

# The Future Belongs to the Educated

ASU Education Innovation Summit

Phoenix

April 16, 2012

Michael Milken

Chairman, Milken Institute



“Ask not what your  
country can do for  
you, but what you can  
do for your country.”

John F. Kennedy  
1961 Inaugural

# Humanity's Top 10 Problems for Next 50 Years

- Democracy
- Disease
- Education
- Energy
- Environment
- Food
- Population
- Poverty
- Terrorism & War
- Water

# Humanity's Top 10 Problems for Next 50 Years



Nobel Laureates in  
Science/Medicine

- Education
- Energy



# Humanity's Top 10 Solutions for Next 50 Years

- Democracy
  - Disease
  - Education
  - Energy
  - Environment
  - Food
  - Population
  - Poverty
  - Terrorism & War
  - Water
- Education
  - Education
  - Education
  - Energy
  - Energy
  - Energy
  - Education
  - Education
  - Education
  - Energy

# The World's Top 10 Economies

(Percent of World GDP)

**Today**

**2050**

**1820**

U.S. (23.6%)

China (8.7%)

Japan (8.6%)

Germany (5.2%)

~~France (4.4%)~~

U.K. (3.6%)

~~Italy (3.4%)~~

Brazil (3.1%)

~~Canada (2.6%)~~

Russia (2.4%)

China (18.7%)

U.S. (16.5%)

**India (11.8%)**

Brazil (4.8%)

**Indonesia (3.5%)**

Japan (3.1%)

**Mexico (3.0%)**

Russia (2.7%)

Germany (2.4%)

U.K. (2.2%)

China (28.7%)

India (16.0%)

France (5.4%)

England (5.2%)

Prussia (4.9%)

Japan (3.1%)

Austria (1.9%)

Spain (1.9%)

U.S. (1.8%)

Russia (1.7%)

Sources: World Bank/Angus Maddison, "The World Economy: Historical Statistics" (OECD)/  
PricewaterhouseCoopers/Milken Institute/Goldman Sachs (9/09)

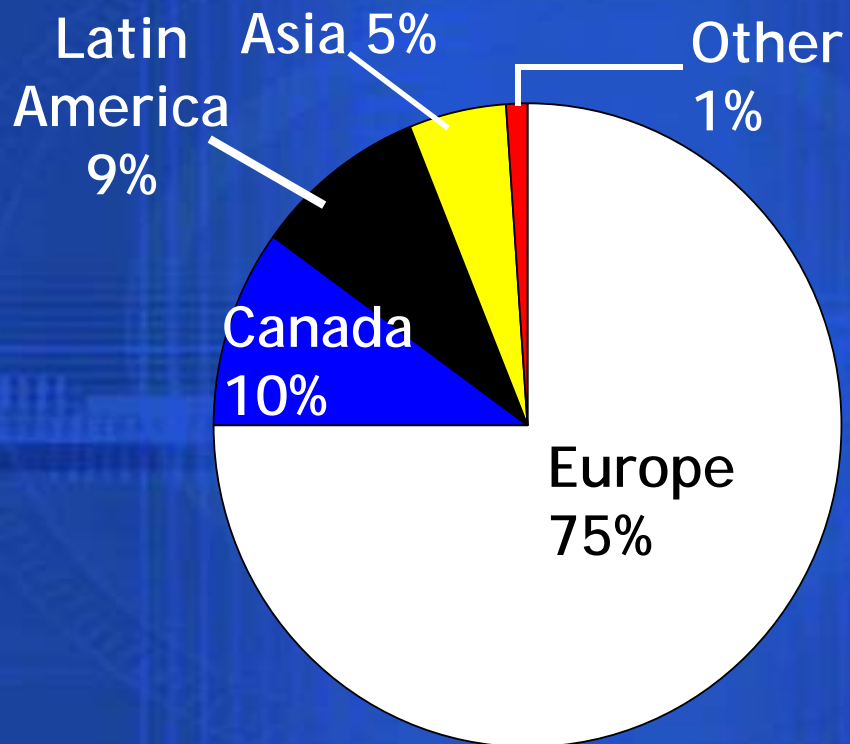
# The World's Economic Clout Moves East

## Leading Cities Ranked by GDP

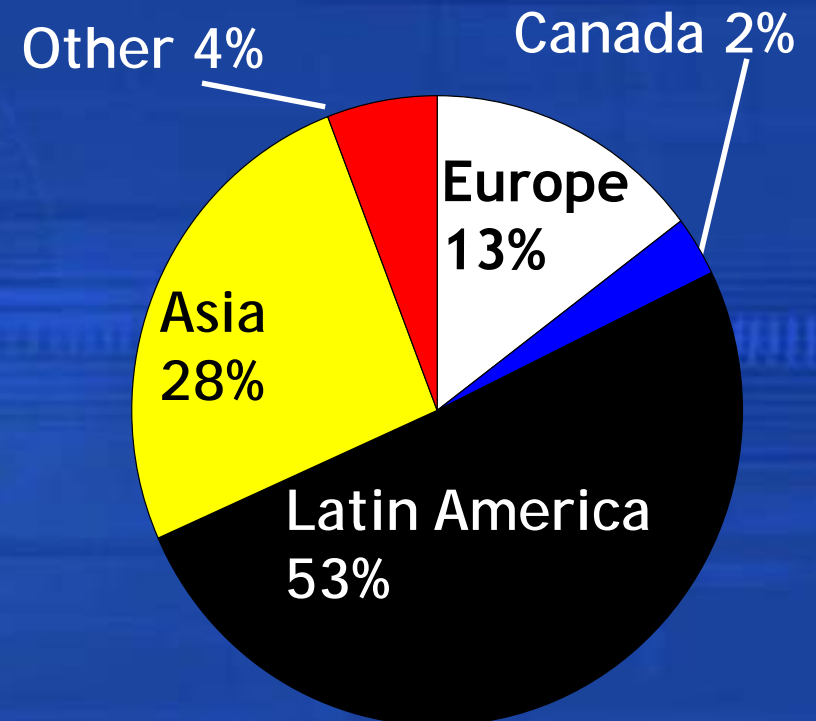
- More than 20 of the world's Top 50 cities will be located in Asia by 2025, up from 8 in 2007.
- More than half of Europe's Top 50 cities will drop off the list, as will three in North America.
- Shanghai and Beijing will outrank Los Angeles and London ... Mumbai and Doha will surpass Munich and Denver.

# Where U.S. Immigrants Were Born

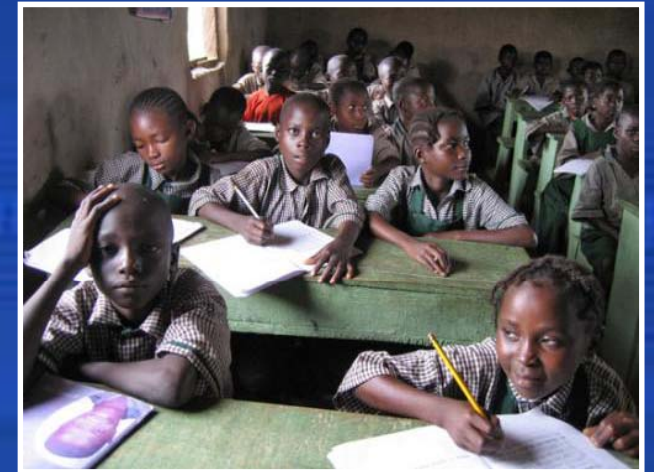
1960



2011



*The future of any nation can  
be found in its classrooms.*





# What is the most valuable real estate in the world?

1. New York City
2. Moscow
3. Beijing
4. London
5. Dubai
6. Beverly Hills
7. Tokyo



What is the most valuable real estate in the world?

Google™

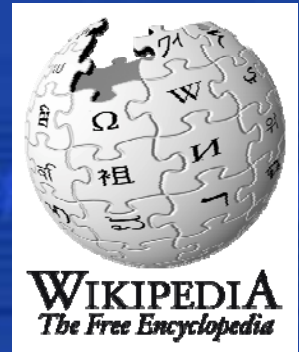
You Tube

ebay®

amazon.com®

facebook®

msn®



Baidu 百度  
www.baidu.com

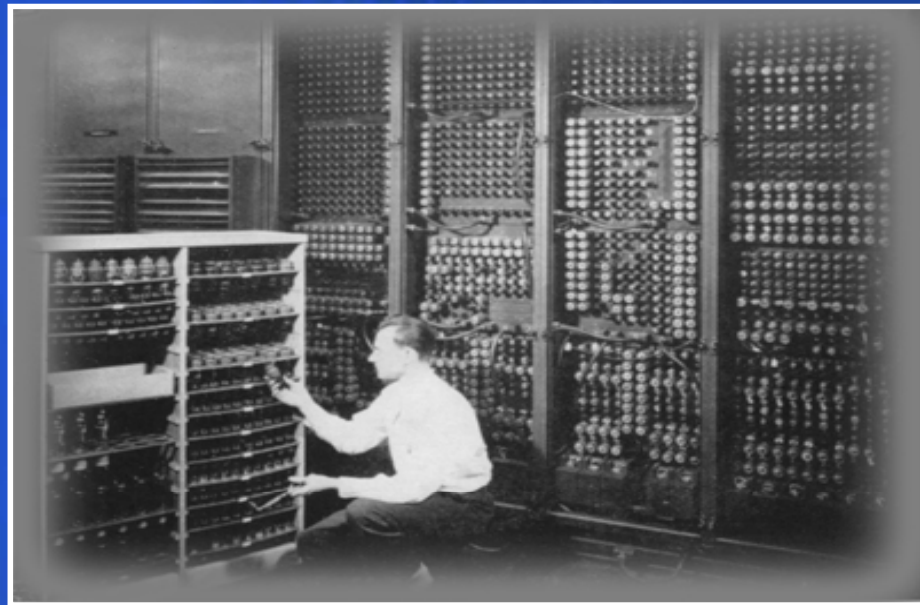
Apple iTunes

YAHOO!®

阿里巴巴®  
alibaba.com

1957 America

Computer Storage:  
\$2 million per megabyte



# IBM System 370/168 in 1976

- 8 megabytes for \$8 million
- Cost per megabyte: \$1 million



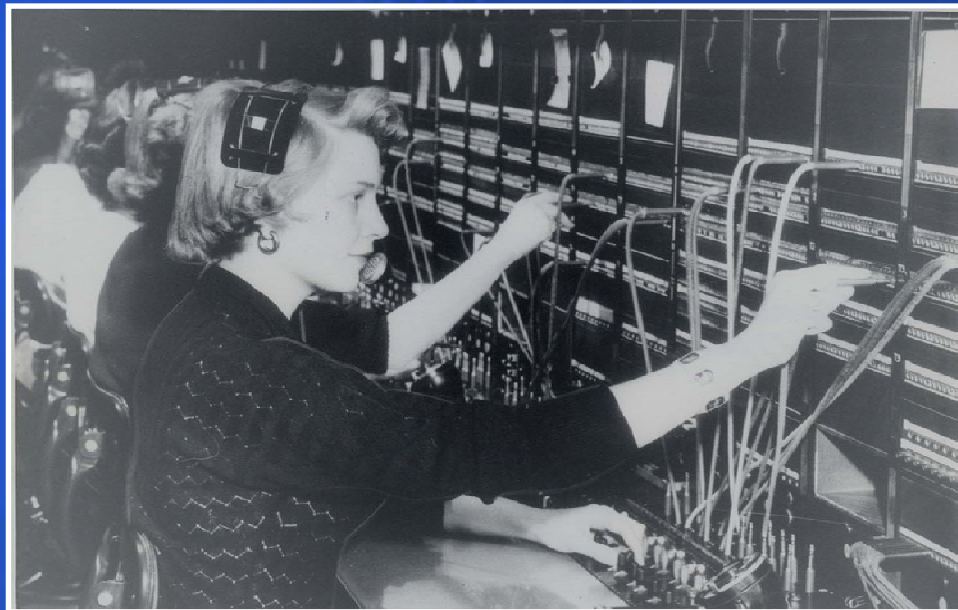
# Apple iPad 2

- 64 gigabytes for \$699
- Cost per megabyte:  
\$0.01



1957 America

International Phone Call:  
~\$12/Minute





# Cost of a 1-Minute Phone Call from the U.S. to India

1975  
\$10

2012  
\$.01



*Telecommunications cost to business  
approaches zero.*



*There are more than 6 billion  
mobile phones in the world!*



# Down on the Farm





# Blockbuster vs. Netflix - 2002

## Market Value

**28 Netflix = 1 Blockbuster**

Netflix  
\$0.16 billion

---

Blockbuster  
\$4.5 billion





# Blockbuster vs. Netflix

## Market Value

**Netflix**  
**\$16 billion**

**7/13/2011**

**4/16/2012**

**Netflix**  
**\$5.6 billion**

**Blockbuster**  
**\$0**

# The Future Belongs to the Educated

- Democratization of Capital
- Building Human Capital
- Where's Sputnik?
- Education is the Answer





# Los Angeles Under Siege



$$P = \sum Ft_i * (\sum HC_i + \sum SC_i + \sum RA_i)$$

P = Prosperity

Ft = Financial Technology

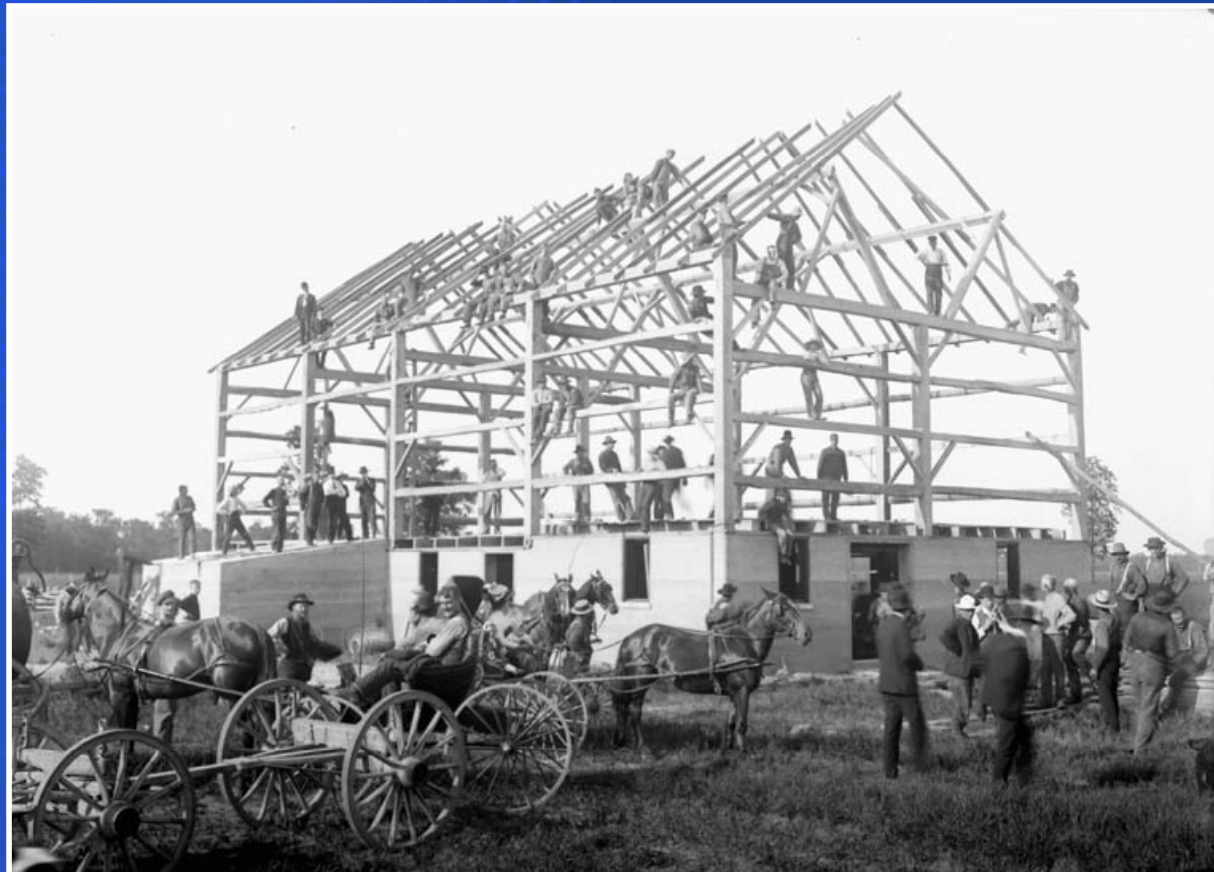
HC = Human Capital

SC = Social Capital

RA = Real Assets

*What makes America great?*

# Barn Raising



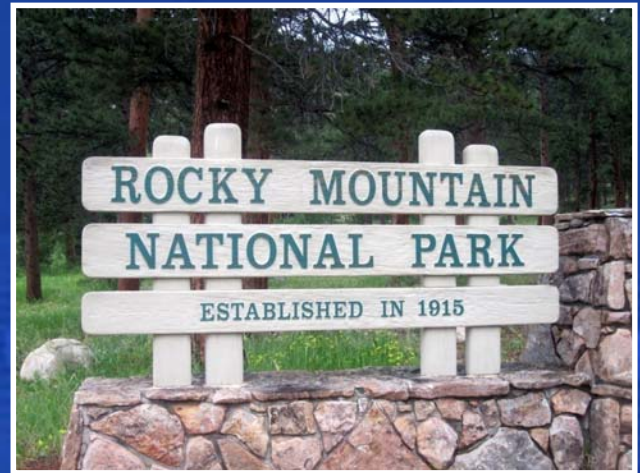


# Volunteer Fire Department

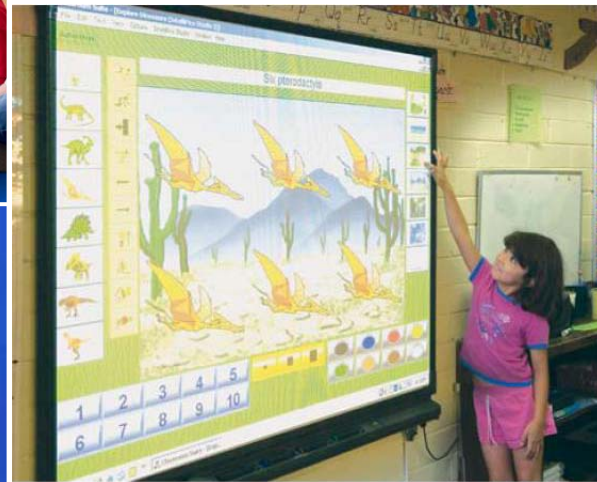




# National Parks



# Universal Education



$$P = \sum Ft_i^* (\sum HC_i + \sum SC_i + \sum RA_i)$$

P = Prosperity

Ft = Financial Technology

HC = Human Capital

SC = Social Capital

RA = Real Assets



*“The most important financial innovation that I have seen the past 20 years is the automatic teller machine...I wish someone would give me one shred of neutral evidence that financial innovation leads to economic growth. One shred of evidence.”*

*Paul Volcker*  
*Former Chairman, Federal Reserve*

“A country does not go bankrupt.”

—Walter Wriston  
Former CEO of Citibank

Source: *New York Times*, September 14, 1982.

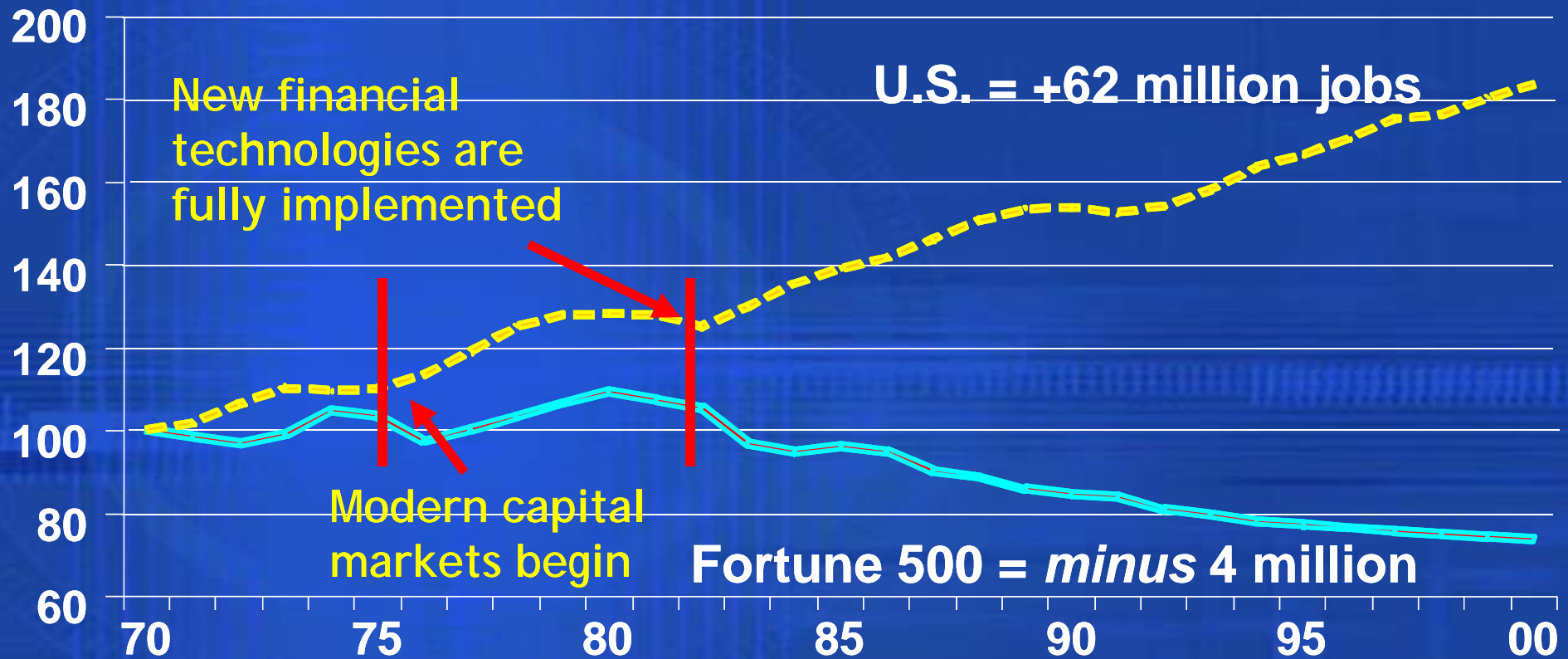


# Sovereign Debt Defaults

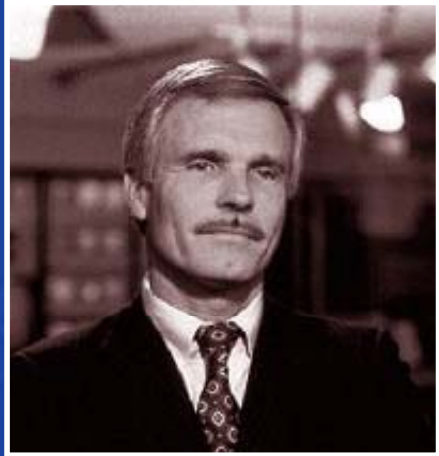
<u>Argentina</u>	<u>Ecuador</u>	<u>Paraguay</u>	<u>Romania</u>	<u>Turkey</u>	<u>Uruguay</u>
• 1830	• 1832	• 1827	• 1915	• 1876	• 1876
• 1890	• 1868	• 1874	• 1933	• 1915	• 1891
• 1915	• 1911	• 1892	• 1981	• 1940	• 1915
• 1930s	• 1914	• 1920		• 1978	• 1933
• 1982	• 1931	• 1932			• 1983
• 2001	• 1982	• 1986			• 2003
	• 1999	• 2003			
	• 2008				

# America Goes to Work

## U.S. and Fortune 500 Employment



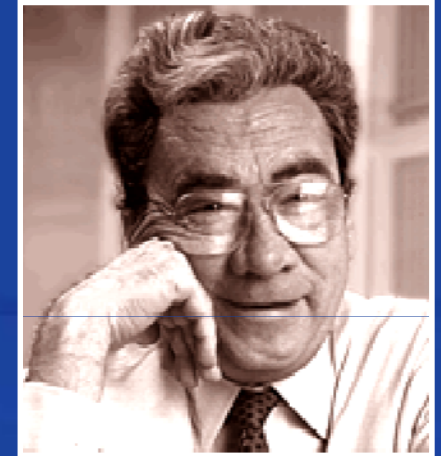
Index 1970 = 100



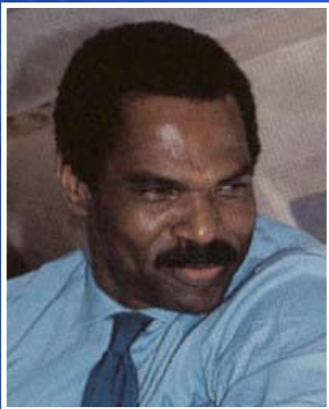
Ted Turner



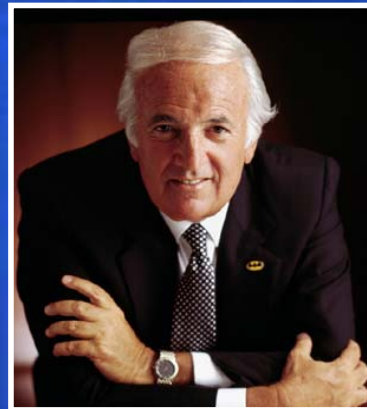
Craig McCaw



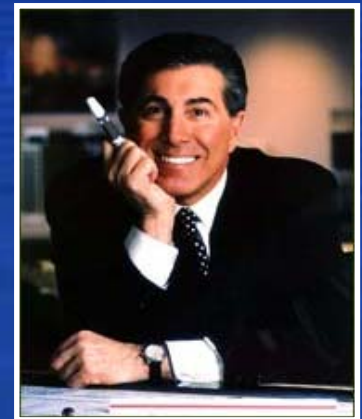
Bill McGowan



Reg Lewis



Steve Ross



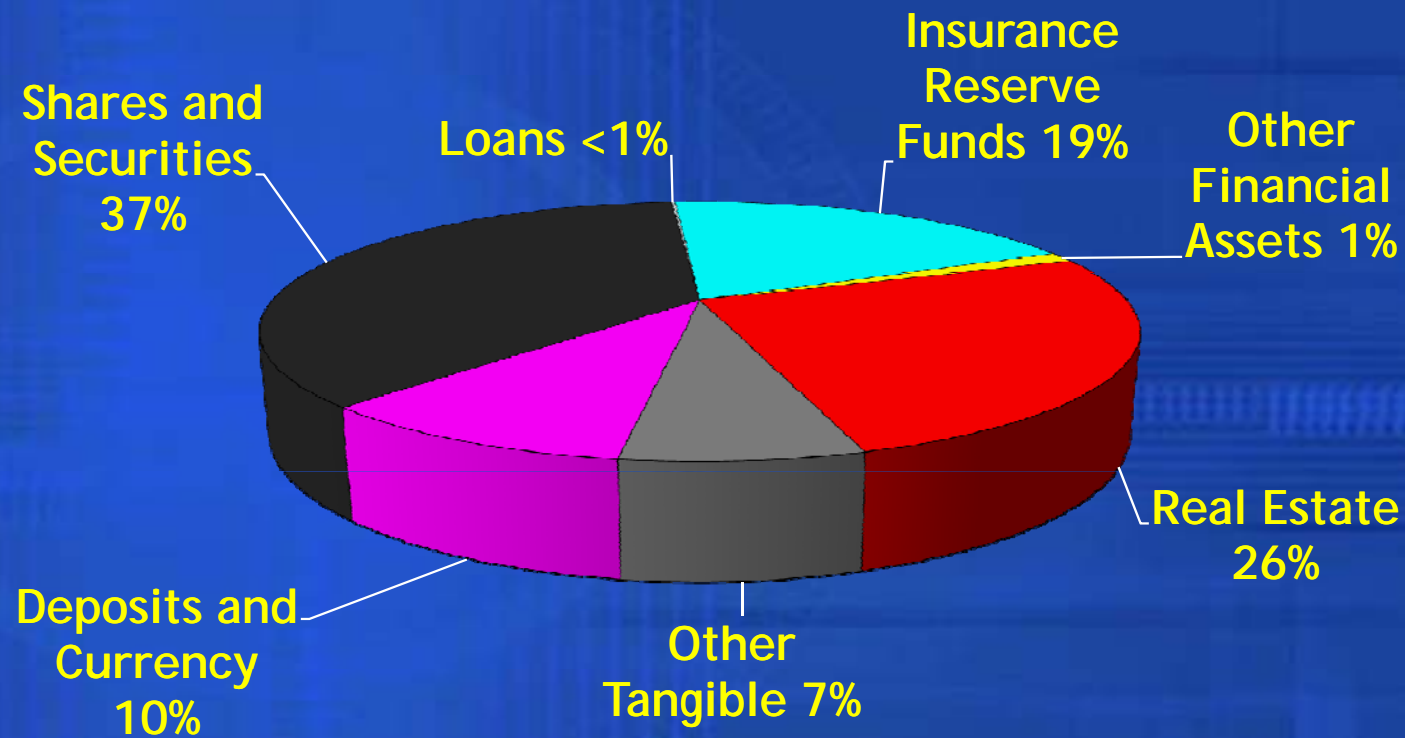
Steve Wynn

# The Future Belongs to the Educated

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- Building Human Capital
- Where's Sputnik?
- Education is the Answer

# 2011 U.S. Household Balance Sheet

## \$71 Trillion Total

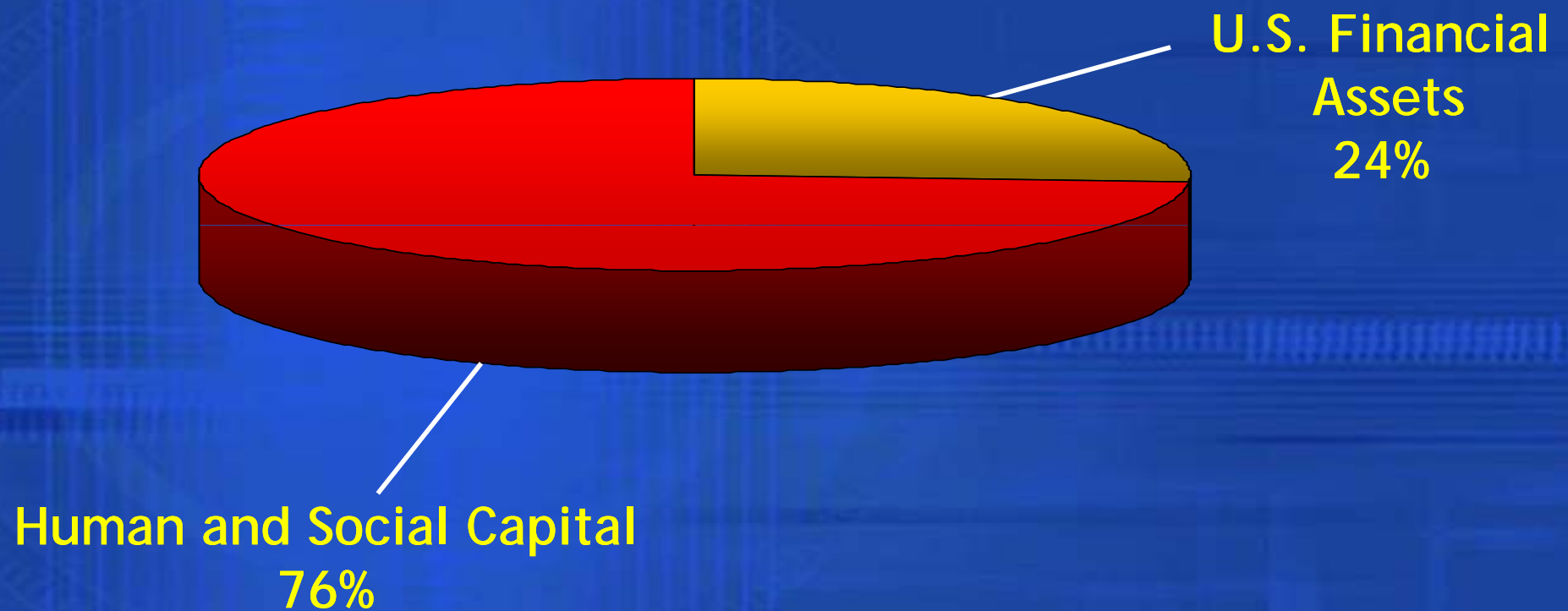


Source: Federal Reserve Flow of Funds, Q3 2011



# Q3 2011 Human Capital in the U.S.

\$229 Trillion Total



Source: Derived from Kevin Murphy and Federal Reserve, Flow of Funds Q3, 2011

*Human capital  
is our most valuable asset.*



*The 21<sup>st</sup> Century will see  
a worldwide competition  
for human capital.*

# Apple vs. Sony 1997

## Market Value

**21 Apple = 1 Sony**

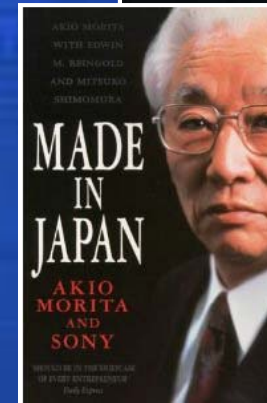
**Apple**  
**\$1.65 billion**

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**Sony**  
**\$34.3 billion**

# Sony: Five Decades of Innovation

- Tape recorder and transistor radio (1950s)
- 5-inch micro TV (1962)
- Trinitron Color TV (1965)
- U-matic video tape system (1969)
- Beta-Max (1975)
- Sony Walkman (1979)
- Compact discs and player (1982)
- Handycam 8mm video camera (1985)  
(Sony sales and profits triple during the 1980s)
- Sony Play Station (1994)



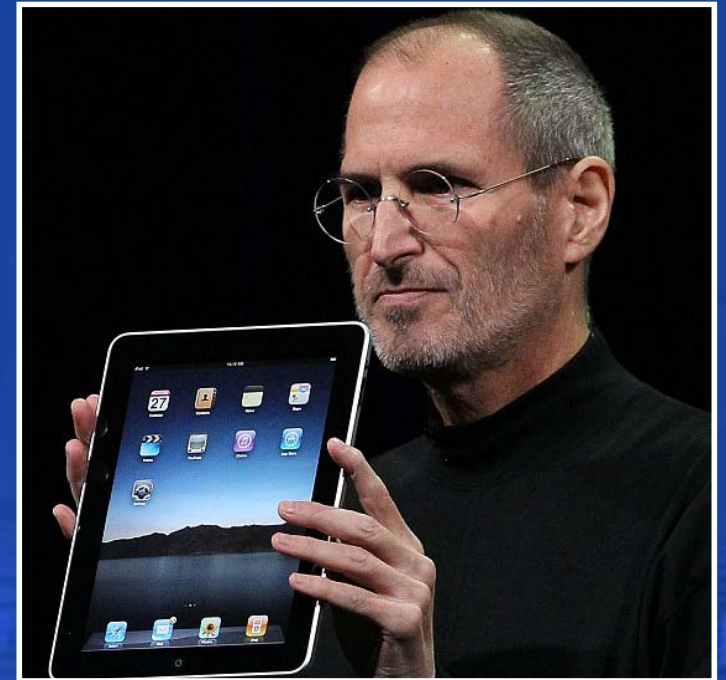
**Akio Morita**  
Co-founder  
Sony Corp.  
1921-1999

Source: "Historical Review of Sony's Innovations and Future Steps" (Masanori Hachiya/Sloan School of Management)



“Innovation has nothing to do with how many R&D dollars you have. When Apple came up with the Mac, IBM was spending at least 100 times more on R&D. It's about the people you have [and] how you're led.”

-Steve Jobs



# Apple vs. Sony 2012

## Market Value

**Apple**  
**\$547 billion**

**30 Sony = 1 Apple**

**Sony**  
**\$18 billion**

# Do human capital strategies work?

## Per Capita GDP

Singapore



1960

2011

\$2,271

\$50,714

Jamaica



\$2,255

\$ 5,376

Source: International Monetary Fund (2011 USD)

There are three ways to  
build human capital:

*Education*

*Health*

*Immigration*

# Addressing the Issues

## (Non-Profit Organizations)

### Milken Family Foundation (1982)

- Education reform/teacher recognition/medical research

### The Milken Institute (1991)

- Economics/public-policy research and conferences

### Prostate Cancer Foundation (1993)

- World's leading philanthropic source of support for research

### FasterCures (2003)

- Removing barriers to progress on all life-threatening diseases

### Melanoma Research Alliance (2007)

- Advancing research on the most-deadly skin cancer



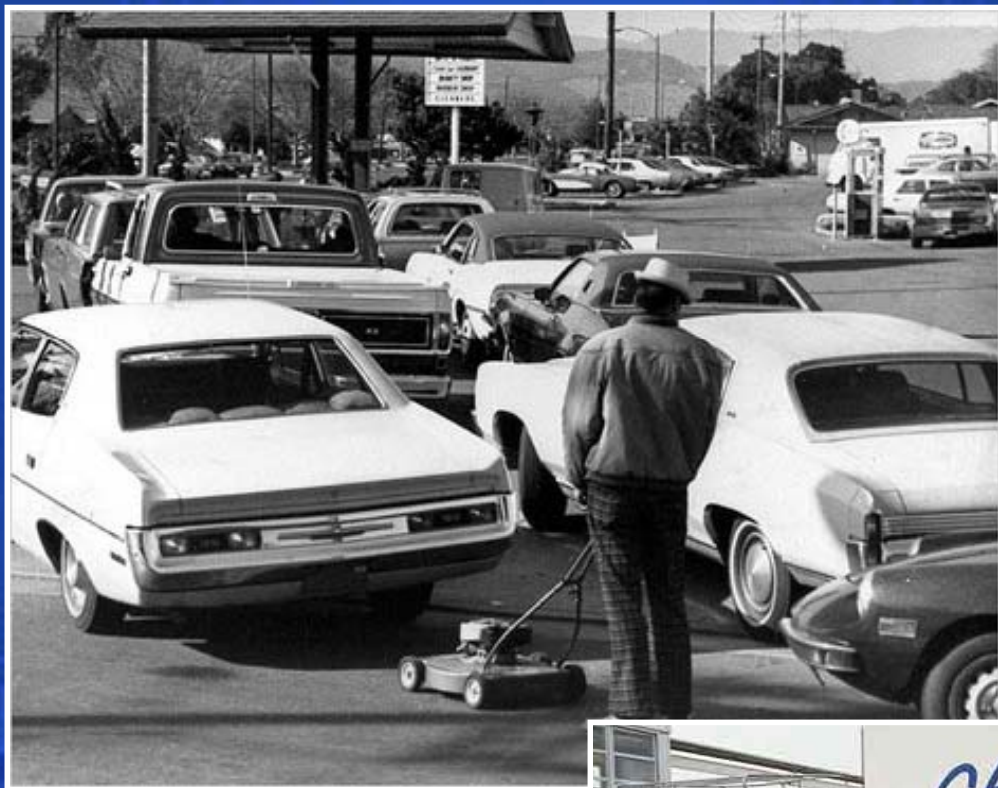
# The Future Belongs to the Educated

- Democratization of Capital
- Building Human Capital
- Where's Sputnik?
- Education is the Answer



# Where's Sputnik?

- Energy
- Housing
- Entitlements
- Education
- Immigration
- Health



# President Jimmy Carter on the energy crisis and proposed energy legislation

“This difficult effort will be the ‘moral equivalent of war’ -- except that we will be uniting our efforts to build and not destroy.”

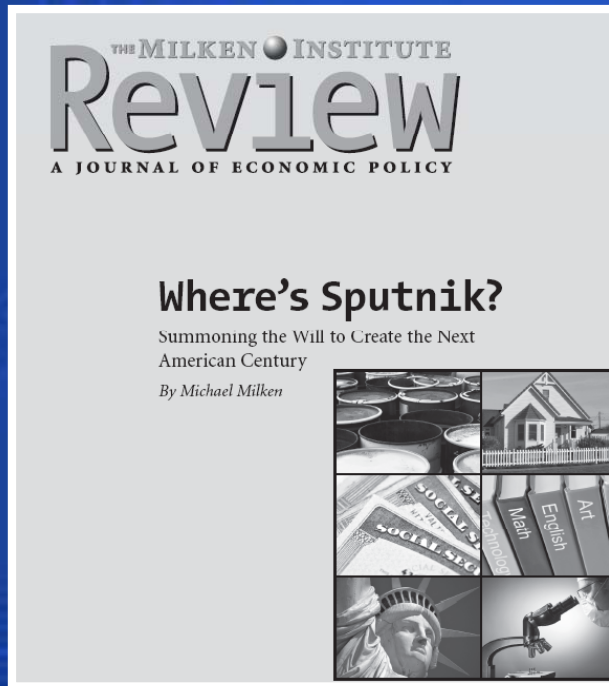




# Defending the Persian Gulf from 1976-2007 has cost \$7.3 trillion.

- Aircraft carriers
- War on terrorism
- Wars in Iraq/Afghanistan
- Maintain troops overseas
- Foreign aid
- Intelligence operations
- Oil price volatility
- Homeland security





# Where's Sputnik?

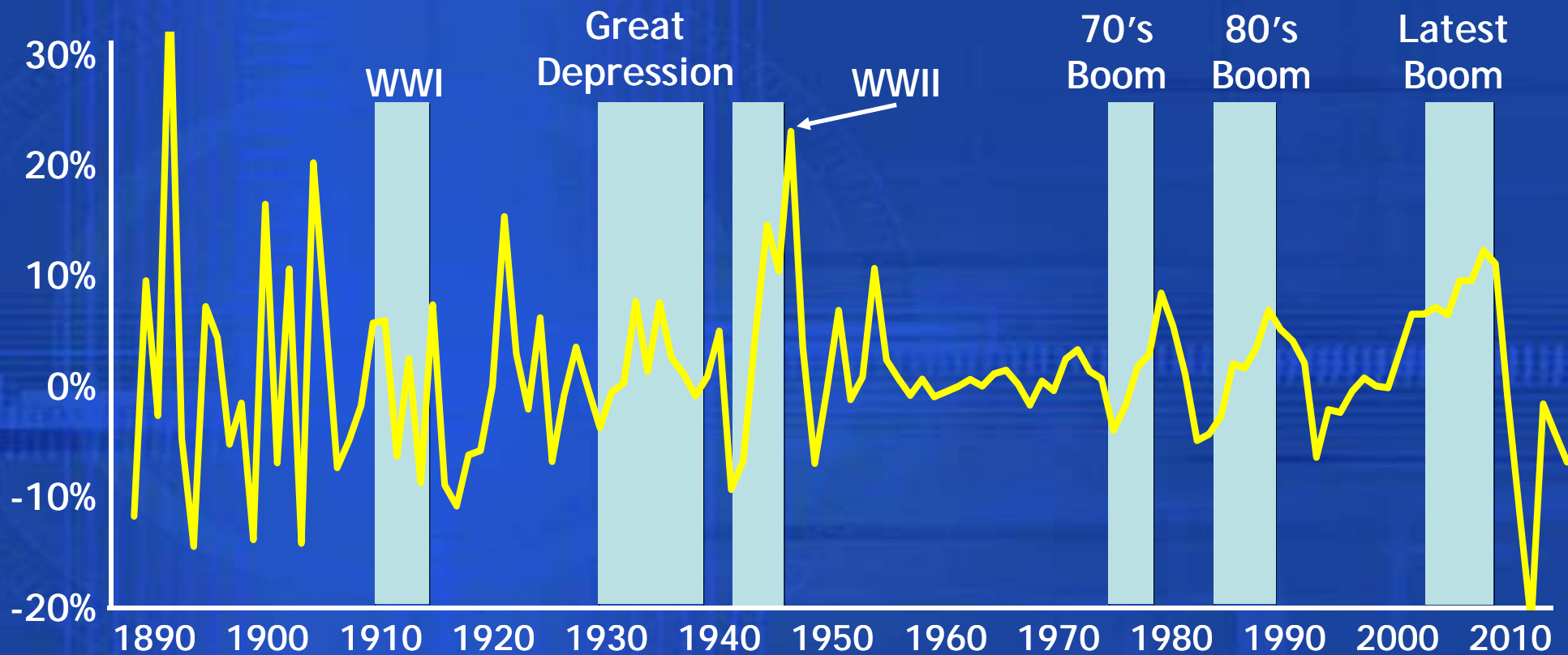
- Energy
- Housing
- Entitlements
- Education
- Immigration
- Health

Fallacy:  
“Any loan to real estate is a good loan ...”



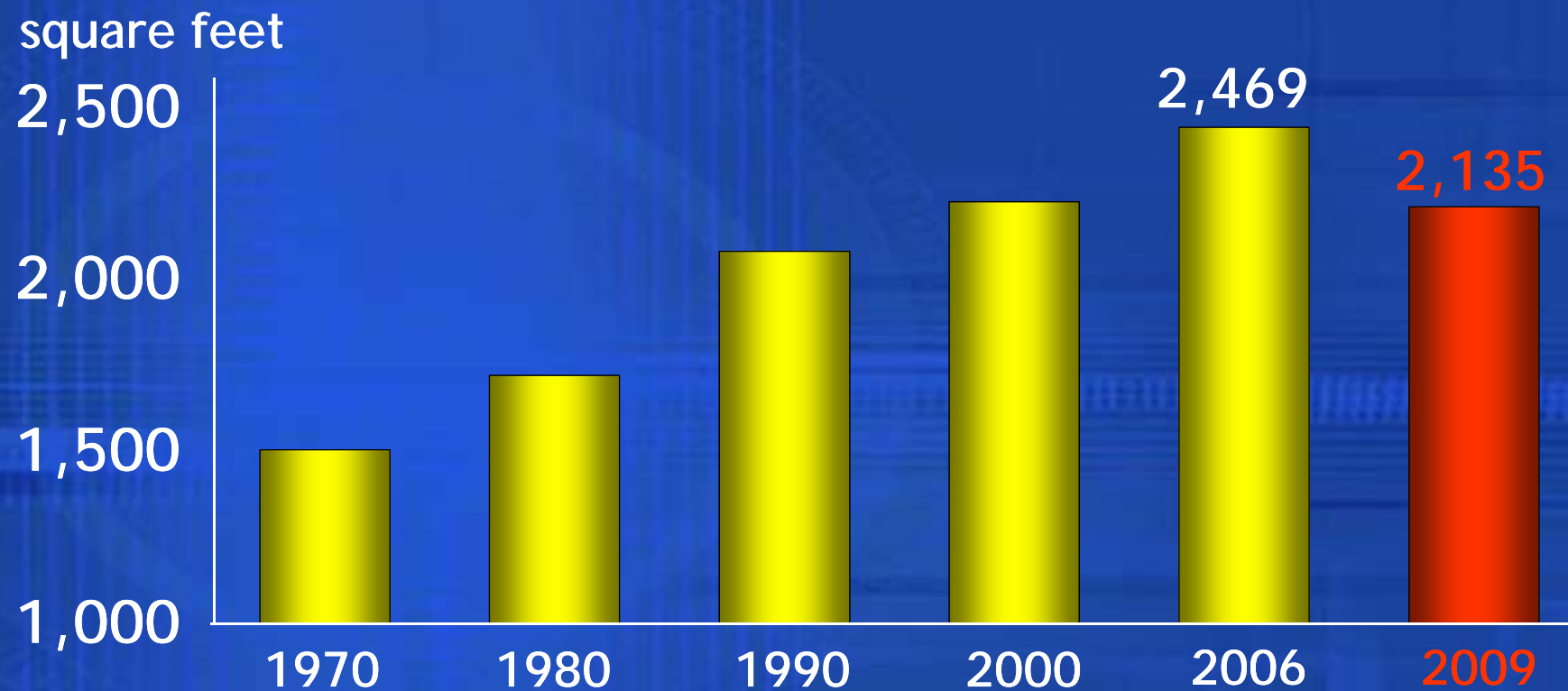
# Home prices don't go up forever

Change in home prices in 121 years



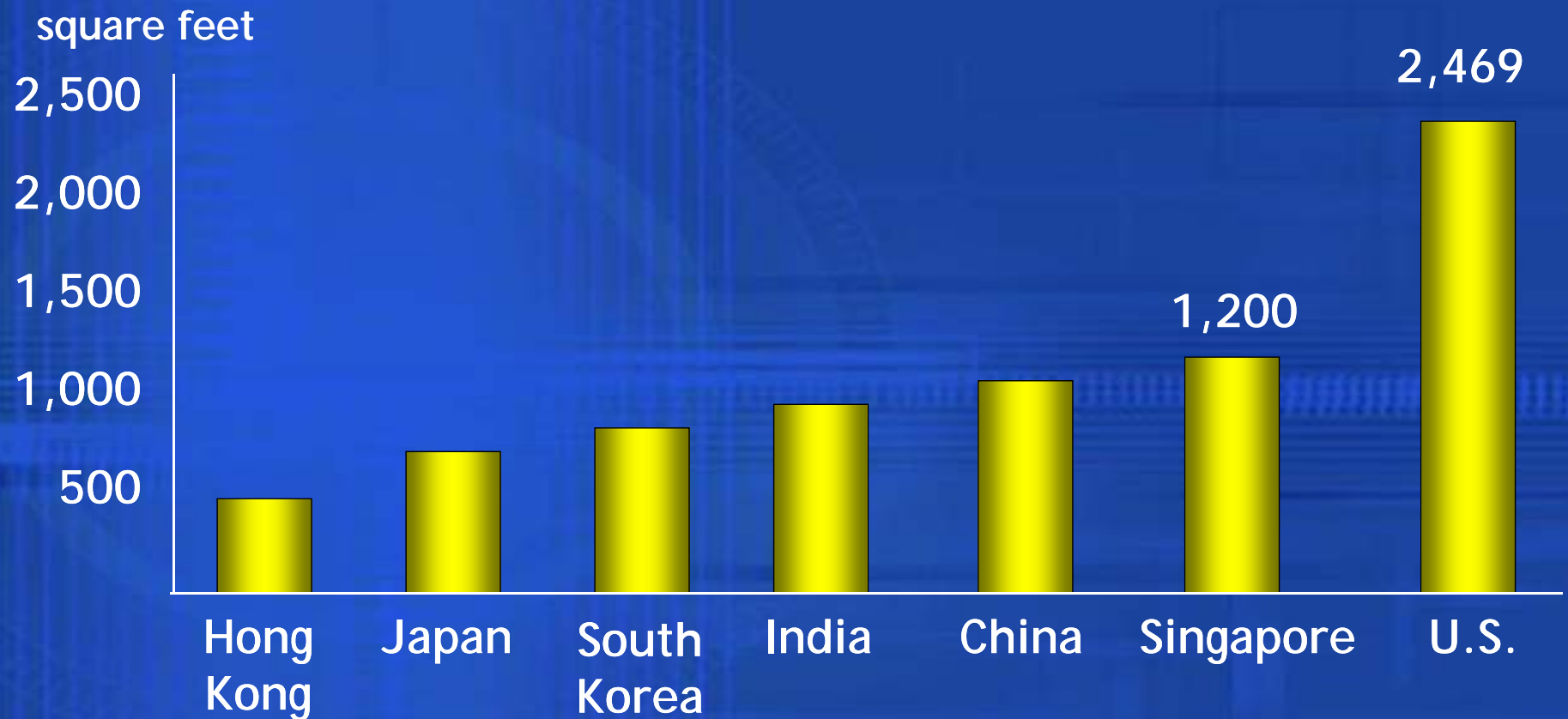
Sources: Robert Shiller, Milken Institute.

# Average Size of American Houses



Source: National Association of Home Builders / U.S. Census Bureau

# Home Sizes: U.S. vs. Asia





# Consumer Spending

## U.S.

Housing	33%
Transportation	18%
Food	13%
Insurance/pensions	11%
Healthcare	6%
Entertainment	5%
Apparel and services	4%
Supplemental Education	2%

## Asia

Food	23%
Supplemental Education	15%
Housing	10%
Clothing	8%
Other	8%
Transportation	6%
Healthcare	5%
Communication	5%

Source: U.S. Bureau of Labor Statistics/CLSA



# Where's Sputnik?

- Energy
- Housing
- Entitlements
- Education
- Immigration
- Health

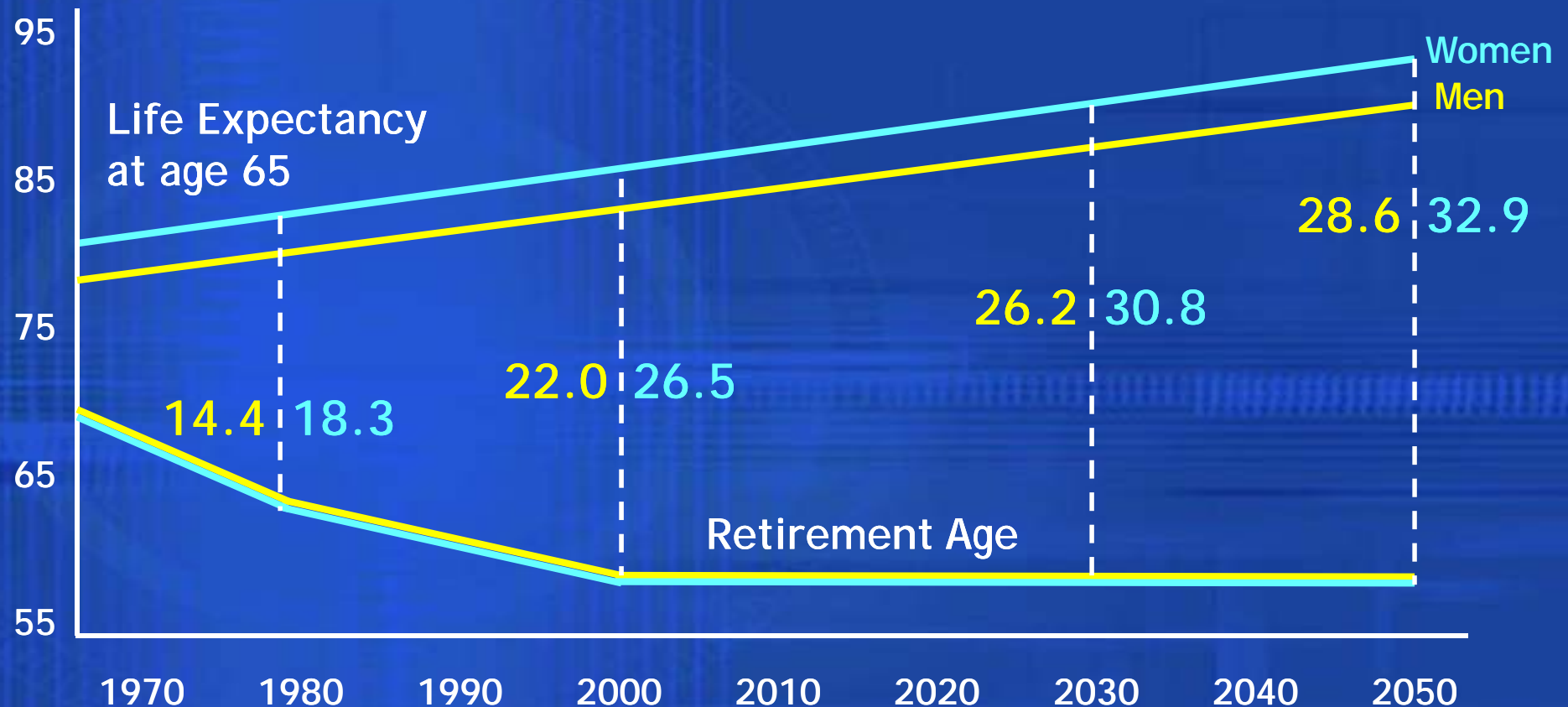
When Social Security was introduced in 1935, the average life span in the U.S. was 61.7 years.

In 2009, life expectancy in the U.S. reached 78.1 years.

*Sources:* National Center for Health Statistics, *National Vital Statistics Reports*, vol. 54, no. 19, June 28, 2006.  
U.S. Census Bureau, International Database.

# Longer Life Expectancy; Longer Retirements

## France



Source: OECD Ageing and Employment Policies, France 2005

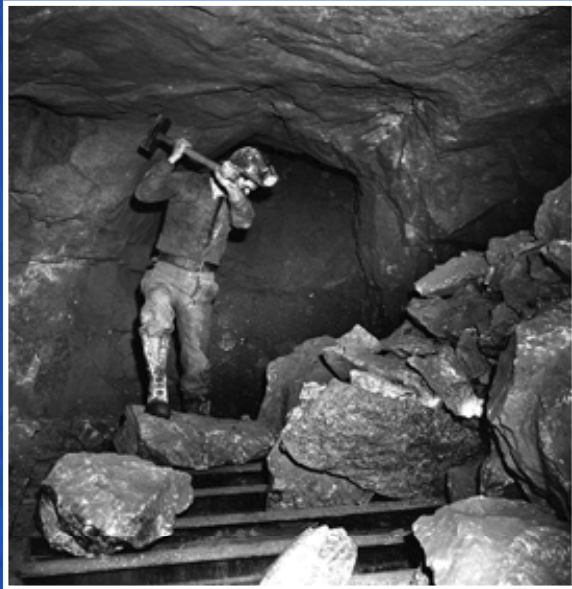
# Pensions for Greece's Most Dangerous Jobs

- High-risk workers are eligible for early retirement:
  - Full government pension benefits
  - Age 50 for women, 55 for men
- Who qualifies?
  - 580 job categories
  - 700,000 workers (14% of workforce)





# High-Risk Occupations in Greece



Coal Mining



Bomb Disposal

# High-Risk Occupations in Greece



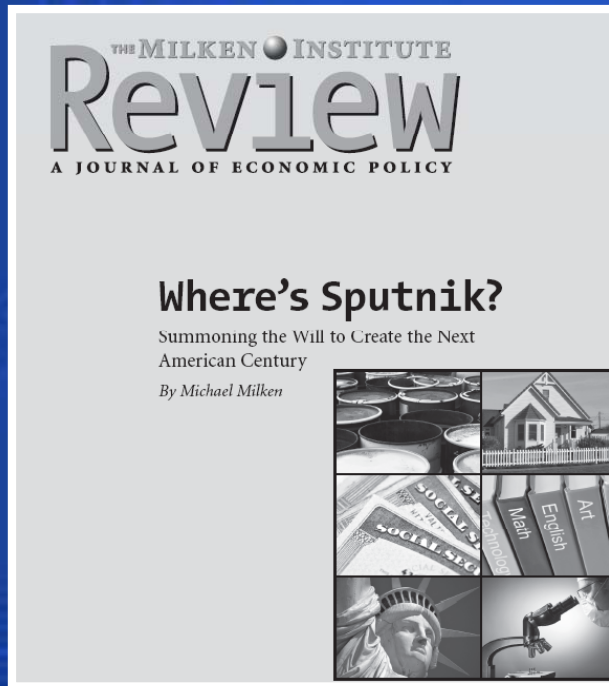
Radio Hosts?

("Bacteria on microphones")



Hairdressers?

("Exposure to hair dyes")



# Where's Sputnik?

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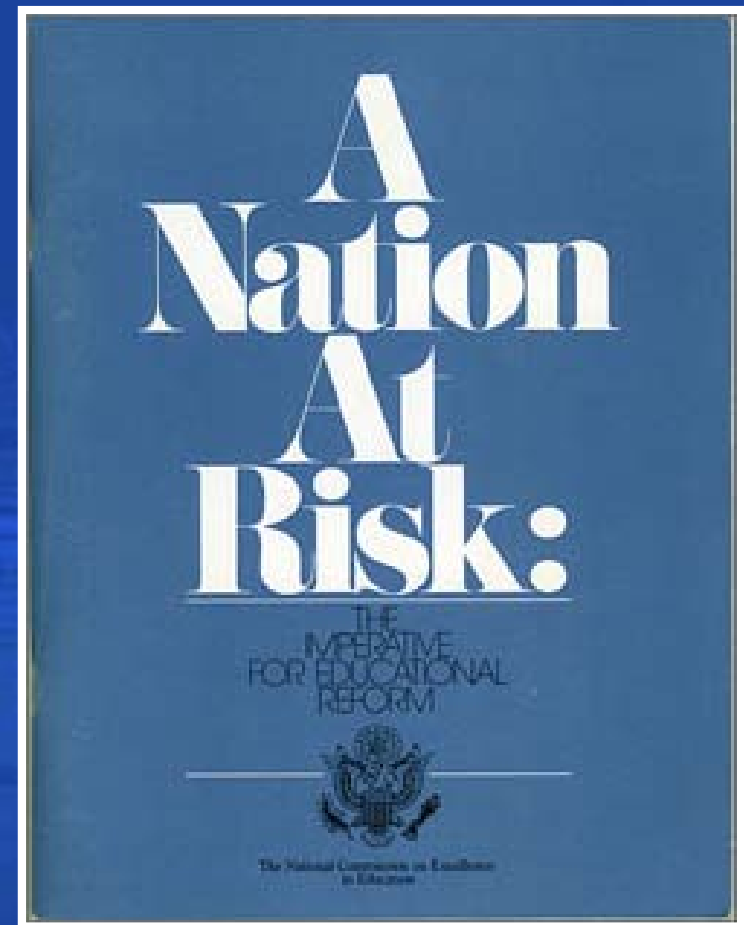
Between 1870 and 1950, Americans added almost **one year of education each decade**.

By 1960, the highest average grade level in the U.S. **exceeded every other nation by two years**.

Since 1960, we have made no progress and several **other nations have surpassed us**.

“If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might have viewed it as an act of war.”

- 1983





# Skilled and Unskilled Jobs

1950



20%  
Semi-  
skilled

20%  
Skilled

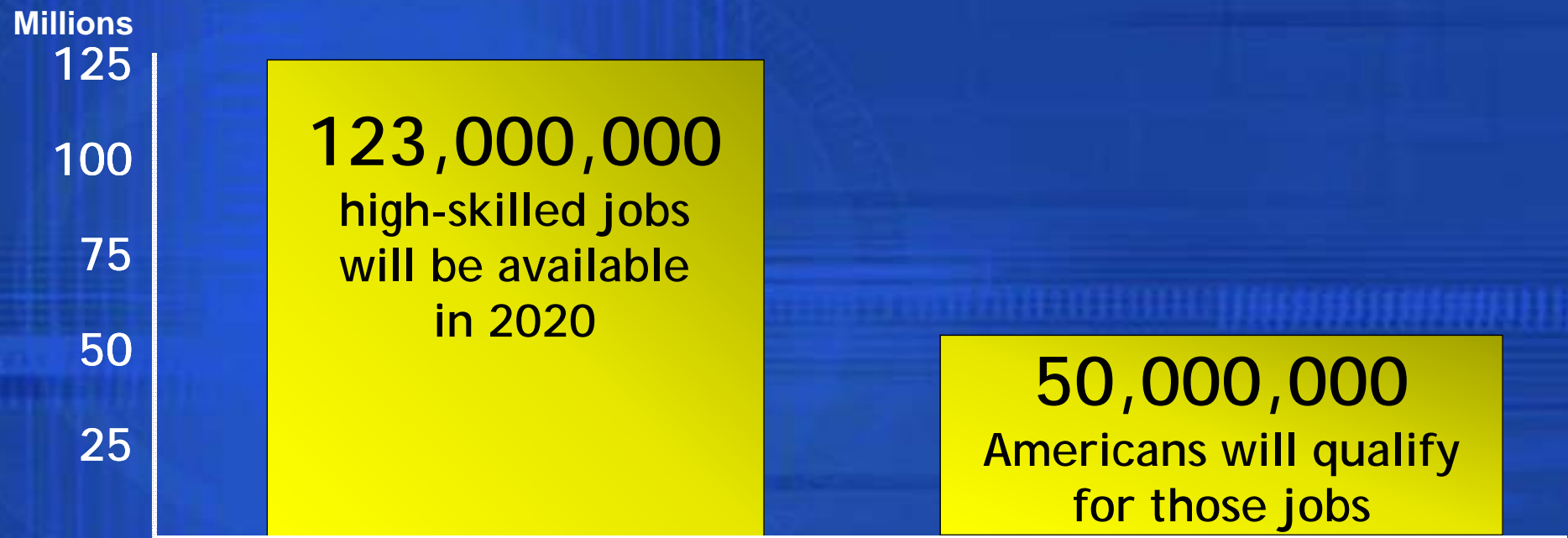
Today



20%  
Semi-  
skilled

65%  
Skilled

# The Jobs Problem (It Isn't Jobs - It's Trained Workers)



Source: Edward Gordon, "Winning the Global Talent Showdown"



## China

- Parents spend an average of 15% on their children's education ... and only 10% on housing.
- 55% of parents in China send their children for extra lessons in English.

# Beverly Hills High School



87.7% of students  
rank "proficient" or  
above in math.



46<sup>th</sup> percentile in  
math



34<sup>th</sup> percentile in  
math

*We must not be afraid of  
competition.*

*We must be ready to  
compete.*



# Eddie “The Eagle” Edwards

- 1988 Calgary Olympics
- Britain’s first (and last!) ski jumper
- Last place finish with a jump of 253 feet



**The gold-medal jump was 412 feet.**

# Eddie “The Eagle” Edwards

- 1988 Calgary Olympics
- Britain’s first (and last!) ski jumper
- Last place finish with a jump of 253 feet



## Eddie “The Eagle” Rule:

Olympic qualifiers must compete in international events and place in the Top 30 percent or Top 50 competitors.



The System for Teacher  
and Student Advancement

---

A NEW DIRECTION FOR SUCCESS

- Multiple career paths
- Ongoing applied professional growth
- Instructionally focused accountability
- Performance-based compensation

National Institute for Excellence in Teaching (NIET)



- 284 Scholars since program began in 1989
- 80 born outside the United States
- 34 countries of origin
- 205 Scholars have one or more parents born outside the U.S.
- 99 colleges attended
- 54 are married
- 48 children of Milken Scholars



## *Selected colleges and universities in the Milken Scholars program:*

- 52 to Harvard
- 34 to Stanford
- 25 to Yale
- 21 to Berkeley
- 14 to Columbia
- 11 to Penn
- 11 to M.I.T.
- 8 to Princeton
- 6 to Brown
- 5 to Cornell





More than  
30,000 students



# Mike's Math Club in China



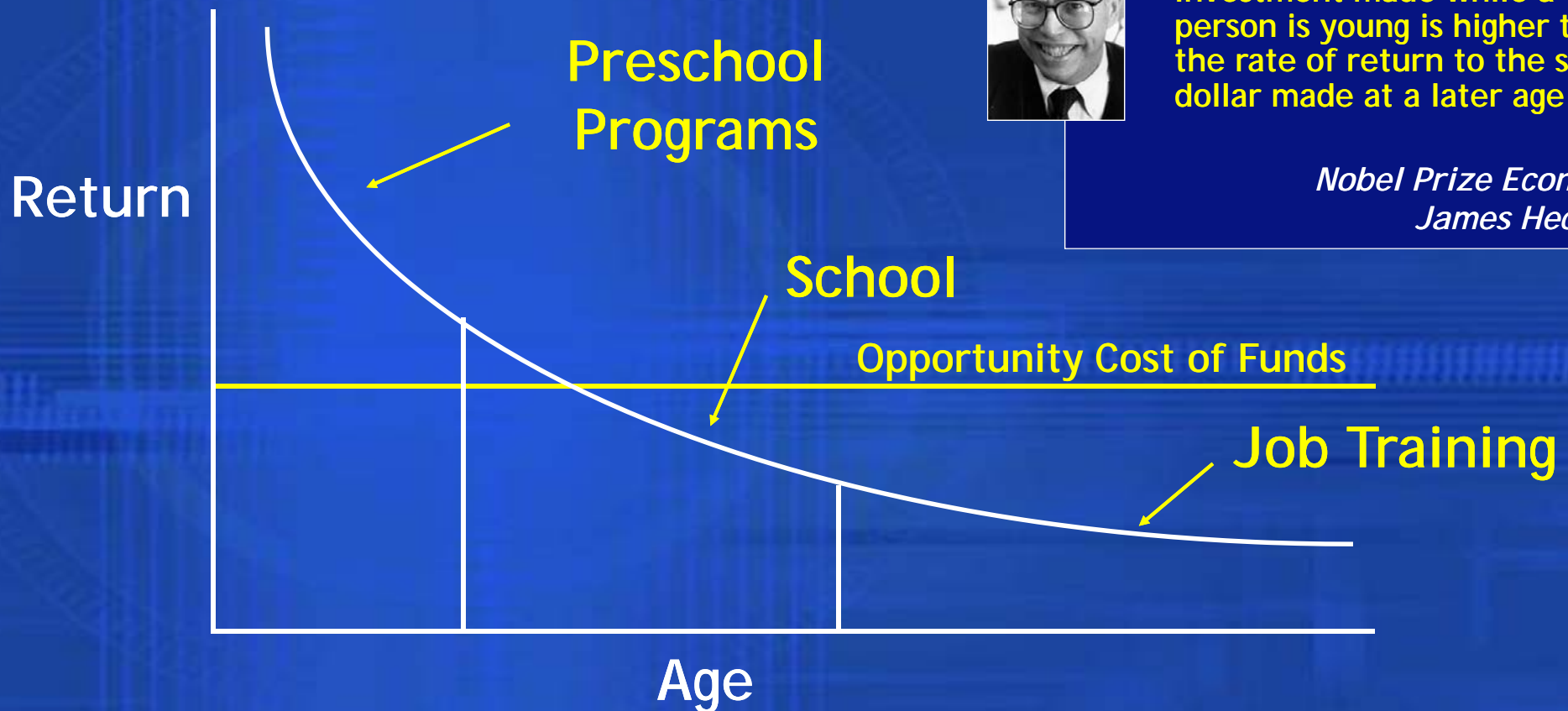




2012: More than 2,500 teachers



# Return on Human Capital Investment



"The rate of return to a dollar investment made while a person is young is higher than the rate of return to the same dollar made at a later age."

*Nobel Prize Economist  
James Heckman*

Source: James Heckman, University of Chicago



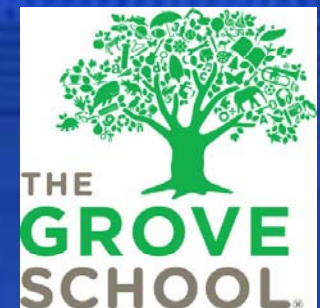
*Ability to learn*  
*Love of learning*



# Knowledge Universe

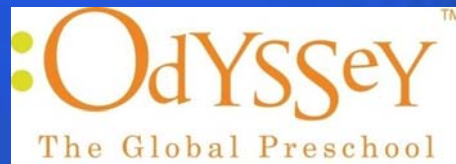
Knowledge  
Beginnings®

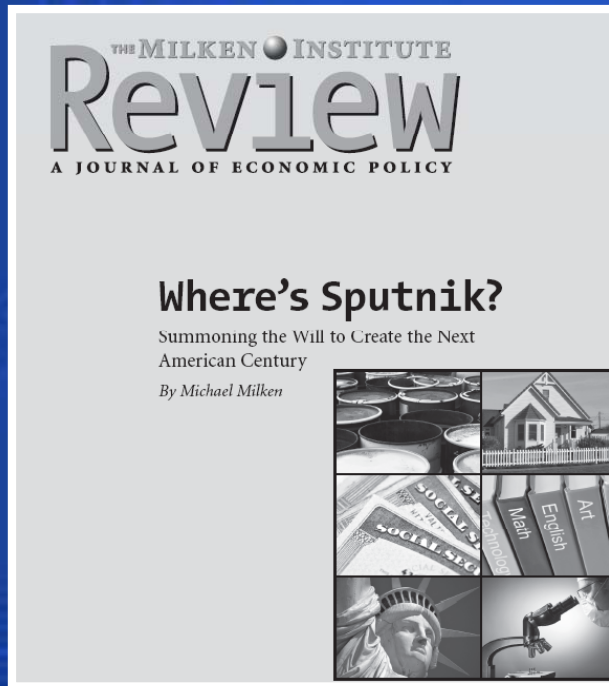
Child Development Centers



# Knowledge Universe International

Singapore, Malaysia, India, United Kingdom





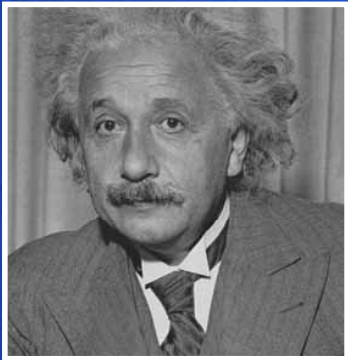
# Where's Sputnik?

- Energy
- Housing
- Entitlements
- Education
- Immigration
- Health

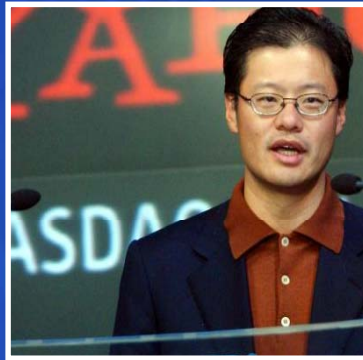
Highly skilled, entrepreneurial  
and educated immigrants are  
crucial to prosperity.



# Building Human Capital Through Immigration



Albert Einstein  
(Germany)



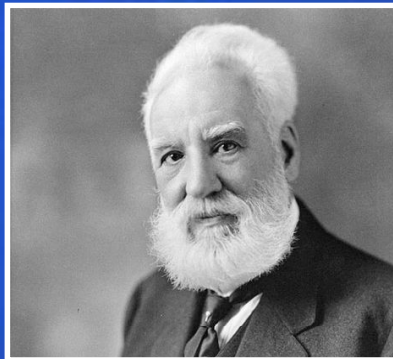
Jerry Yang  
(Taiwan)



Madeleine Albright  
(Czechoslovakia)



Sergey Brin  
(Russia)



Alex. Graham Bell  
(Scotland)



Gustavo Dudamel  
(Venezuela)



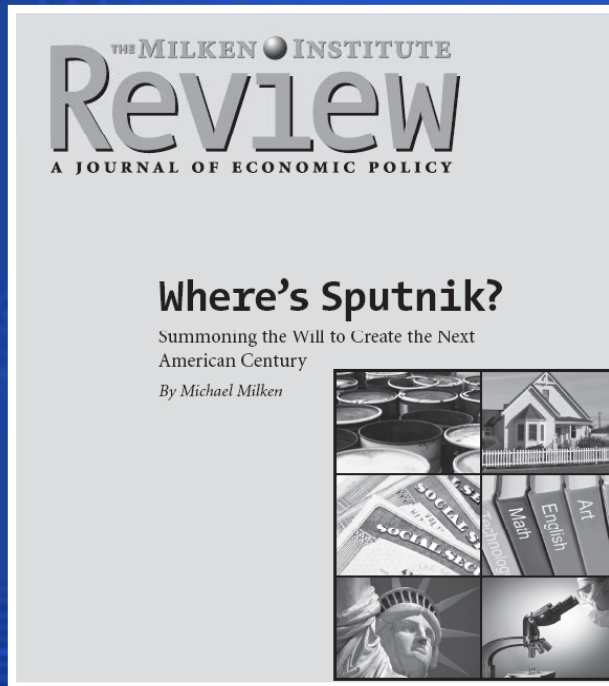
# Doctorates Awarded in the U.S.

- **1/3** of all doctoral students in the U.S. are foreign born, up from one in ten 30 years ago.
- **84%** of their doctorates are in engineering and the sciences.

# Immigrants in Silicon Valley

- More than half of Silicon Valley's science and engineering workforce is foreign-born.
- More than 15 percent of Silicon Valley start-up companies were founded by immigrants from India.
- Another 13 percent had CEOs from China or Taiwan.

**60% of the nearly 1 million Chinese people with assets over 10 million yuan (\$1.6 million) are thinking about emigrating to the U.S. or Europe.**



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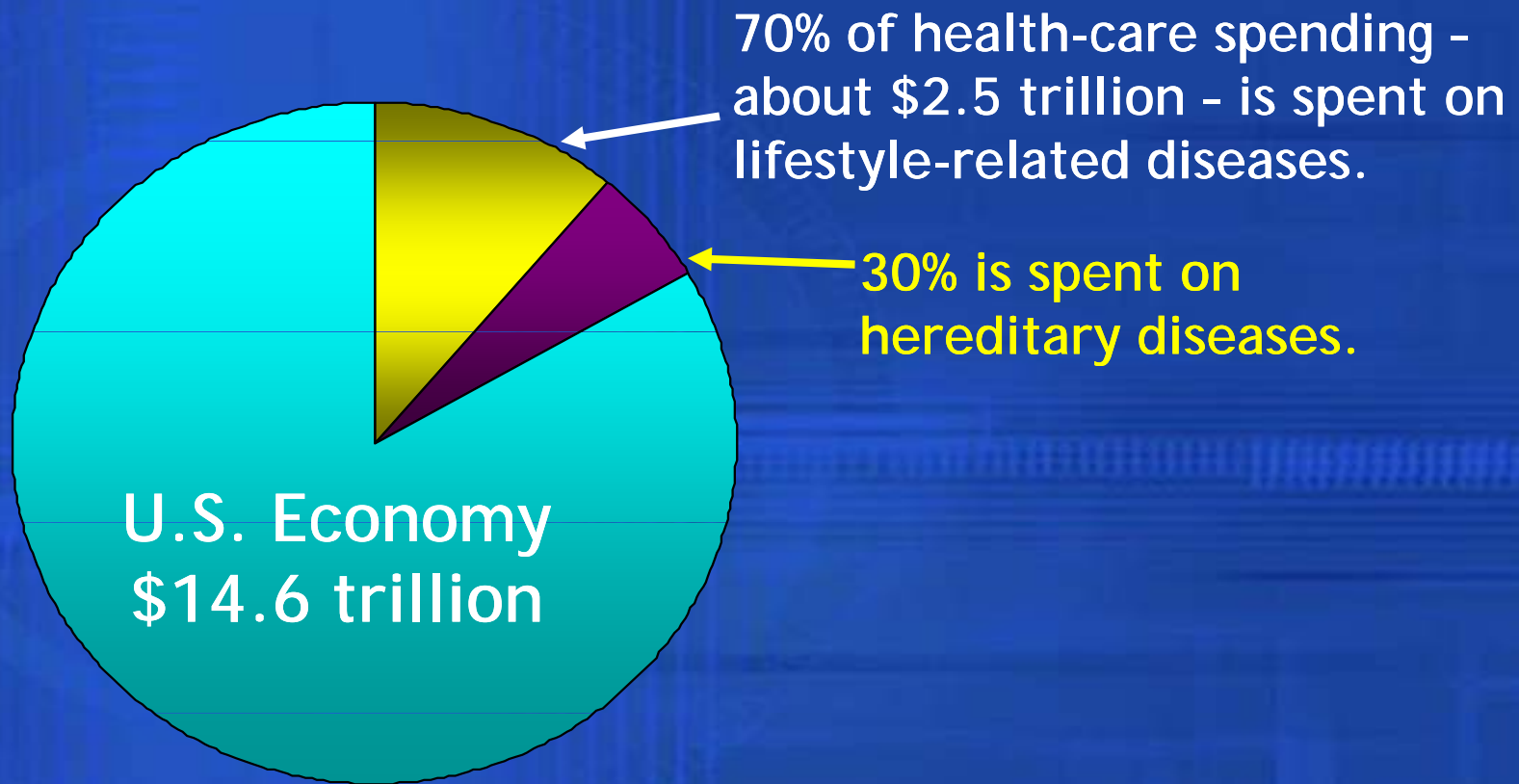
*Half of all economic growth in the last two centuries can be traced to medical research advances.*



# Three Solutions to Healthcare Challenges

- Prevention
- Cost reduction
- Research leading to cures

# Lifestyle Makes a Difference



EVERY DOCTOR IN PRIVATE PRACTICE WAS ASKED!



Family doctors, surgeons, diagnosticians, nose and throat specialists... doctors in every branch of medicine were asked: "What cigarette do you smoke, Doctor?"

Three nationally known independent research organizations did the asking.

The answers came in by the thousands. Actual statements from doctors themselves. Figures were checked and re-checked! The result? Camels... convincingly!

According to this recent Nationwide survey:

## MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE!

This is no casual claim. It's an actual fact. Based on the statements of doctors themselves to three nationally known independent research organizations.

THE QUESTION was very simple. One that you...any smoker...might ask a doctor: "What cigarette do you smoke, Doctor?"

After all, doctors are human too. Like you, they smoke for pleasure. Their taste, like yours, enjoys the pleasing flavor of costlier tobacco. Their throats too appreciate a cool mildness.

And more doctors named Camels than any other cigarette!

If you are a Camel smoker, this preference for Camels among physicians and surgeons will not surprise you. But if you are not now smoking Camels, by all means try them. Compare them critically in your "T-Zone" (see right).

CAMEL—COSTLIER TOBACCOS

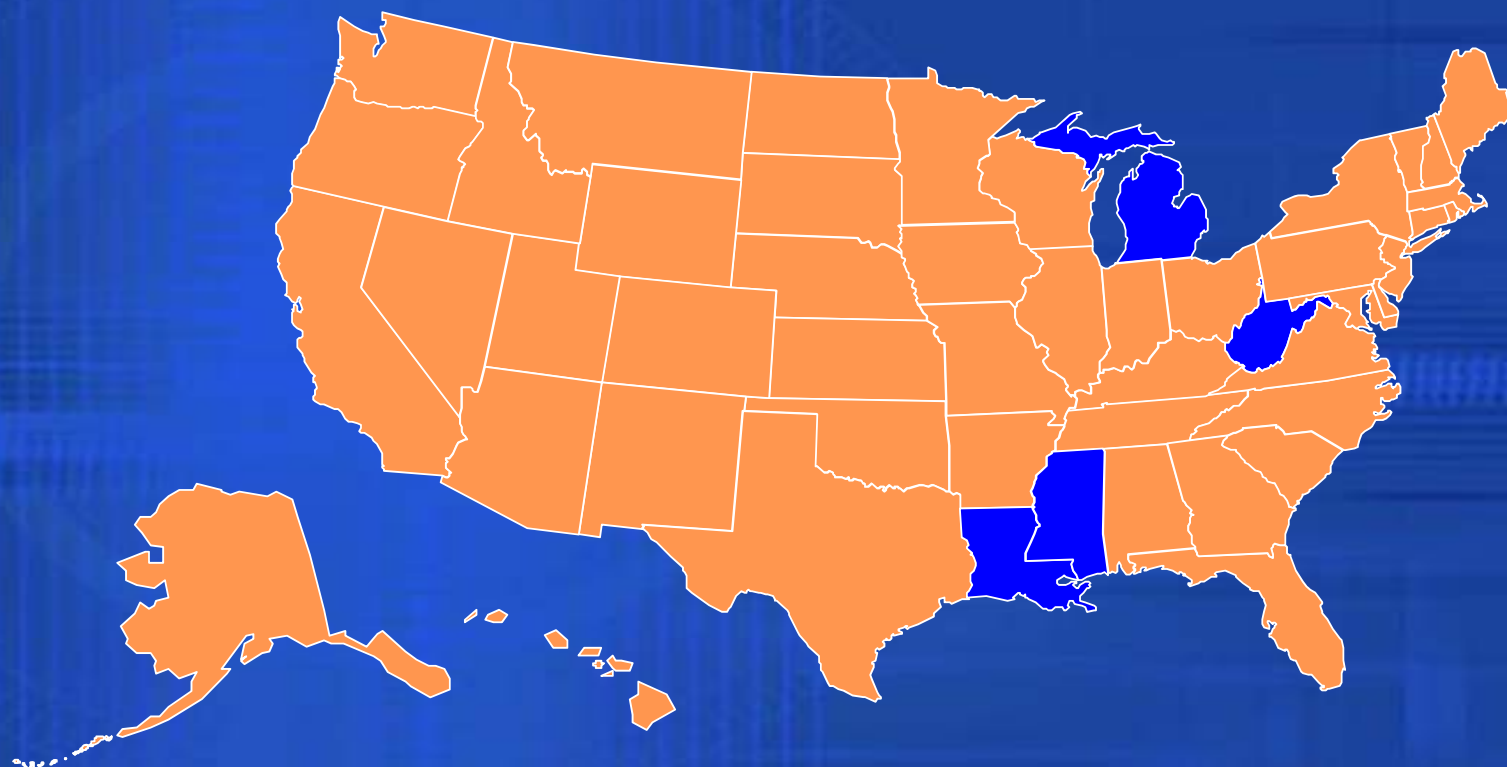
### THE "T-ZONE" TEST WILL TELL YOU

The "T-Zone"—T for taste and T for throat—is your own personal standard for cigarette quality. Only your taste and throat can decide which cigarette tastes best to you...how it affects your throat. On the basis of the responses of many, many millions of smokers, we believe Camels will meet your "T-Zone" in a "T."



# Obesity Prevalence Among U.S. Adults

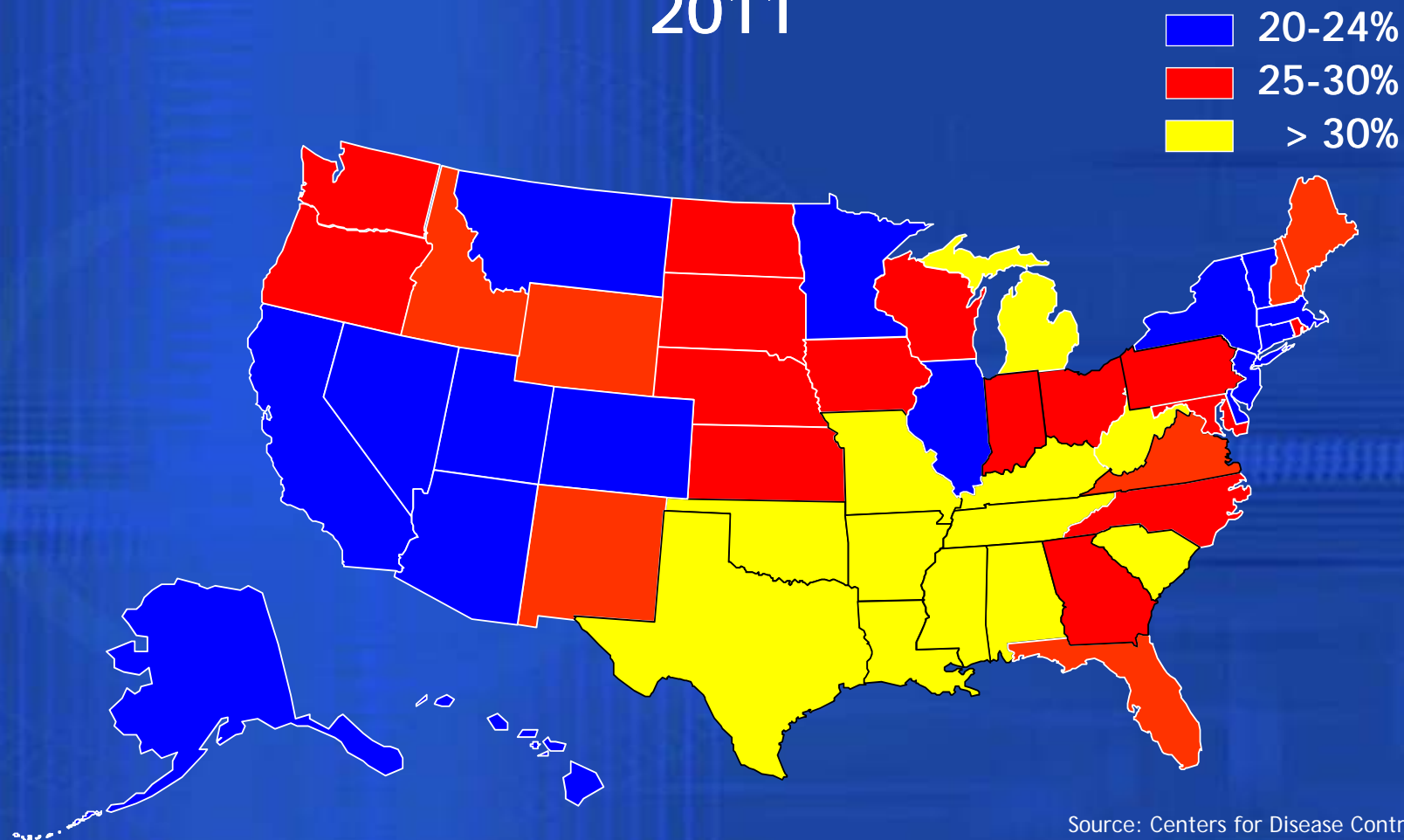
1991



Source: Centers for Disease Control and Prevention

# Obesity Prevalence Among U.S. Adults

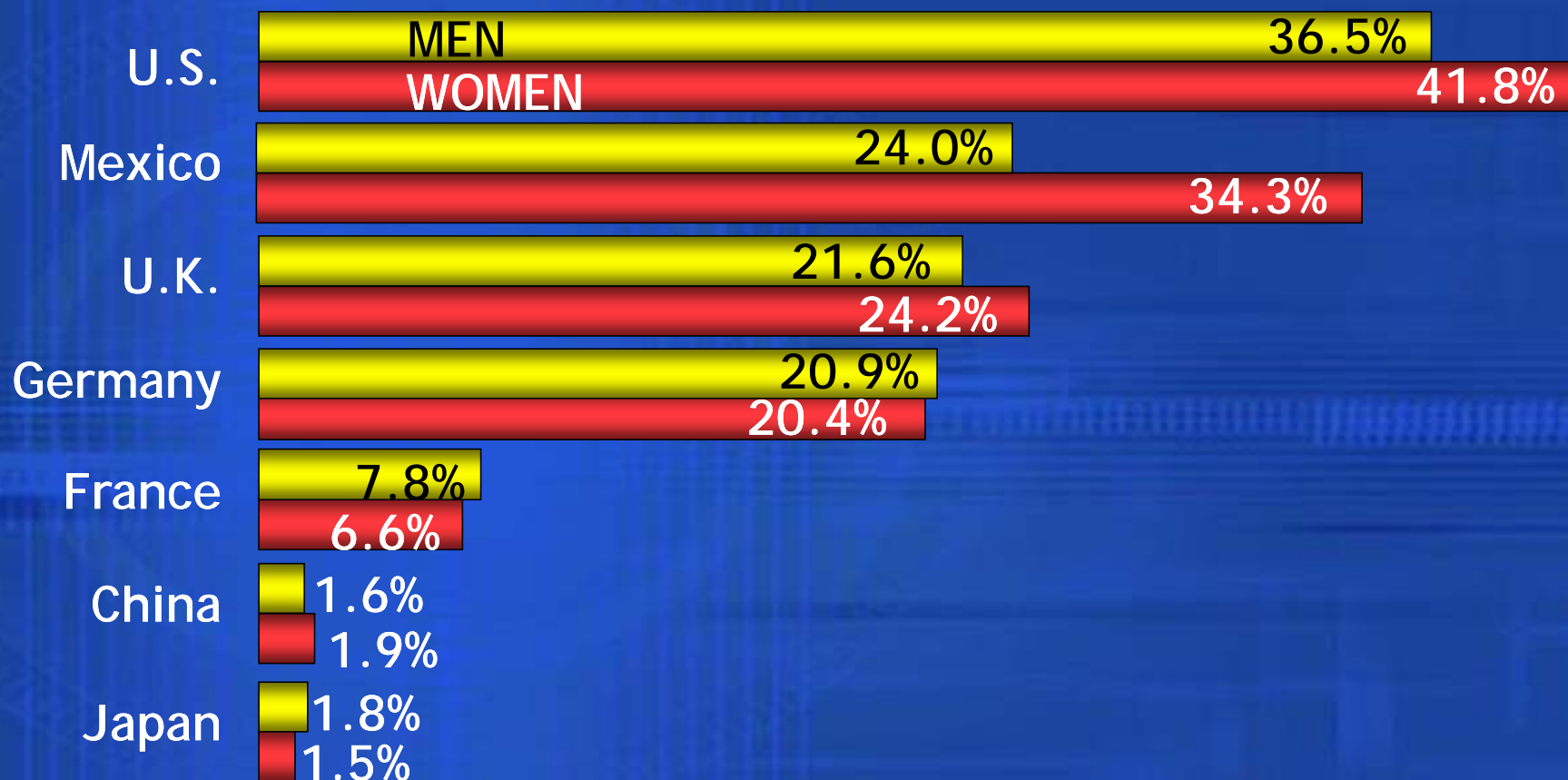
## 2011



Source: Centers for Disease Control and Prevention



# Obesity Rates: U.S. vs. World



Source: World Health Organization / Estimated obesity rates for people aged 15 years and older / 2005

# The Supersize Investment

## A Negative Return

For only 67 cents you can step up to a larger order of French fries and a 32-ounce soda ...

Yet, every time you supersize, it costs you \$8 in extra lifetime spending on food, gas and medical care to sustain a heavier body.

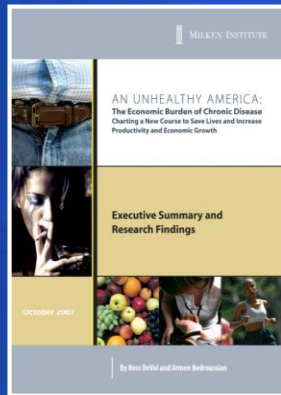






# Only in America





## **Chronic Disease Study**

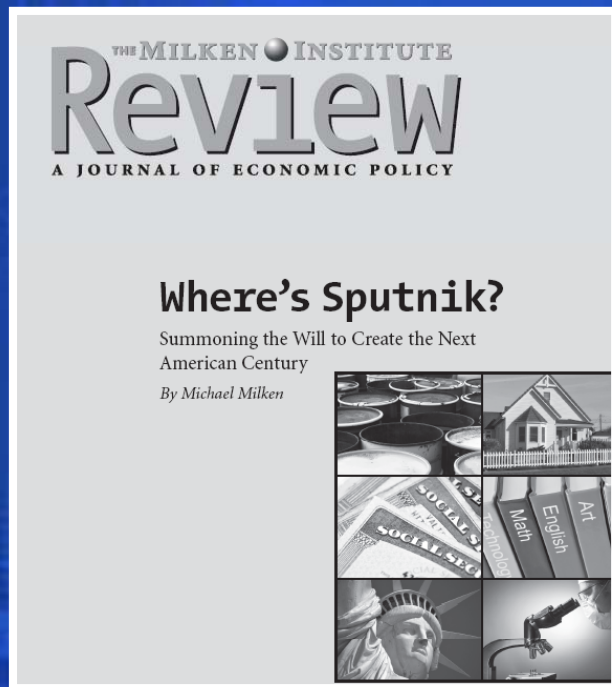
Failure to address chronic diseases  
adequately costs the  
U.S. economy more than  
\$1 trillion annually.





"We shall pay any price, bear  
any burden, meet any  
hardship ... in order to assure  
the survival and the success  
of liberty."

John F. Kennedy  
1961 Inaugural



# Do We Have the Will?

- Energy
- Housing
- Education
- Entitlements
- Immigration
- Health



April 28 - May 2, 2012



- Finance
- Education
- Philanthropy
- Health
- Climate/Energy
- Government
- Regions
- Industries
- Media
- Successful Aging

# The Future Belongs to the Educated

- Democratization of Capital
- Building Human Capital
- Where's Sputnik?
- Education is the Answer



# Short-term Stimulus



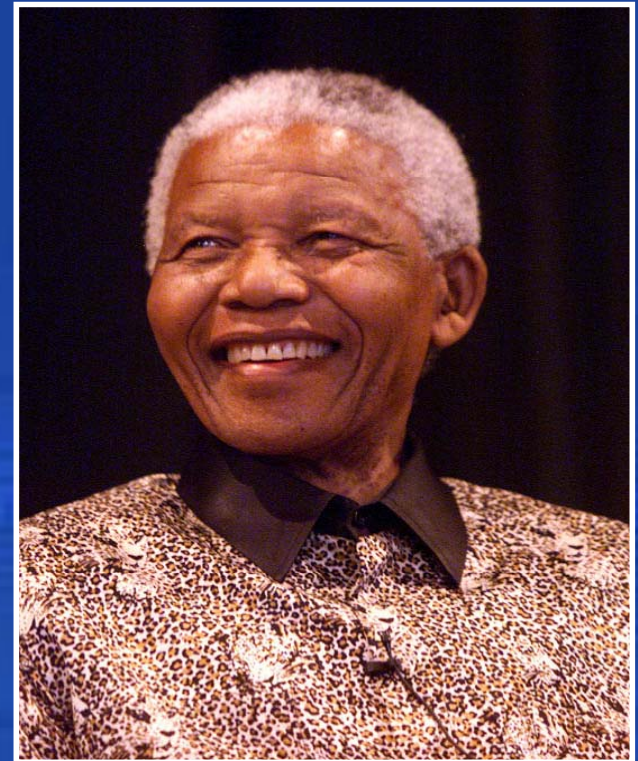


# Education is the long-term stimulus.



“Education is the most powerful weapon which you can use to change the world.”

- Nelson Mandela



We are creating a legacy for the next generation.







“In your hands, my fellow citizens, more than in mine, will rest the final success or failure of our course.”

John F. Kennedy  
1961 Inaugural

# The Future Belongs to the Educated

ASU Education Innovation Summit

Phoenix

April 16, 2012

Michael Milken

Chairman, Milken Institute