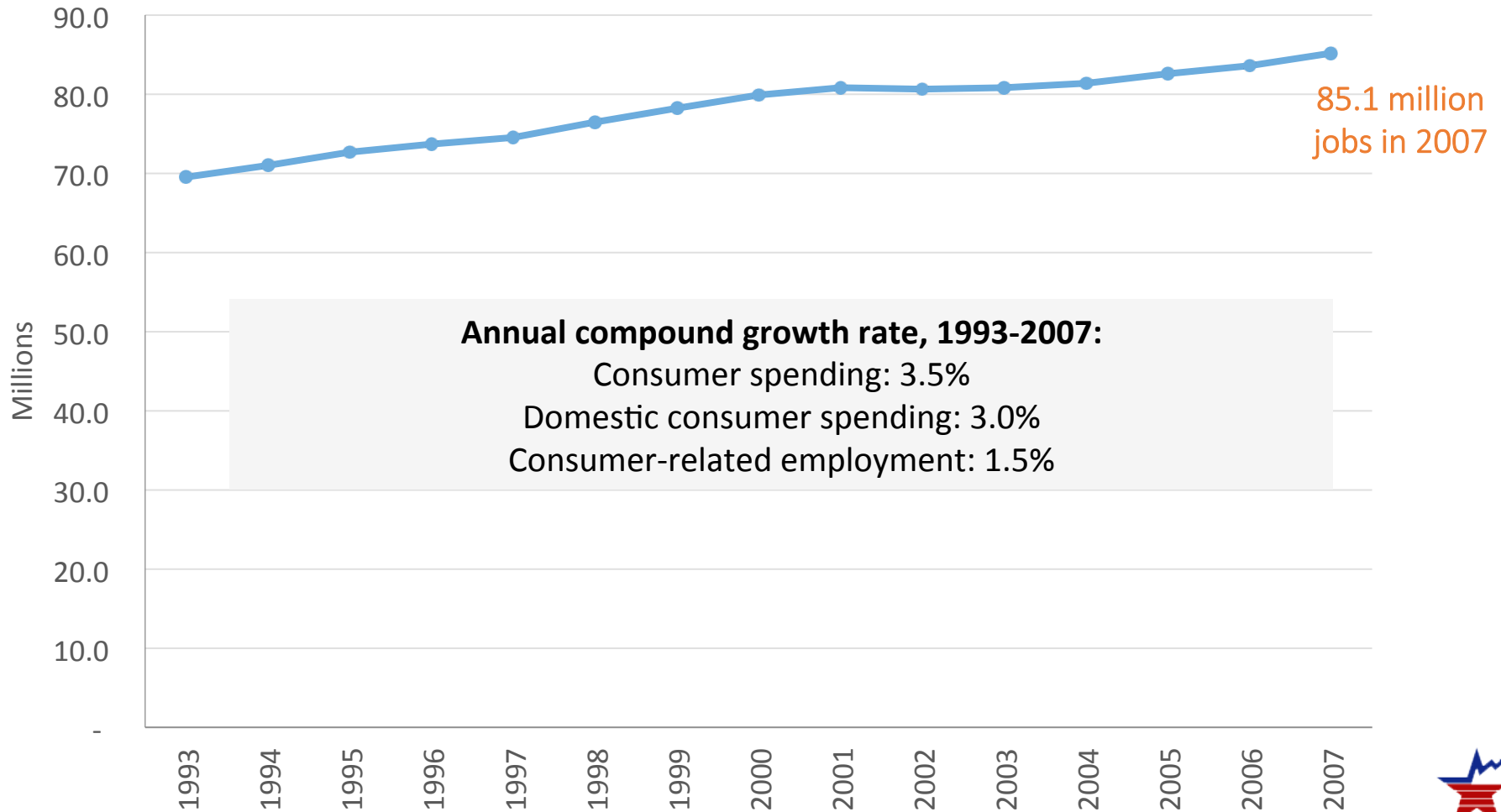
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Source: BEA and NBER.

Note: Because the data is presented annually, the recessions of 1980 and 1981-1982 appear as one.

# Consumer-related jobs: pre-recession (millions)

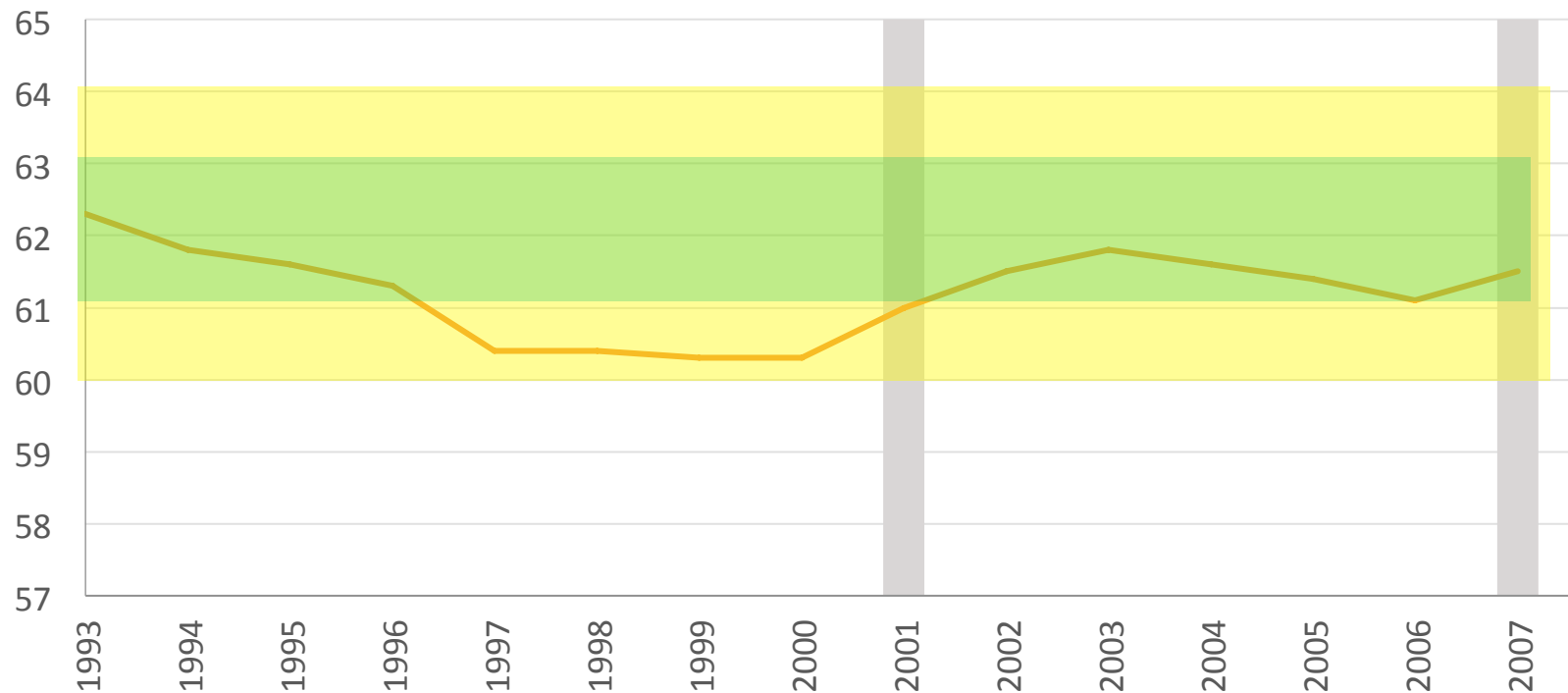


Source: BLS



# Consumers and jobs: pre-recession

Percent of U.S. jobs relating to PCE

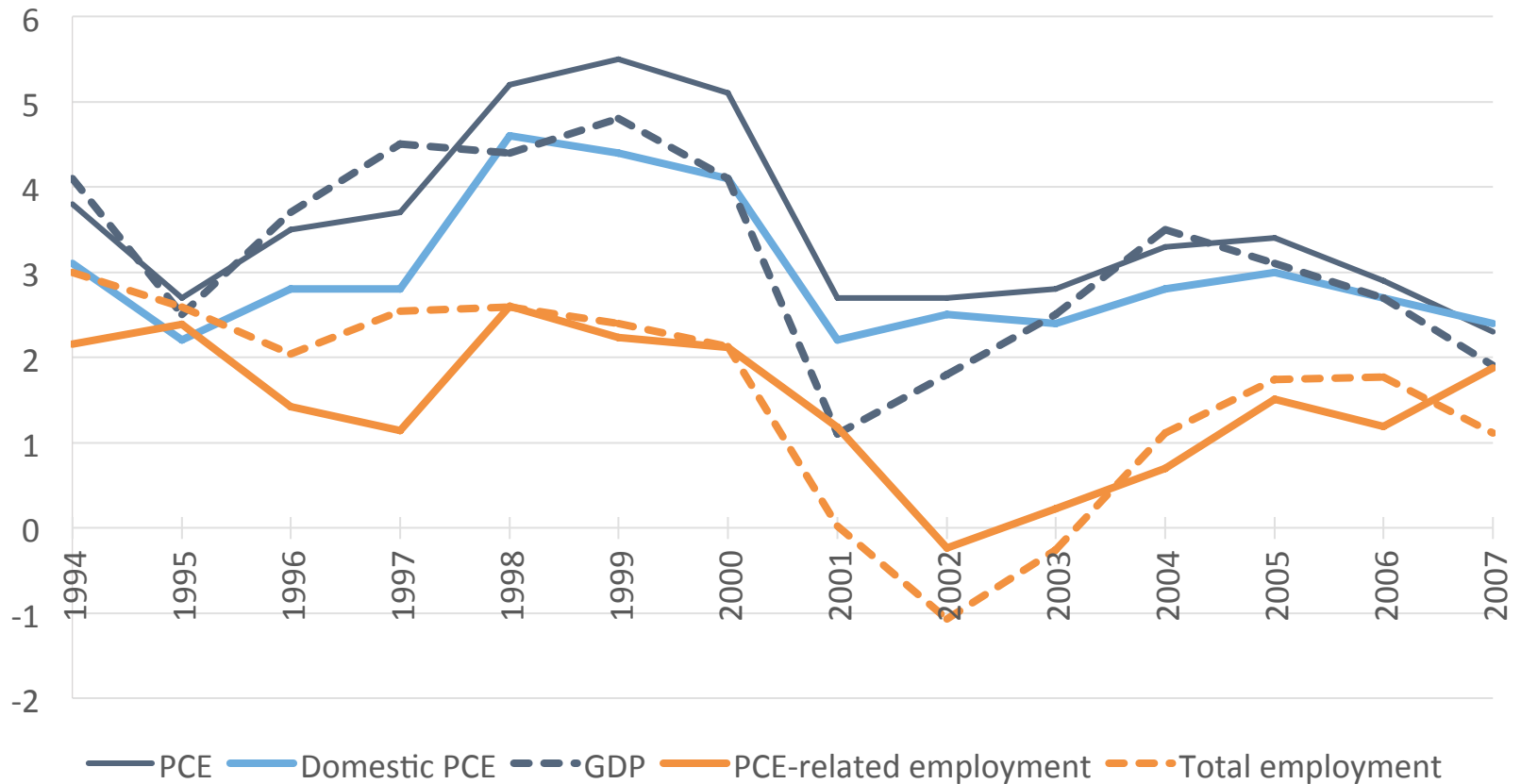


Source: BLS

- Yellow: approximate 1977-1993 range (Pfleeger, 1996)
- Green: approximate 1985-2000 range (Toossi, 2002)

# Consumers and jobs: pre-recession

Percentage change from preceding period



Source: BLS

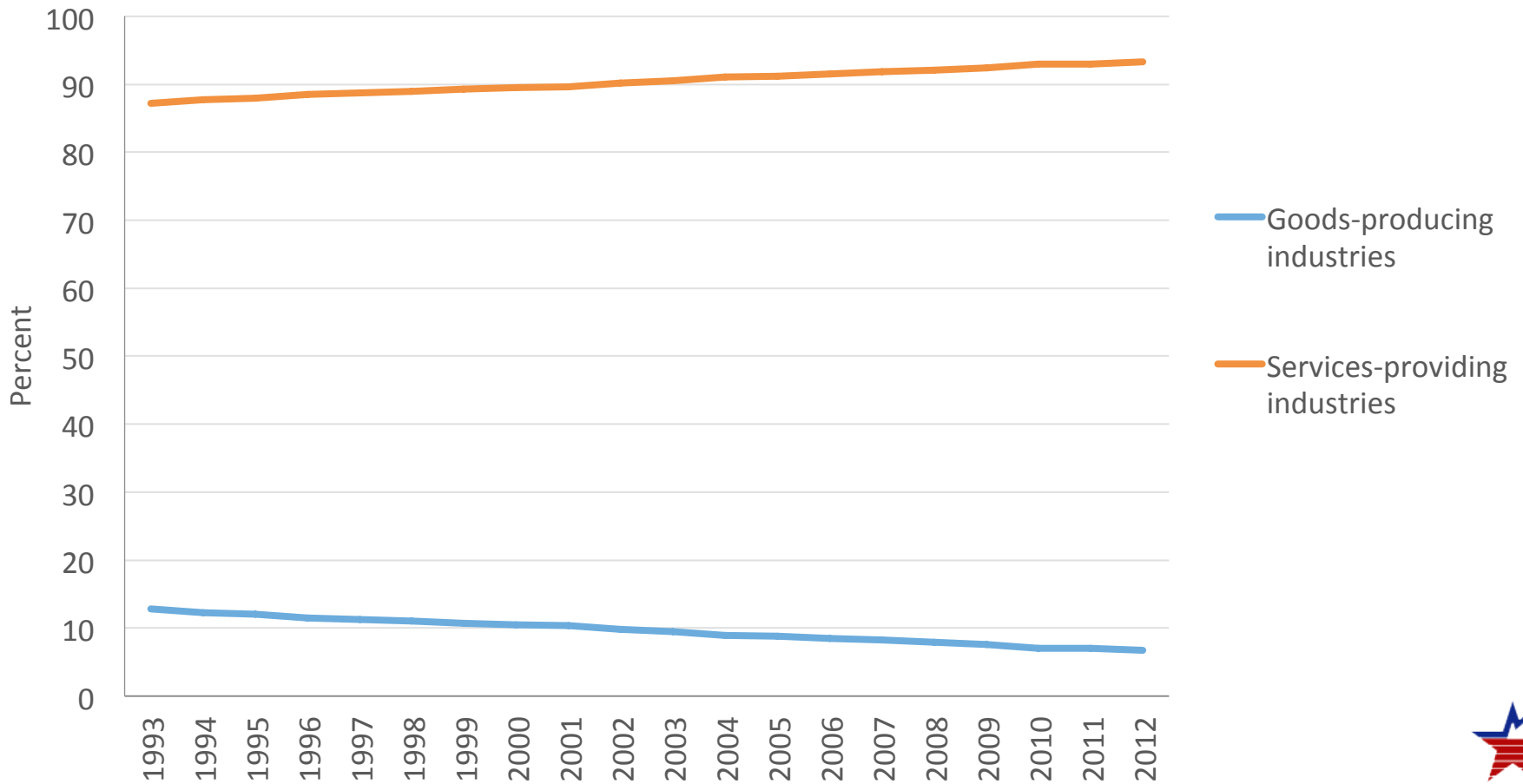




# Consumer-related jobs

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## Break-down of consumer-related employment



# Consumer spending and jobs in the “Great Recession” (2007-2009) and recovery (2010-2012)

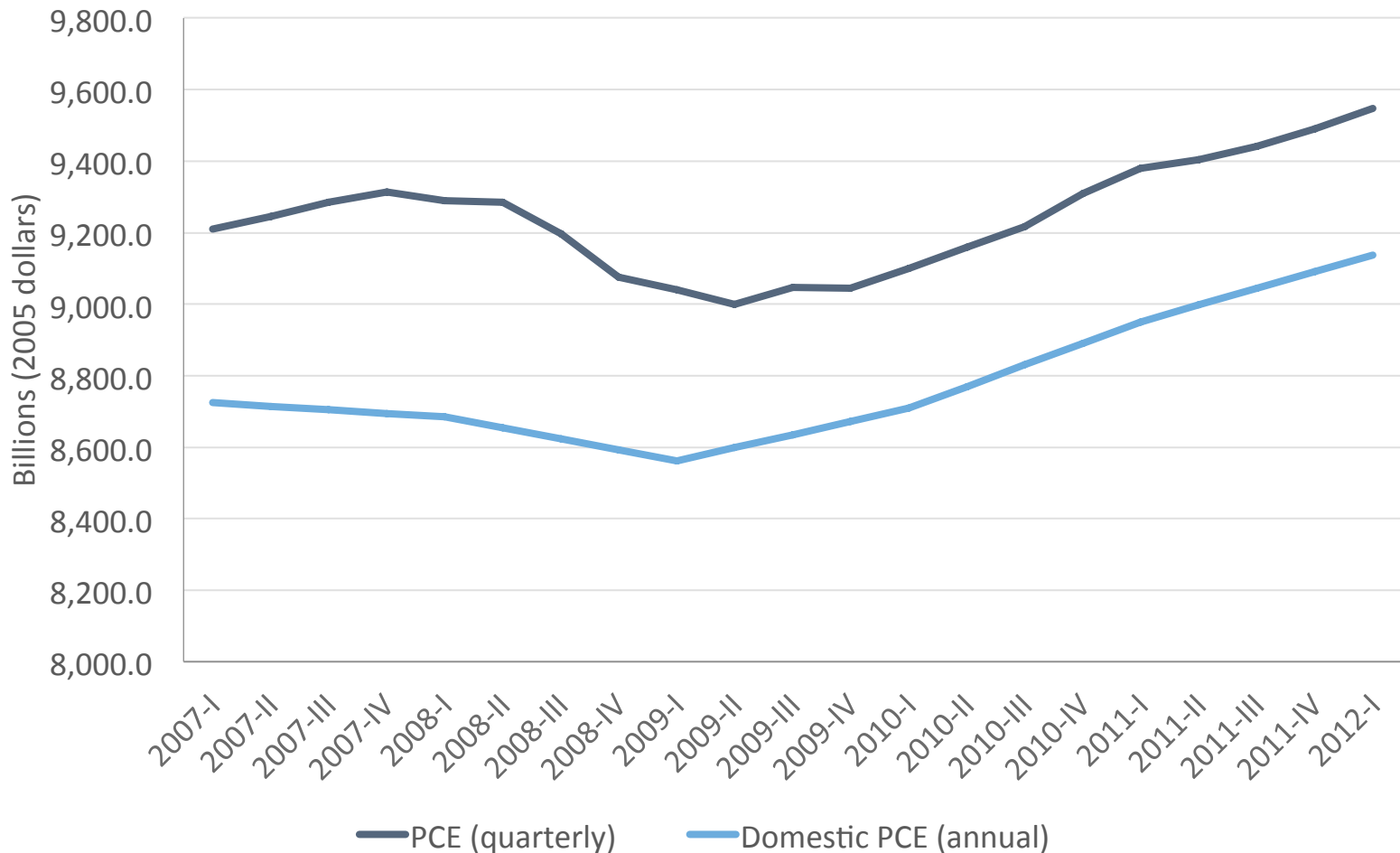
# Consumer spending in the “Great Recession”

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- Consumer spending peaks at \$9.3 trillion in 2007-IV
- Housing market bust, financial crisis → consumer spending declines
  - Jobs lost → real personal disposable income falls
  - Net household worth declines
  - Savings rate increases
  - Households shed debt
  - Credit access decreases
  - Consumer confidence falls

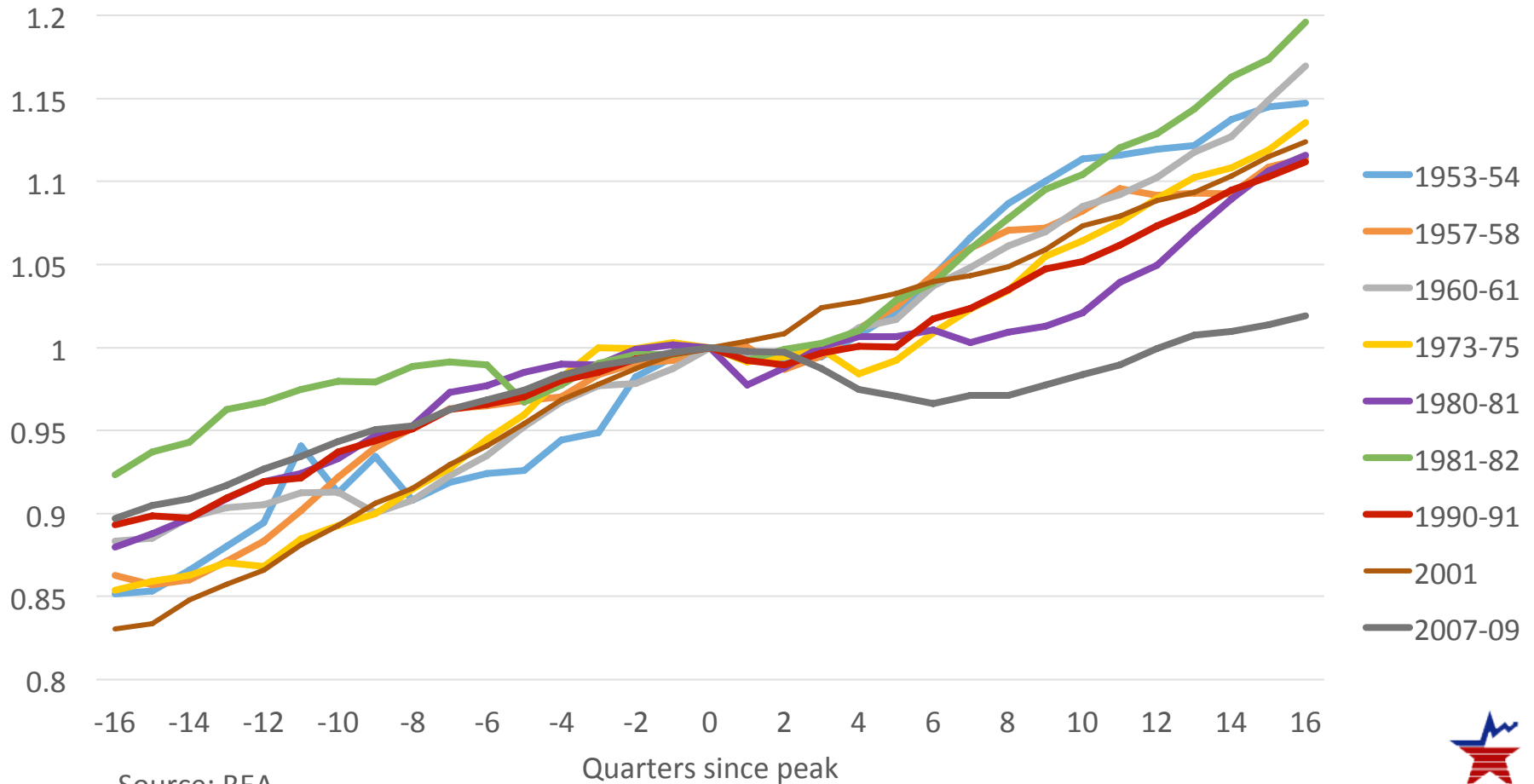


# Consumer spending in the “Great Recession”



# Consumer spending in the “Great Recession”

Normalized real PCE from business cycle peak

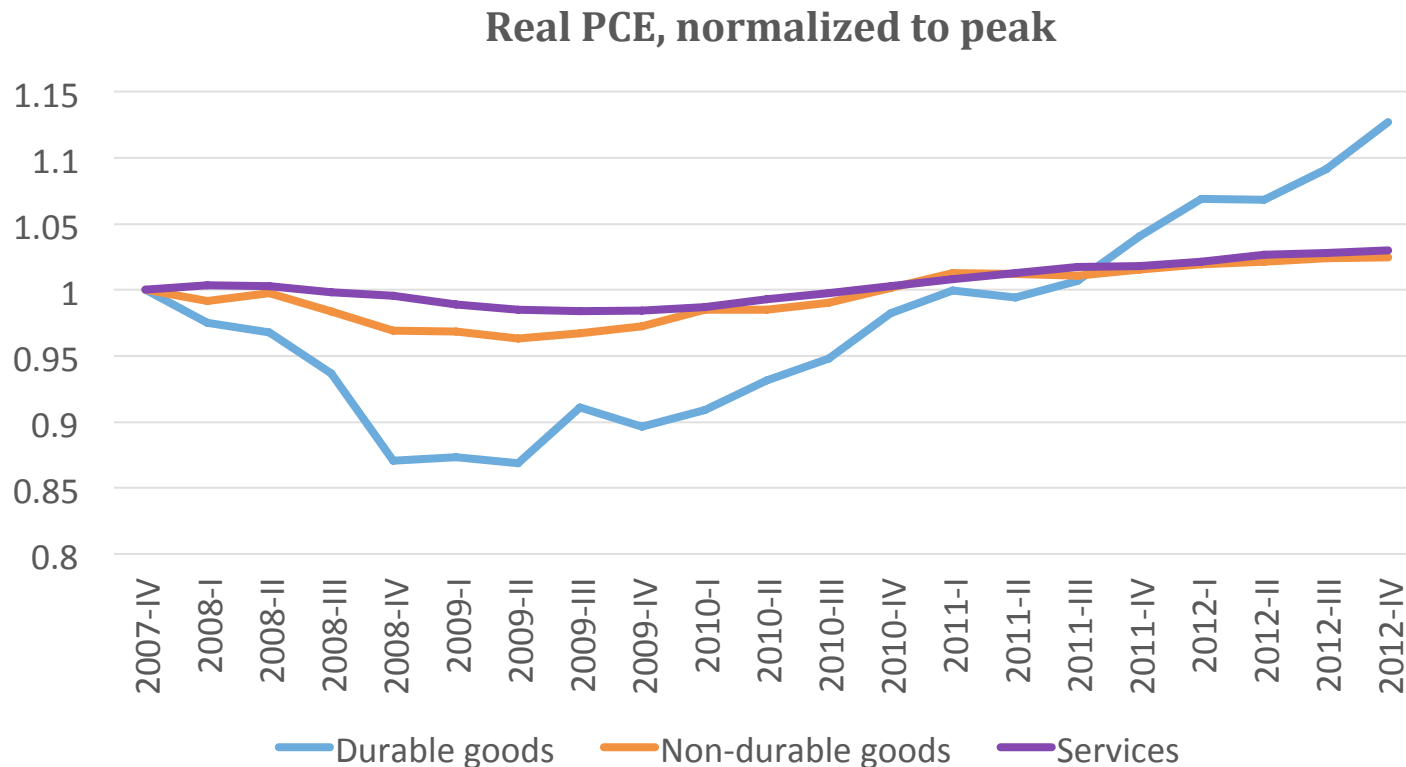


Source: BEA



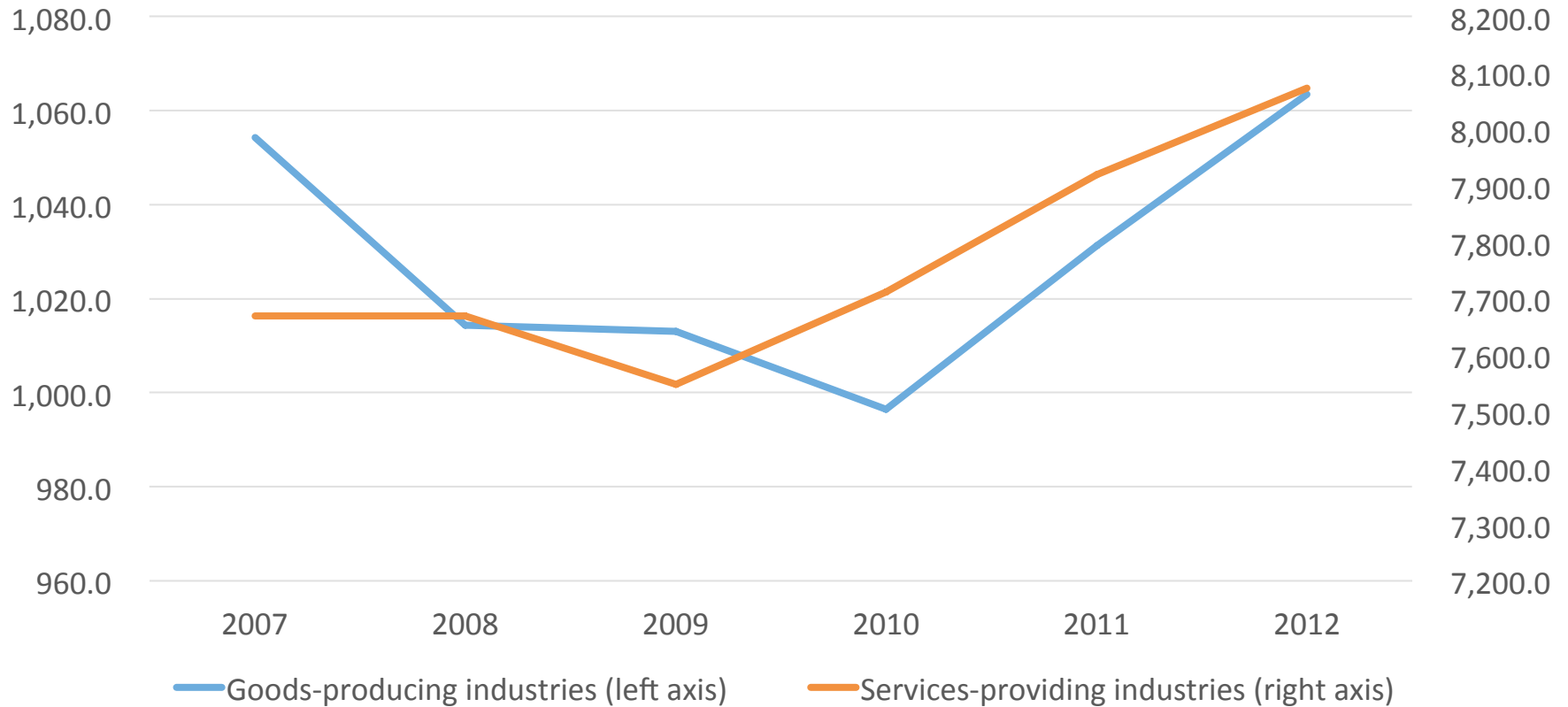
# Consumer spending in the “Great Recession”

- From 07-IV to 09-II, spending decreases by 13.1% for durable goods, 3.7% for non-durable goods, and 1.5% for services.
- Historically slow recovery



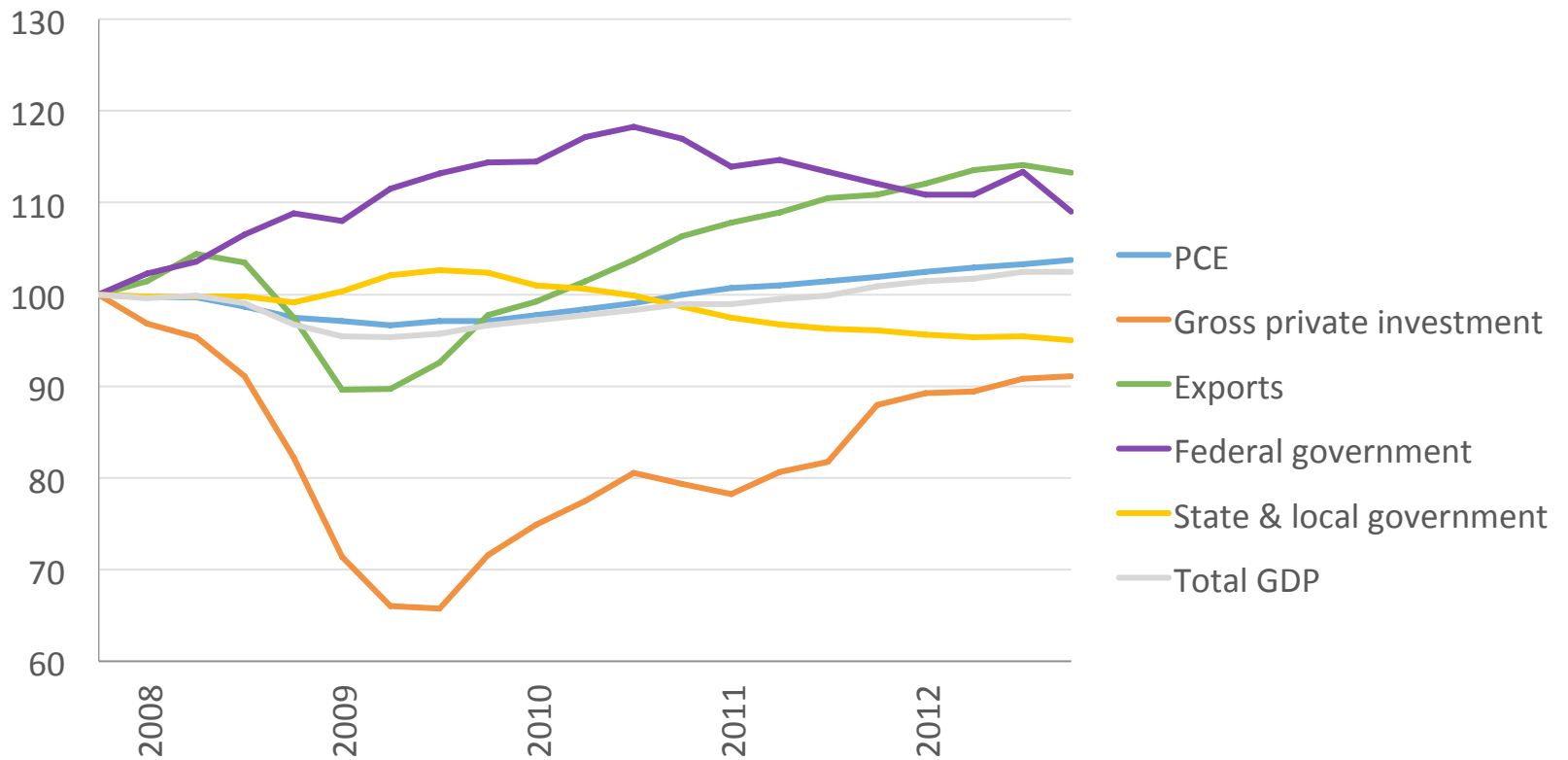
# Consumer spending in the “Great Recession”

Domestic PCE, billions



# In comparison to the total economy

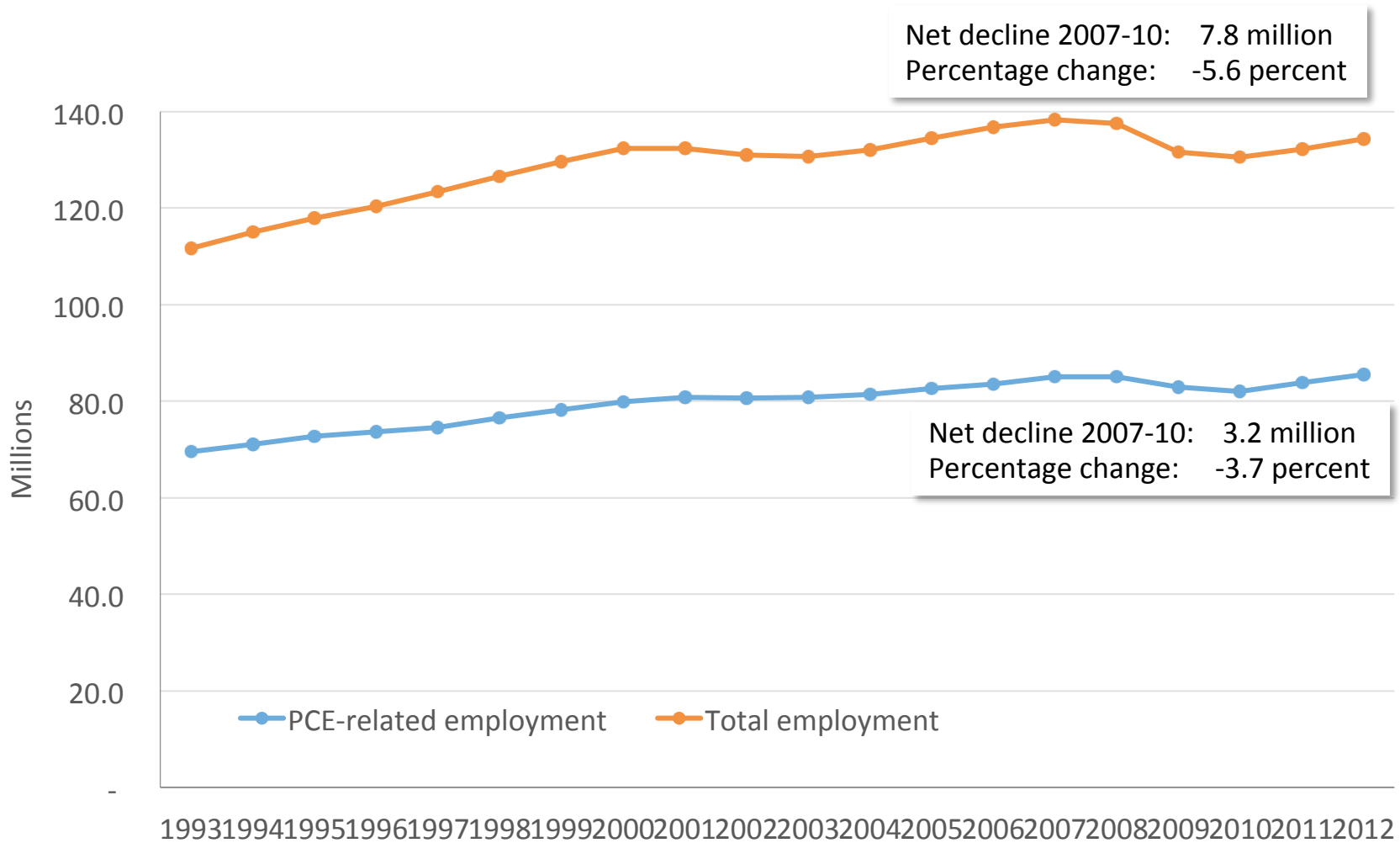
Real GDP, percent of 2007:Q4 levels (quarterly)



Source: BEA



# Employment in the “Great Recession”



Source: BLS



# Employment in the “Great Recession”

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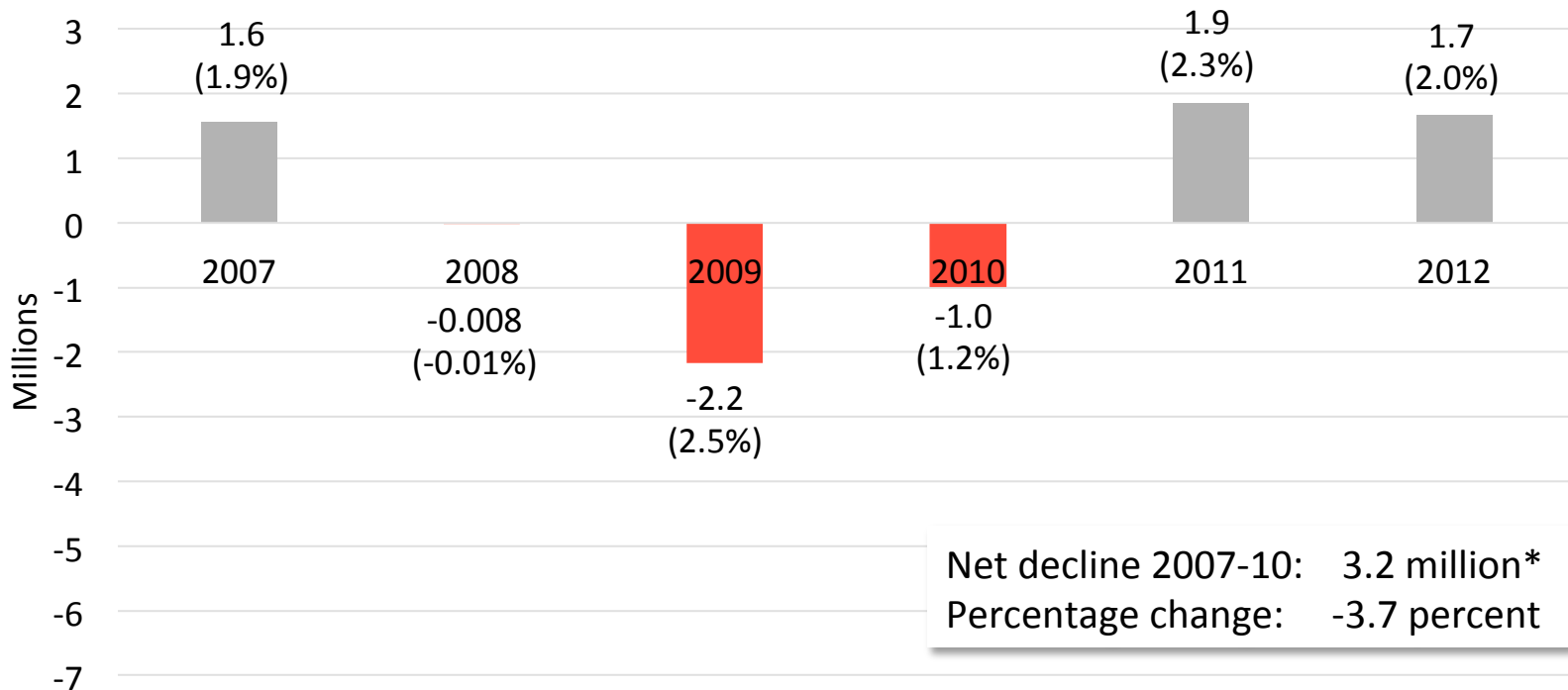
<b>Consumer-related employment, millions</b>					
<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
85.1	85.1	83.0	82.0	83.8	85.5

<b>Total non-agricultural wage and salary employment, millions</b>					
<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
138.4	137.6	131.6	130.5	132.2	134.4

Source: BLS

# Consumer-related employment

Change from preceding year,  
consumer-related employment (millions)



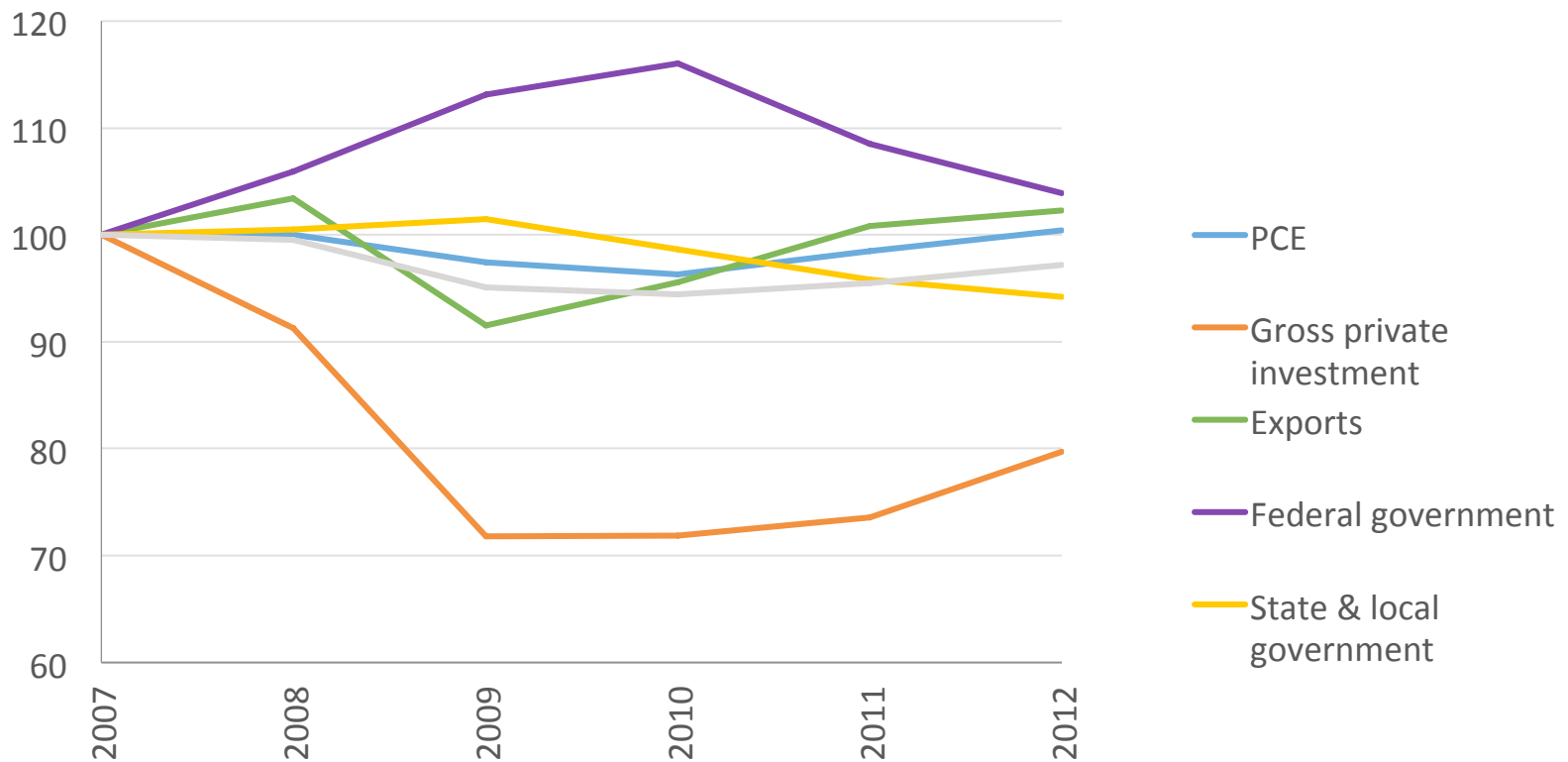
Source: BLS

\* Numbers may not add due to rounding



# In comparison to the total economy

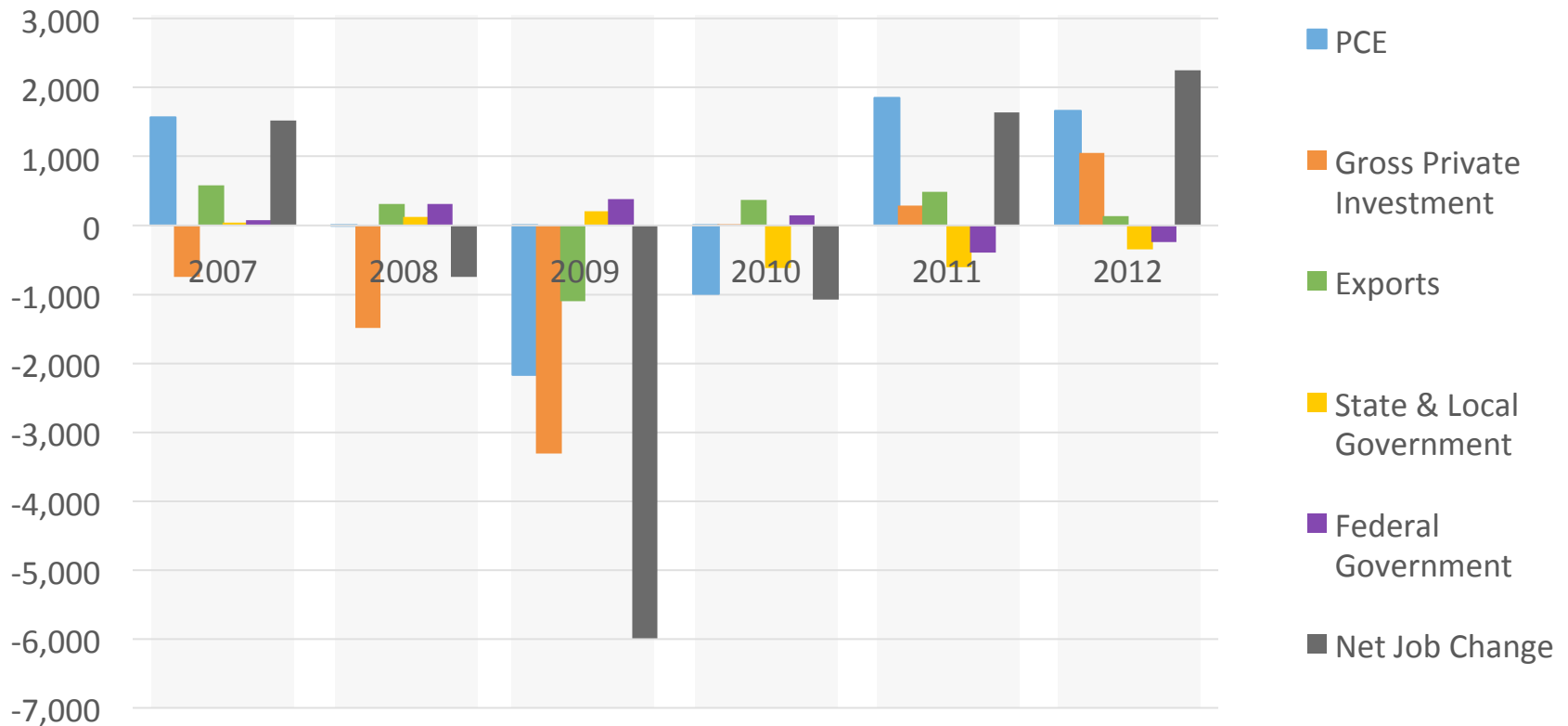
Employment by GDP component, percent of 2007 levels



Source: BLS

# In comparison to the total economy

Employment related to GDP component, net change from previous year  
(thousands)



Source: BLS

# In comparison to the total economy

Employment change by GDP component								
GDP Component	2007	2008	2009	2010	2011	2012	Level Change, 07-10	% Change, 07-10
<b>Employment, Change from Previous Year (thousands)</b>								
PCE	1,566.2	-7.6	-2,164.9	-989.5	1,857.2	1,666.5	-3,162.0	-3.7
Gross private investment	-745.6	-1,486.6	-3,309.8	15.2	287.7	1,048	-4,781.2	-28.1
Exports	586.0	315.2	-1,096.1	373.6	484.8	133.0	-407.3	-4.4
Federal government	40.9	310.3	378.4	149.8	-389.8	-242.1	838.5	16
State & local government	79.2	117.6	200.6	-621.9	-603.5	-349.6	-303.7	-1.4
Absolute job gains	2,272.3	743.1	579.0	538.5	2,629.7	2,847.4	838.5	--
Absolute job declines	-745.6	-1,494.2	-6,570.8	-1,611.4	-993.3	-591.7	-8,654.2	--
Net job change	1,526.7	-751.1	-5,991.8	-1,072.9	1,636.4	2,255.7	-7,815.8	-5.6

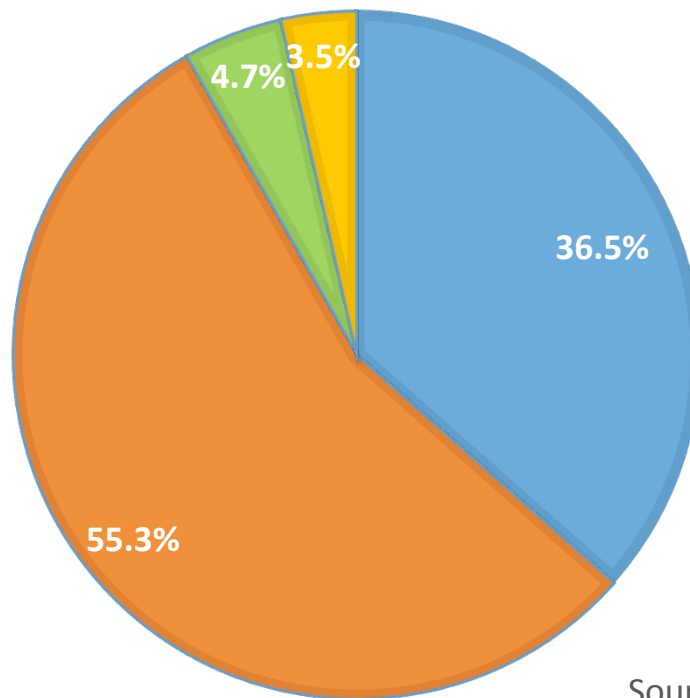
Source: BLS

# In comparison to the total economy

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**Percent of related 2007-2010 absolute job loss (less federal government gains)**

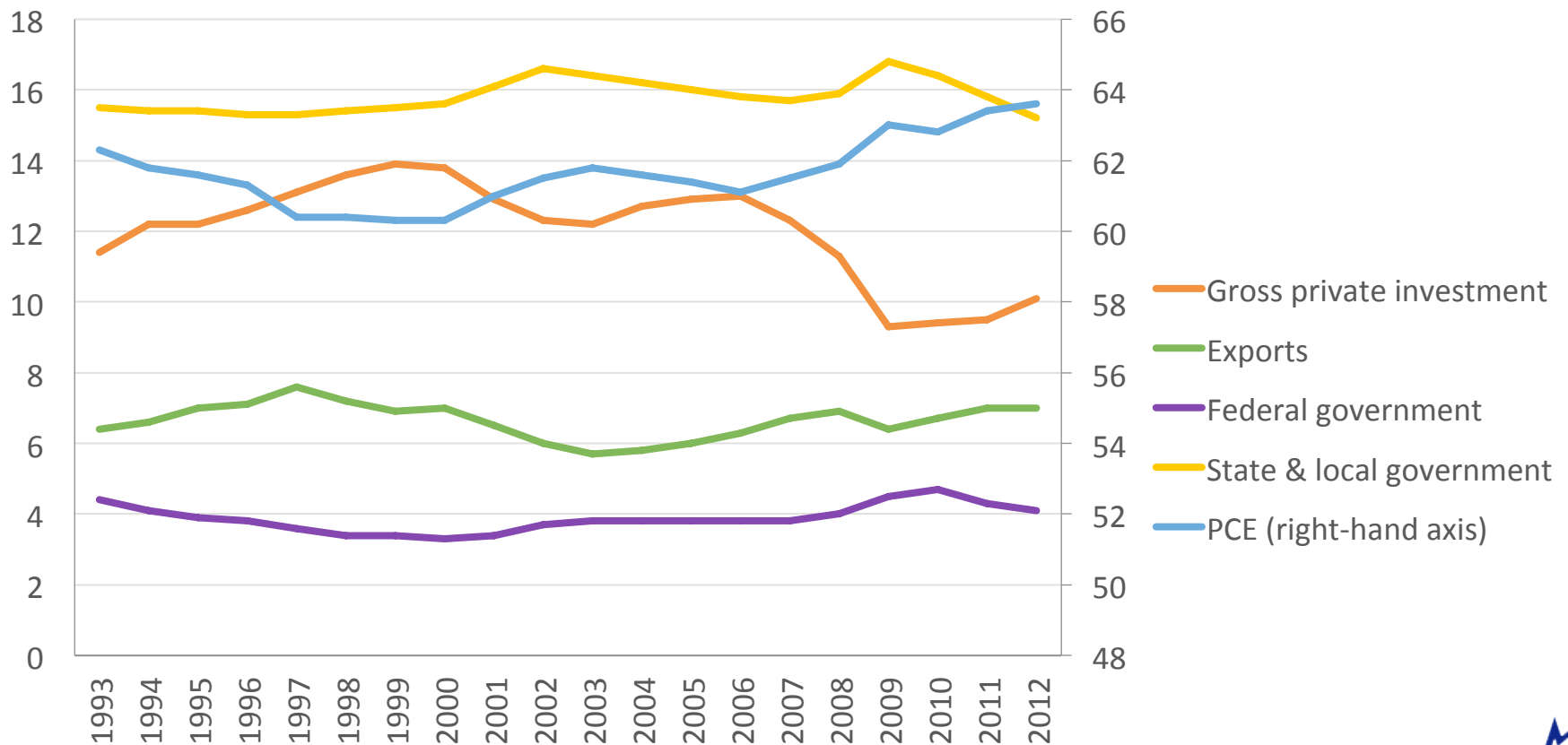
■ PCE   ■ Gross private investment   ■ Exports   ■ State & local government



Source: BLS

# In comparison to the total economy

Percent of non-agricultural wage and salary employment related to each GDP component



Source: BLS





# Consumer-related employment: major sectors

Industry	2007	2008	2009	2010	2011	2012	Level change, 07-10	% change, 07-10
<b>Employment, thousands</b>								
<b>All industries</b>	85,144.0	85,136.4	82,971.5	81,982.0	83,839.3	85,505.8	-3,162.0	-3.7
<b>Goods-producing</b>	6,983.8	6,723.3	6,267.7	5,744.8	5,880.6	5,761.9	-1,238.9	-17.7
Mining	186.5	192.7	188.5	176.8	180.4	183.1	-9.7	-5.2
Construction	638.9	640.7	654.2	557.4	586.9	457.8	-81.5	-12.8
Manufacturing	6,158.4	5,890.0	5,425.1	5,010.7	5,113.3	5,121.0	-1,147.7	-18.6
<b>Services-providing</b>	78,160.3	78,413.1	76,703.8	76,237.2	77,958.6	79,743.9	-1,923.1	-2.5
Utilities	439.6	437.8	452.6	447.1	452.0	456.6	7.5	1.7
Wholesale trade	3,432.2	3,324.8	3,340.3	3,073.6	3,150.1	3,197.4	-358.7	-10.5
Retail trade	14,147.0	14,212.0	13,727.8	13,532.1	13,887.0	14,089.0	-614.8	-4.3
Transportation and warehousing	2,776.0	2,752.0	2,689.4	2,562.3	2,649.6	2,716.1	-213.7	-7.7
Information	2,150.2	2,130.6	1,998.8	1,928.0	1,913.0	1,904.6	-222.2	-10.3
Financial activities	6,957.1	6,949.8	6,635.9	6,526.5	6,508.1	6,532.8	-430.6	-6.2
Professional and business services	10,035.1	9,778.5	8,999.9	9,145.6	9,751.8	10,181.2	-889.5	-8.9
Educational services	2,823.4	2,953.4	3,020.8	3,076.7	3,188.2	3,294.0	253.3	9.0
Health care and social assistance	14,779.9	15,148.4	15,563.6	15,849.6	15,980.6	16,340.9	1,069.7	7.2
Leisure and hospitality	12,352.3	12,388.6	12,067.4	12,051.4	12,372.2	12,855.1	-300.9	-2.4
Other services	5,828.3	5,861.8	5,703.0	5,629.4	5,717.5	5,791.7	-198.9	-3.4
Federal government	646.9	649.0	635.6	586.0	567.0	551.4	-61.0	-9.4
State and local government	1,792.2	1,826.5	1,868.5	1,828.9	1,821.4	1,833.0	36.7	2.0
Special industries	0.0	0.0	0.0	0.0	0.0	0.0	--	--

Source: BLS

## Consumer-related employment: major sectors

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- **Service-providing industries (07-10)**
  - 2.5% decline
  - 1.9 million jobs lost
  - 60.8% of consumer-related employment declines
- **Goods-producing industries (07-10)**
  - 17.7% decline
  - 1.2 million jobs lost
  - 39.2 percent of consumer-related employment declines
- **2010 break-down of PCE-related employment**
  - 93% services-providing industries
  - 7% goods-producing industries

## Consumer-related employment: major sectors

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- Majority of declines in 5 major sectors:
  - Manufacturing: -1.1 million jobs (18.6%)
  - Professional and business services: -890,000 jobs (-8.9%)
  - Retail trade: -615,000 jobs (-4.3%)
  - Financial activities: -431,000 jobs (-6.2%)
  - Wholesale trade: -359,000 jobs (-10.5%)
- Job increases
  - Health care and social assistance: +1.1 million jobs (+7.2%)
  - Educational services: +253,000 jobs (+9.0%)

# Looking at 2010 PCE-related employment

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- Decline of 990,000 jobs tied to consumer demand
- Largest major sector declines:
  - Manufacturing: -414,000 (-7.6%)
  - Wholesale trade: -267,000 (-8.0%)
  - Retail trade: -196,000 (-1.4%)
  - Transportation: -127,000 (-4.7%)
  - Financial activities: -109,000 (-1.6%)



PHOTO: MARK ELIHS/BLOOMBERG VIA GETTY IMAGES

# Recovery?

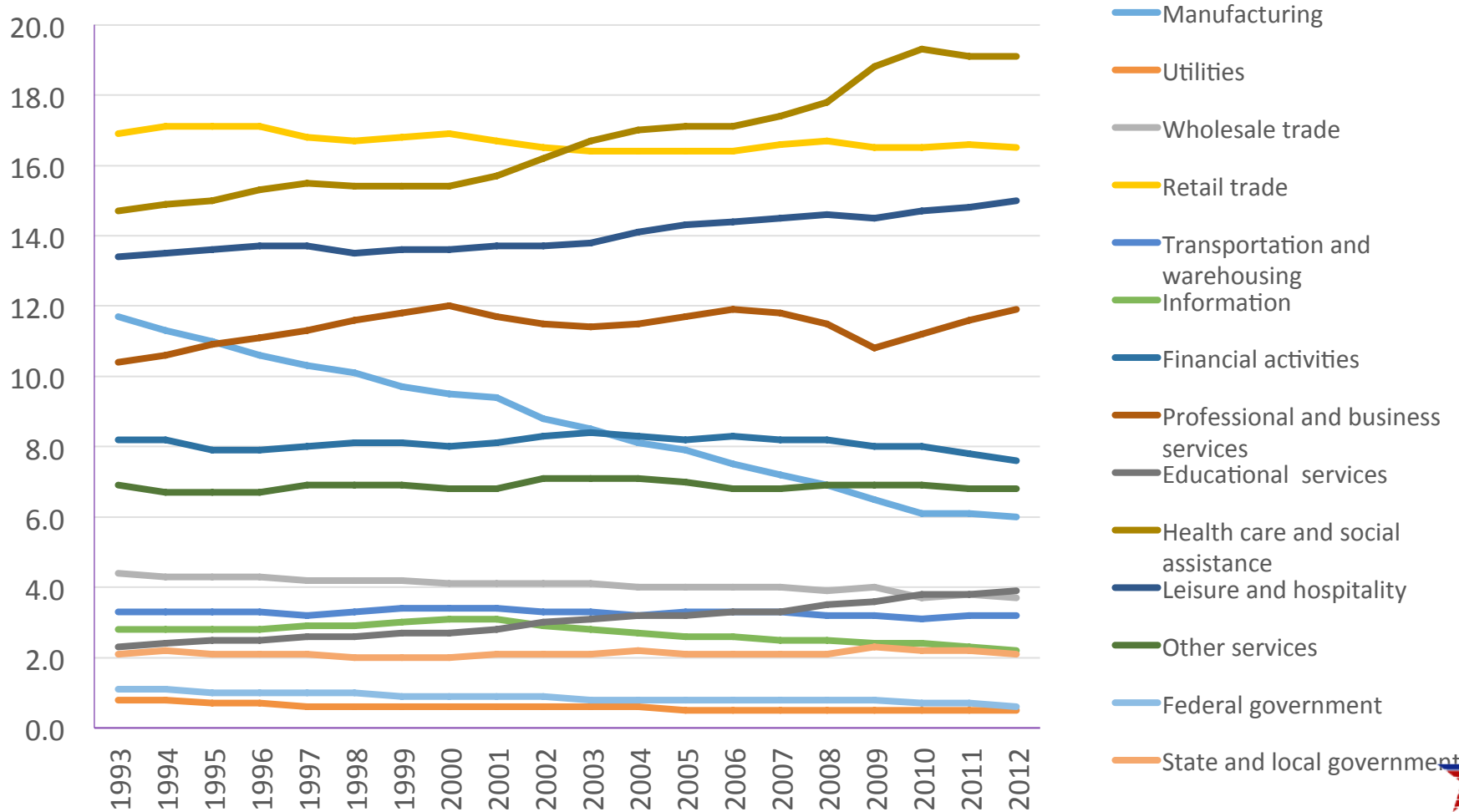
PCE-related employment (thousands)	2007	2012	Difference
<b>All industries</b>	85,144.0	85,505.8	361.7
<b>Goods-producing</b>	6,983.8	5,761.9	-1221.9
Mining	186.5	183.1	-3.4
Construction	638.9	457.8	-181.1
Manufacturing	6,158.4	5,121.0	-1037.4
<b>Services-providing</b>	78,160.3	79,743.9	1583.6
Utilities	439.6	456.6	16.9
Wholesale trade	3,432.2	3,197.4	-234.9
Retail trade	14,147.0	14,089.0	-57.9
Transportation and warehousing	2,776.0	2,716.1	-59.9
Information	2,150.2	1,904.6	-245.6
Financial activities	6,957.1	6,532.8	-424.2
Professional and business services	10,035.1	10,181.2	146.1
Educational services	2,823.4	3,294.0	470.6
Health care and social assistance	14,779.9	16,340.9	1561.1
Leisure and hospitality	12,352.3	12,855.1	502.8
Other services	5,828.3	5,791.7	-36.6
Federal government	646.9	551.4	-95.5
State and local government	1,792.2	1,833.0	40.8
Special industries <sup>1</sup>	0.0	0.0	0

Source: BLS



# Impact of the recession on long-run trends

## Percent of consumer-related employment



Source: BLS



Projections through 2022  
Consumer spending: still an engine of U.S. job growth?

## About the projections

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- 10-year projections made every 2 years
- 2012-22 projections cover over 800 occupations and 300 industries
- BLS projections prepared at the national level and end year (2022) only
- Assume full employment economy
- Only frictional unemployment



## Variables to consider 2012-2022

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- Aging of the population
- Labor force growth slows, labor force participation rate continues to fall
- Lack of business investment during the 2007-2009 recession
- Reductions in government funding
- Higher personal savings rate
- Lower growth in personal disposable income

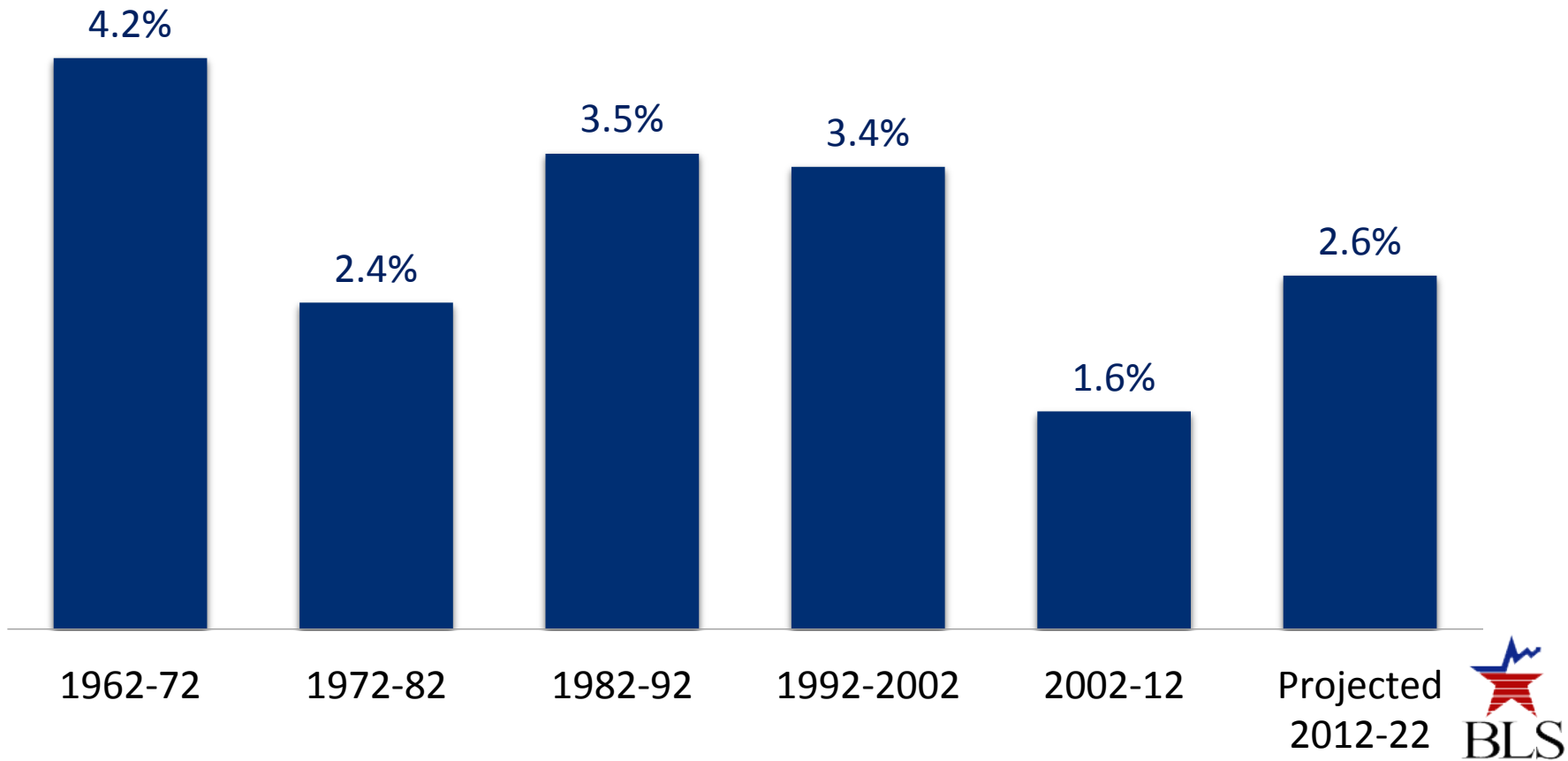


→ Economy settles into a “new normal”

## BLS Projections: Real GDP Growth

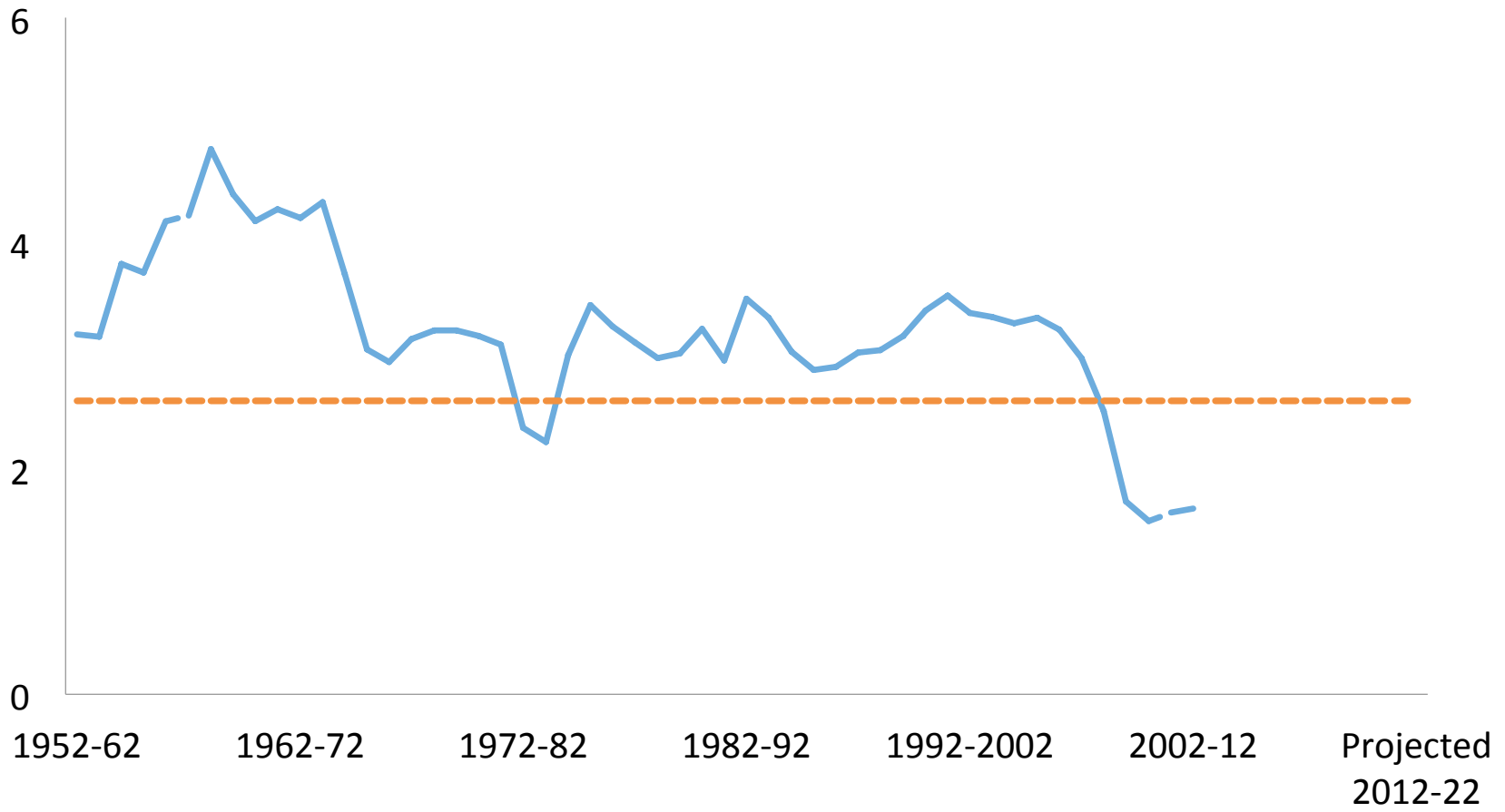
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- Real GDP grows at 2.6% compound annual rate for 2012-2022, reaching \$17.6 trillion in 2022



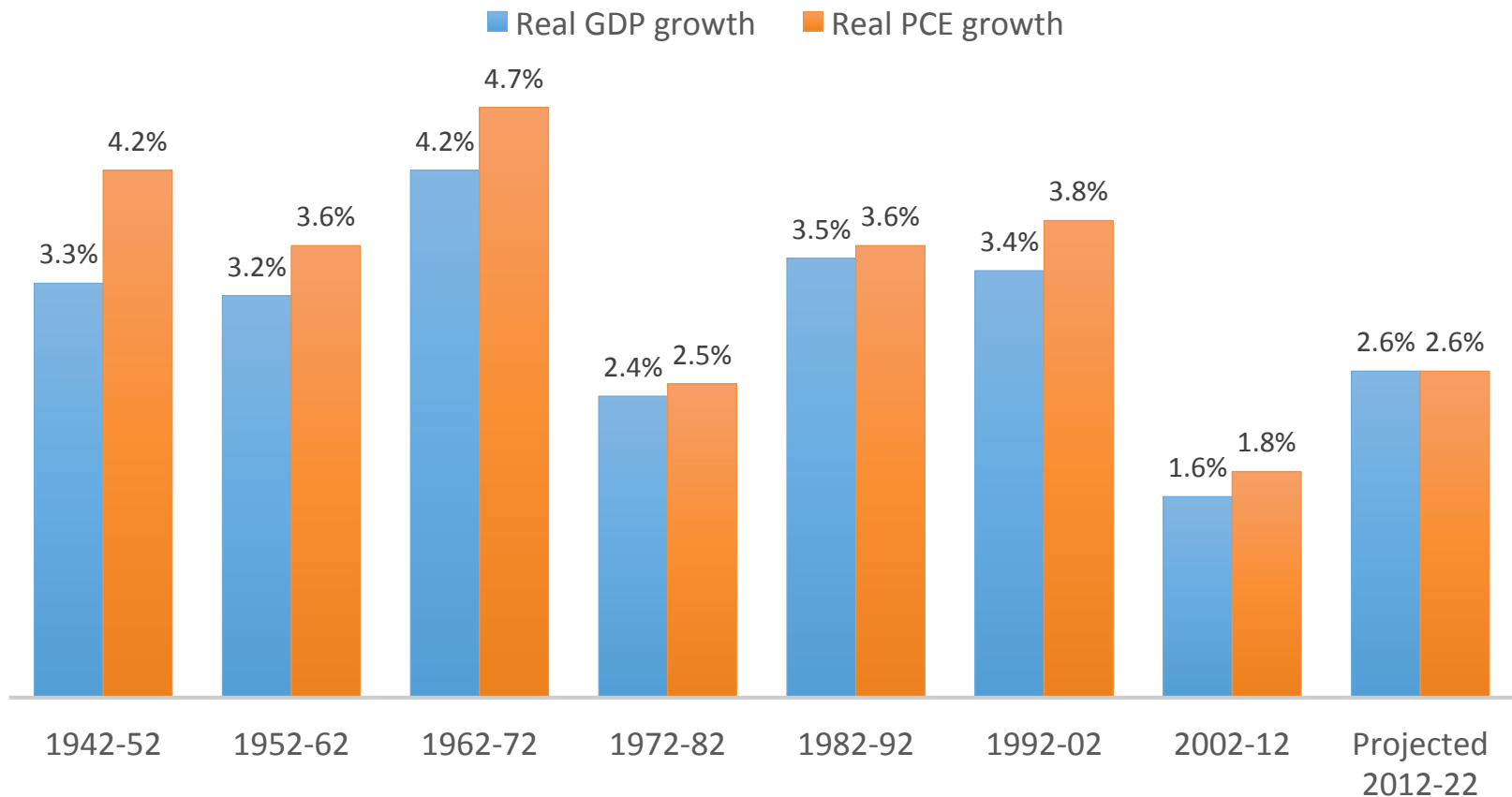
# BLS Projections: Real GDP Growth

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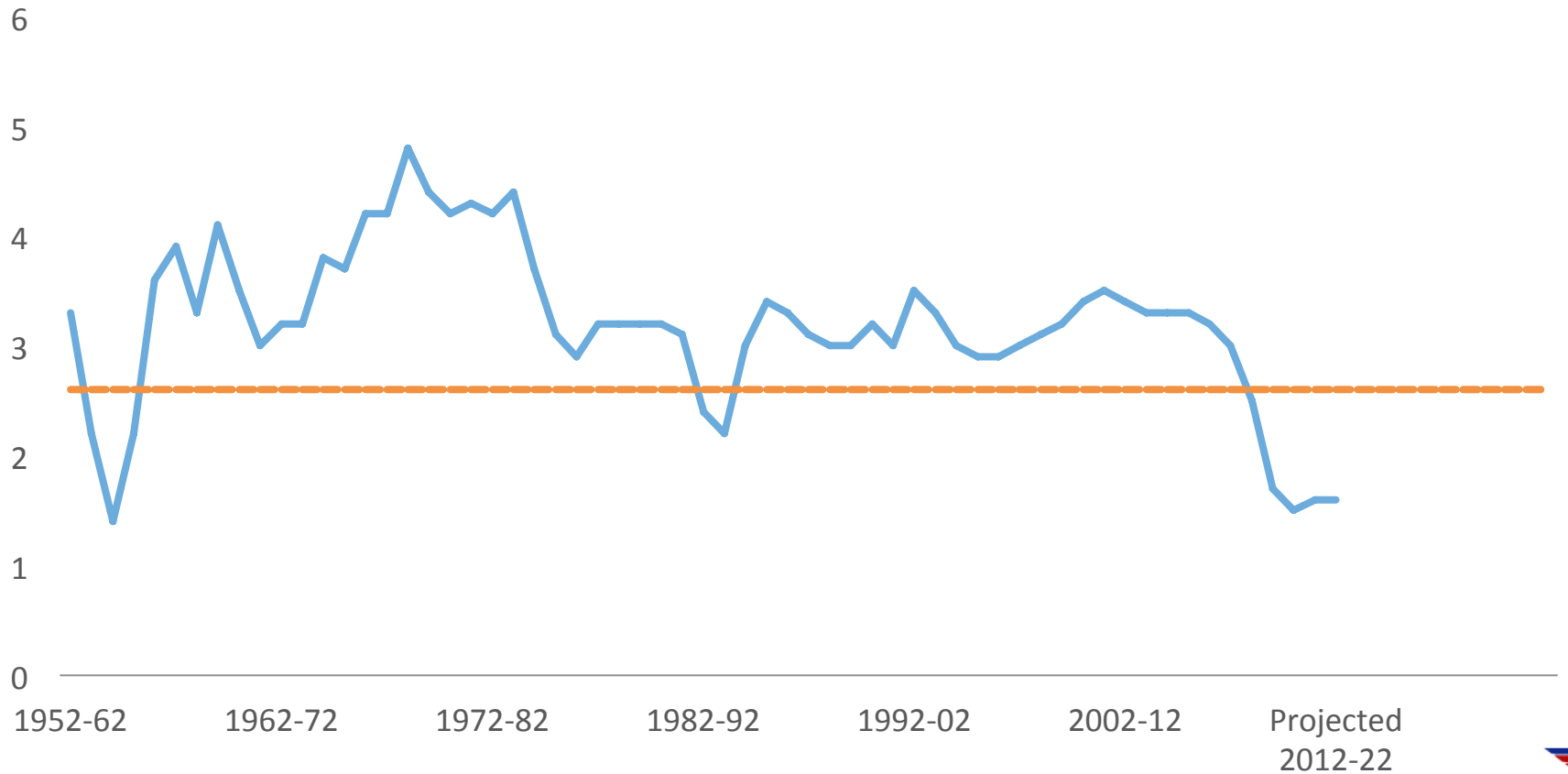
# BLS Projections: Real GDP and PCE Growth

- Consumer spending grows at same rate as real GDP, reaching \$12.4 trillion in 2022

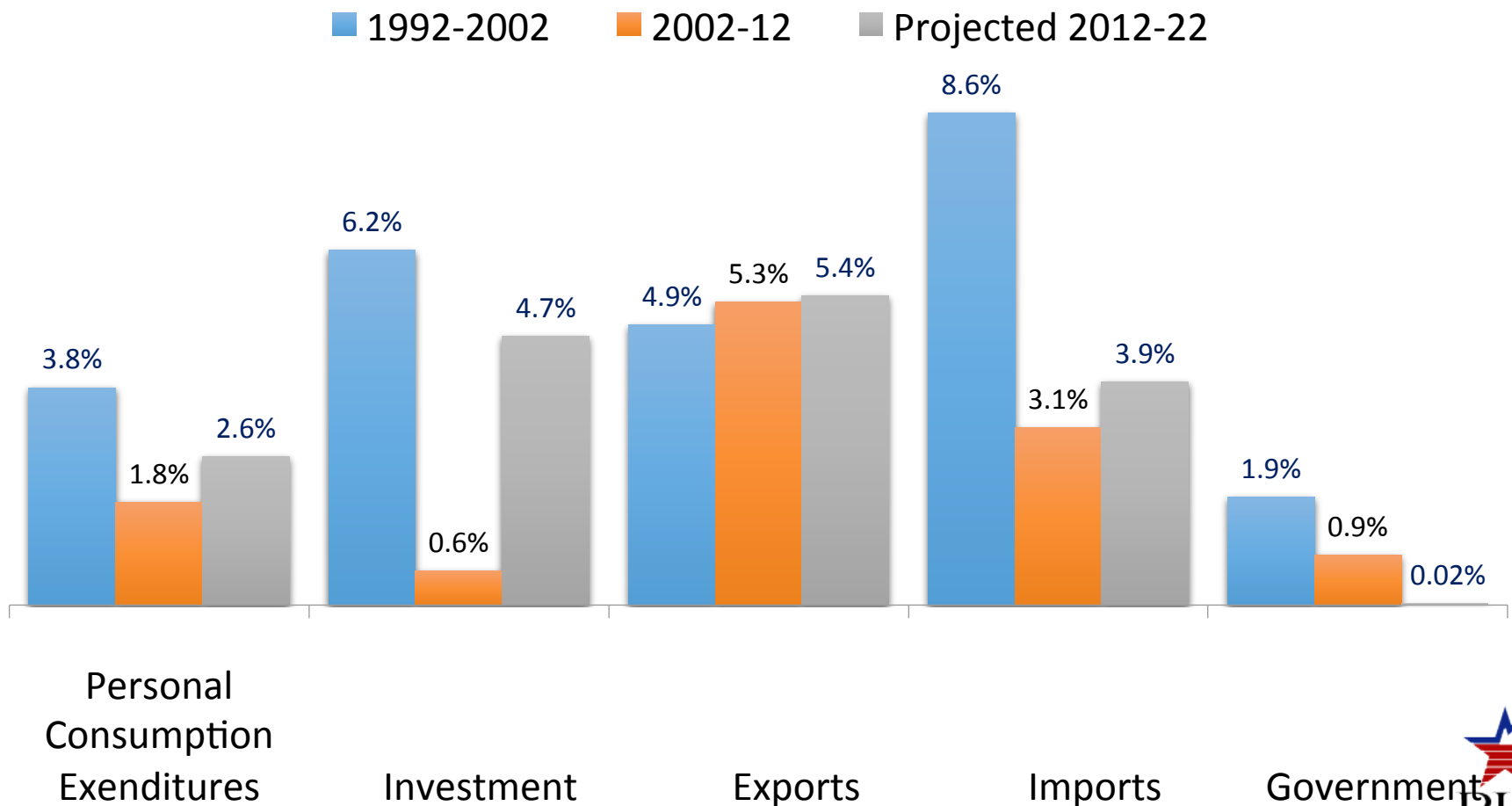


# BLS Projections: Real PCE Growth

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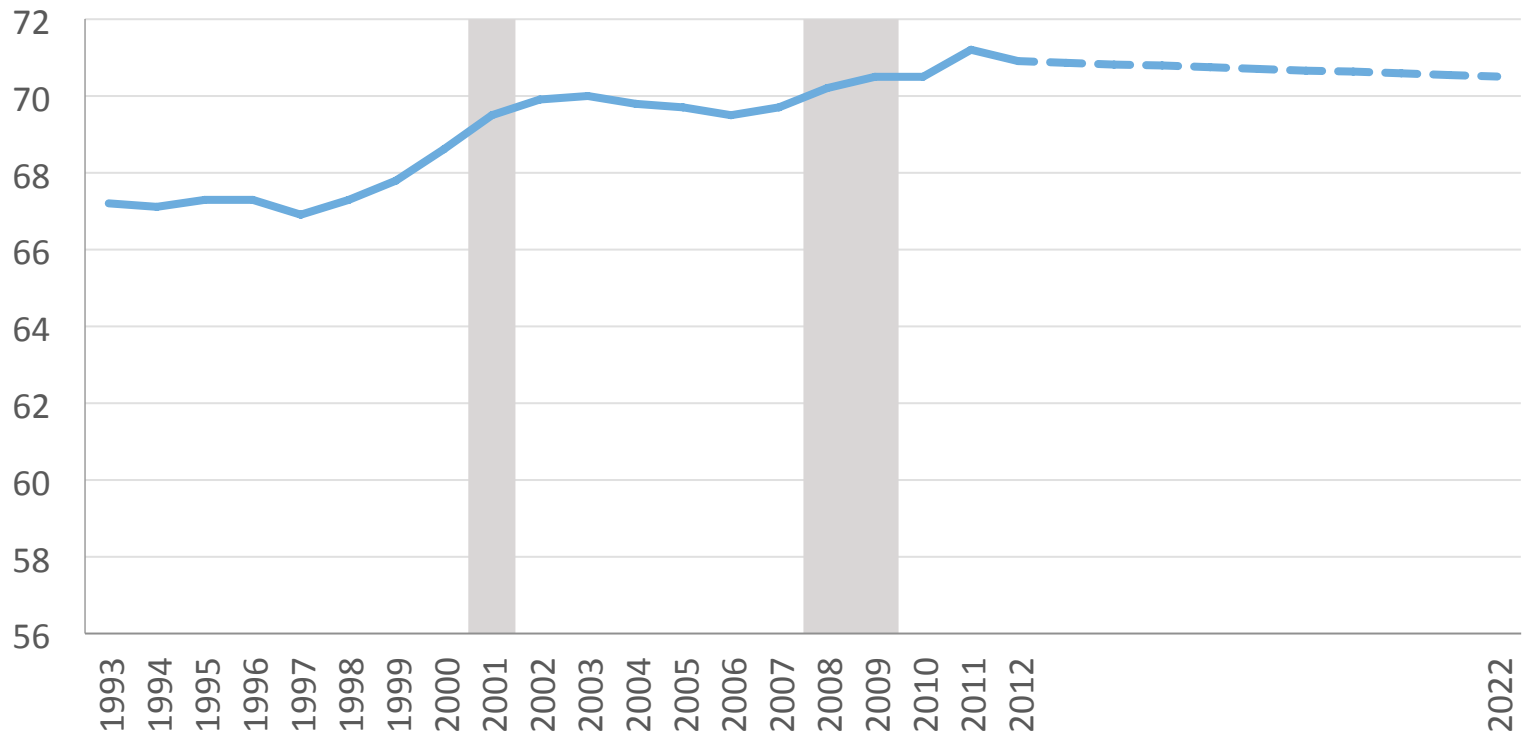
# BLS Projections: Real PCE Growth



# BLS Projections: Nominal PCE/GDP

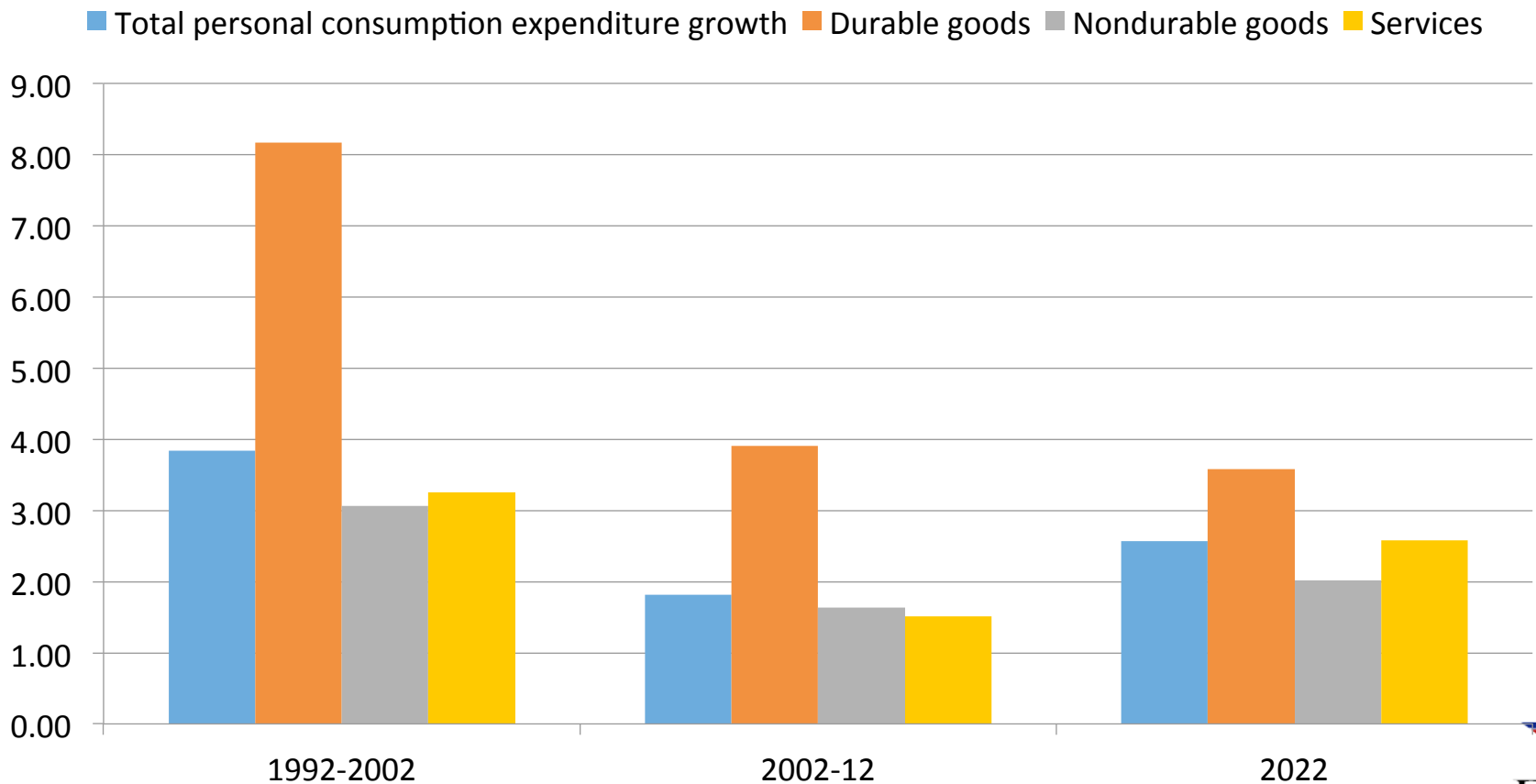
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- Consumers responsible for 70.5 percent of GDP
- Consumers responsible for 67.4 percent of GDP growth



# BLS Projections: Real PCE Growth

**Growth in categories of personal consumption expenditures,  
1992-2012 and projected 2022**

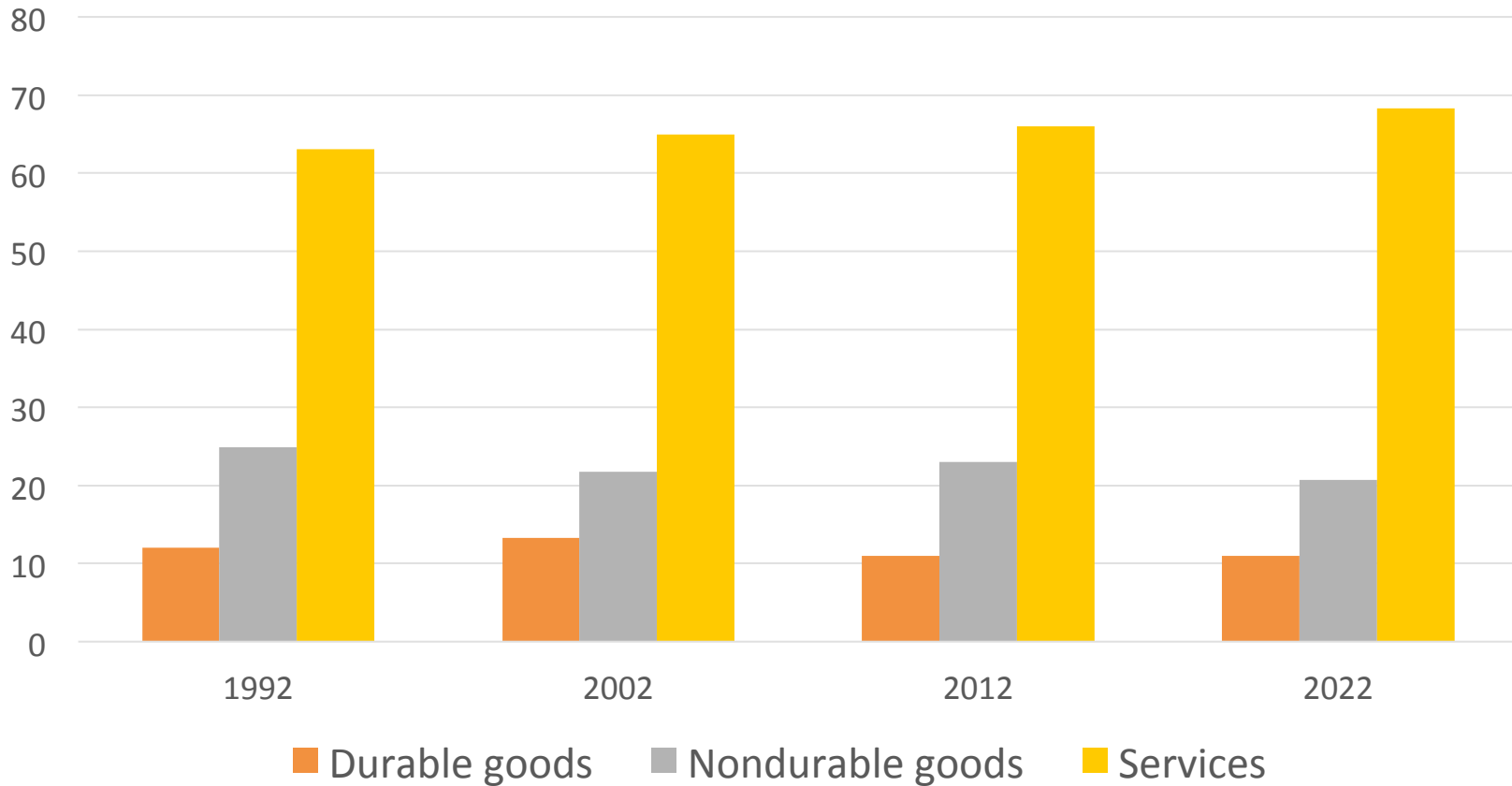




# BLS Projections: Real PCE Growth

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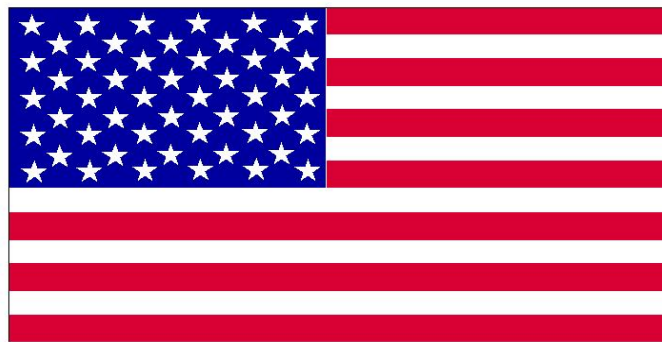
**Composition of nominal PCE**



## BLS Projections: Real Domestic PCE Growth

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- Domestic PCE expands by 2.6% too, from \$9.1 trillion to \$11.9 trillion
- Domestic PCE growth on goods-producing industries: 1.8%
- Domestic PCE growth on service-providing industries: 2.7%



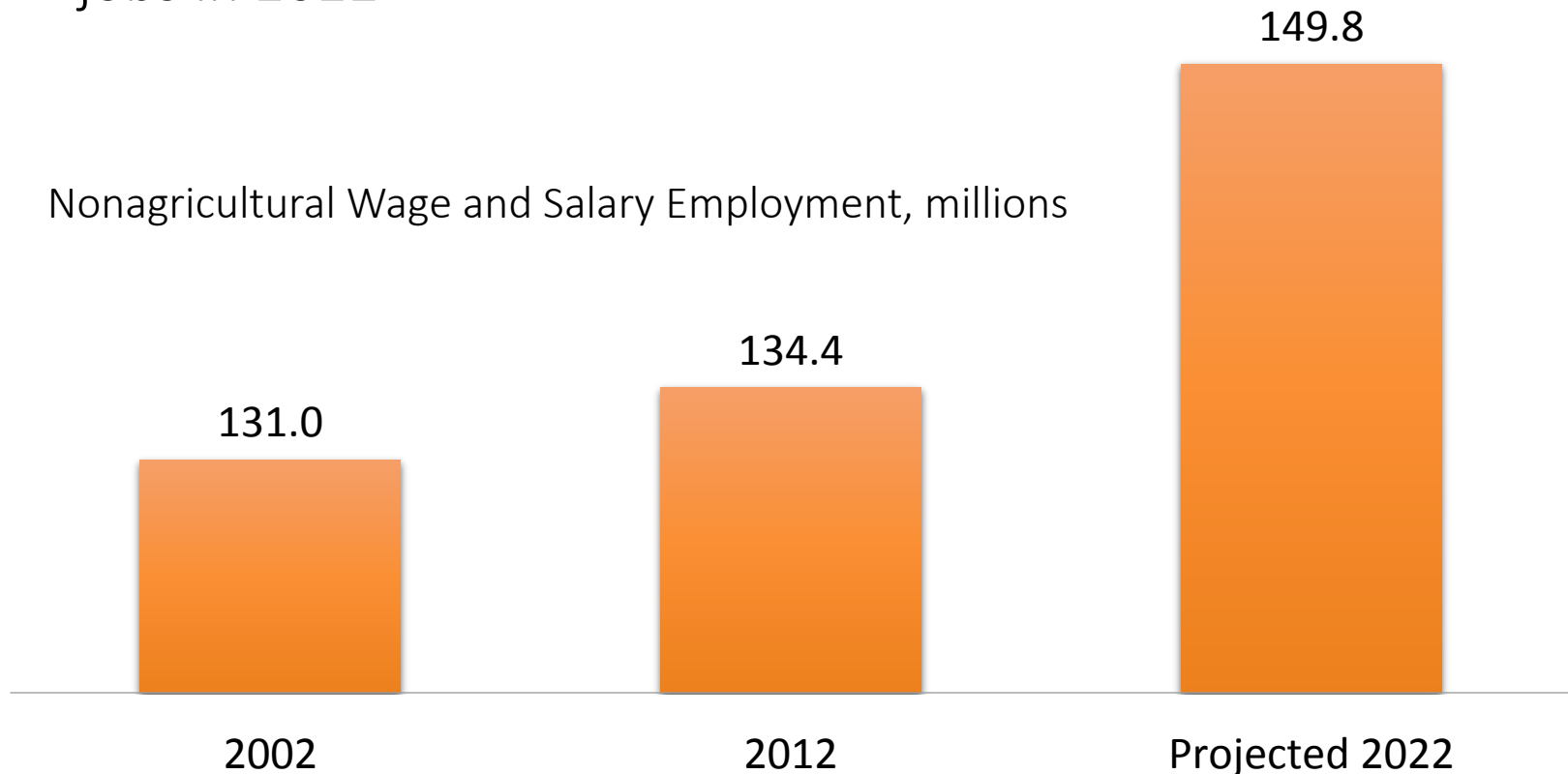
**Made in USA**

## BLS Projections: Employment

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- Nonagricultural wage and salary employment grows at 1.1% compound annual rate for 2012-2022, reaching 149.8 million jobs in 2022

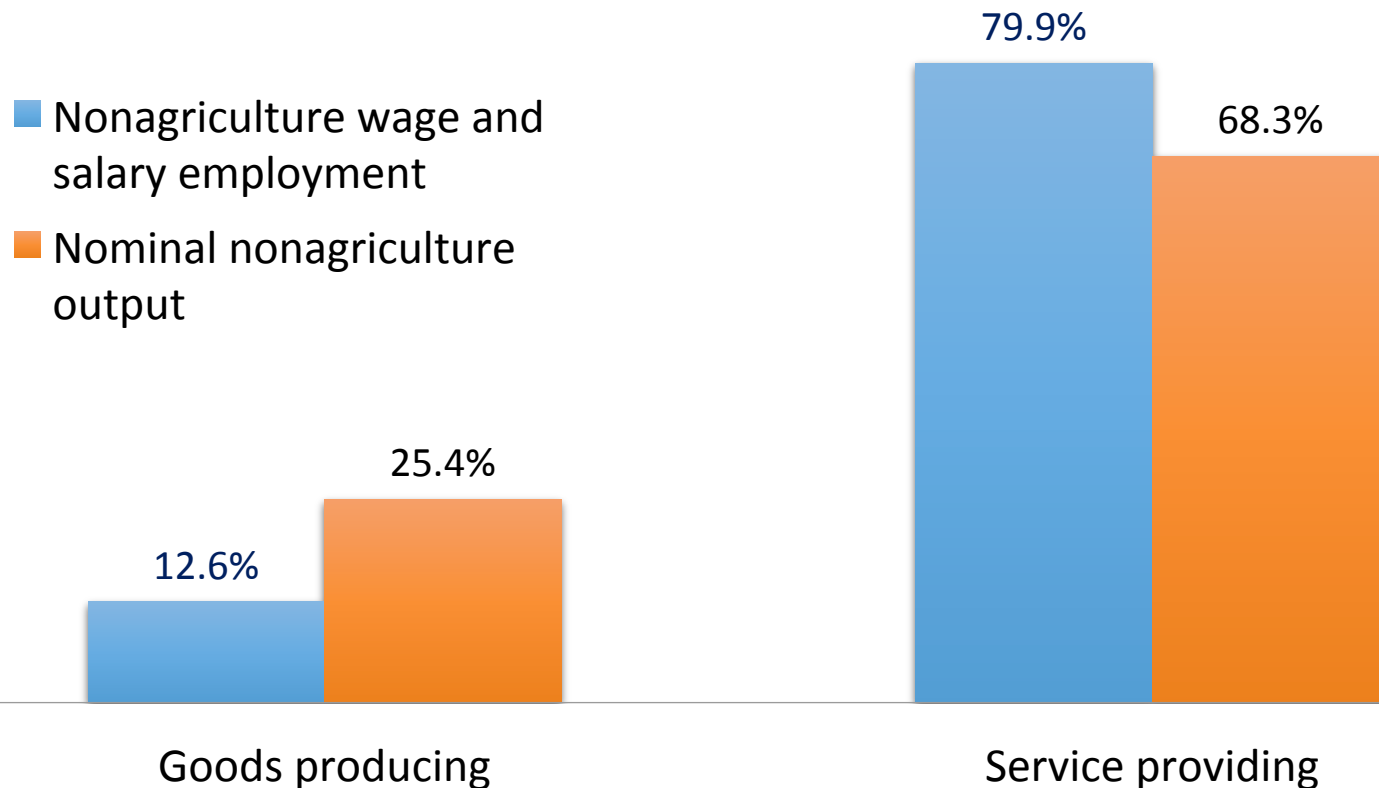
Nonagricultural Wage and Salary Employment, millions



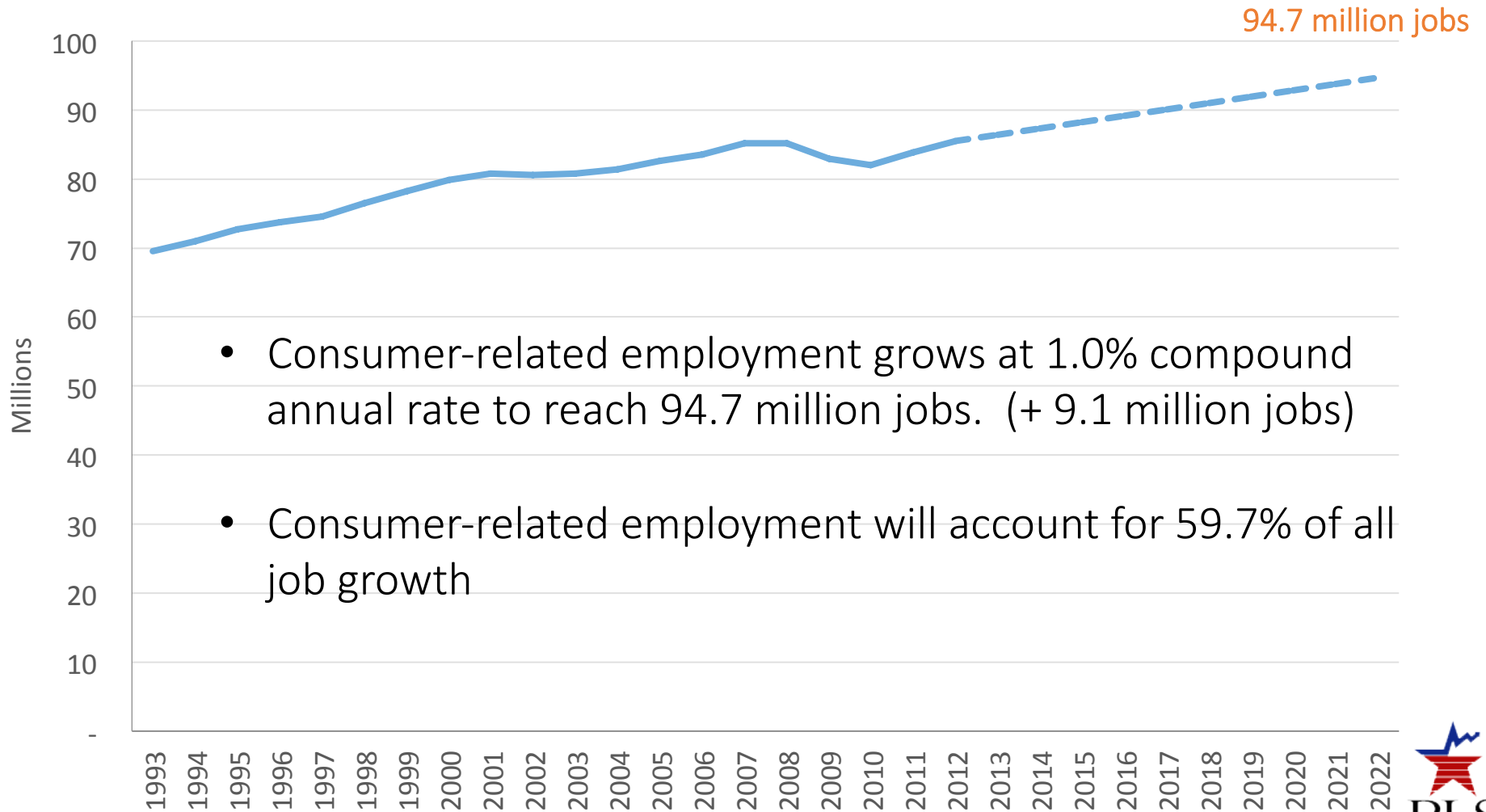
# BLS Projections: Employment

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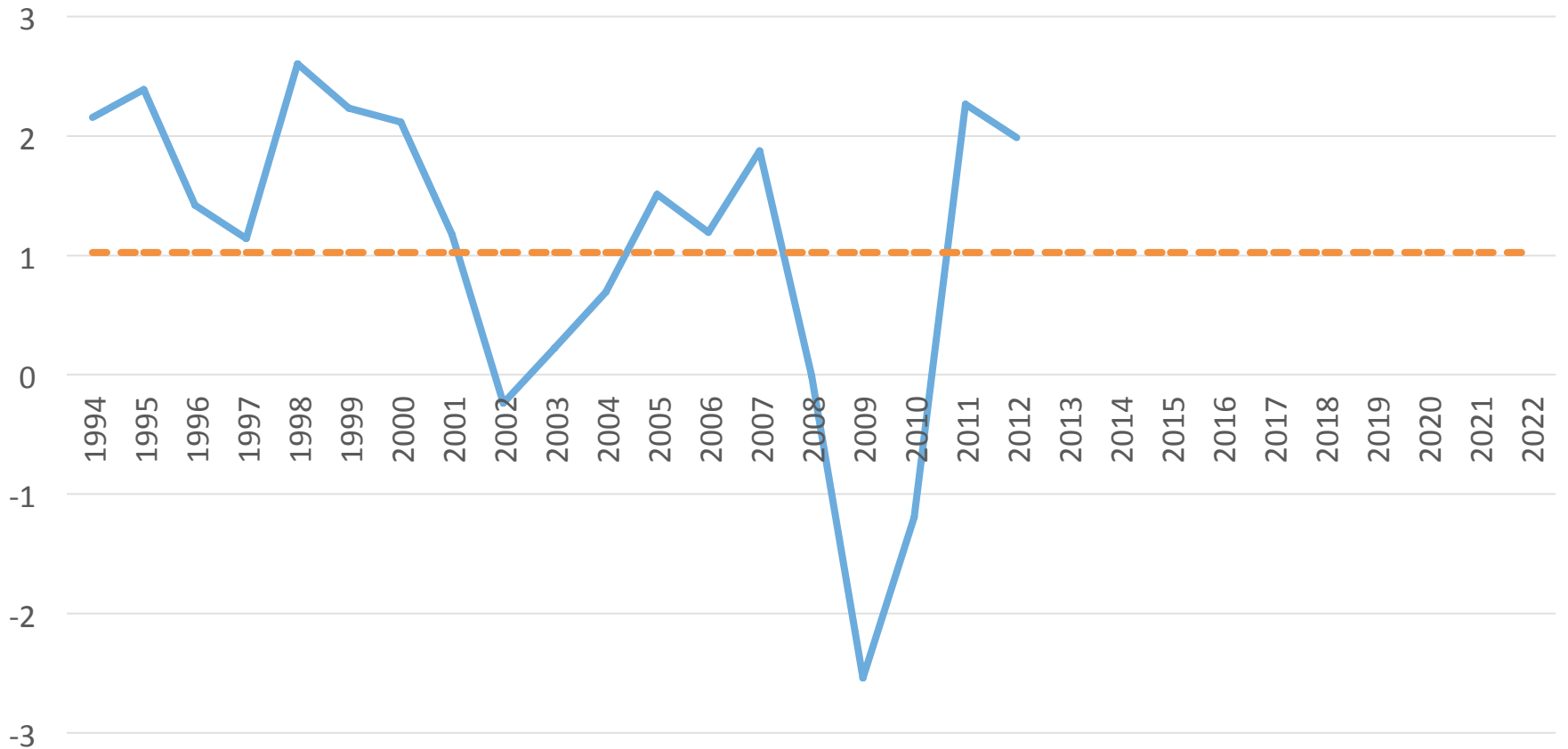
- Over 92 percent of new jobs in service-providing sectors
- Remaining growth in the recovering construction industry
- Nearly a third in the health care and social assistance sector



# BLS Projections: Consumer-related employment

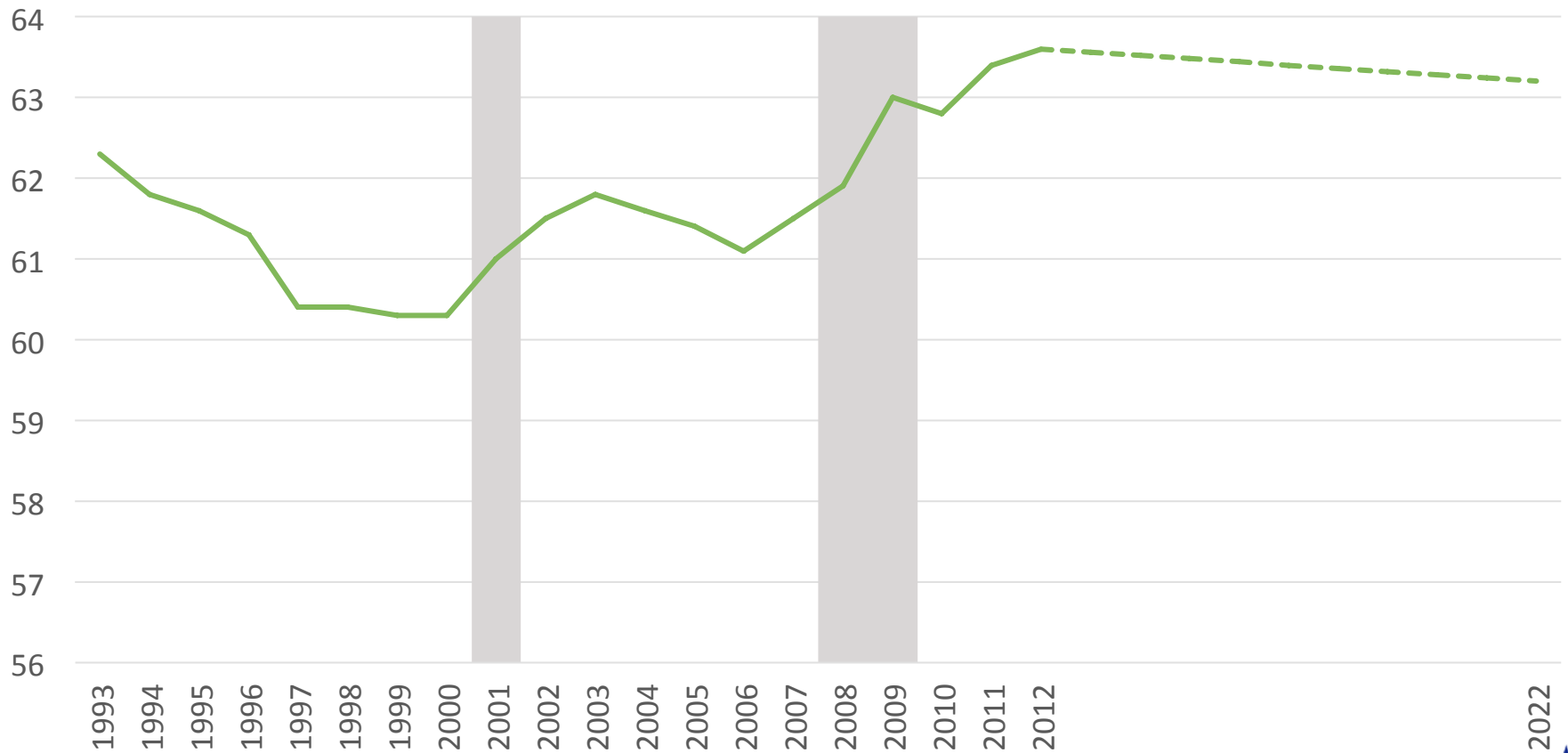


# BLS Projections: PCE-related employment growth



# Projected percent of U.S. employment

## Consumer-related employment, % of total employment



# Role in largest growing industries

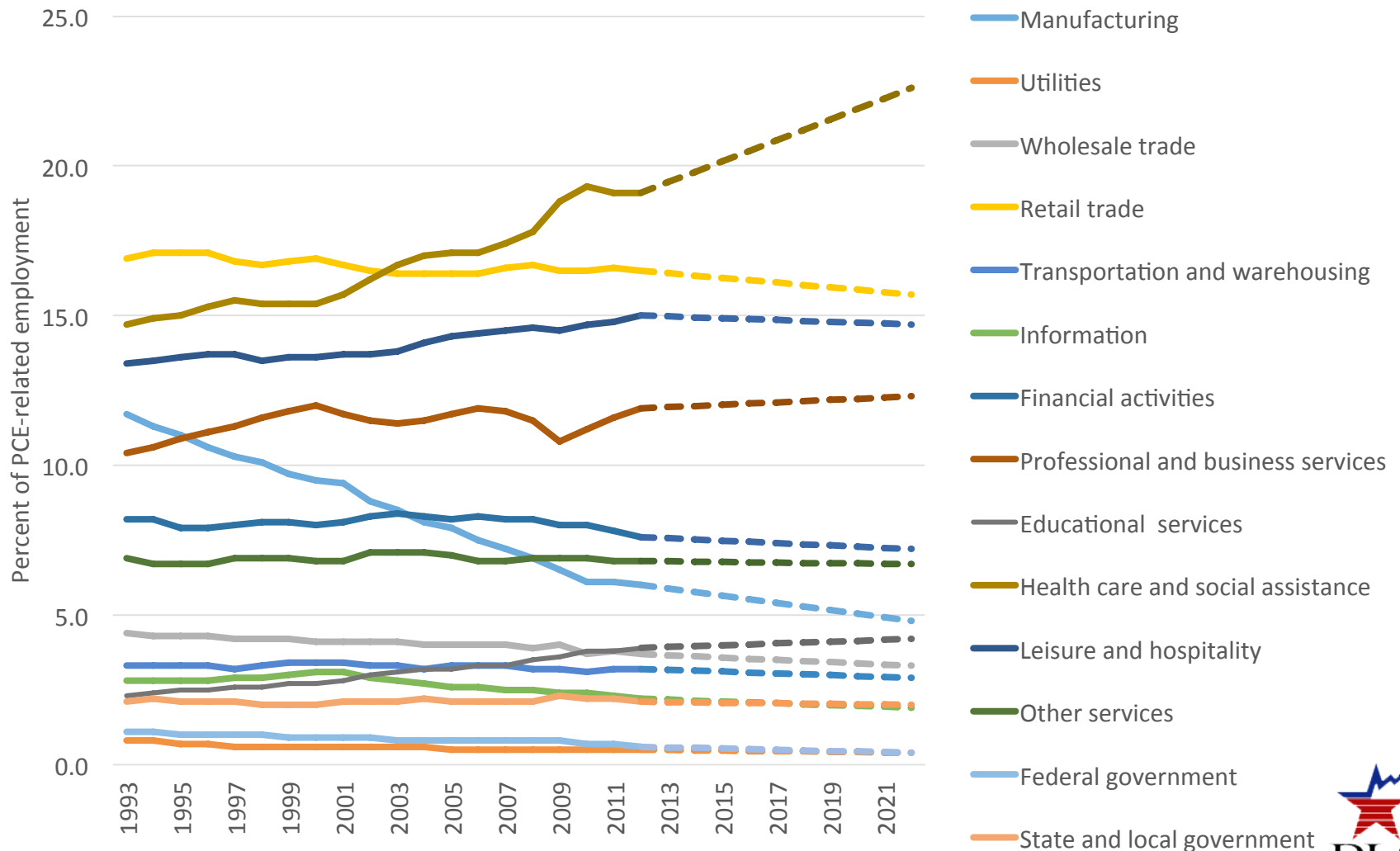
Industries with the Largest Wage and Salary Employment Growth					
Industry Description	Thousands of Jobs		Change	Compound Annual Rate of Change	Percent of Employment Related to PCE
	2012	2022	2012 - 2022	2012 - 2022	2012
Construction	5640.9	7263.0	1622.1	2.6	8.1
Offices of health practitioners	3968.0	5193.8	1225.8	2.7	96.4
Retail trade	14875.3	15966.2	1090.9	0.7	94.7
Food services and drinking places	9963.3	10851.5	888.2	0.9	94.1
Hospitals, private	4791.0	5605.8	814.8	1.6	95.5
Employment services	3147.9	3929.6	781.7	2.2	67.7
Nursing and residential care facilities	3193.5	3954.2	760.7	2.2	93.0
Home health care services	1198.6	1914.3	715.7	4.8	99.9
Individual and family services	1311.4	2022.9	711.5	4.4	99.4
Computer systems design and related services	1620.3	2229.0	608.7	3.2	20.3
Outpatient, laboratory, and other ambulatory care services	1151.4	1673.7	522.3	3.8	98.1
Wholesale trade	5672.8	6143.2	470.4	0.8	56.4
Management, scientific, and technical consulting services	1121.1	1577.1	456.0	3.5	60.0
General Local government educational services compensation	7779.3	8233.7	454.4	0.6	0.0
Junior colleges, colleges, universities, and professional schools	1763.2	2196.6	433.4	2.2	98.2
Services to buildings and dwellings	1829.6	2109.0	279.4	1.4	74.3



# Projected PCE-related employment: major sectors

Consumer-related employment, thousands						
Industry	2002	2007	2012	2022	Change 2012-2022	Compound Annual Rate of Change, 2012-2022
<b>All industries</b>	80,627.6	85,144.0	85,505.8	94,650.1	9,144.3	1.0
<b>Goods-producing</b>	7,955.6	6,983.8	5,761.9	5,233.8	-528.1	-1.0
Mining	183.4	186.5	183.1	175.7	-7.4	-0.4
Construction	650.9	638.9	457.8	510.8	53.0	1.1
Manufacturing	7,121.3	6,158.4	5,121.0	4,547.3	-573.7	-1.2
<b>Services-providing</b>	72,672.0	78,160.3	79,743.9	89,416.3	9,672.4	1.2
Utilities	471.0	439.6	456.6	402.6	-54.0	-1.2
Wholesale trade	3,311.2	3,432.2	3,197.4	3,090.9	-106.5	-0.3
Retail trade	13,310.9	14,147.0	14,089.0	14,894.4	805.4	0.6
Transportation and warehousing	2,677.1	2,776.0	2,716.1	2,773.1	57.0	0.2
Information	2,361.6	2,150.2	1,904.6	1,827.3	-77.3	-0.4
Financial activities	6,701.4	6,957.1	6,532.8	6,787.9	255.1	0.4
Professional and business services	9,232.6	10,035.1	10,181.2	11,639.2	1,458.0	1.3
Educational services	2,395.2	2,823.4	3,294.0	3,947.5	653.5	1.8
Health care and social assistance	13,060.1	14,779.9	16,340.9	21,414.3	5,073.4	2.7
Leisure and hospitality	11,023.6	12,352.3	12,855.1	13,960.7	1,105.6	0.8
Other services	5,719.1	5,828.3	5,791.7	6,362.4	570.7	0.9
Federal government	701.6	646.9	551.4	394.0	-157.4	-3.3
State and local government	1,706.6	1,792.2	1,833.0	1,921.8	88.8	0.5
Special industries	0.0	0.0	0.0	0.0	0.0	--

# Projected PCE-related employment: major sectors



In summary...

# PCE-related employment, 2007-2012

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- Great Recession:
  - 3.2 million fewer jobs tied to consumer spending in 2010 from 2007
  - 36.5% of job losses in that time frame
  - Consumer-related drag in 2010, a year after recession ended
  - Consumer-related employment resumed growth in 2011, reached pre-recession levels in 2012. Recovery fueled by sectors insulated from the recession.
  - Fastest growth in PCE-related employment in 2011 and 2012 since the late 1990s, though growth slowed slightly in 2012
  - Percent of jobs tied to PCE increased in the Great Recession

# PCE-related employment, 2012-2022

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- 2012-2022 projections
  - Consumer spending grows at same pace as overall economy, reaches \$12.4 trillion in 2022.
  - 70.5% of GDP, 67.4% of GDP growth
  - Consumer-related employment projected to reach 94.7 million jobs in 2022
  - 63.2% of employment and 59.7% of job growth
  - Over half of new consumer-related jobs will be in the health care and social assistance sector.
  
- Consumers: engine for U.S. job growth?

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