

Economic Update

2011 Motor Vehicle Metals and Resins
Conference

Federal Reserve Bank of Chicago
Detroit Branch
May 12, 2011

Paul Traub

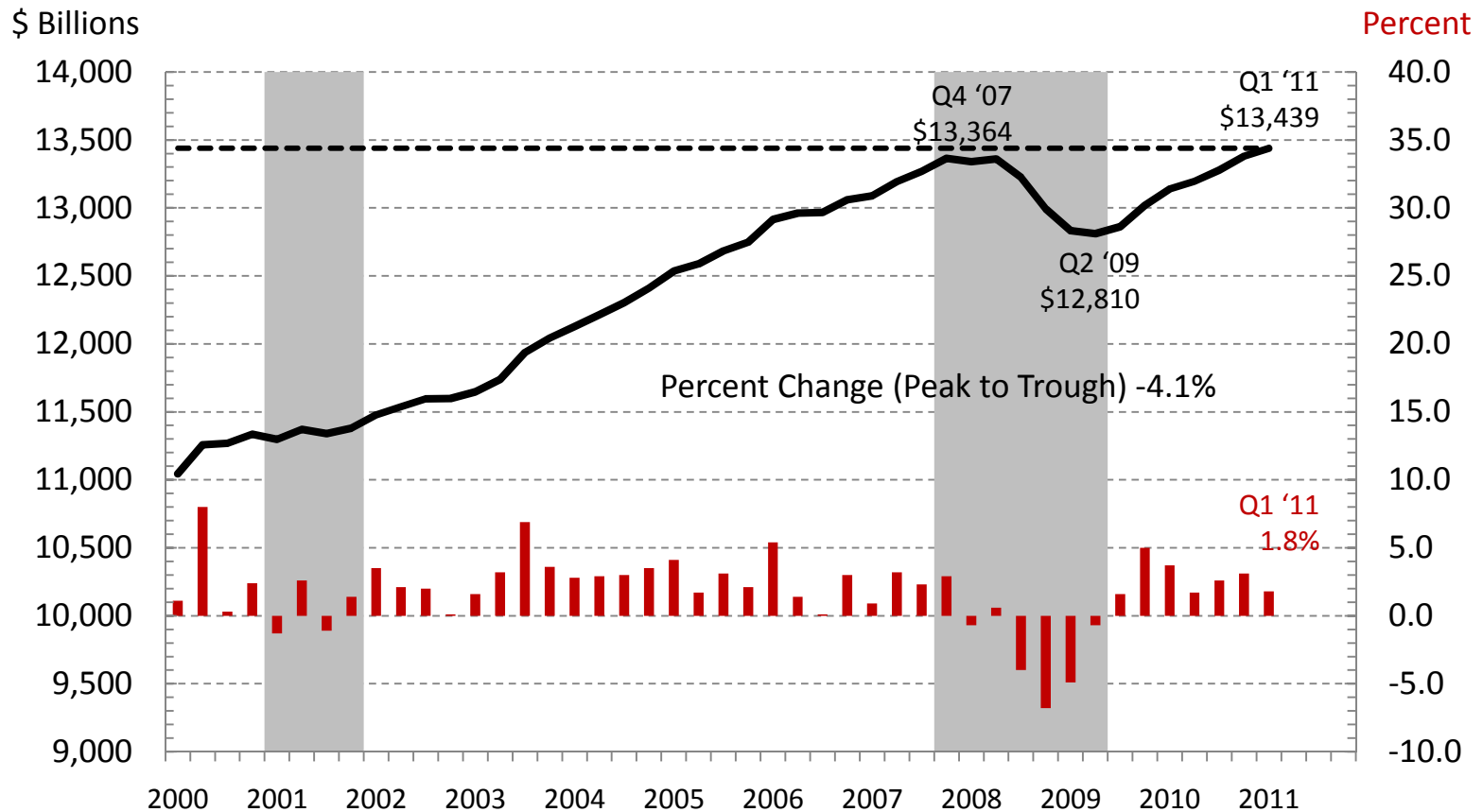


Overview

- Economy - GDP
- The U.S. Consumer
- Energy Prices
- Employment Situation
- Housing Market
- Japan Earthquake and Tsunami
- U.S. Auto Industry Trend Analysis

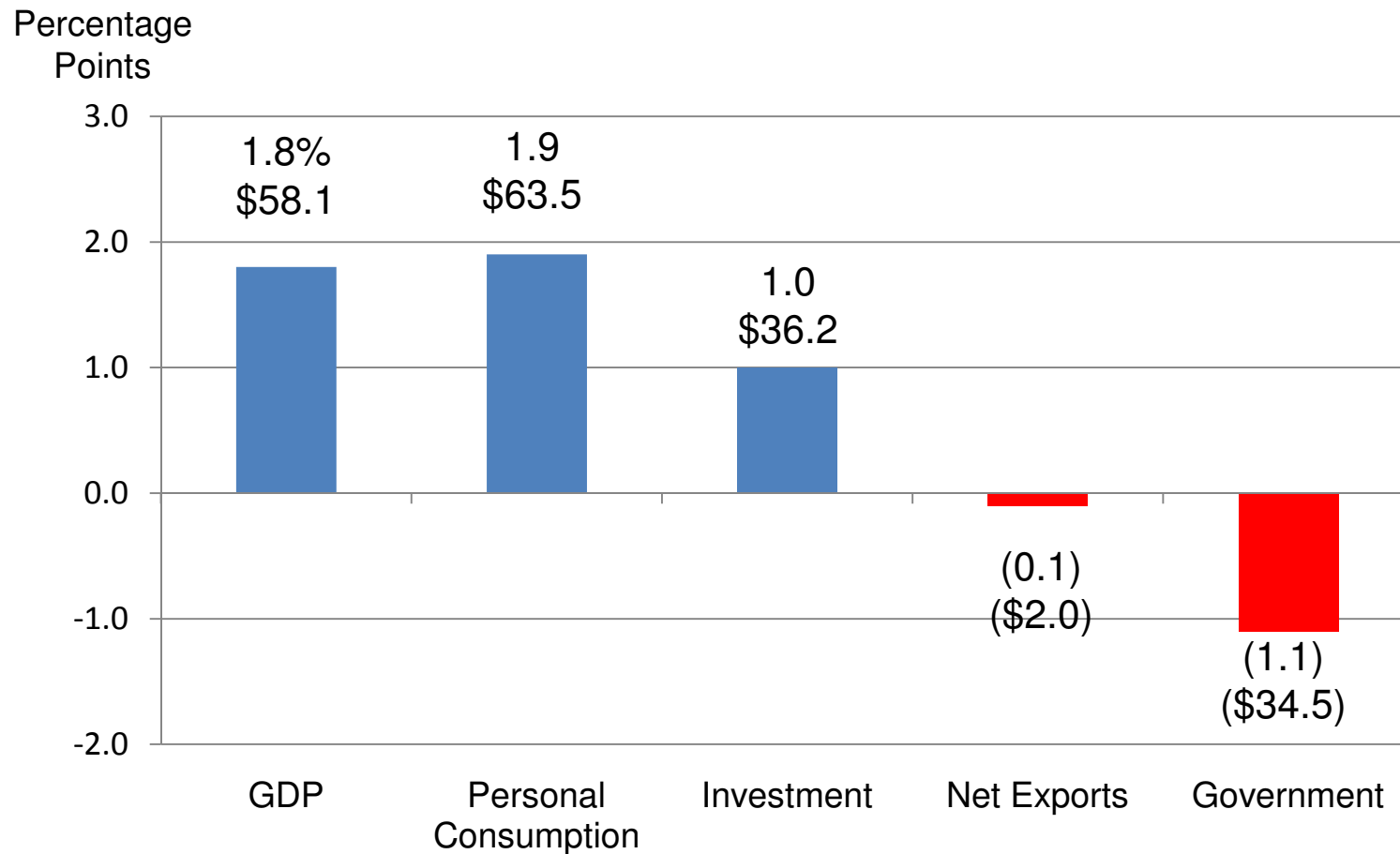
Real Gross Domestic Product grew 1.8 percent in Q1 '11 mostly attributed to positive contribution from personal consumption

Real GDP - Billions Chained \$2005, % Change Q/Q at SAAR

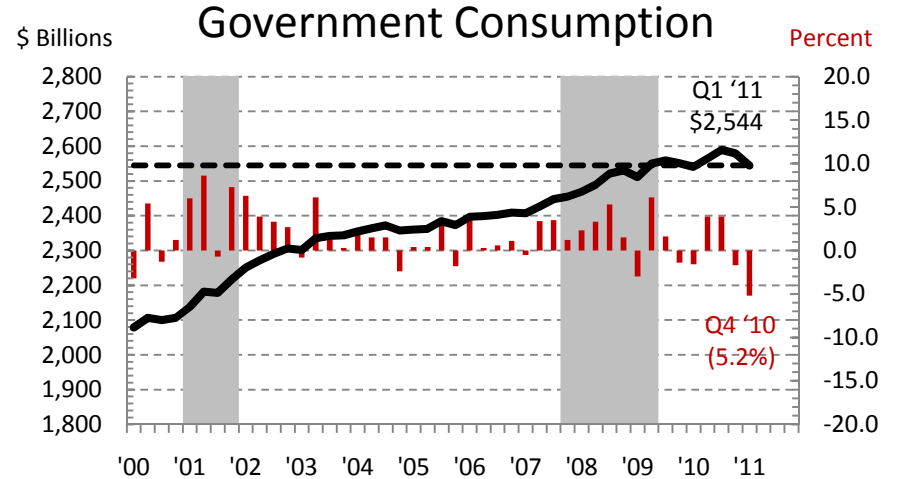
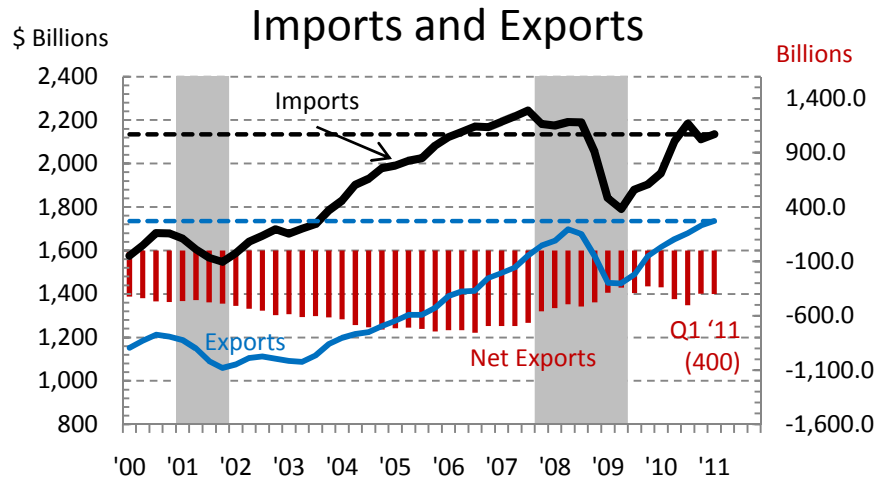
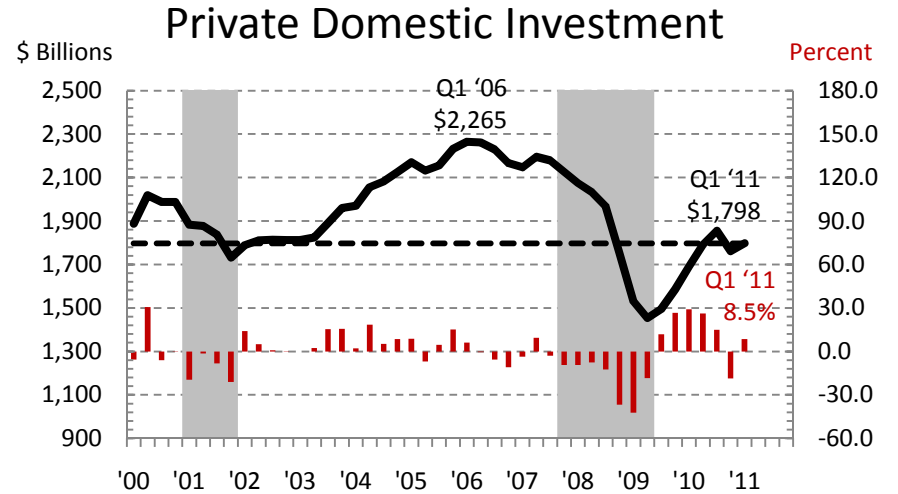
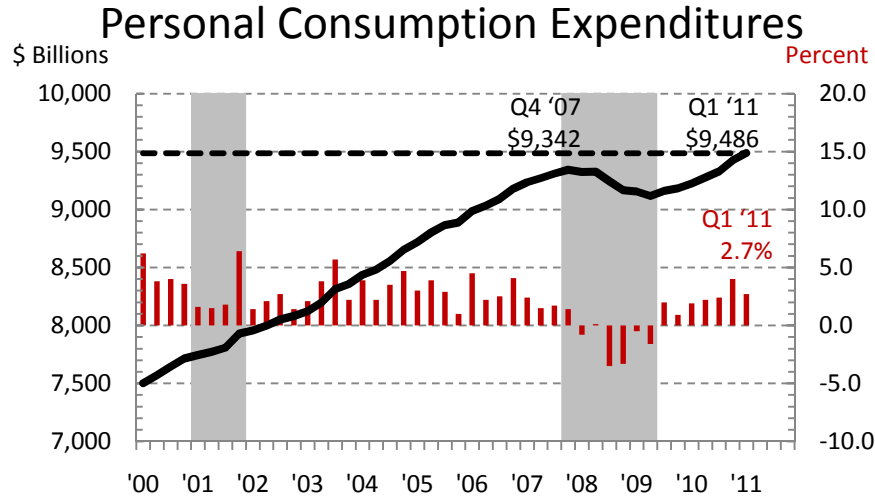


Growth in Q1 2011 was led by PCE and Investment with some of the gains being offset by declines in Government spending

Contribution to % Change Q4 '10 GDP – Q/Q at SAAR, Billions \$2005

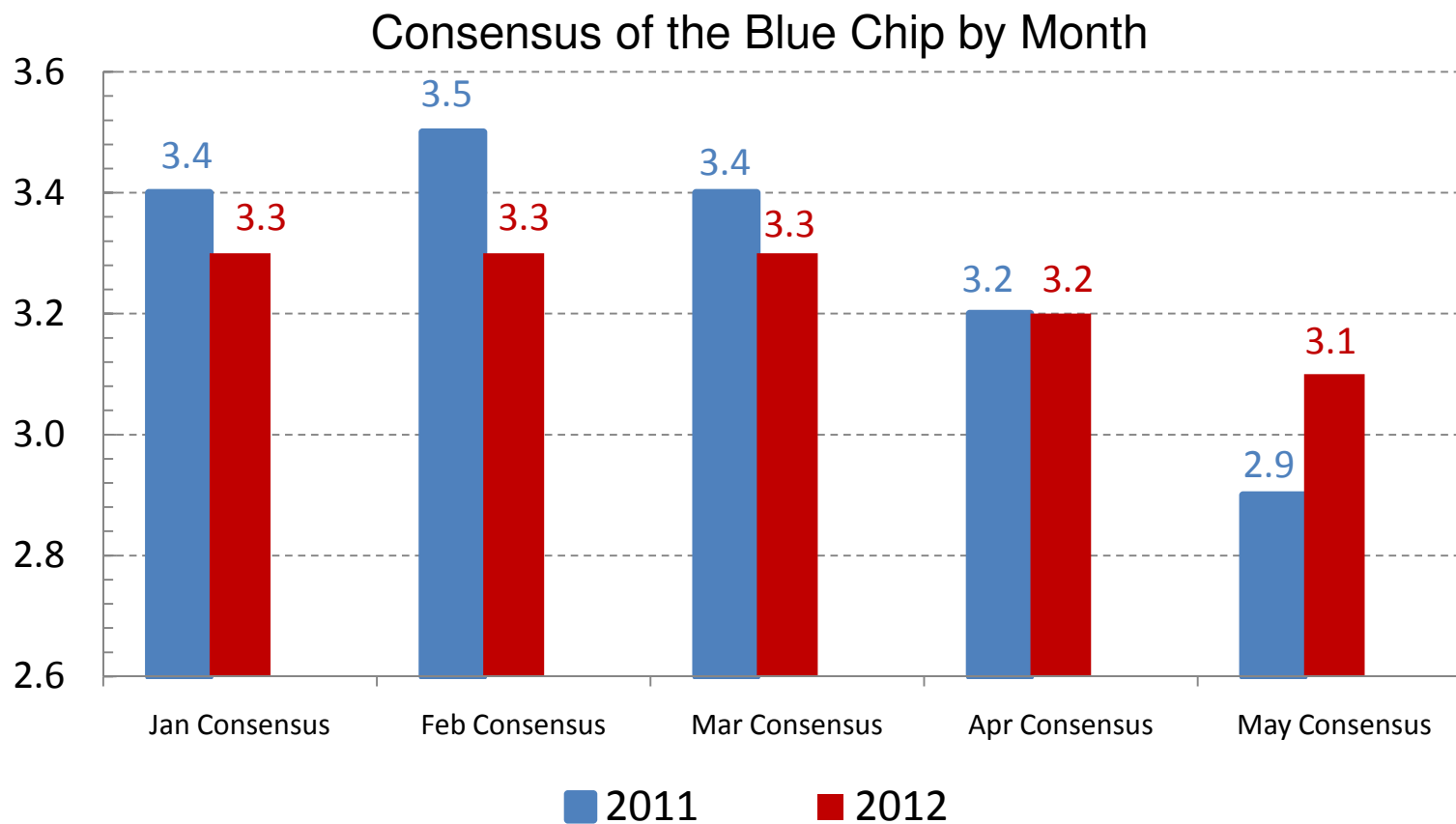


Personal Consumption Expenditures grew at 2.7% in the 1st quarter of 2011 marking the 7th consecutive quarter of growth

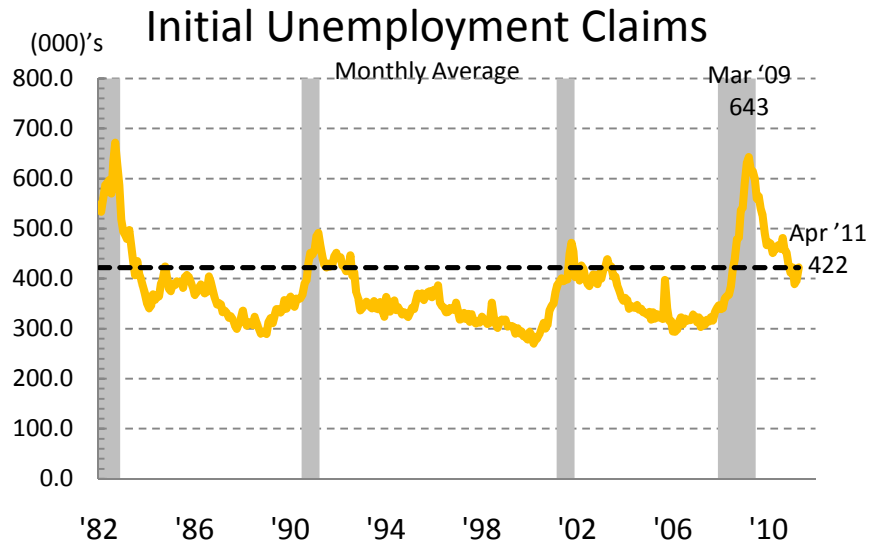
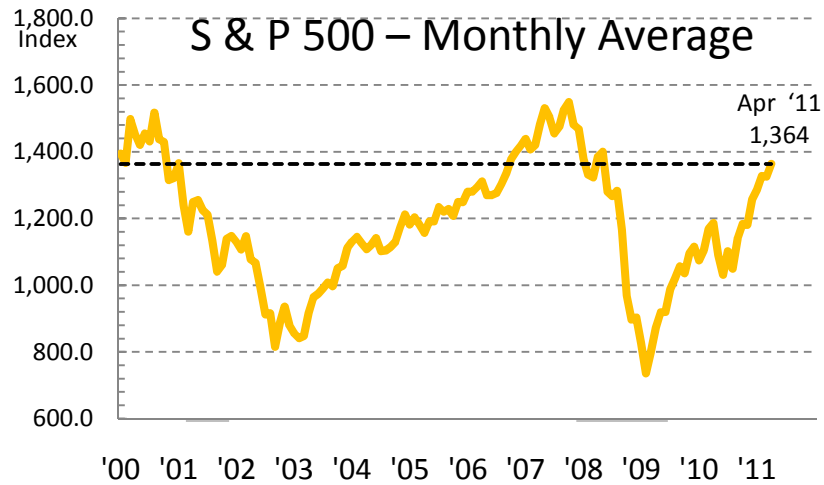
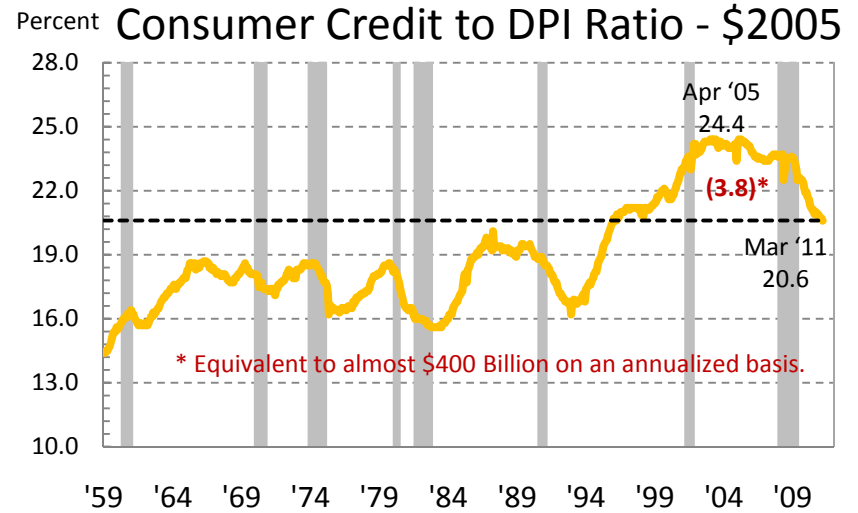
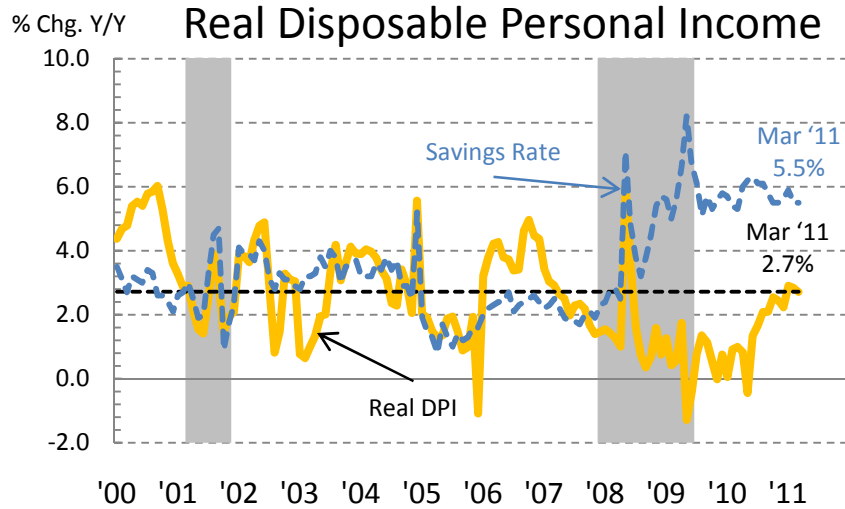


Prospects for 2011 declined again in the May consensus as global events continue to add a degree of uncertainty to the outlook

Real GDP Growth, Percent Change 4Q / 4Q

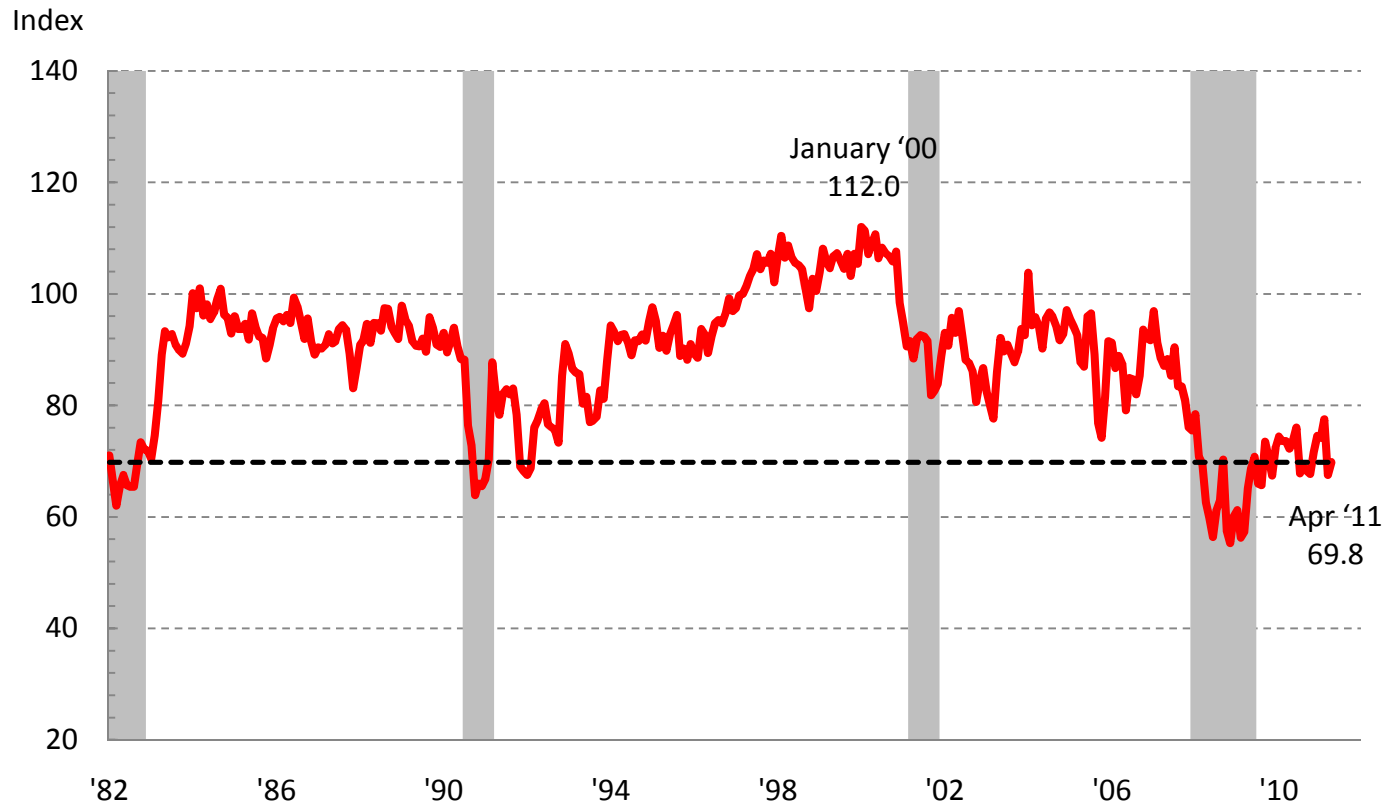


Consumers have continued to see improvements in income growth, their balance sheet and job prospects

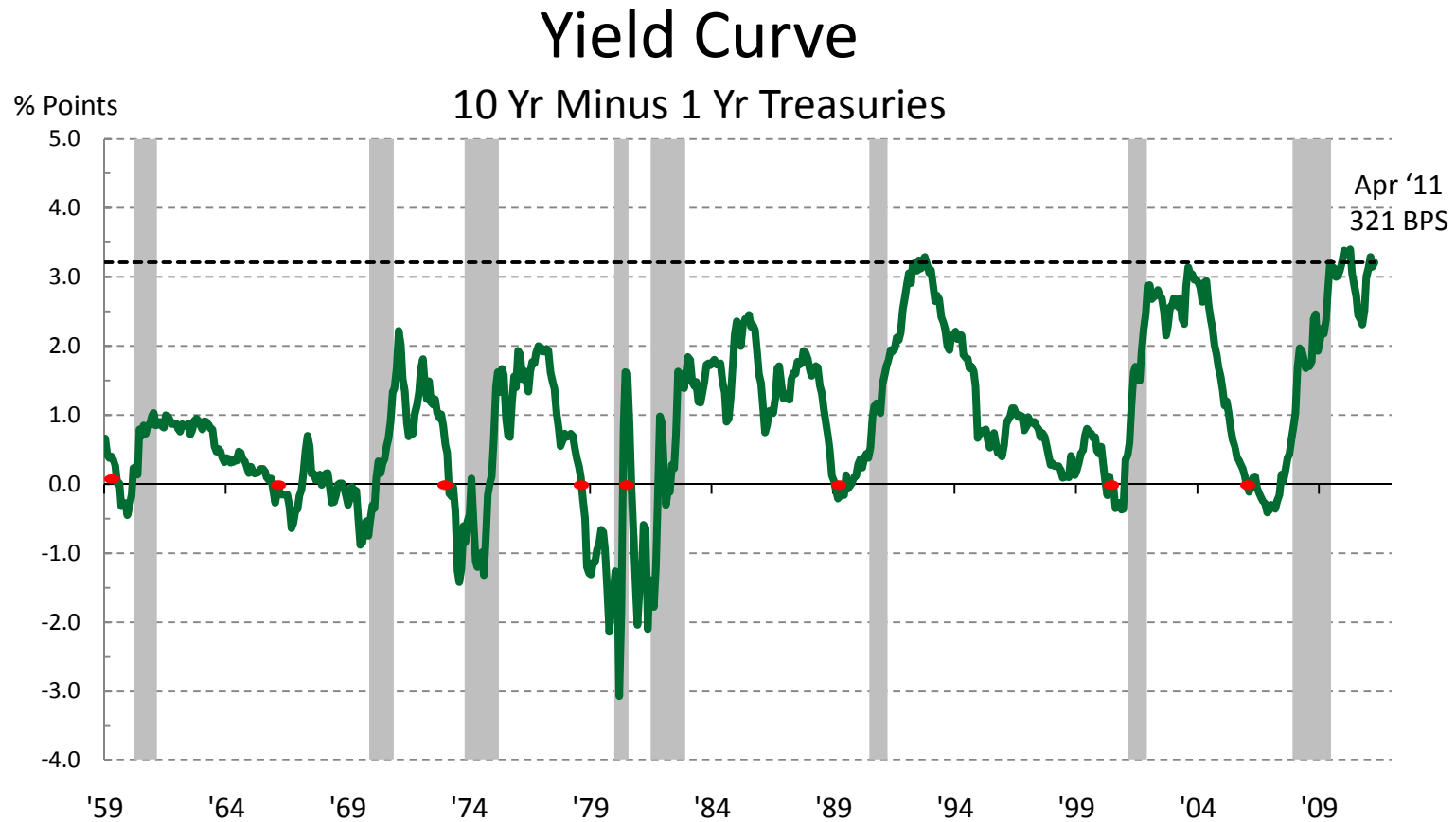


Even though the consumer's situation continues to show improvement, U of M's consumer sentiment index still remains low

U of M Consumer Sentiment

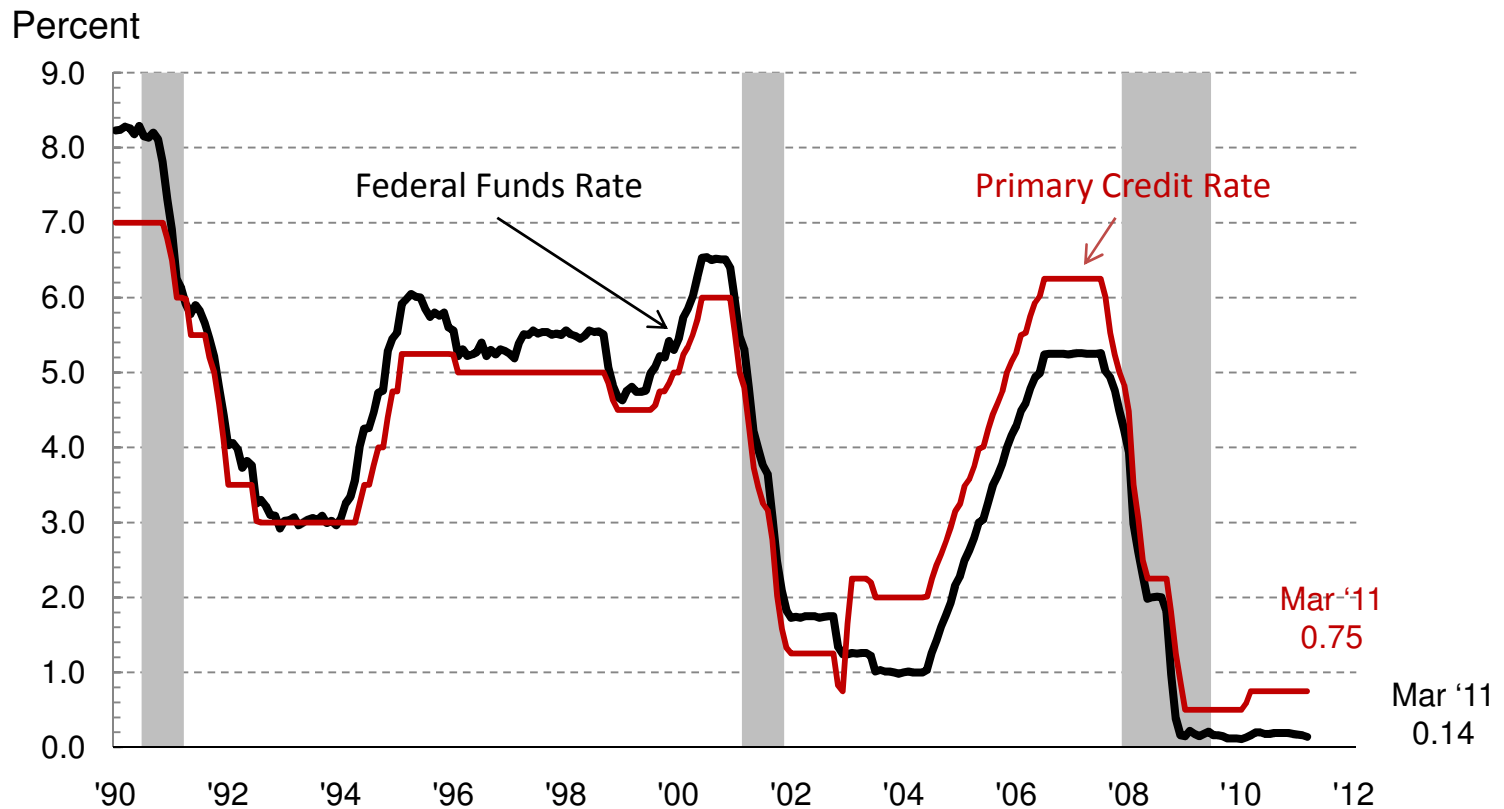


The Yield curve based on the 10 Year minus the 1 Year Treasury remains very supportive of borrowing and growth



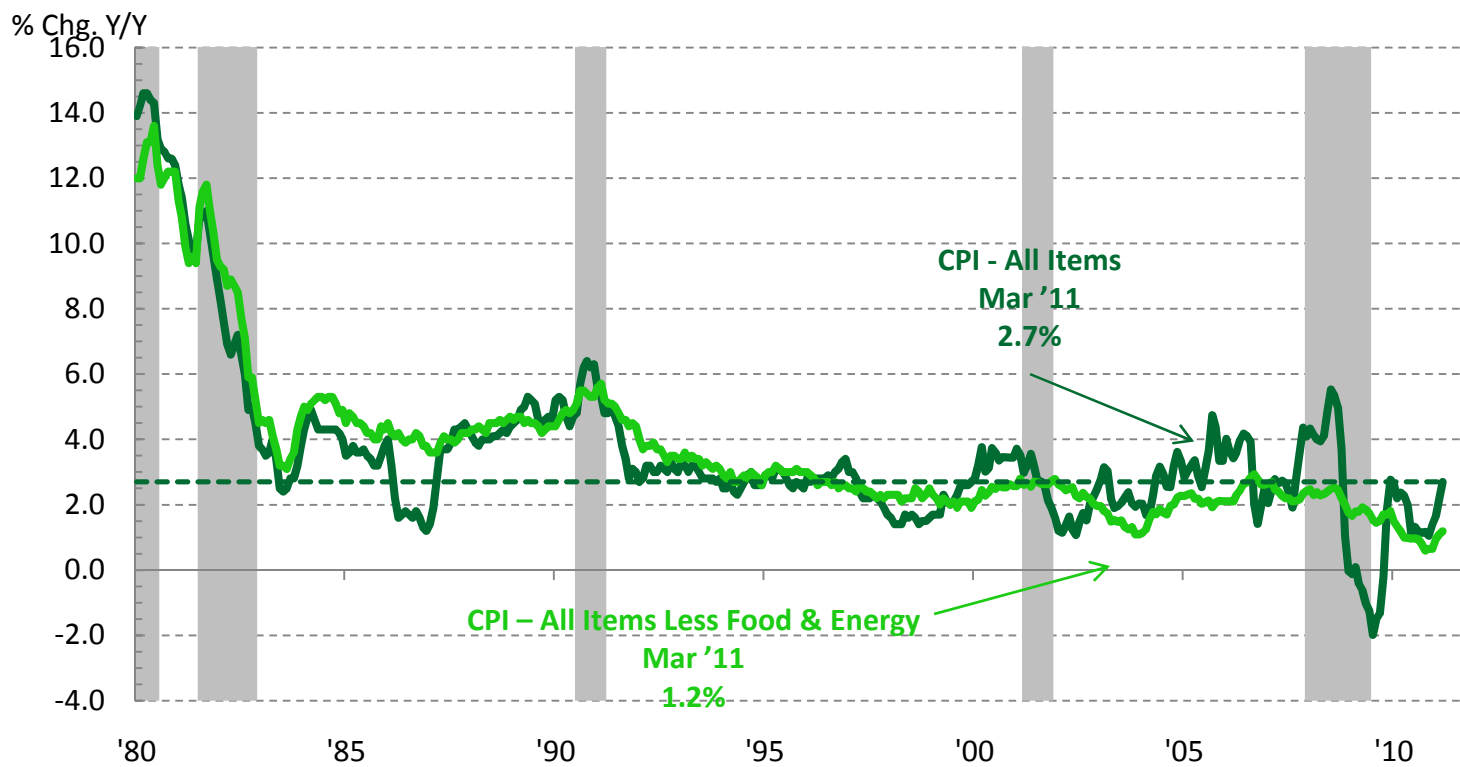
Fed Funds rate has been kept near zero since December 2008

Federal Funds Rate – Monthly Average (effective)



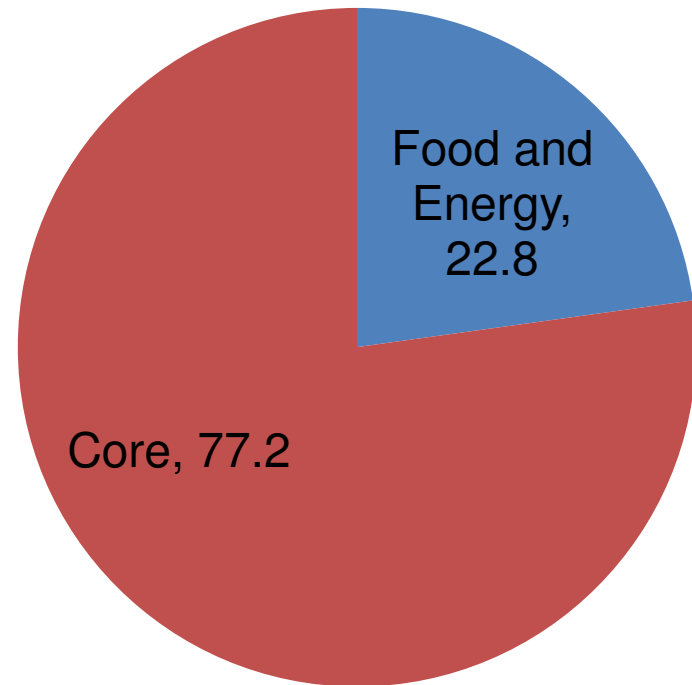
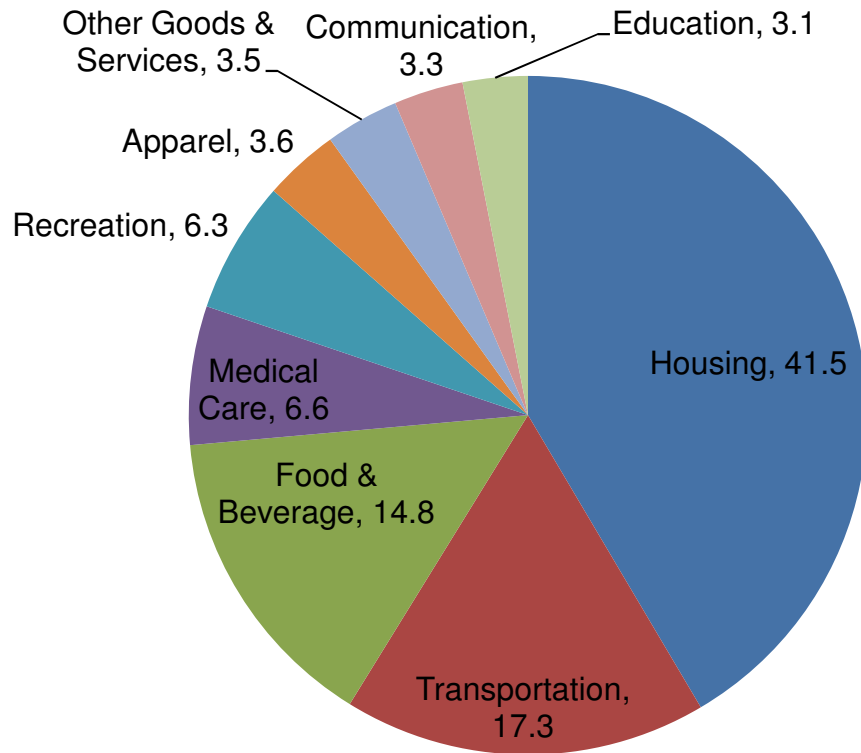
Although consumer prices rose slightly in February, they still remain significantly lower than their long-run average

Consumer Price Index



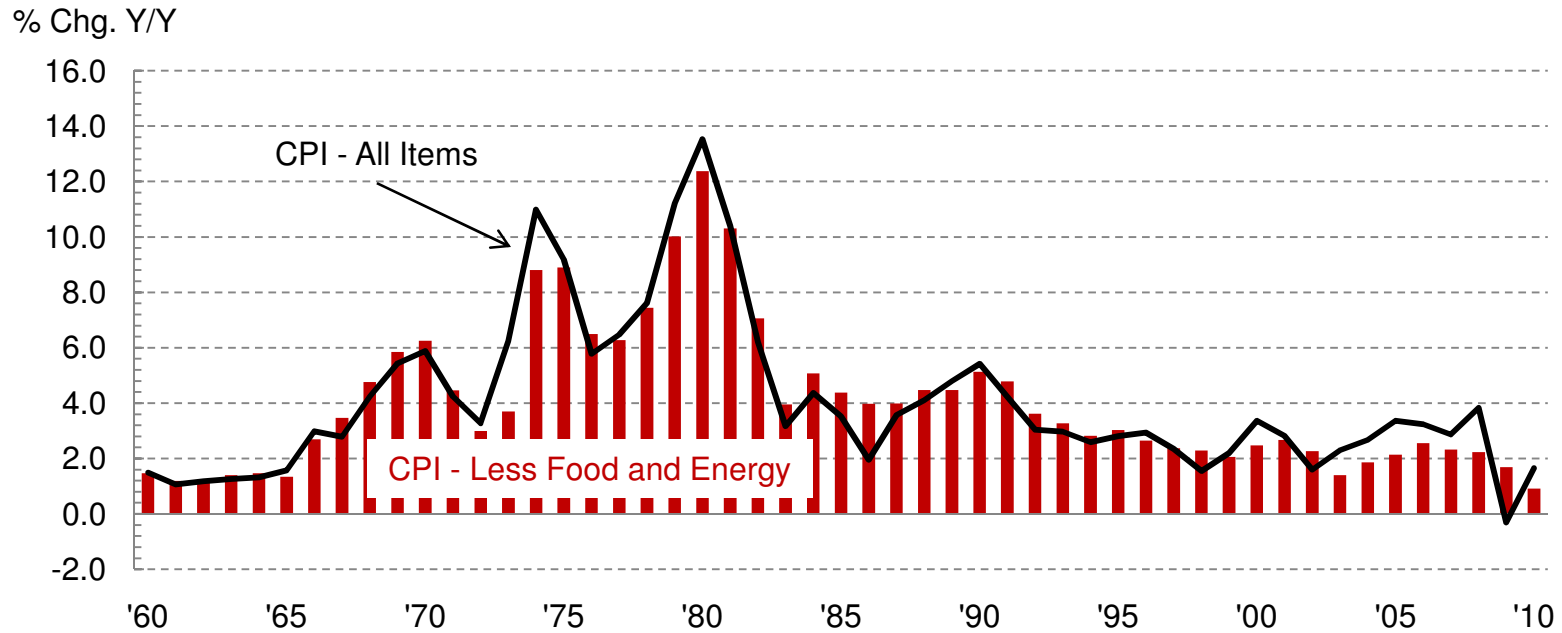
Spending on items less food and energy accounts for almost 80% of total consumption with housing being the largest contributor

CPI Basket Weights



Over long periods of time Core inflation actually tracks very closely to CPI All Items

CPI All Items and Core Percent Change Y/Y - Annual Average

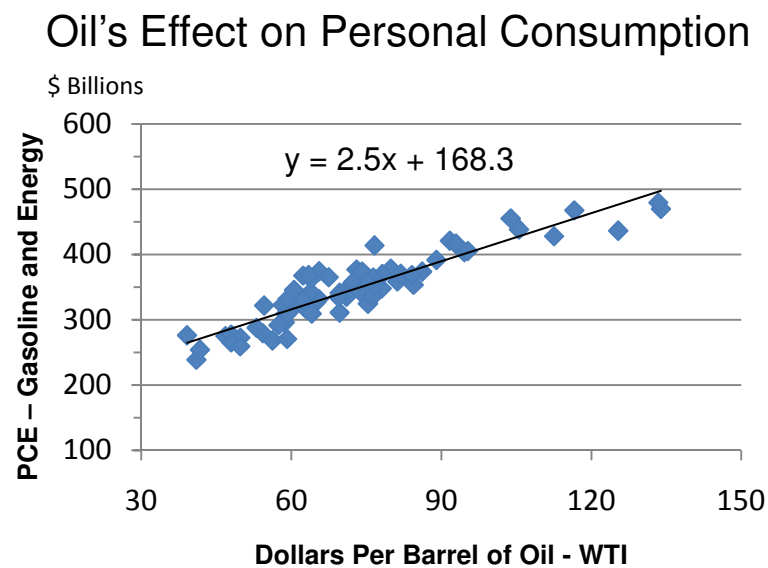
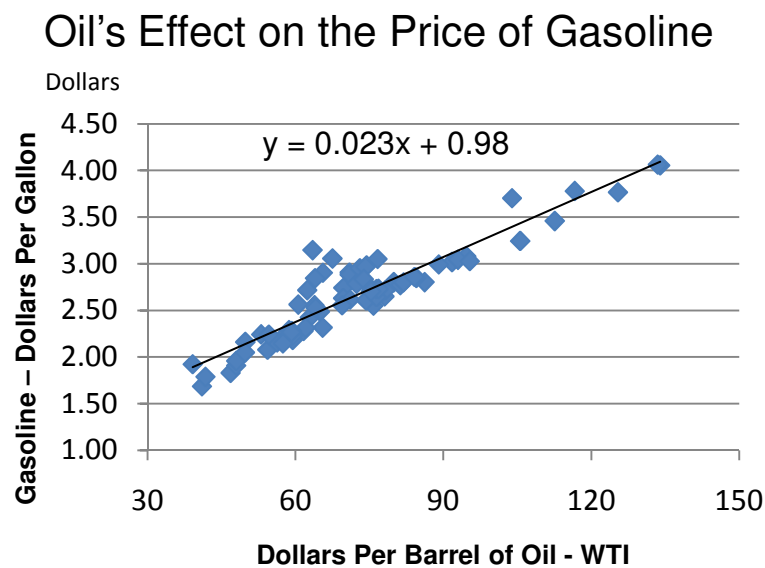


Averages by Decade

<u>Consumer Price Index</u>	<u>'60's</u>	<u>'70's</u>	<u>'80's</u>	<u>'90's</u>	<u>'00's</u>	<u>Average</u>
All Items	2.33	7.09	5.56	3.01	2.57	4.11
All Items Less Food & Energy	2.49	6.53	6.00	3.20	2.16	4.08
All Items H/(L) than Core	(0.16)	0.56	(0.45)	(0.19)	0.41	0.03
<u>Memo:</u>						
Food and Beverage		7.21	5.10	3.16	2.90	4.59
Energy	1.29	10.54	4.40	1.38	7.12	4.95

If the increase in the price of oil is permanent, it could have a negative effect on the path of the current economic recovery

PCE and WTI Oil in current dollars, 2005 - 2010

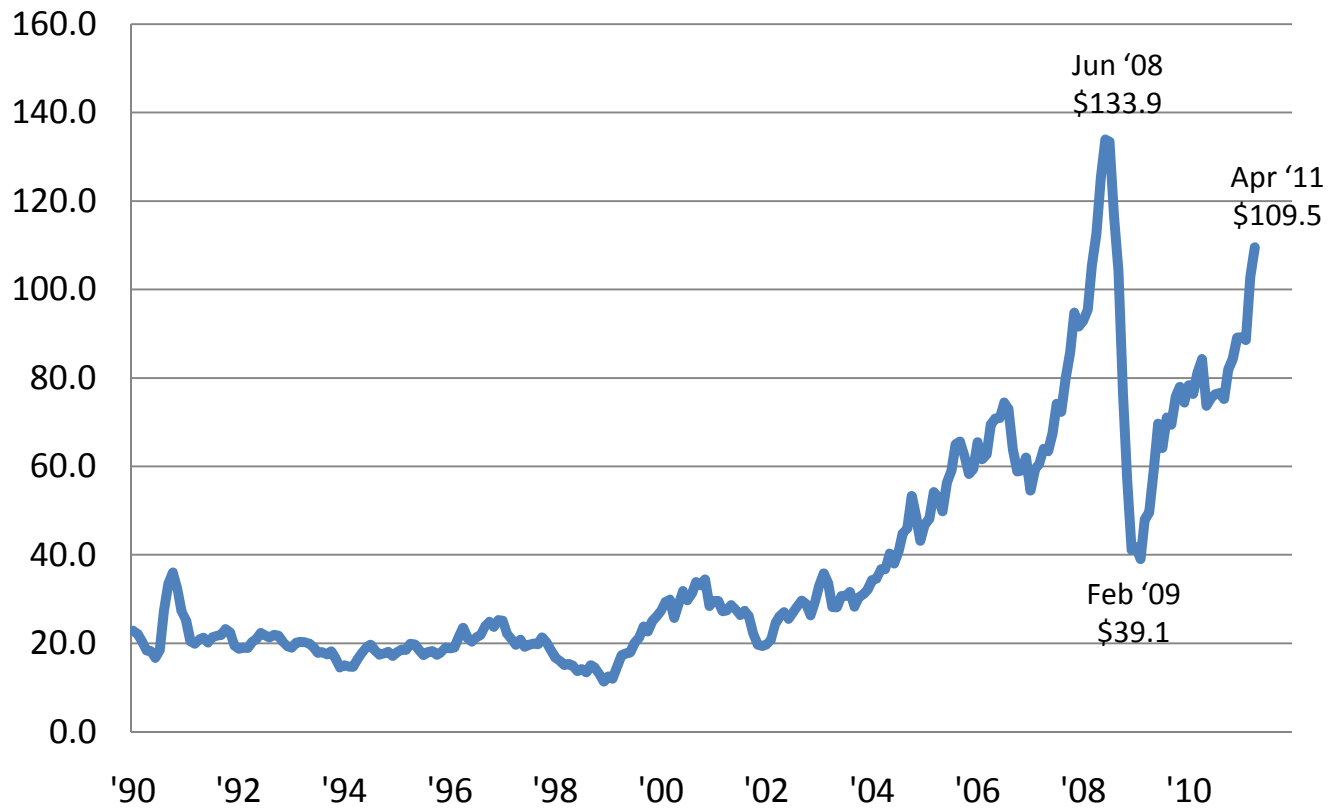


For every \$10 increase in the price of a barrel of oil:

- The cost of a gallon of regular unleaded gasoline increases by about \$0.25
- On an annualized basis, consumers spend an additional \$25 billion on gasoline and other energy goods
- Oil imports account for roughly 65% of U.S. oil consumption

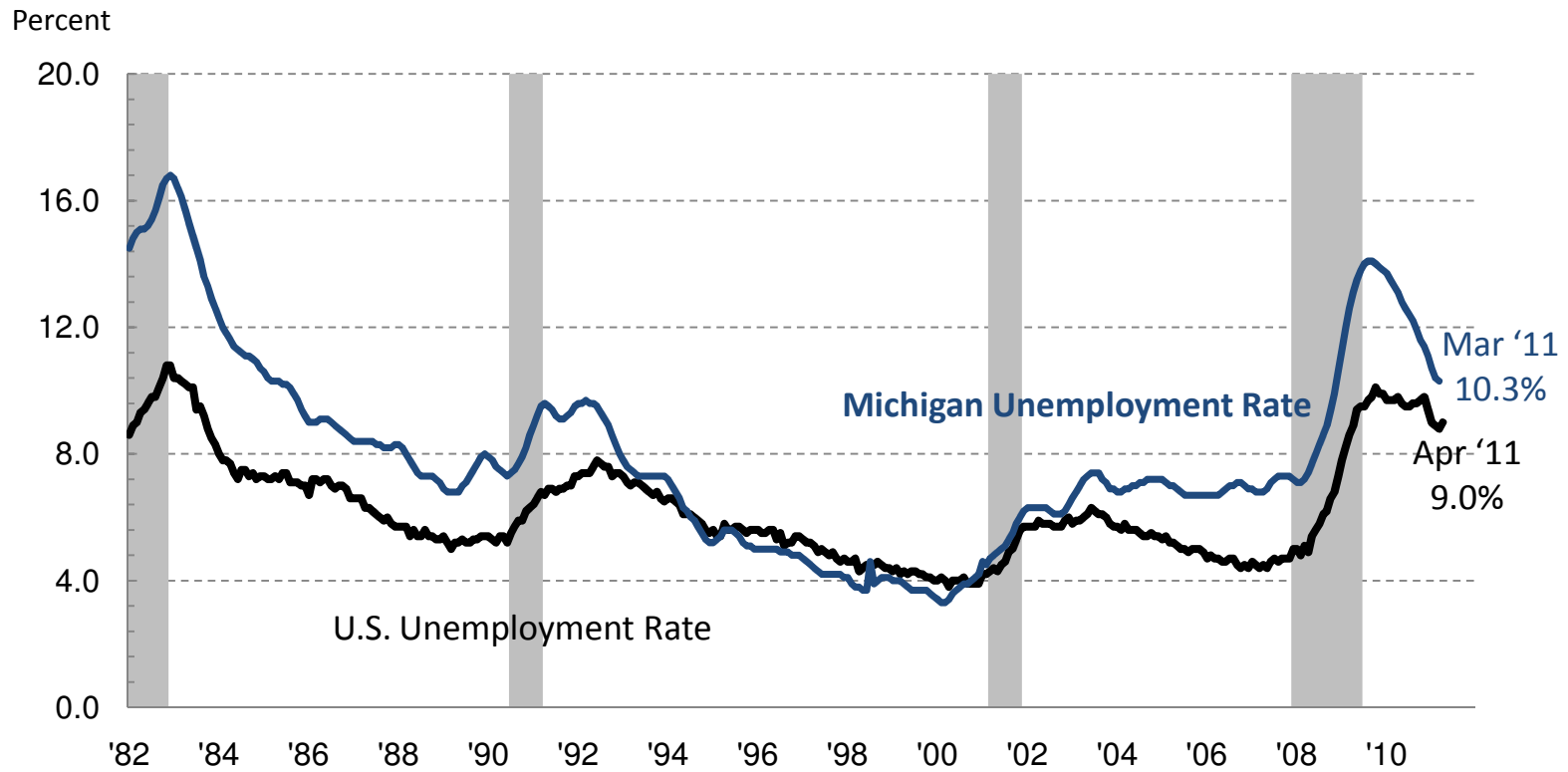
The most recent surge in the price of oil is not something that we haven't seen previously

WTI – Dollars Per Barrel



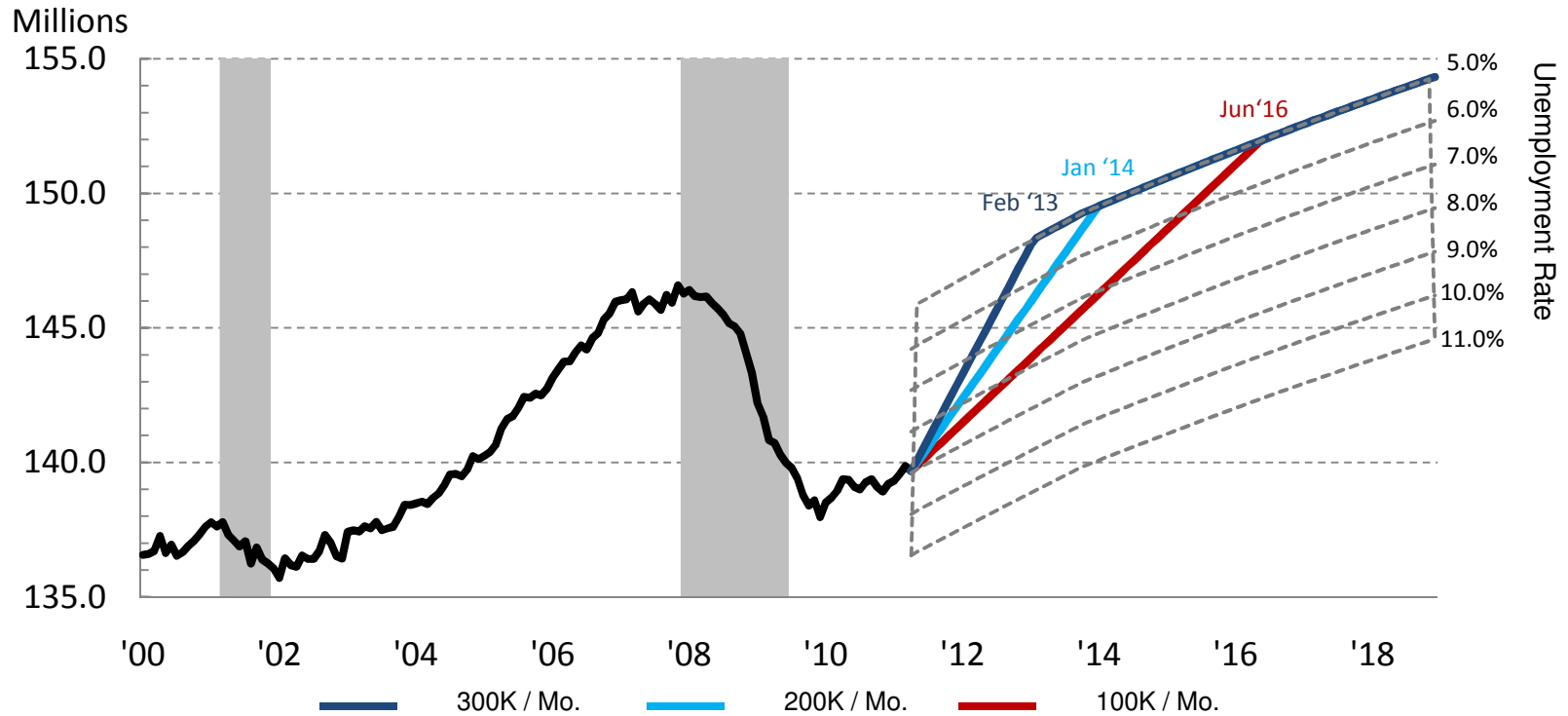
The unemployment rate has fallen more in Michigan than in the rest of the nation due to gains in auto related manufacturing employment

U.S. and Michigan Unemployment Rate



At the current rate of job growth, full employment will not be reached in the U.S. until 2014

Total Household Employment

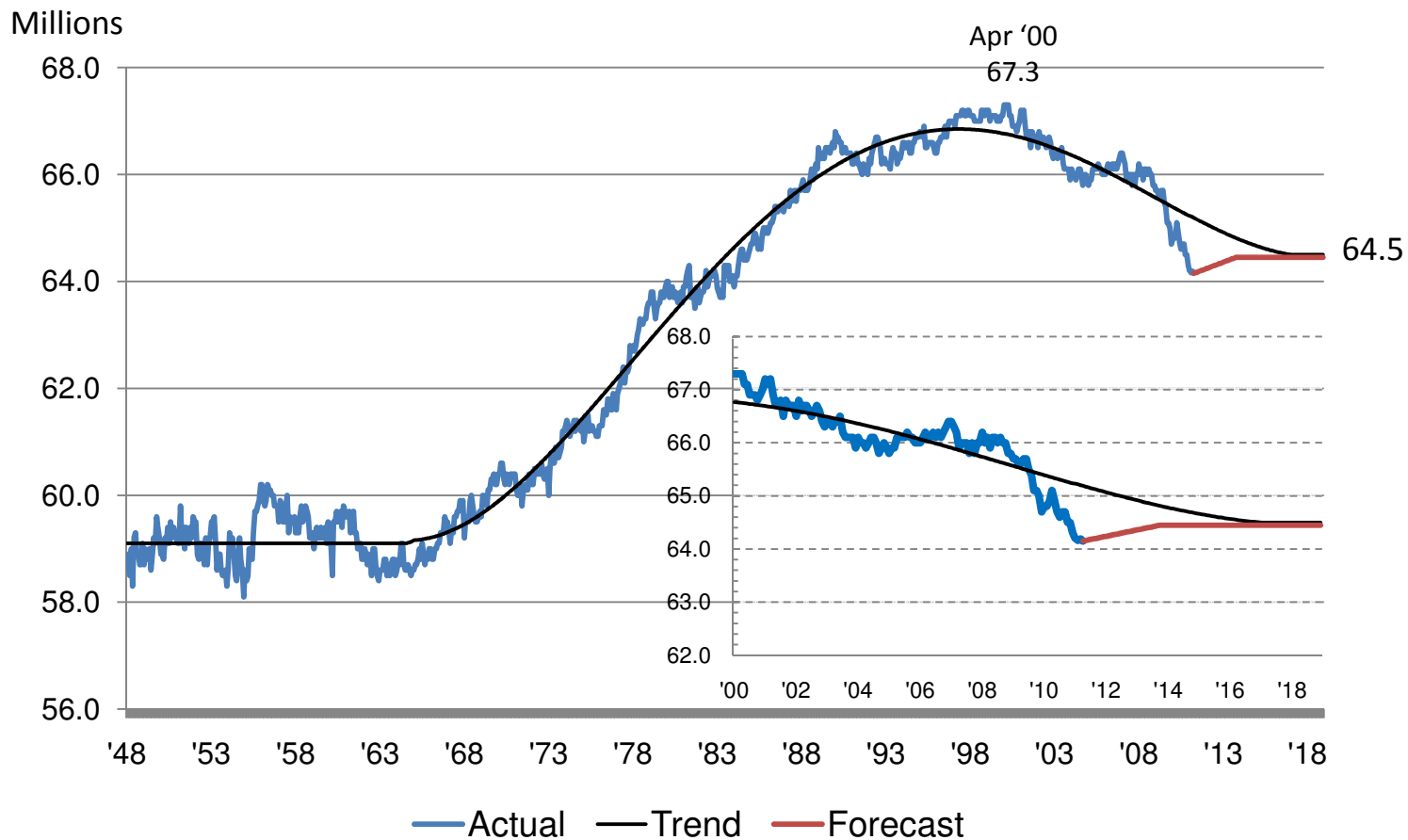


Year End Unemployment at Different Rates of Job Growth

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
200K Jobs Per Month	8.5	7.9	7.1	6.3	5.4	5.0	5.0	5.0
300K Jobs Per Month	8.0	6.6	5.1	5.0	5.0	5.0	5.0	5.0
400K Jobs Per Month	7.5	5.3	5.0	5.0	5.0	5.0	5.0	5.0

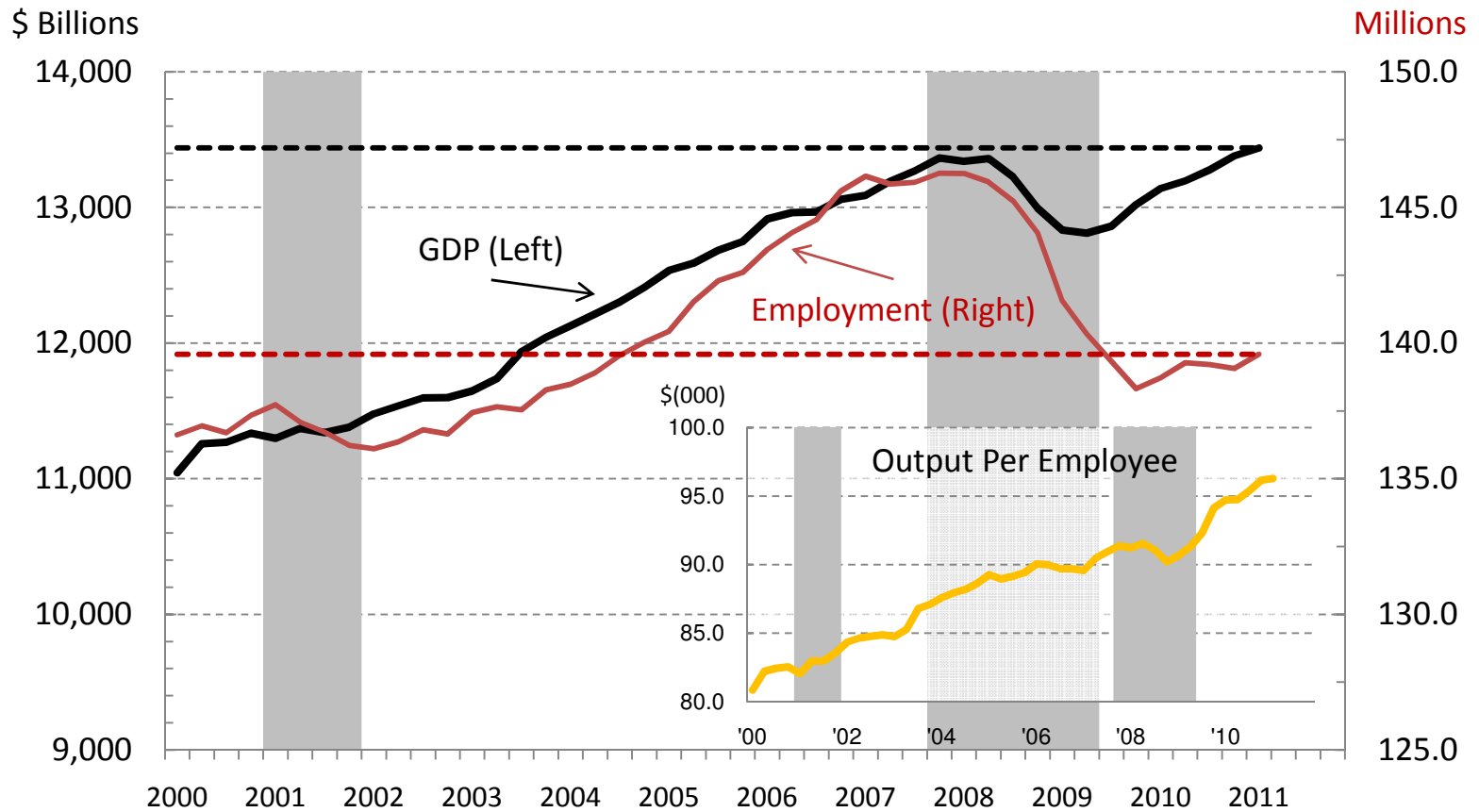
The actual unemployment rate will depend on how quickly the labor force returns to the job market

Labor Force Participation Rate

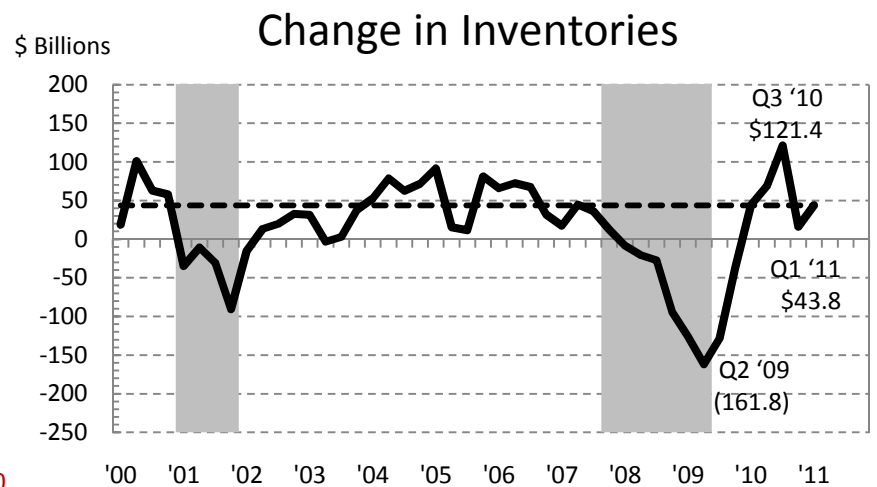
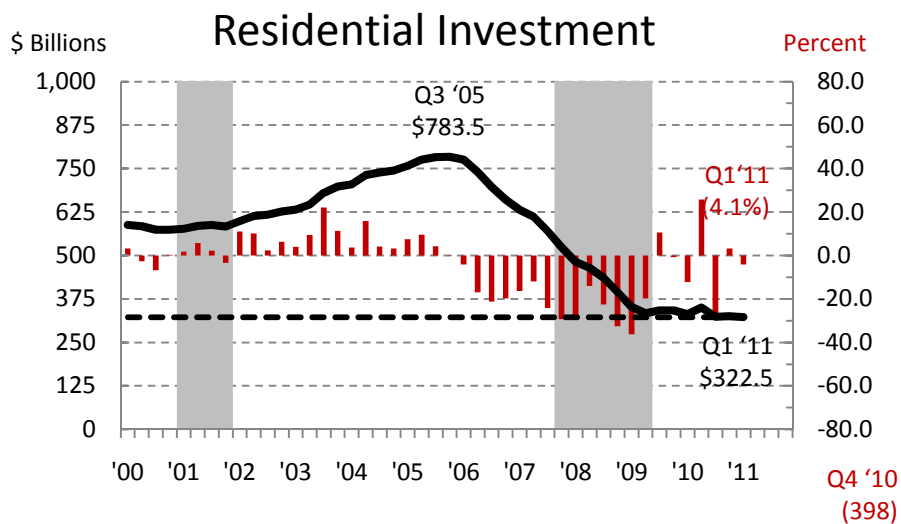
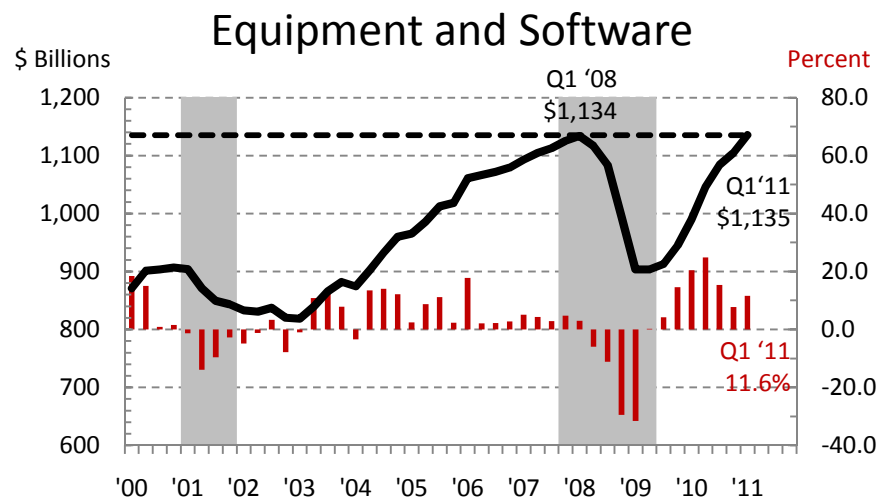
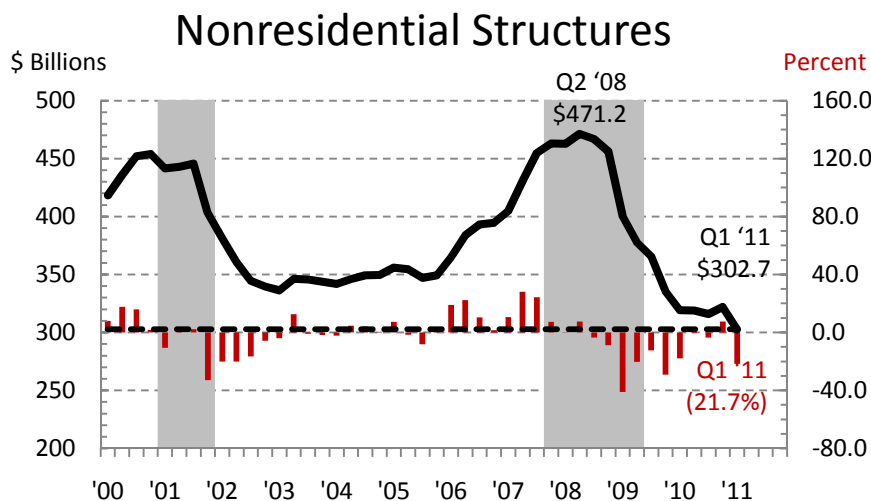


Even though total household employment remains well below its previous peak, total output continues to increase

GDP and Household Employment

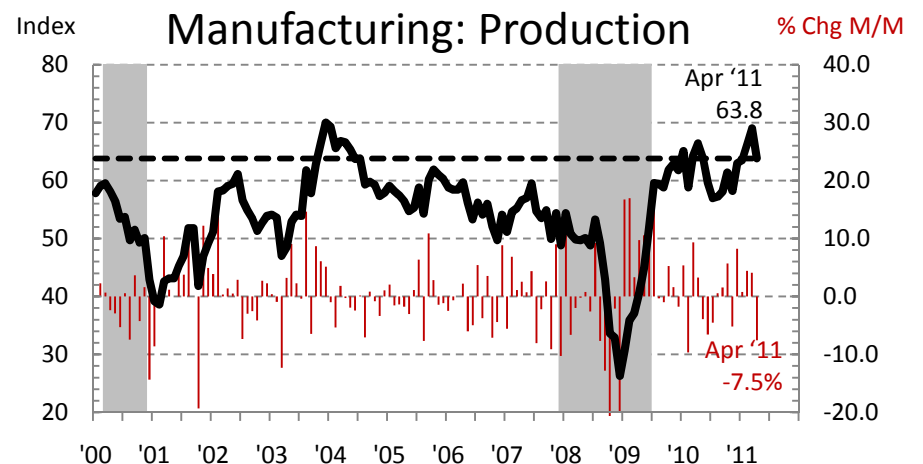
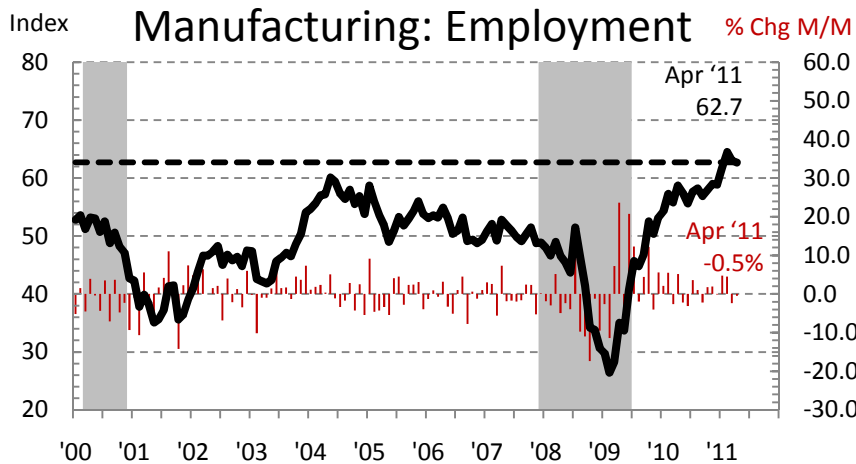
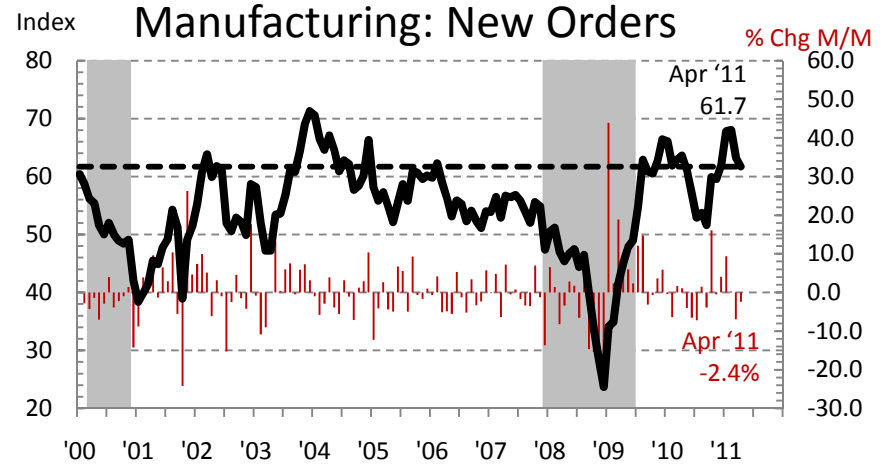
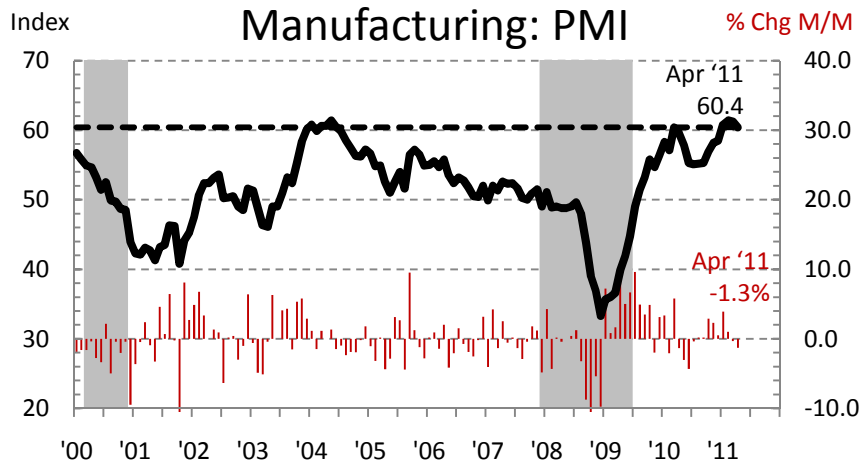


Nonresidential Structures and Residential Investment continue to hold total Gross Private Domestic Investment below pre-recession levels

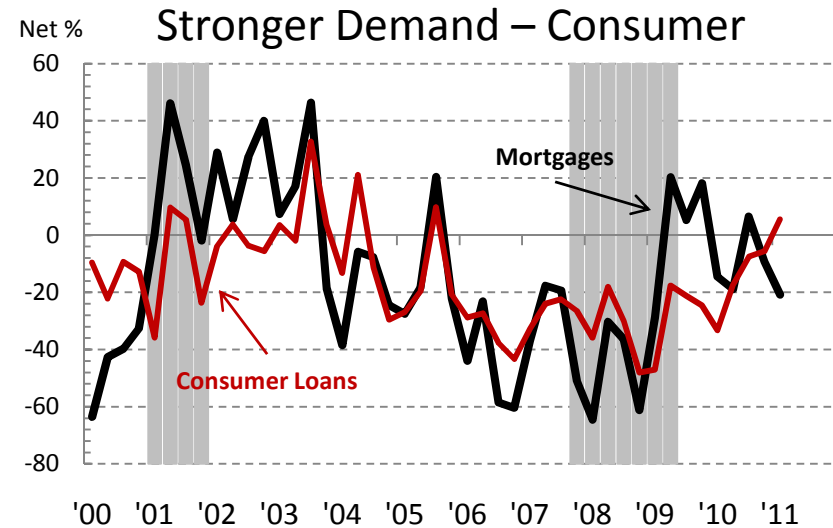
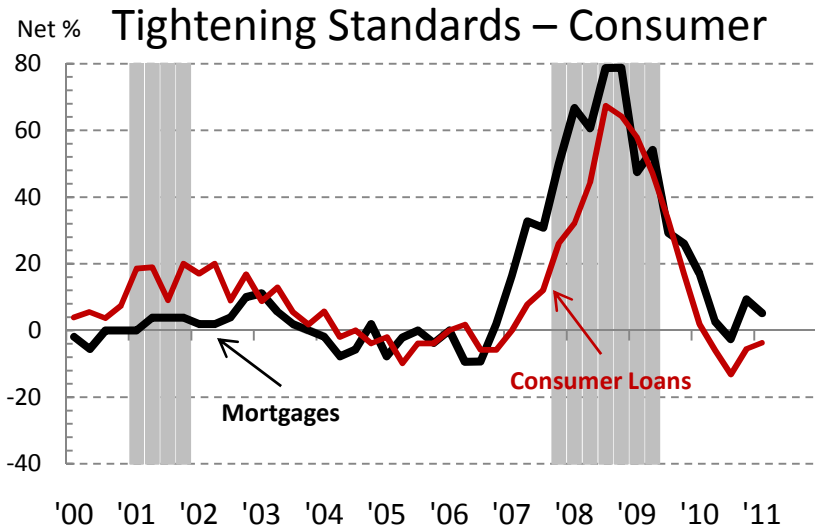
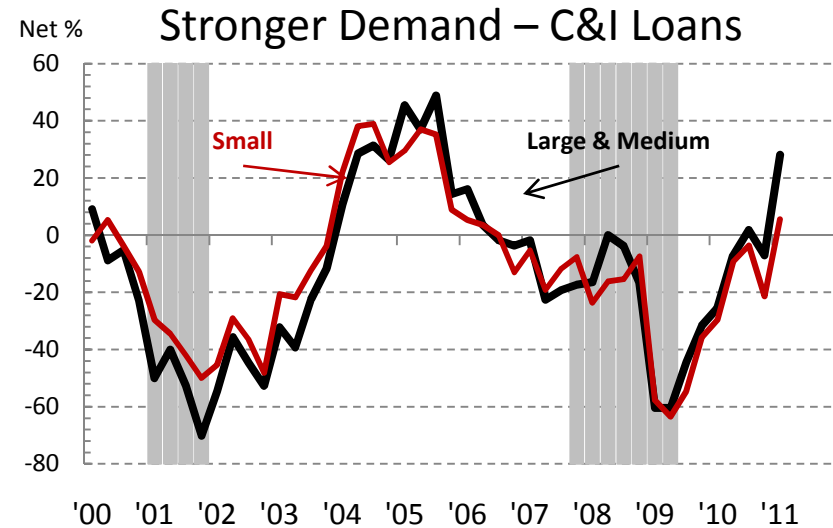
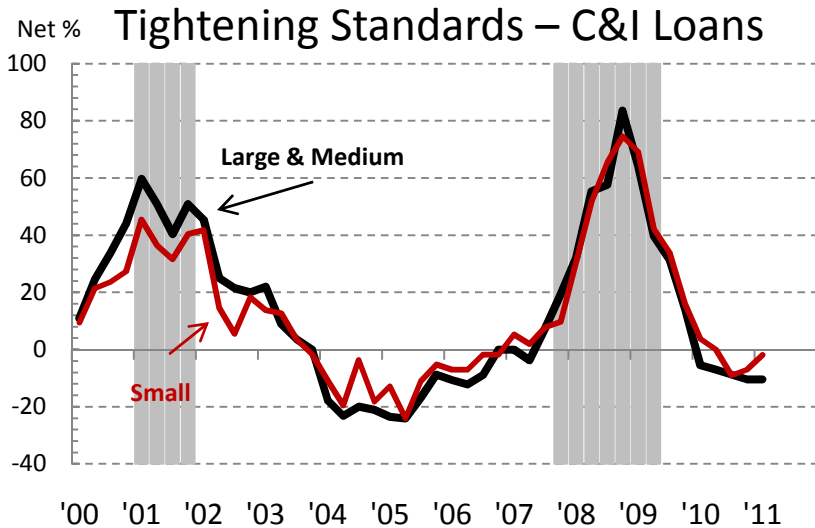


The major Institute for Supply Management indexes have fallen slightly but still remain positive for growth in manufacturing

Manufacturing Indexes

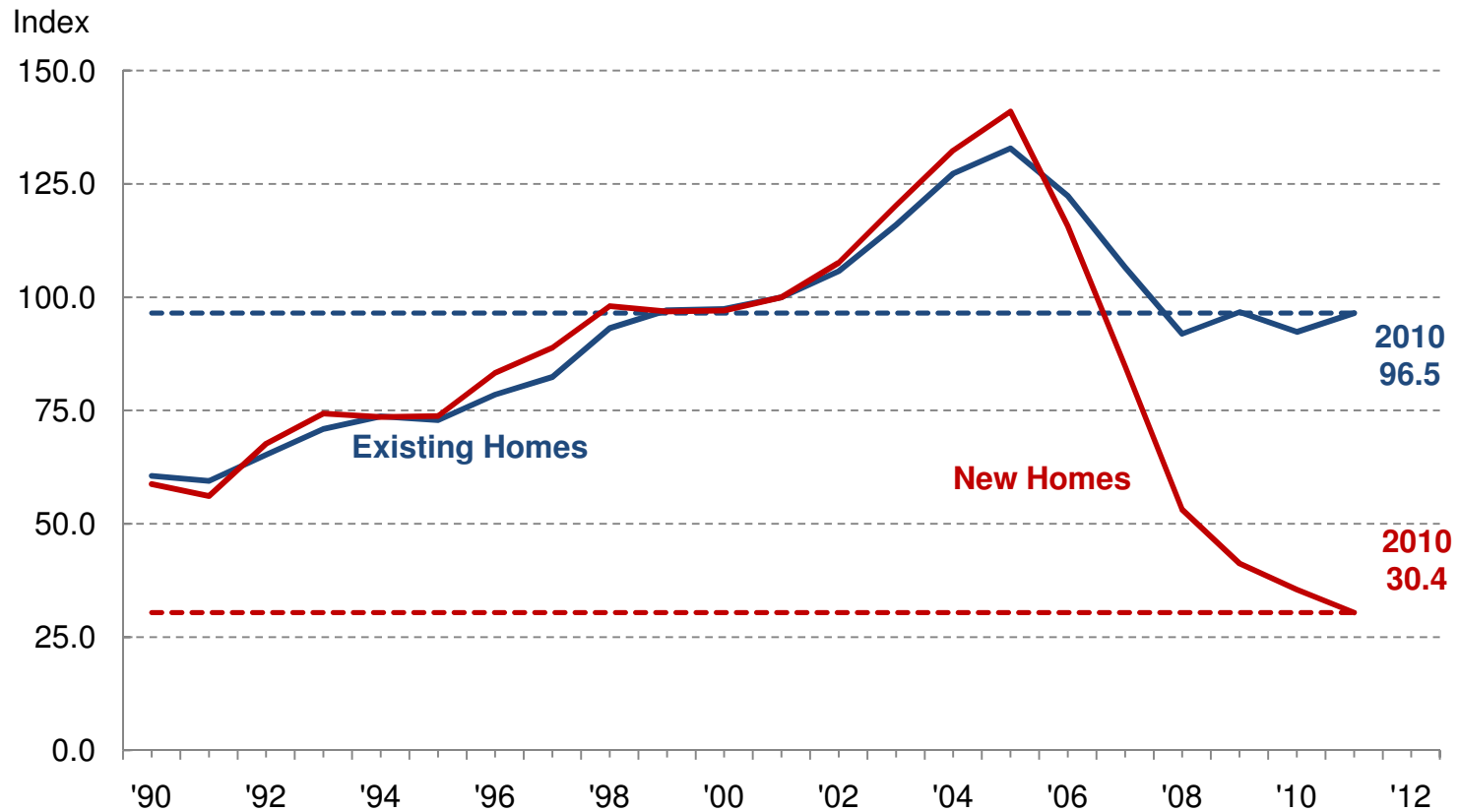


Senior Loan Officer Survey indicates that lending standards have eased slightly but loan demand remains mixed



Existing home sales seem to have reached a bottom equal to 1998 levels, New home sales continue to fall

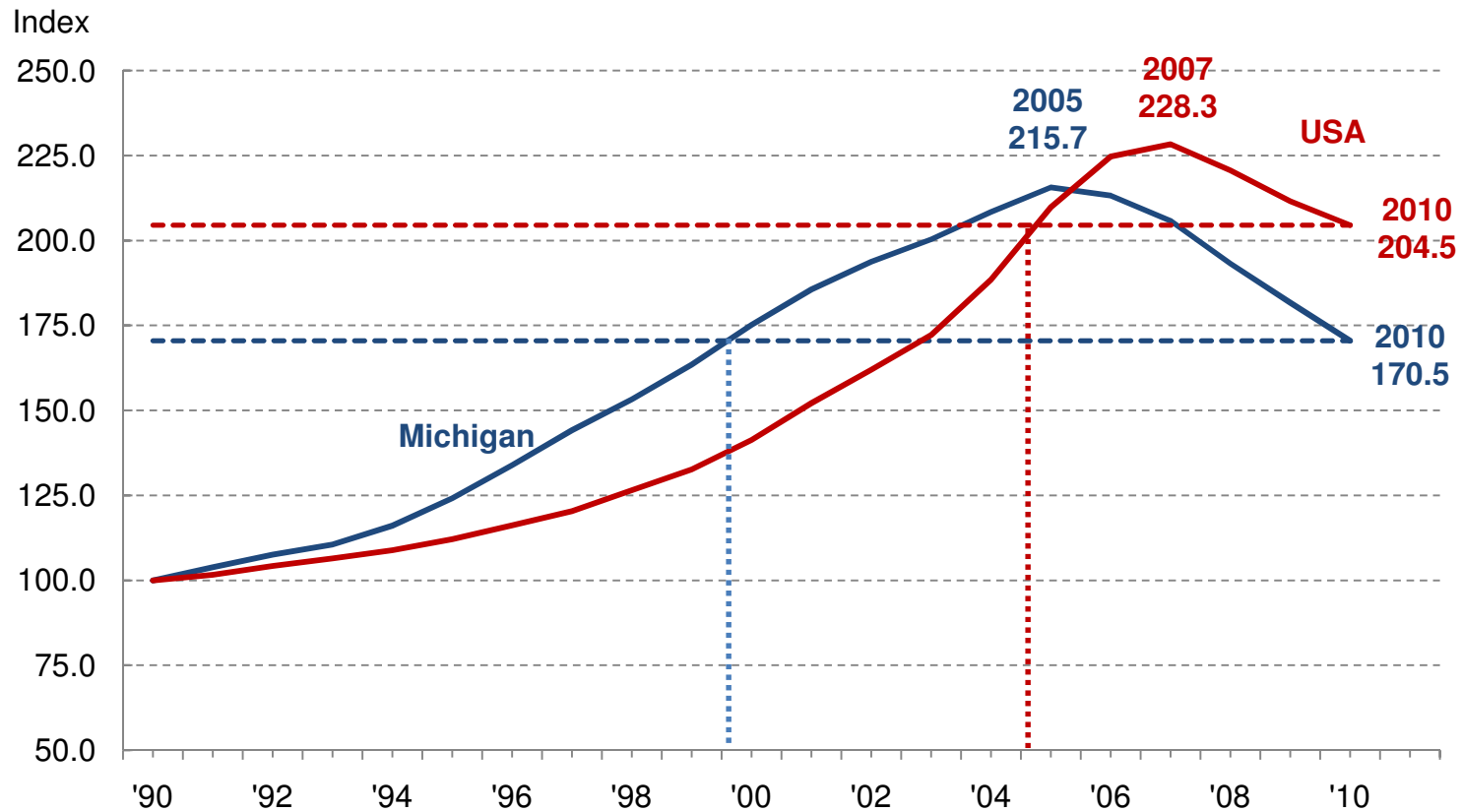
New and Existing Home Sales Index – 2001 = 100



Source: BLS, FRB

Home prices in the U.S. peaked in 2007 and are now at 2005 levels while prices in Michigan peaked in 2005 and are now at 1999 levels

FHFA House Price Index – 1990 = 100



Source: BLS, FRB

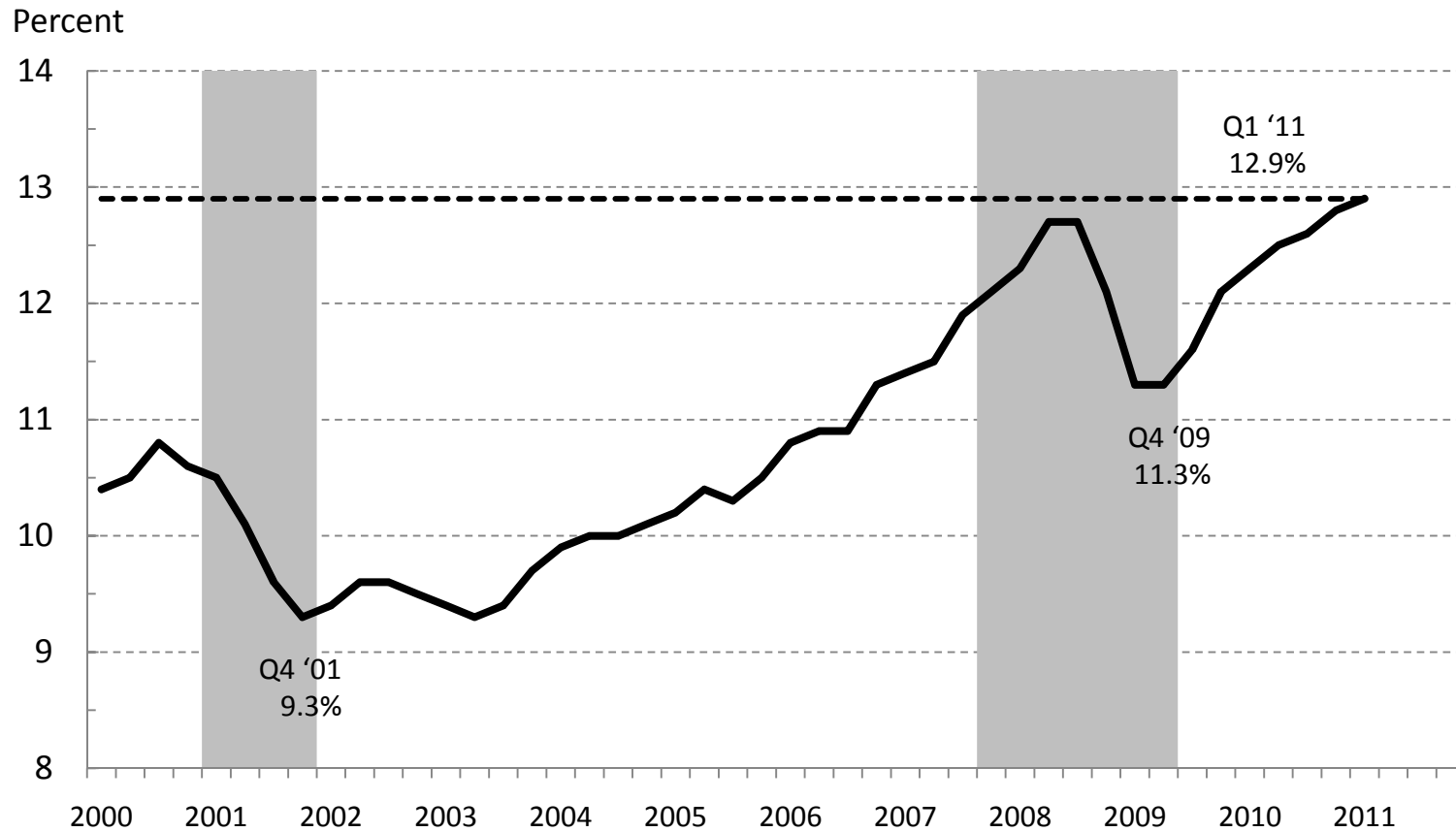
May12, 2011

Federal Reserve Bank of Chicago

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Exports as a percent of Gross Domestic Product have reached their highest level on record

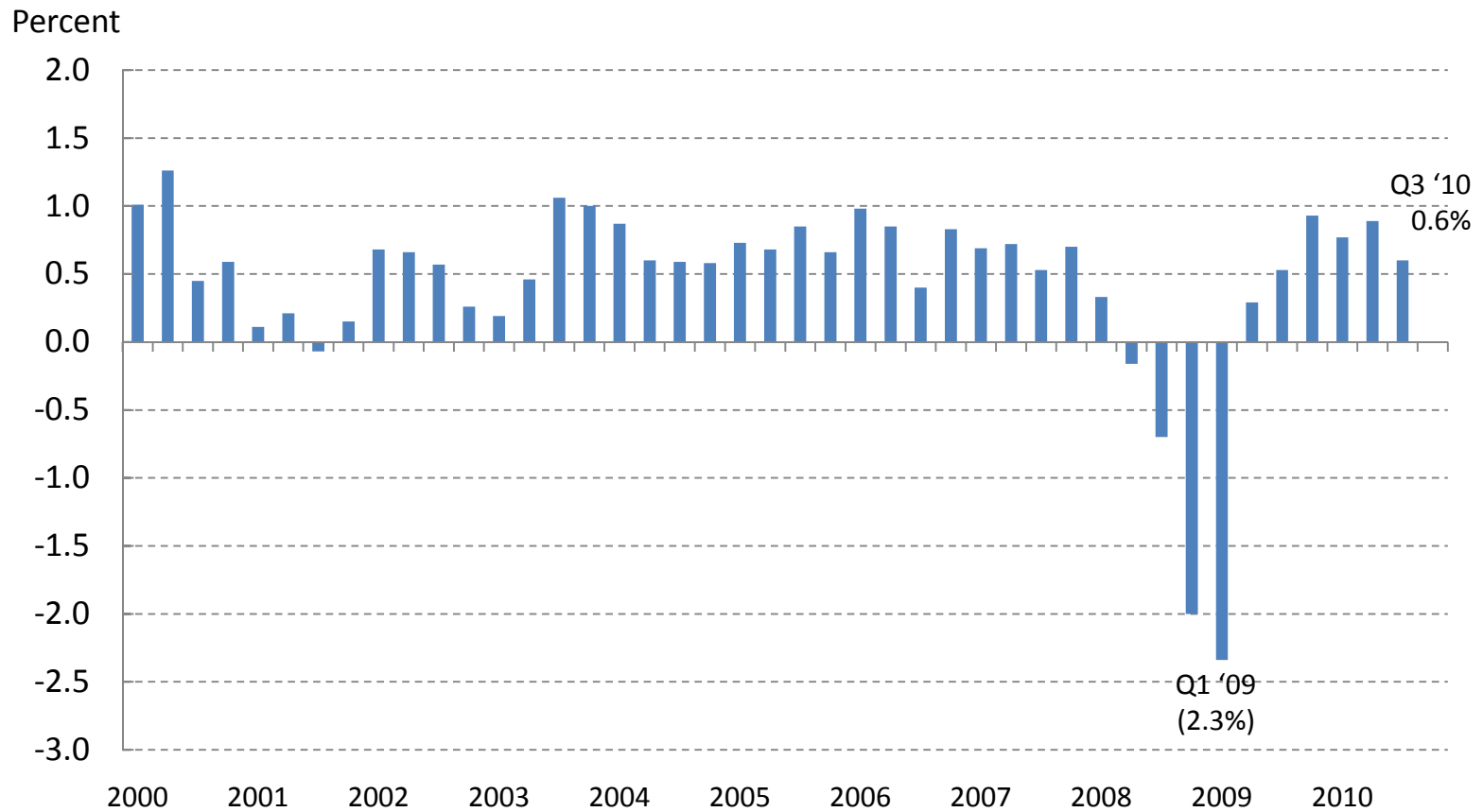
Exports as a Percent of Real GDP - Billions Chained \$2005



Note: Data verified back to 1929.

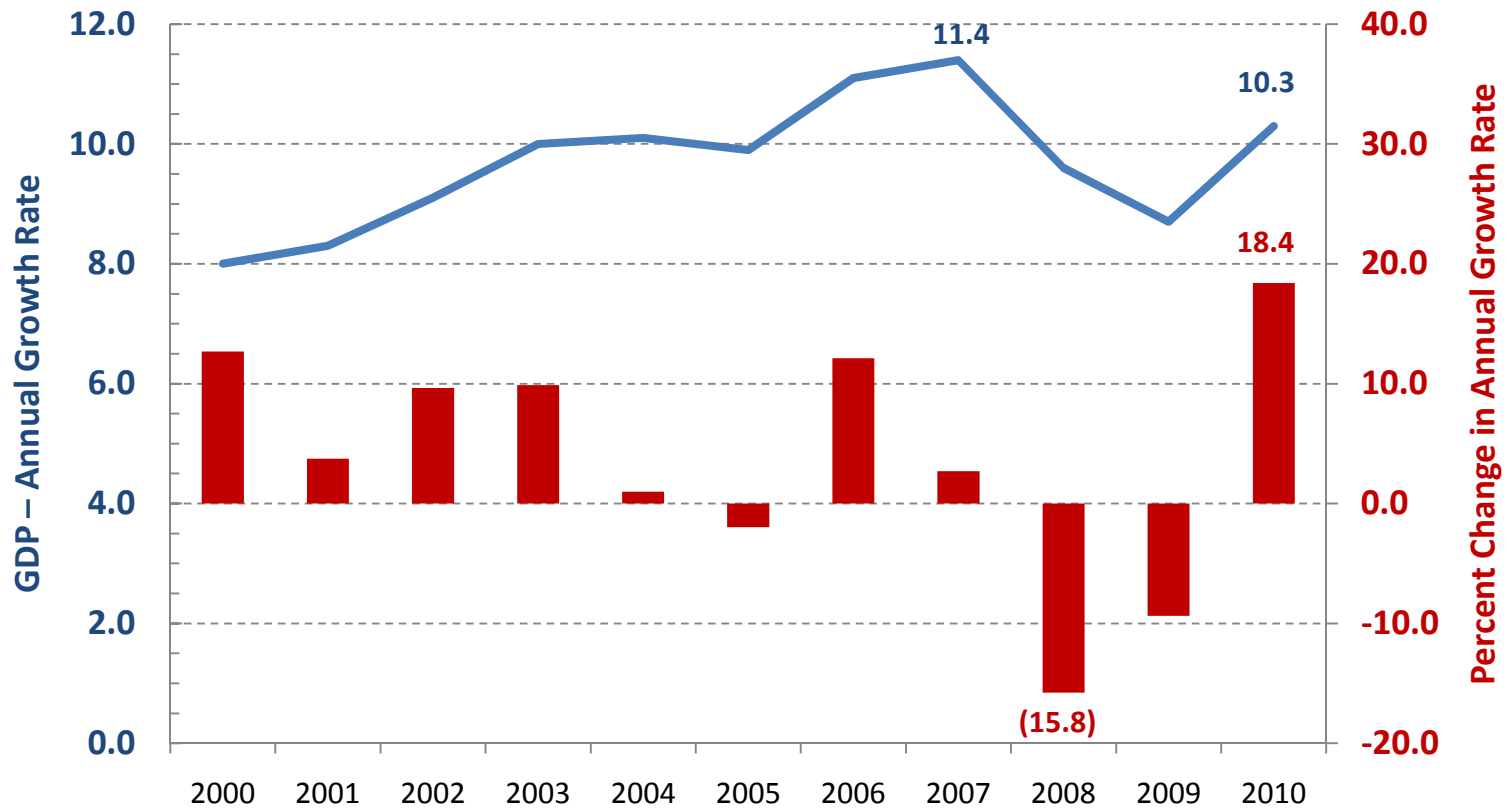
U.S. exports have benefited from a rebounding global economy

OECD 30 - Real GDP Percent Change Q/Q



Even China which has averaged about 9.6% over the last decade saw a resurgence of growth in 2010

China - Real GDP Percent Change Yr / Yr



The impact of the Japanese earthquake and tsunami will most likely be felt throughout the world

Japan's Trade Profile

Share in world total exports 4.64

Breakdown in economy's total exports

By main commodity group (ITS)

Agricultural products	1.4
Fuels and mining products	4.4
Manufactures	87.5

By main destination

1. China	18.9
2. United States	16.4
3. European Union (27)	12.5
4. Korea, Republic of	8.1
5. Taipei, Chinese	6.3

Share in world total imports 4.34

Breakdown in economy's total imports

By main commodity group (ITS)

Agricultural products	12.3
Fuels and mining products	34.0
Manufactures	51.8

By main origin

1. China	22.2
2. United States	11.0
3. European Union (27)	10.7
4. Australia	6.3
5. Kingdom of Saudi Arabia	5.3

Source: WTO

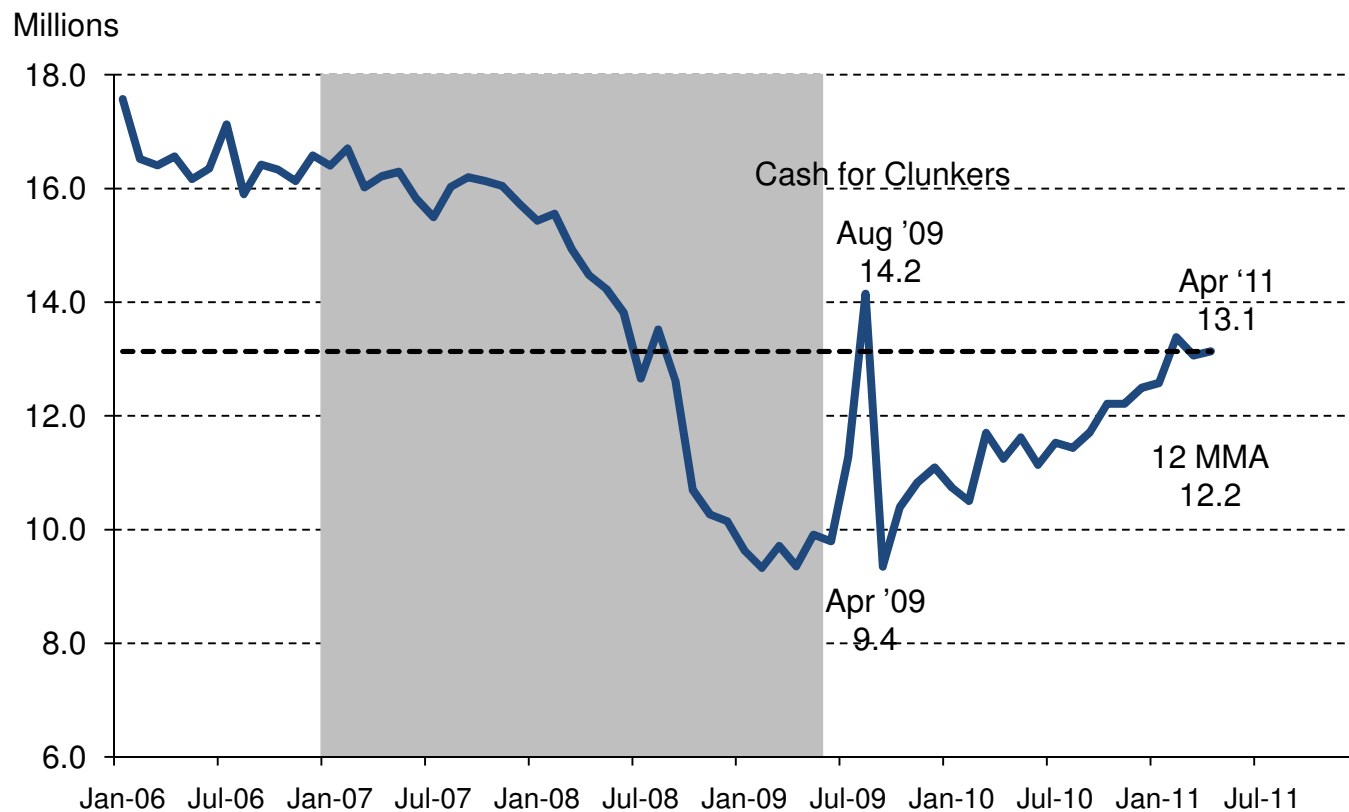
Japan is the fourth ranked trading partner with the U.S. in both imports and exports

U. S. Top Ten Trading Partners – Manufactured Goods

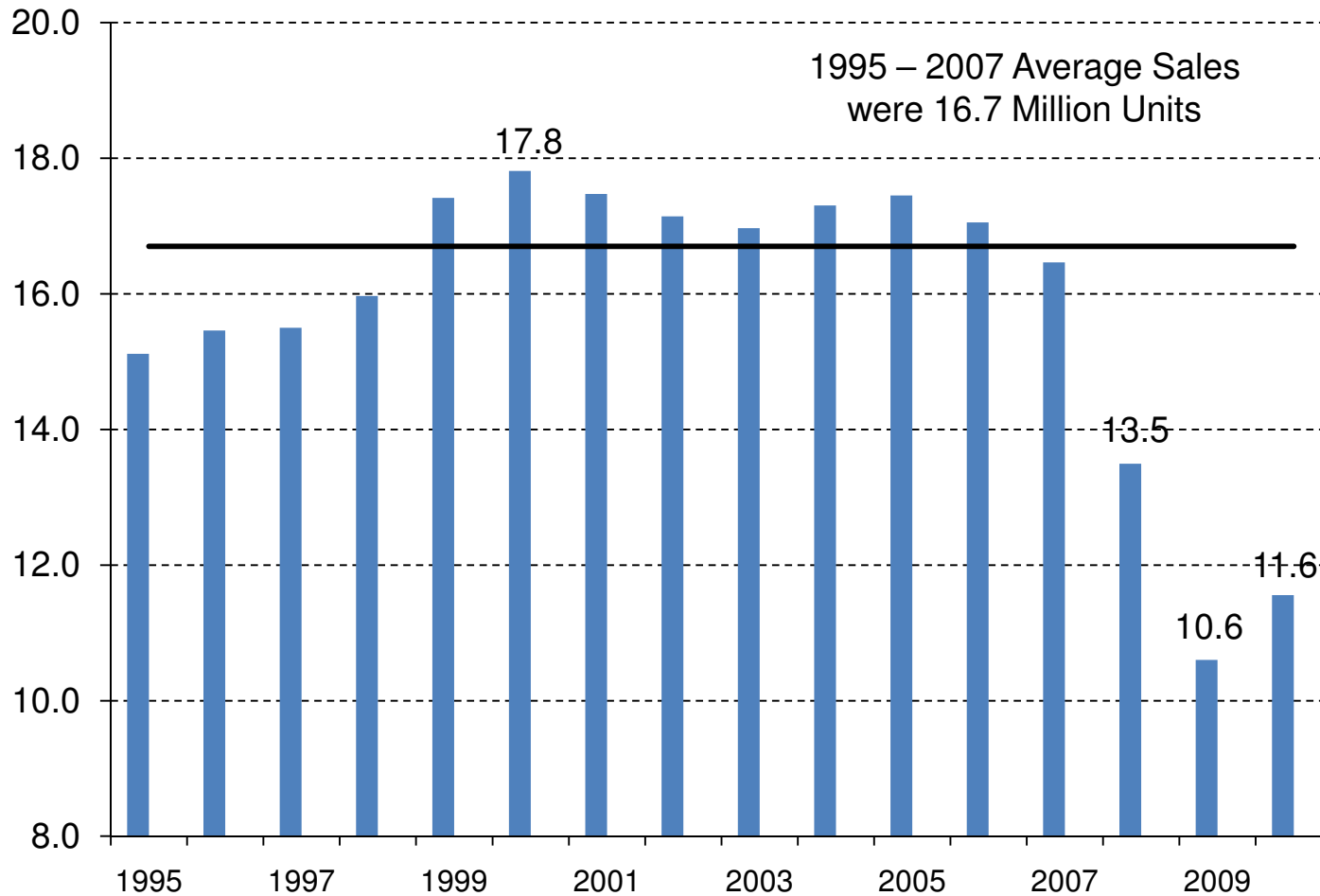
Exports			Imports		
<u>Country</u>	<u>\$Billions</u>	<u>Percent</u>	<u>Country</u>	<u>\$Billions</u>	<u>Percent</u>
Canada	248.8	19.5	China	364.9	19.1
Mexico	163.3	12.8	Canada	276.5	14.5
China	91.9	7.2	Mexico	229.7	12.0
Japan	60.5	4.7	Japan	120.3	6.3
United Kingdom	48.5	3.8	Germany	82.7	4.3
Germany	48.2	3.8	United Kingdom	49.8	2.6
Korea, South	38.8	3.0	Korea, South	48.9	2.6
Brazil	35.4	2.8	France	38.6	2.0
Netherlands	35.0	2.7	Taiwan	35.9	1.9
Singapore	29.1	2.3	Ireland	33.9	1.8
Total - Top 10	799.5	62.6	Total - Top 10	1,281.2	67.0
2010 Totals	1,278.1			1,912.1	

U.S. Light Vehicle sales in April were flat when compared to March but still above the 12 MMA

U.S. Light Vehicle S.A.A.R.



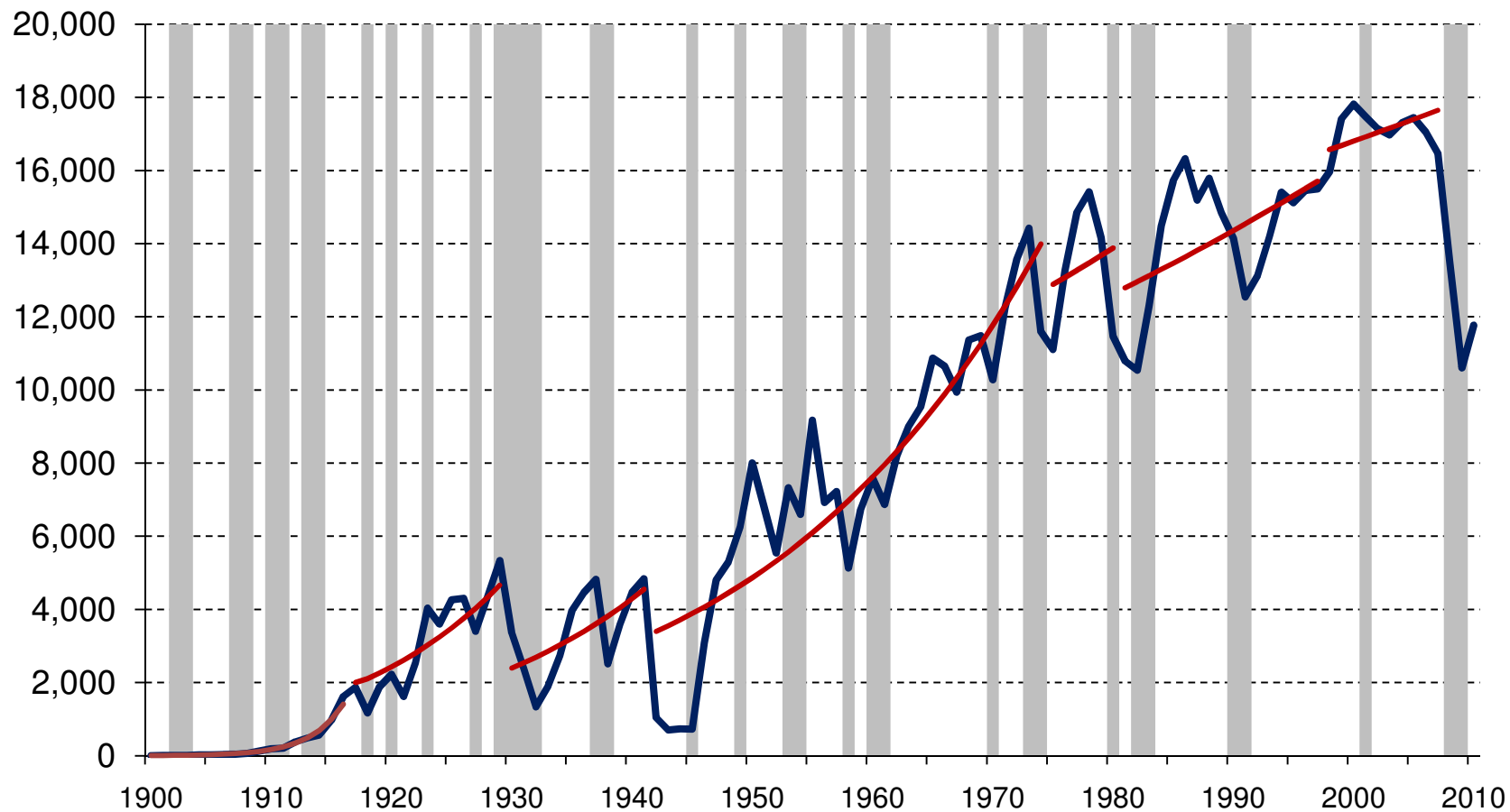
Vehicle sales reached 17.0 million in 1999 and stayed at that level for 8 consecutive years



Source: Ward's Automotive

The long-term sales trend of the U.S. auto industry has been anything but consistent

U.S. Total Auto Industry – Thousands of Units



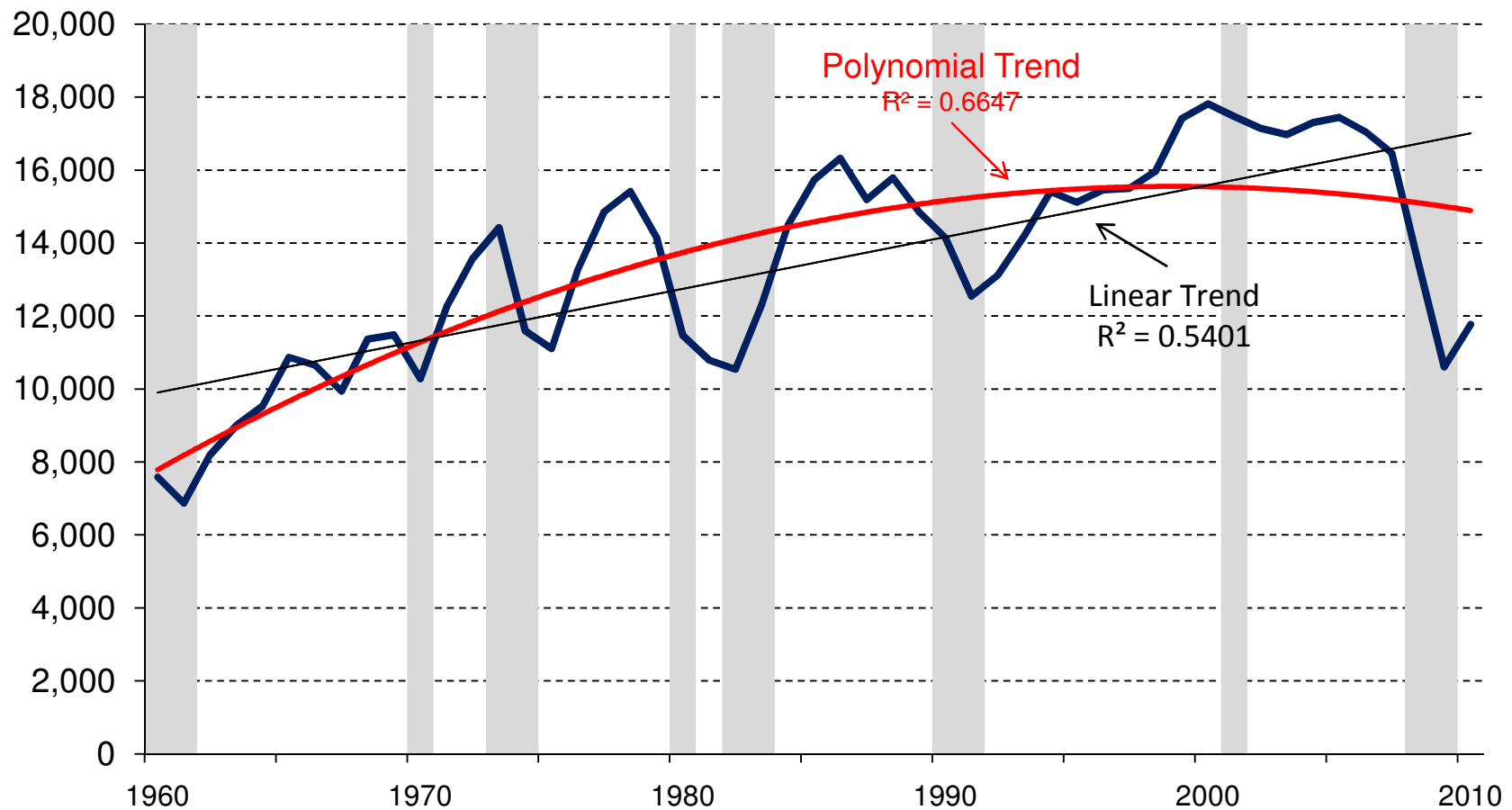
Over the decades there have been numerous events that have impacted the U.S. auto industry

U.S. Auto Industry Trend Comparisons

Trend Ranges	Growth Rates	% Change In Intercept	Trend Changing Event
1900-1917	43.7%		Ford Model T begins production 1908
1918-1929	7.5%		U.S. enters WWI, April 6, 1917
1930-1941	6.0%	- 49%	Stock Market Crash, October 29, 1929
1942-1959	4.6%	- 25%	Pearl Harbor, December 7, 1941
1960-1974	4.4%	n/c	Post WWII Baby Boomer Growth, 1960s
1975-1980	2.0%	- 8%	Oil Shock, 1974
1981-1997	0.8%	- 8%	Oil Shock, 1980
1998-2007	1.0%	+ 1%	Auto Incentive Wars & Negative Pricing
2008-2020	????	????	Credit Crisis, Housing Bubble, Oil Surge

The difficulty with using a mathematical trend is that different methodologies can produce unusual results

U.S. Total Auto Industry – Thousands of Units



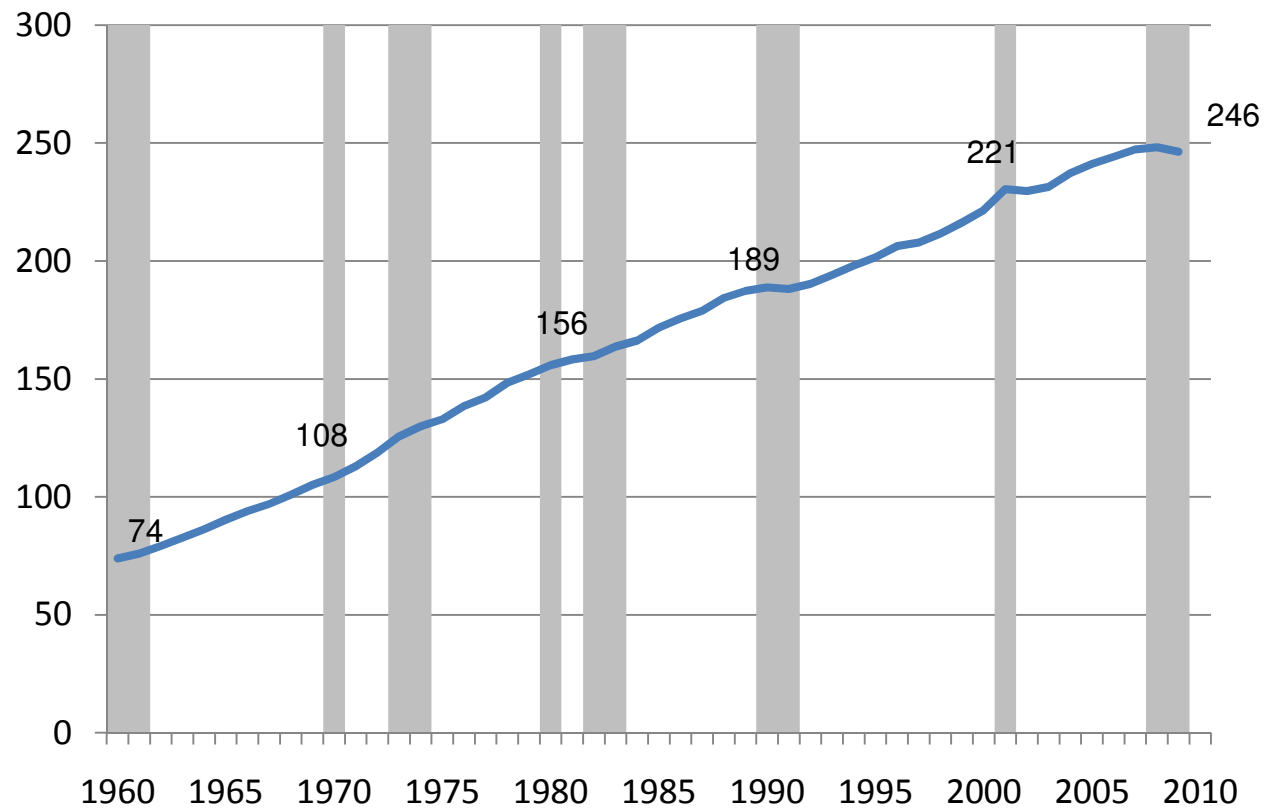
One of the best ways to address the inconsistencies in demand over time is to use a stock adjustment model

Three Determinants of a stock adjustment model

1. Replacement of scrapped vehicles
2. Change in the population
3. Change in demand

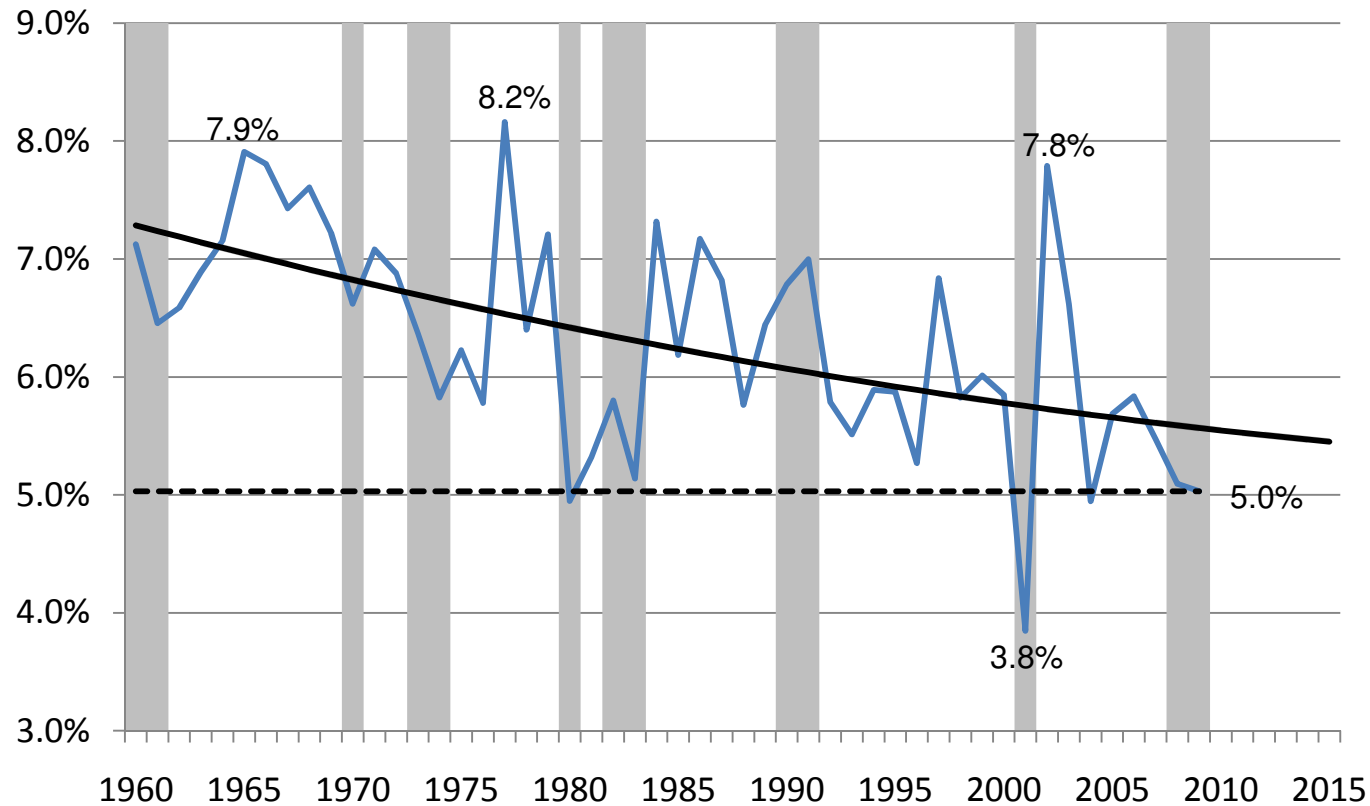
Vehicles in Operation has grown consistently over the years and is estimated to have peaked in 2008 at 248 million vehicles

Millions of Units



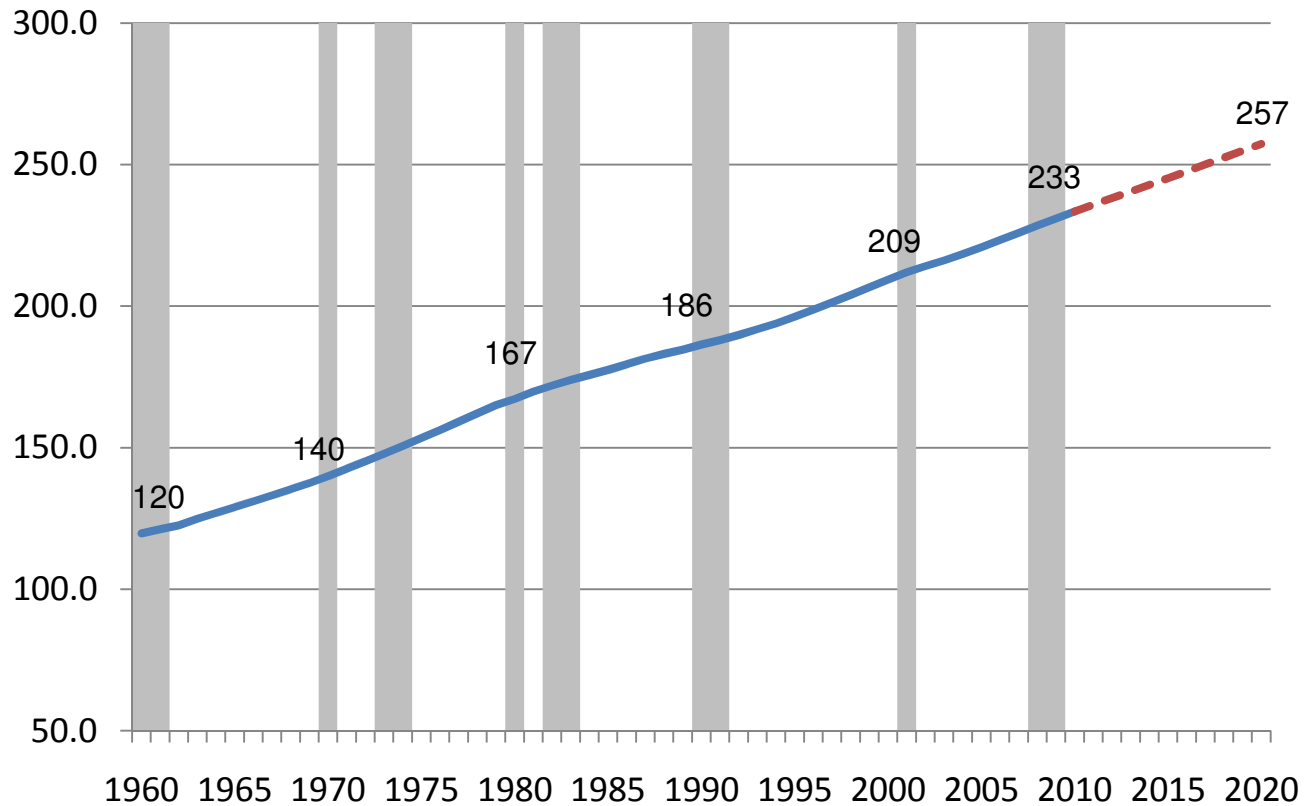
The rate of decline in the scrappage rate seems to be slowing and looks to be approaching an asymptote

Thousands of Units



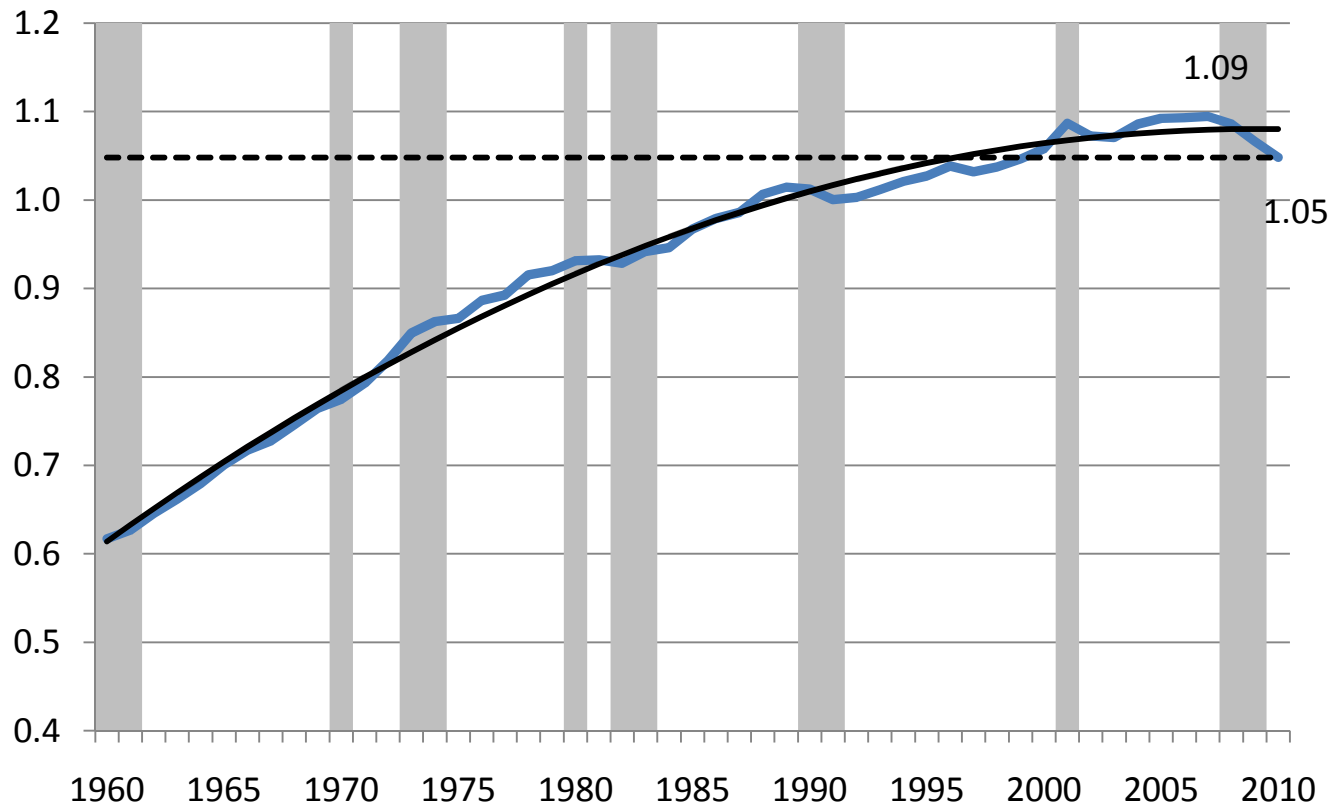
Driving age population is projected to grow at an annual rate of about 1.0% or the equivalent of 2.4 million people

Population in Millions



The number of vehicle per the driving age population peaked in 2007 at about 1.1 vehicle per person and has fallen to the same level as 1999

Thousands of Units



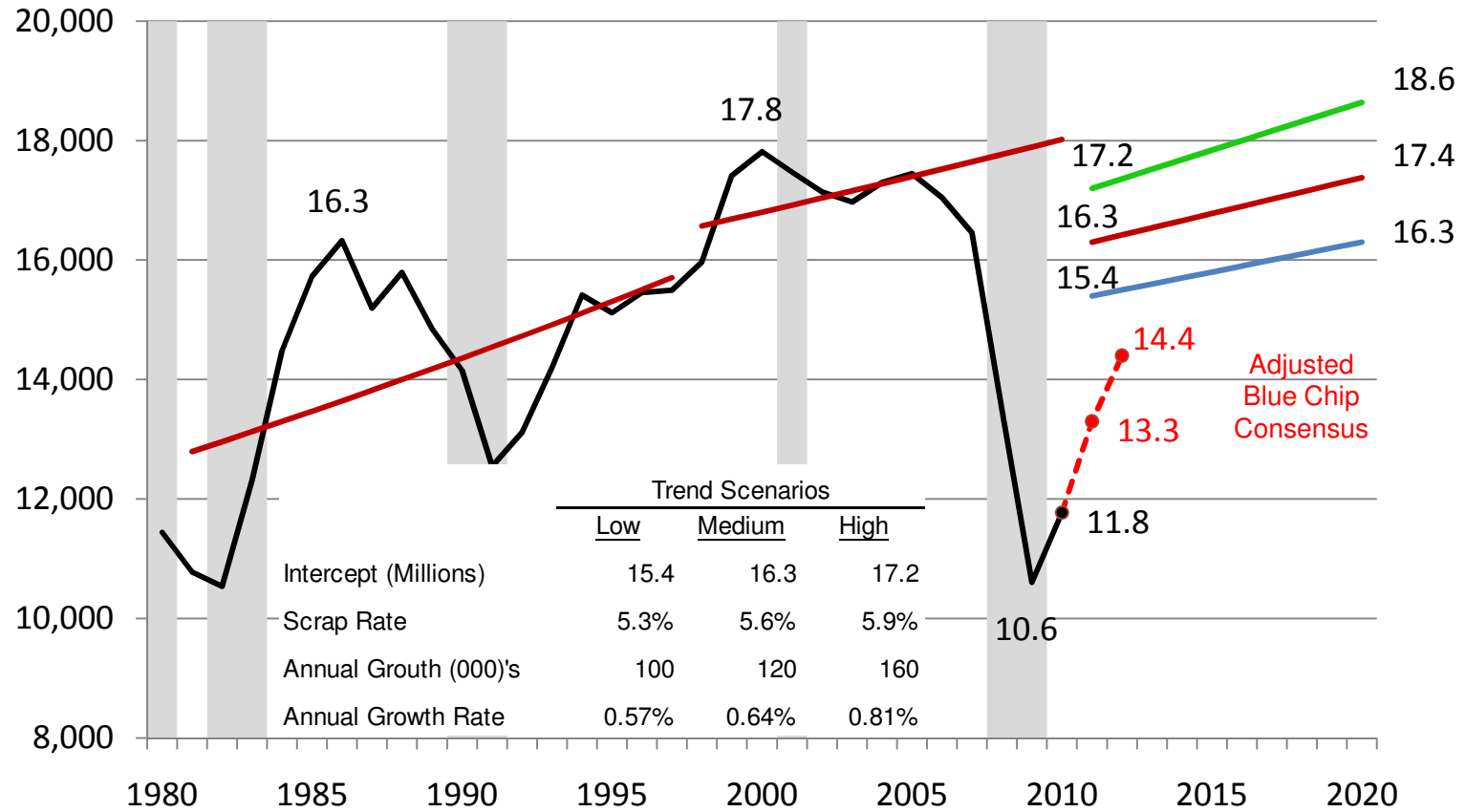
Depending on scrap rates and vehicle per driver assumptions the current trend intercept can vary dramatically.

		Vehicles Per Driving Aged Population						
		0.98	1.00	1.02	1.04	1.06	1.08	1.10
Scrap Rate	5.3	15.4	15.5	15.5	15.5	15.6	15.6	15.7
	5.4	15.6	15.7	15.7	15.8	15.8	15.9	15.9
	5.5	15.9	15.9	16.0	16.0	16.1	16.1	16.2
	5.6	16.1	16.2	16.2	16.3	16.3	16.4	16.4
	5.7	16.4	16.4	16.5	16.5	16.6	16.6	16.7
	5.8	16.6	16.7	16.7	16.8	16.8	16.9	16.9
	5.9	16.9	16.9	17.0	17.0	17.1	17.1	17.2

With driving age population growth of 2.4 million per year and a 5.0% estimate for the scrape rate, vehicles sales trend could grow by 120,000 units per year.

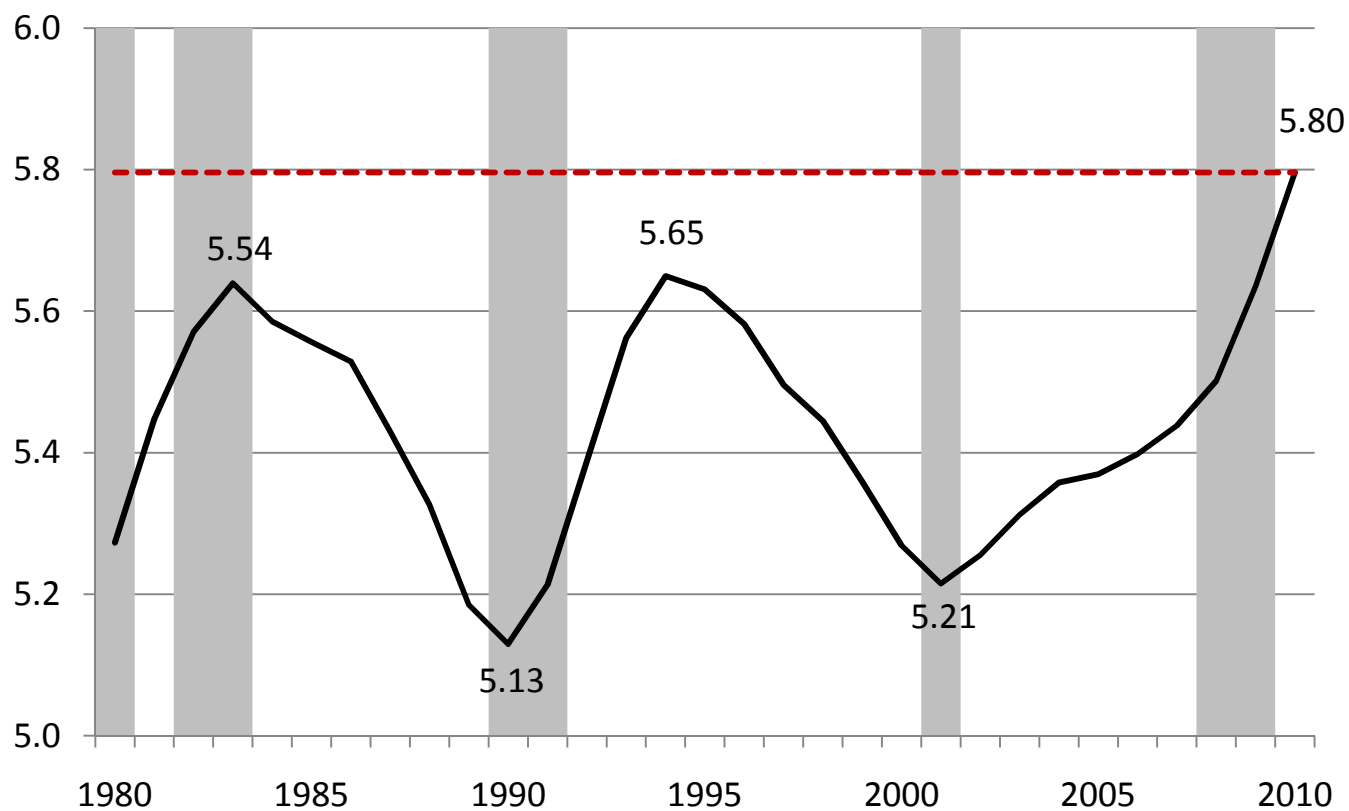
Total U.S. Auto Industry

Thousands of Units



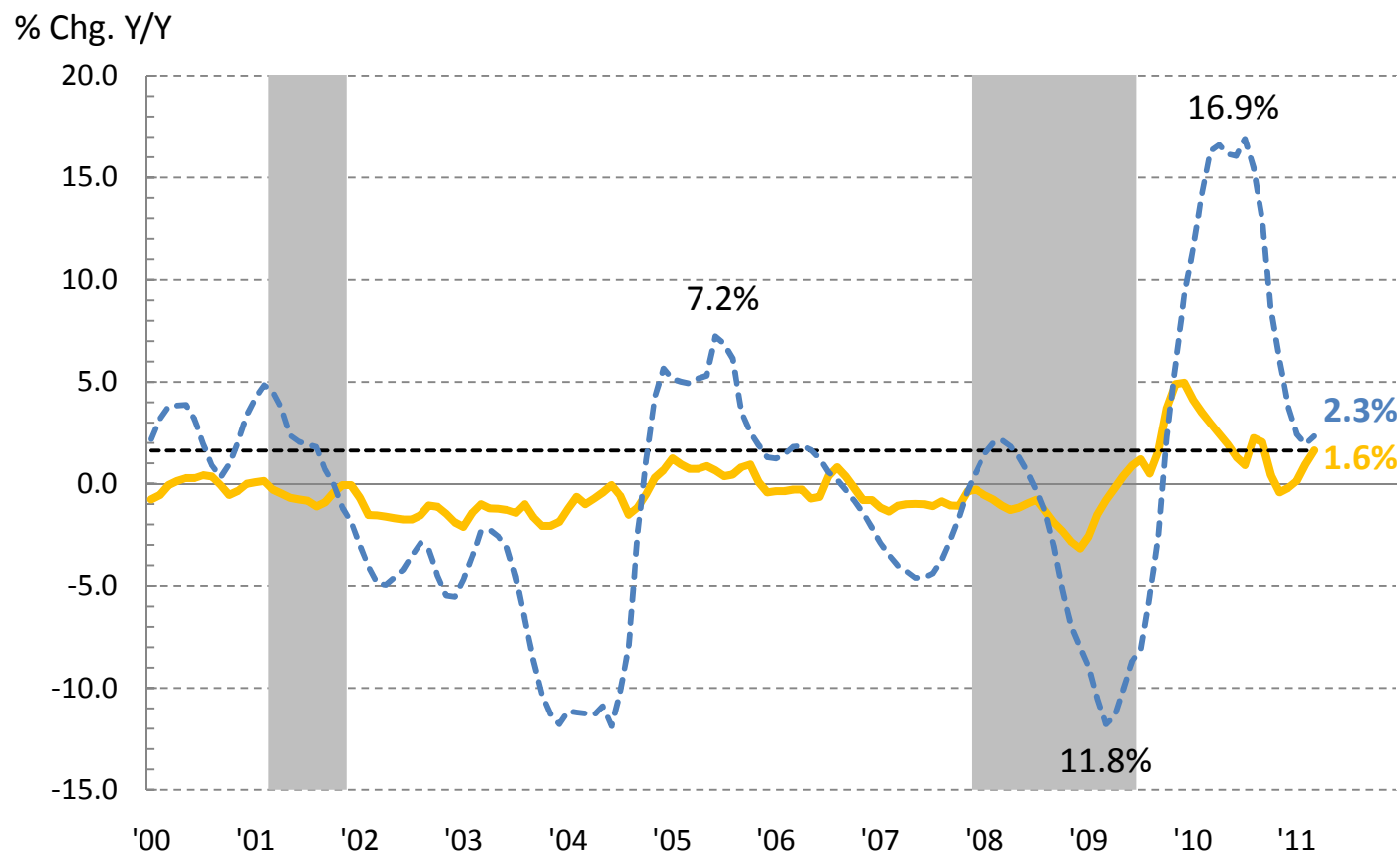
A ten year sales weighted age distribution implies that the vehicle fleet is now older than it has been since the 1940's

Sales Weighted Age Distribution



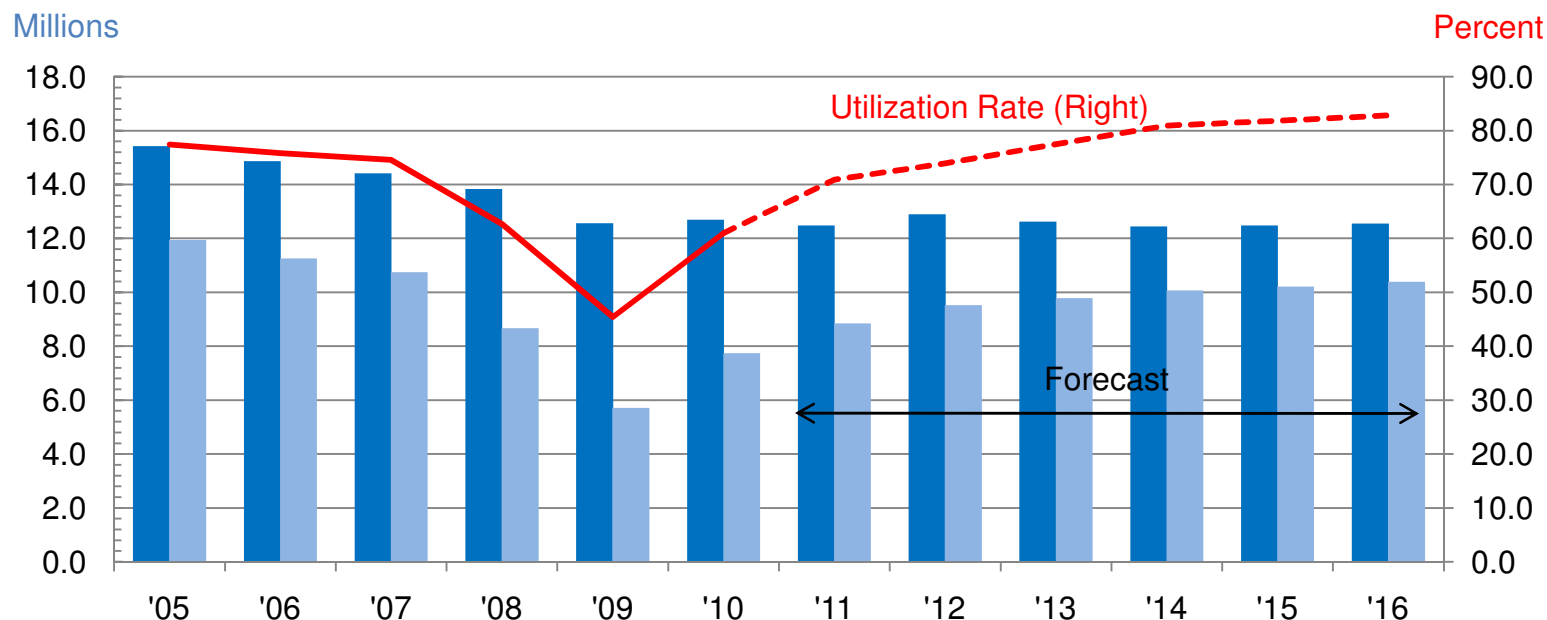
During the downturn in new vehicle sales, the CPI for used vehicles increased to over 16.9 percent

CPI New and Used Vehicles



United States

Automotive Industry - Capacity / Production / Utilization

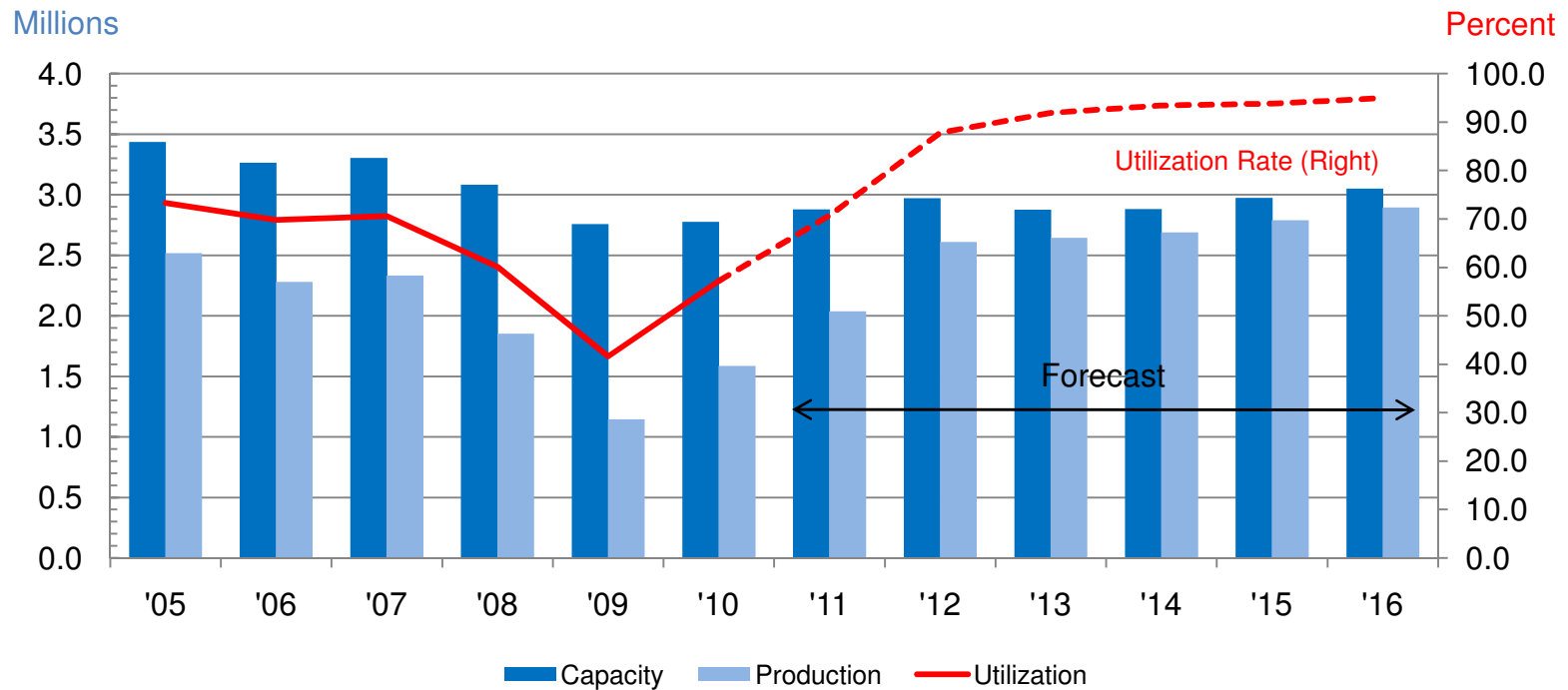


<u>United States</u>	<u>'05</u>	<u>'06</u>	<u>'07</u>	<u>'08</u>	<u>'09</u>	<u>'10</u>	<u>'11</u>	<u>'12</u>	<u>'13</u>	<u>'14</u>	<u>'15</u>	<u>'16</u>
Capacity	15.4	14.9	14.4	13.8	12.6	12.7	12.5	12.9	12.6	12.4	12.5	12.6
Production	11.9	11.3	10.8	8.7	5.7	7.7	8.8	9.5	9.8	10.1	10.2	10.4
Utilization	77.4	75.8	74.6	62.7	45.4	61.0	70.9	73.9	77.5	80.9	81.8	82.8

Source: Ward's Automotive

Michigan

Automotive Industry - Capacity / Production / Utilization

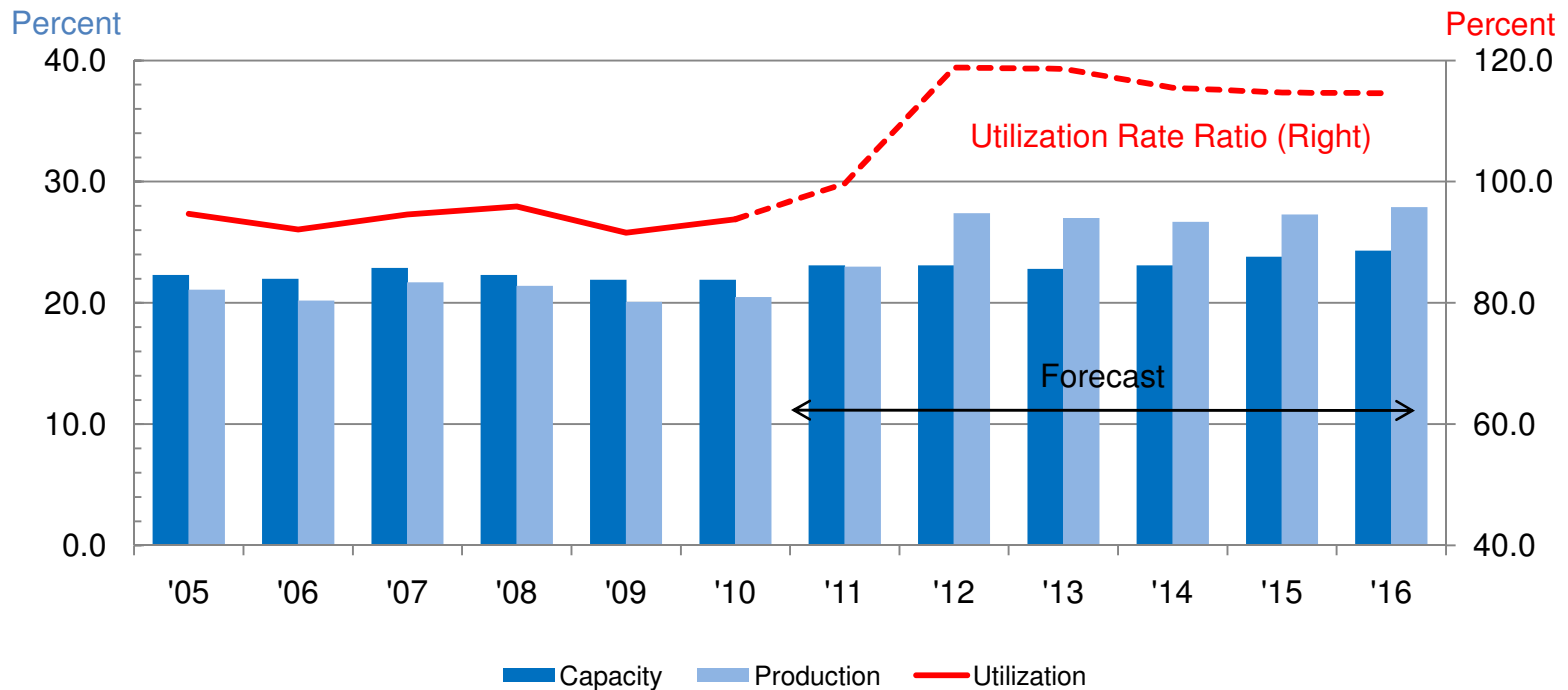


	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16
Capacity	3.4	3.3	3.3	3.1	2.8	2.8	2.9	3.0	2.9	2.9	3.0	3.1
Production	2.5	2.3	2.3	1.9	1.1	1.6	2.0	2.6	2.6	2.7	2.8	2.9
Utilization	73.3	69.8	70.6	60.1	41.6	57.2	70.7	87.8	91.9	93.4	93.8	94.9

Source: Ward's Automotive

Michigan

Auto Capacity, Production & Utilization as Percent of United States



	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16
Capacity	22.3	22.0	22.9	22.3	21.9	21.9	23.1	23.1	22.8	23.1	23.8	24.3
Production	21.1	20.2	21.7	21.4	20.1	20.5	23.0	27.4	27.0	26.7	27.3	27.9
Utilization	94.7	92.1	94.6	95.9	91.6	93.8	99.7	118.8	118.6	115.5	114.7	114.6

Source: Ward's Automotive

Summary

- The Blue Chip consensus forecast fell slightly in April in response to concerns about recent global events
- The consumer has seen gains in real disposable income, declining debt, rising stock market values and most recently, increased job prospects
- However, the surge in energy prices together with recent global events have pushed consumer sentiment back down to a level not seen since November of 2009
- Job gains in March have helped push the nation's unemployment rate to 8.8 percent marking four consecutive months of decline
- Nonresidential and residential structure investment continue to be a drag on the economic recovery
- Although the total impact from Japan's earthquake and subsequent tsunami still is unknown, automobile manufacturers are already starting to see some loss of production
- Auto sales over the last three years have been significantly below even the most conservative trend estimate.

Thank You!

