

# **Innovative Enterprise and Corporate Governance**

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Work – Innovation**  
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# Sustainable Prosperity

Economic performance goals:

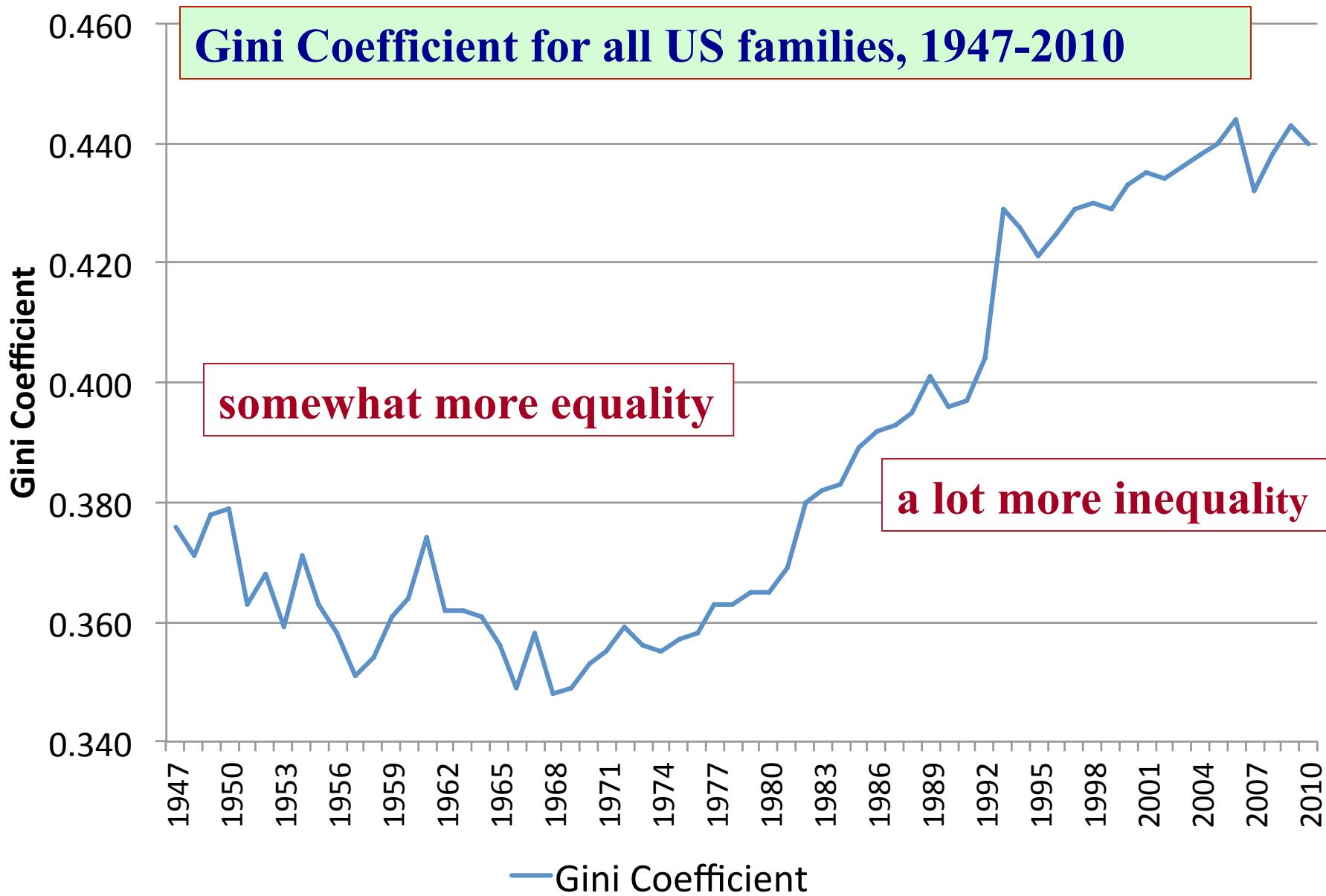
**Equitable and stable economic growth  
= sustainable prosperity**

- **Growth:** real per capita productivity gains that can raise standards of living
- **Equity:** gains from growth shared fairly among those who contribute to it
- **Stability:** employment and income that is not subject to boom and bust

# United States: An unsustainable economy

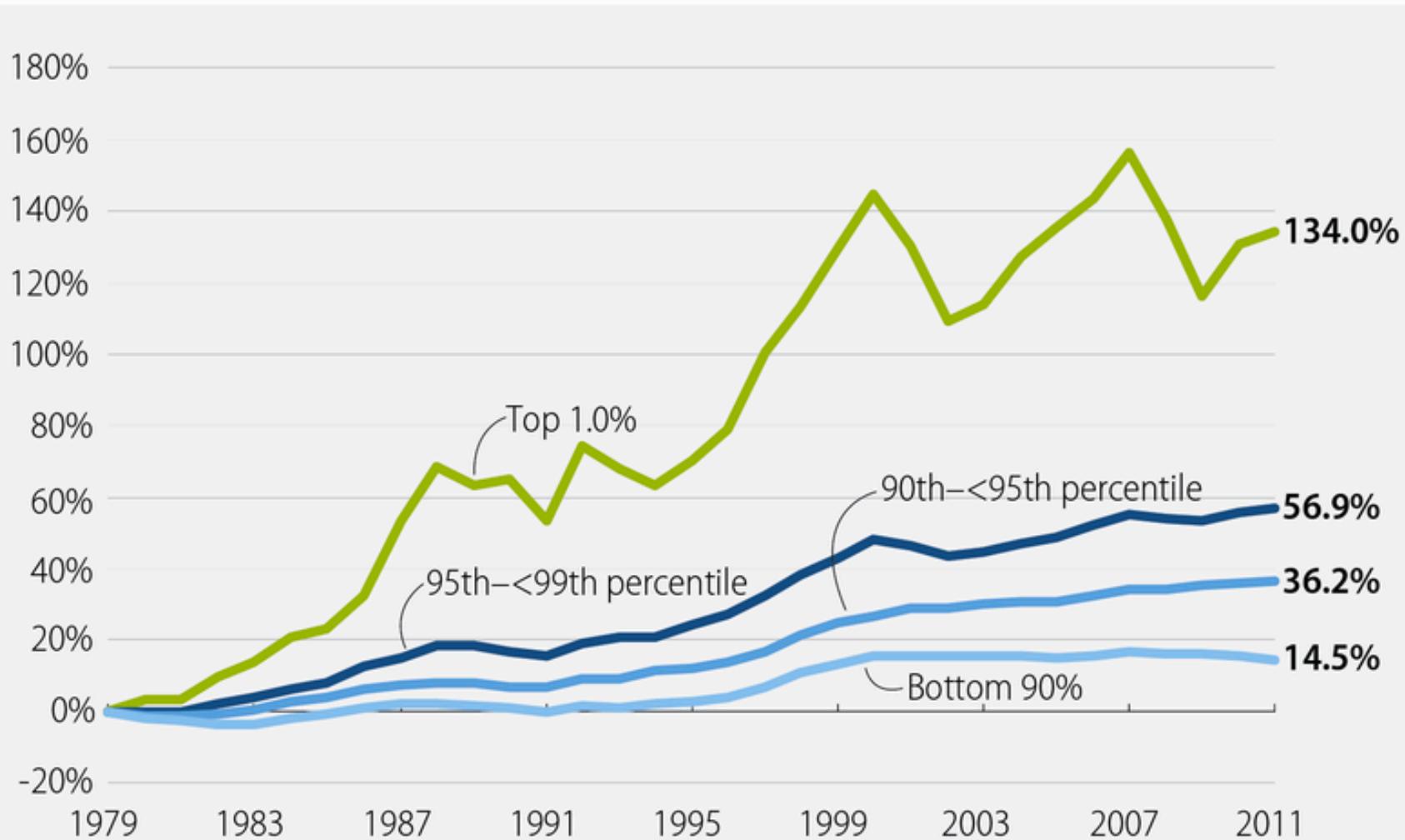
- **Slow Growth:** slowing of real per capita productivity gains in the 2000s -- no longer the “innovation nation”
- **Growing inequity:** an income distribution that concentrates income at the top
- **Growing instability:** periodic downturns followed by increasingly prolonged “jobless recoveries”
- **My argument:** Policies for sustainable prosperity must be based on an understanding of innovative enterprise and how to govern it

# A highly inequitable economy



# U.S. wage inequality has risen dramatically since 1979

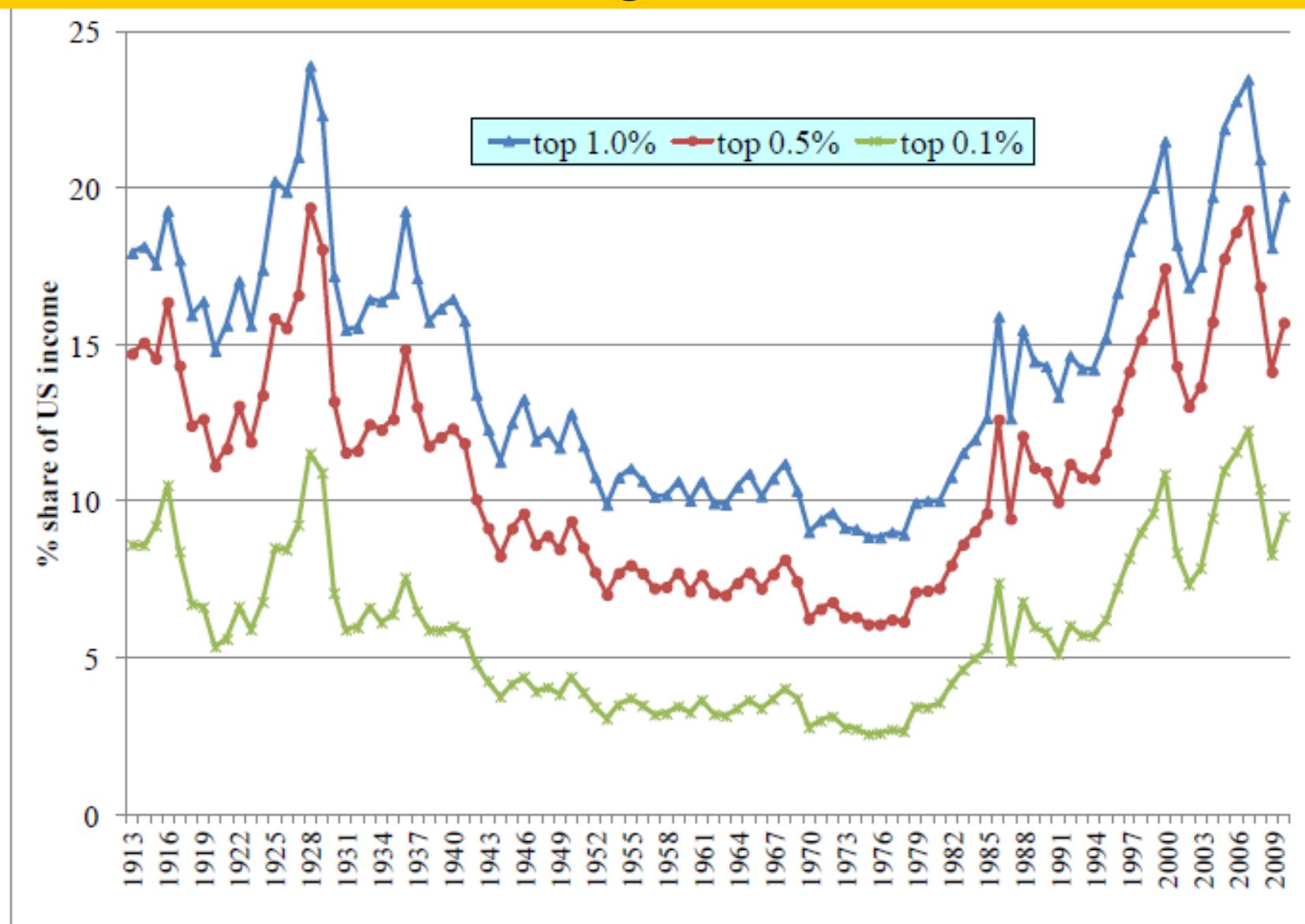
Cumulative change in real annual wages, by wage group, 1979–2011



**Source:** EPI analysis of Social Security Administration wage statistics and "Earnings Inequality and Mobility in the United States: Evidence from Social Security Data since 1937," a February 2010 *Quarterly Journal of Economics* article by Wojciech Kopczuk, Emmanuel Saez, and Jae Song

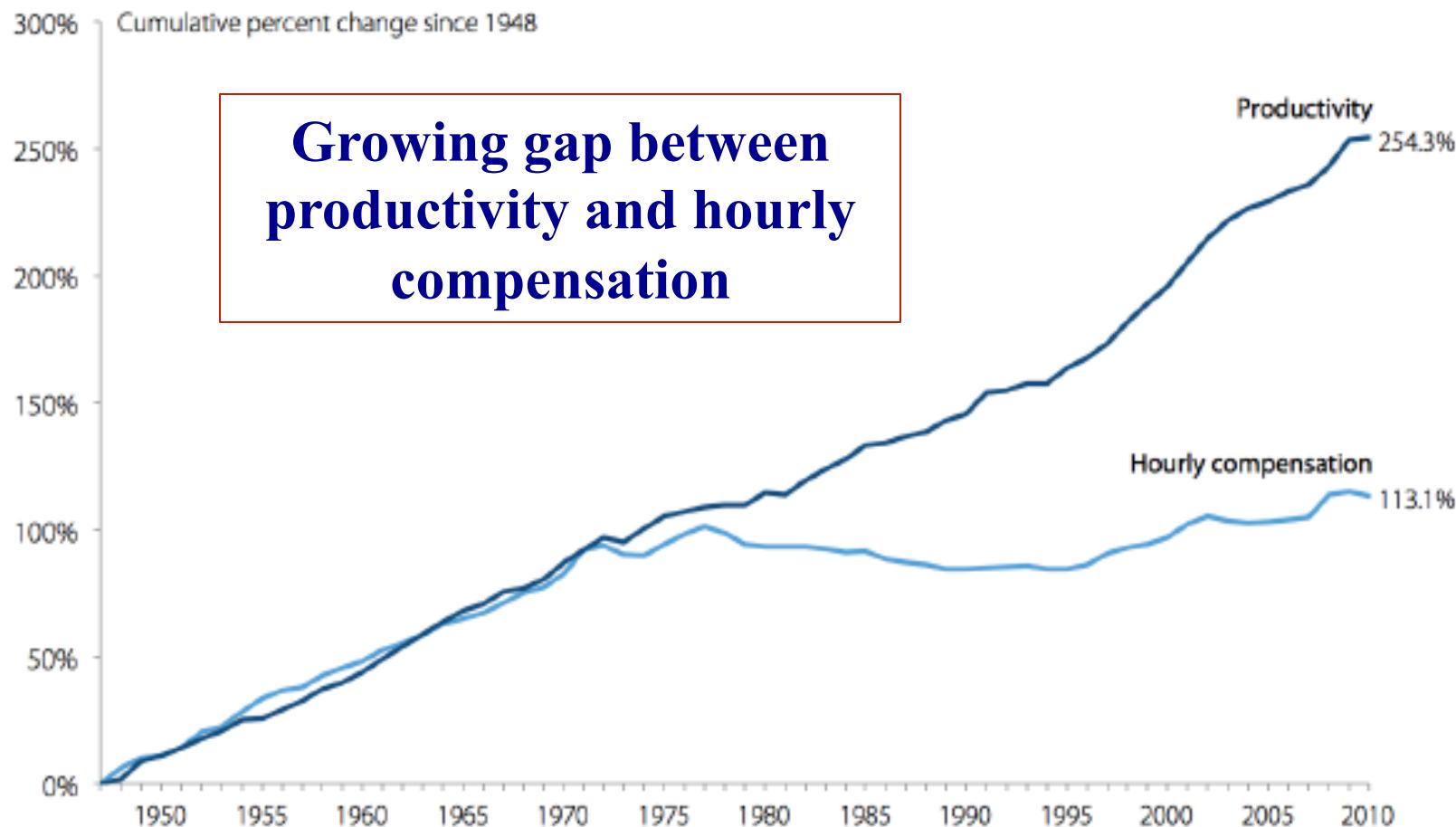
# Concentration of income at the top

Shares of total US income of highest income households, 1913-2010



Source: Piketty and Saez 2012, Table A3.

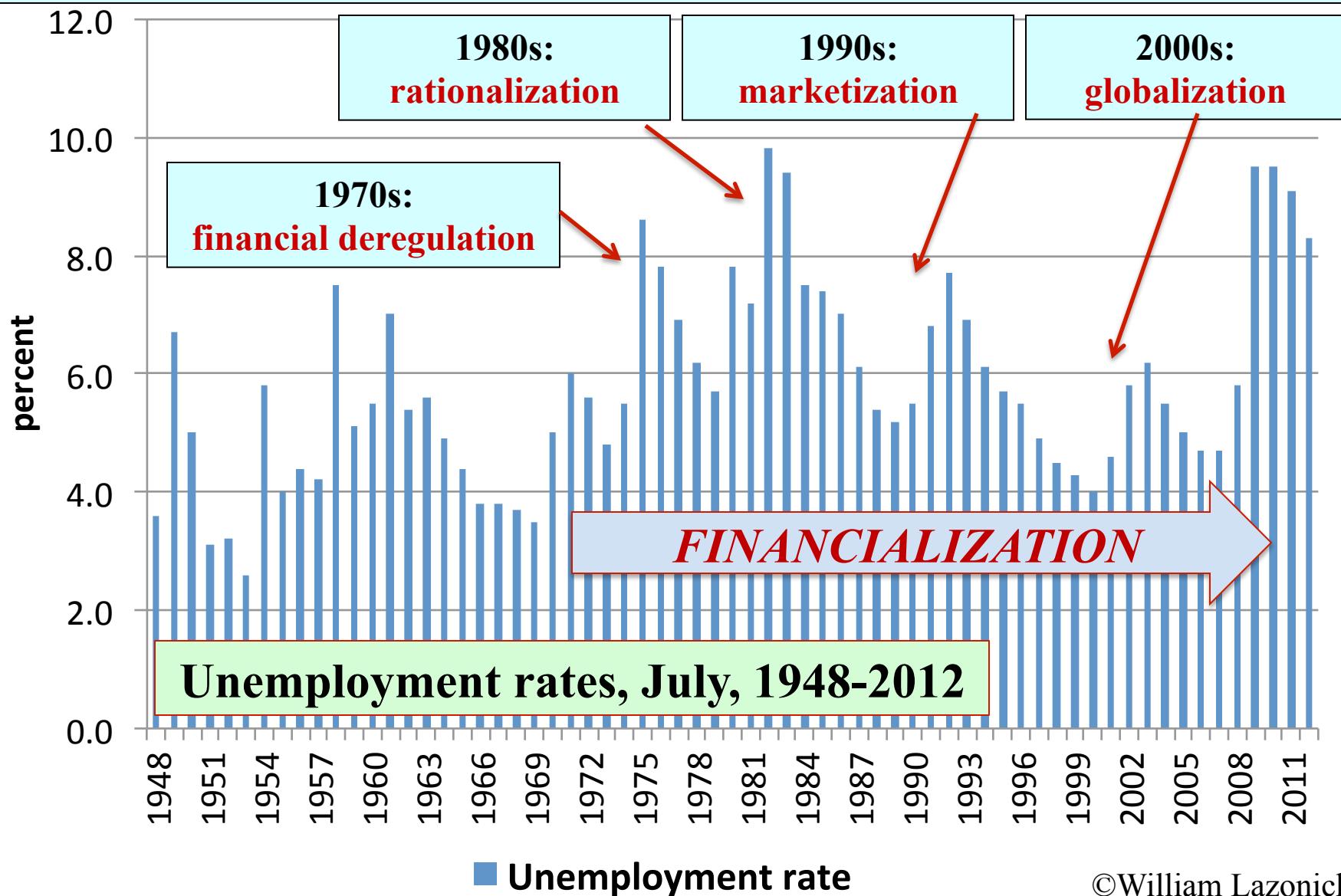
## Growth of real hourly compensation for production/nonsupervisory workers and productivity, 1948–2011



Note: Hourly compensation is of production/nonsupervisory workers in the private sector and productivity is for the total economy.

Source: Lawrence Mishel, "The Wedges between Productivity and Median Compensation Growth" Economic Policy Institute Issue Brief #330, April 26, 2012

# Structural change in corporate employment -- and the disappearance of middle-class jobs



# Three sources of structural change in US corporate employment

1980s: Rationalization: permanent layoffs of blue-collar workers

1990s: Marketization: end of career-with-one company norm

2000s: Globalization: employ highly capable, low-wage labor abroad

- All three transformations in employment resulted in the erosion of “middle-class” jobs in the United States
- But the corporations that had employed these people did not disappear; most remained highly profitable

Q. Why didn't US corporations invest the gains from rationalization, marketization, and globalization in the next generation of higher quality jobs?

A. Financialization of corporate resource allocation (i.e., buybacks)

# The 2008 financial crisis as an employment crisis

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- Financialization of the economy meant that speculative and manipulative gains could be made from securitized assets, including people's homes.
- Rationalization, marketization, and globalization created a growing “sub-prime” population.
- The subprime mortgage crisis reflected the focus of executives of major US corporations, both financial and industrial, on generating high financial returns, in this case by exploiting the vulnerability of a working population that for a quarter of a century has suffered the erosion of middle-class employment opportunities that rendered them “sub-prime”.

# Why does the United States currently lack job-creating growth?

- The problem is not a lack of business confidence; in general US corporations have remained highly profitable.
- The problem is not a mismatch in the labor market; when an economy is creating good jobs, business enterprises “make the match” by training workers, often assisted by local governments.
- The problem is the financialization of the US business corporation: rather than invest in the value-creating capabilities of their business organizations, US corporate executives have increasingly used their positions of strategic control to extract value from their organizations, and benefit directly through ever-exploding, stock-based, executive pay.
- Through their resource-allocation decisions, executives throw experienced employees on the labor market, and, through stock buybacks, throw massive sums of money onto the stock market.

# The governance of innovative enterprise

- How should small enterprises be governed to grow large?
- How should large enterprises by governed to remain innovative?
- What is the role of “shareholder value” in his process?

**TO ANSWER THESE QUESTIONS, WE NEED A THEORY OF INNOVATIVE ENTERPRISE**

# The importance of innovative enterprise

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- Innovative enterprise can generate higher quality products at lower unit costs, i.e. higher living standards
- Higher standards of living that we have today depend on investments in productive capabilities made in the past
- At a point in time, a society's productive capabilities depend on the “investment triad”: developmental state, supportive family, and innovative enterprise
- Today, I will focus on the innovative enterprise and how it can be governed for the sake of sustainable prosperity

# **Characteristics of the innovation process**

The innovation process is:

**Uncertain – need strategy to allocate resources to products and processes**

**Collective – need organization to integrate people with different functional specialties and hierarchical responsibilities into processes of organizational learning**

**Cumulative – need finance to sustain the innovation from the time investments are made until, by generating higher quality, lower cost products, it can yield financial returns**

# **The Innovative Enterprise: Strategy, organization, finance**

**INNOVATIVE ENTERPRISE DEPENDS ON:**

**Strategic control**

- the abilities and incentives of those who allocate the firm's resources**

**Organizational integration**

- hierarchical and functional skill bases that can generate collective and cumulative learning**

**Financial commitment**

- Financial resources to sustain the processes of transforming technologies and accessing markets**

# Potential for sharing gains of innovative enterprise

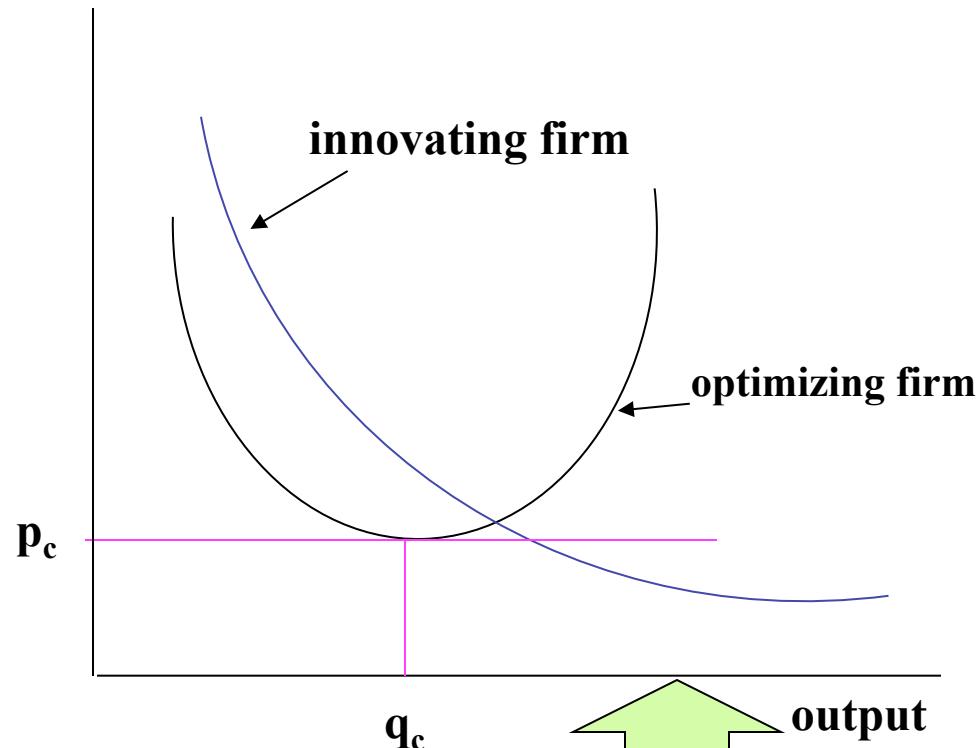
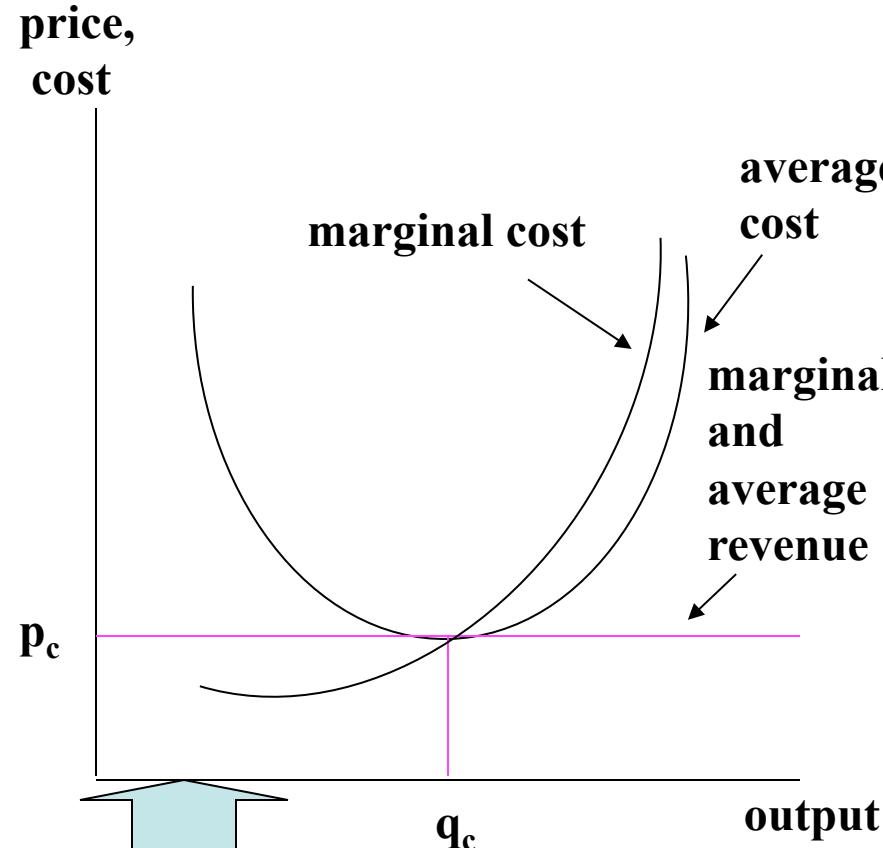
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By creating new sources of value (embodied in higher quality, lower cost products), the innovative enterprise makes it possible (but by no means inevitable) that, simultaneously, *all participants in the enterprise can gain:*

- **Employees:** Higher pay, better work conditions/careers
- **Creditors:** More secure paper
- **Shareholders:** Higher dividends or share prices
- **Government:** Higher taxes
- **The Firm:** Stronger balance sheet AND
- **Consumers:** Higher quality, lower cost products

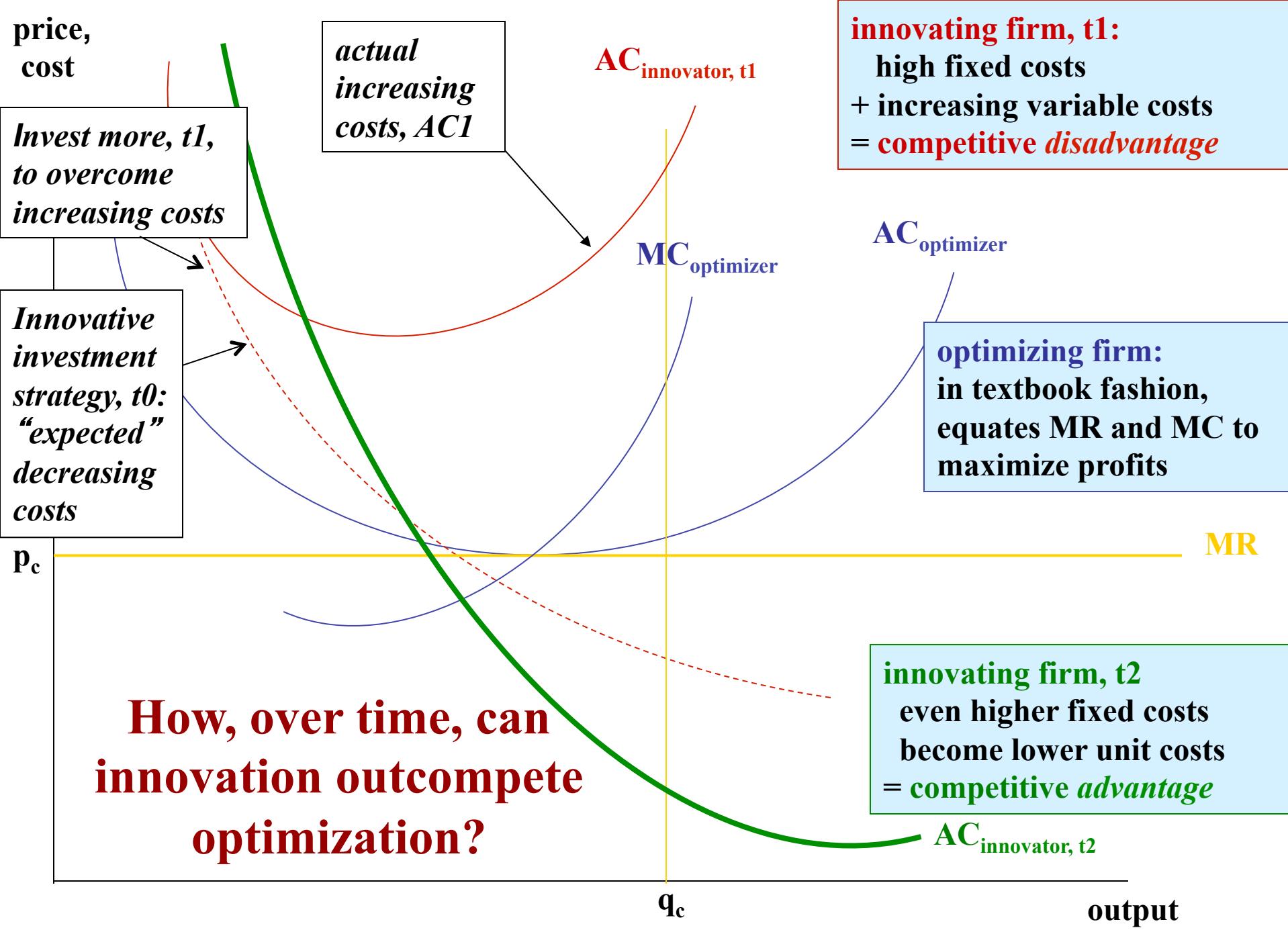
# Comparing optimizing and innovating firms

$p_c$  = “perfectly” competitive price;  $q_c$  = “perfectly” competitive output



Technological and market conditions are given by cost and revenue functions.  
The “good manager” optimizes subject to technological and market constraints.

Through strategy, organization, & finance, innovating firm transforms technologies and markets to generate higher quality, lower cost products. There is no “optimal” output or “optimal” price.



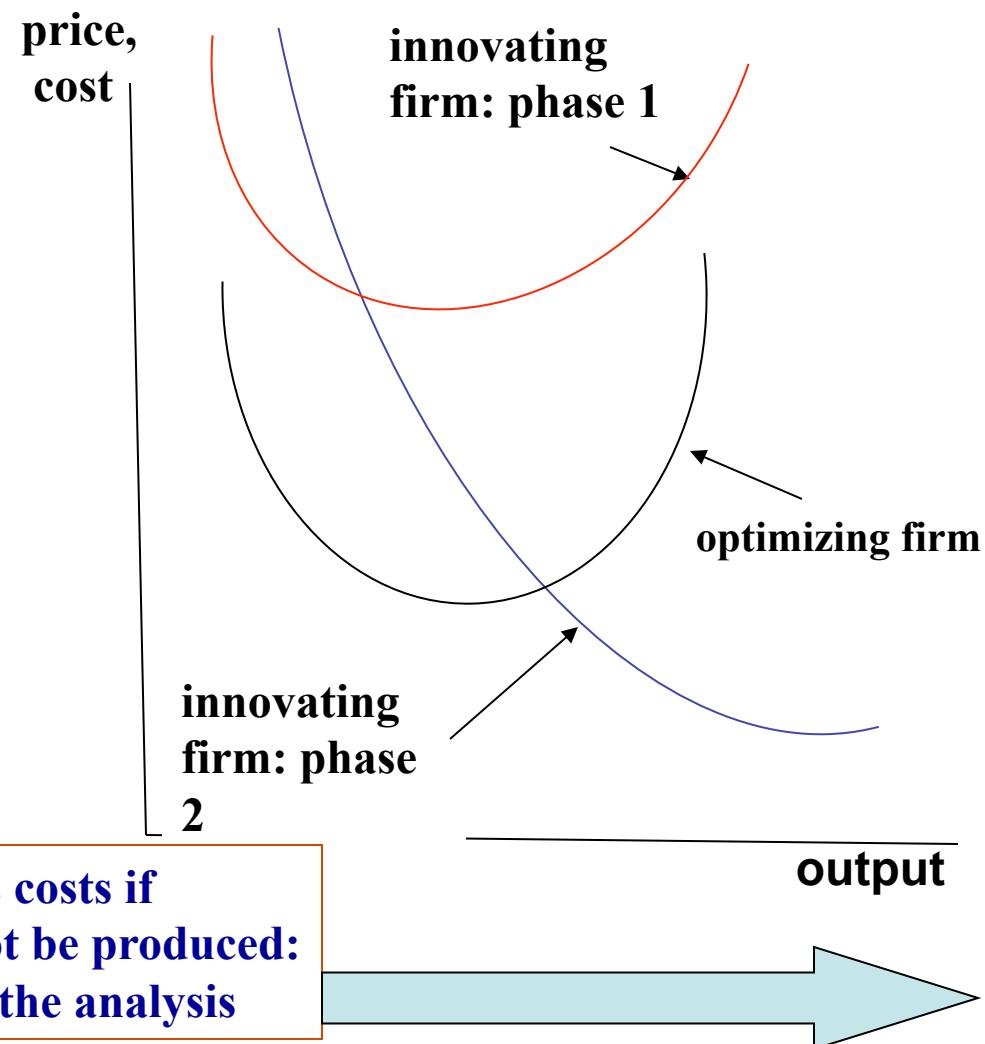
# Strategy, organization and finance in the theory of the innovating firm

**Strategy:** *innovation is uncertain* - the abilities and incentives of the strategic decision-maker are of critical importance to the types of investments that are made

**Organization:** *innovation is collective* – development & utilization of productive resources requires integration of a hierarchical and functional division of labor

**Finance:** *innovation is cumulative* – committed finance (“patient capital”) is needed to sustain the innovation process until it generates financial returns

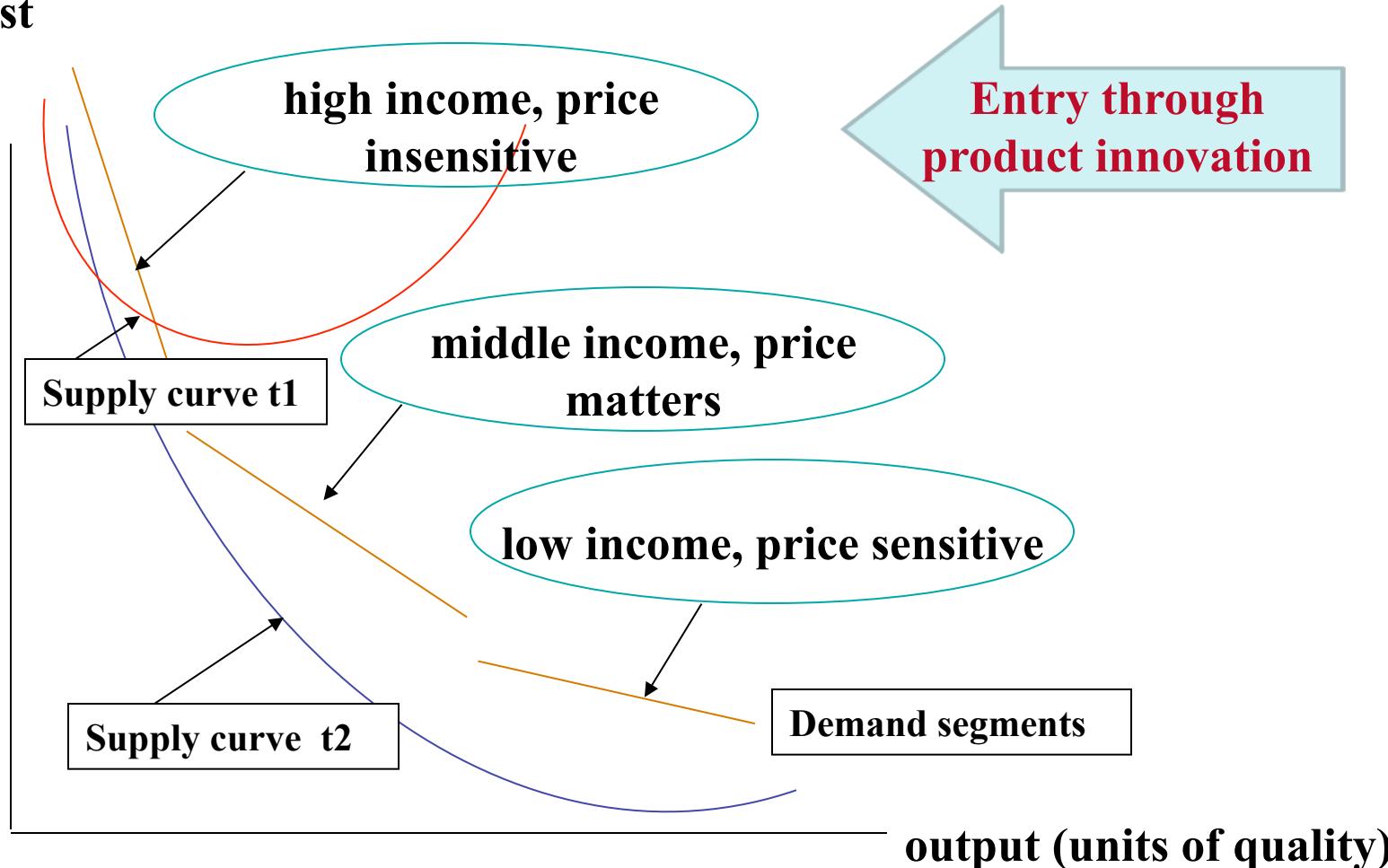
**Innovative strategy** only results in low units costs if products can be sold; otherwise they will not be produced: need to bring **product market demand** into the analysis



# Accessing market segments via product innovation

price,  
cost

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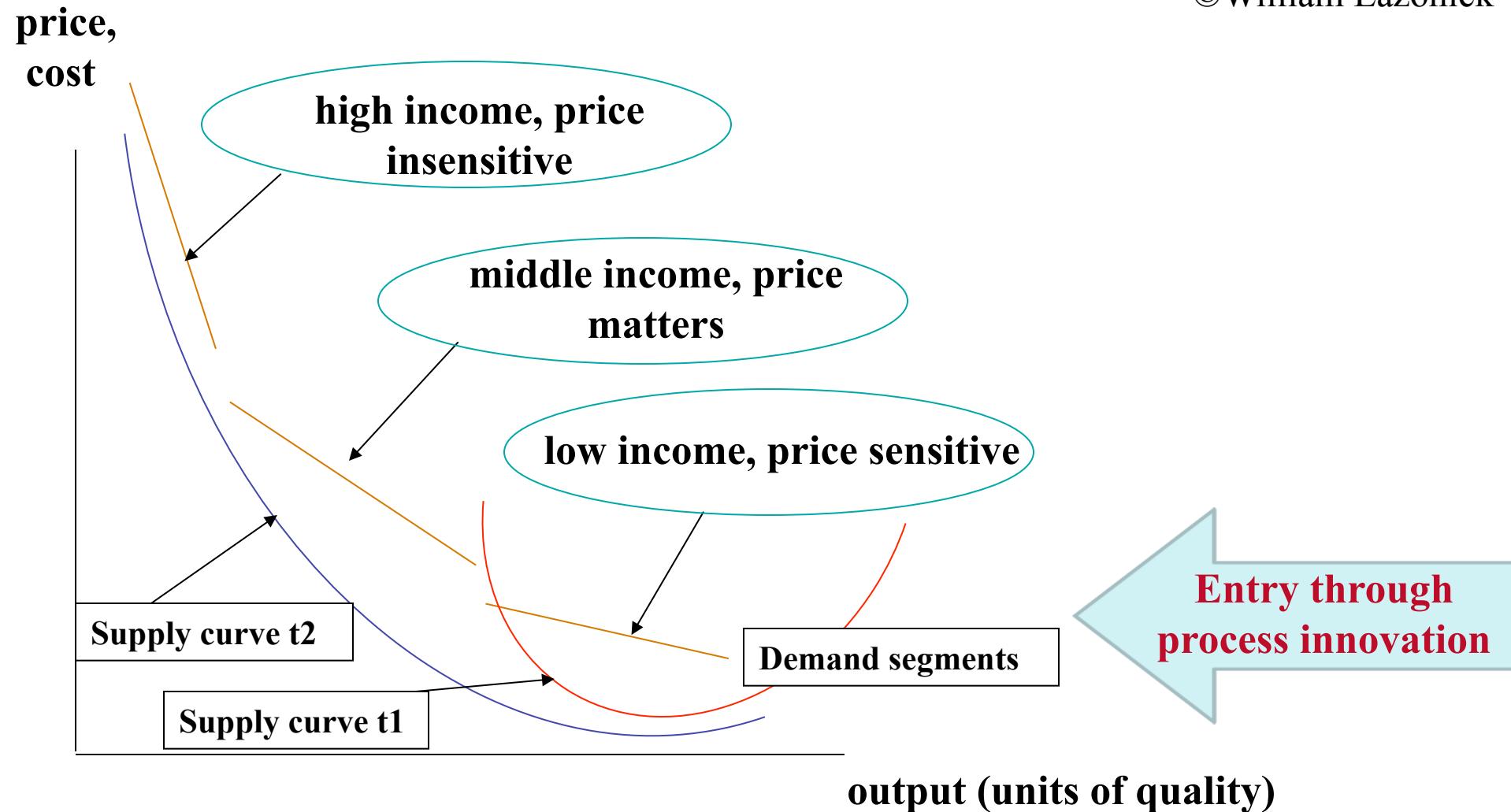


What is the source of high income demand?

For example: integrated circuits - military; jet engines - military;  
calculators - engineers; orphan drugs – national healthcare system

# Accessing market segments via process innovation

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Key to the indigenous innovation strategies of developing countries:  
e.g., Japan from 1950s, Korea from 1980s, China from 1990s

# The innovative enterprise

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**Large enterprises dominate the US economy:**

**In the US in 2008, 981 companies had 10,000 or more employees -- less than .02% of all US firms with employees, they employed 27% of the labor force and accounted for 31% of all payrolls:**

**<http://www.census.gov/econ/smallbus.html>**

**In 2011, 500 largest US business corporations by revenues – the Fortune 500 – had, worldwide, \$10.8 trillion in revenues, \$716 billion in profits, and 25.0 million employees**

# The innovative enterprise

But the United States has also become famous for its “new economy” high-tech startups, the most successful of which grow to be very large

Company	Founded	Employees 2012
Intel	1968	105,000
Microsoft	1975	94,000
Oracle	1977	115,000
Apple	1977	72,800
Cisco	1984	66,639
Dell	1984	109,400
Google	1998	53,546

# **Financialization of the US corporation and the disappearance of middle-class jobs**

- These corporations dominate the economy
- It is not just that the income distribution that results from financialization is unfair
- Financialized corporate resource allocation comes at the expense of investments in innovation and job creation
- For reasons having to do with changes in technology, markets, and competition, the United States has been losing middle-class jobs for three decades
- Financialization of the US corporation both exacerbates the job loss and impedes the creation of new high value-added employment opportunities

# **Financialization and shareholder value**

## **Financialization of the corporation:**

**the evaluation of the performance of a company by a financial measure such as earnings per share rather than by the goods and services that it produces, the customers it serves, and the people whom it employs.**

## **Ideology that legitimizes financialization:**

**“maximize shareholder value” (MSV)**

- **MSV emerged in the US in the early 1980s as a corporate response to the failure of conglomeration, Japanese competition, and the erosion of savings by inflation**
- **by the end of the 1980s MSV was the dominant ideology in business schools and corporate boards in the US**

# Maximizing Shareholder Value

- Agency theory argues that it is only shareholders who make productive contributions to the economy without a guaranteed return
- Agency theory argues that since we live in a “market economy”, all other types of economic actors get a return, determined by the forces of supply and demand, that is guaranteed, i.e., they are paid upfront or by contract
- Agency theory is WRONG – we live in an economy in which big government and big business play essential roles in the allocation of resources to investments in innovation
- Innovation theory argues that taxpayers and workers invest in innovation without a guaranteed return

# MSV is the dominant US *managerial* ideology

- As put forward by agency theorists, MSV is ostensibly a theory that supports the interests of shareholders
- But MSV was embraced as an ideology of top corporate executives – legitimizes corporate resource allocation that ignores the interests of **taxpayers and employees** in the name of superior economic performance
- Yet **taxpayers and employees contribute to innovation and have a claim to returns if and when they occur**
- Public shareholders **do not generally invest in the innovation process** – they invest in shares that are already on the market -- and in the US they have little power, mainly because of the “**business judgment rule**”

# **Labor power & labor services in the innovation process**

- Karl Marx made the critical distinction between the commodity “labor power” for which workers are paid a wage and the contribution to the production process of “labor effort” which determines the productivity of labor in the production process
- Marx thought that capitalist employers would use skill-displacing technologies to create a “reserve army” of unemployed labor that would keep wages down and labor effort up
- But the history of capitalist development shows that the generation of technological change depends on organizational learning processes in which employers share the gains of successful innovation with workers, including the gains of effort-saving technological change
- See Lazonick, *Competitive Advantage on the Shop Floor* (1990)
- See also Penrose, *The Theory of the Growth of the Firm* (1959)

# Employees invest without a guaranteed return

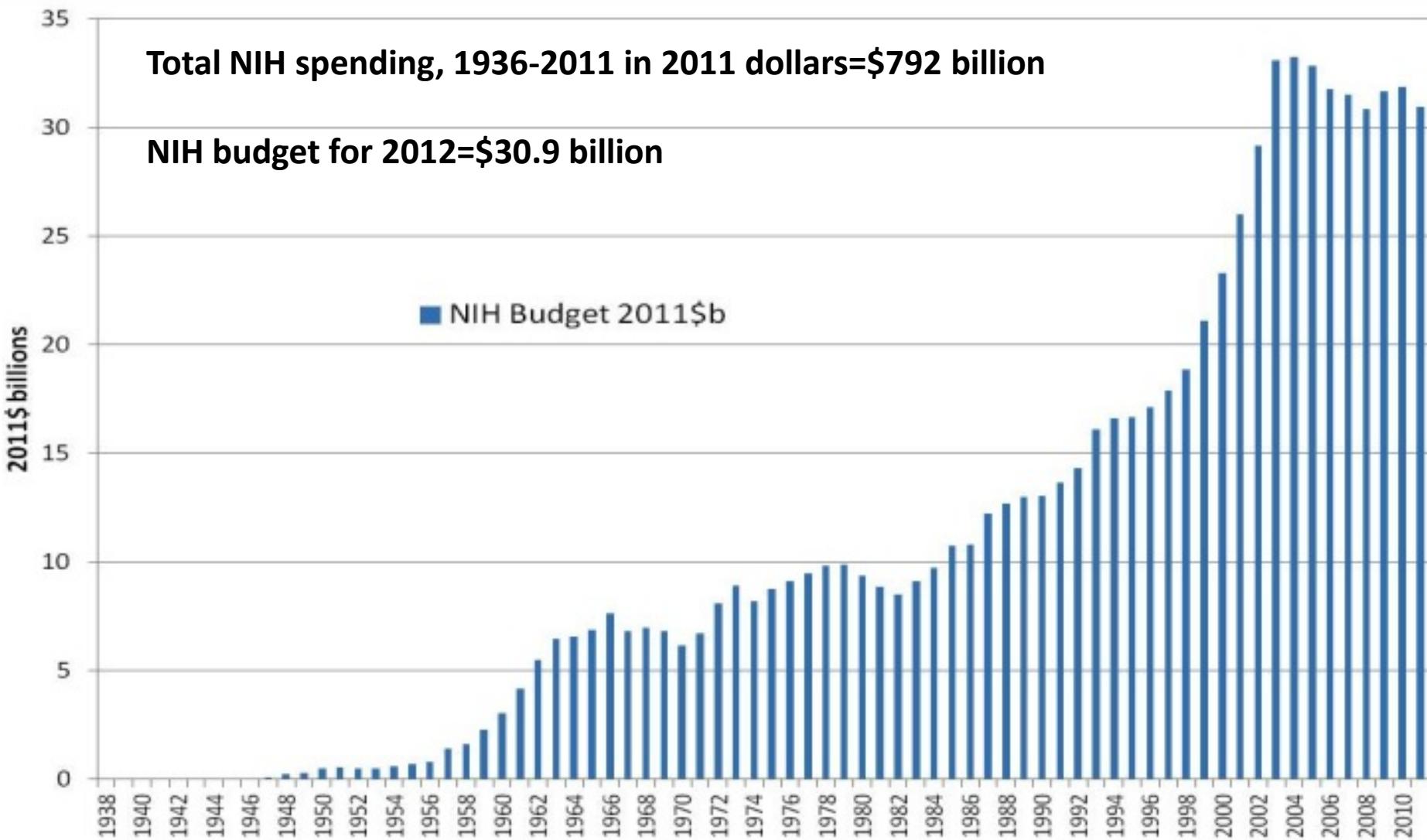
- Executives declare: “**our most important assets are our human assets**”; i.e., key to successful innovation is the *extra time and effort* that employees expend interacting with others to confront and solve problems in transforming technologies and accessing markets, above and beyond the strict requirements of their jobs.
- There are huge productivity differences between workers who just punch the clock to collect their pay from day to day and workers who use their paid for the expenditure of creative and collective effort as part of a process of building their careers.
- It will only be firms within which employees invest extra time and effort without a guaranteed return that will have a chance of innovative success.

# The developmental/entrepreneurial state

- The government often makes investments in physical and human infrastructures (including S&T knowledge bases) at stages at which these investments are far too early, too big, and too uncertain for businesses to undertake
- Lazonick: “**Strategies for Promoting US Competitiveness in World Markets**”: e.g., railroads, land-grant college system, agricultural experiment stations, aeronautics (modern airliner, jet engines), computers, the Internet, life sciences, nanotechnology, clean technology
- Mazzucato: *The Entrepreneurial State* makes this argument more generally, building on the theory of innovative enterprise

# National Institutes of Health budgets 1938-2011

## Taxpayers invest without a guaranteed return



# **Who created the biotech industry?**

**Nell Henderson and Michael Schrage, “The roots of biotechnology: Government R&D spawns a new industry,” Washington Post, December 16, 1984**

During a recent visit to the United States, French President Francois Mitterrand stopped to tour California’s Silicon Valley, where he hoped to learn more about the ingenuity and entrepreneurial drive that gave birth to so many companies there. Over lunch, Mitterrand listened as Thomas Perkins, a partner in the venture capital fund that started Genentech Inc., extolled the virtues of the risk-taking investors who finance the entrepreneurs. Perkins was cut off by Stanford University Professor Paul Berg, who won a Nobel Prize for work in genetic engineering. He asked, “Where were you guys in the ‘50s and ‘60s when all the funding had to be done in the basic science? Most of the discoveries that have fueled [the industry] were created back then.”

## **Who created the biotech industry?**

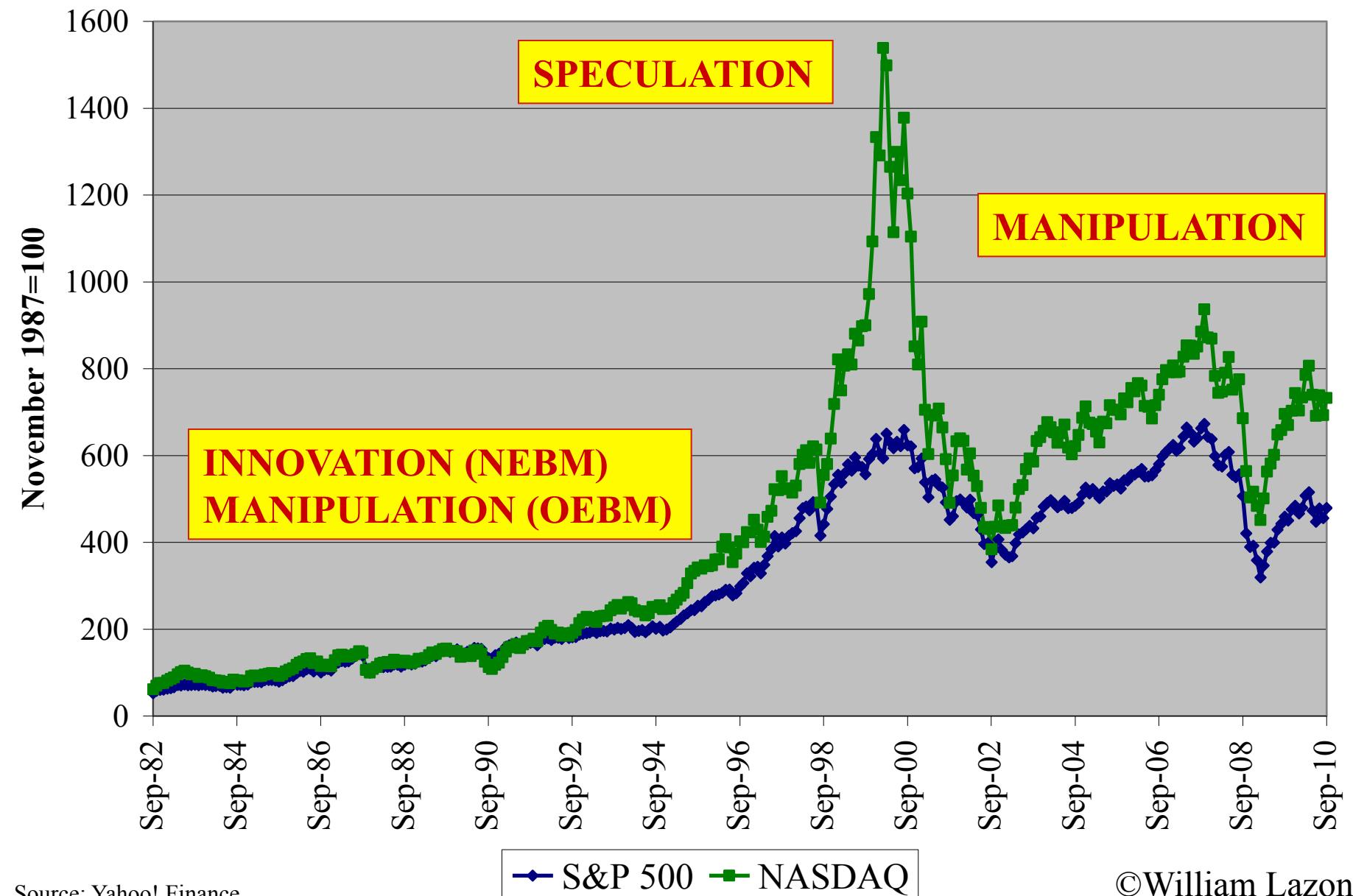
**Nell Henderson and Michael Schrage, 1984, “The roots of biotechnology: Government R&D spawns a new industry,”  
Washington Post, December 16, 1984**

**Berg’s point was that through research grants and contracts, with thousands of its own scientists and laboratories and a budget that reached \$4.5 billion in fiscal 1984, NIH created the foundation of modern biotechnology. NIH sponsored the research that yielded technical breakthroughs that are now the basic tools of the industry. NIH support also created a national wealth of highly trained biomedical scientists. “I cannot imagine that, had there not been an NIH funding research, there would have been a biotechnology industry,” Berg said.**

# What role does the stock market play in the innovation process?

- 1. INNOVATION:** in 1980s and 1990s rise in stock prices is a result of innovative enterprise; “retain-and-reinvest”, especially by New Economy firms that pay no dividends
- 2. SPECULATION:** an acute case of so-called “irrational exuberance”, which, as it turns out, was not at all irrational for insiders to the system
- 3. MANIPULATION:** in 1980s “Old Economy” companies downsize labor forces and distribute “earnings” to shareholders – by the 2000s, transition to “New Economy business model” complete, but now most major companies are doing massive stock buybacks

# Drivers of stock prices: Innovation, speculation, manipulation



# Speculative stock market gains, 1980s and 1990s

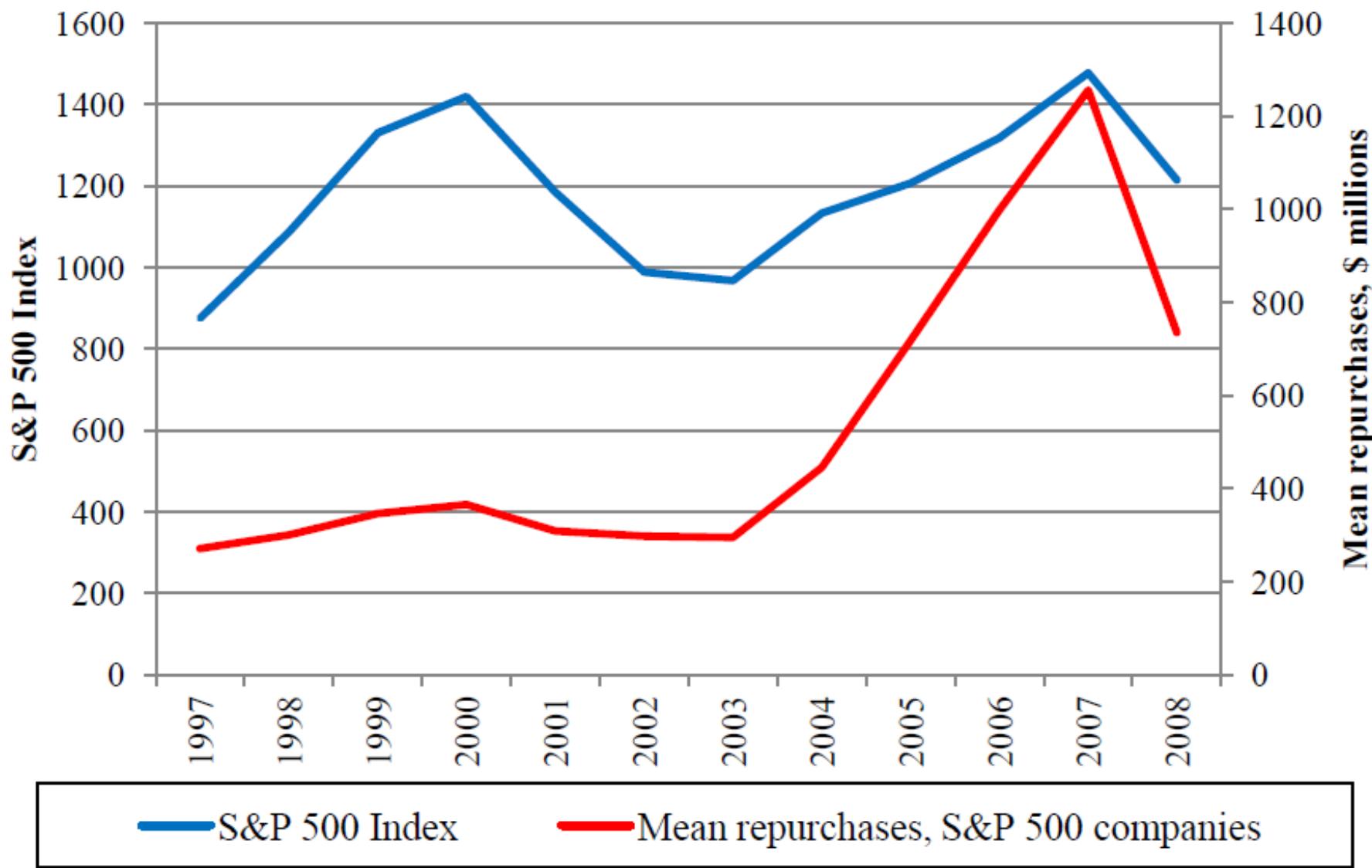
Ave. annual US corporate stock and bond yields (%), 1960-2009

Source: Economic Report of the President 2010	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009
<b>REAL STOCK YIELD</b>	<b>6.63</b>	<b>-1.66</b>	<b>11.67</b>	<b>15.01</b>	<b>-3.08</b>
<b>PRICE YIELD</b>	<b>5.80</b>	<b>1.35</b>	<b>12.91</b>	<b>15.54</b>	<b>-2.30</b>
<b>Dividend yield</b>	<b>3.19</b>	<b>4.08</b>	<b>4.32</b>	<b>2.47</b>	<b>1.79</b>
<b>Change in CPI</b>	<b>2.36</b>	<b>7.09</b>	<b>5.55</b>	<b>3.00</b>	<b>2.57</b>
<b>REAL BOND YIELD</b>	<b>2.65</b>	<b>1.14</b>	<b>5.79</b>	<b>4.72</b>	<b>3.41</b>

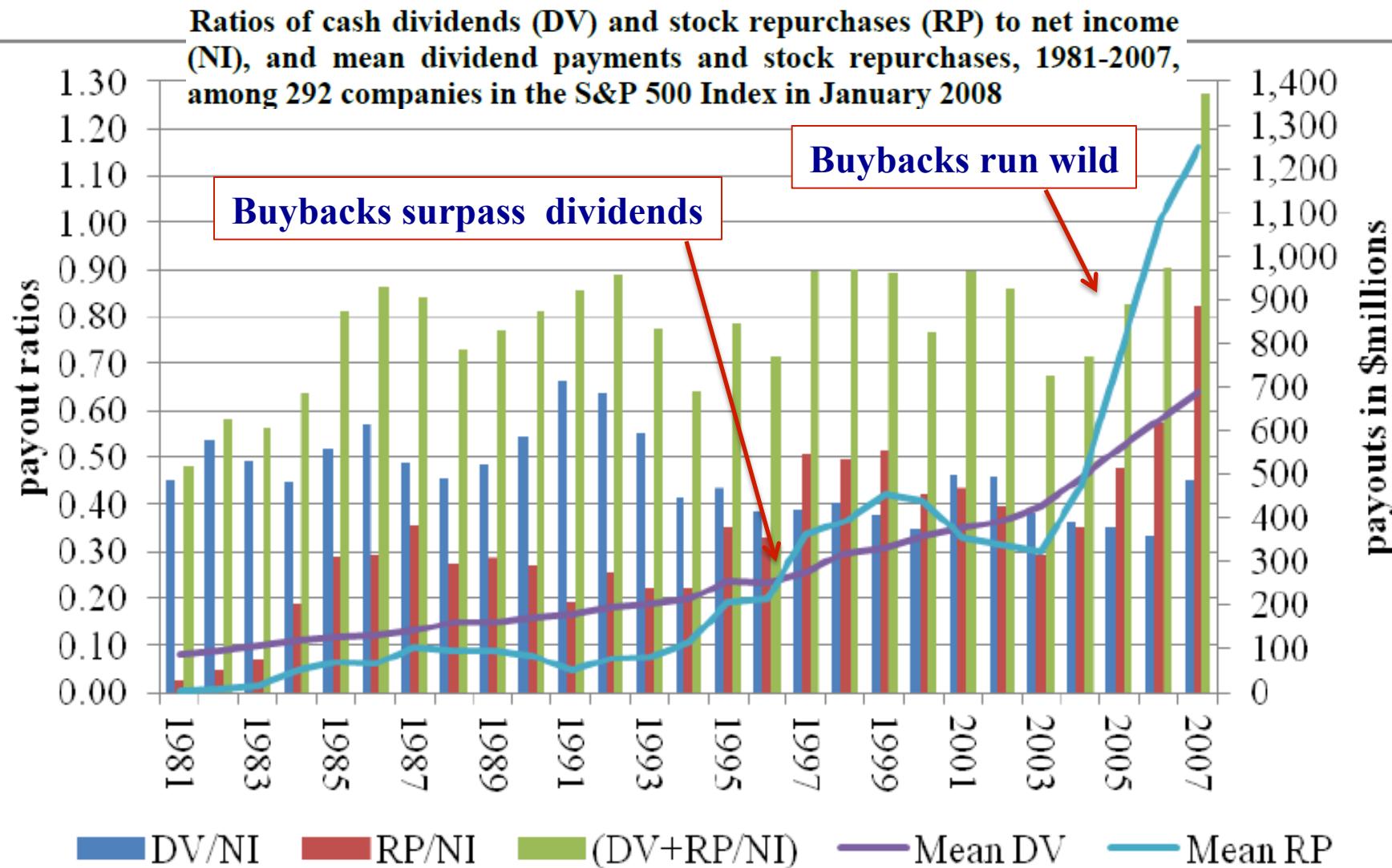
The long boom in the stock market in the 1980s and 1990s, culminating in the Internet revolution, led Americans to view the stock market as both the cause and effect of a prosperous economy.

In the process, Americans imbibed the ideology that a business model that seeks to “maximize shareholder value” (MSV) results in superior economic performance.

# Manipulating the stock market in the 2000s: buybacks push S&P 500 Index to new peak in 2007



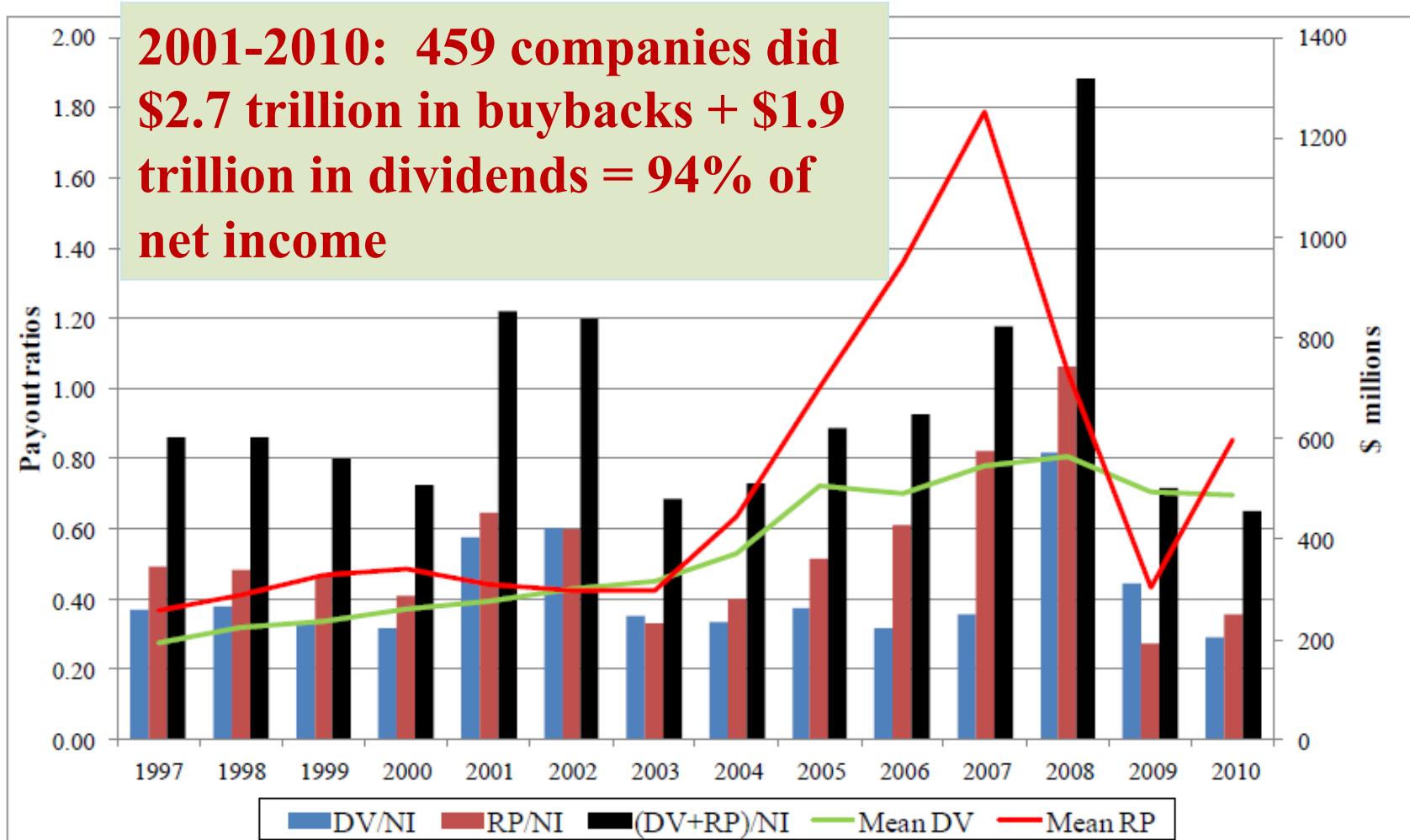
# Financialization of corporate resource allocation: Increasing use of stock buybacks to manipulate the stock market



Sources: Standard &Poor's Compustat database (North America, Fundamentals Annual) and company 10-K filings.

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# Buybacks of 419 S&P 500 companies, 1997-2010



Data for 419 corporations in the S&P 500 Index in January 2011 that were publicly listed 1997-2010. Data for companies that end their fiscal years during the first six months of the calendar year are attributed to the previous year.

RP, stock repurchases; DV, total dividends (common and preferred); NI, net income (after tax with inventory evaluation and capital consumption adjustments).

Sources: S&P Compustat database (North America, Fundamentals Annual, 1997-2010); company 10-K filings for missing or erroneous data from the Compustat database.

Petroleum	ICT	Consumer	Retail	Financial	Healthcare	Aerospace	Entertainment	Misc.
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## Top corporate repurchasers, #1-25, 2001-2010

RP rank	Company Name	Fortune rank 2010	Repurchases 2001-2010, \$b.	RP/NI %	DV/NI %	R&D% SALES	RP/ R&D
1	EXXON MOBIL	2	174.5	62	26	0.3	22.8
2	MICROSOFT	38	110.0	89	49	15.2	1.6
3	IBM	18	89.2	91	18	5.7	1.7
4	CISCO SYSTEMS	62	65.0	130	0	14.8	1.5
5	PROCTER & GAMBLE	26	57.0	72	44	3.1	3.0
6	HEWLETT-PACKARD	11	54.0	116	18	3.8	1.6
7	WAL-MART STORES	1	52.6	46	24	0.0	nm
8	BANK OF AMERICA	9	52.1	51	63	0.0	nm
9	PFIZER	31	50.6	62	68	17.1	0.6
10	GENERAL ELECTRIC	6	48.5	29	52	1.9	1.7
11	INTEL	56	48.3	81	32	15.0	0.9
12	JOHNSON & JOHNSON	40	37.3	38	40	12.4	0.6
13	GOLDMAN SACHS	54	35.8	57	13	0.0	nm
14	CITIGROUP	14	32.2	38	72	0.0	nm
15	HOME DEPOT	30	30.9	75	27	0.0	nm
16	DELL	41	29.5	119	0	1.0	5.8
17	PEPSICO	43	28.8	62	39	0.7	11.3
18	AMGEN	163	28.8	105	0	25.1	1.0
19	TIME WARNER	95	28.7	-73	-13	0.3	28.2
20	UNITEDHEALTH GROUP	22	26.5	88	2	0.0	nm
21	CHEVRON	3	26.0	20	32	0.3	6.2
22	AT&T	12	25.5	27	68	0.6	5.2
23	DISNEY	55	24.9	90	19	0.0	nm
24	ORACLE	96	22.4	52	5	12.4	1.0
25	CONOCOPHILLIPS	4	22.0	40	34	0.1	13.0

Petroleum	ICT	Consumer	Retail	Financial	Healthcare	Aerospace	Entertainment	Misc.
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## Top corporate repurchasers, #26-50, 2001-2010

26	WELLS FARGO	23	21.9	29	41	0.0	nm
27	WELLPOINT	42	21.9	101	0	0.0	0.0
28	TEXAS INSTRUMENTS	175	21.7	129	18	15.6	1.2
29	MCDONALD'S	111	20.3	72	43	0.0	nm
30	JPMORGAN CHASE	13	20.1	24	45	0.0	nm
31	AMERICAN EXPRESS	91	17.1	56	21	0.0	nm
32	UPS	48	16.9	58	51	0.0	nm
33	MERCK	53	16.8	27	56	15.3	0.4
34	COCA-COLA	70	16.0	28	49	0.0	nm
35	MORGAN STANLEY	63	16.0	41	31	0.0	nm
36	ALTRIA GROUP	154	15.8	19	62	1.2	2.6
37	3M	97	15.2	49	41	5.9	1.2
38	DIRECTV GROUP	110	15.0	258	2	0.2	53.5
39	TRAVELERS COS	106	14.8	60	44	0.0	nm
40	CBS	174	14.7	-52	-12	0.0	nm
41	UNITED TECHNOLOGIES	44	14.4	42	26	3.3	1.0
42	LOCKHEED MARTIN	52	14.0	73	28	2.6	1.9
43	COMCAST	66	13.9	83	14	0.0	nm
44	BOEING	36	13.5	57	37	5.2	0.4
45	PRUDENTIAL FINANCIAL	65	13.1	73	19	0.0	nm
46	AETNA	77	12.0	102	1	0.0	nm
47	ALLSTATE	89	12.0	60	35	0.0	nm
48	TARGET	33	11.6	52	16	0.0	nm
49	U S BANCORP	126	11.2	32	54	0.0	nm
50	MEDTRONIC	160	10.9	49	25	11.2	0.8

# **With buybacks, value extraction trumps value creation**

**Top 50 companies expended \$1.59 trillion on buybacks, 2001-2010**

**Proportion of profits expended on buybacks by top 50, 2001-2010:**

**100%+: 11      50%+: 32      30%+: 43**

**Proportion of profits expended on buybacks plus dividends, top 50, 2001-2010:**

**100%+: 24      80%+: 38      67%+: 48**

**S&P 500 companies expended almost \$3 trillion on  
buybacks, 2001-2010**

# S&P 500 companies, stock buybacks, 2005-2012Q3

Quarterly Share Repurchases (\$M)



# Stock buybacks, top 25, 2011

This list includes some of the most successful high-tech startups of the 1960s, 1970s, and 1980s:

**Intel**  
**Microsoft**  
**Amgen**  
**Cisco**  
**Oracle**

**RP**=stock repurchases  
**DV**=cash dividends  
**NI**=net income

	<u>NI \$b</u>	<u>RP \$b</u>	<u>DV \$b</u>	<u>RP/ NI%</u>	<u>DV/ NI%</u>	<u>(RP+DV)/ NI%</u>
<b>Exxon Mobil</b>	<b>42.2</b>	<b>22.1</b>	<b>9.0</b>	<b>52</b>	<b>21</b>	<b>74</b>
<b>IBM</b>	<b>15.9</b>	<b>15.0</b>	<b>3.5</b>	<b>95</b>	<b>22</b>	<b>117</b>
<b>Intel</b>	<b>12.9</b>	<b>14.3</b>	<b>4.1</b>	<b>111</b>	<b>32</b>	<b>143</b>
<b>Microsoft</b>	<b>23.2</b>	<b>11.6</b>	<b>5.2</b>	<b>50</b>	<b>22</b>	<b>72</b>
<b>ConocoPhillips</b>	<b>12.5</b>	<b>11.1</b>	<b>3.6</b>	<b>89</b>	<b>29</b>	<b>118</b>
<b>Hewlett-Packard</b>	<b>7.1</b>	<b>10.1</b>	<b>0.8</b>	<b>143</b>	<b>12</b>	<b>155</b>
<b>Pfizer</b>	<b>8.7</b>	<b>9.0</b>	<b>6.2</b>	<b>103</b>	<b>71</b>	<b>174</b>
<b>JP Morgan Chase</b>	<b>19.0</b>	<b>8.9</b>	<b>3.9</b>	<b>47</b>	<b>21</b>	<b>67</b>
<b>Amgen</b>	<b>3.7</b>	<b>8.3</b>	<b>0.5</b>	<b>226</b>	<b>14</b>	<b>239</b>
<b>Procter &amp; Gamble</b>	<b>11.8</b>	<b>7.0</b>	<b>5.8</b>	<b>60</b>	<b>49</b>	<b>109</b>
<b>Cisco Systems</b>	<b>6.5</b>	<b>6.9</b>	<b>0.7</b>	<b>106</b>	<b>10</b>	<b>116</b>
<b>Wal-Mart Stores</b>	<b>16.5</b>	<b>6.3</b>	<b>5.0</b>	<b>38</b>	<b>31</b>	<b>69</b>
<b>Goldman Sachs</b>	<b>4.4</b>	<b>6.0</b>	<b>2.8</b>	<b>136</b>	<b>62</b>	<b>199</b>
<b>Oracle</b>	<b>10.0</b>	<b>5.9</b>	<b>1.2</b>	<b>59</b>	<b>12</b>	<b>71</b>
<b>DIRECTV Class A</b>	<b>2.6</b>	<b>5.5</b>	<b>0.0</b>	<b>208</b>	<b>0</b>	<b>208</b>
<b>Philip Morris</b>	<b>8.9</b>	<b>5.4</b>	<b>4.8</b>	<b>61</b>	<b>54</b>	<b>114</b>
<b>Walt Disney</b>	<b>5.3</b>	<b>5.0</b>	<b>0.8</b>	<b>95</b>	<b>14</b>	<b>109</b>
<b>Time Warner</b>	<b>2.9</b>	<b>4.6</b>	<b>1.0</b>	<b>160</b>	<b>35</b>	<b>195</b>
<b>Coca-Cola</b>	<b>8.6</b>	<b>4.5</b>	<b>4.3</b>	<b>52</b>	<b>50</b>	<b>102</b>
<b>Home Depot</b>	<b>3.9</b>	<b>3.5</b>	<b>1.6</b>	<b>89</b>	<b>42</b>	<b>131</b>
<b>McDonald's</b>	<b>5.5</b>	<b>3.4</b>	<b>2.6</b>	<b>61</b>	<b>47</b>	<b>109</b>
<b>Chevron</b>	<b>27.0</b>	<b>3.2</b>	<b>6.1</b>	<b>12</b>	<b>23</b>	<b>35</b>
<b>WellPoint</b>	<b>2.6</b>	<b>3.0</b>	<b>0.4</b>	<b>115</b>	<b>14</b>	<b>128</b>
<b>CVS Caremark</b>	<b>3.5</b>	<b>3.0</b>	<b>0.7</b>	<b>87</b>	<b>19</b>	<b>106</b>
<b>Schlumberger</b>	<b>4.8</b>	<b>3.0</b>	<b>1.3</b>	<b>63</b>	<b>27</b>	<b>90</b>

# SUSTAINABLE PROSPERITY IN THE NEW ECONOMY?



Business Organization and High-Tech  
Employment in the United States

WILLIAM LAZONICK

**The shift from the Old Economy business model (OEBM) to the New Economy business model (NEBM) has resulted in the stock market becoming much more central to the operation of the firm than previously**

Published in September 2009 by the Upjohn Institute for Employment Research

- 1. What is New, and Permanent, about the “New Economy”?**
- 2. The Rise of the New Economy Business Model**
- 3. The Demise of the Old Economy Business Model**
- 4. Pensions and Unions in the New Economy**
- 5. Globalization of the High-Tech Labor Force**
- 6. The Quest for Shareholder Value**
- 7. Prospects for Sustainable Prosperity**

# A greatly increased role of the stock market in allocating capital and labor in NEBM compared with OEBM

	OEBM	NEBM
Strategy, product	Growth by building on internal capabilities; business expansion into product markets based on related technologies; geographic expansion to access national product markets.	Firm entry into specialized markets; sale of branded components to system integrators; acquisition of new capabilities by acquiring technology firms.
Strategy, process	Corporate R&D labs; patenting of proprietary technologies; vertical integration along value chain, at home and abroad.	Cross-licensing; open systems; specialization of the value chain; outsourcing and off-shoring.
Finance	Venture capital from personal savings, family members, business associates; NYSE listing; payment of steady dividends; reliance from retentions levels on bond issues.	Venture capital; NASDAQ listing; low or no dividends; growth finance from retentions plus stock as acquisition currency; stock buybacks to support stock price.
Organization	Secure employment: career with company; salaried/hourly employees; unions; defined-benefit pensions; employer-funded medical insurance in employment and retirement.	Insecure employment: interfirm mobility of labor; broad-based stock options; non-union; defined-contribution pensions; employee bears greater burden of medical insurance.

**OEBM: The separation of ownership and control**

**NEBM: Five functions of the stock market: creation, control, combination, compensation, cash**

# **Old Economy Business Model (OEBM)**

**OEBM: foundation for somewhat equitable and reasonably stable growth**

- **Career employment with one company**
- **Limited role of the stock market in the operation of the corporation: separation of ownership and control**
- **Creation of high quality jobs in the United States**
- **A progressive income tax structure: 91% marginal tax rate on highest incomes in the 1950s; 70% in 1980.**
- **Government investment in physical infrastructure and the knowledge base**

# New Economy Business Model (NEBM)

**NEBM: high-tech innovation based on technologies developed with massive government support but with the stock market playing major functions in the allocation of capital and labor**

- **NASDAQ induces venture-capital investment: exit investments via a speculative stock market**
- **Interfirm mobility of labor over the course of a career, with stock options as prime inducement to change jobs**
- **Top executives especially highly paid via stock options**
- **In the name of innovation, high-tech “NEBM” interest groups (NVCA and AeA) sought and got low taxes**
- **Outsourcing of manufacturing and globalization (offshoring) of the value chain**

# **But, under NEBM, the stock market has become the prime source of inequity and instability**

**In the most innovative (“high-tech”) industries:**

- Capital gets much of its return from the stock market**
- Labor gets significant income from the stock market**

**But stock prices reflect speculation and  
manipulation as well as innovation**

**The preponderant role of the stock market in allocating  
capital and labor under NEBM results in economic growth  
that is highly inequitable and highly unstable.**

**ESPECIALLY IMPORTANT IN BRINGING BACK  
STOCK OPTIONS FOR EXECUTIVE PAY**

# The explosion in executive pay

%SO=% of total exec comp  
from actual gains from  
exercising stock options

Mean compensation in millions of 2010 US dollars

	Top 100		Top 500		Top 1500		Top 3000		S&P 500 Index	NAS- DAQ Index	NAS- DAQ/ S&P
	Mean Sm.	% SO	Mean Sm.	% SO	Mean Sm.	% SO	Mean Sm.	% SO			
1992	23.1	71	9.3	59	4.7	48	2.9	42	100	100	1.00
1993	21.1	63	9.1	51	4.8	42	3.1	36	109	119	1.10
1994	18.5	57	8.1	45	4.4	35	2.9	29	111	125	1.13
1995	21.0	59	9.7	48	5.3	40	3.5	34	131	155	1.18
1996	32.4	64	13.9	54	7.2	47	4.6	41	162	195	1.20
1997	44.2	72	18.6	61	9.5	55	5.9	49	210	243	1.16
1998	76.0	66	26.7	64	12.5	58	7.5	53	261	300	1.15
1999	68.9	82	27.4	71	13.2	63	7.8	57	319	462	1.45
2000	104.0	87	40.5	80	18.7	72	10.8	67	341	614	1.80
2001	62.9	77	23.9	66	11.5	58	6.9	53	284	332	1.17
2002	38.1	57	17.1	49	8.8	43	5.5	38	237	252	1.06
2003	48.7	64	21.2	55	10.8	48	6.7	44	232	275	1.18
2004	55.4	75	25.0	62	12.9	55	8.1	50	272	330	1.21
2005	67.5	78	28.7	63	14.5	56	9.0	51	290	348	1.20
2006	68.9	69	29.6	59	15.4	52	9.7	47	316	463	1.47
2007	69.3	73	30.2	60	15.8	52	10.0	47	354	428	1.21
2008	47.5	58	20.7	55	10.9	45	7.0	39	291	356	1.22
2009	30.4	52	14.8	37	8.3	28	5.5	23	227	307	1.35
2010	35.9	49	18.3	40	10.4	32	6.8	28	271	386	1.43

*gains from speculation*

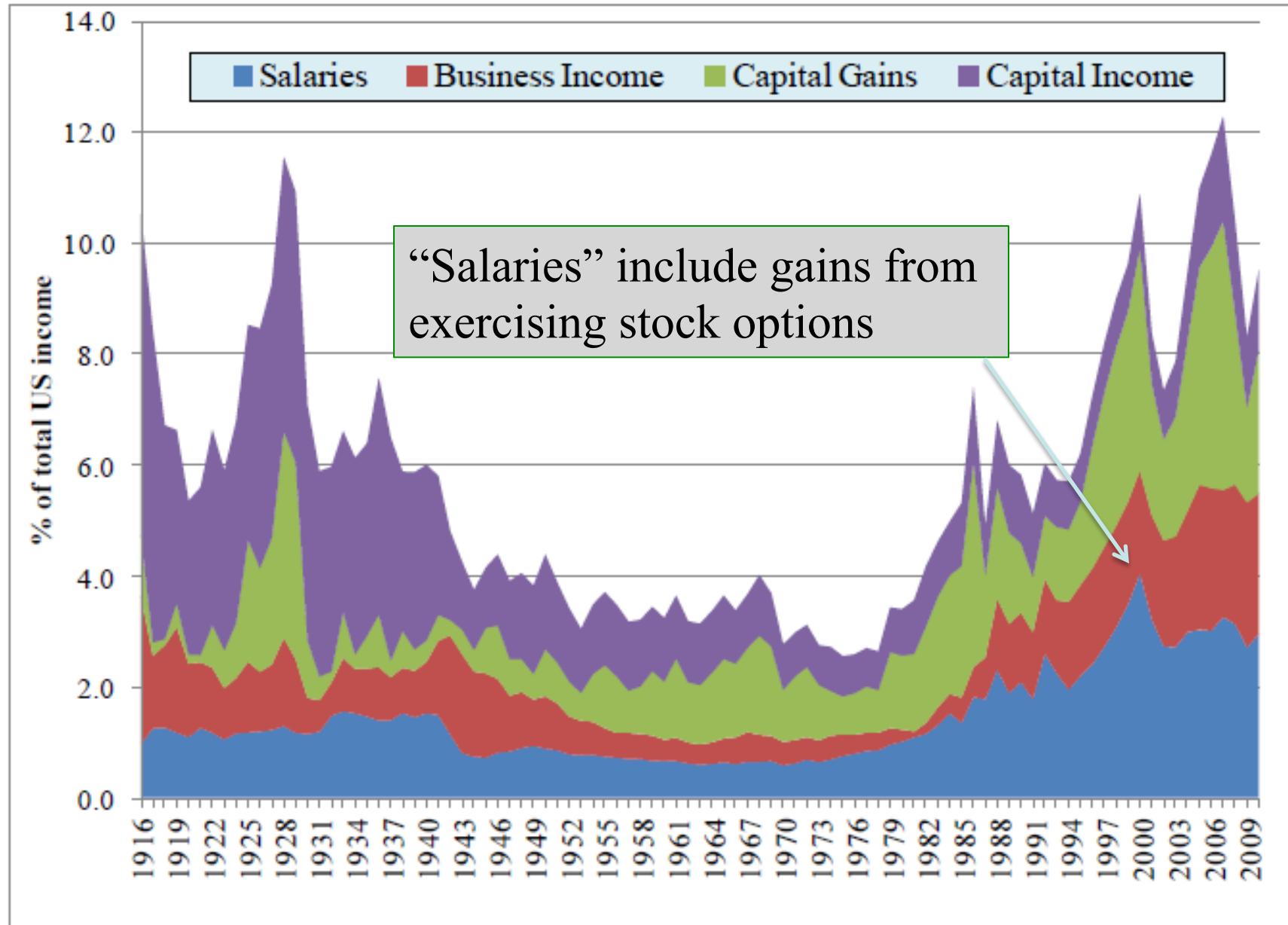
*gains from manipulation*

Exec  
pay 3X  
higher  
in 2010\$  
in 2004-  
2007  
than in  
1992-  
1995

Source:  
Execucomp

©William  
Lazonick

# Components of the incomes of the top 0.1%, 1916-2010



# Why do companies repurchase stock?

- Executives say that they are showing confidence in their company's future performance – but their companies only sell stock to the public when compelled to do so in financial distress
- If the company were to sell its stock when its price was high, its executives would be announcing to the financial world that they no longer have confidence in the company's stock! So they almost never do it.
- At the same time, these very same executives have no problem *selling their own stock* (much of it acquired by exercising stock options) when the price is high – resulting in the explosion in executive pay

# A quick guide to value extraction, or how US top executives reap where they have not sown

1. Appoint compliant boards made up of other top executives who all have an interest in increasing their own remuneration
2. Hire consultants who “benchmark” other top executives who hire the same consultants to benchmark other executives who hire the same consultants...
3. Get paid in a currency – the company’s stock – the price of which executives can manipulate
4. Convince regulators (SEC) to permit executive to engage in stock-market manipulation (through stock buybacks)
5. Convince regulators to remove any barriers to reaping the rewards of stock-market manipulation through stock-based pay
6. Legitimize actions and outcomes by invoking the ideology that maximizing shareholder value results in superior performance

# **What does the SEC do?**

**“The Investor's Advocate:  
How the SEC Protects Investors, Maintains Market  
Integrity, and Facilitates Capital Formation”**

SEC website: <http://www.sec.gov/about/whatwedo.shtml>

- “The mission of the U.S. Securities and Exchange Commission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation.
- As more and more first-time investors turn to the markets to help secure their futures, pay for homes, and send children to college, our investor protection mission is more compelling than ever.
- As our nation's securities exchanges mature into global for-profit competitors, there is even greater need for sound market regulation.
- And the common interest of all Americans in a growing economy that produces jobs, improves our standard of living, and protects the value of our savings means that all of the SEC's actions must be taken with an eye toward promoting the capital formation that is necessary to sustain economic growth.”

# The regulator permits stock market manipulation

## SEC Rule 10b-18 (1982)

- 1982: SEC clarified conditions under which corporate stock buybacks would enjoy a “safe harbor” from charge of stock market manipulation under Securities Exchange Act
- SEC Rule 10b-18: according to a news report, “made it easier for companies to buy back their shares on the open market without fear of stock-manipulation charges” (Hudson 1982)
- SEC Chairman John Shad was an advocate of the rule change, arguing that large-scale open market purchases would fuel an increase in stock prices that would be beneficial to shareholders.
- One SEC Commissioner argued that Rule 10b-18 would leave some manipulation unprosecuted, but made SEC vote unanimous
- 1982 was the beginning of the 18-year upward movement in stock prices that was the longest “bull run” in US stock market history

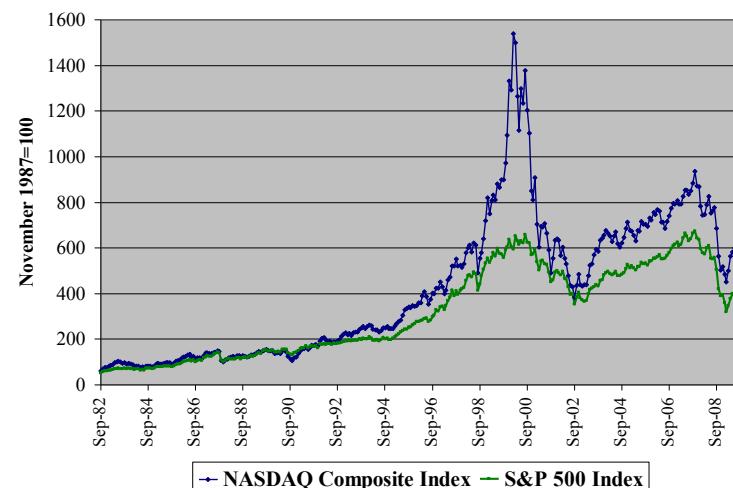
# SEC Rule 10b-18: Mandate for Managers to Manipulate the Market

## SEC Eases Way For Repurchase Of Firms' Stock

Agency Assures It Won't File  
Charges of Manipulation  
If Certain Rules Are Met

By RICHARD L. HUDSON  
*Staff Reporter of THE WALL STREET JOURNAL*

**Wall Street Journal, Nov. 10, 1982**



Arguing for the rule change, SEC Chairman John Shad said stock repurchases "confer a material benefit" on a company's shareholders, by fueling increases in market stock prices. Without the change, he said companies are "inhibited" from making big open-market buys.

### Protest Voiced

The new, deregulation-minded commission, with its 3-2 majority of Reagan appointees, has been revamping many SEC policies.

But the easing in repurchase regulation elicited a sharp protest from one SEC commissioner, John Evans, first appointed to the panel in 1973. The change means "there will be some manipulation" that will go unprosecuted, he complained at yesterday's meeting. "This is much-reduced regulation from what we had before," he said.

Nevertheless, when it became apparent that he was being outvoted, he cast his vote "with some concern" in favor of the change, making it a unanimous action. SEC commissioners rarely cast dissenting votes, preferring to project a public image of unanimity.

# How buybacks are done

- Companies have to get board approval of, and announce, buyback PROGRAMS (e.g., Apple's recent \$10b buyback program) -- statistical analyses by financial economists on impact of buybacks on stock prices are based on program announcements, not actual buybacks
- Companies do not announce when they actually do buybacks – almost always open market purchases – through one broker -- only insiders know when buybacks are being done
- Under Rule 10b-18, during the single trading day of, for example, July 13, 2011, a leading stock repurchaser such as Exxon Mobil could have done as much as \$416m. in buybacks, BOA \$402m. Microsoft \$390m., Intel \$285m., Cisco \$269m., GE \$230m. and IBM \$220m. And, according to the SEC's rules, buybacks of these magnitudes can be repeated day after trading day.

# **Then in 1991 SEC facilitates the explosion of executive pay**

- May 1991: SEC made a change to Section 16(b) of the 1934 Securities Exchange Act that had prevented top executives from making “short-swing” profits through the purchase and the subsequent sale of corporate securities by mandating a six-month waiting period.
- Now options could be sold immediately upon exercise
- The new rule eliminated the risk of loss between the exercise date and the sale date, and gave top executives flexibility in their timing of option exercises and immediate stock sales so that they could personally benefit from, among other things, price boosts from stock buybacks (nice work if you can get it).

# **Allocation of corporate resources affects economic performance**

**Dramatic increase in US income inequality since the 1980s characterized by**

- **concentration of income at the top**
- **erosion of “middle class” employment**
- **increasingly severe “jobless recoveries”**

- Income inequity and employment instability: results of the financialization of the US economy
- Financialization includes not only an increase in financial over productive sector activity but also, more fundamentally, **financialization of corporate resource allocation**, the most important manifestations of which are stock buybacks and the explosion of executive pay

# In sum, MSV is a theory of value extraction

- Economic activity and performance depend on resource allocation decisions
- We rely on corporate executives to make resource allocation decisions
- Stock-based compensation enriches top corporate executives in the name of MSV, and gives them incentives to encourage speculation in and engage in manipulation of the price of their company's stock
- Prime mode of corporate resource allocation for the purpose of manipulating stock prices is buybacks

# Why buybacks matter: petroleum refining, pharmaceuticals

- Oil companies do massive buybacks, while Americans pay high fuel prices and lack adequate investment in alternative energy – from 2001-2011, Exxon Mobil repurchased \$196.6b., including \$31.8b. in 2007, \$35.7b. in 2008, \$19.7b. in 2009, \$13.1b. in 2010, and \$22.1b in 2011.
- Leading pharmaceutical companies keep US drug prices at least double the prices in other advanced countries – they argue in Congress that high US drug prices are needed to fund drug research – yet many such as Merck, Pfizer, J&J, and Amgen did buybacks equal to 28-105% of R&D expenditures, 2001-2010
- 2011: Pfizer, \$9.9b. (103% of NI); Amgen, \$8.3b. (226% of NI)
- 1992-2011, Amgen's buybacks 113% of NI, and 1.15 times R&D

# Why do buybacks matter?: ICT

- Leading ICT companies do huge buybacks with the profits from offshoring even as they lay off US workers, and even as they demand that the government invest more in the high-tech knowledge base to make “America” competitive – 2001-2011: Intel spent \$63.1b. on buybacks, 4.5 times the total budget of the National Nanotechnology Initiative for 2001-2011
- In progress: Bell, Carpenter, Glimstedt, and Lazonick, “From Innovation to Financialization: How Cisco Focused on Its Stock price and Lost Its Way,” work-in-progress, 2012 – while doing buybacks equivalent to 118% of net income and 157% of R&D from 2002-2012, Cisco failed to become a technology leader in communication technology

# Buybacks and performance in communication technology

- **Motorola:** In 2005-2007, following the success of its 2G Razr cellphone, did \$8.0b. in buybacks, 100% of NI, and then failed to compete in 3G phones. After losing \$4.3b., 2007-2009, Motorola spun off Motorola Mobility in 2010, sold to Google in 2012.
- **Qualcomm:** makes high-end chipsets for smartphones and reaps billions from IP in CDMA, but, while buying back \$9.0b. since 2005, has not been an active participant in setting the global 3G and 4G standards that derive from its CDMA technology.
- **RIM (Blackberry):** World leader in smartphones, but faltered after spending \$3.0b. on buybacks in 2009-2010 (1.3 times R&D)
- **Microsoft:** In the 2000s a belated imitator of other more successful companies; 2000-2011 spent \$126.5b. repurchasing stock, 81% of earnings and 1.6 times R&D expenditures.
- **Nokia:** a longstanding stock-option culture and Europe's 7<sup>th</sup> largest repurchaser, €18.6b. for 2001-2010, has been in sharp decline.

## **And those that do no buybacks in comtech do well**

**Apple:** buybacks and dividends in decade from 1986 with Steve Jobs gone – then retaining all its earnings, transformed itself from a troubled niche player at the beginning of the 2000s into the world’s most profitable company by the end of the decade.

**Google:** has mobilized its financial resources to build on its competitive success in one line of business to innovate in other lines, including, with its Android operating system, smartphones.

**Ericsson:** the world’s leading communication equipment company – got rid of stock options in 2003 after adapting their use to the Swedish business model -- does virtually no stock buybacks

**Huawei Technologies:** a nonpublic employee-owned company that, through investment in R&D, is now the no. 2 global communication equipment company, despite being shut out of the US market

# What about VC-backed startups? Aren't they America's unique form of patient capital?

- United States leads the world in venture capital: VC emerged from the 1960s as integral to the microelectronics revolution, centered in Silicon Valley – but now successful ICT companies like Intel and Cisco are among the foremost repurchasers of their own stock
- The dot.com phenomenon of the late 1990s was a demonstration of how impatient capital can use the speculative stock market to generate returns on companies that had little potential to be successful.

# America's impatient venture capitalists?

- From 1976 VC was applied to biotechnology: Yet it takes at least a decade and \$1 billion to develop and commercialize a biopharma drug with high risks of failure; in biopharma there is a prevalence of PLIPOs (productless IPOs): Speculation permits financial interests to gain even when no product is produced. **Has the VC model worked in biotech?**
- **Is impatient capital a problem in renewable energy?** Solyndra's bankruptcy in Aug. 2011, which cost US taxpayers with \$535m., occurred after its failure to do an expected IPO. From 2005 Solyndra had raised \$1.1 billion in private equity, and it had a commercial product. Could an IPO have replaced Solyndra's "impatient" private equity investors with speculative public equity that could have sustained the company? **Can the VC model work in clean tech?**

## Impatient capital and alternative energy

- GE is the biggest US wind-turbine producer, but looks to the US government for investment in the knowledge base: In June 2010 the American Energy Innovation Council (AEIC) called for a tripling of US government spending on clean-energy research to \$16b. per year. John Doerr, noted Silicon Valley VC and AEIC member, said: “When our company shifted our attention to clean energy, we found the innovation cupboard was close to bare. My partners and I found [that] the best fuel cells, the best energy storage and the best wind technology were all born outside of the United States.”

# Impatient capital and alternative energy

- Why have major US companies not been more active in developing alternative energy? Over the decade 2001-2010, the seven corporations whose current or former leaders are represented on AEIC wasted a total of \$237b. on stock buybacks, including \$110b. by Microsoft, \$52b. by Bank of America, and \$48b. by General Electric.
- US taxpayers might expect that, in urging the US government to spend on these neglected technologies, the executives of these leading US companies would already be allocating substantial sums from the ample financial resources that they control to productive uses that, by their own account, have a high national priority. Instead these powerful “impatient capitalists” look to the US taxpayer for patient capital.

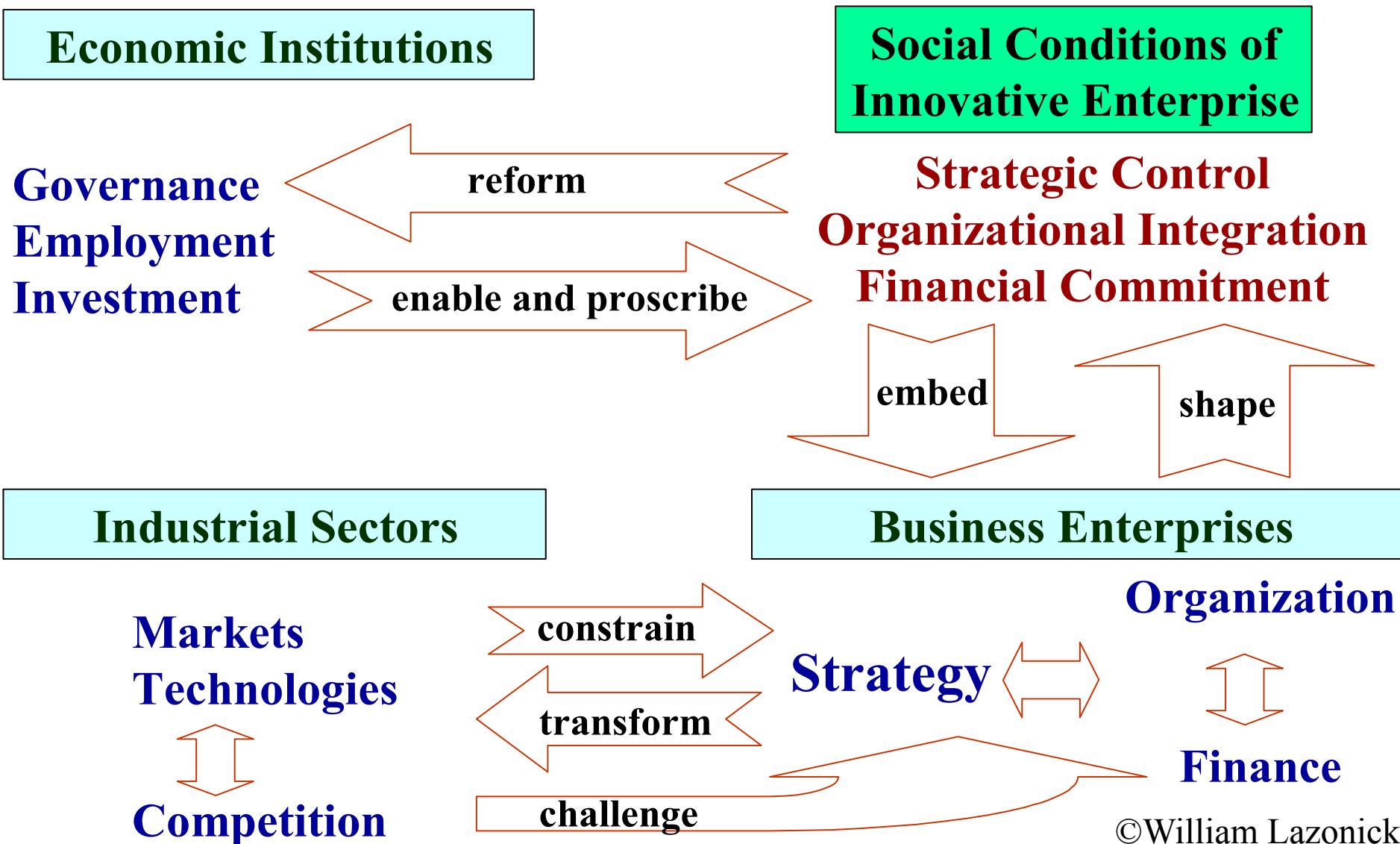
# **Implications of the theory of innovative enterprise for sustainable prosperity**

**Strategic control:** paying top executives too much money can undermine their incentives to engage in innovation and put people who lack the ability to invest in innovation in charge of corporate resource allocation

**Organizational integration:** If companies want to accumulate innovative capabilities, they have to train employees, retain them, and motivate them to engage in the collective and cumulative learning processes that are the essence of innovative enterprise

**Financial commitment:** innovative enterprise needs “patient capital” – profits are a market outcome, not an organizational goal

# Social conditions of innovative enterprise: nations support innovative enterprise



# Implications of the theory of innovative enterprise for governance institutions

- Who bears the risks?: Taxpayers and workers provide much of the productive inputs that result in organizational success, and must be rewarded when the risks that they have taken generate returns
- Who gets the rewards?: Reward equity holders for creating value, not extracting value: the most destructive economic ideology of the past quarter century is the notion that companies should be run to “maximize shareholder value” -- it rewards value extractors
- Risk-reward nexus in the innovation process (Lazonick-Mazzucato): the economics of organizational success demands a radical rethinking of the governance of business enterprise

# **Implications of the theory of innovative enterprise for employment institutions**

- **Education:** nations that invest deeply and broadly in the education of their labor forces have dominated and will continue to dominate the global economy
- **Employment:** In a world of global competition, the norm of a career with one company is no longer viable. But “flexible” labor markets can undermine innovation and even lead to a deterioration of human capital. National policies must help to sustain the careers path of productive employees.
- **S&T infrastructure:** the creation, absorption, and dissemination of technologies is the basis for indigenous innovation – which is essential for global leadership

# **Implications of the theory of innovative enterprise for investment institutions**

- **Finance is not investment:** it is critical for regulators of securities markets to distinguish between value creation and value extraction (e.g., for three decades USA's Securities and Exchange Commission has promoted value extraction in the name of value creation)
- **Capital is not in short supply:** national investment institutions must channel capital to innovative enterprise
- **Financial commitment is essential to achieve sustainable prosperity:** A nation's regulatory framework must stress financial commitment, not financial liquidity – the quest for high financial returns was the prime cause of the current financial crisis – and the era of high financial returns cannot, and should not, be restored

# What is to be done about employment?

- **Regulation of the employment contract** to ensure that workers who contribute to the innovation process share in the gains to innovation.
- **Creation of work programs** that make productive use of and enhance the productive capabilities of educated and experienced workers whose human capital would otherwise deteriorate through lack of other relevant employment.
- **Implementation of taxes on the gains from innovation** to fund those government agencies that need to invest in the public knowledge base required for the next round of innovation.

# What is to be done about corporate resource allocation?

- Put strict performance criteria, independent of stock price, on exercising stock options – e.g., job creation (so who needs stock options?) More generally, base executive pay on contributions to equitable and stable growth of the companies that they control
- Ban stock buybacks: force corporate executives to find productive uses for profits in the United States
- Transform boards of directors to include social representatives who seek equitable and stable growth
- Reject the ideology of “maximizing shareholder value”: invoke innovation theory rather than agency theory as the intellectual foundation for governing the corporation

# Sustainable prosperity in the US economy?

- Regulating executive stock options
- Banning stock buybacks
- Transforming boards
- Rejecting shareholder ideology

**WILL REQUIRE  
AN AMERICAN REVOLUTION IN  
SOCIAL NORMS**