



# Future of Education

World Academy Forum on

**GLOBAL HIGHER EDUCATION**

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# Evolution of Education

*"The day is coming when the work done [via distance learning] will be greater in amount than that done in the class-rooms of our colleges."*

Former President of University of Chicago & Bradley University

*"[The use of technology will put] American education 25 years ahead"*

Chairman of the Federal Communications Commission



# Evolution of Education

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-William Rainy Harper, 1885

Former President of University of Chicago & Bradley University

*"[The use of technology will put] American education 25 years ahead"*

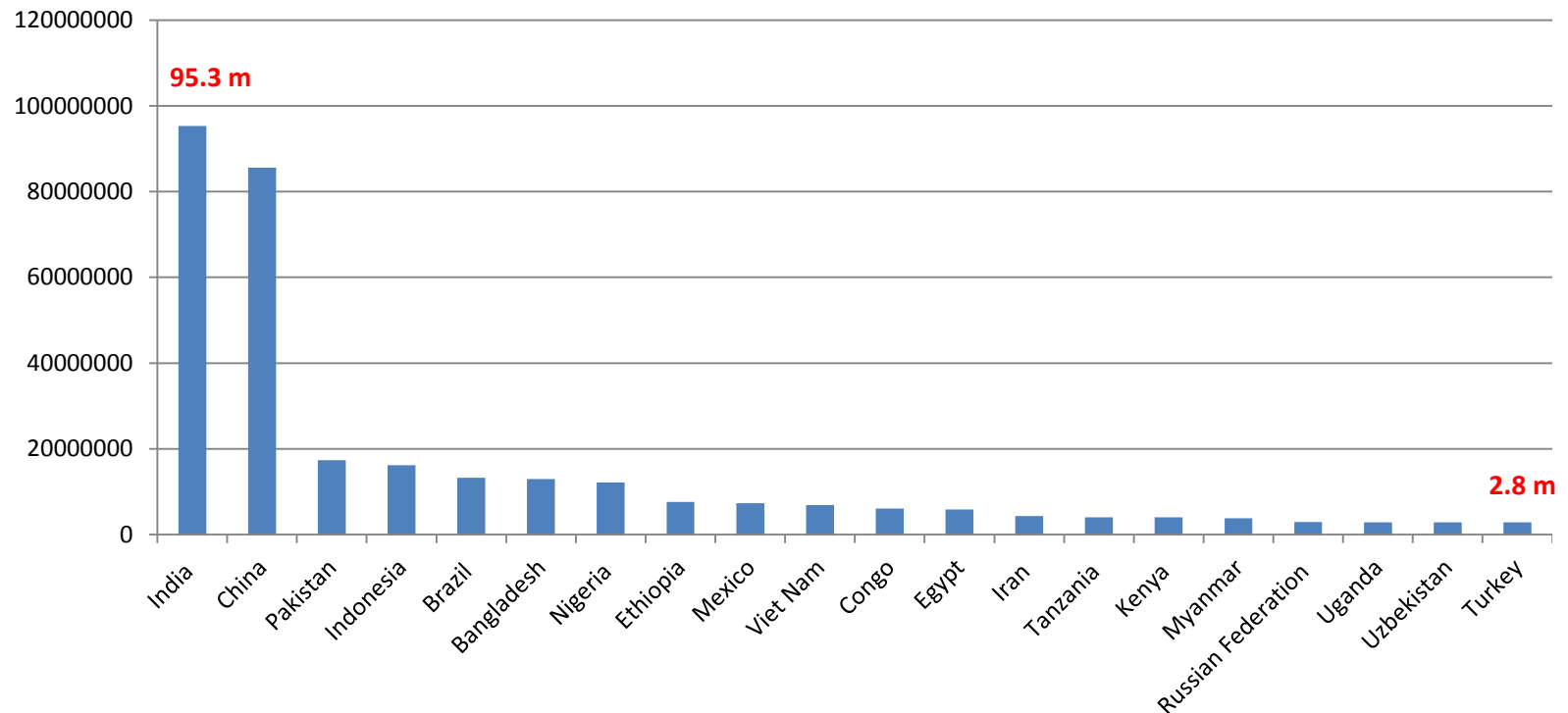
-Technology referred to is delivering lessons over the radio in 1948

Chairman of the Federal Communications Commission



# Youngsters Not Enrolled in College

**20 countries with largest population of youngsters not enrolled in college**

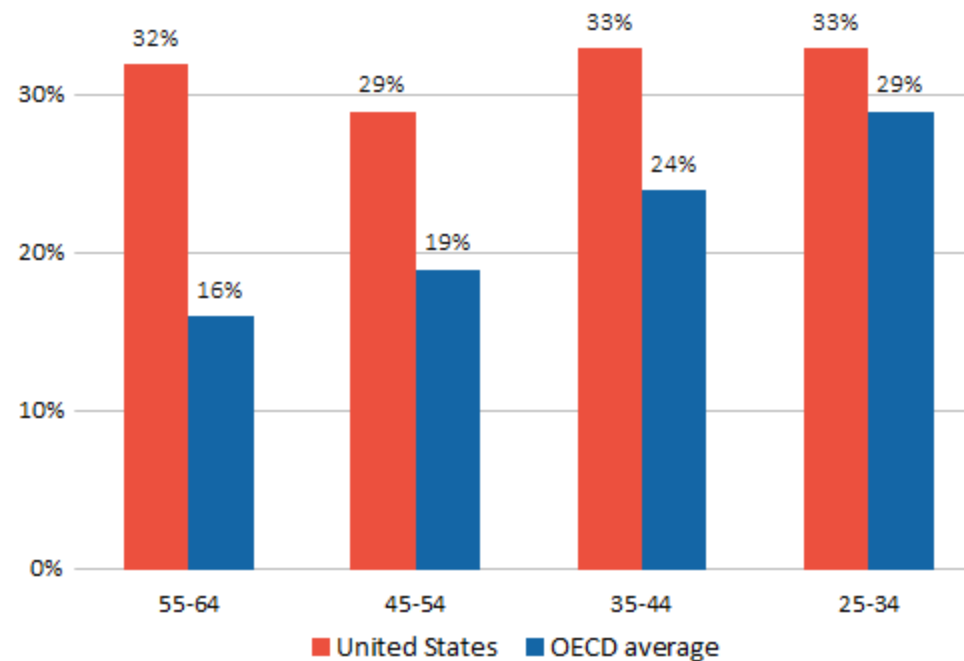


**Total number of college age youth left out of tertiary education worldwide: 366 m**



# US and OECD College Attainment

Percentage degree attainment in OECD countries and the U.S. by age group, 2010



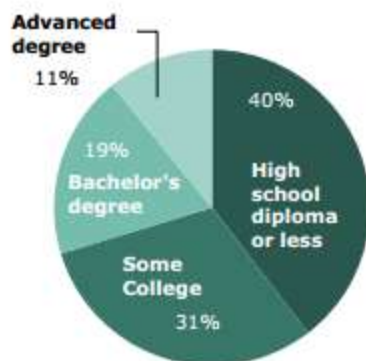
Source: National Center for Education Statistics



# Educational Level - US

## How Well Educated Are Americans?

*Highest level of education among adults ages 25-64*



Notes: Based on Pew Research Center calculations of 2009 American Community Survey data. Some college includes two-year college graduates. Total percentage does not equal 100 due to rounding.

## A Growing Share of Young Adults are College Graduates

*College attainment of 25- to 29-year-olds*

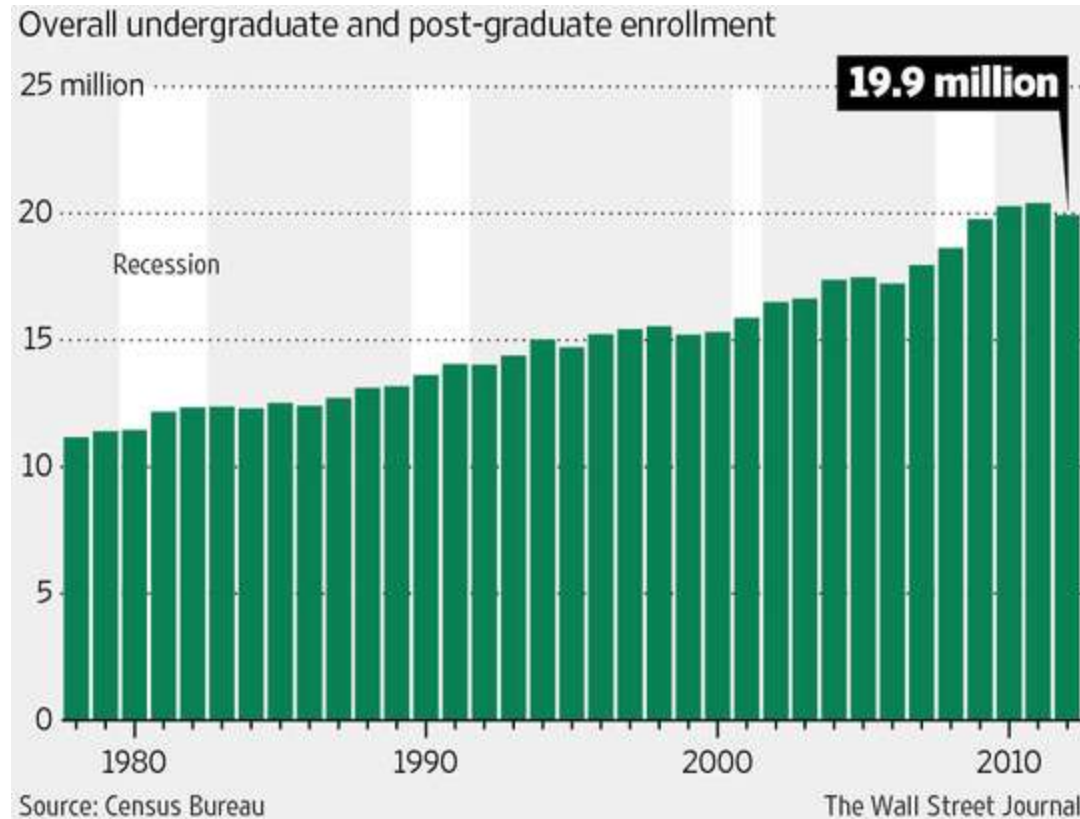


Source: March Current Population Survey (CPS) Integrated Public Use Micro Sample

Notes: Prior to 1992, persons with at least a bachelor's degree refers to those with four or more years of college. Before 1992, persons with at least some college refers to those who completed at least one year of college.



# Growing Enrollment in Colleges - US

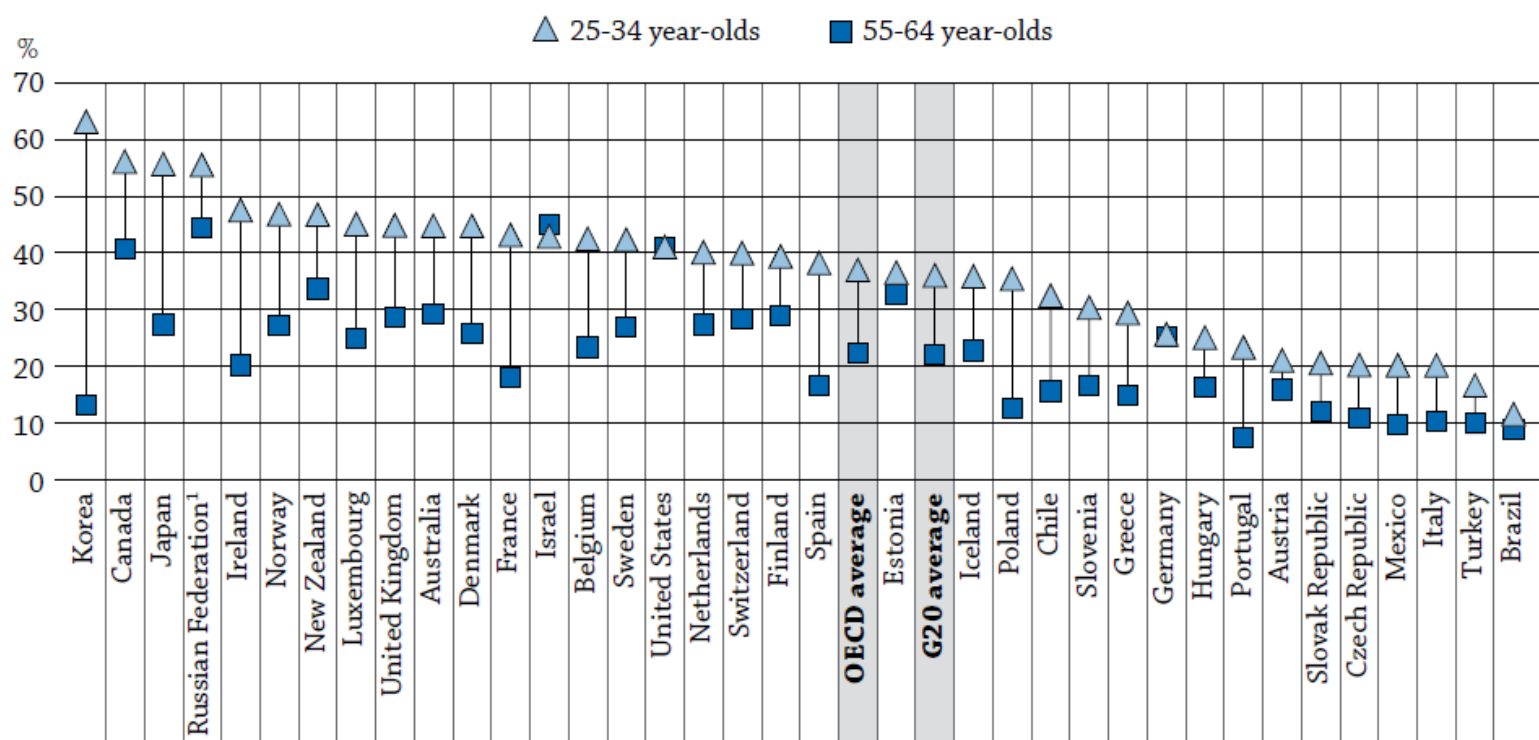


By 2018, the US will need 22 million more credentials to fill good jobs, but will fall short by 3 million. College enrollment in 2012 declined by nearly a half million students compared to a year earlier, according to the U.S. Census Bureau



# College Graduates

**Percentage of population that has attained tertiary education,  
by age group (2009)**



1. Year of reference 2002.

Countries are ranked in descending order of the percentage of 25-34 year-olds who have attained tertiary education.

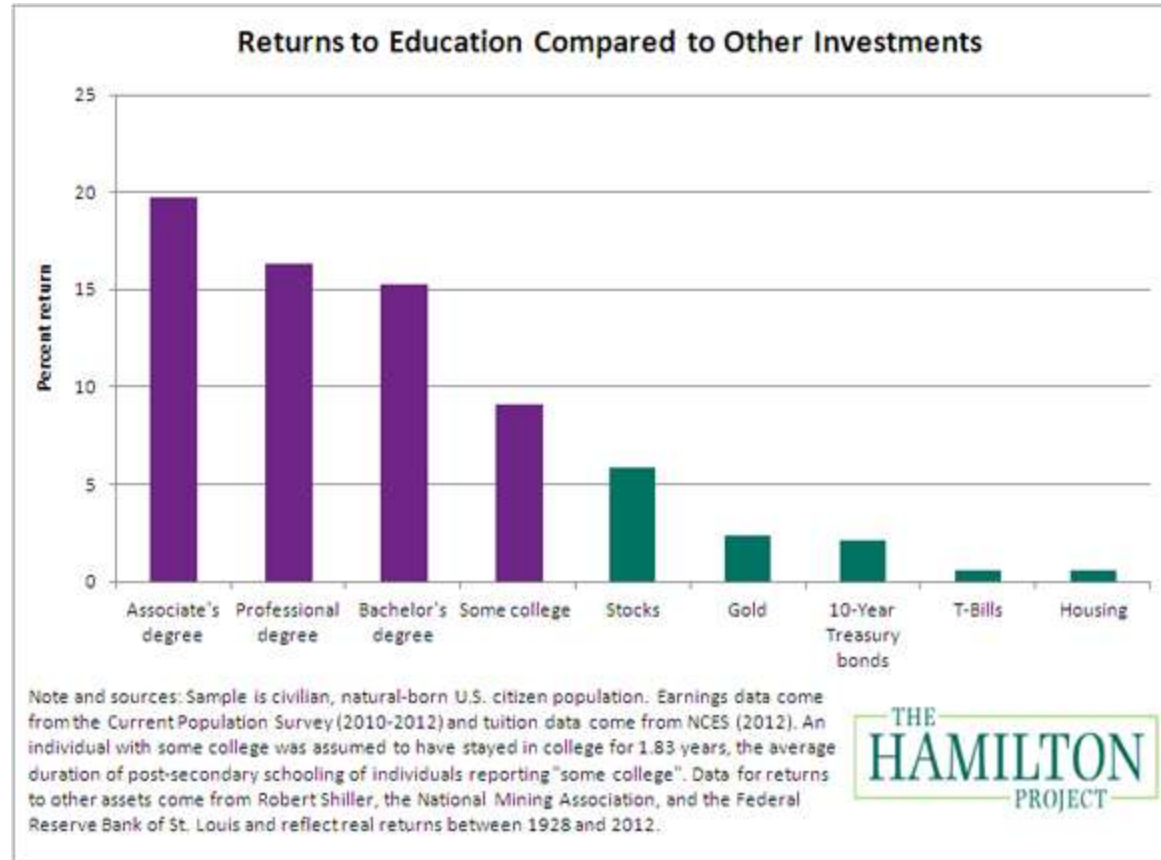
Source: OECD, Table A1.3a. See Annex 3 for notes ([www.oecd.org/edu/eag2011](http://www.oecd.org/edu/eag2011)).

StatLink <http://dx.doi.org/10.1787/888932459831>



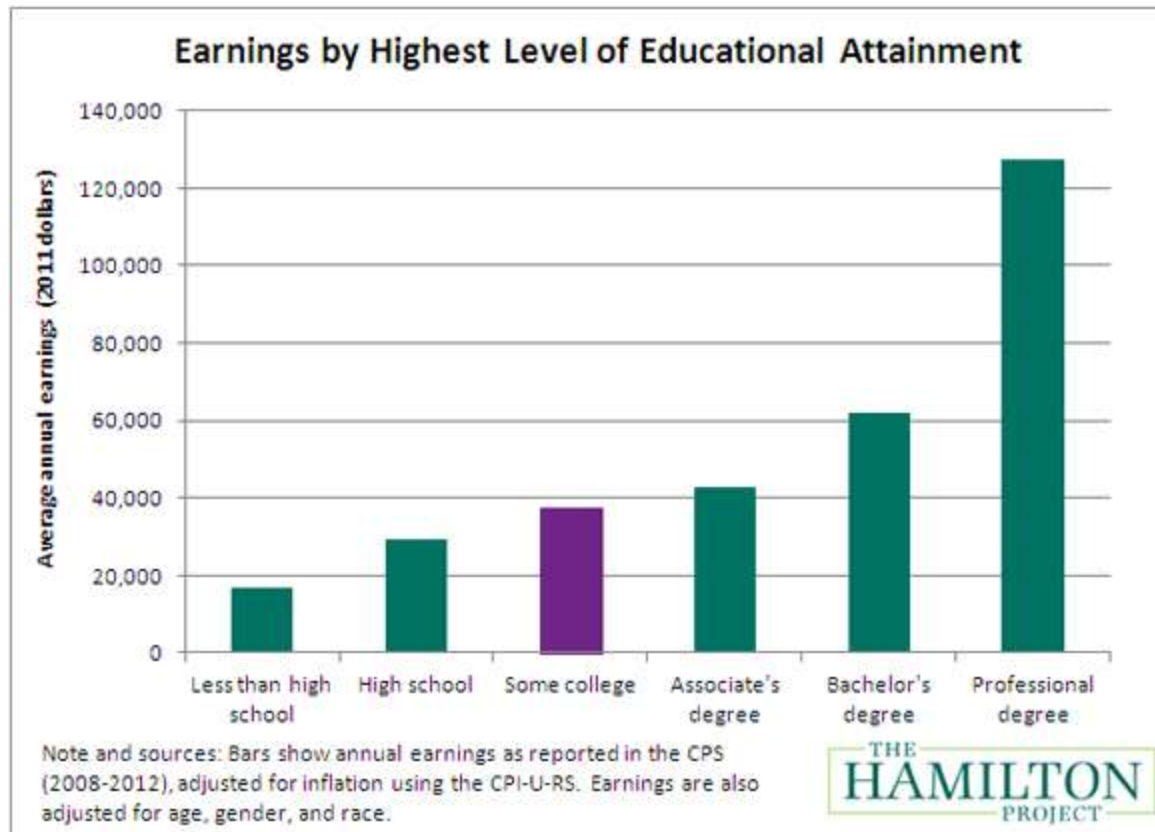


# Education as an Investment - US





# Education and Earnings - US

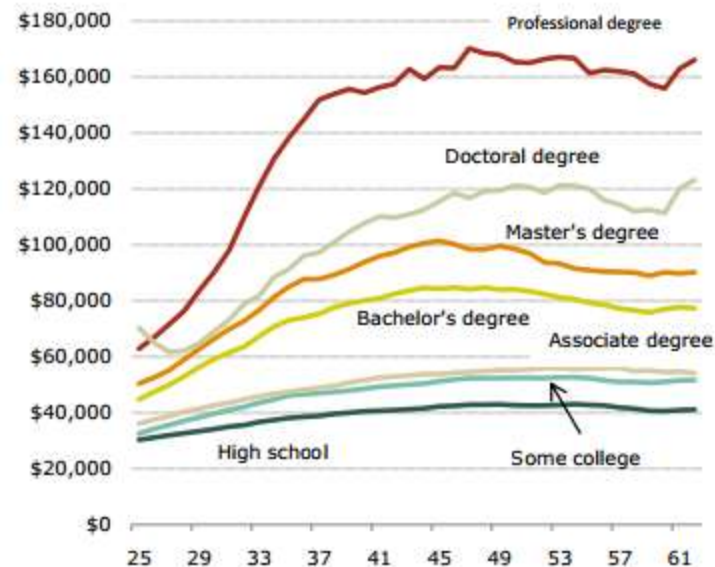


Those who graduate from a four-year college, on average, earn \$20,000 more a year as a result of the degree



# Education and Earnings - US

Mean Earnings by Age, 2009



Source: 2009 American Community Survey (ACS) Integrated Public Use Micro Sample

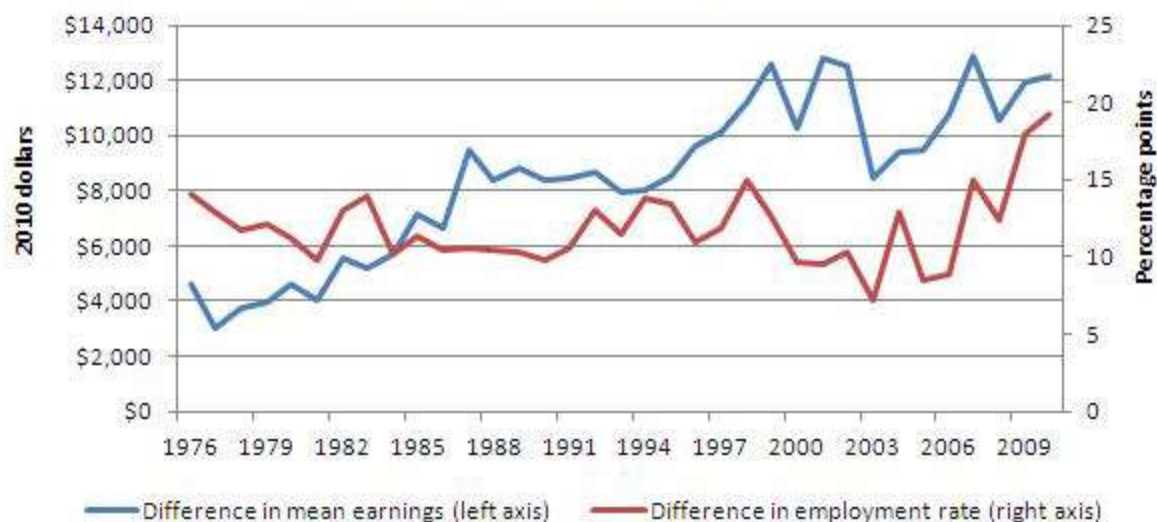
Notes: Estimated for full-time, full-year workers. Plots show a 3-year moving average.

PEW RESEARCH CENTER



# Education and Earnings - US

**Earnings and Employment for College vs.  
High School Graduates (Ages 23-25)**



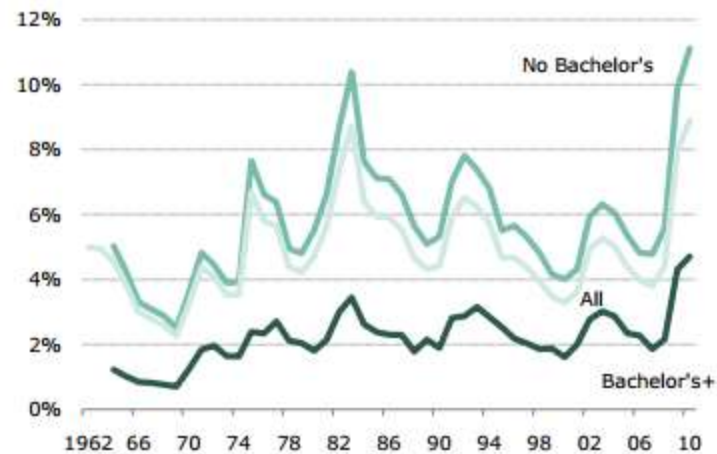
Note: Earnings and employment figures include all Americans between the ages of 23 and 25 (inclusive).

Source: Data are from the CPS for the non-institutionalized population, and from the U.S. Census for the institutionalized population.



# Education and Employment - US

**Unemployment Rates by Education, 1962-2010**



Source: March Current Population Survey (CPS) Integrated Public Use Micro Sample

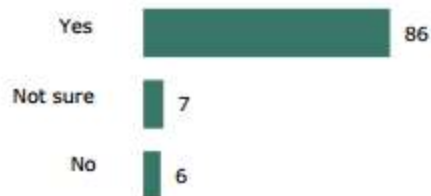
Notes: For persons age 25 and over. Prior to 1992, persons with at least a bachelor's degree refers to those with four or more years of college.



# How Education Impacts Work Life

## Has College Been a Good Investment for You Personally?

% of college graduates

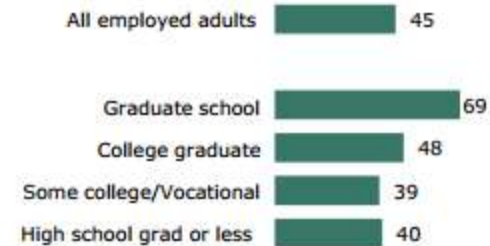


Note: Based on college graduates ages 18-64 who are not currently enrolled in school, n=513. "Don't know/Refused" responses not shown.

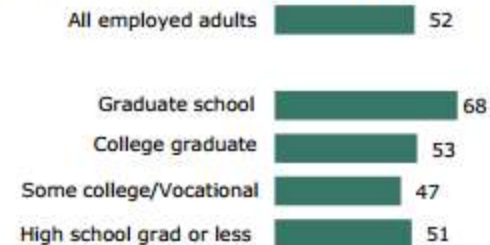
## How Education Impacts Work Life

Based on employed adults

### % saying work is very satisfying



### % saying work is very interesting



Notes: Based on adults who are employed either full or part time, n=1,281. "Graduate school" includes those who attended graduate school but did not receive a degree. "Some college/Vocational" includes two-year college graduates.



# Affordability

## Is College Affordable?

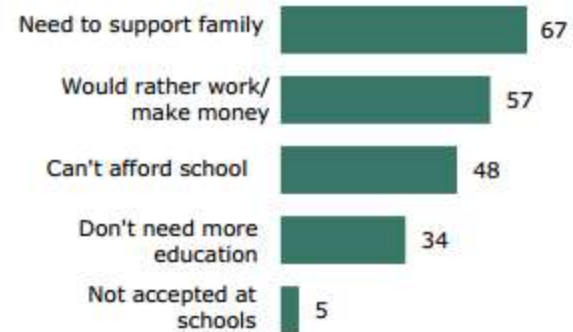
*Agree or disagree: College costs in general are such that most people can afford to pay for a college education. (%)*



Note: "Don't know/Refused" responses not shown.

## Reasons for Not Going to College

*% saying this applies to them*

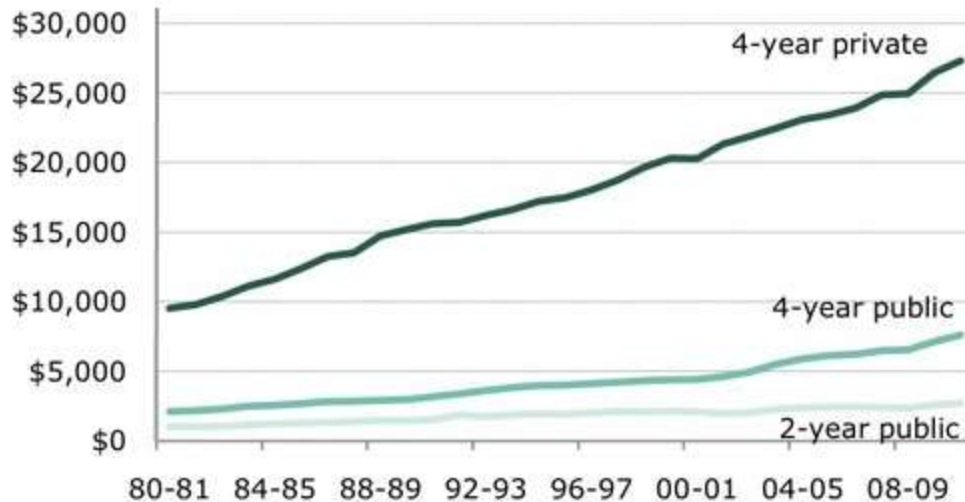


Note: Based on adults ages 18-34 who do not have a four-year college degree and are not currently enrolled in school, n=311.





# College Tuition - US



**\$22,261**

Average cost of a public college education in 2012-2013

**\$43,289**

Average cost of private college education

The cost of a private non-profit four-year college institution has risen **267%** over the past 30 years.

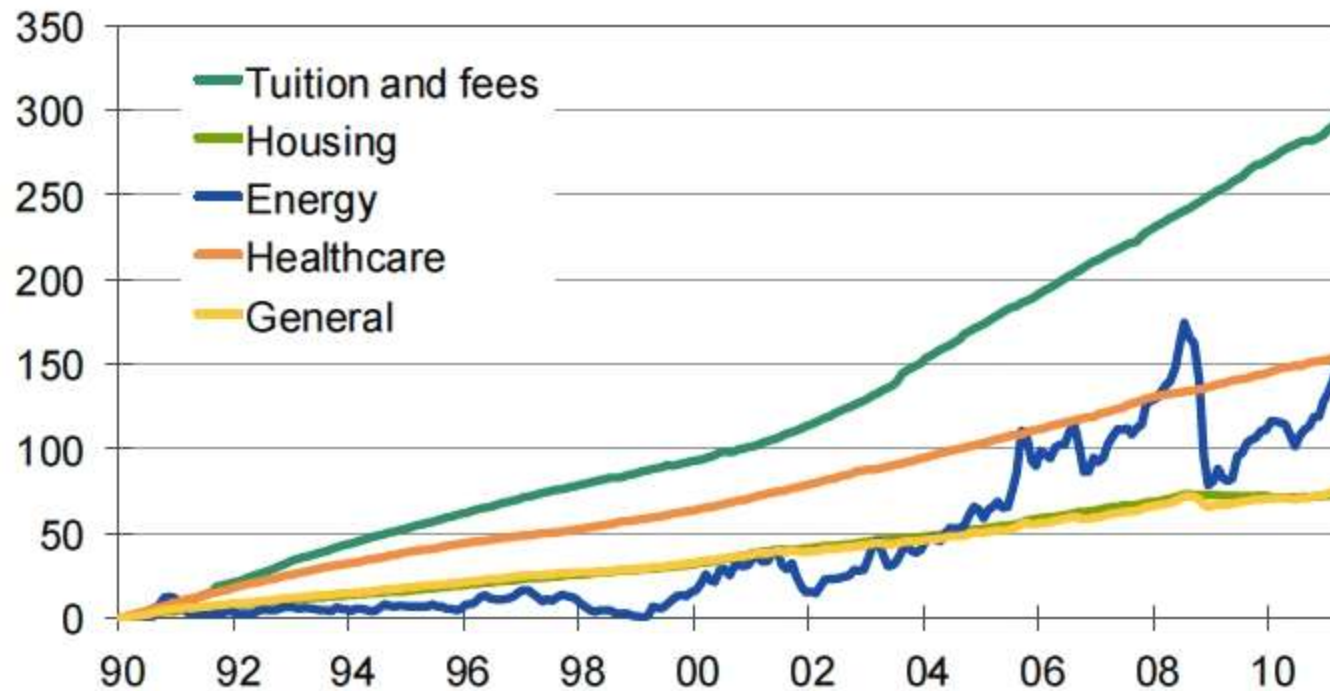
The cost of a public four-year college institution has risen by **357%** in the same period





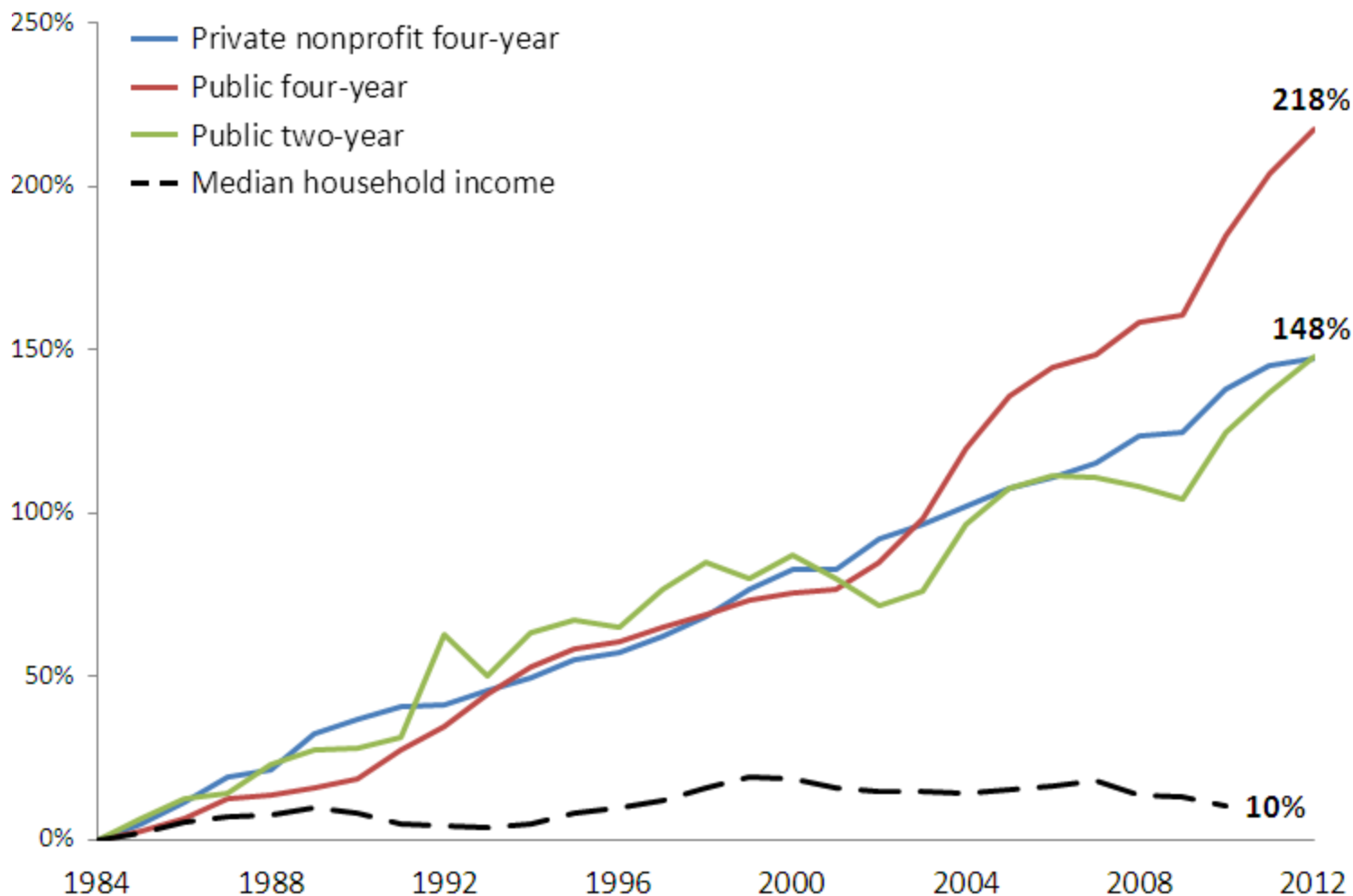
# Tuition vs. Other Price Indices

CPI, cumulative % change since 1990





# Median Household Income vs. College Costs - US

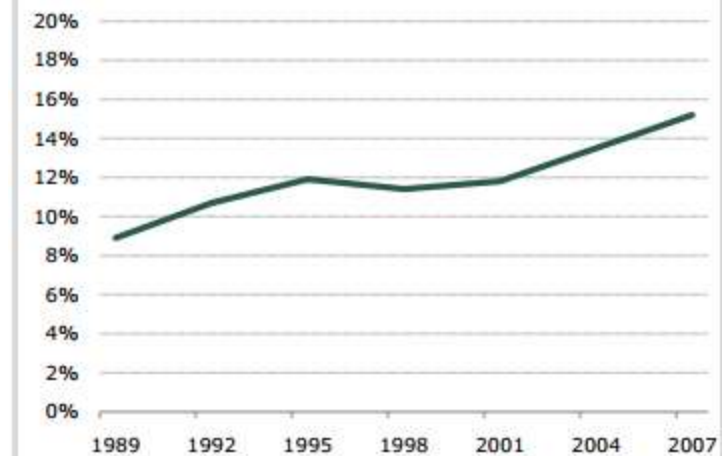




# Families' Student Loans

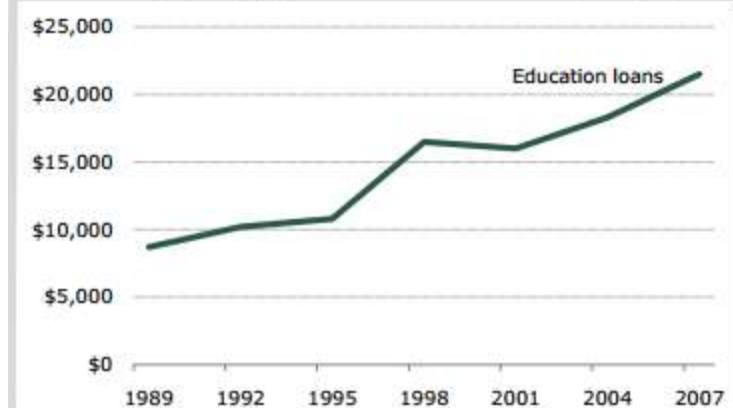
## More Families Have Outstanding Student Loans

*Share of families with student loans*



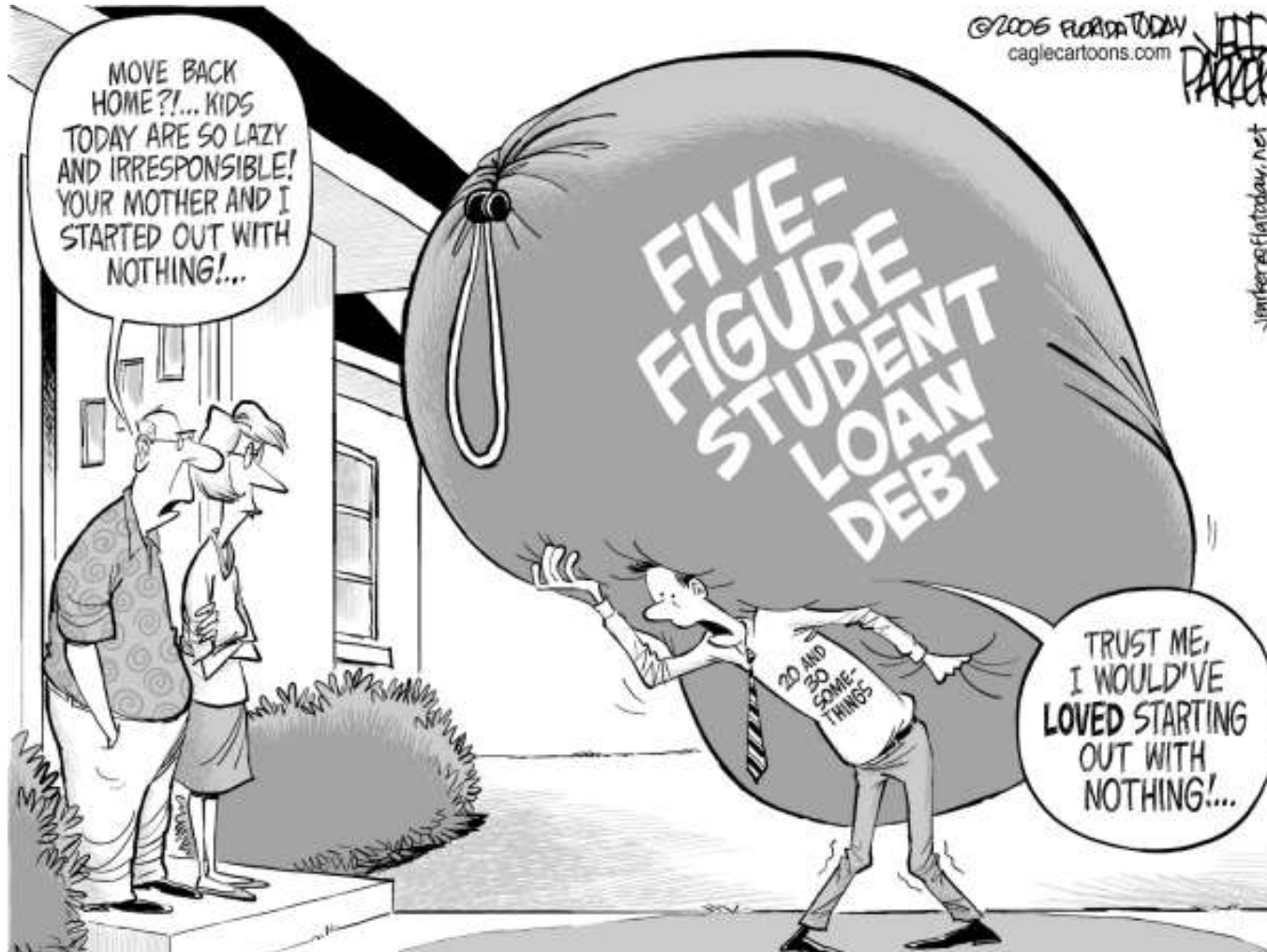
## ... and the Average Amount Owed Has Increased

*Amount owed per family for families with student loans (in 2007 \$)*





# Student Loan Debt





# Tuition and other Costs

Two-thirds of students graduating from American colleges are graduating with some level of debt

The average borrower has a debt of \$26,600

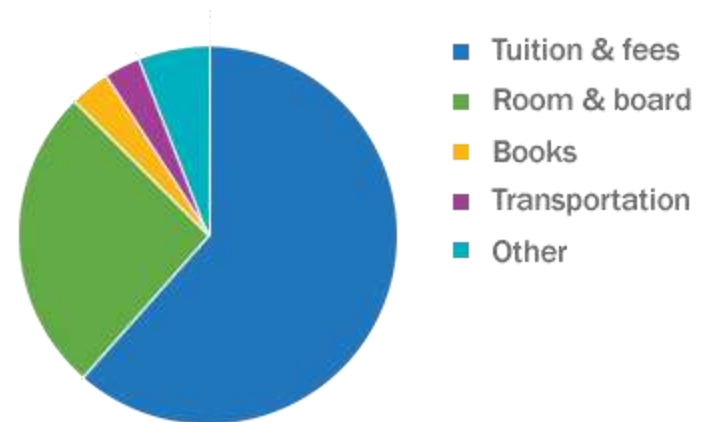
One in ten graduates accumulate more than \$40,000 of debt

Student loan debt has crossed \$1.2 trillion

It almost tripled between 2004 and 2012

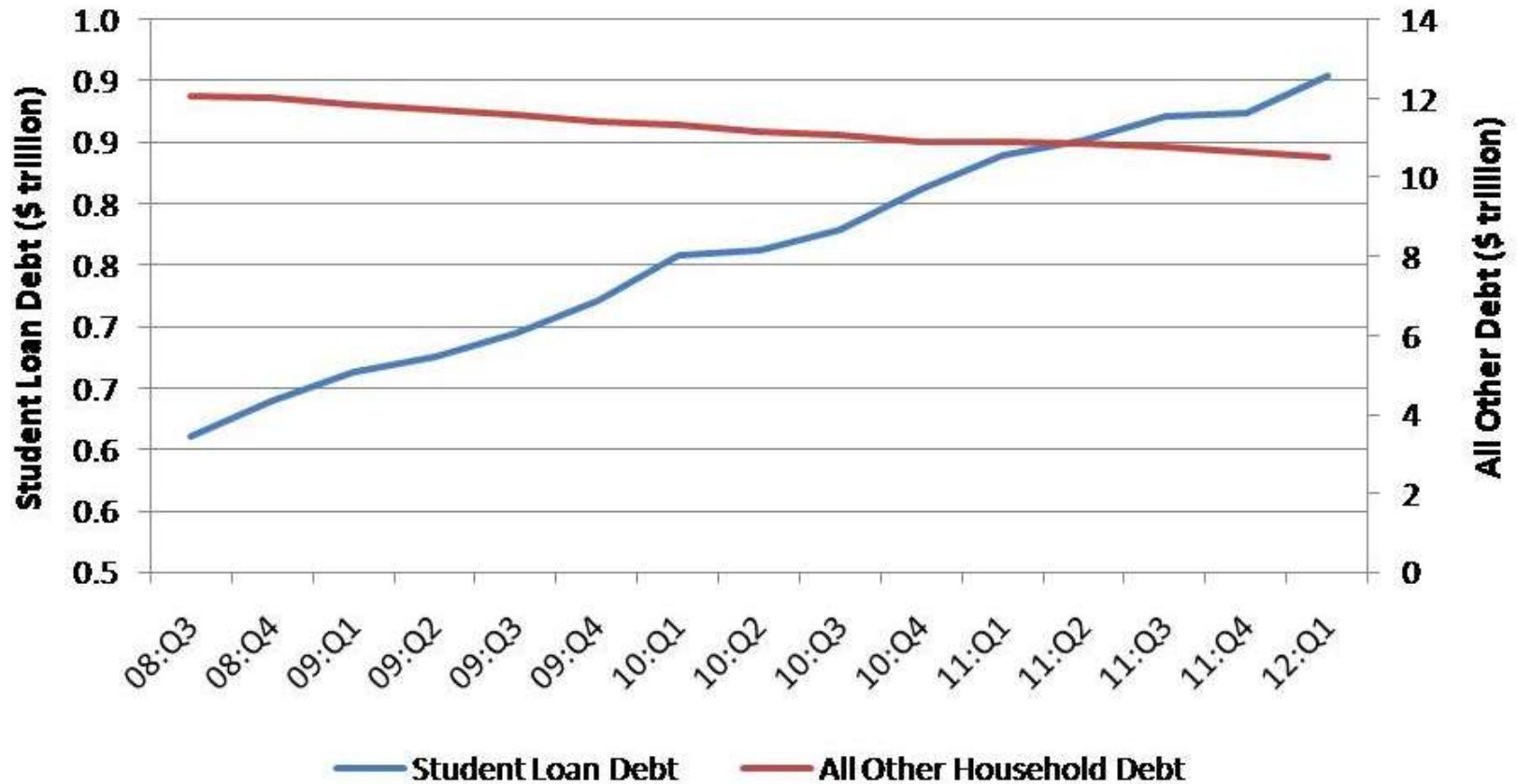
One in five graduates who borrowed for tuition via the federal direct loans program are not paying the money back

2012-2013 costs according to *The College Board*



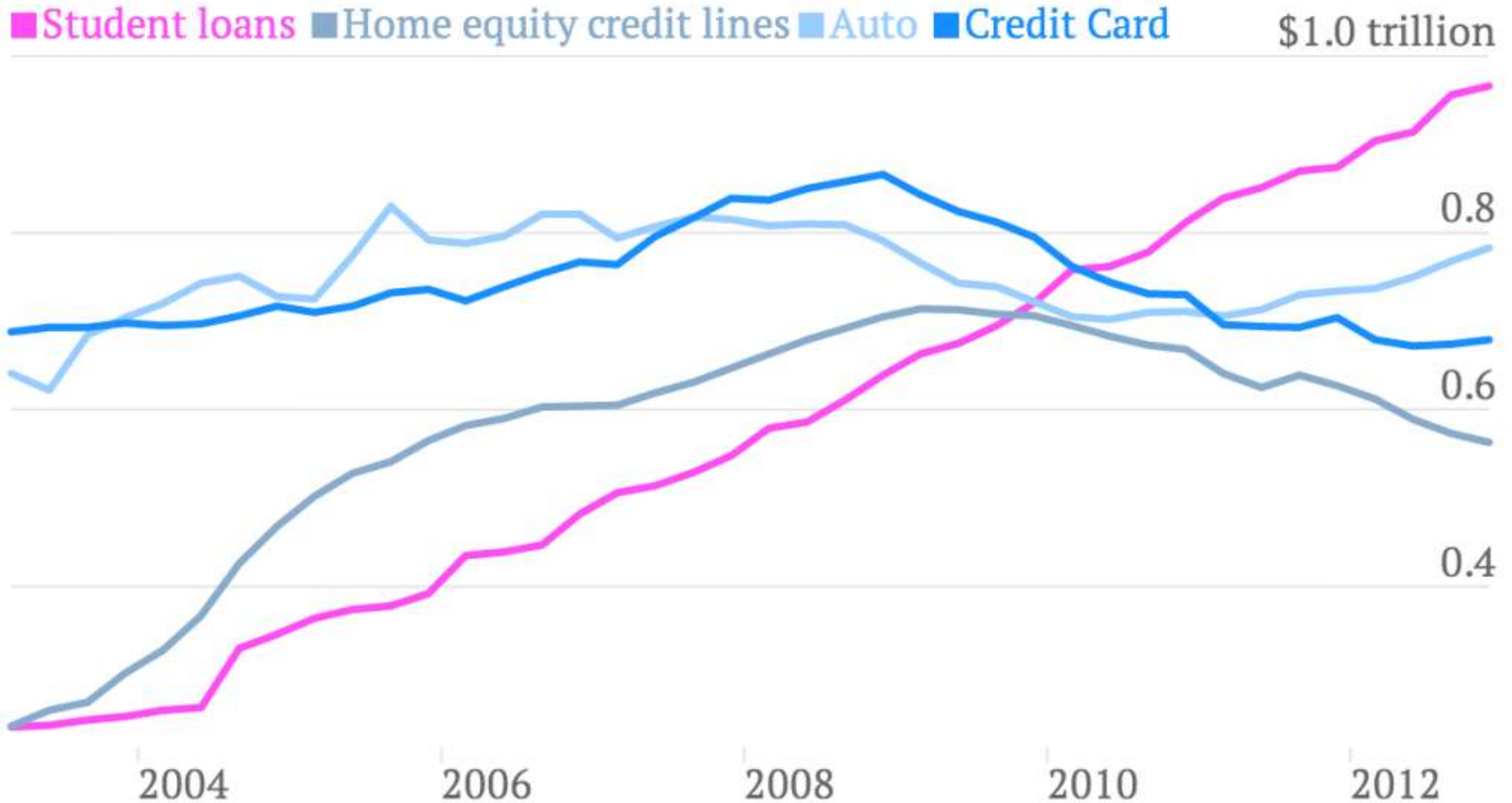


# Student Loan Debt vs. Household Debt





# Student Loans vs Other Loans







# % of 90+ Day Delinquent Student Loans

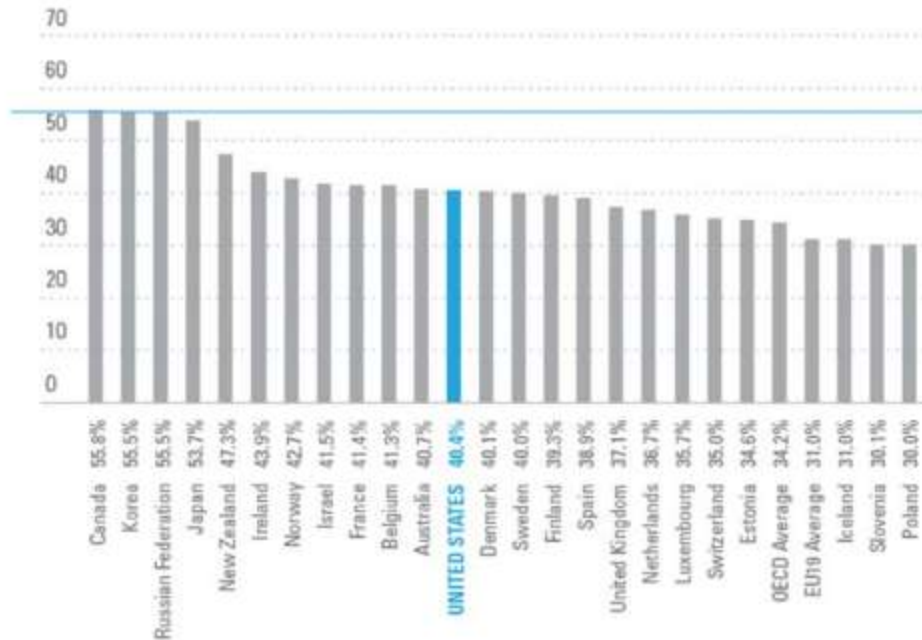






# Dropping Out of College

College Completion Rank Declining: Percentage of 25- to 34-Year-Olds with an Associate Degree or Higher, 2007



## Right Direction or Not?

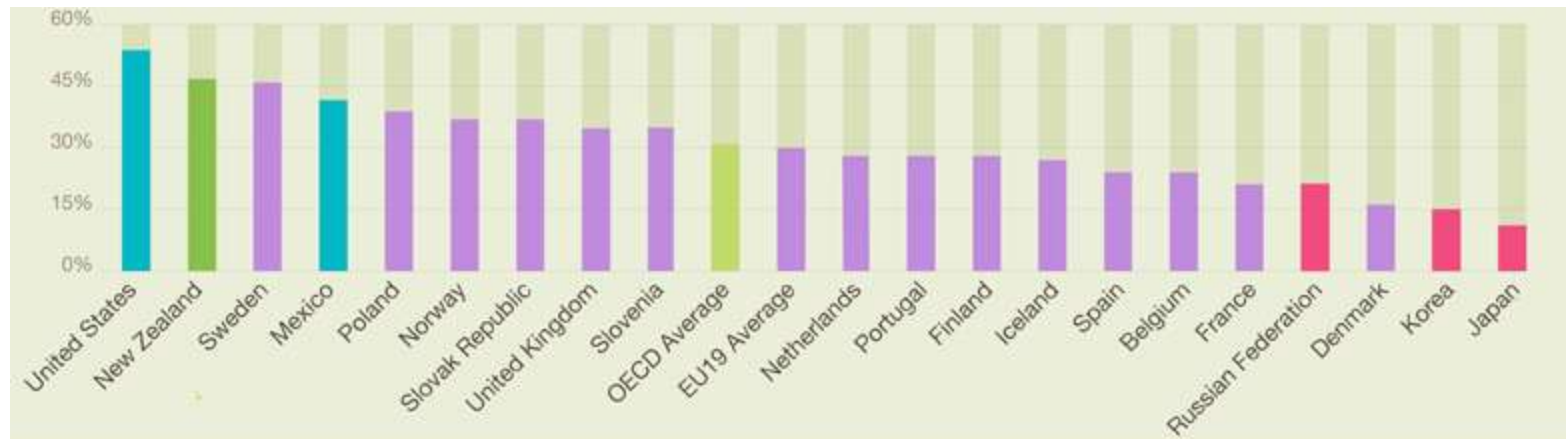
Share of college presidents who say higher education in U.S. is headed in the ...



In 2011, only **56%** of US college students complete four-year degrees within six years. Only **29%** of those who start two-year degrees finish them within three years.



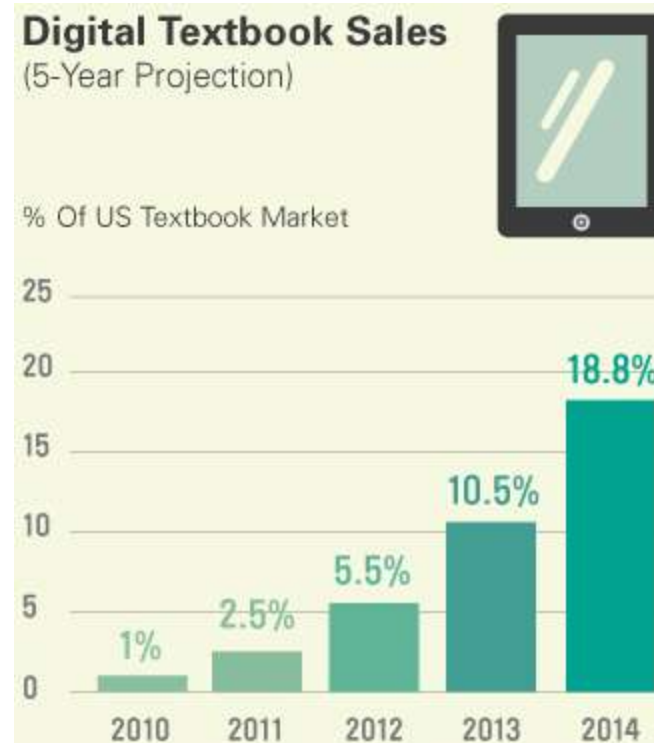
# International Dropout Rate



Among adults ages 18 to 34 who are not in school and do not have a bachelor's degree, 67% say a major reason for not continuing their education is the need to support a family. 48% say they can't afford to go to college



# Textbooks of the Future



South Korea has invested **\$2 billion** to make all textbooks digital by 2015.  
The total textbook sales industry is **\$7.5 b**, out of which **\$5.5 b** are sales of new textbooks. Digital textbooks are, on average, 53% cheaper than new print books.



# Features of Digital Textbooks

**Note taking:** On screen keyboards and stylus allow students to take notes

**Writing:** Writing using the finger or stylus is possible

**Compactness:** One (e)book holds all the books, notes and more

**Highlighting:** Digital books make highlighting text possible

**Research:** Multiple content sources can be referred to from within the device. Multiple books, notes, websites, journals, videos, audio, images, are accessible in a single device

**Quiz:** Learning and testing become integrated. Clearing a quiz takes the student to the next level

**Animated content:** Explanations can be accompanied by animated illustrations and video, instead of static images

**Games:** Games are integrated with lessons, making learning and testing attractive to students

**Interactive timelines:** History comes alive through interactive timelines laced with images, audio, video,

**Study groups:** Study groups can be formed online, from the digital books. Text, audio and video chat can be done from within a page of the textbook





# Global Classroom



Michael J. Sandel, Professor, Harvard University, teaching the course 'Justice' at Sanders Theater, Harvard University



# Global Classroom



There are students behind him too. In Sao Paulo, New Delhi, Tokyo and Shanghai. He teaches them through video conferencing





# Global Classroom



Prof. Sandel has students asking questions, answering them, or holding discussions not only at Harvard...



# Global Classroom



...but in South America and Asia as well!







# Interactivity



Interactivity and participation can be taken to whole new levels.

A class spread over Boston, Tokyo and Shanghai has students discussing nuclear power plants



## Interactivity



The professor's lecture is translated into Japanese, and the students' response is translated into English.

Here the student quips about Rousseau's views being altered by Youtube





## Interactivity



Youngsters separated by distance and language are able to directly talk to each other, and see each others' point of view. This has long term social and political implications apart from being a great educational method



# Source

Images and Charts courtesy of

- <http://www.pewsocialtrends.org/files/2011/05/higher-ed-report.pdf>
- [http://www.gse.harvard.edu/news\\_events/features/2011/Pathways to Prosperity Feb2011.pdf](http://www.gse.harvard.edu/news_events/features/2011/Pathways_to_Prosperty_Feb2011.pdf)
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