

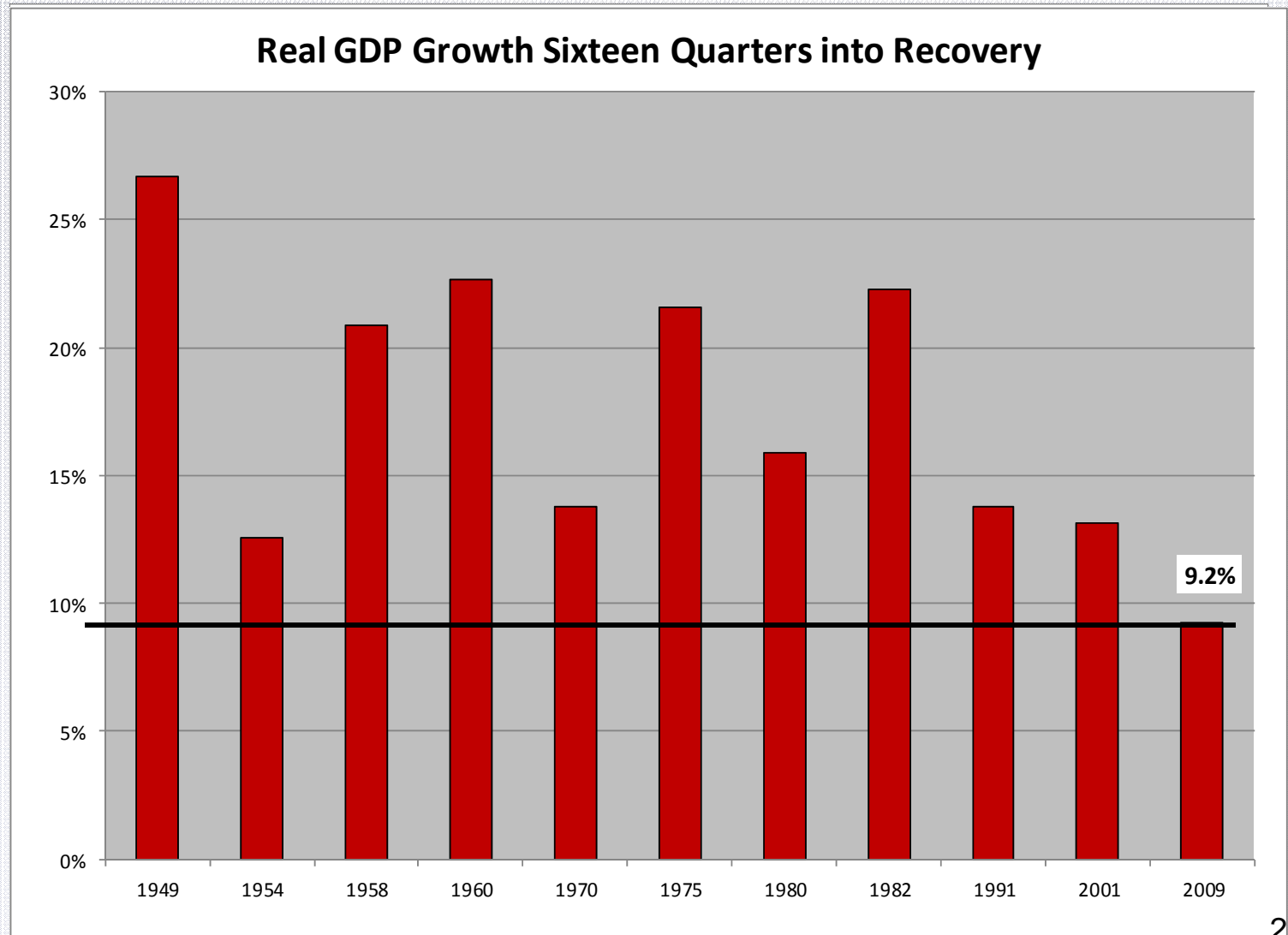
**THE  
ECONOMY  
HAS  
CHANGED  
AND  
SO MUST WE**



# ECONOMIC RECOVERY

## HOW IS THIS ONE NOT LIKE THE OTHER ONES

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

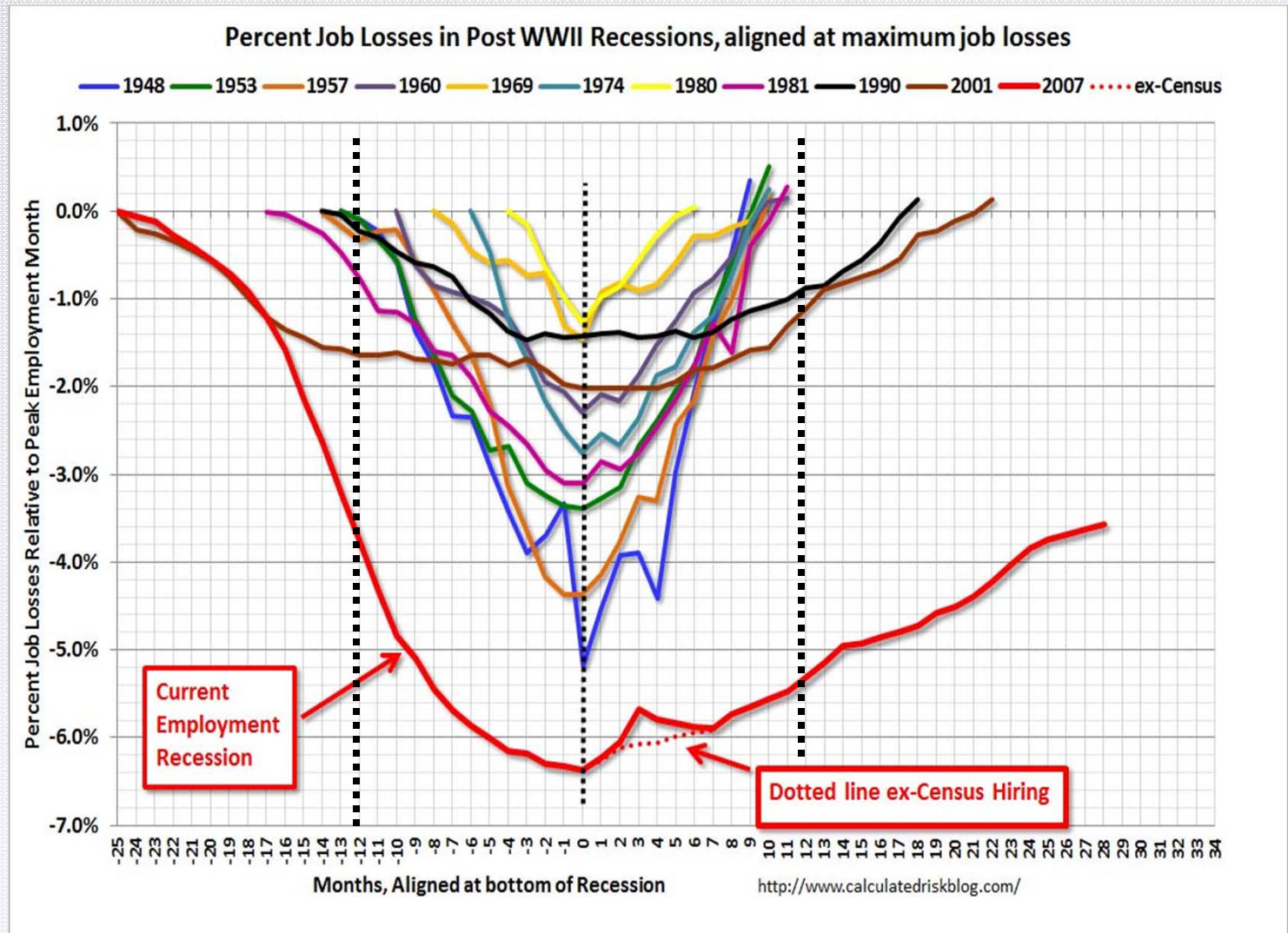


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# JOBS RECOVERY

## HOW IS THIS ONE NOT LIKE THE OTHER ONES

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

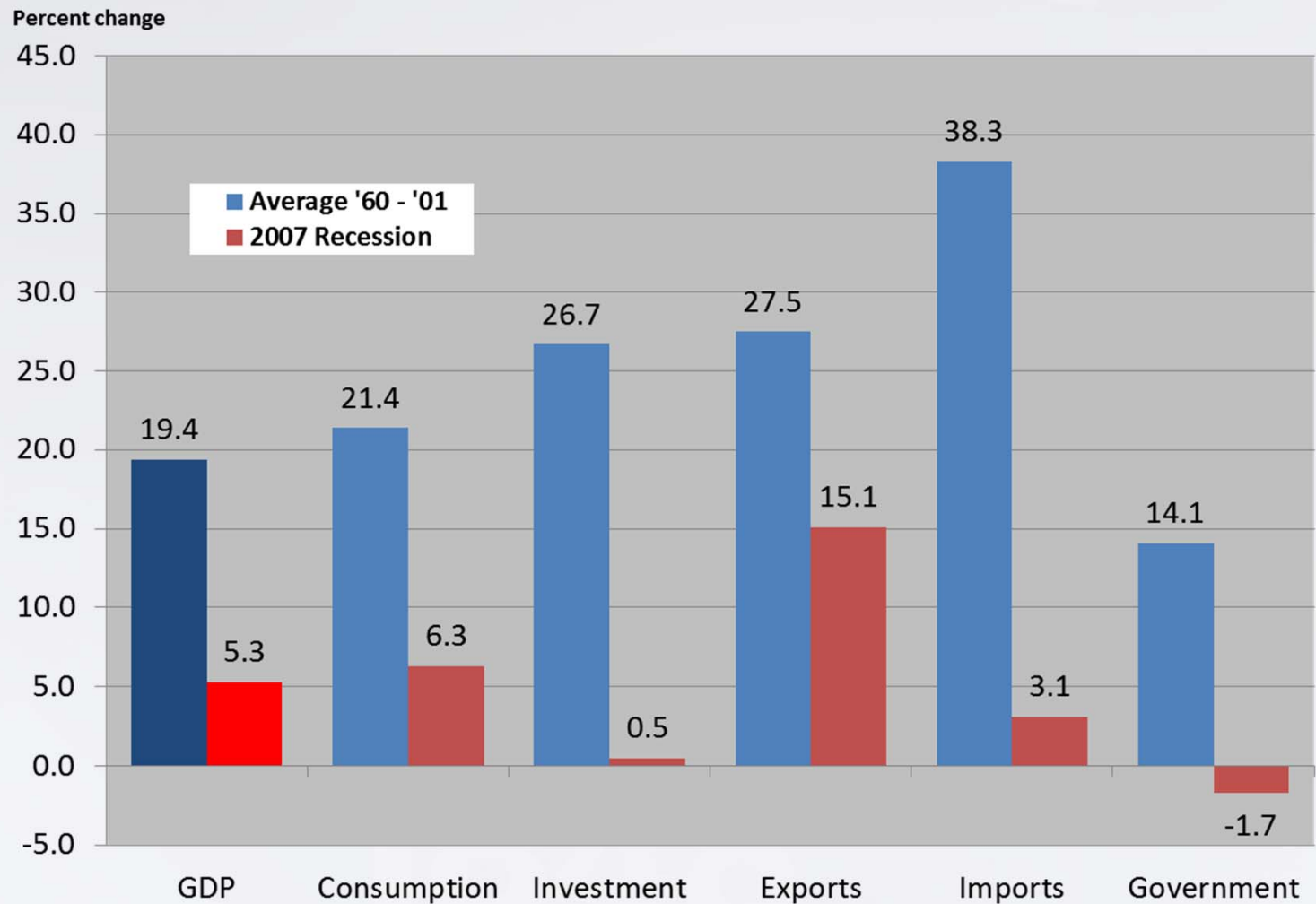


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## RECESSION COMPARISONS LAGGING ACROSS ALL INDICATORS

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



March 6, 2014



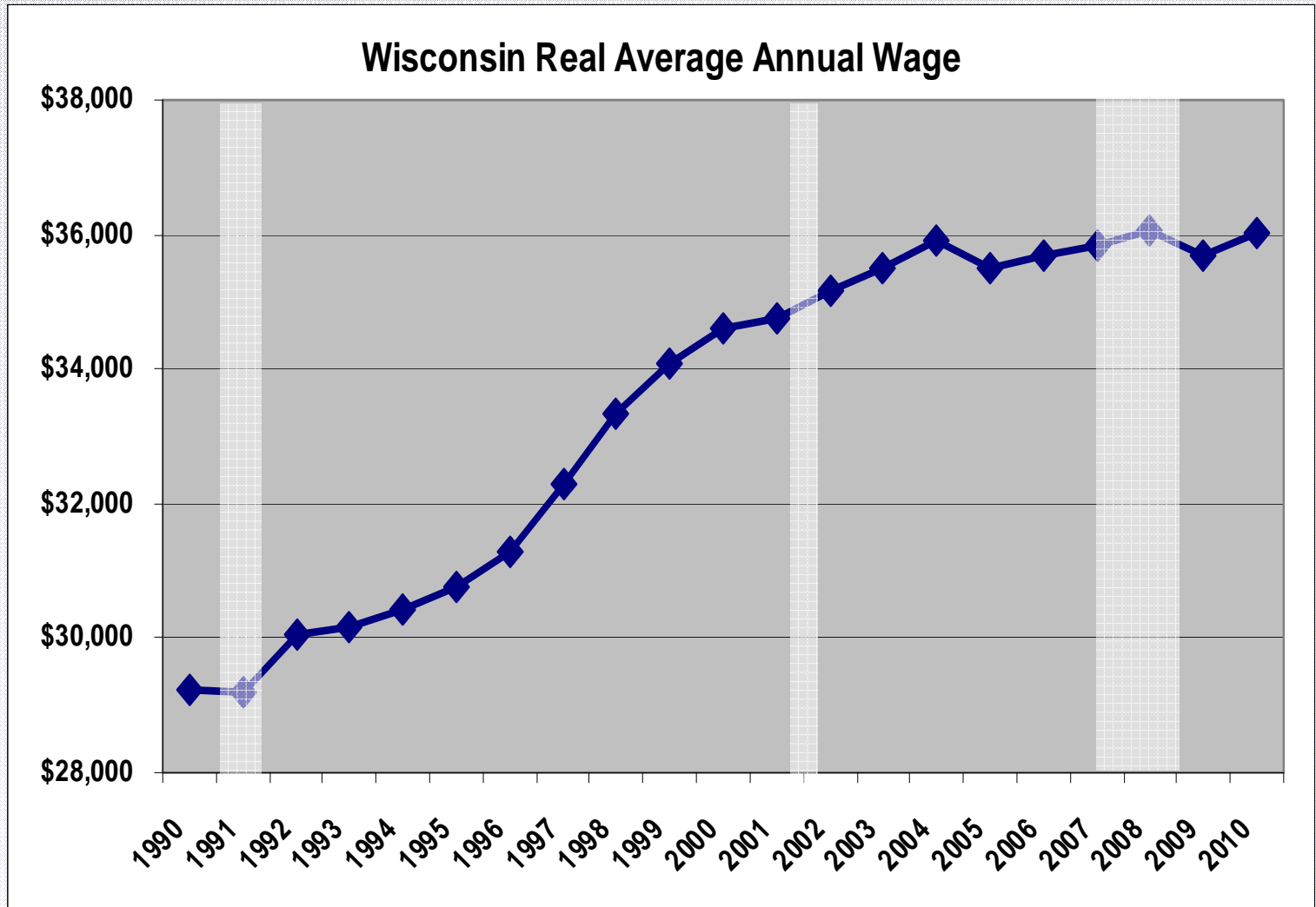
**WHAT'S  
TAKING  
SO LONG**



# REAL EARNINGS ARE FLAT

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

### Wisconsin Real Average Annual Wage

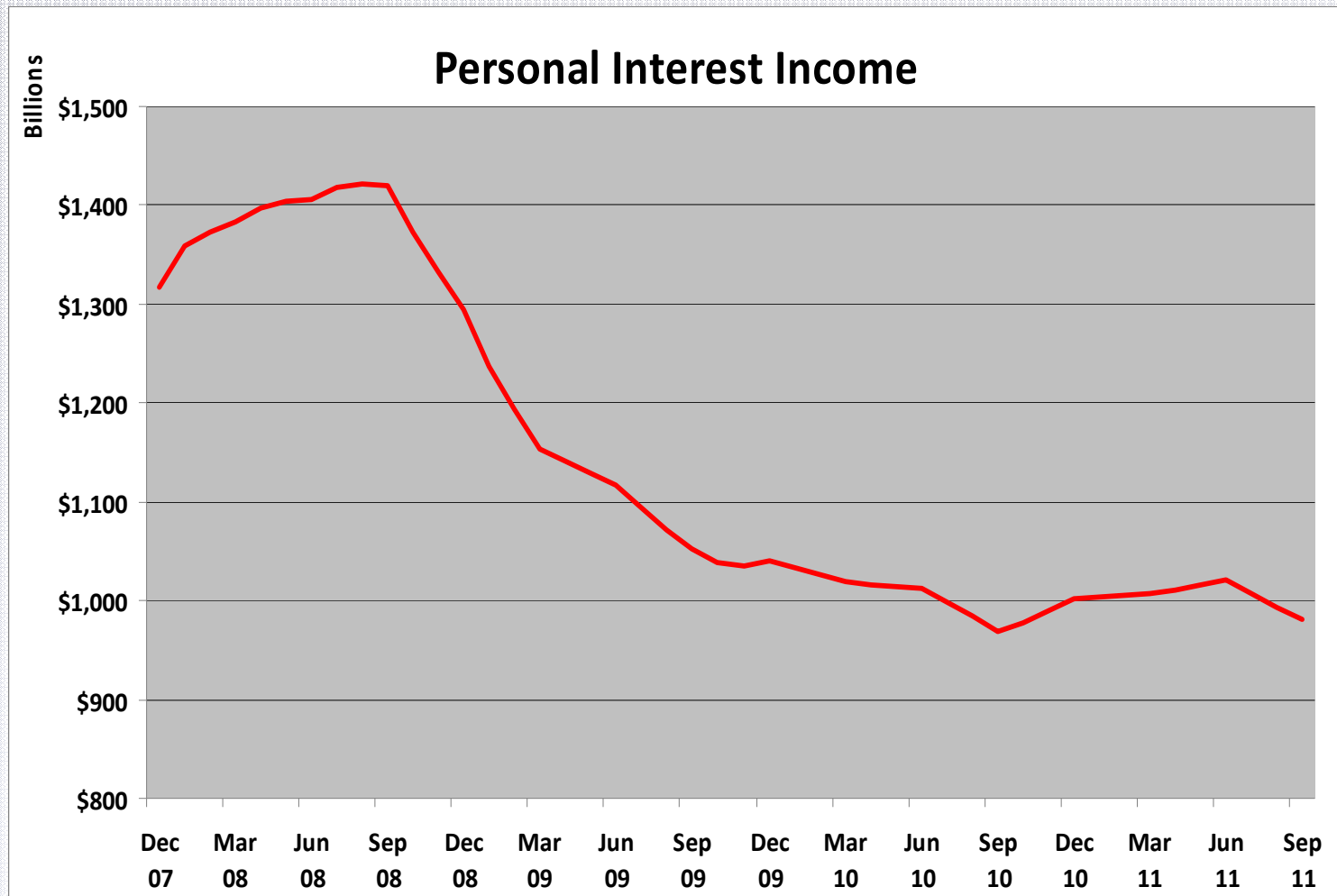


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# INTEREST INCOME TAKE HIT WITH LOW INTEREST RATES

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

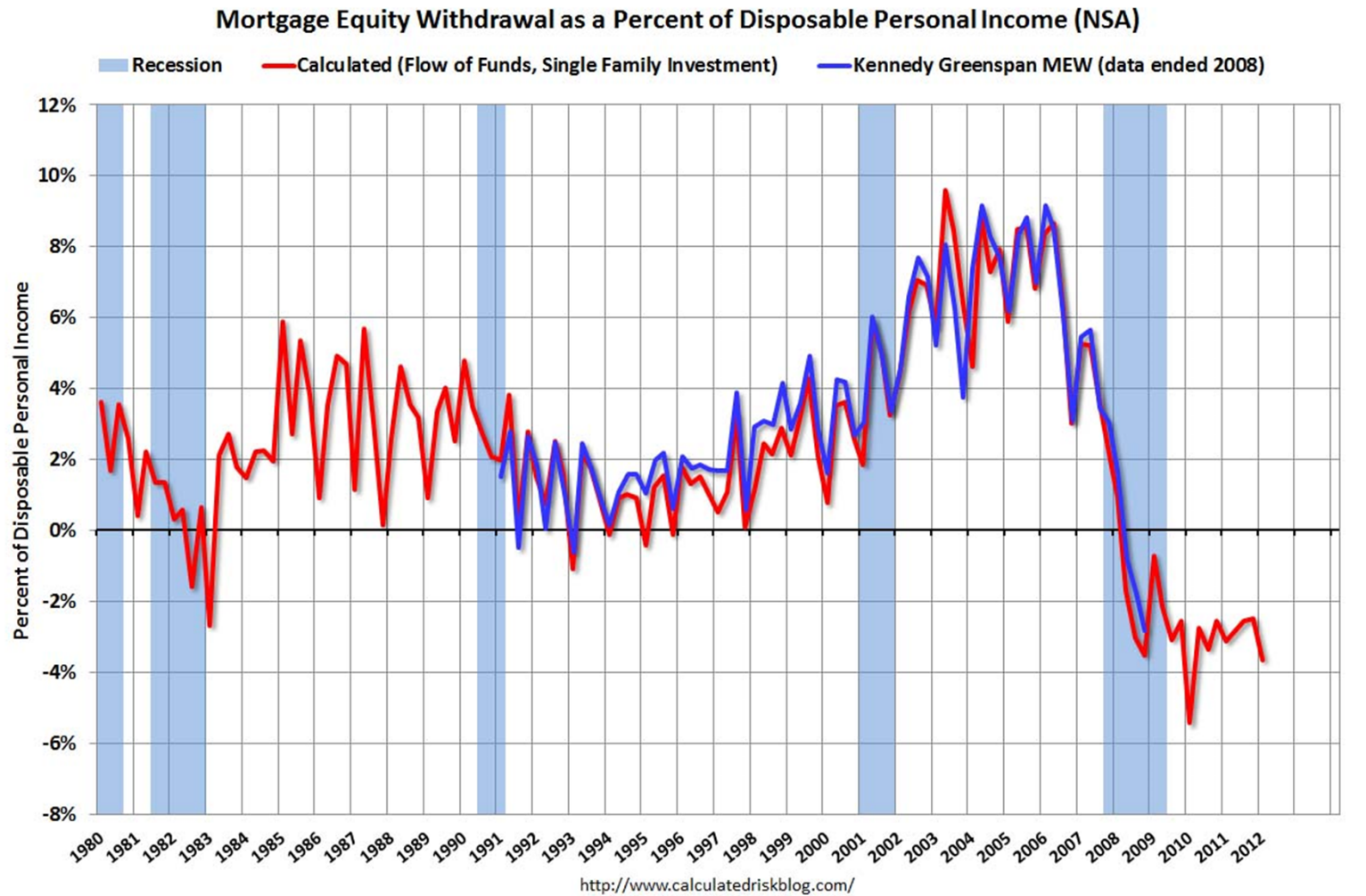


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# HOME EQUITY WAS USED FOR CONSUMPTION NOW PART OF DELEVERAGING

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

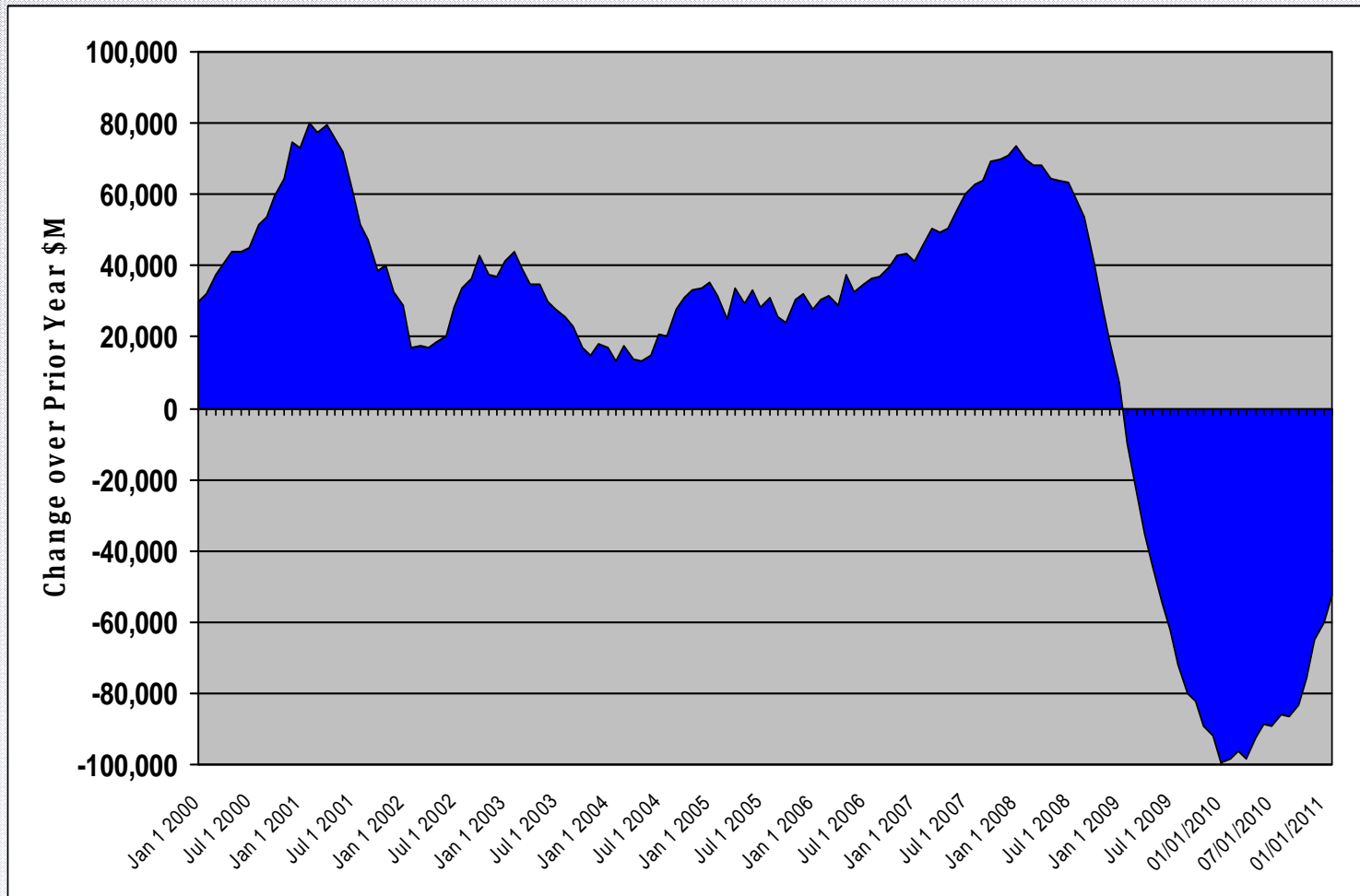


March 6, 2014



# REVOLVING CREDIT WAS USED FOR CONSUMPTION NOW PART OF DELEVERAGING

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Source: Federal Reserve Board of Governors

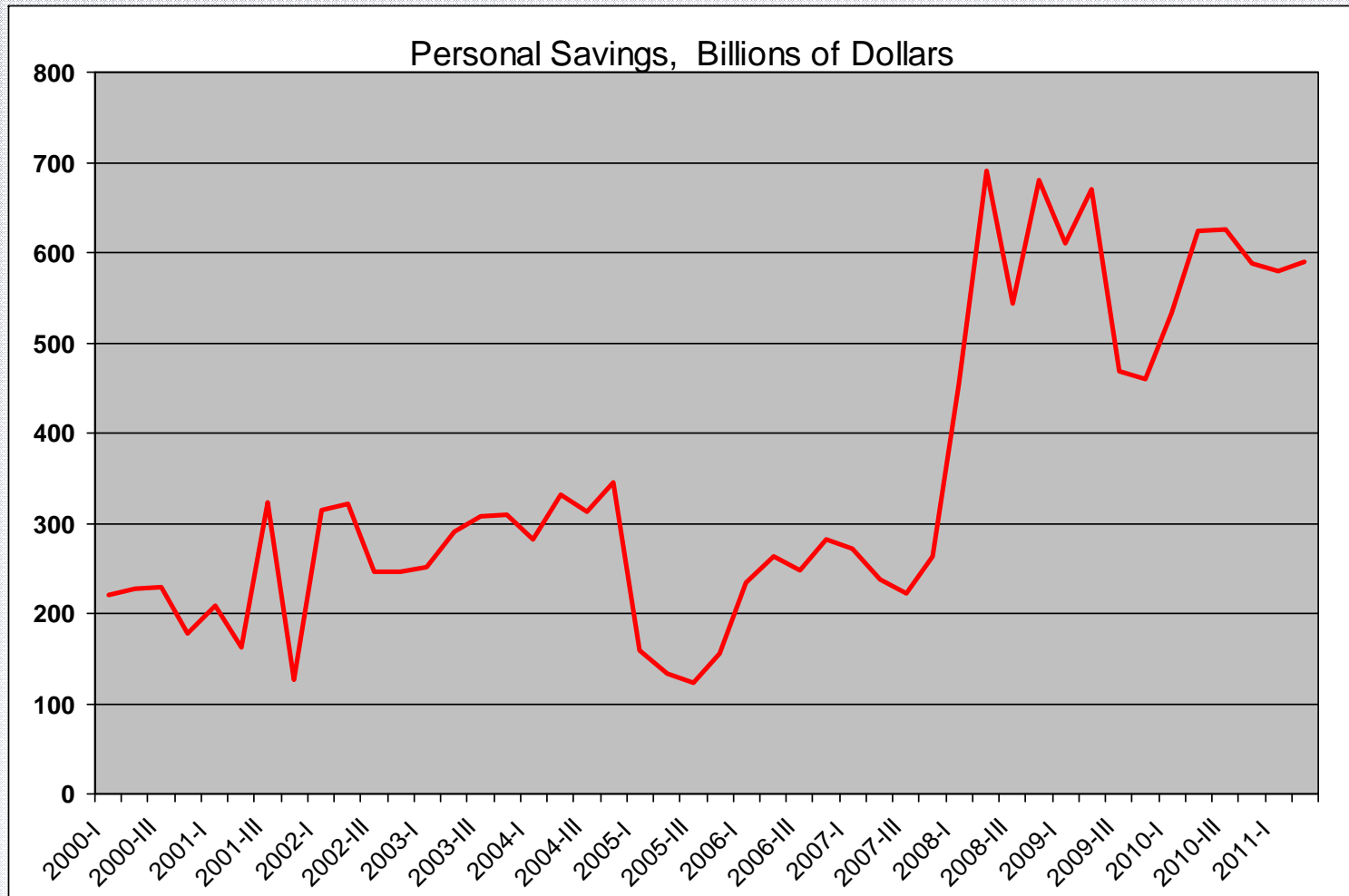


March 6, 2014



# NO SAVINGS – WAS USED FOR CONSUMPTION NOW PART OF DELEVERAGING

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



March 6, 2014



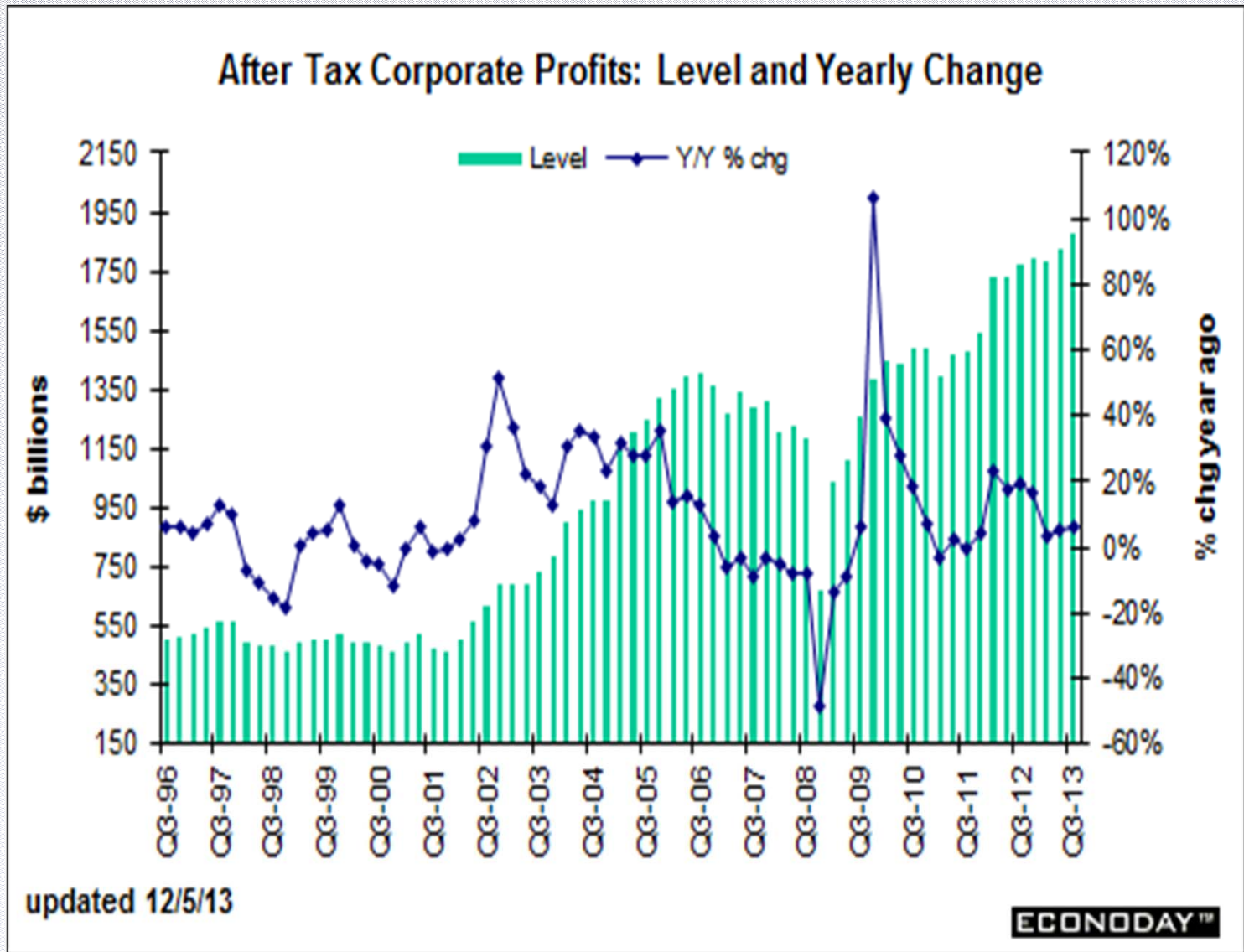
## It is difficult to increase consumption when you:

1. have stagnant income,
2. are losing wealth,
3. paying down debt,
4. increasing savings,
5. and are paying more for food and gas.



# CORPORATE PROFITS AT NEW RECORDS MOSTLY DUE TO COST CUTTING

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



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## MANAGING RISK

### WHERE IS THE INCENTIVE TO EXPAND

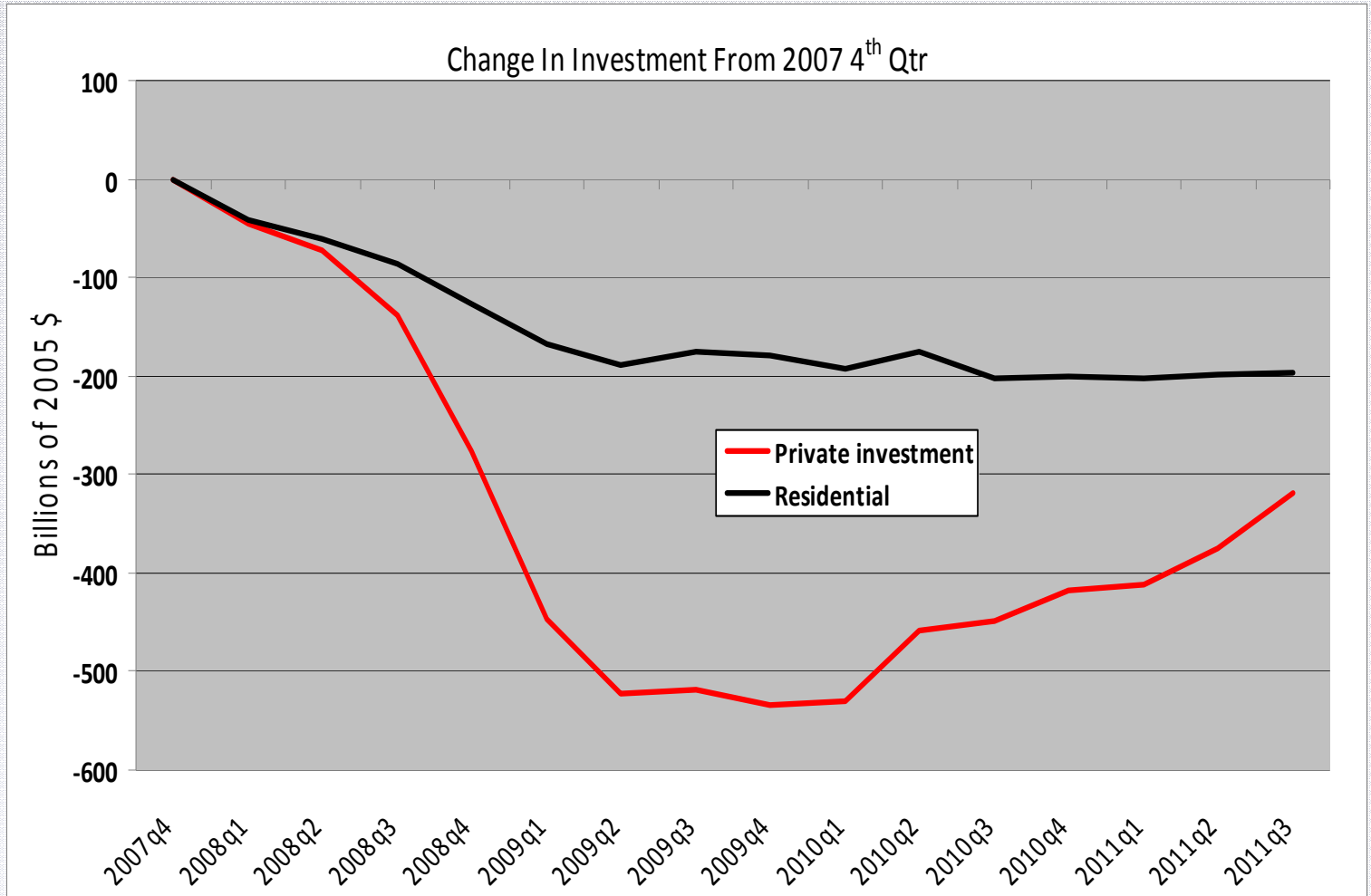
EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY





# CORPORATE PROFITS BUILDING CASH HOARD

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



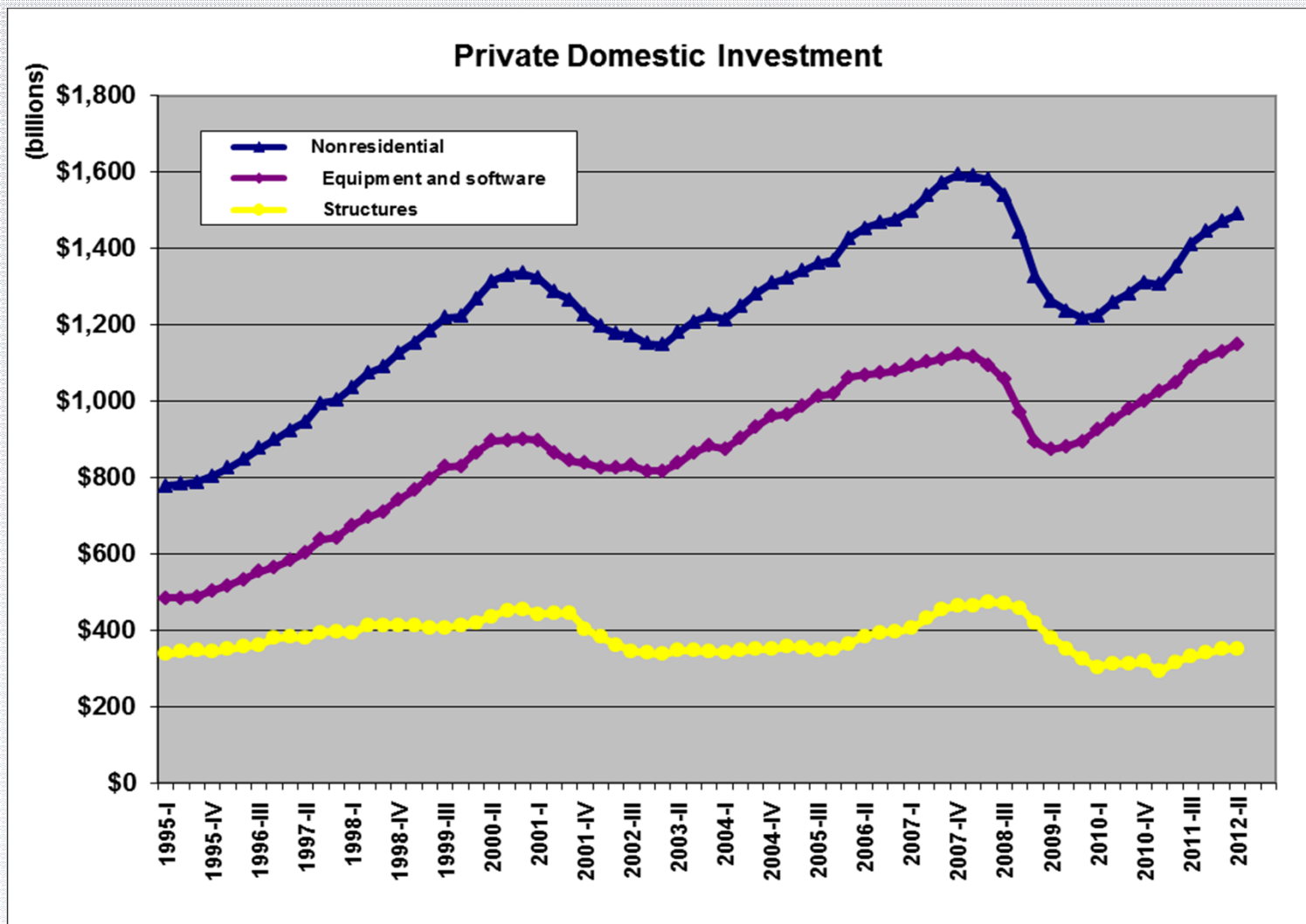
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# INVESTMENT GROWTH IS IN PRODUCTIVITY, NOT EXPANSION

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Source: BEA, OEA

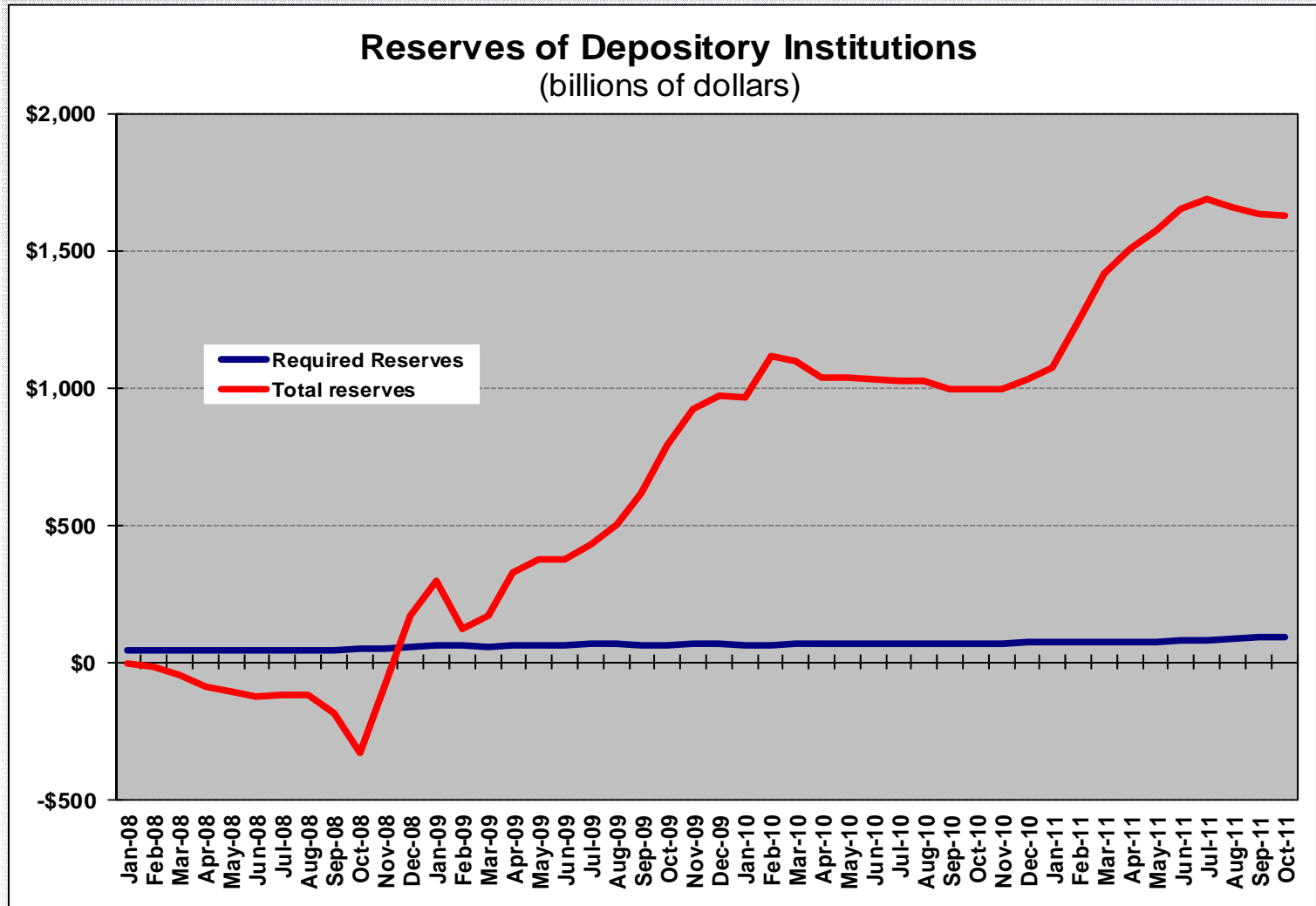




# EXTENDING CREDIT

## BANKS ARE RETICENT TO LEND FUNDS

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Source: Federal Reserve Board, Data Download Program



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# LOOKING FORWARD

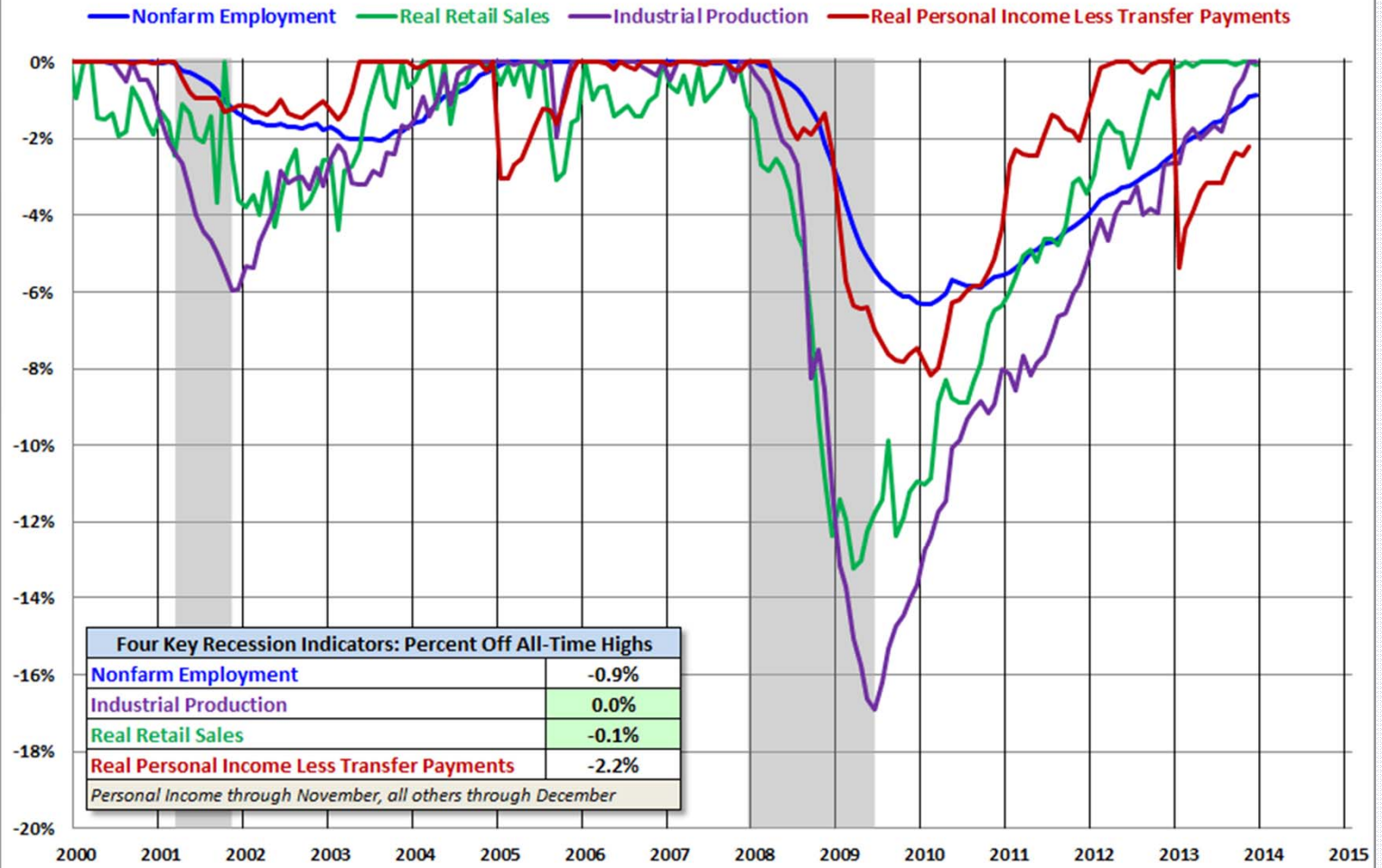


# PRIMARY INDICATORS ARE CLOSE

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

dshort.com  
January 2014

The 21st Century  
Percent Off All-Time Highs, Recession in Gray

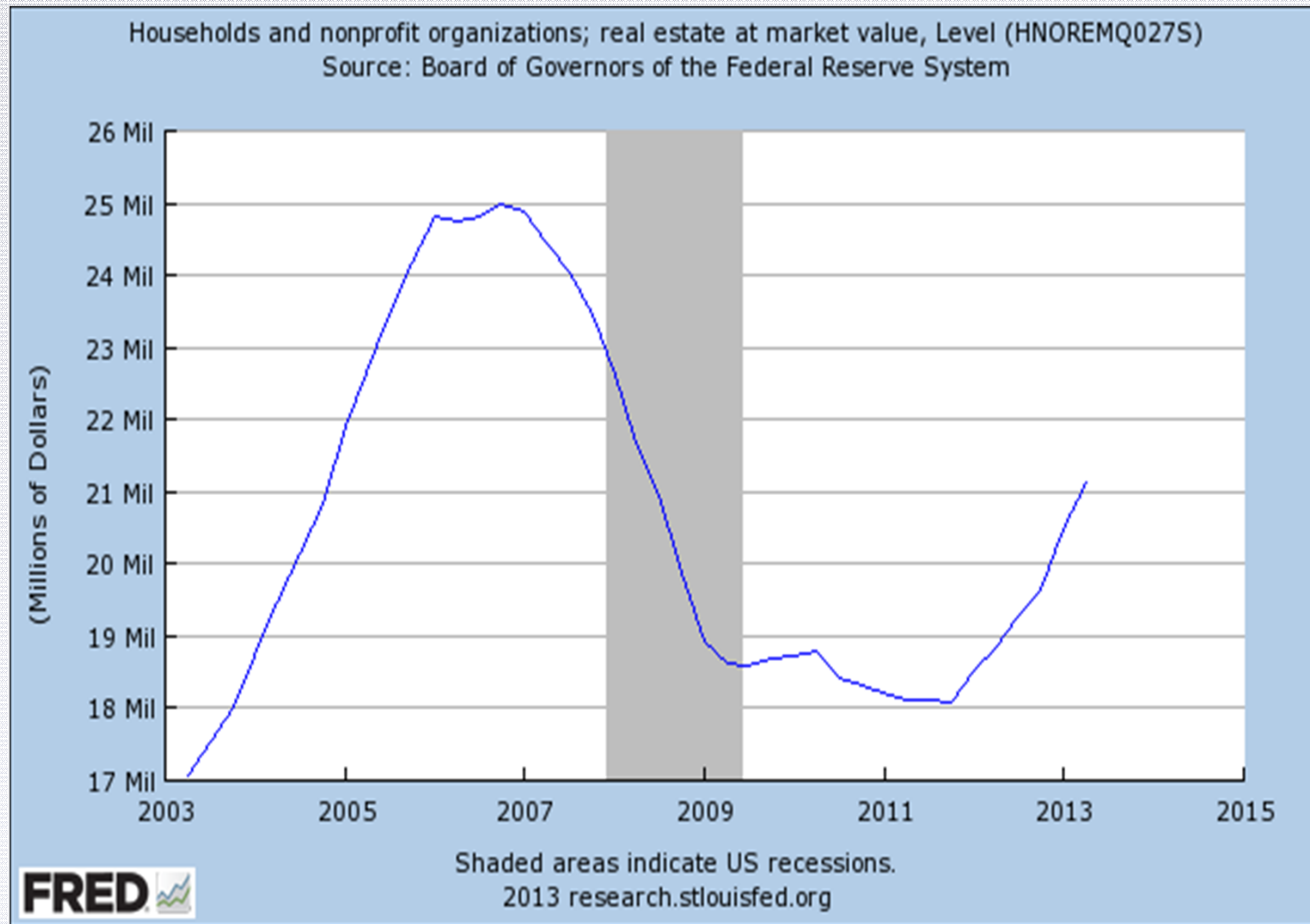


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# REAL ESTATE EQUITY GETTING A NICE REBOUND

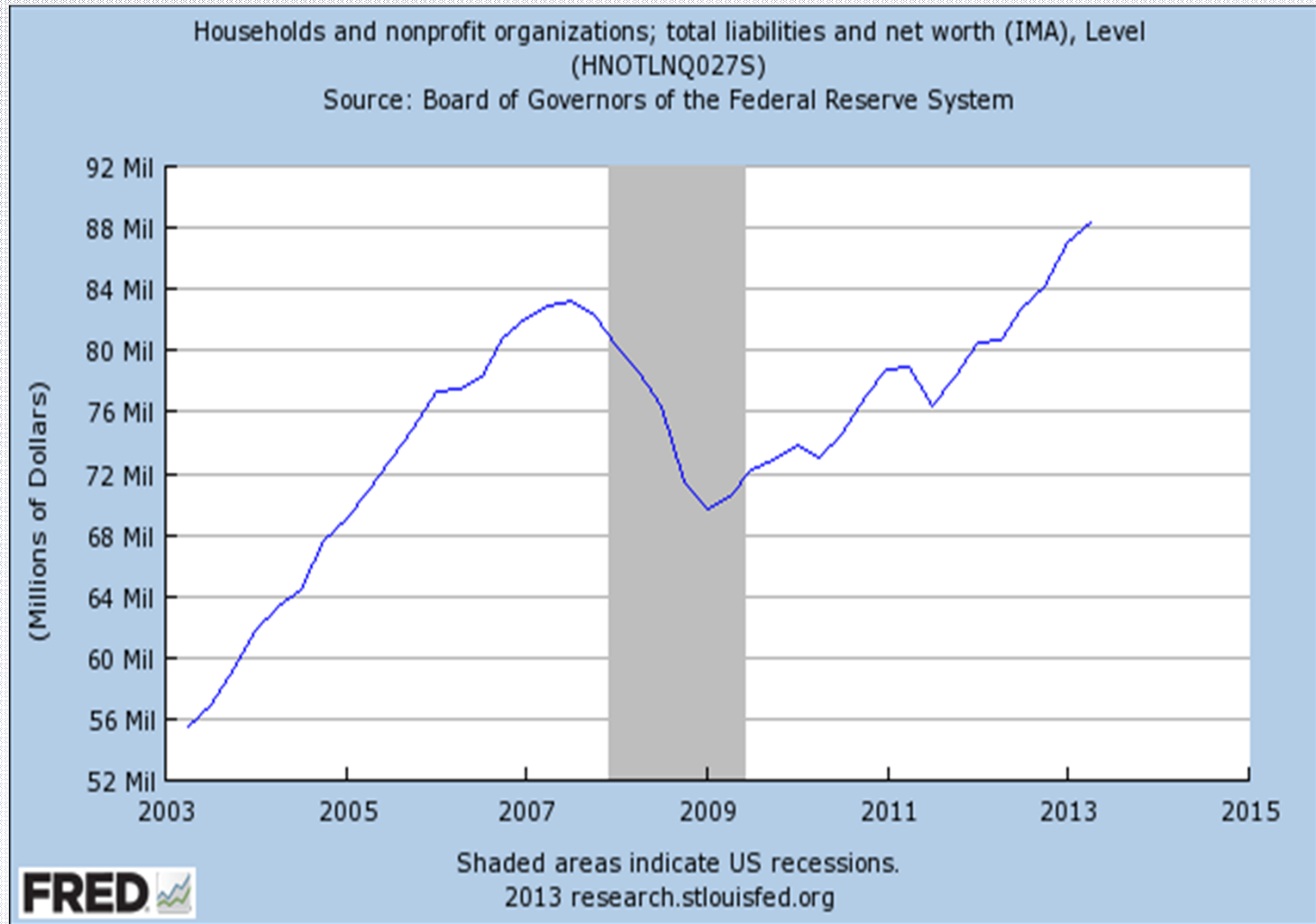
EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



March 6, 2014

# SECURITIES' APPRECIATION IS GETTING US BACK OVER THE HUMP

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

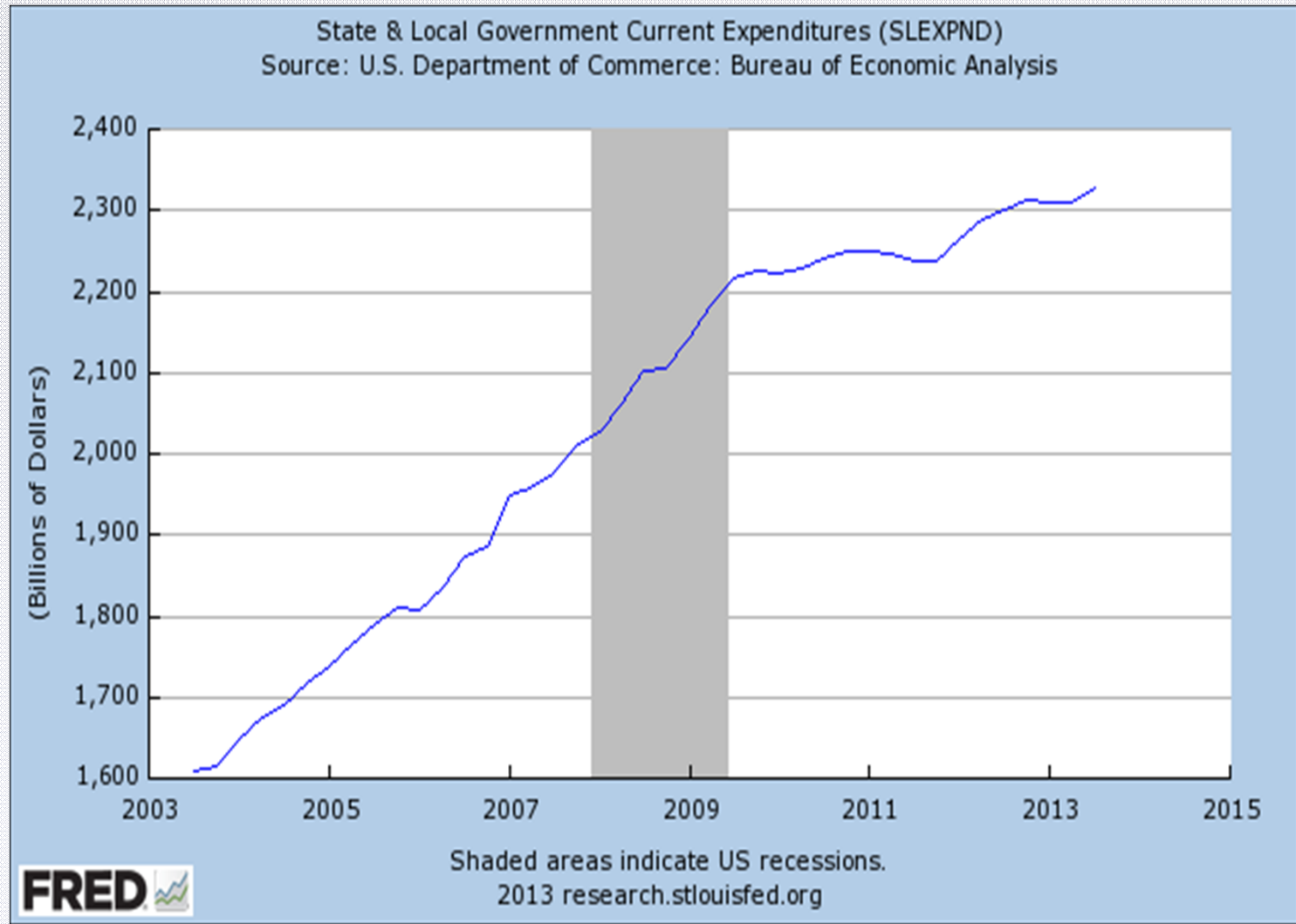


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# STATE AND LOCAL SPENDING ON A NEW TRAJECTORY

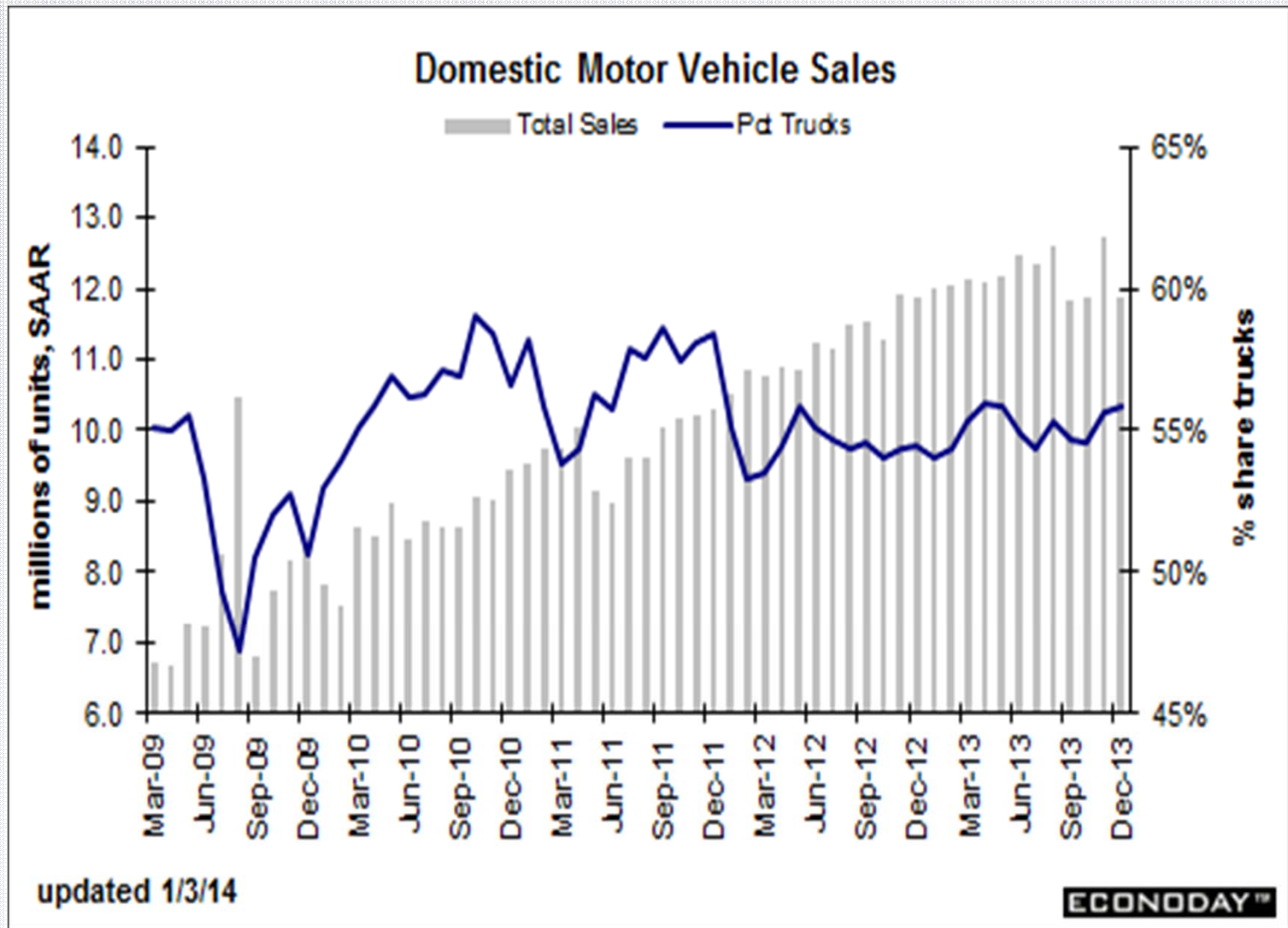
EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



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# AUTO SALES CONTINUE TO SURPRISE

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

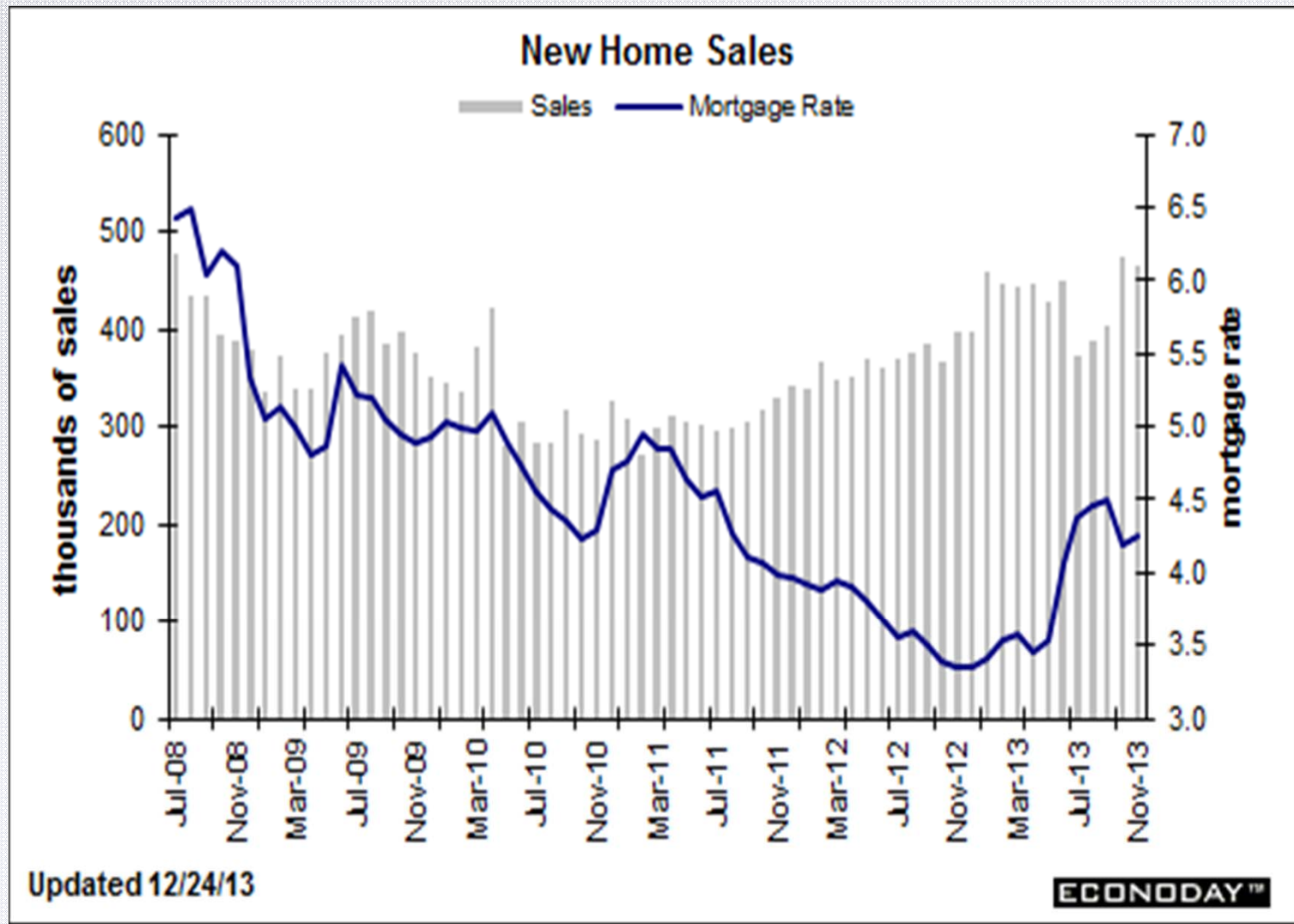


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# NEW HOME SALES ARE ENCOURAGING

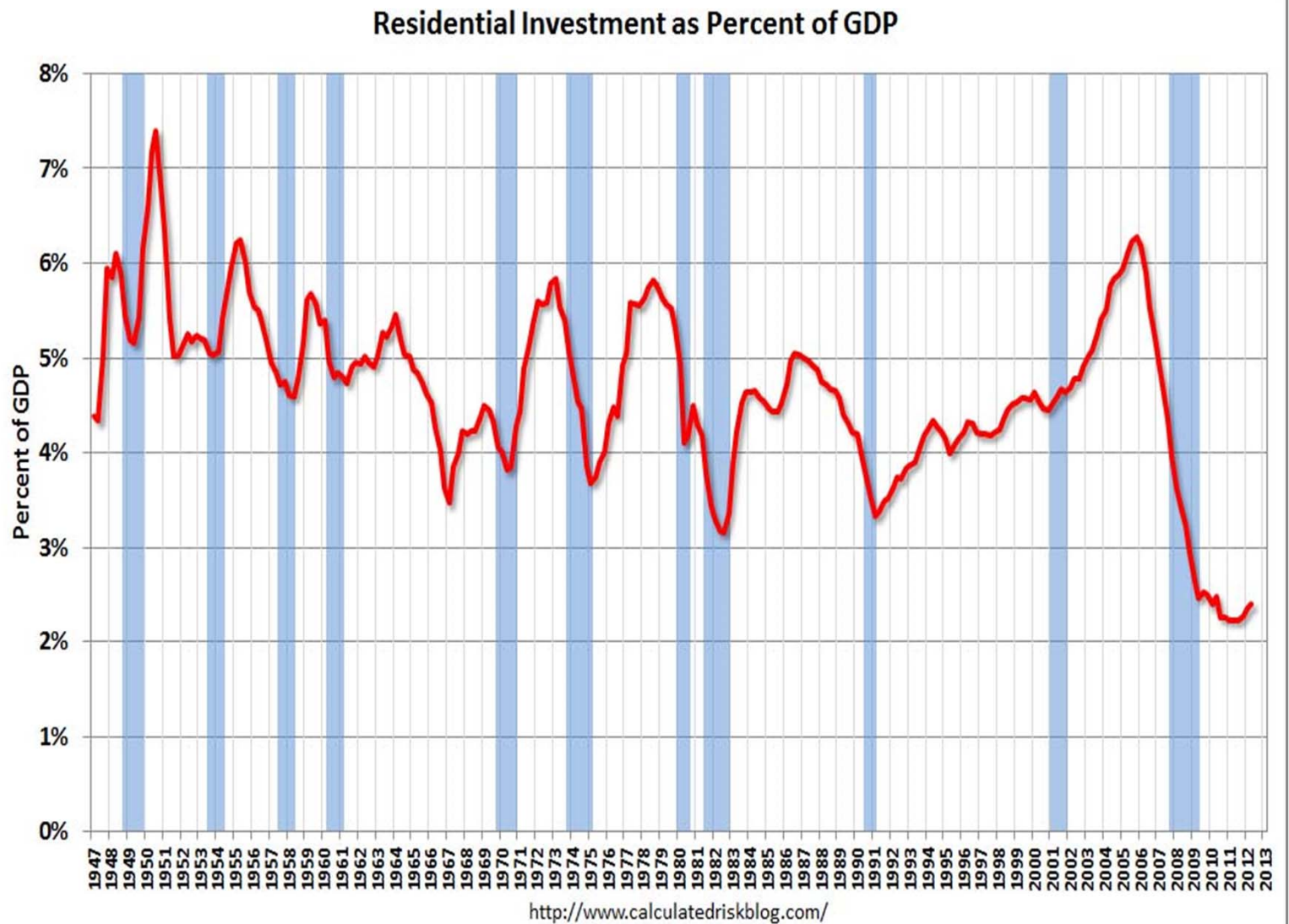
EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



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# REAL ESTATE INVESTMENT WELL BELOW AVERAGE

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

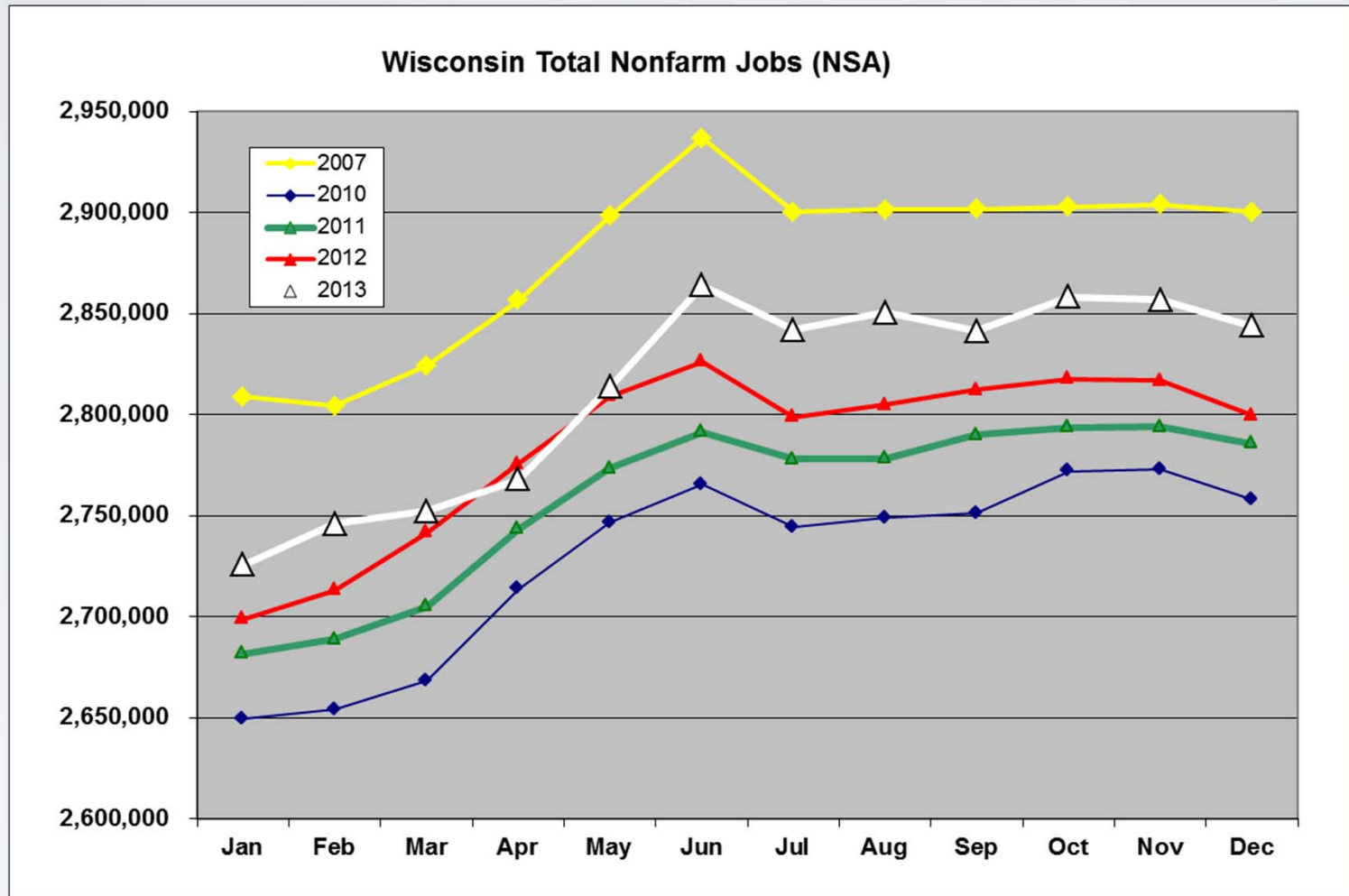


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# WISCONSIN JOBS CONTINUE TO INCREASE

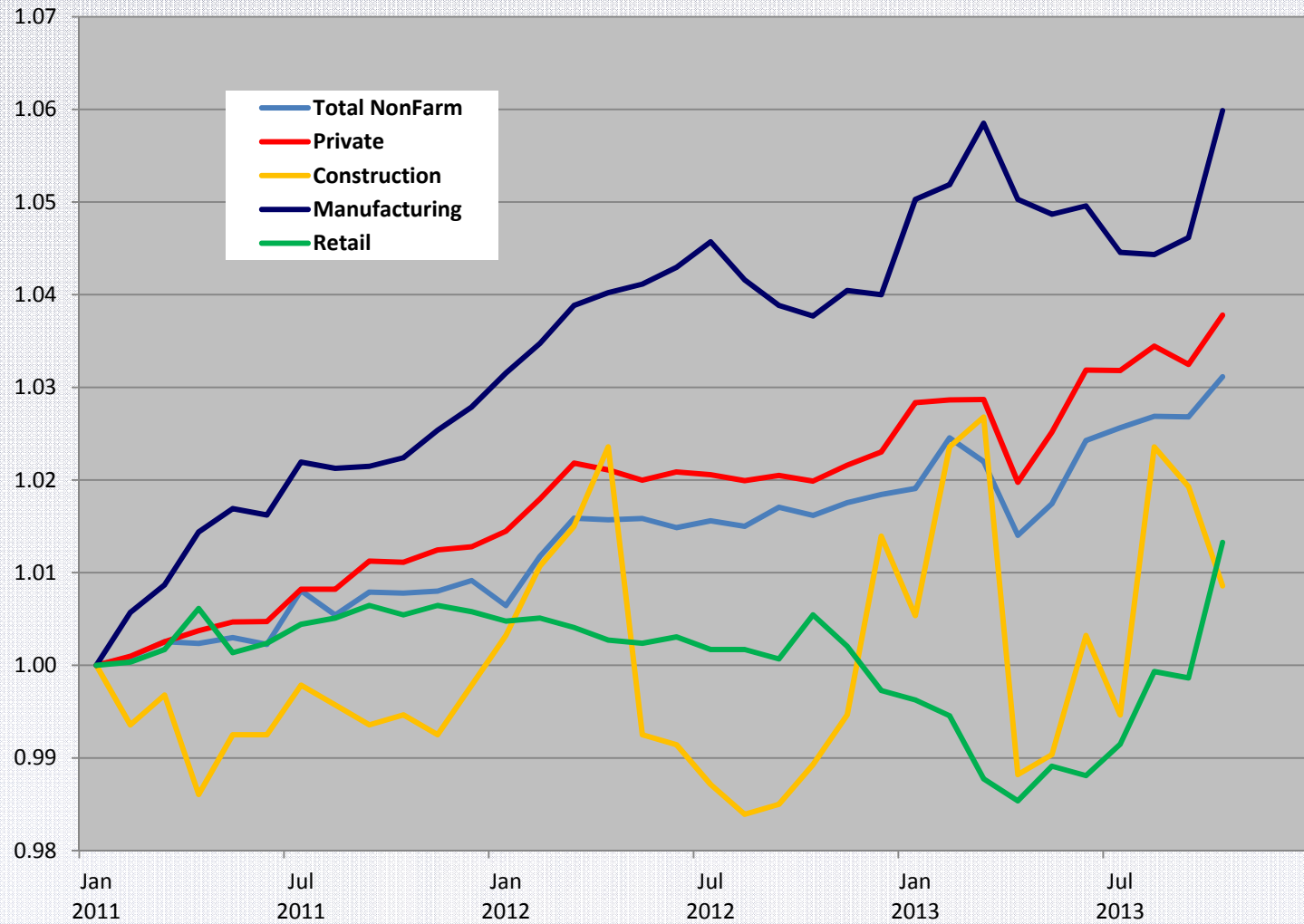
EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



March 6, 2014

Source: CES, BLS, OEA

## WISCONSIN JOBS INCREASE BUT AT DIFFERENT RATES



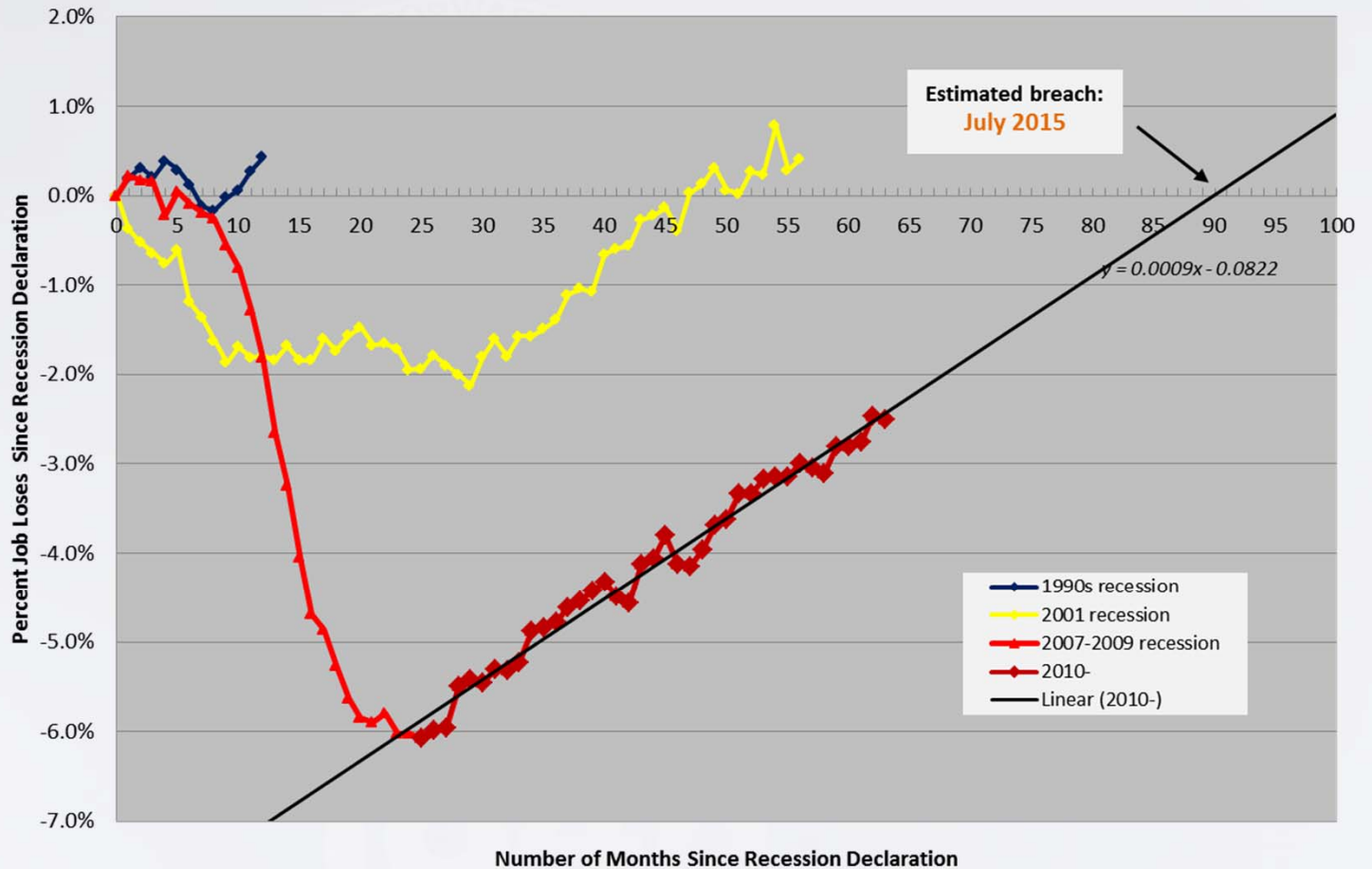
Source: CES, BLS, OEA



# WISCONSIN JOBS RECOVERY VERSUS PREVIOUS CYCLES

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

Wisconsin: QCEW Total Employment Change in the Last Three Recessions  
(QCEW data seasonally adjusted using the U.S. Census X12 program)



March 6, 2014



## **ECONOMIC STATUS SUMMARY**

- **This is a New Economy indeed**
- **Recession was broad and deep**
- **Recovery has been hampered by:**
  - **lack of confidence,**
  - **higher risk,**
  - **slow job recovery, and**
  - **hence, slow demand response**
- **Outlook is positive but subdued**
- **U.S. is global economic driver once again**



**So, what will be the  
biggest socio-economic  
policy challenge  
in the next 20 years?**



# ELDERLY NUMBERS WILL SWELL WIDEN THE SIDEWALKS WILL YA !?

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY





## OR PERHAPS THE MORE INTERGENERATIONAL VERSION

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



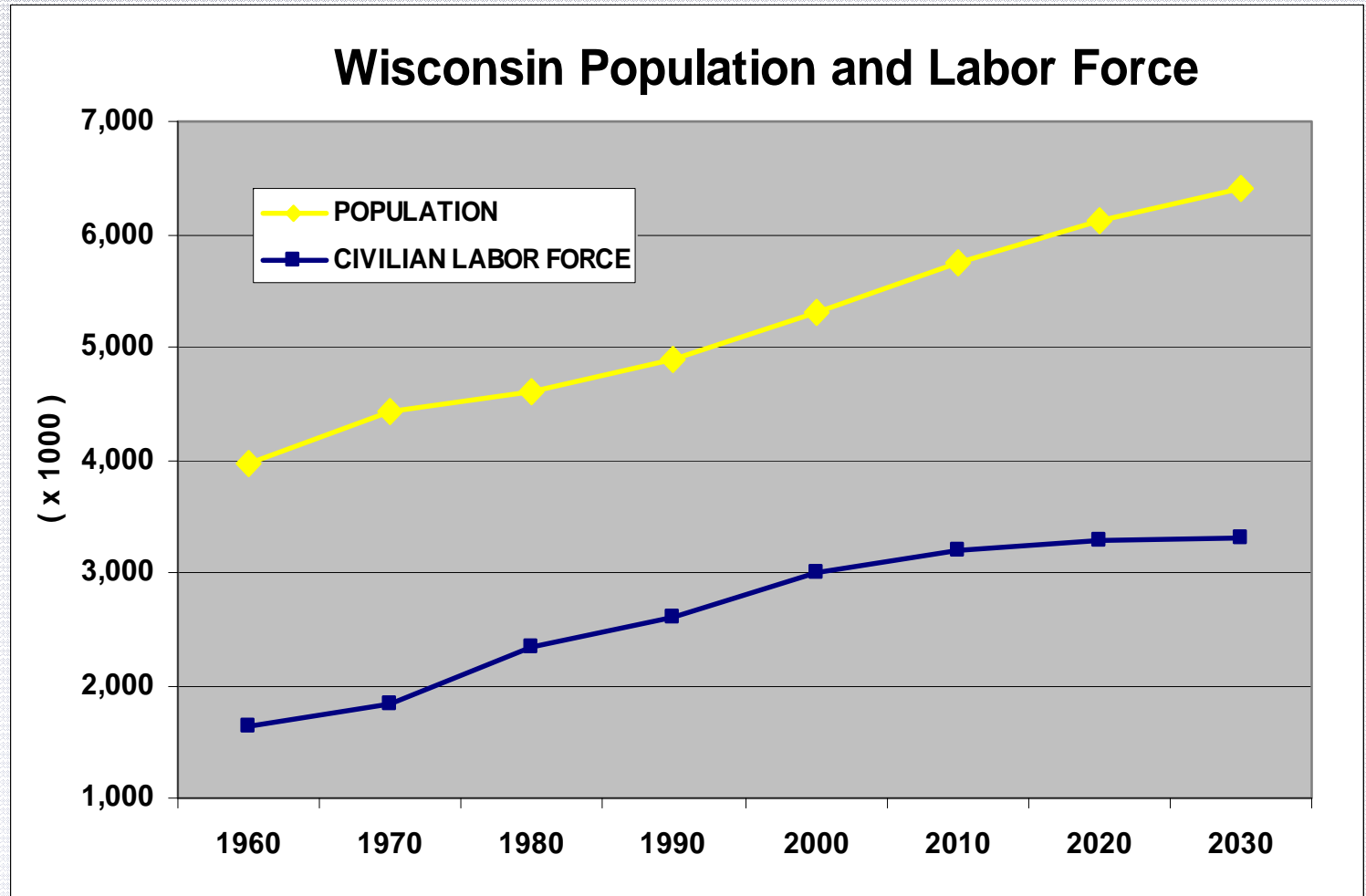


# QUANTITY



## WISCONSIN'S WORKFORCE GROWTH BECOMES FLAT

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Source: Bureau of Labor Statistics, OEA



# QUALITY



## NEW ECONOMY NEED FOR SKILLS

**"The days are over when you could walk into a paper mill with a high school diploma and run one of the machines."**

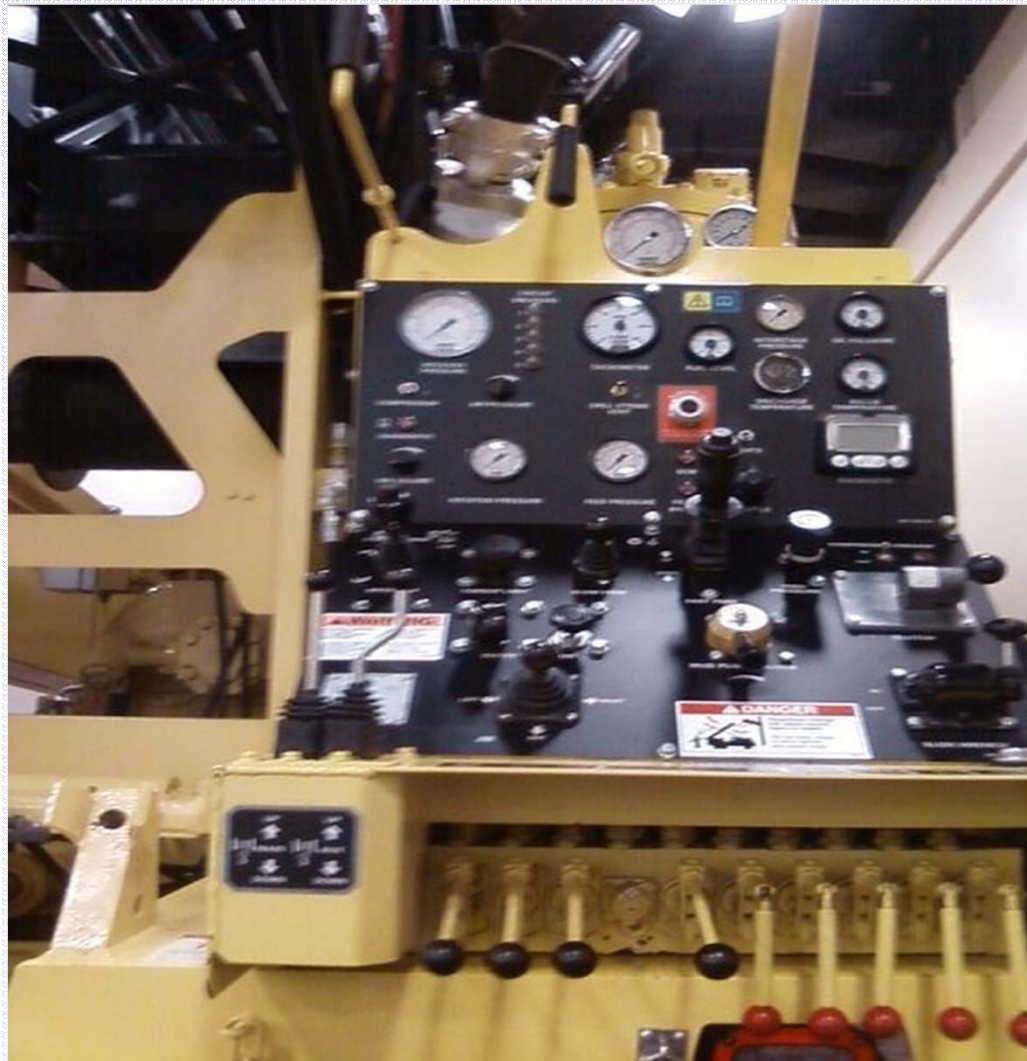
– Patrick Schillinger, former Wisconsin Paper Council President,  
*Center will teach paper-industry technology,*  
Milwaukee Journal Sentinel, JS Online, October 21, 2004.





# TURN YOU LOOSE ON THIS BABY I DON'T THINK SO

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

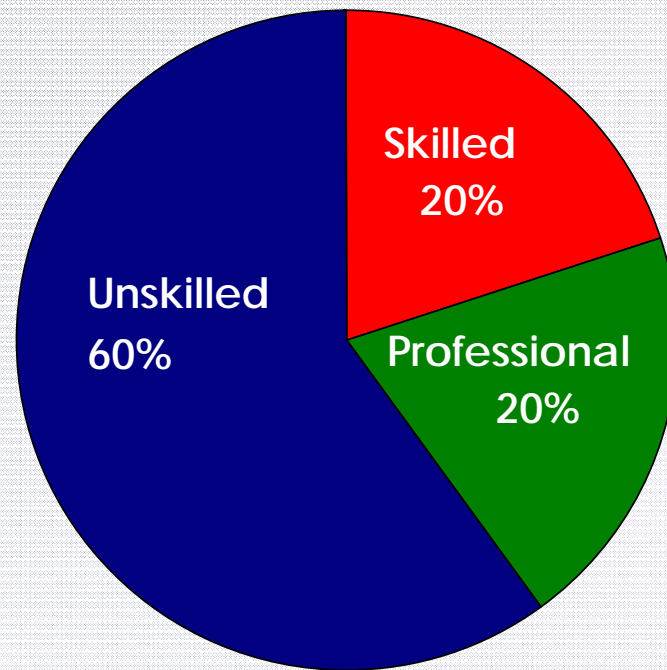


March 6, 2014

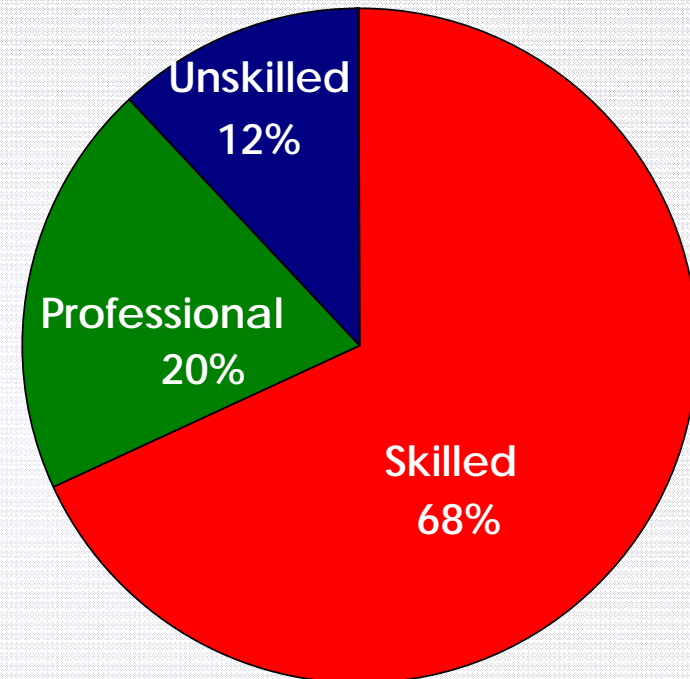


## CHANGES IN WORKFORCE SKILL REQUIREMENTS OVER THE LAST FIFTY YEAR

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Then



Now





## WHAT'S MISSING IN THIS PICTURE TECHNOLOGICAL SUBSTITUTE

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY





## **FUTURE EMPLOYERS NEED FOR CREATIVITY & INNOVATION**

**“Today in most fields I know, the struggle is about creativity and innovation. There is no script.”**



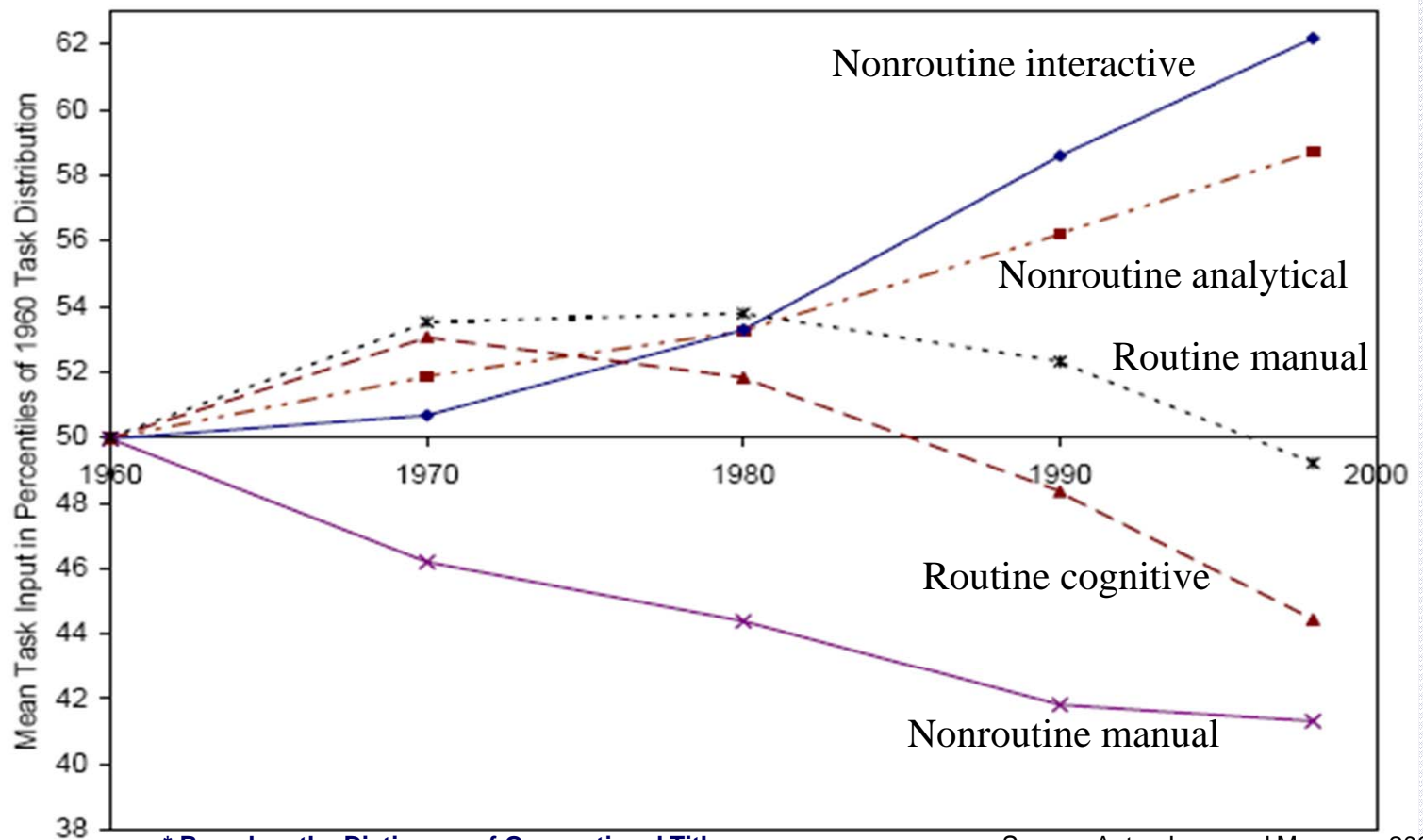
– Robert B. Shapiro,  
former CEO & Chairman,  
Monsanto Corporation



# WORKPLACE REQUIREMENTS

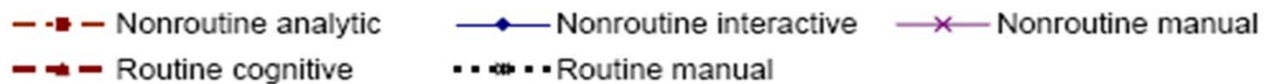
## CHANGES IN SKILLS USED AT WORK\*

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



\* Based on the Dictionary of Occupational Titles

Source: Autor, Levy and Murnane, 2003



Source: K-12 Education and Economic Summit presentation by Alan B. Krueger, Princeton University



March 6, 2014

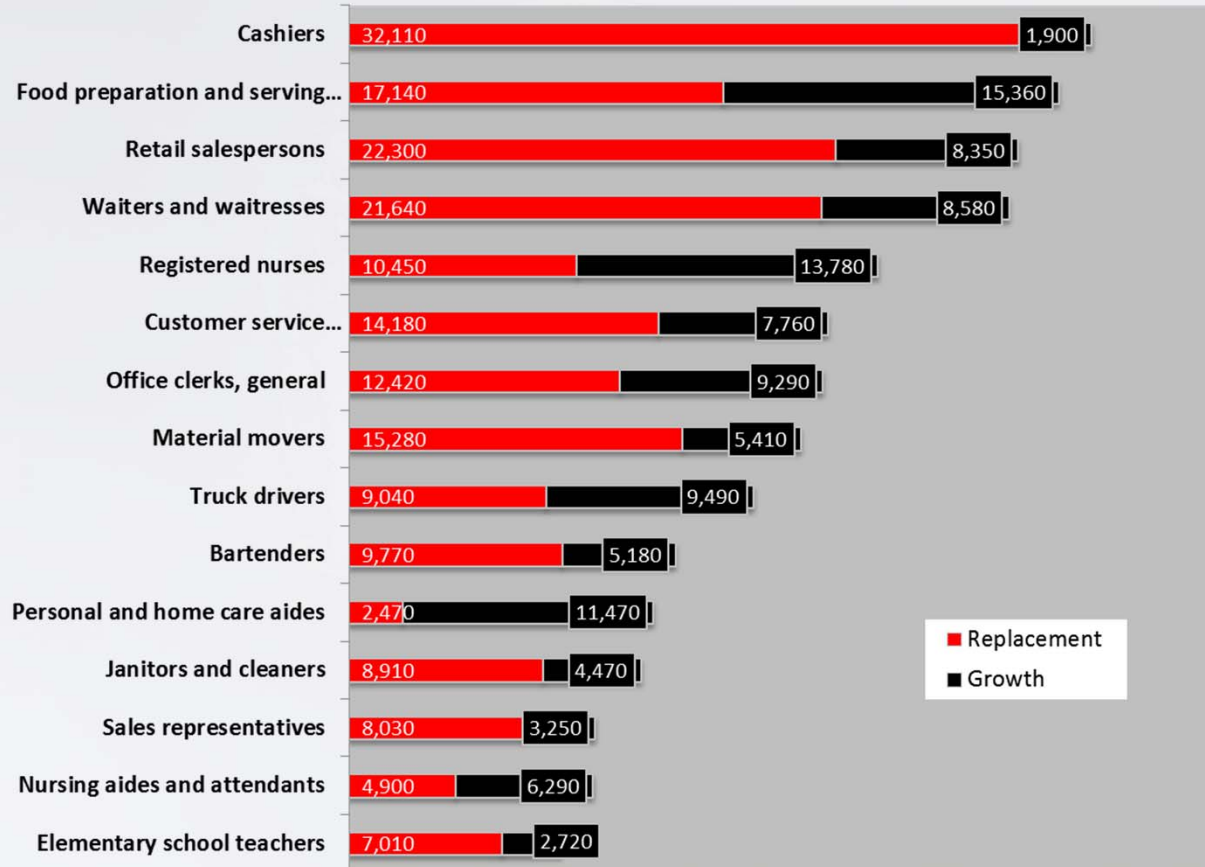


# Who is in demand?



# MOST JOB OPENINGS IN WISCONSIN PROJECTIONS BY OCCUPATION

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



\*Job Openings includes both turnover and new jobs that are created.



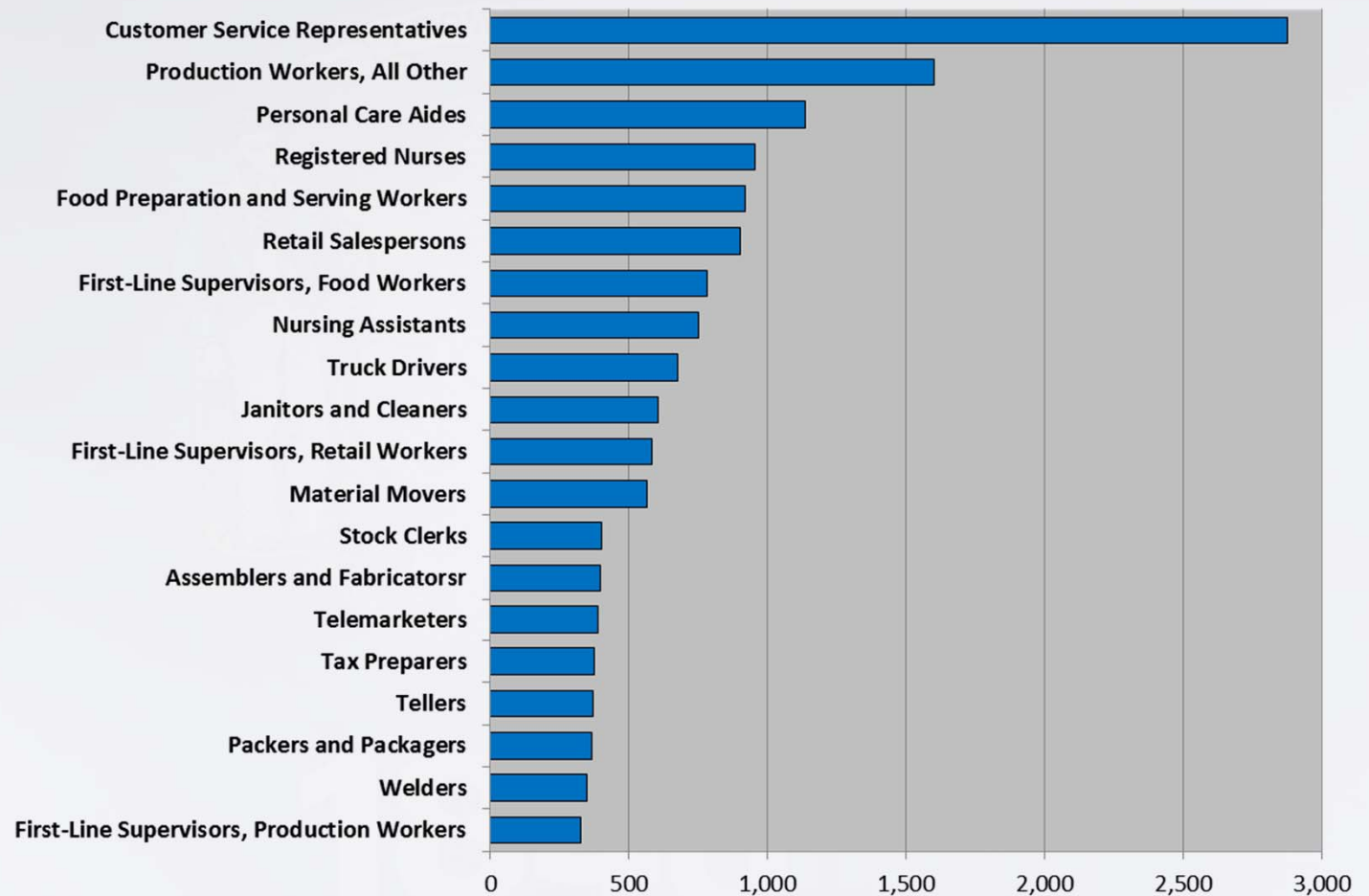
March 6, 2014



# MOST JOB OPENINGS POSTED ON JOB CENTER OF WISCONSIN

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

## Job Center of Wisconsin Openings



March 6, 2014



## **MOST OFTEN HEARD POSITION CHALLENGES**

<b>Occupation</b>
<b>Heavy truck drivers</b>
<b>Welders</b>
<b>Customer service representatives</b>
<b>CNC machine operators</b>
<b>Maintenance workers, machinery</b>
<b>Nursing aides</b>
<b>Registered nurses</b>
<b>Mechanical engineers</b>
<b>Food preparation and serving workers</b>



## FIVE

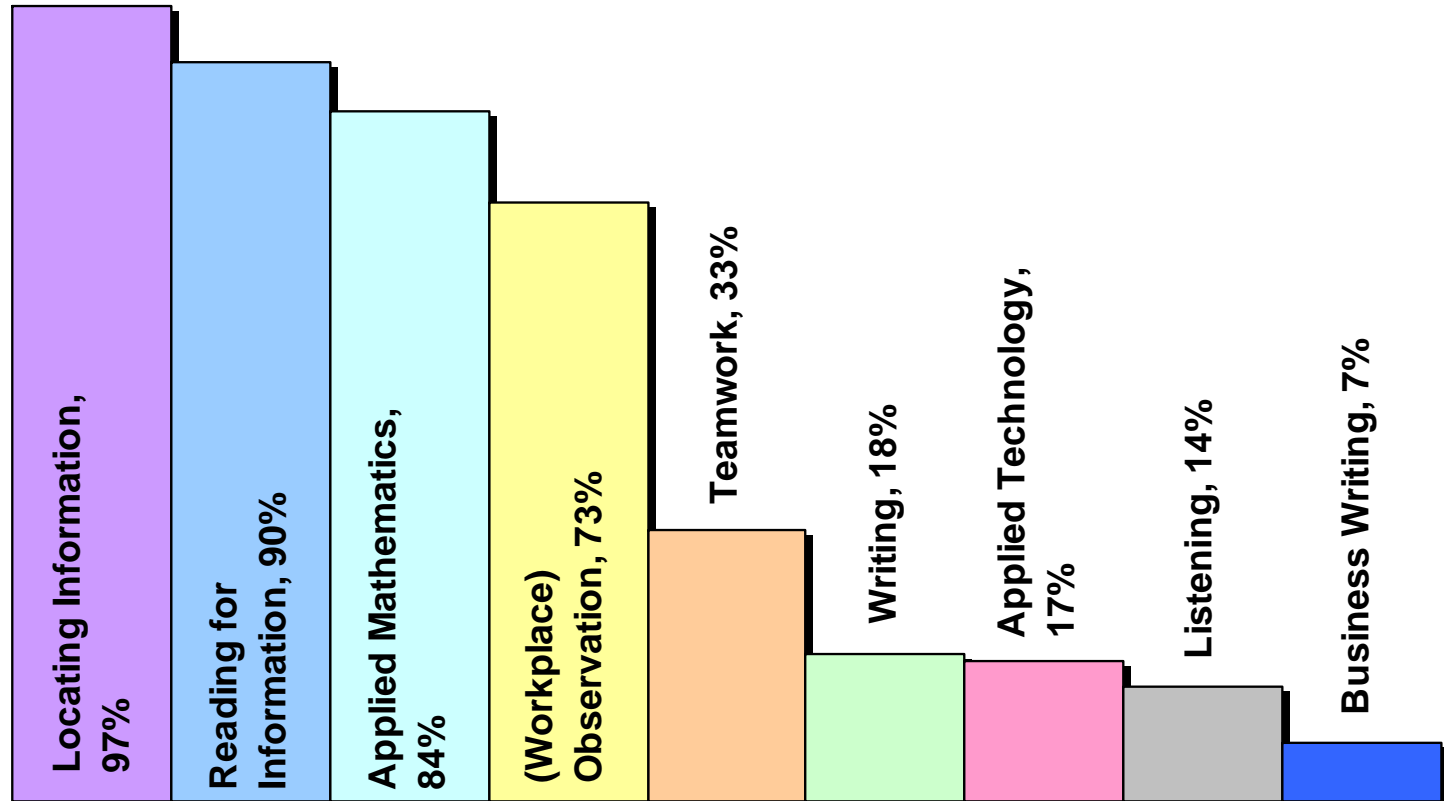
### MAKE ALL THREE LISTS

<b>Make all three lists</b>	<b>Total Openings</b>	<b>Typical Entry Education</b>	<b>Median Wage</b>
Food preparation	32,500	< high school	\$17,910
Customer service	21,940	H.S. diploma	\$31,430
Registered nurses	24,230	AD/BS	\$62,860
Heavy truck drivers	18,530	H.S. diploma	\$38,300
Health care aides	11,200	Postsecondary	\$25,020
<b>Make two lists</b>			
Welders	4,850	H.S. diploma	\$37,980
Material Movers	38,900	H.S. diploma	\$23,590
Retail sales	69,030	< high school	\$20,570



# ESSENTIAL SKILLS IN TODAY'S WORKPLACE

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Numbers are based on analysis of 18,000 jobs profiled from 2006 to 2010 in the ACT JobPro database.



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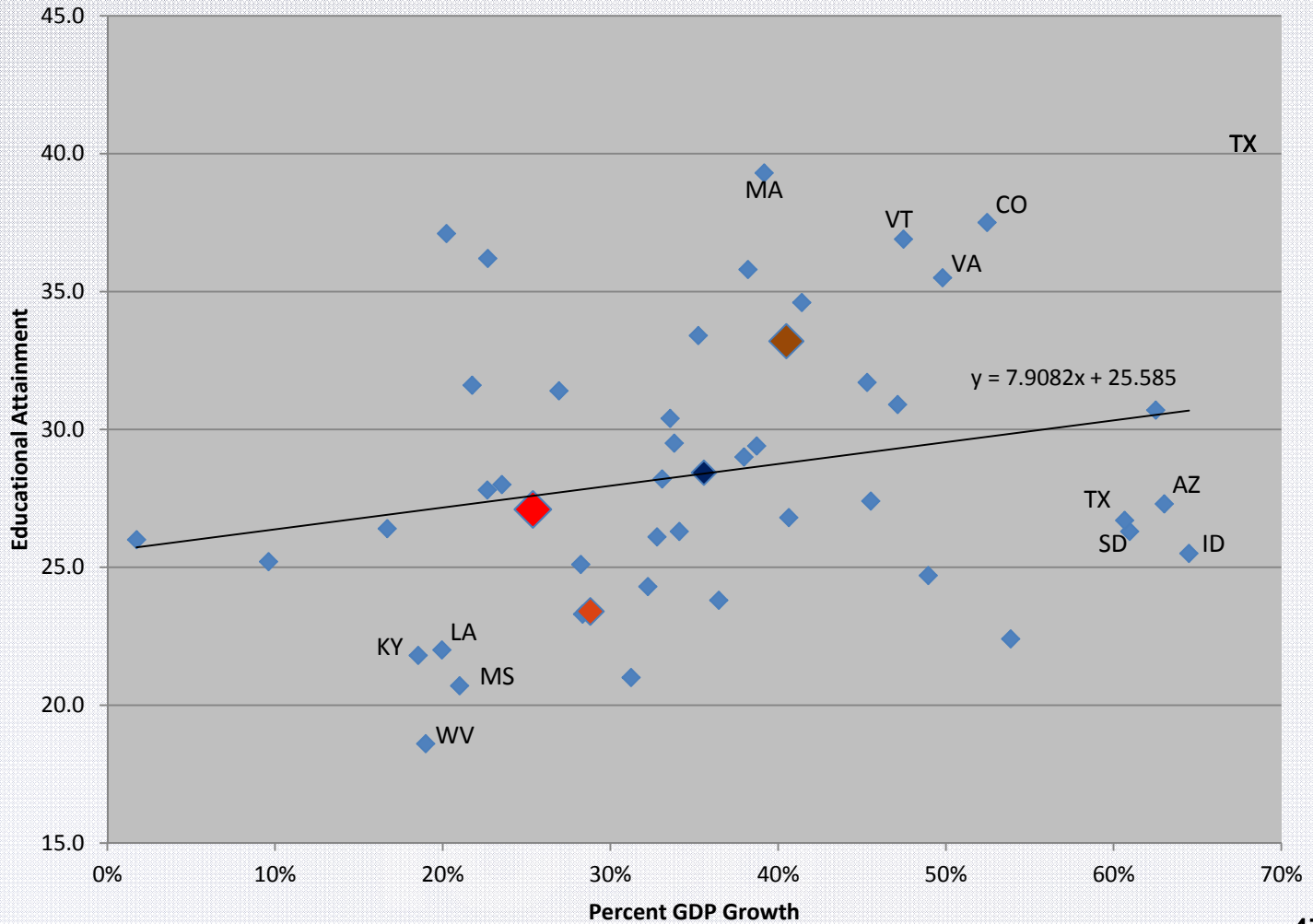
*WorkKeys and the National Career Readiness Certificate are registered trademarks of ACT, Inc.*



# ECONOMIC GROWTH BY EDUCATIONAL ATTAINMENT

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

### Educational Attainment v. GDP Growth

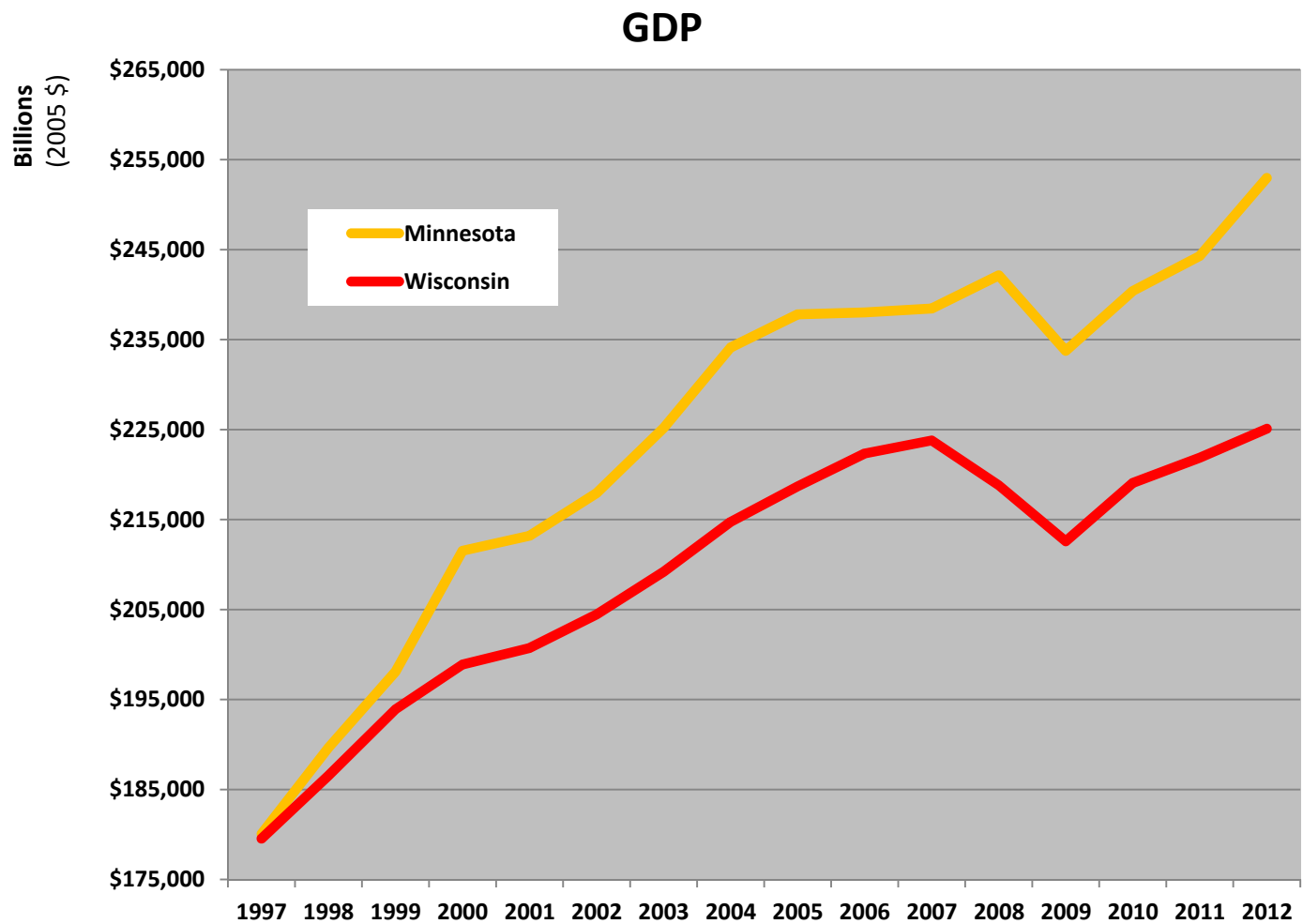


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# ECONOMIC GROWTH GAINS NOT EQUAL

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

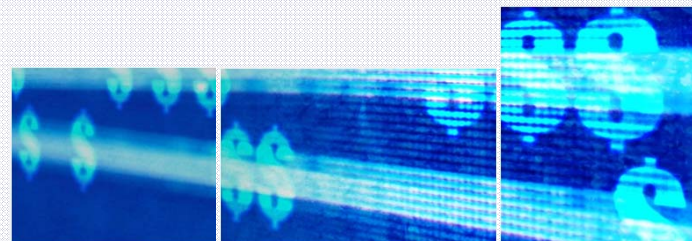


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## IF WISCONSIN'S AVERAGE INCOME EQUALED MINNESOTA'S

	(\$ Billion)
<b>Income</b>	<b>\$ 21.0</b>
<b>Income Tax</b> @ 6.0% marginal rate	<b>\$ 1.26</b>
<b>Income, Sales, &amp; Property Tax</b>	<b>\$ 2.46</b>

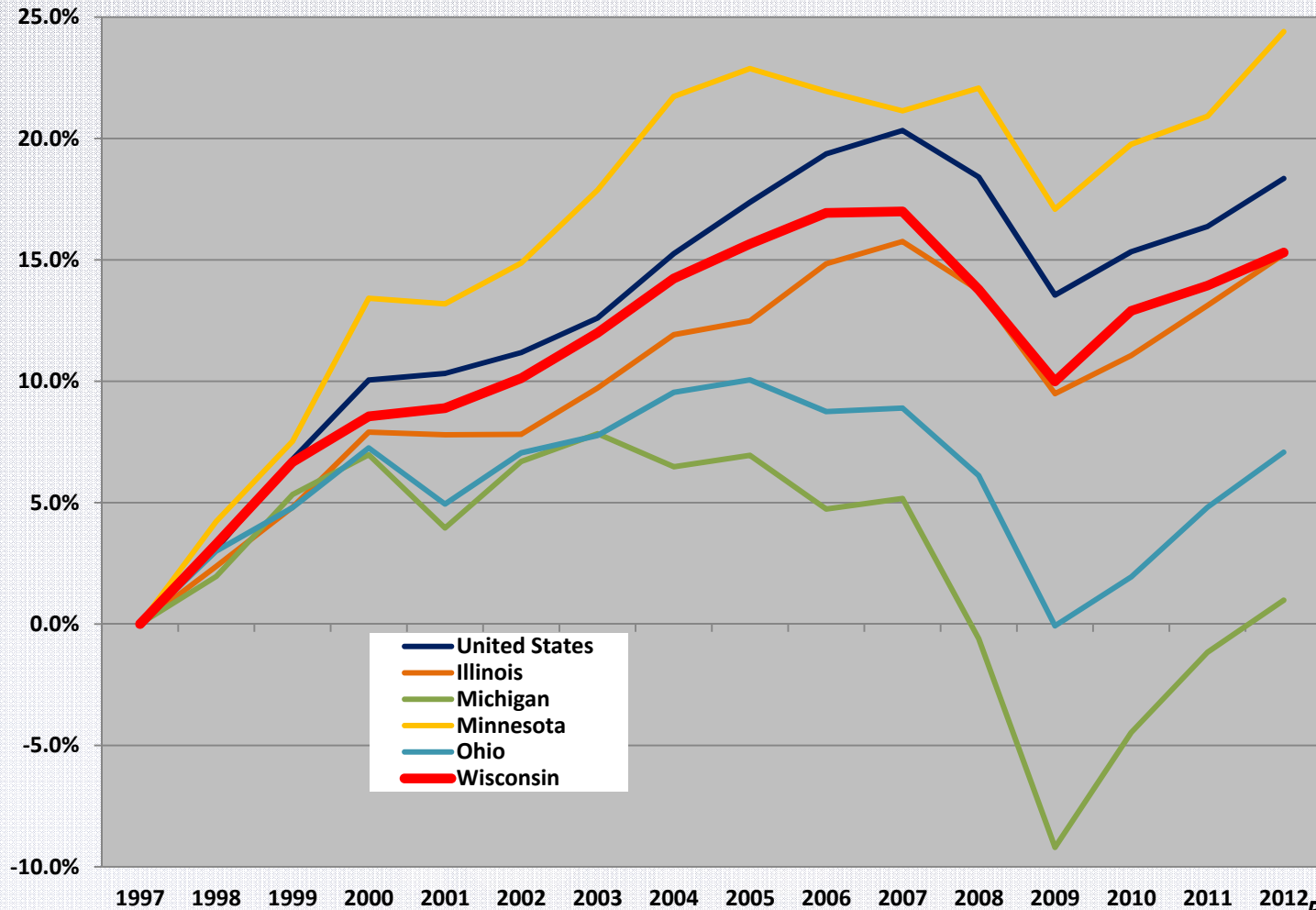




# ECONOMIC RECOVERY PER CAP GAINS HAVE VARIED

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

### Per Cap GDP Growth

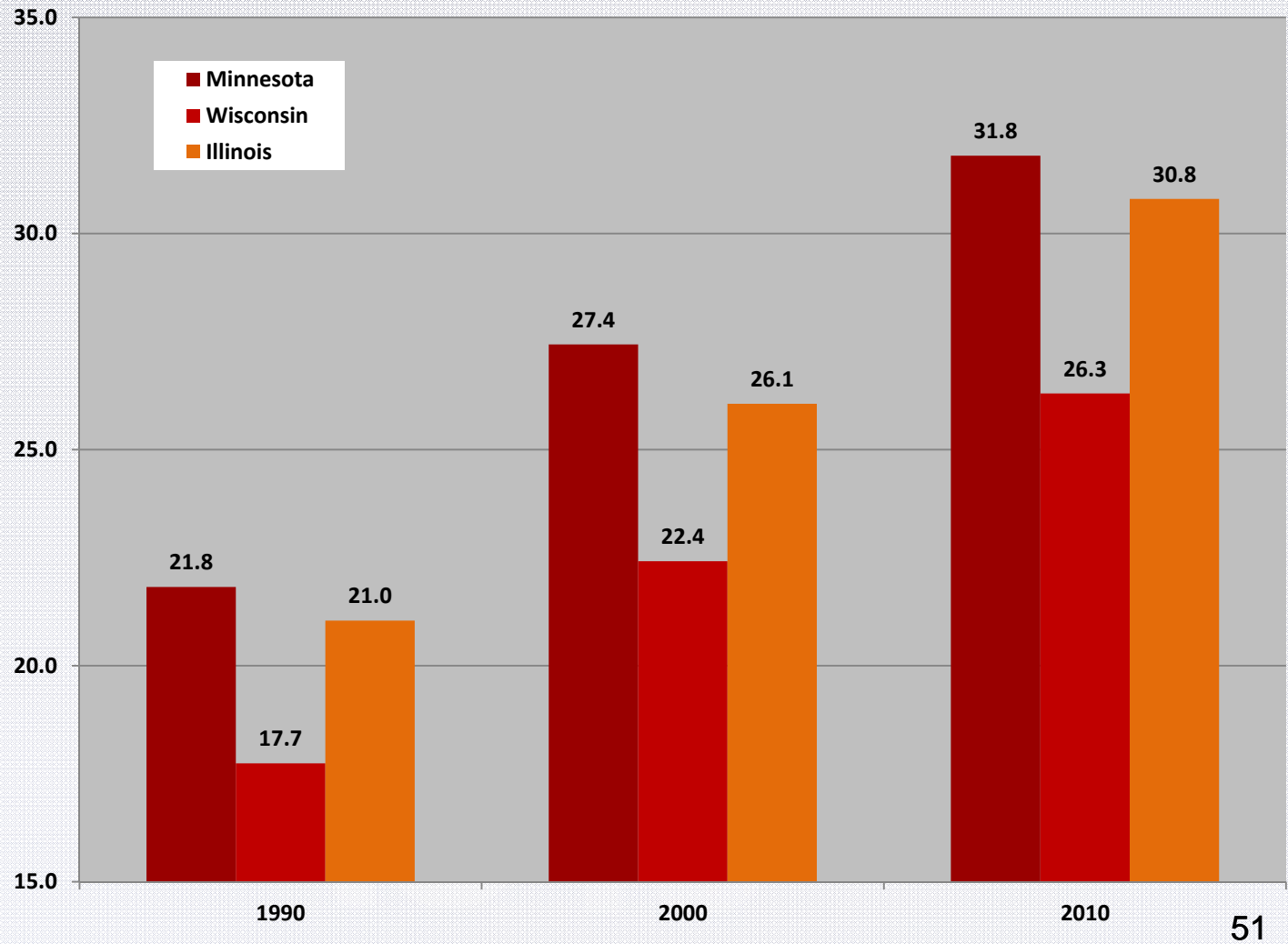


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# EDUCATIONAL ATTAINMENT GAP WIDENING

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

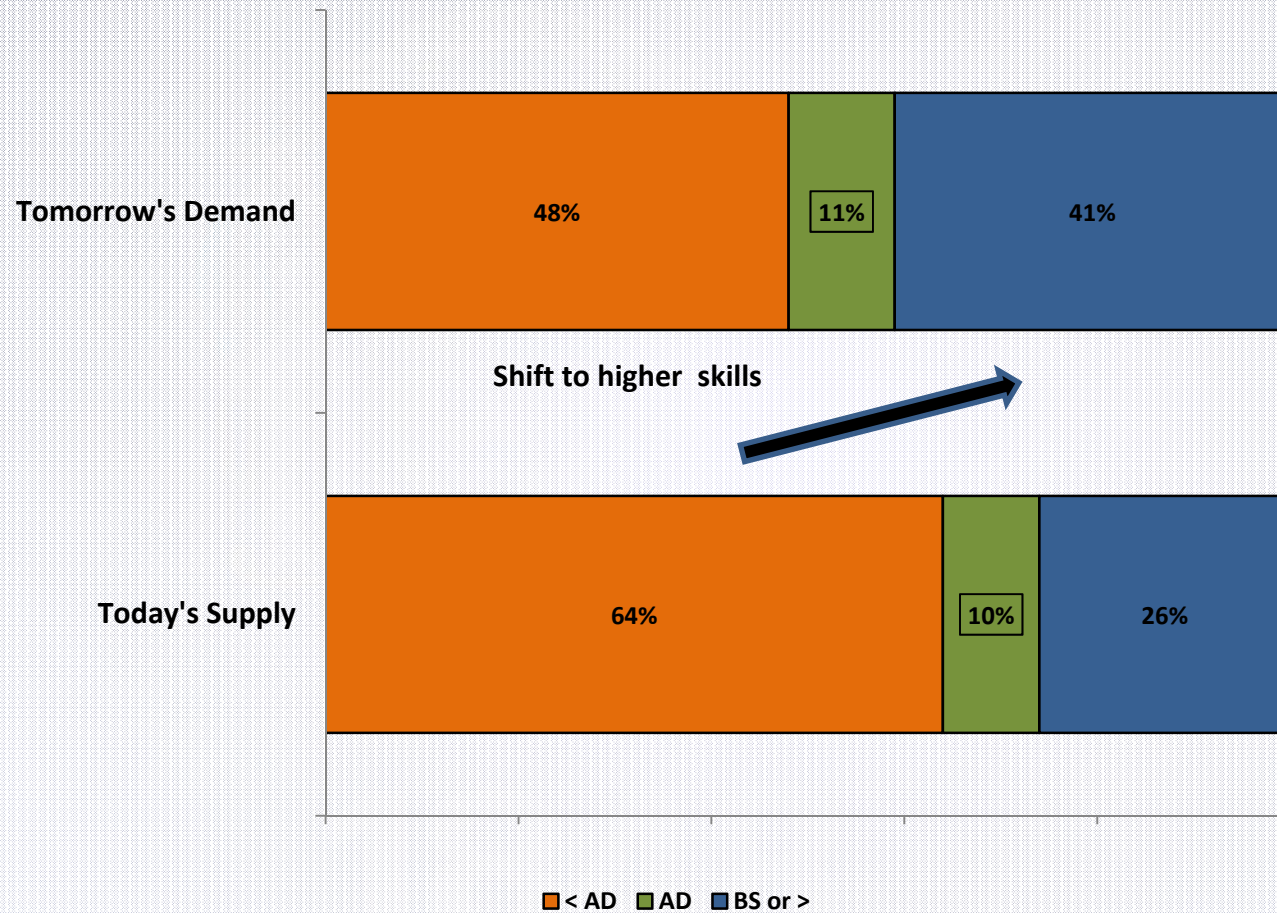


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# TOMORROW'S JOBS WILL REQUIRE INCREASED SKILLS

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Source: ACS for Today's skills; Moody's Analytics for Tomorrow's Demand



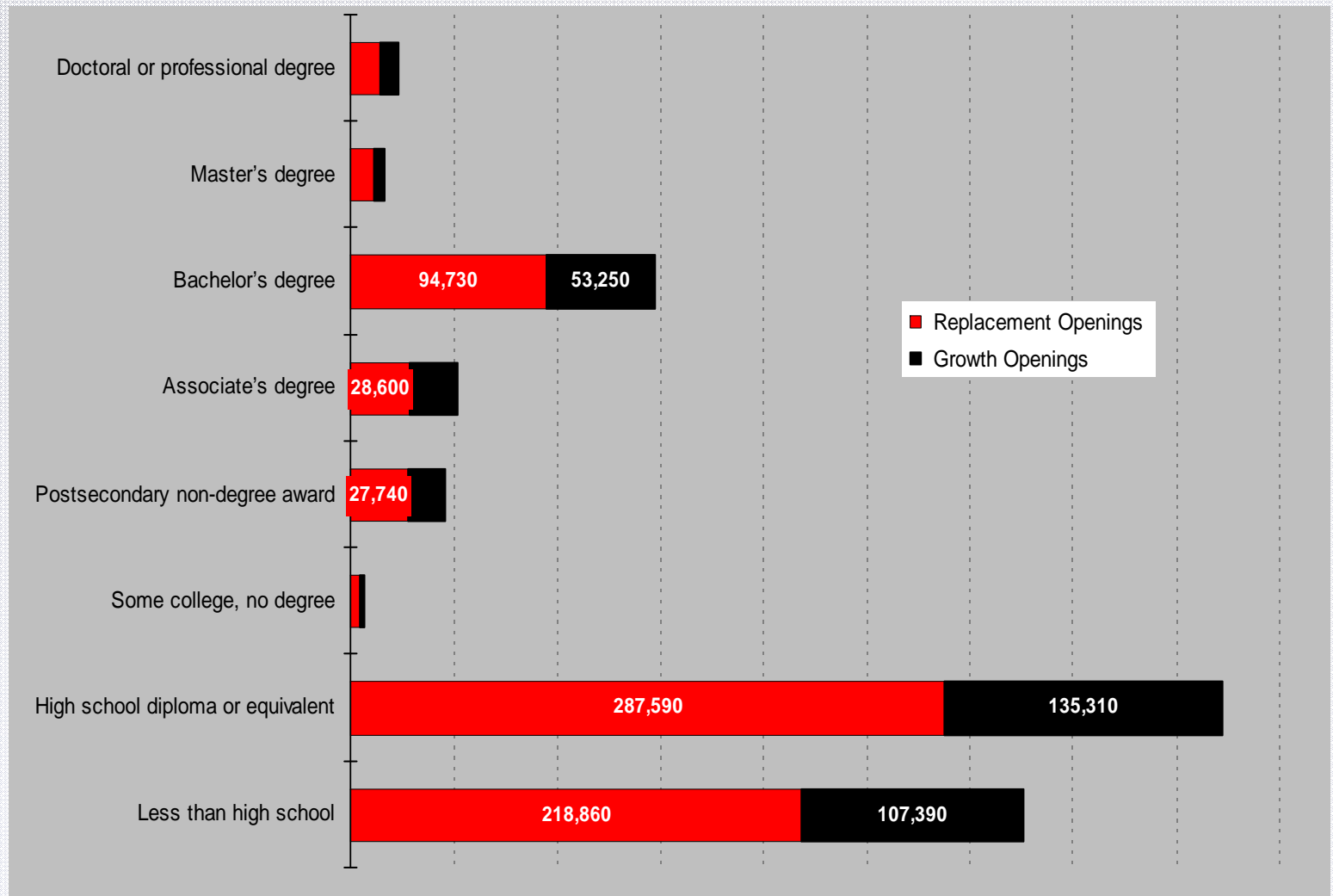
March 6, 2014



# PROJECTED JOB OPENINGS (2010-20)

## BY ENTRY LEVEL EDUCATION

WORKFORCE  
CONSIDERATIONS  
in the  
NEW ECONOMY



Source: WI DWD OEA Projections, BLS Projections



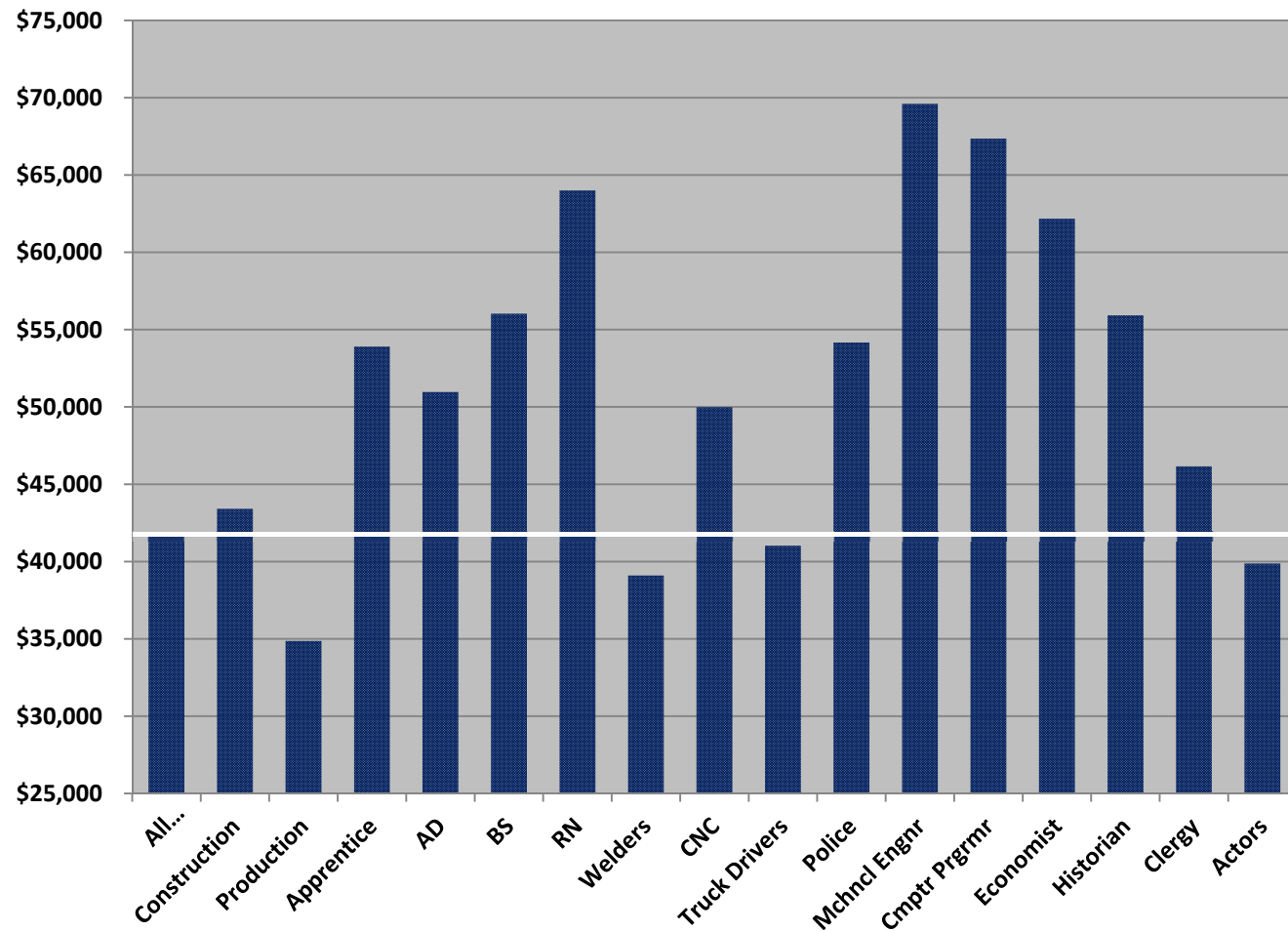
July 29, 2013



# AVERAGE EARNINGS BY OCCUPATION, WISCONSIN

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

### Mean Annual Earnings



March 6, 2014



**WHY  
SKILLS  
ARE  
IMPORTANT**



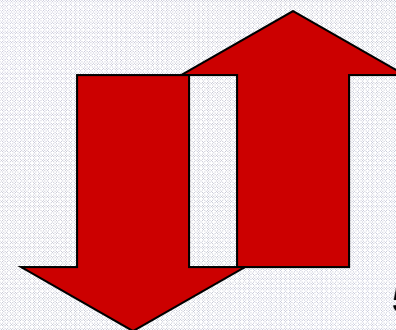
## **NEW ECONOMY CHANGED CONSTRUCT**

### **Old Economy**

- Raw Materials
- Cost Race to Bottom
- Workers Chased Jobs
- Quality of Life was luck of the draw

### **New Economy**

- Brain Power
- Value-Added Products
- Businesses Chase Talent
- QoL attracts talent





**Workforce development  
and  
economic development  
are  
interrelated and interdependent.**

---

**Ed = ED**

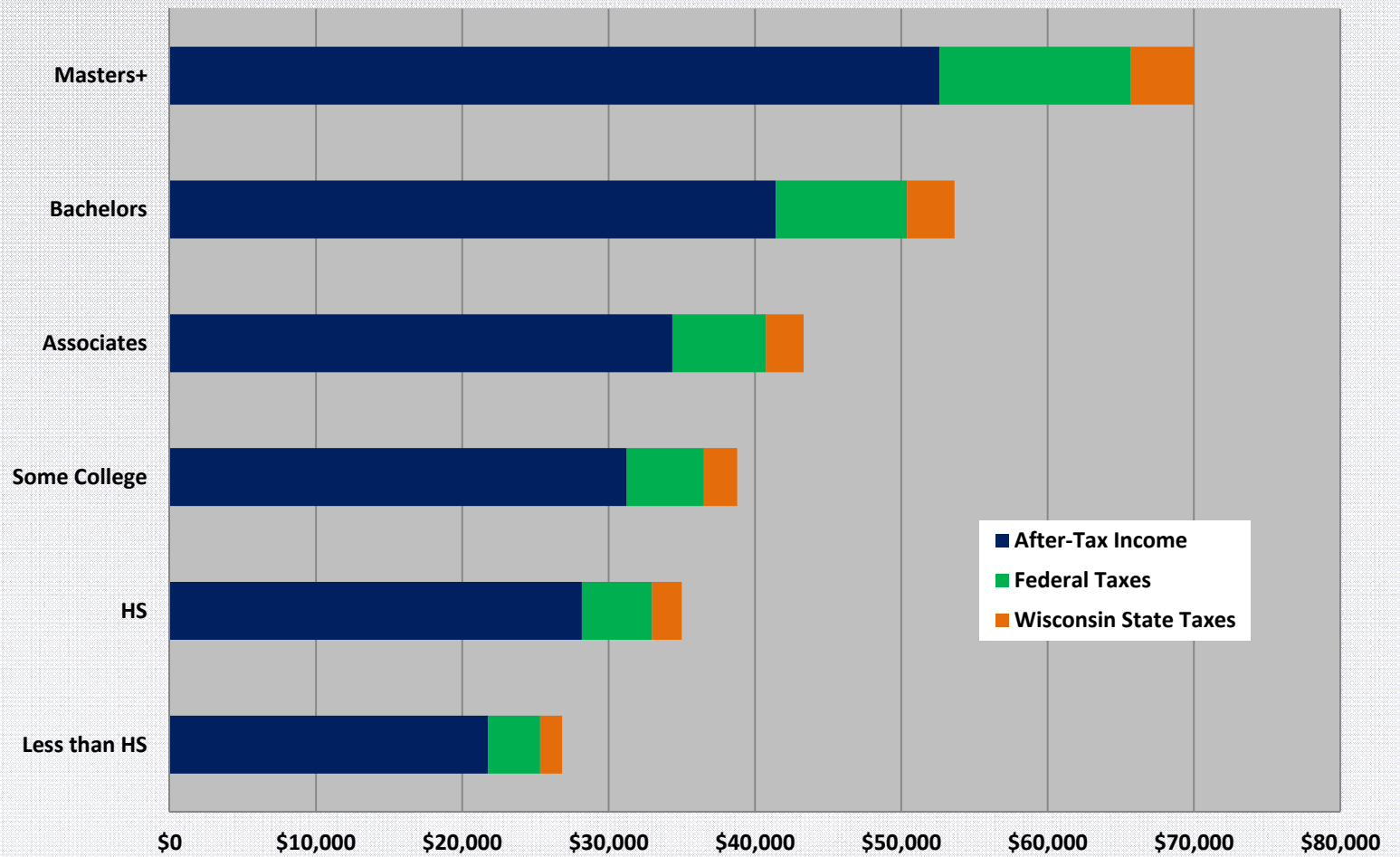


# EDUCATION AND EARNINGS

## MORE TALENT, INCREASINGLY MORE PAY

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

### Wisconsin Earnings and Taxes by Education Attainment\*



\* Single filer tax rate



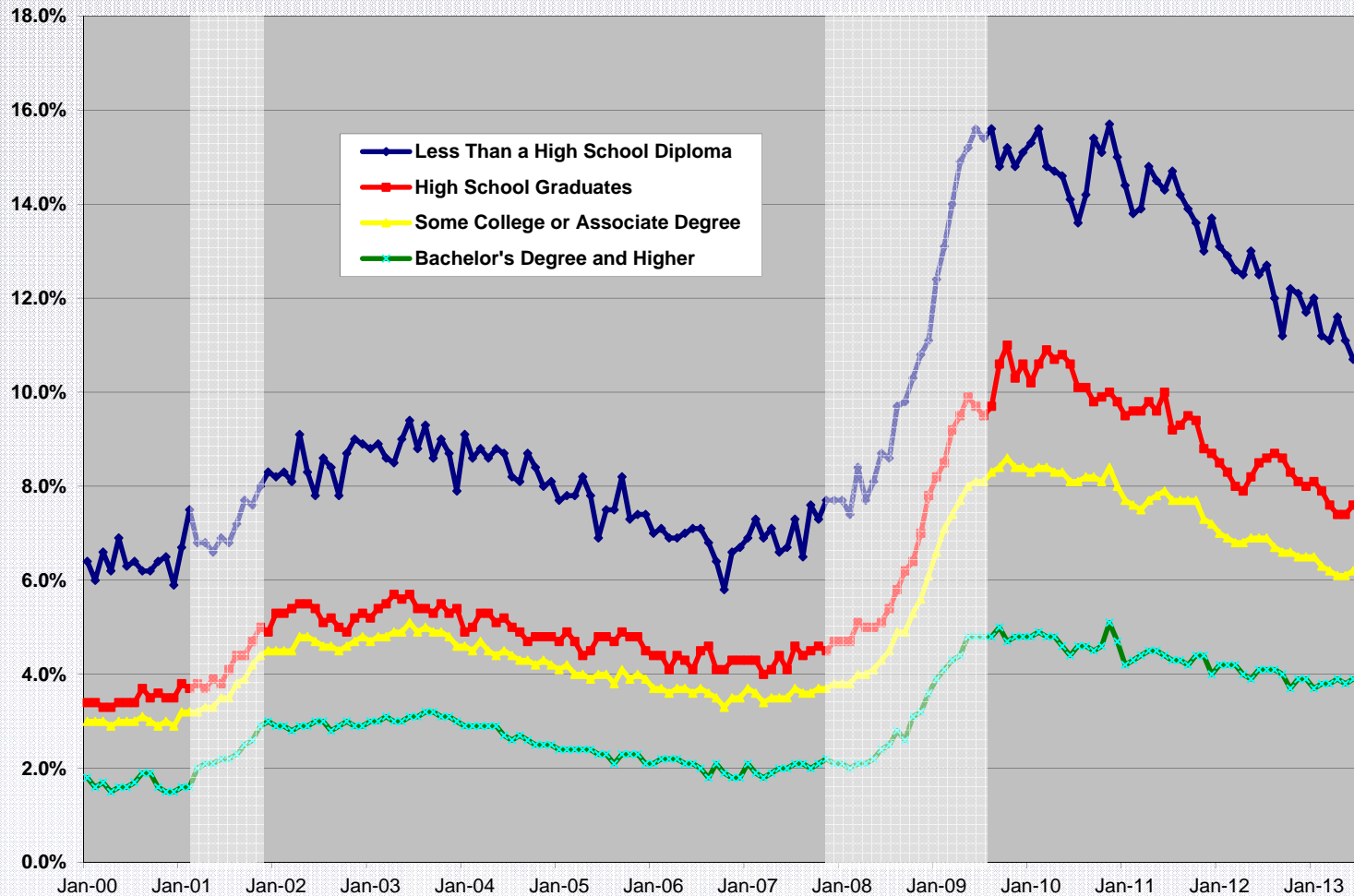
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# EDUCATION AND EMPLOYMENT STEADIER WORK

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

Unemployment Rate x Highest Educational Attainment  
Ages 25+ - United States - Seasonally Adjusted



Source: U.S. Bureau of Labor Statistics

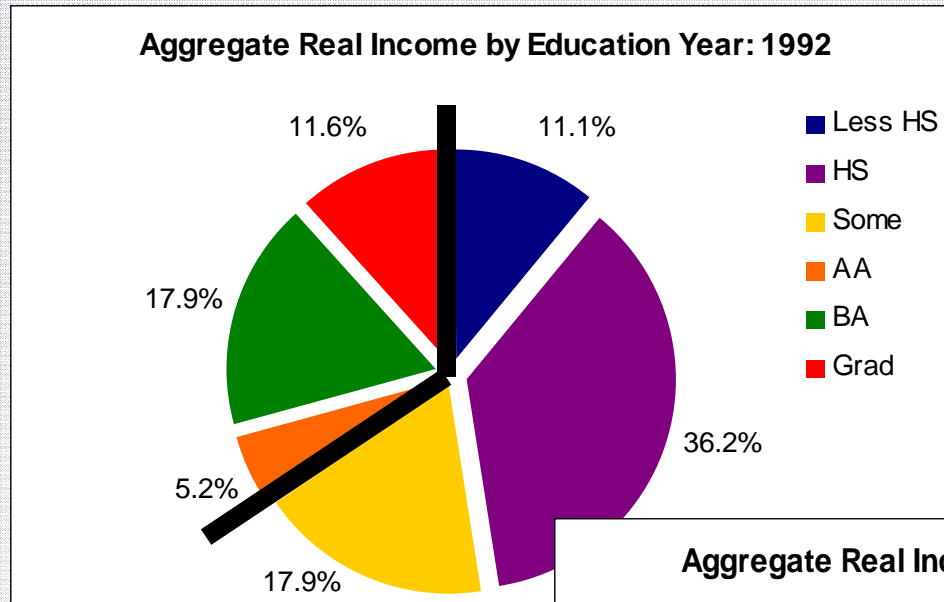


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# TALENT PLAYS MORE OF A ROLE IN INCOME DUE TO TWO GAINS: NUMBERS AND EARNINGS

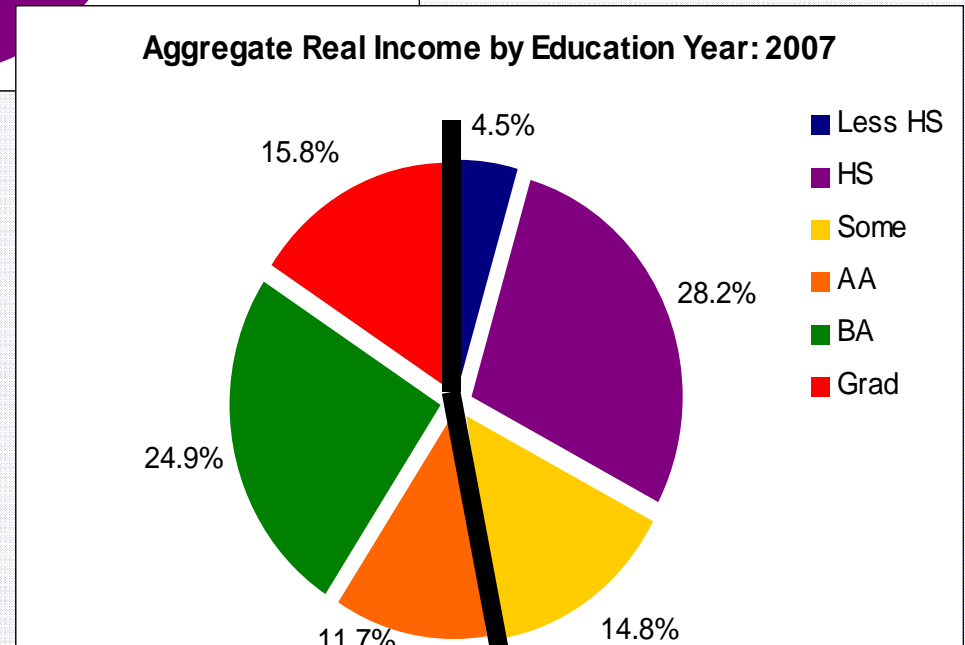
EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



**1992**

**Only 35% of income  
was generated by  
college graduates**

**2007**  
**Over 52% of income  
was generated by  
college graduates**

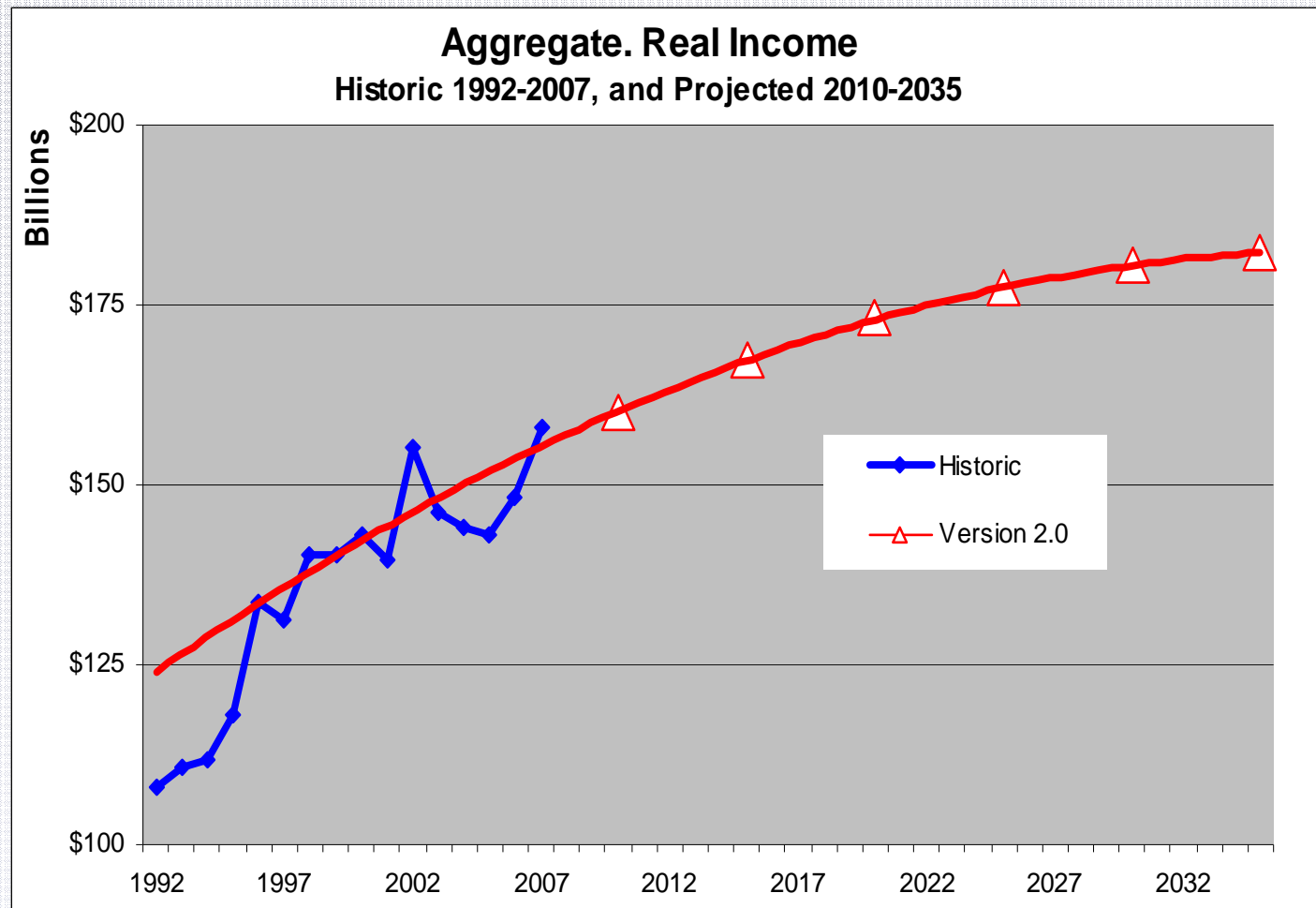


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# AGGREGATE REAL INCOME GROWTH FLATTENS WITH WORKFORCE AND SOURCE

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Source: 1992-2007 CPS (Wisconsin) & DOA Pop Projections

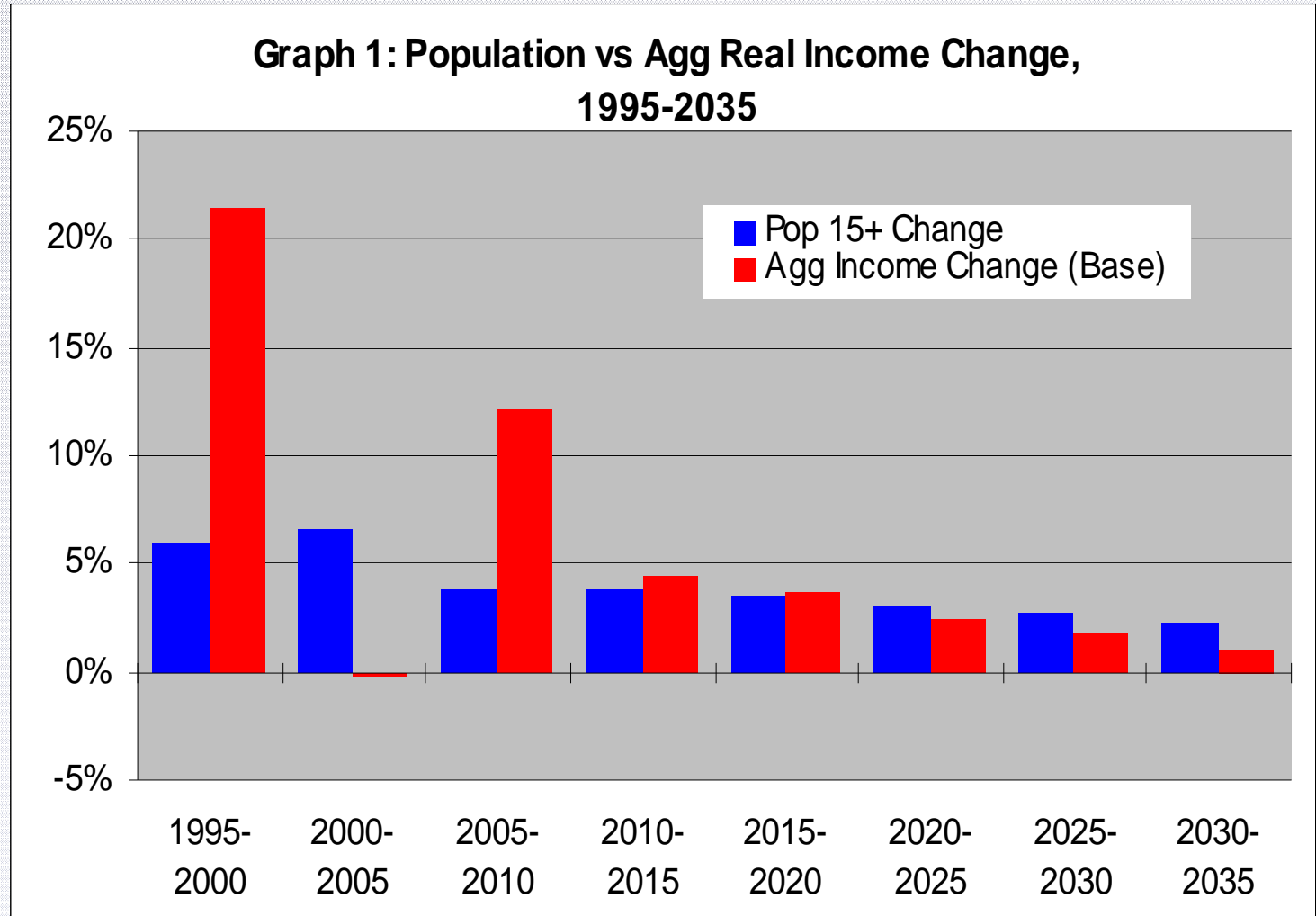


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# UNDER BASE CASE ASSUMPTIONS PCI DECREASES STARTING IN 2020

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Source: Bureau of Labor Statistics, Bureau of the Census, OEA

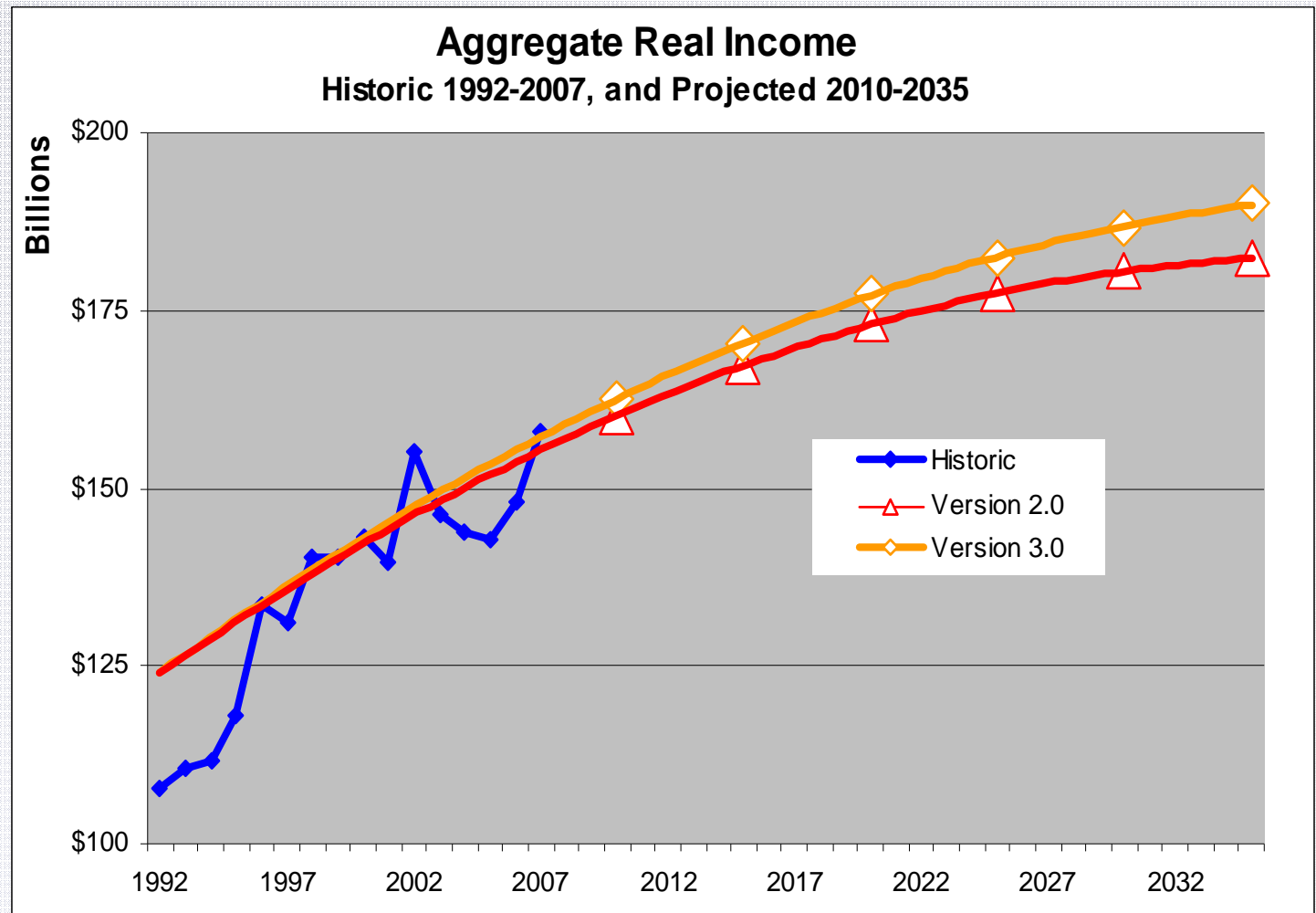


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# WE GET A BOOST IN PERSONAL INCOME FROM MORE EDUCATION AND TRAINING

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Source: 1992-2007 CPS (Wisconsin) & DOA Pop Projections

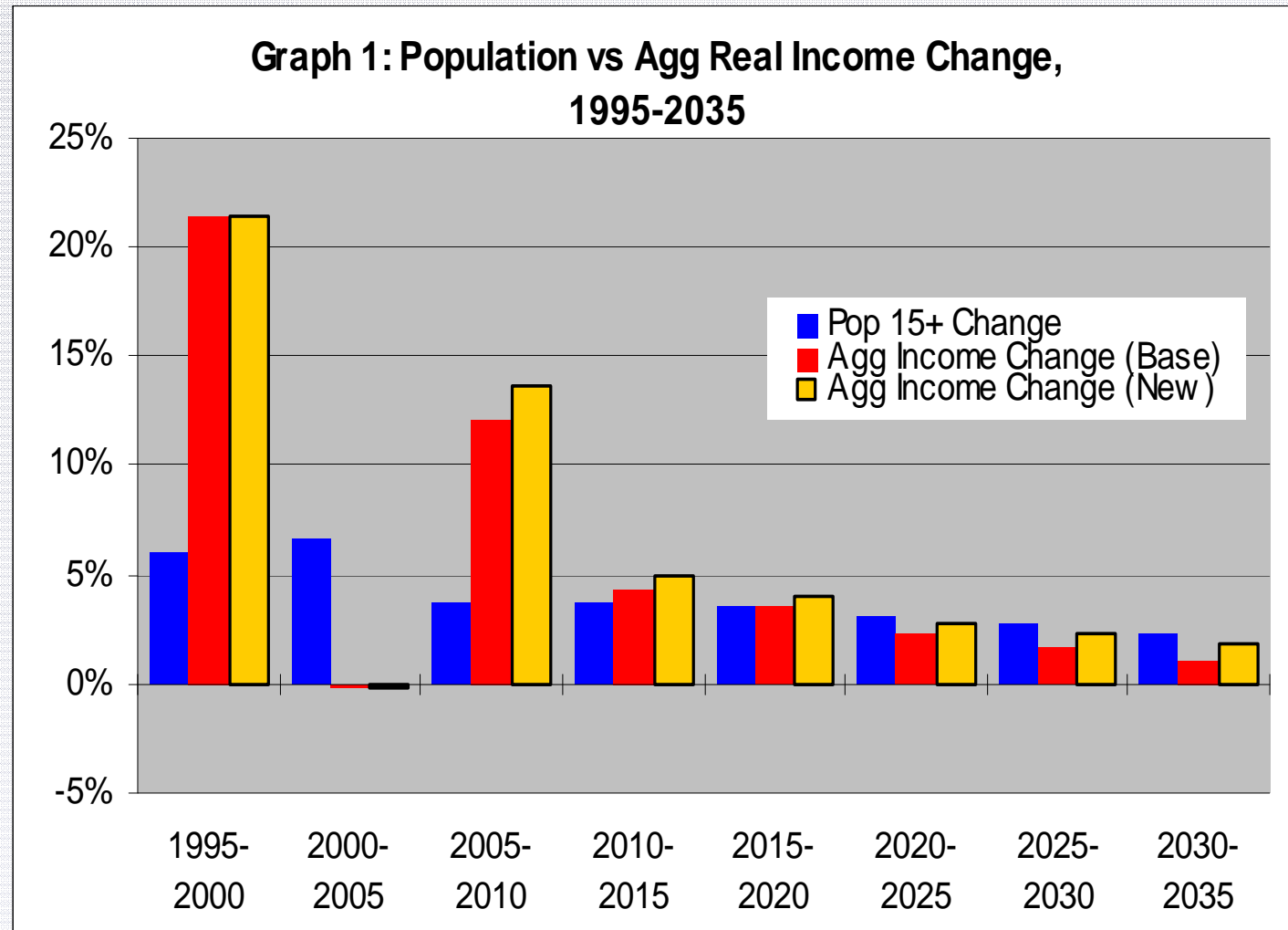


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# THE INCOME BOOST ONLY DELAYS THE PCI LOSS FOR A FEW YEARS

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



Source: Bureau of Labor Statistics, Bureau of the Census, OEA





## TECHNOLOGY TRAINING PAYS HIGH-TECH WORKERS' EARNINGS

<b>AVERAGE U.S. WAGE</b>	<b>2007</b>
High-Tech Sector	\$83,344
Average Private Sector	\$44,362
High-Tech Manufacturing	\$85,854
High-Tech Services	\$82,634

**Tech Sector wage differential grew by 6 percentage points from 1998 – 2007, from 82% to 88%.**

— Source: TechAmerica Cyberstates 2009



## NEW ECONOMY SCARCITY OF SKILLED WORKERS

Former Federal Reserve Chairman Alan Greenspan voiced his concern about a growing earnings gap between highly skilled and unskilled workers.

***"It's a problem caused basically by our skill mix not keeping up with the technology that our capital stock requires," the Fed chairman said. . . .***





## THE EARNINGS GAP HAS WIDENED CONSTANT OR REAL \$ TERMS

Education	Income (Dollars)		Difference (High School vs. Other Degree)	
	1984	2004	1984	2004
High School	\$27,113	\$30,581	n/a	n/a
Bachelors	\$45,026	\$55,081	\$17,913	\$24,500
Advanced	\$58,921	\$83,553	\$31,808	\$52,972

= 2006 Dollars - Table reflects earnings for workers age 18 and older

Source: US Census Bureau

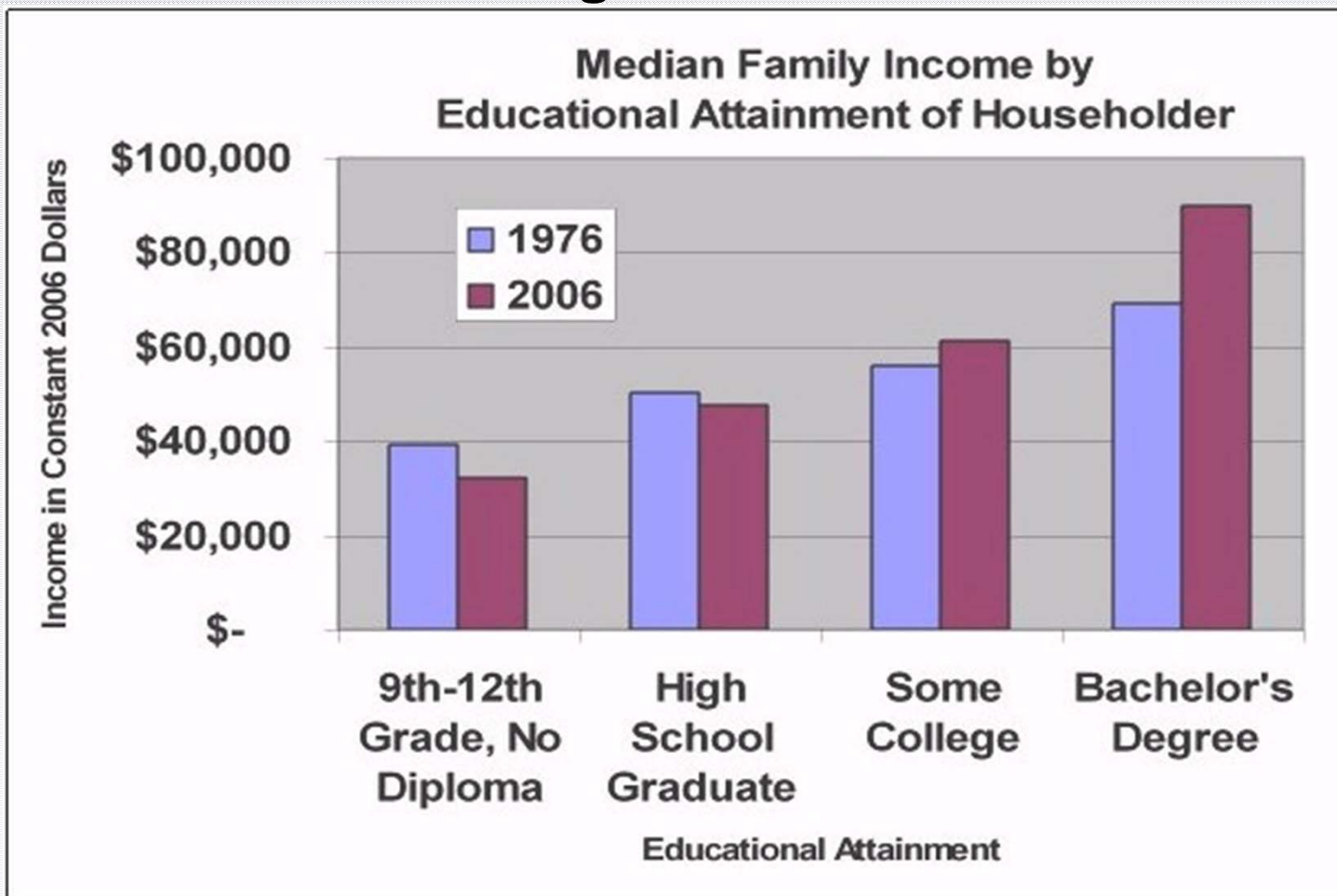




# MEDIAN FAMILY INCOME BY EDUCATIONAL ATTAINMENT

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

## Education = Earning Power



Source: Postsecondary Education Opportunity (using U.S. Census Bureau data)

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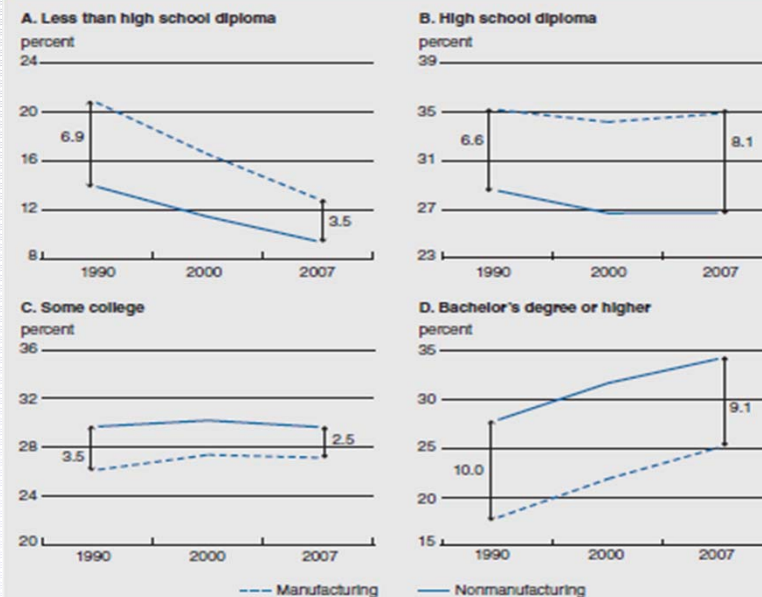


# A look at **manufacturing** wages and skills



- Manufacturing workers continue to have lesser talent
- But, manufacturing talent is increasing
- Manufacturing wages are NOT keeping pace across all talent
- But, manufacturing wages of talented is growing more rapidly *within* the sector

### 1. Share of work force, by educational attainment and industry



Notes: The numbers between the manufacturing and nonmanufacturing work force series in each panel indicate their percentage point differences. The data are for workers aged 25 and older.  
Sources: Authors' calculations based on data from the U.S. Census Bureau, 1990 Census of Population and Housing, Public Use Microdata Samples, 1% sample; and 2000–07 American Community Survey.

### 2. Average hourly wages, by educational attainment and industry

	1990			2000–07			% change from 1990 to 2000–07		
	Mfg	Nonmfg	Total	Mfg	Nonmfg	Total	Mfg	Nonmfg	Total
Less than high school diploma	15.25	13.77	14.25	14.85	14.16	14.31	-2.6	2.8	0.5
High school diploma	18.12	15.91	16.56	18.55	16.85	17.24	2.3	6.0	4.1
Some college	21.53	18.55	19.26	23.03	20.41	20.88	7.0	10.0	8.4
Bachelor's degree	29.54	24.87	26.00	34.90	30.97	31.69	18.1	24.5	21.9
Master's degree or higher	37.08	32.27	33.41	46.66	43.21	43.86	25.8	33.9	31.3

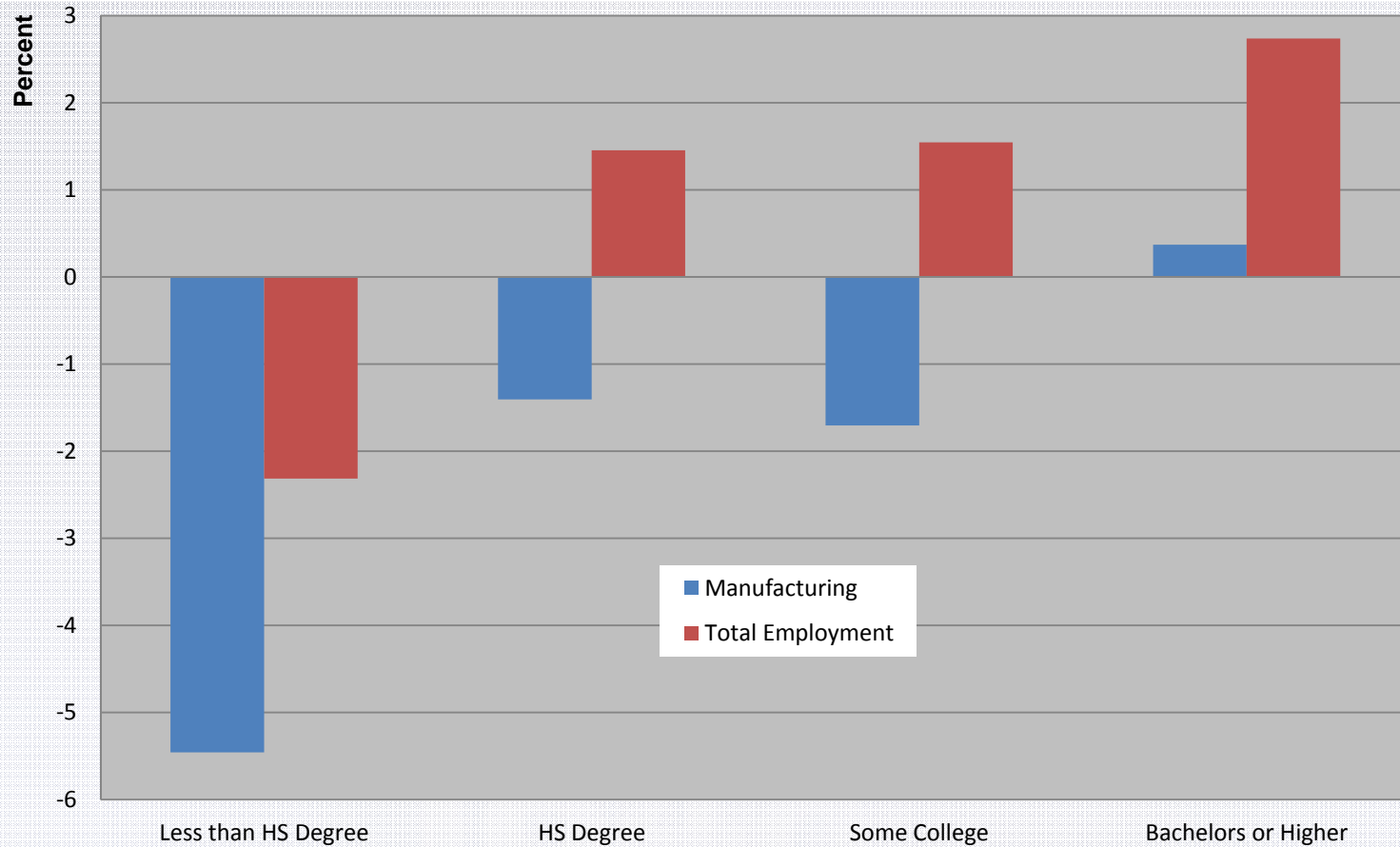
Notes: Nominal average wages are deflated by the U.S. Bureau of Labor Statistics' Consumer Price Index for All Urban Consumers (CPI-U) to 2007 U.S. dollars. The data are for workers aged 25 and older. Mfg indicates manufacturing. Nonmfg indicates nonmanufacturing.  
Sources: Authors' calculations based on data from the U.S. Census Bureau, 1990 Census of Population and Housing, Public Use Microdata Samples, 1% sample; and 2000–07 American Community Survey.



# MANUFACTURING JOBS ARE ALSO MIGRATING UP THE SKILL SPECTRUM

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY

## 2001-2007 Average Employment Growth Rate by Education Level



Source: ACS 2000-2007



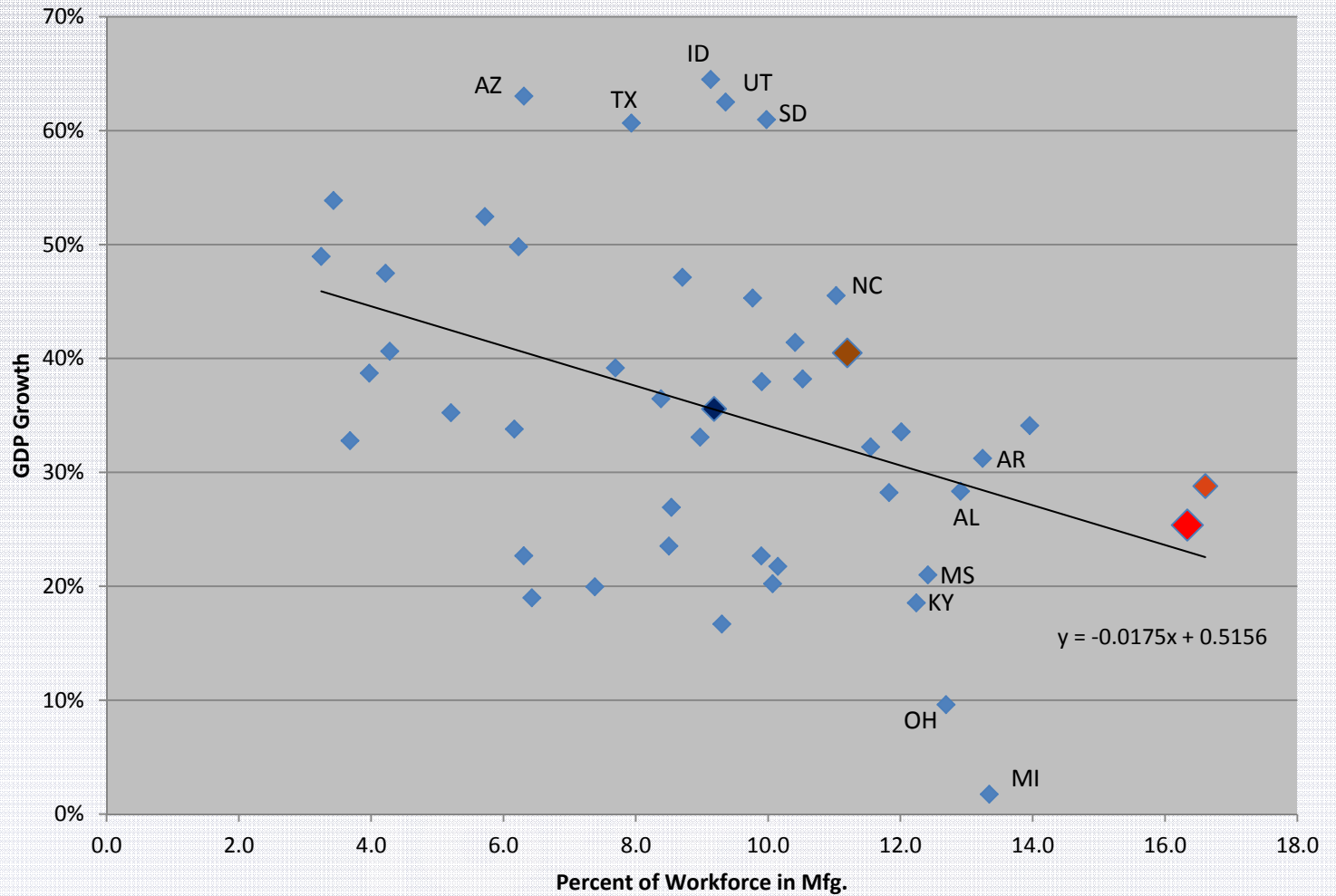
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# ECONOMIC GROWTH BY MANUFACTURING SHARE

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### GDP Growth v. % Mfg.



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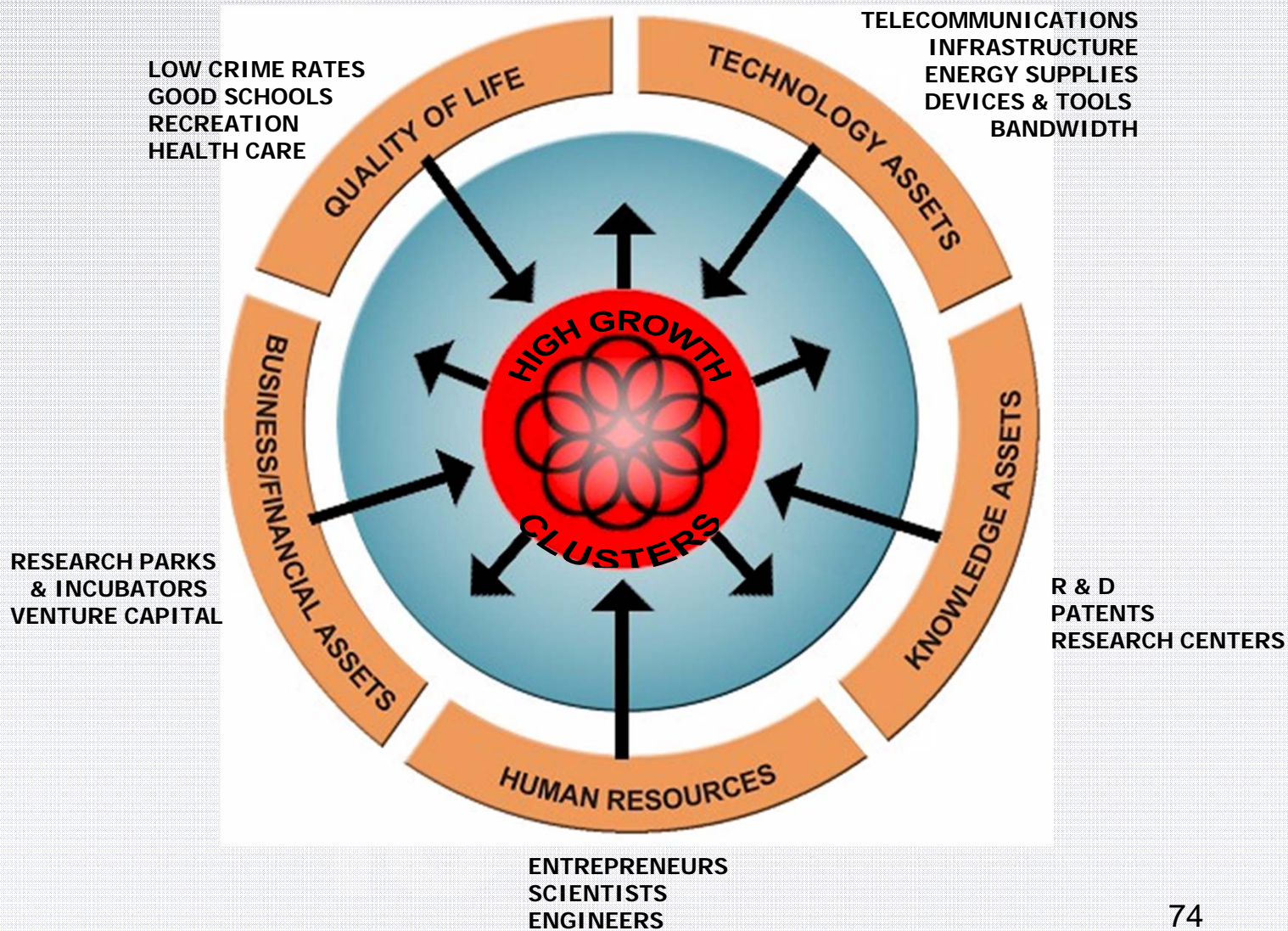
**WHAT DOES  
A  
NEW ECONOMY  
MODEL  
LOOK LIKE?**



# NEW ECONOMIC MODEL

## NORTHSTAR HIGH-GROWTH MODEL™

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CONSIDERATIONS  
in the  
NEW ECONOMY



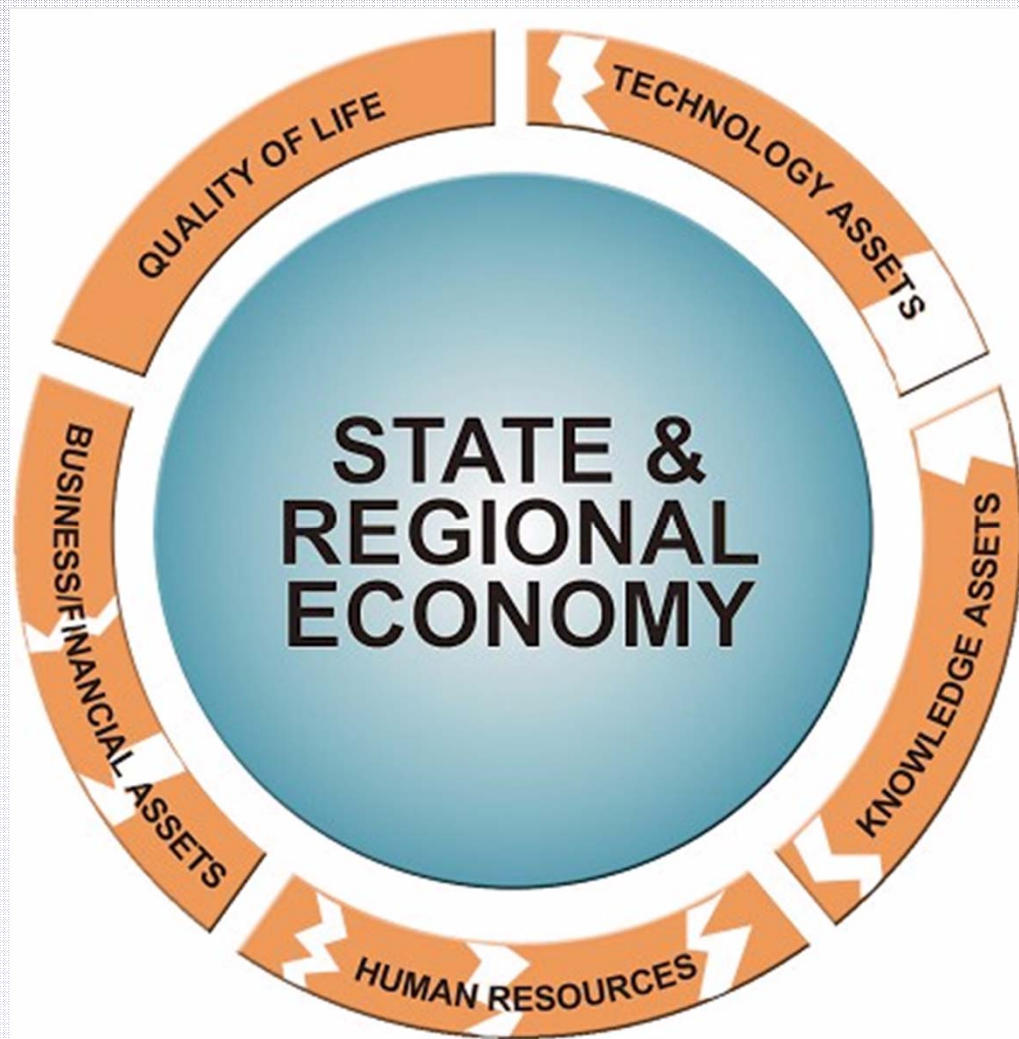
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# HIGH-GROWTH ECONOMIC MODEL

## WHAT PIECES ARE YOU MISSING?

EDUCATION  
CONSIDERATIONS  
in the  
NEW ECONOMY



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**THE  
WORKFORCE  
IS THE  
CORNERSTONE  
FOR THE  
NEW ECONOMY**

