

# **Innovation and Competition in the Global Economy**

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**Rethinking Development in a World in Transition**

**ECLAC**

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# The development objective: sustainable prosperity

**Stable and equitable economic growth =  
“sustainable prosperity”**

- **Growth:** sustained real per capita productivity gains that can raise standards of living
- **that is stable:** employment and income not subject to boom and bust, sustained over a working life of some four decades, with retirement income for two decades
- **that is equitable:** gains from growth shared fairly among those who contribute to it—including equitable and sustainable use of the planet’s resources across nations and over generations

# The investment triad

**Investment in productive capabilities**  
A necessary condition for economic development

Who invests in productive capabilities?

## THE INVESTMENT TRIAD

- ❖ **HOUSEHOLDS** invest in the labor force
- ❖ **GOVERNMENTS** invest in infrastructure and knowledge
- ❖ **BUSINESSES** invest in processes and products

**Development strategy** needs a theoretical framework on how these three types of **organizations** work together to develop and utilize **productive capabilities**.

# Organizations, not markets, invest in productive capabilities

- ❖ Households invest in developing the labor force:  
***the supportive family based on employment income***
- ❖ Governments invest in physical infrastructure and  
the knowledge base (education, S & T):  
***the developmental state based on taxation***
- ❖ Businesses invest in productive capabilities that can  
generate higher quality, lower cost products:  
***the innovative enterprise based on equity capital for  
new ventures; retained earnings for going concerns***

# But aren't the most successful economies “market economies”?

Well-developed markets are **OUTCOMES, NOT CAUSES**,  
of economic development

- ❖ Well-developed **product markets** depend on business enterprises that generate high-quality, low-cost products
- ❖ Well-developed **labor markets** depend on business enterprises that develop and utilize productive capabilities to employ people productively
- ❖ Well-developed **financial markets** depend on business enterprises that use equity and debt to invest in productive capabilities to generate high-quality, low-cost goods and services

# A modern economy is not just “states and markets”

- ❖ An economy needs business enterprises to transform investments in productive capabilities into innovative (higher-quality, lower-cost) goods and services, which in turn form the foundation for sustained productivity growth
- ❖ **A THEORY OF ECONOMIC DEVELOPMENT NEEDS A THEORY OF INNOVATIVE ENTERPRISE:**  
*How and under what conditions do investments in productive capabilities result in higher-quality products at lower unit costs than had previously been available?*

# The fundamental neoclassical absurdity

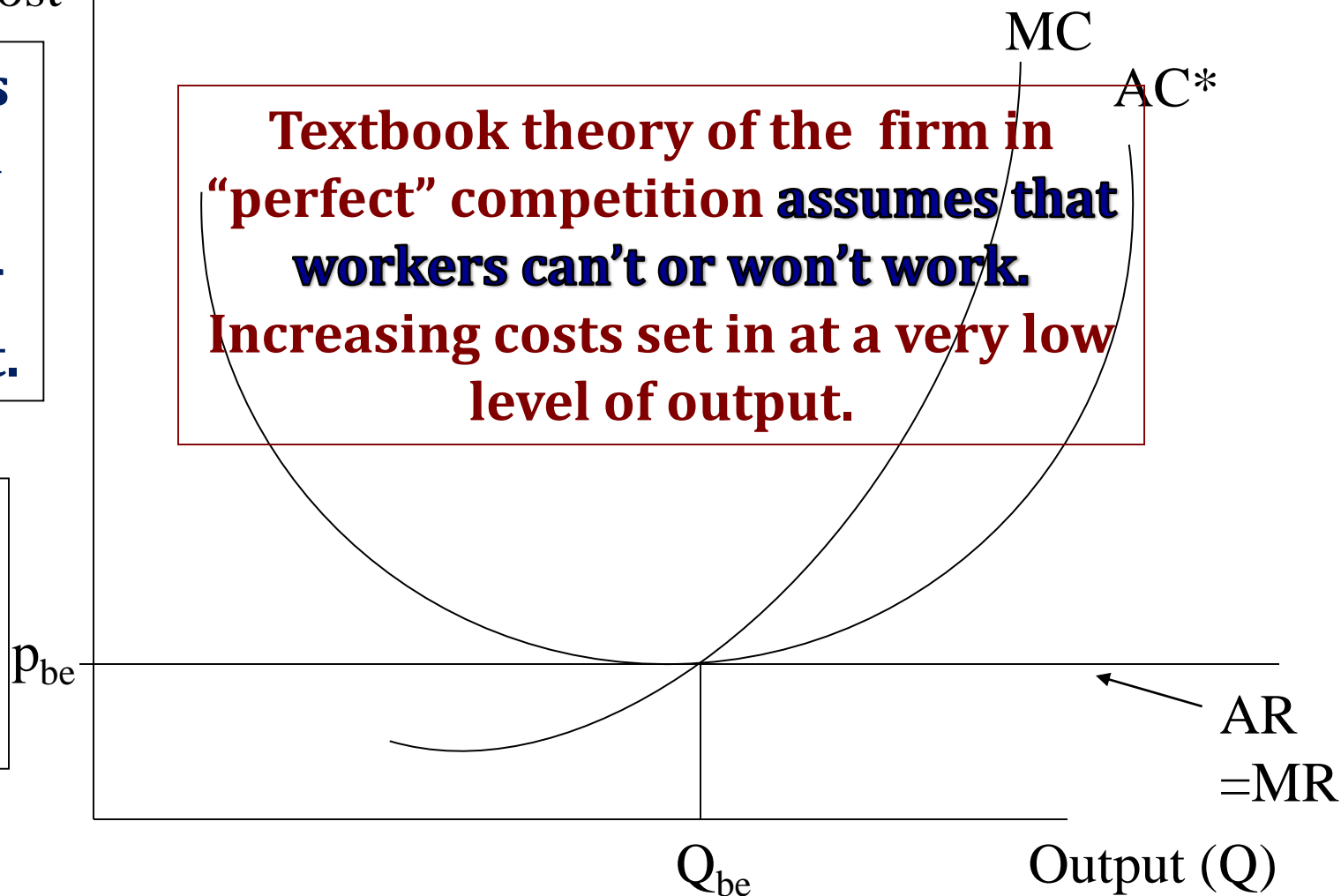
- Neoclassical economists teach that **the unproductive firm is the foundation of the most efficient economy—an absurdity that we all know as “perfect competition”**.
- Neoclassical economists have, as a result, a **trained incapacity** to analyze how firms operate—and hence an inability to understand economic development.
- The theory of perfect competition makes **the firm impotent** and **the market omnipotent** in the allocation of the economy’s resources.
- This absurd view of the economic world underpins **agency theory** and its highly **destructive shareholder-value ideology** of corporate governance.

# Neoclassical economists posit “perfect” competition as the best of all possible worlds

Price (P), cost

The firm is very small relative to the size of the market.

Free entry competes away profits.



\* AC = average total cost = average fixed cost + average variable cost

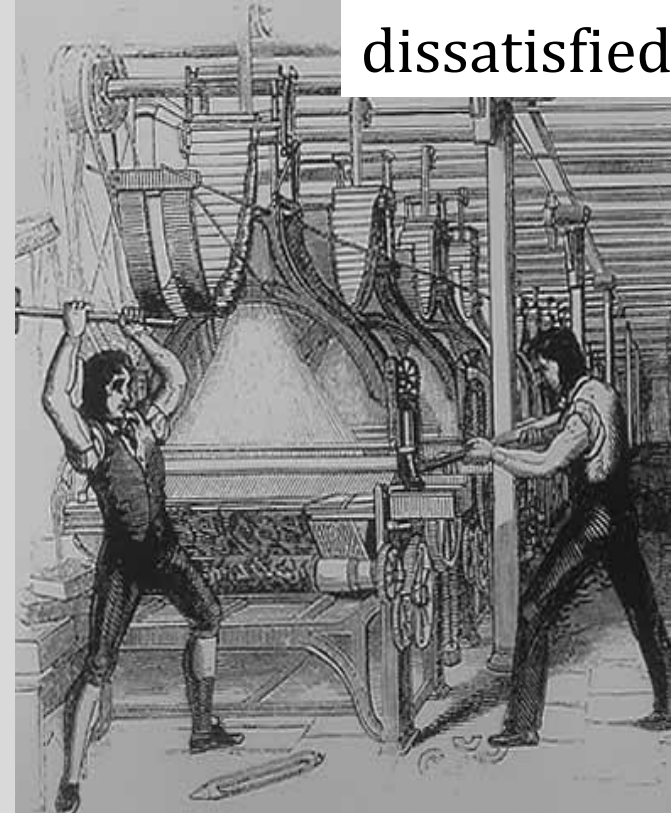


overcrowded



Foundations of  
“perfect”  
competition,  
and hence  
neoclassical  
economics =  
**Low or no  
productivity  
workers**

dissatisfied



unmotivated



deactivated

# The absurdity of “perfect competition”

**The firm in “perfect competition” is the sweatshop!**

To create the theory of “perfect” competition, post-Marshallians assumed that increasing costs set in at a very low level of output because *the “entrepreneur”*

- 1) invests in a factory that is too small so that workers crowd one another (no risk-taking)*
- 2) loses control of labor productivity as he hires more workers (poor management)*



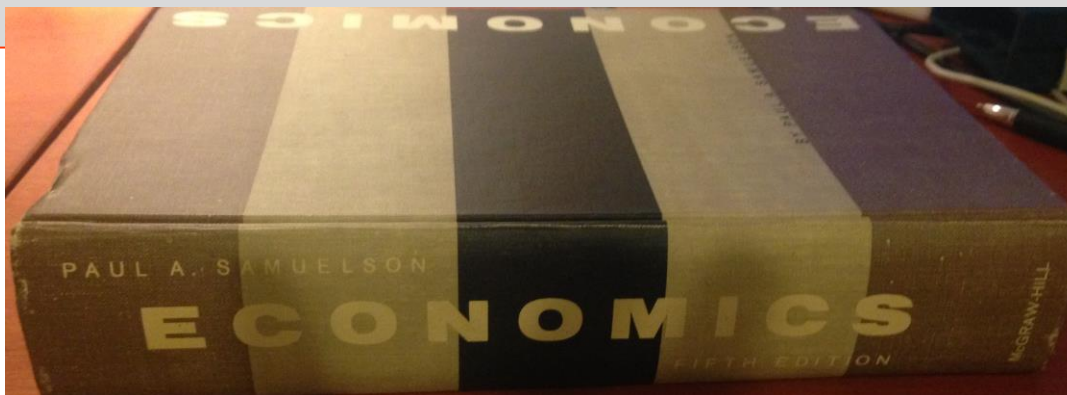
# Joseph Schumpeter on “perfect competition”

“What we have got to accept is that [the large-scale enterprise] has come to be the most powerful engine of [economic] progress and in particular of the long-run expansion of total output not only in spite of, but to a considerable extent through, the strategy that looks so restrictive when viewed in the individual case and from the individual point in time. In this respect, **perfect competition is not only impossible but inferior, and has no title to being set up as a model of ideal efficiency.**”

Joseph A. Schumpeter, Capitalism, Socialism, and Democracy, 1942, p. 106.

What was the neoclassical response to the Schumpeterian critique? **Paul Samuelson’s 1948 textbook**

# Samuelson and the absurd ideal of economic efficiency



## Samuelson, *Economics*, 5<sup>th</sup> edition, 1961

- ❑ p. 24 “THE FAMOUS LAW OF DIMINISHING RETURNS”
- ❑ p. 25: “Diminishing returns is a fundamental law of economics and technology” (table heading)
- ❑ p. 26: **“ECONOMIES OF SCALE AND MASS PRODUCTION: A DIGRESSION”**
- ❑ p. 27: “Economies of scale are very important in explaining why so many of the goods we buy are produced by large companies...They raise questions to which we shall return again and again in later chapters.”

# Professor Samuelson on the unproductive firm as the foundation of the most efficient economy

Paul Samuelson, *Economics*, 5<sup>th</sup> edition, p. 524.

“After the overhead has been spread thin over many units, it can no longer have much influence on Average Cost. Variable items become important, and **as Average Variable Cost begins to rise because of limitations of plant space and management difficulties, Average Cost finally begins to turn up....** Thus, the average curve is U-shaped: falling at first because of spreading the overhead and economies of mass production, but ultimately rising because of some kind of diminishing returns.”

On page 525, there is a graph of AFC, AVC, and a U-shaped AC, with the caption “The Average Cost curve is generally U-shaped”

**And note that Prof. Samuelson gives away his bias in favor of the unproductive firm when he writes “Average Cost finally begins to turn up.**

# **You won't find this “sweatshop” explanation for the U-shaped cost curve in the current textbooks**

## **Two textbooks that publishers sent to me recently:**

**N. Gregory Mankiw, *Principles of Microeconomics* (Cengage Learning 8<sup>th</sup> ed., n.d.), simply states that the cost curve is U-shaped (“cost curves for a typical firm”, p. 259) using a made-up coffee shop (coffee cups per hour): AVC rises from \$0.30 for one cup to \$12.00 for 10 cups, with rising AVC surpassing declining AFC after 6 cups (p. 254).**

**Paul Krugman and Robin Wells, *Essentials of Economics* (Worth Publishers, 4<sup>th</sup> ed., 2017) argue that a “realistic marginal cost curve has a ‘swoosh’ shape” (p. 189) and give the example of a salsa maker whose AVC rises from \$12.00 for one case of salsa to \$120.00 for 10 cases, with with rising AVC surpassing declining AFC after 3 cases (p. 185).**

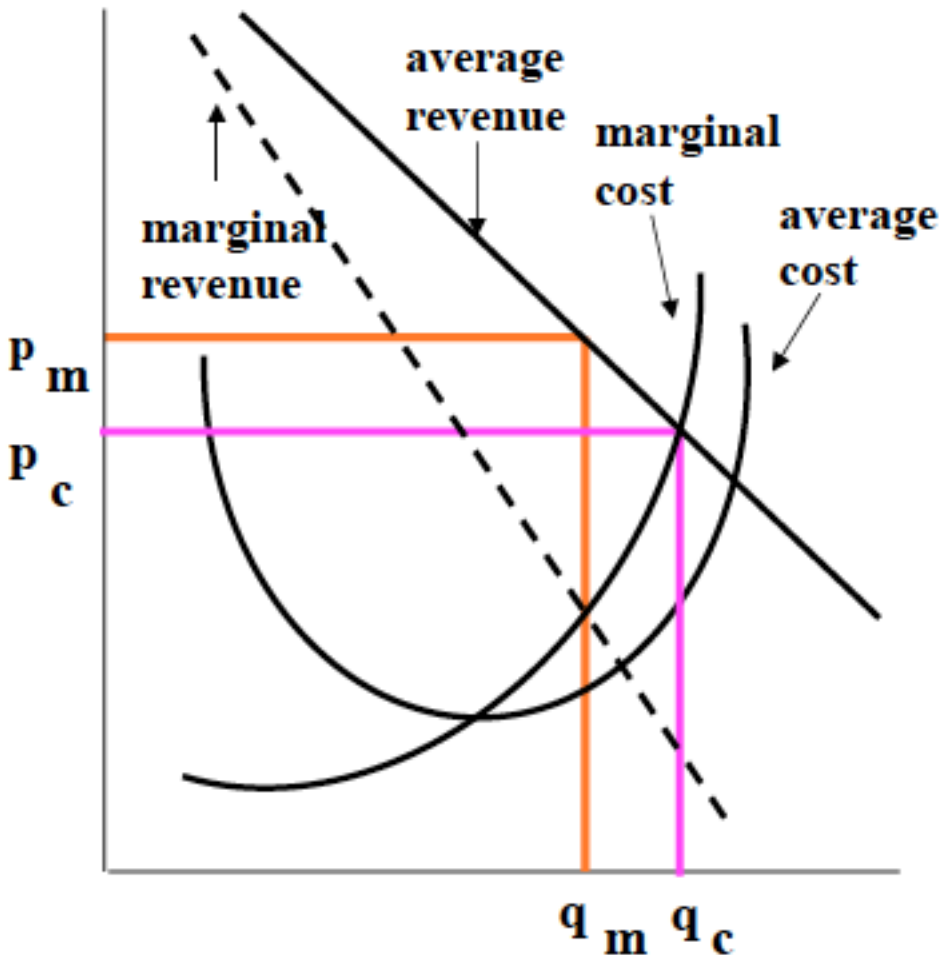
**In both cases, the “explanation” for the U-shaped cost curve is simply the made-up numerical example!**

## So what happened to Samuelson's "sweatshop" explanation of the firm in "perfect" competition?

- Samuelson **excised** the explanation from the 6<sup>th</sup> (1964) edition of Economics! He now had no explanation for the U-shaped cost curve.
- Maybe he recognized the absurdity of his theory of the firm in perfect competition, articulated in the first five editions.
- He did not "return again and again" to "economies of scale and mass production". The large firm became a **market imperfection**.
- **BUT WHAT ABOUT THE PROOF OF THE SUPERIORITY OF PERFECT COMPETITION?**

# Proof that “perfect competition” is superior?

$p$  = price;  $q$  = output  
 $m$  = monopolist;  $c$  = perfect competitor



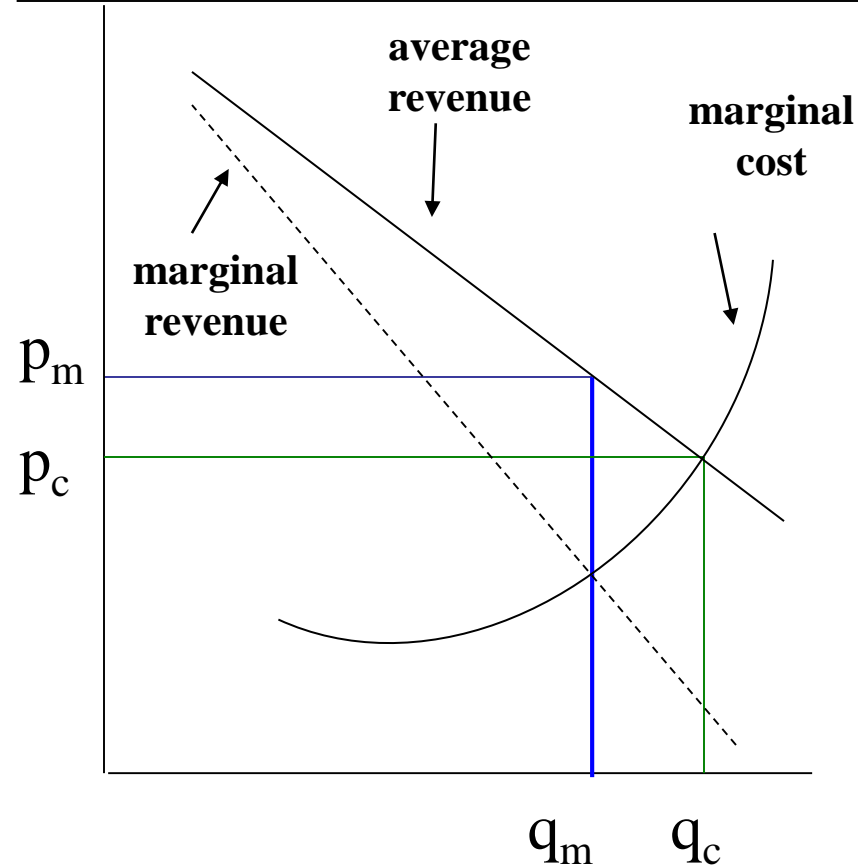
The theory of monopoly supposedly proves the superiority of “perfect competition” by showing that monopoly results in higher prices and lower output than perfect competition.

But how did the monopolist gain a dominant market position? It is **ILLOGICAL** to assume that the cost structure of firms in “perfect competition” are the same as that of a firm that dominates the industry.



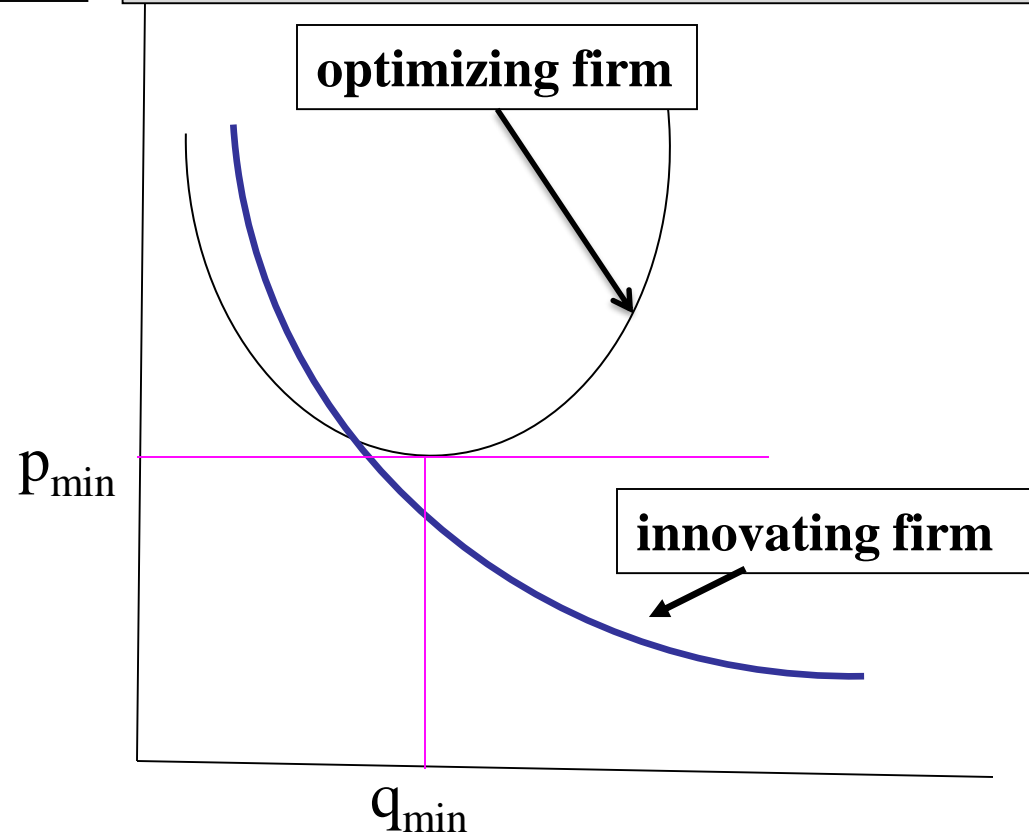
The innovating firm transforms technological and market conditions that the optimizing firm accepts as “given” technological and market constraints.

### Monopoly and competition: ILLOGICAL COMPARISON



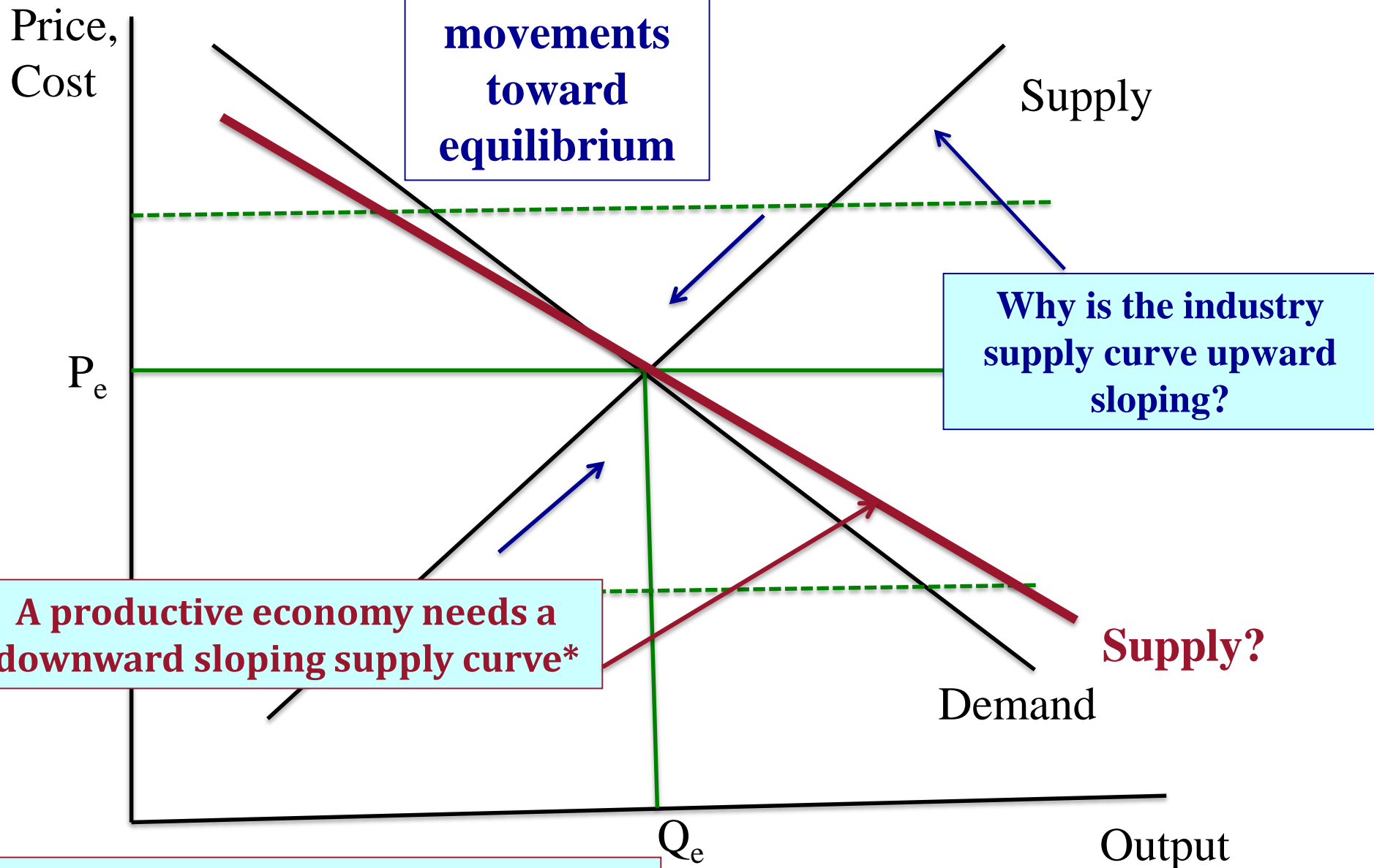
$p_m$  = monopoly price;  $q_m$  = monopoly output  
 $P_c$  = competitive price;  $q_c$  = competitive output

### Innovating and optimizing firms LOGICAL COMPARISON



$p_{min}$  = lowest breakeven price, optimizing firm  
 $q_{min}$  = lowest breakeven output, optimizing firm

# Reject the neoclassical obsession with free entry and market equilibrium



\* So what if there is no equilibrium output or price.

# **Economics needs a theory of innovative enterprise**

## **Basic principles of the theory of innovative enterprise:**

- ❖ High fixed costs of the firm's investments in productive capabilities, including organizational learning, place the firm at a competitive disadvantage at low levels of output**
- ❖ But if, through organizational learning sustained by committed finance, the firm can generate a higher quality product, it can gain a large extent of the market, transforming high fixed costs into low unit costs, and hence competitive advantage**

# What is an *innovating* firm?

## Definition of “the innovating firm”:

given prevailing factor prices, the innovating firm transforms the productive resources under its control into *higher-quality, lower-cost* goods and services than previously available

## Innovation is a process that is

- ❖ *uncertain*: it cannot be done “optimally”
- ❖ *collective*: it cannot be done all alone
- ❖ *cumulative*: it cannot be done all at once

# Innovative enterprise: Transforming high fixed costs into low unit costs

Replacing the theory of the “optimizing” (unproductive) firm with the theory of the innovating firm...

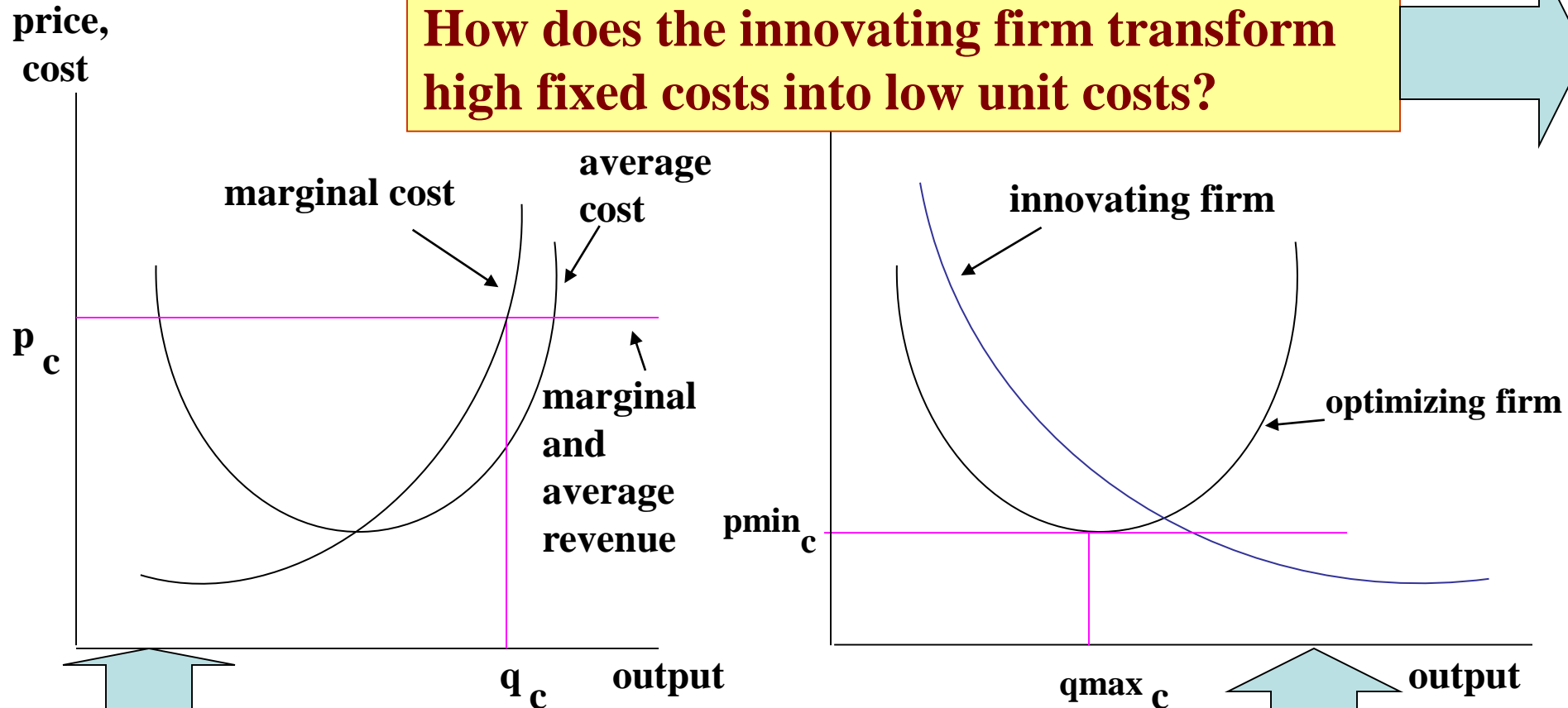
- ❖ **Strategy:** confronting *uncertainty*, the innovating firm incurs *high-fixed costs* to develop a *higher-quality product* that, by gaining market share, is produced at low unit cost
- ❖ **Organization:** developing a higher-quality product and accessing a large market share require *collective* (i.e., organizational) *learning*
- ❖ **Finance:** the innovating firm *needs committed funding* to sustain *cumulative* learning until, by

# Comparing the optimizing and innovating firm

$p$  = price;  $q$  = output;  $c$  = perfect competitor

$p_{min_c}$  = minimum breakeven price;  $q_{max_c}$  = maximum breakeven output

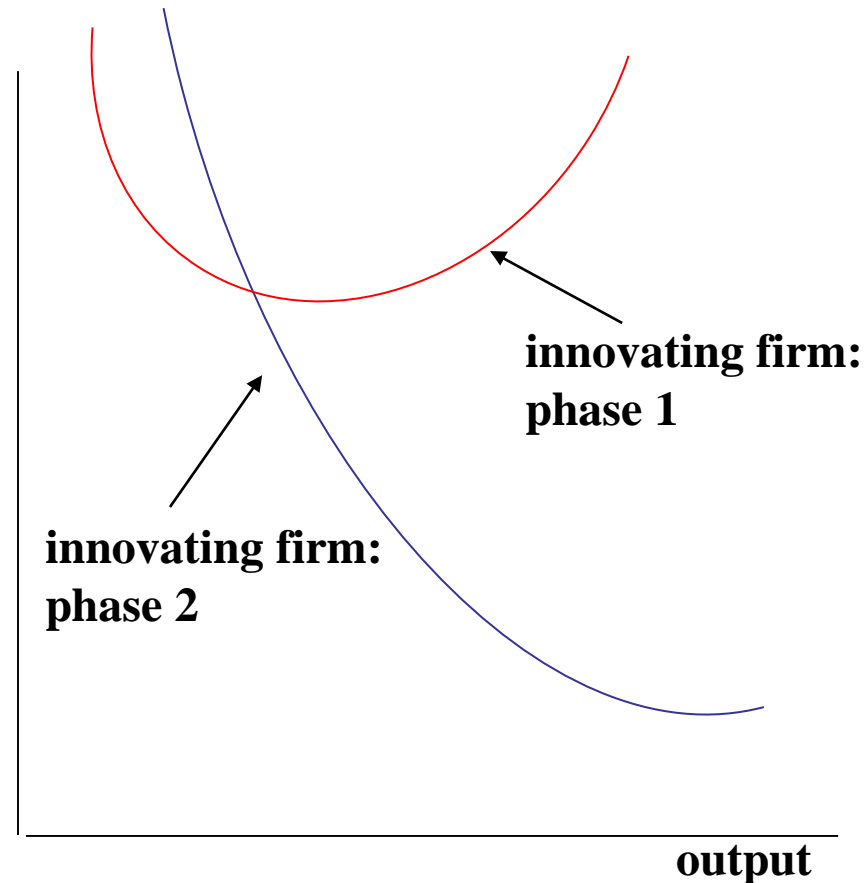
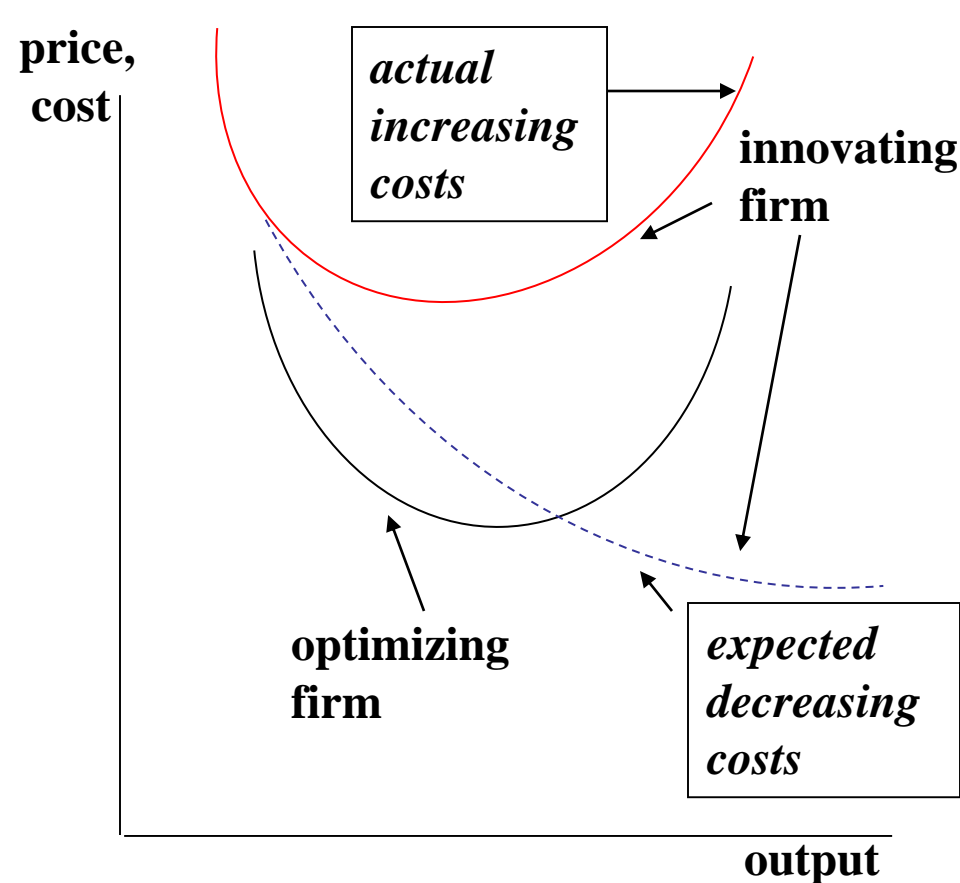
**How does the innovating firm transform high fixed costs into low unit costs?**



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

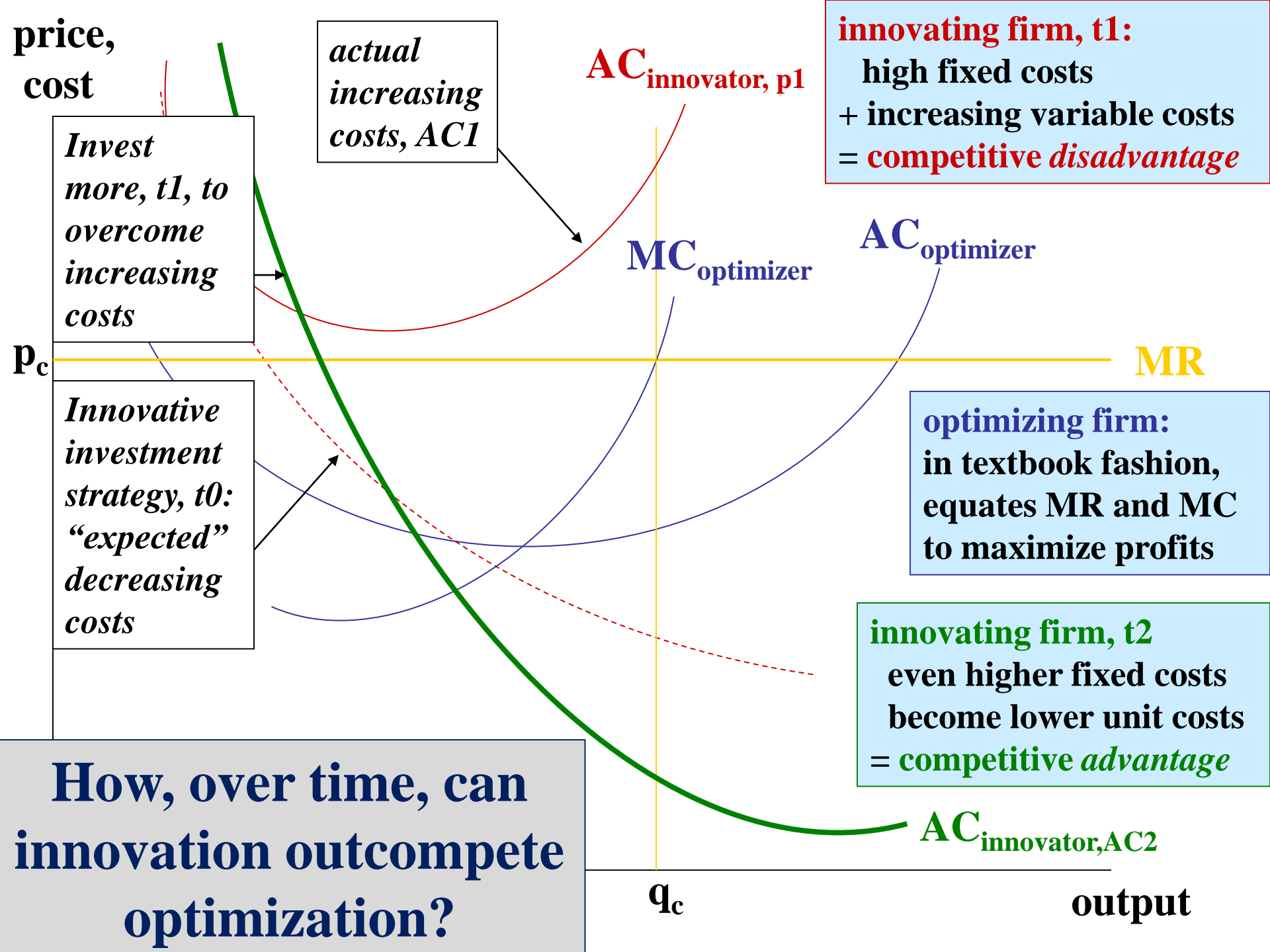
Through strategy, organization, & finance, innovating firm transforms technologies and markets to generate higher quality, lower cost products. There is no “optimal” output or “optimal” price.

# Shaping the innovative cost curve



Through innovative strategy, IE expects to outcompete OF. But, in period one, IE's strategy only results in high unit costs, and IE remains at a competitive disadvantage.

By internalizing variable factor creating increasing costs, IE incurs even higher fixed costs but the investment enables it to "unbend" the U-shaped cost curve.





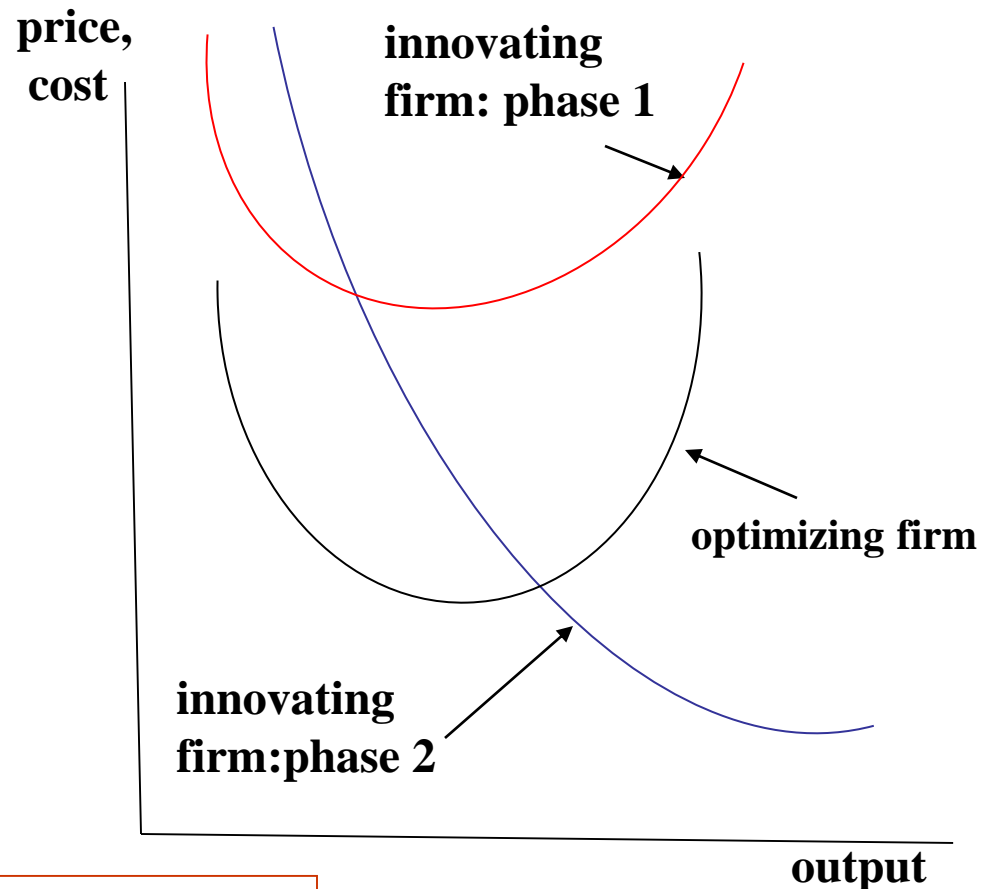
# Strategy, organization and finance in the theory of the innovating firm

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

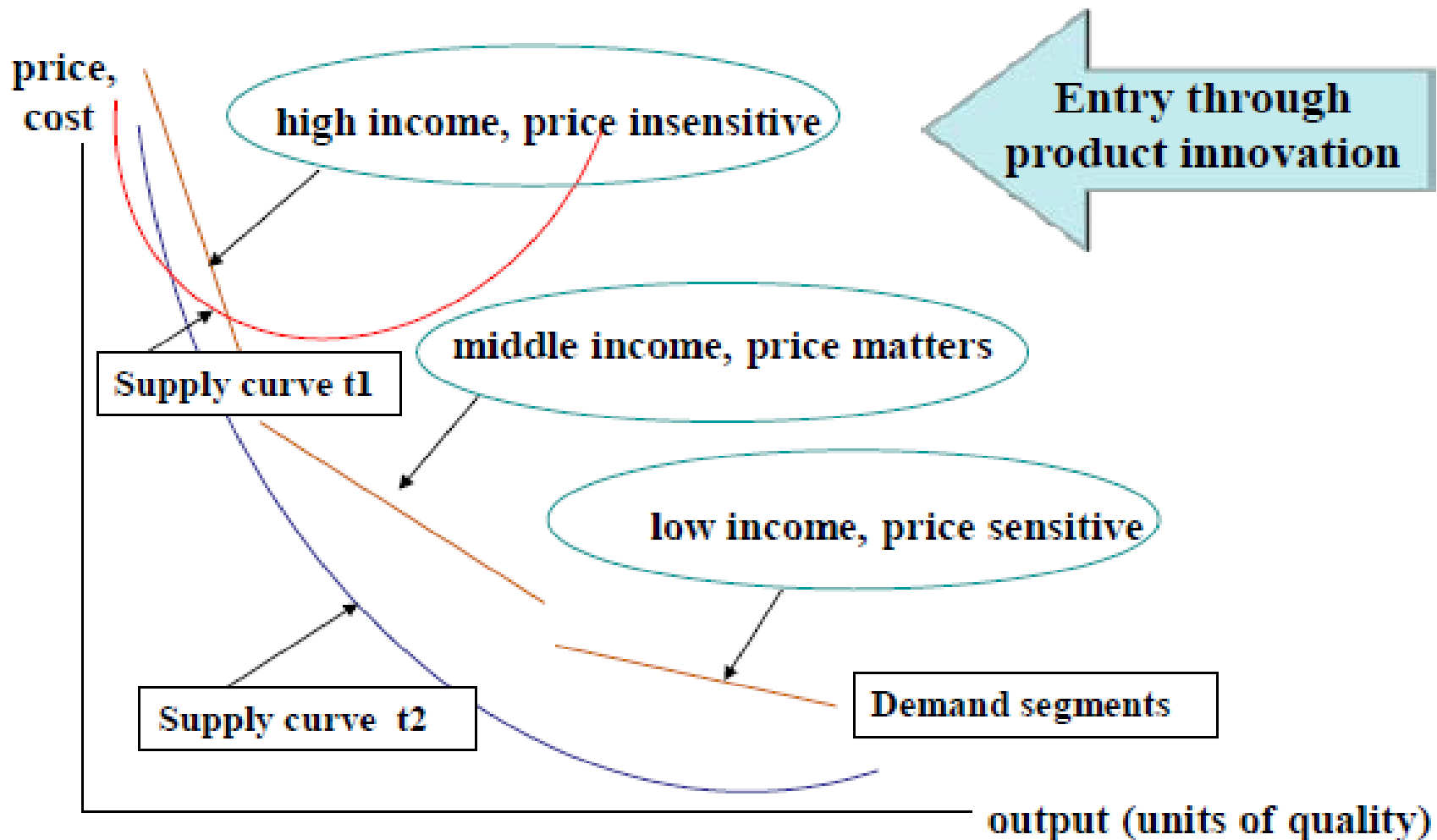
**Organization:** *innovation is collective* – development & utilization of productive resources requires integration of a hierarchical and functional division of labor

**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: need to bring product market demand into the analysis



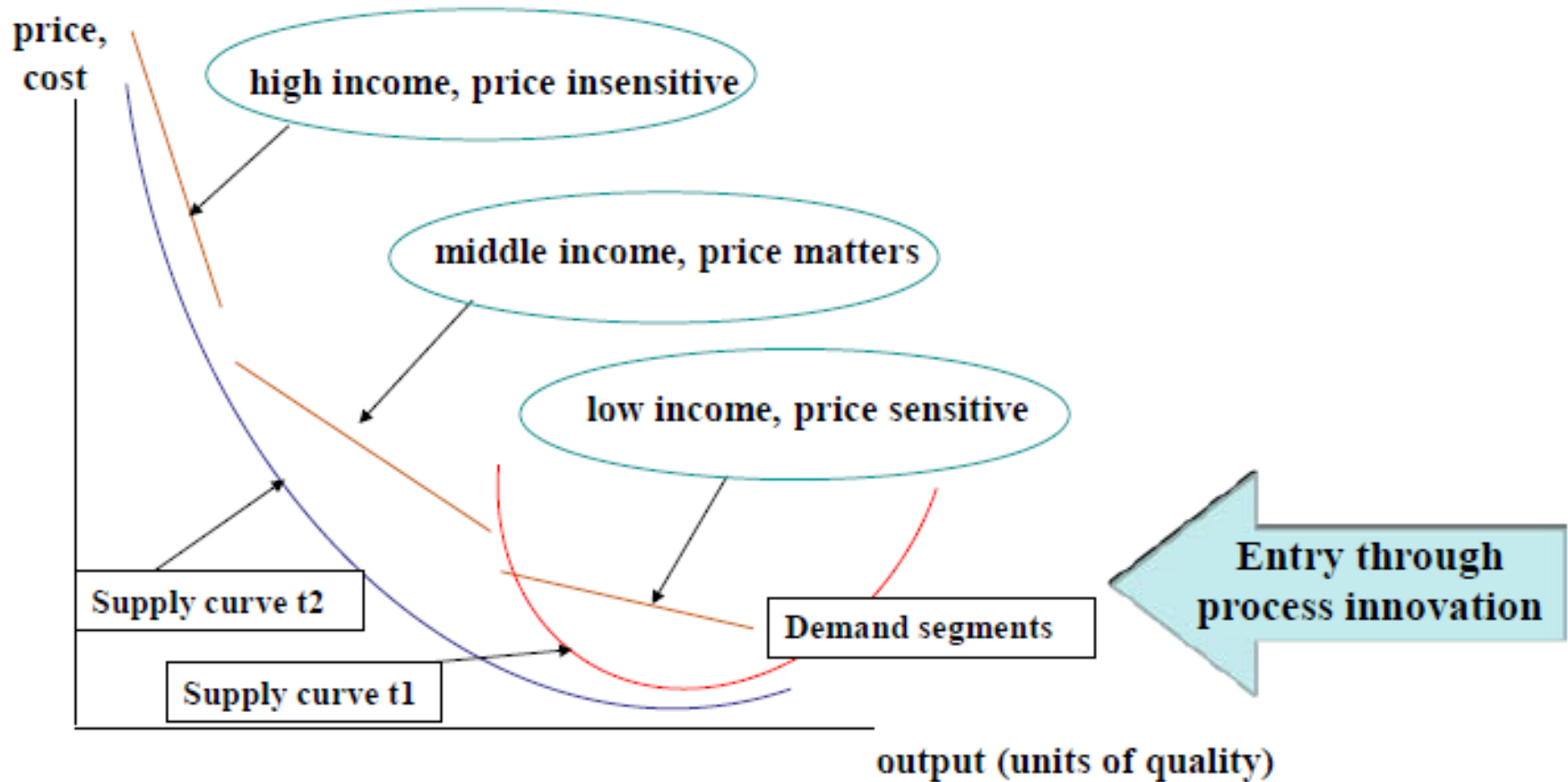
# Accessing market segments: product innovation



**What is the source of high income demand?**

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

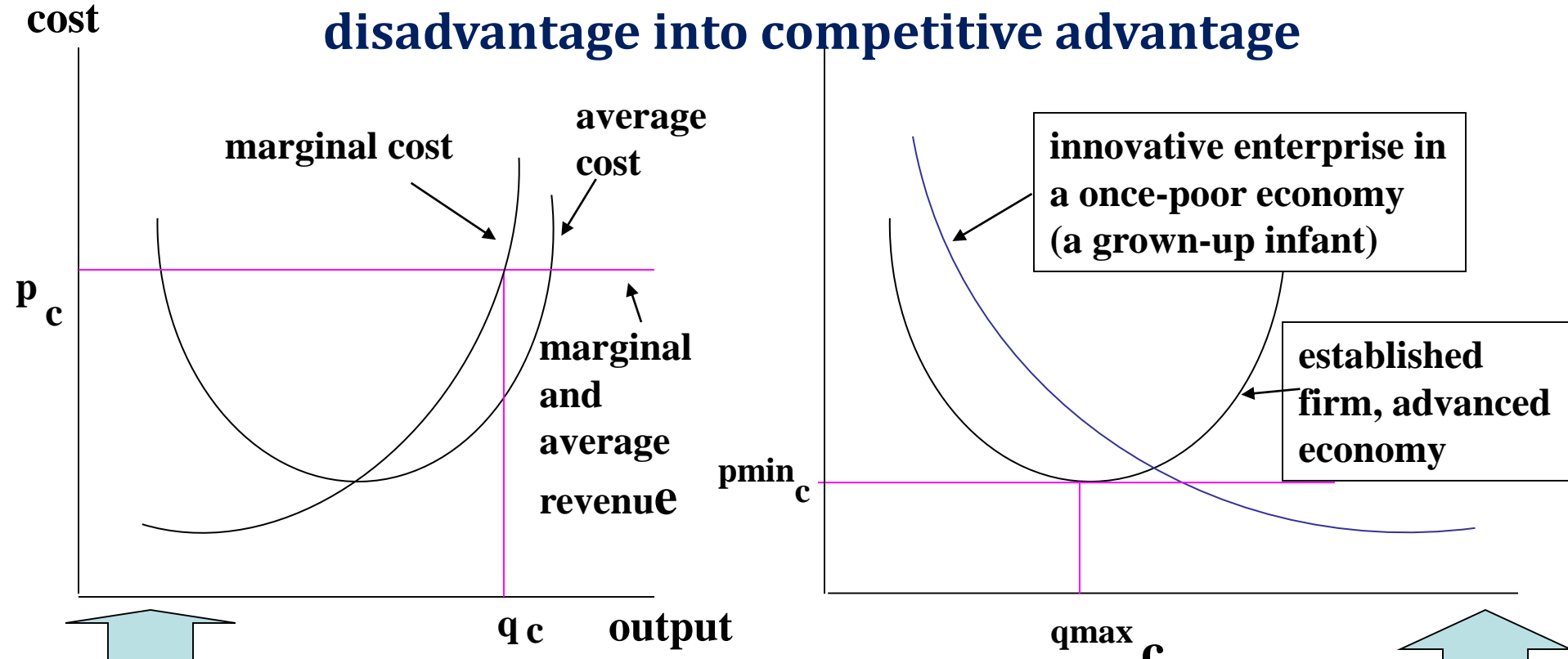
# Accessing market segments: process innovation



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

# Theory of innovative enterprise and the infant industry argument

Like the theory of innovative enterprise, the infant industry argument depends on the transformation of competitive disadvantage into competitive advantage



Technological and market conditions given by cost and revenue functions. Theory says that the poor nation should compete in industries in which it has *comparative* advantage.

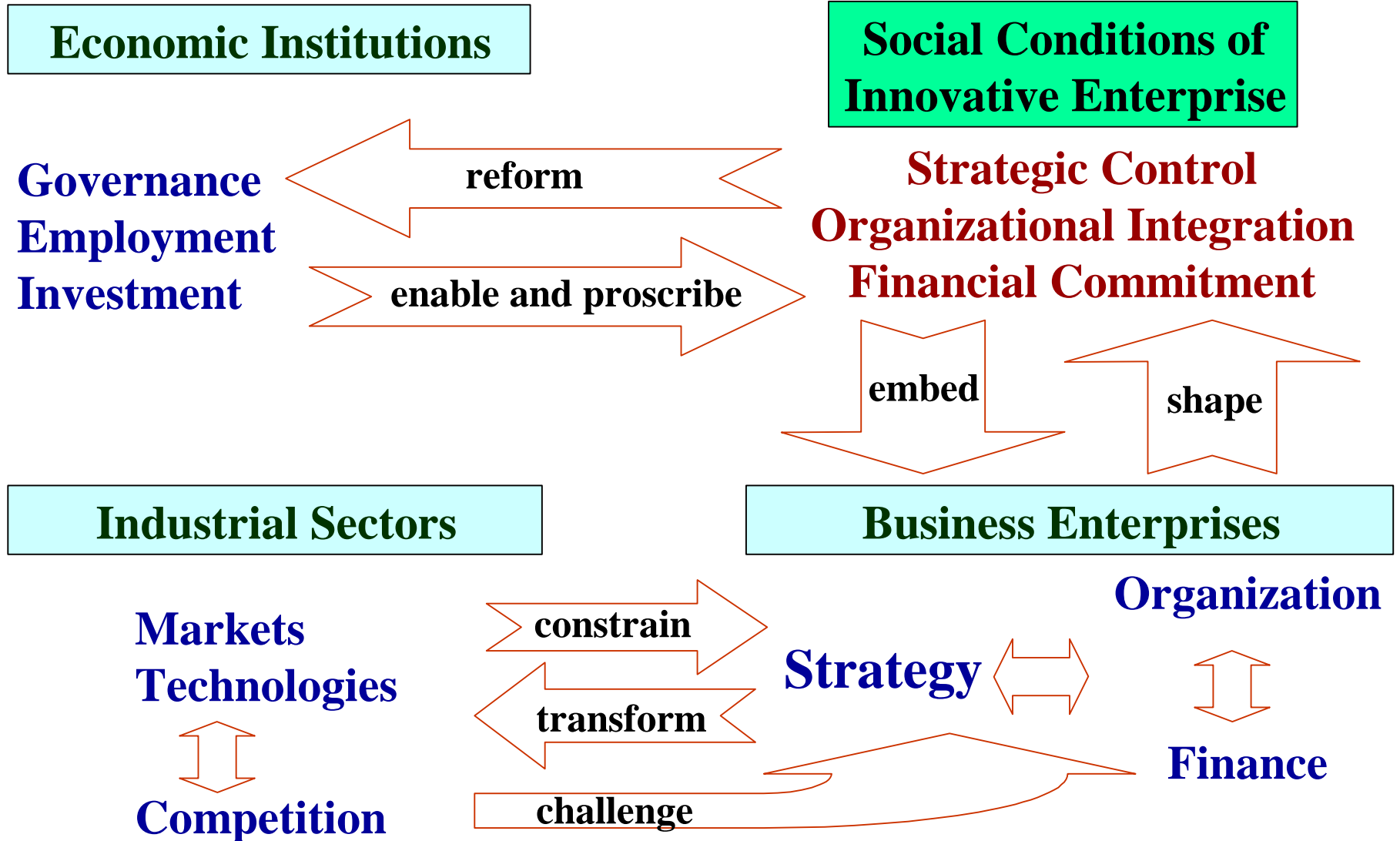
Innovative enterprise can transform technologies and markets to generate higher quality, lower cost products. Protection that supports innovation can enable a poor nation to gain competitive advantage.

# Innovative enterprise: foundation of sustainable prosperity

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

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

# Social conditions of innovative enterprise: An analytical framework that connects institutions, firms, and industries



# Social conditions of innovative enterprise

**Innovative enterprise requires three social conditions related to strategy, organization, and finance**

- **Strategic control:** a set of relations that gives decision-makers the power to allocate the firm's resources to confront **uncertainty** by transforming technologies and markets to generate higher quality, lower cost products
- **Organizational integration:** a set of relations that create incentives for people to apply their skills and efforts to engage in **collective** learning
- **Financial commitment:** a set of relations that secure the allocation of money to sustain the **cumulative** innovation process until it generates financial returns

# Strategic control

## KEY

### QUESTIONS:

- **Strategic control and asset ownership:** How does strategic control change with the growth of the firm? Why might asset ownership be separated from managerial control? Who is included in the structure of strategic control?
- **Strategic control, abilities:** Who is able to allocate resources to innovative investment strategies? What role does experience in the firm and industry play?
- **Strategic control, incentives:** Do executives want to allocate resources to innovation? Why not just reap the returns of past investments? How do their individual incentives affect organizational goals?



# Organizational integration

## KEY QUESTIONS:

- **Innovative skill bases, abilities:** How do education, training, and experience make employees productive? What are the hierarchical responsibilities and functional specialties integrated into organizational learning?
- **Innovative skill bases, incentives:** How does the firm attract, recruit, retain and motivate employees? How does the structure of incentives reconcile individual behavior with organizational goals?
- **Innovative skill bases, change:** What happens when competitive challenges render innovative skill bases obsolete? How are collective and cumulative learning trajectories transformed?

# Financial commitment

## KEY QUESTIONS:

- **Internal funds:** Are internal sources of funds important for financing innovation? How does the firm ensure that it can retain control over its revenues?
- **Debt and the finance of innovation:** Do bank loans provide a source of financial commitment? In what relation to internal funds? Do bond issues provide financial commitment? Why loans or bonds?
- **Equity and the finance of innovation:** Does private equity provide financial commitment, and to what types of companies? What is the role of the stock market in the finance of innovation?

# How can a national development strategy contribute to sustainable prosperity?

**Build national institutions that support strategic control, organizational integration, and financial commitment**

Using the “social conditions of innovative enterprise” framework, we focus on how:

- ❖ **Governance institutions**  
influence strategic control
- ❖ **Employment institutions**  
influence organizational learning
- ❖ **Investment institutions**  
influence financial commitment

When these institutions support innovative enterprise,  
they constitute **the developmental state**

# National institutions and business organizations in the innovation process

## **Governance institutions and strategic control:**

What are the rights and responsibilities that govern the allocation of productive resources (labor and capital) in the economy? Where in the economy is control over allocation decisions located? What are the social processes that monitor, sanction, and reform such control?

## **Employment institutions and organizational integration:**

To whom does society provide education, training, and experience? Through what organizations? For what purposes? Who pays? How do people get jobs? With what expectations of rewards over what time frame? Are careers within or across organizations?

## **Investment institutions and financial commitment:**

How are financial resources mobilized in the economy for investments in productive capabilities? From what sources? On what terms? With what expected returns? And returns for whom?

# National institutions and innovative enterprise

- ❖ Do governance, employment, and investment institutions enable or proscribe innovative enterprise?
- ❖ Do institutions that support innovative enterprise in one era constrain it in another?
- ❖ How do institutions influence the relation between those who invest in value-creation processes and those who extract the value that has been created?

## **A research agenda:**

**Comparative-historical study of national economic development with a view toward constructing a theory of innovative enterprise that explores (rather than ignores) historical experience**

# Economic development in comparative-historical perspective

**Some nation-focused research in which I have engaged:**

**Marshallian industrial districts:** craft foundations made Britain “workshop of the world” in late 19th century

**US managerial corporation:** integrated management structures made US dominant in first half of 20th century

**European alternatives in second half of 20th century**

**France:** functional integration for complex systems

**Germany:** hierarchical integration for high-quality goods

**Italy:** emergence of “neo-Marshallian” industrial districts

**UK:** organizational segmentation, not a viable alternative

**Japanese challenge:** power of broad and deep skill bases

**US New Economy:** power of highly educated skill bases

**The rise of China and India:** globalization of the labor force

# The US Old Economy business model

## **Strategic control:**

- separation of ownership and control secured by the rise of liquid stock markets and widespread distribution of shareholding; precondition for managerial control

## **Organizational integration:**

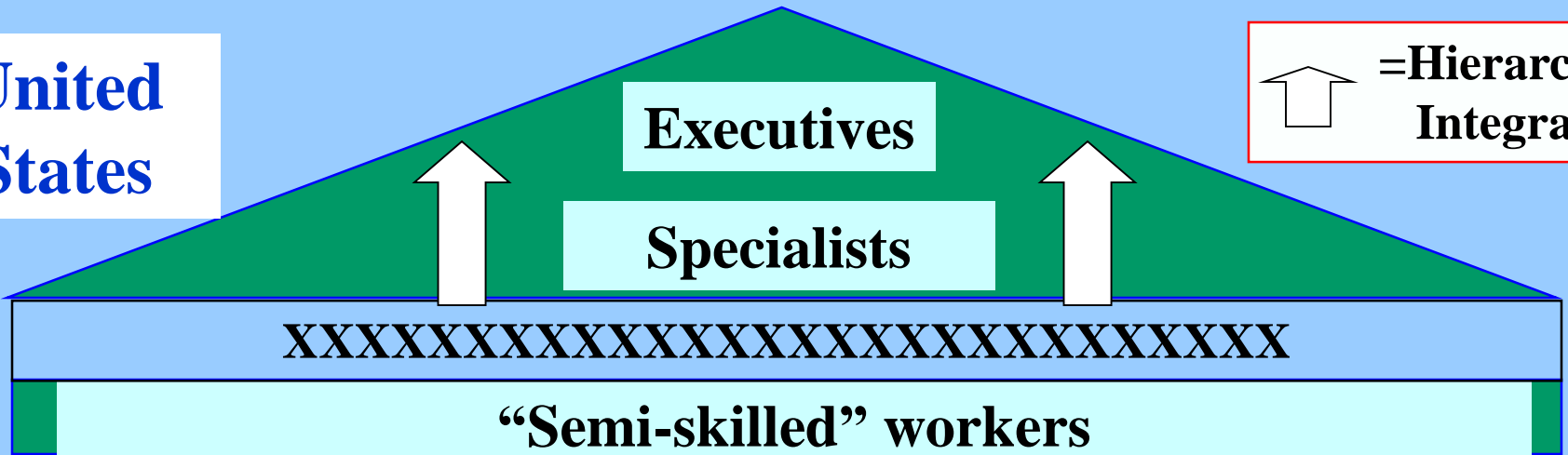
- career rewards: distinction between salaried managers and “hourly” workers; hierarchical specialization and hierarchical segmentation; higher education system important for members of “management”

## **Financial commitment:**

- retentions (after stable dividends), bonded debt, stock issues relatively unimportant

# US managerial control confronts UK craft control

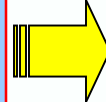
United States



 =Hierarchical Integration

Britain



 =Functional Segmentation

XXX =Hierarchical Segmentation



# The Japanese challenge

## **Strategic control:**

- secured by stable shareholding; career managers exercise control; post-war rise of a young cohort of top executives

## **Organizational integration:**

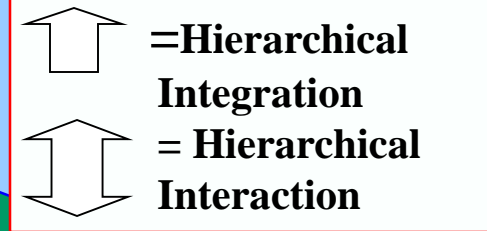
- permanent employment: career rewards for all salaried personnel, blue collar and white collar; hierarchical and functional *integration*, with educational qualifications tracking white-collar and blue-collar workers; high level of general education with in-house training

## **Financial commitment:**

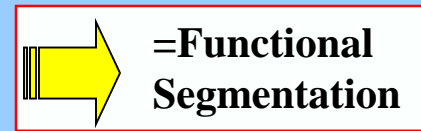
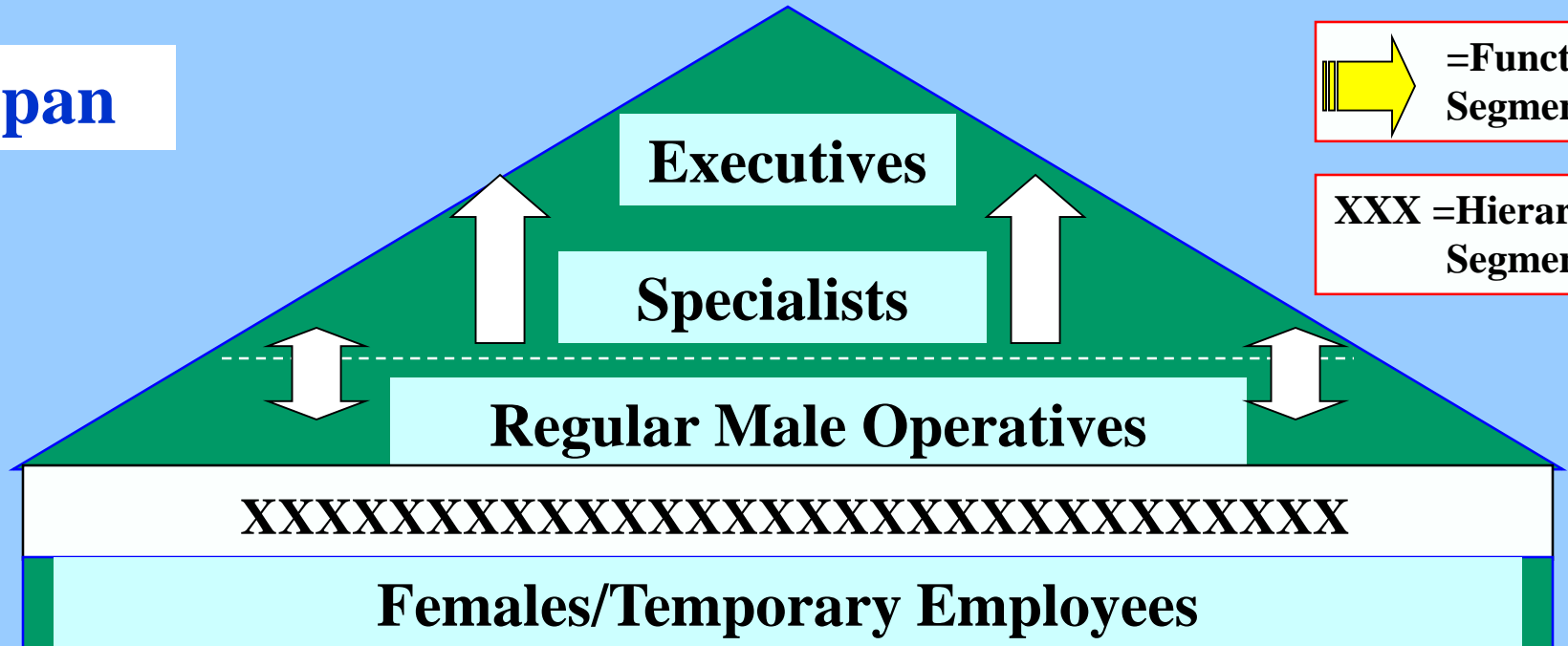
- main-bank lending: retentions (with low dividends) highly leveraged by state-supported bank finance

# Organizational integration and international competition United States and Japan, circa 1980

**United States**



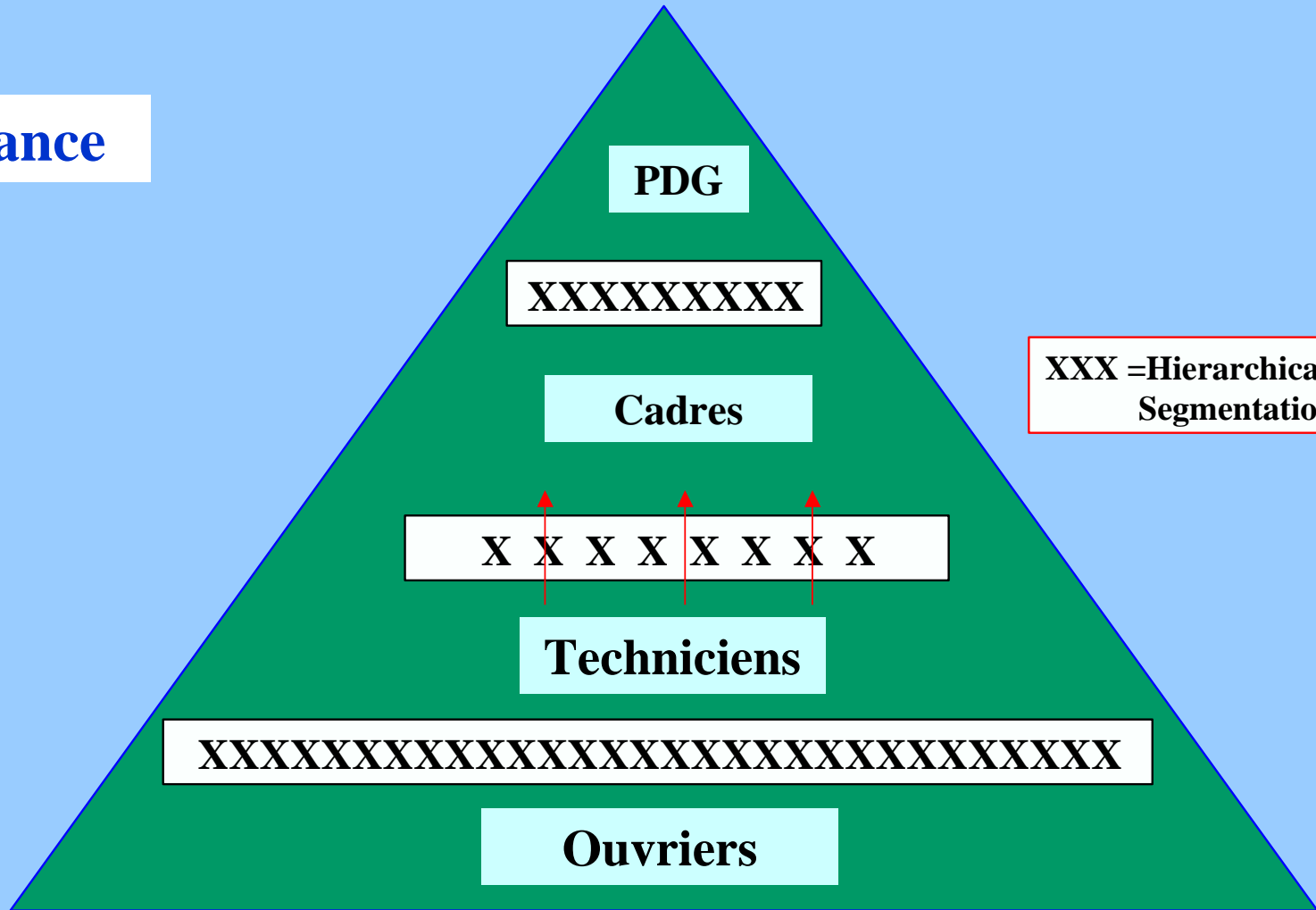
**Japan**




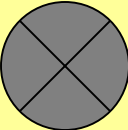


# The French business model

France



# National institutions and international competition: 1980s

<b>Product quality</b> \ <b>Product cost</b>	<b>Low cost</b>	<b>High cost</b>
<b>High quality</b>	 <b>Japan</b>	<b>Germany</b> <b>Italy</b>
<b>Low quality</b>	<b>United States</b> <b>(OE)</b>	<b>Britain</b> 

**Adaptation and globalization since the 1990s**

# The rise of the New Economy business model

## **Strategic control:**

- control by managers secured by liquid capital markets; may be owners but all strategic managers highly specialized & experienced in particular industrial sector

## **Organizational integration:**

- salaried (not hourly), career rewards for motivation plus stock-based compensation as recruitment/retention tool; tap into global labor forces as labor flows across borders to capital and capital flows across borders to labor

## **Financial commitment:**

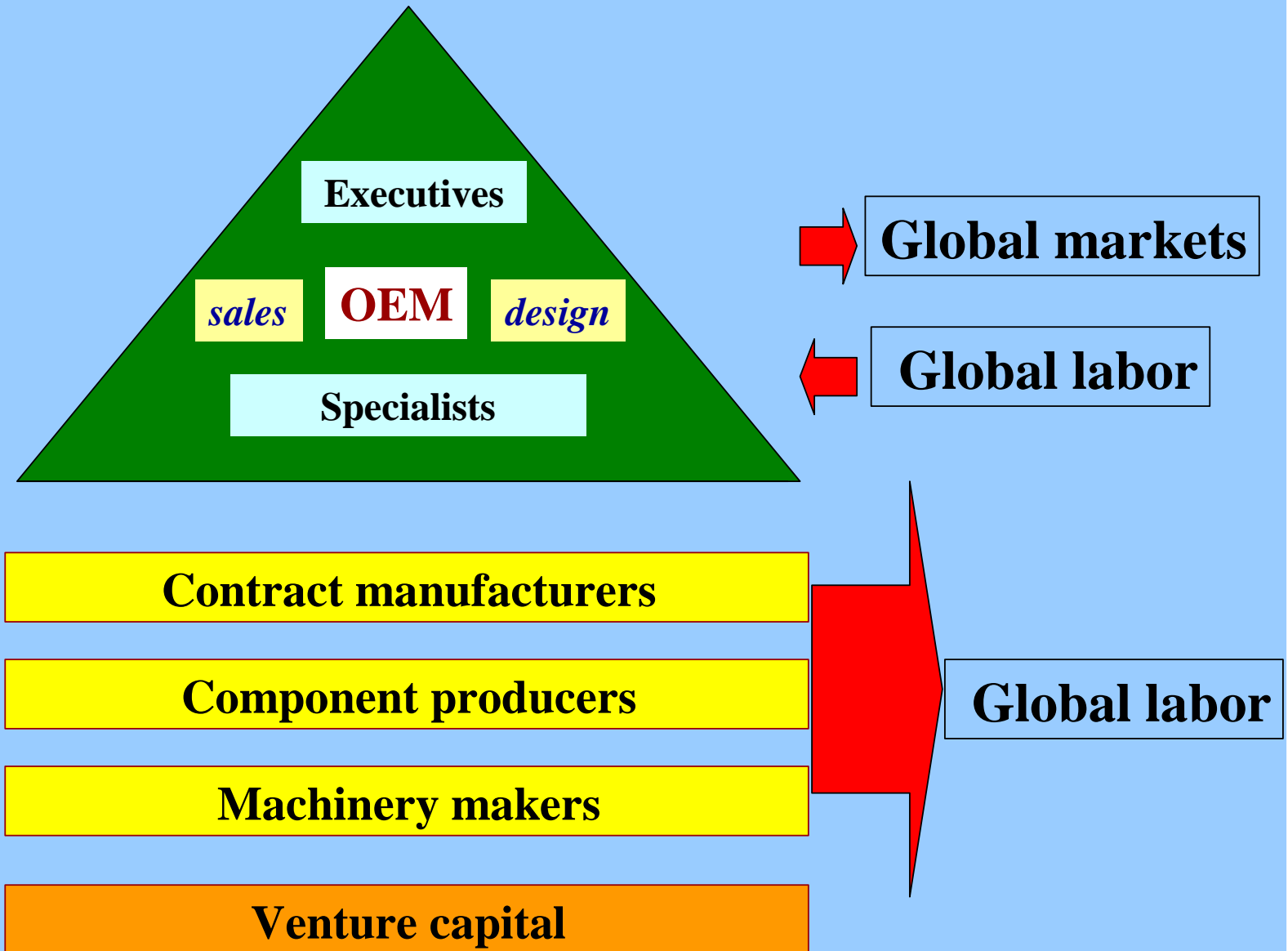
- venture capital reallocates money and people, funds raised in IPO, retentions, little if any dividends and debt

# The US New Economy business model

## US-Based Operations

## Global Operations

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# 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**

Upjohn Institute for Employment Research  
2009

- 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
<b>Strategy, product</b>	Growth by building on internal capabilities; business expansion in product markets based on related technologies; geographic expansion; access national product markets	Firm entry into specialized markets; sale of branded products to system integrators; acquisition of new capabilities by technology firms
<b>Strategy, process</b>	Corporate R&D labs; patenting of proprietary technologies; vertical integration of value chain, at home and abroad	Cross-licensing technology based on open systems; specialization of the value chain; outsourcing and off-shoring
<b>Finance</b>	Venture capital; personal savings, family business associates; NYSE listing; payment of steady dividends; reliance on retentions; supplemented with bond issues.	Venture capital; NASDAQ listing; low or no dividends; growth from retentions plus stock as acquisition currency; stock buybacks to support stock price.
<b>Organization</b>	Secure employment: career 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 stock market is only important for the separation of ownership and control

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

**Neoclassical “agency theory”:  
a theory of the firm and its role in resource allocation that  
provides academic legitimacy to MSV ideology**

- **MSV: rooted in neoclassical theory, with business enterprise as a massive market imperfection, reflecting “inefficient” capital markets**
- **Critical assumption of agency theory: all economic participants receive guaranteed market returns except for *shareholders who bear risk by making investments without guaranteed returns***
- **It is then assumed that this risk-bearing function results in a more efficient economy**
- **It follows that those who bear risk should control the allocation of the economy’s resources**

# Jensen: “Disgorge” the “free” cash flow

**Solution to the agency problem:**

**To make markets efficient, “disgorge free cash flow”:**

*“Free cash flow is cash flow in excess of that required to fund all projects that have positive net present values when discounted at the relevant cost of capital. Conflicts of interest between shareholders and managers over payout policies are especially severe when the organization generates substantial free cash flow. The problem is how to motivate managers to disgorge the cash rather than investing it at below cost or wasting it on organization inefficiencies.”*

**Michael C. Jensen, *American Economic Review*, 1986.**

# What it means to “disgorge” the “free” cash flow

**DISGORGE:** Implication that the cash that is under corporate control is ill-gotten—but agency theory lacks a theory of the productive (i.e., innovative) enterprise

Who created that value? Whose cash is being “disgorged”?

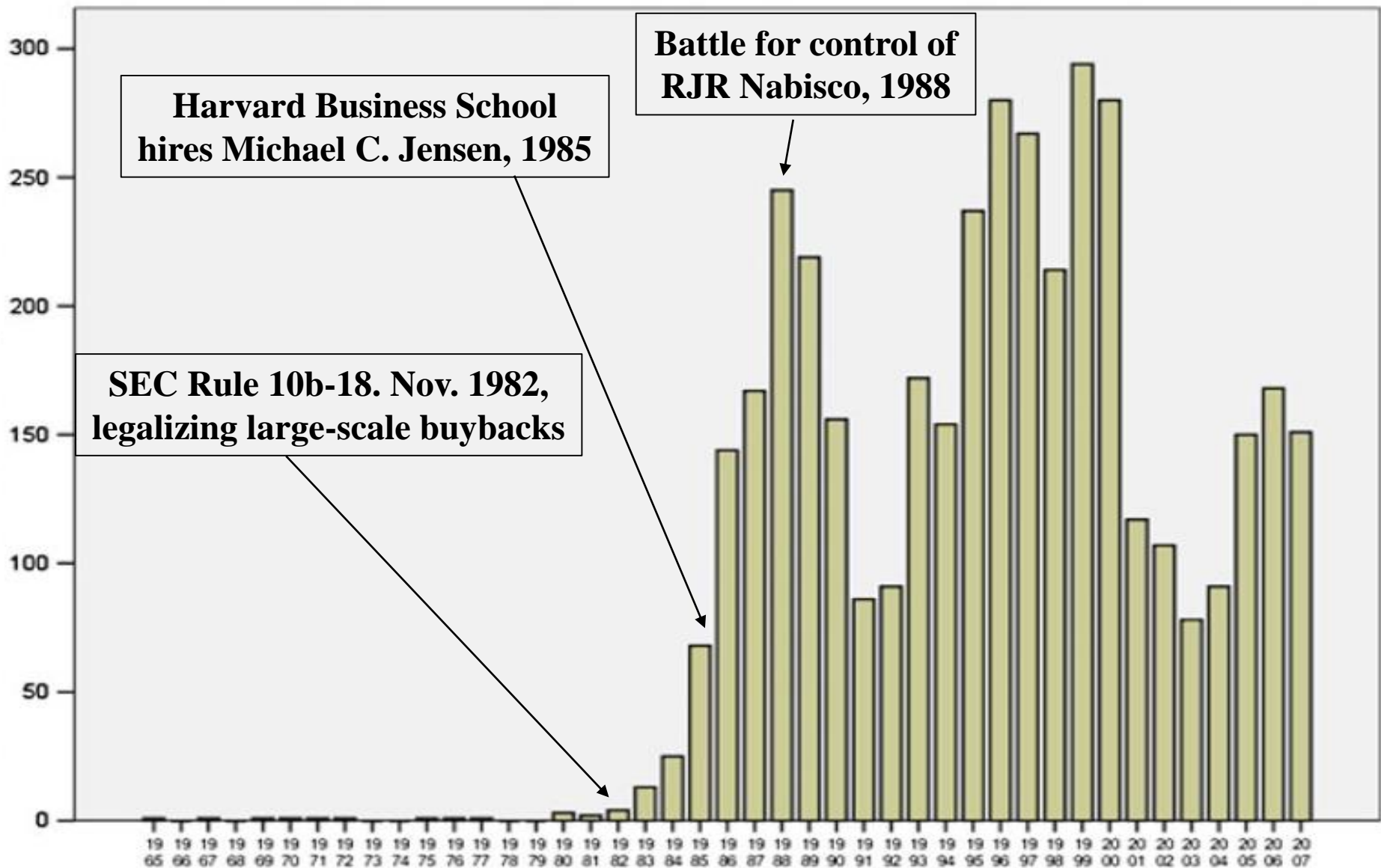
**FREE CASH FLOW:** Lay off, say, 5,000 employees who generated the firm’s revenue-generating products—and increase the cash flow that is “free”

Or avoid corporate taxes to make more cash flow “free”

Or price-gouge customers to create more “free cash flow”

Integral to disgorging corporate cash is the alignment of the interests of managers as agents with shareholders as principals by giving managers stock-based pay.

# “Shareholder value” hits in Wall Street Journal

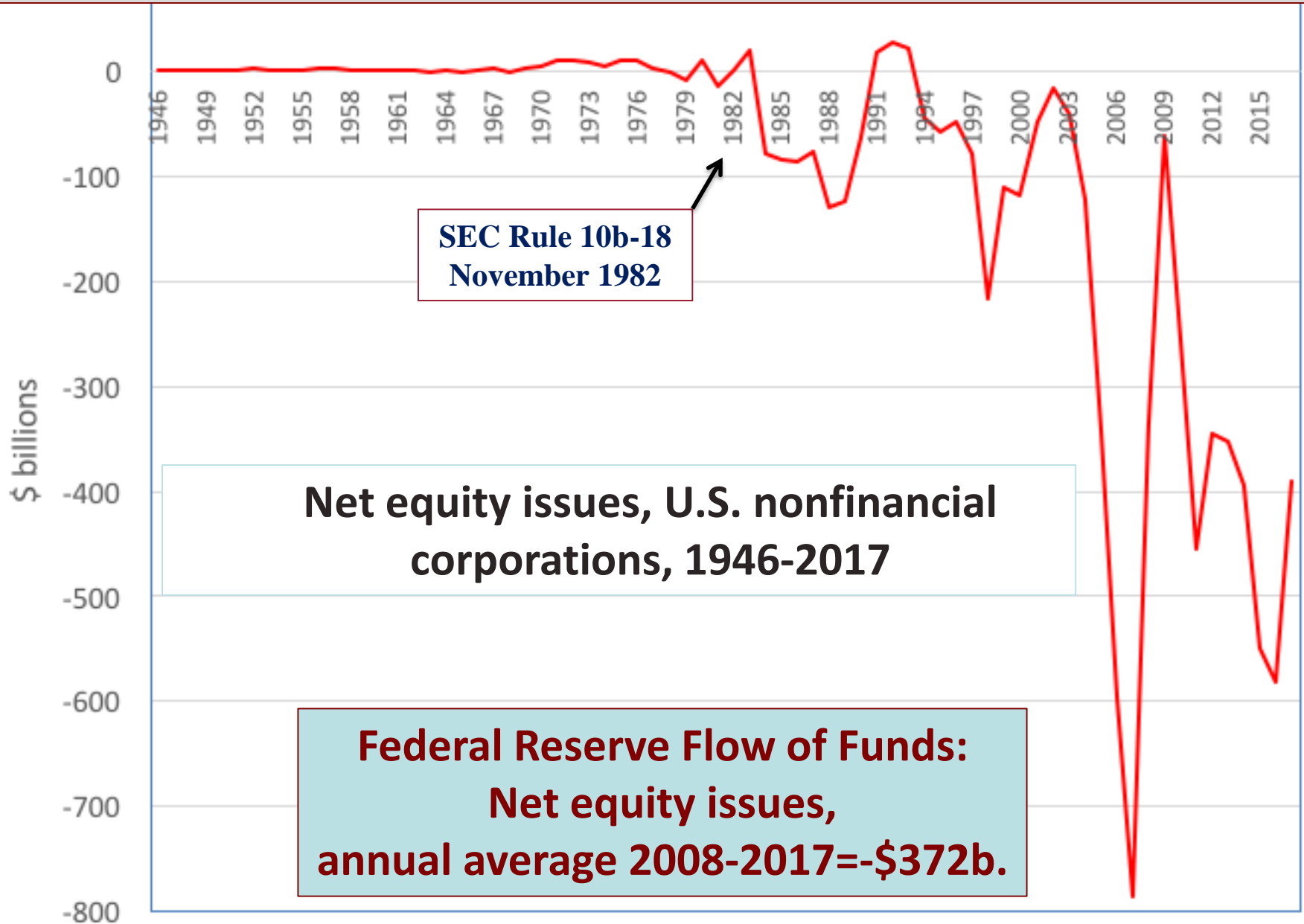


Source: graph of hits is from Johan Heilbron, Jochem Verheul, and Sander Quak, “The Origins and Early Diffusion of ‘Shareholder Value’ in the United States,” *Theory and Society*, 43, 1, 2014: 1-22

# Economic critique of MSV

- **Fundamental problem with MSV:** erroneous assumption that shareholders are the only actors who invest without a guaranteed return
- **NOT SO:** *Taxpayers* through government agencies and *workers* through business enterprises regularly make risky investments in productive capabilities. From this perspective, both the state and labor have economic claims on profits if and when they occur.
- **Irony of MSV:** public shareholders typically never invest in the company's value-creating capabilities. They invest in outstanding shares, hoping for a rise in price. Following MSV, executives fuel this hope by “disgorging” cash as dividends and buybacks.

# The looting of the US industrial corporation



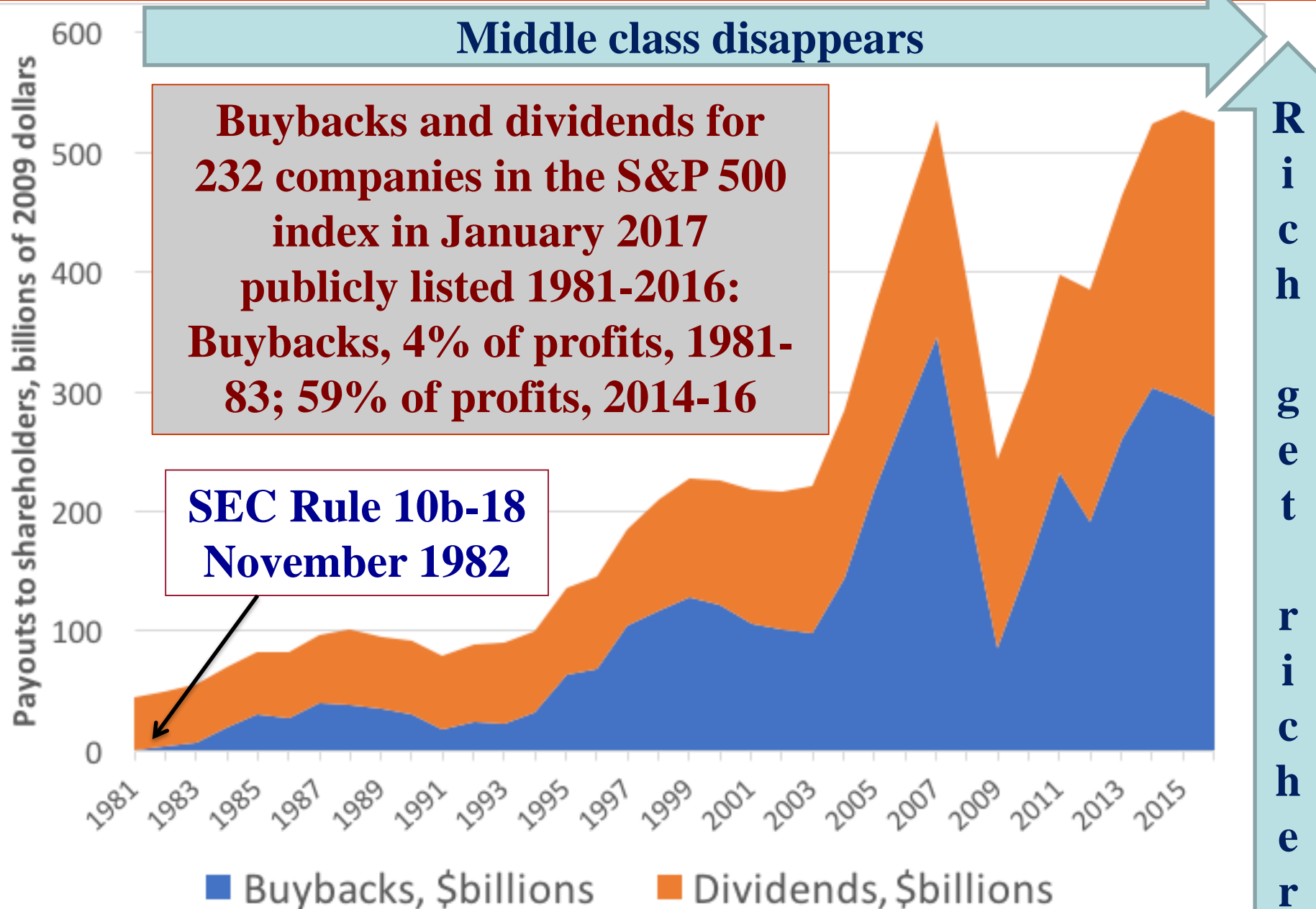
# The era of downsize-and-distribute: The U.S. corporate economy is a “buyback economy”

	<b>Net equity issues, U.S. non-financial corporations 2015\$ billions</b>	<b>Net equity issues as % of GDP</b>
<b>1946-1955</b>	143.2	0.56
<b>1956-1965</b>	110.9	0.30
<b>1966-1975</b>	316.0	0.58
<b>1976-1985</b>	-290.9	-0.40
<b>1986-1995</b>	-1,002.5	-1.00
<b>1996-2005</b>	-1,524.4	-1.09
<b>2006-2015</b>	-4,466.6	-2.65

**Net equity issues, industrial corps.  
2016=-\$581b.; 2017=-\$391b.**



# In the name of “maximizing shareholder value”



**RESEARCH RESULTS**

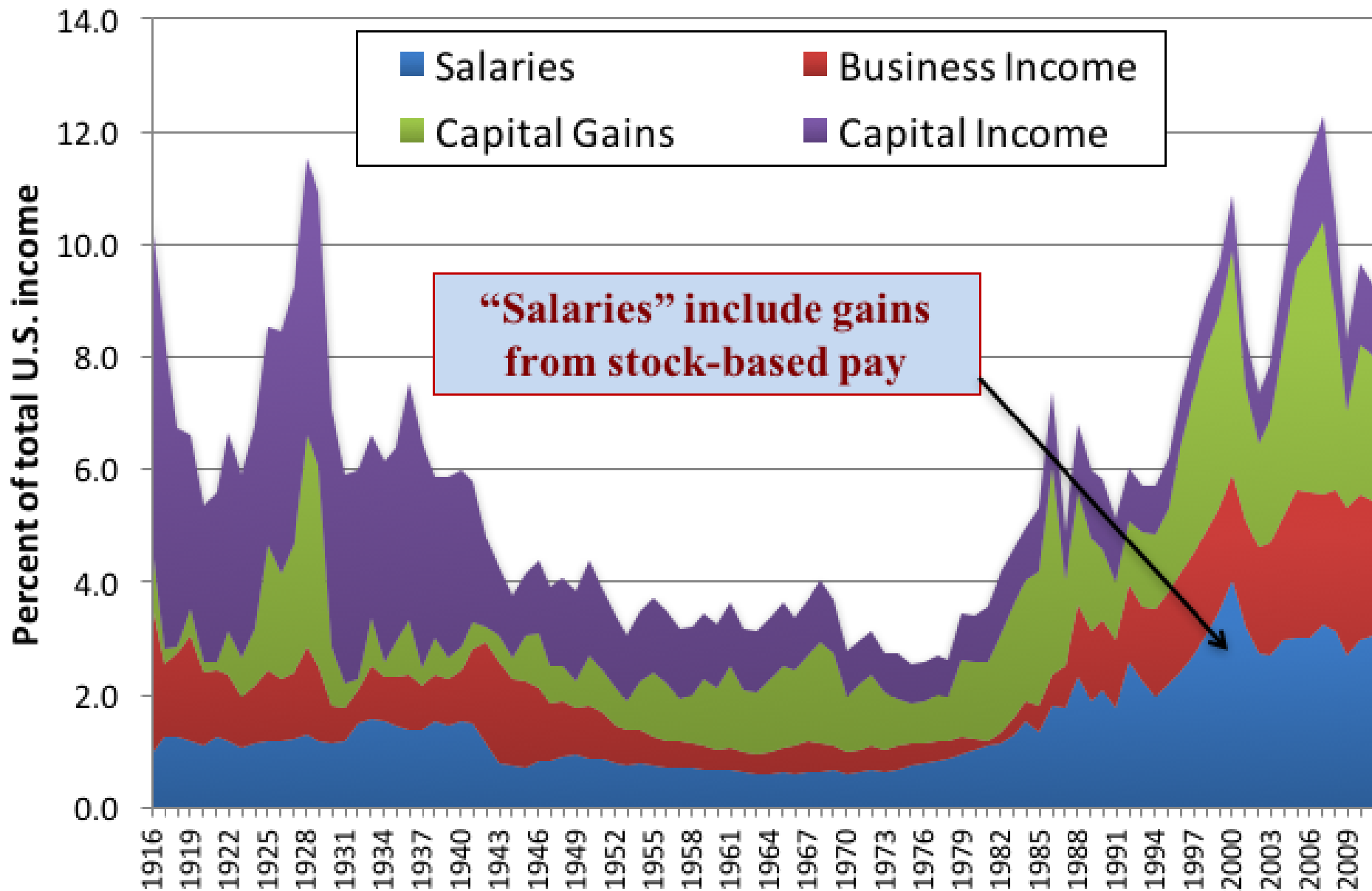
RANK	Company Name	Ticker Symbol	NI,\$b	BB,\$b	DV,\$b	BB/NI %	DV/NI	(BB+DV)/NI%		
1	EXXONMOBIL	XOM	311	178	98			89		
2	APPLE	AAPL	271	133				66		
3	MICROSOFT	MSFT	178	120				104		
4	IBM	IBM	137					111		
5	WAL-MART	WMT	155					79		
6	CISCO SYSTEMS	CSCO	155					100		
7	GENERAL ELECTRIC	GE	155					6		
8	PFIZER	PFE	155							
9	PROCTER & GAMBLE	PG	155							
10	ORACLE	ORCL	155					84		
11	HEWLETT PACKARD	HP	155					151		
12	JOHNSON & JOHNSON	JNJ	155				41	96		
13	AMGEN	AMGN	155			106	44	150		
14	ABBOTT LABORATORIES	ABT	155			-88	-13	-101		
15	AMGEN	AMGN	155	15		62	20	81		
16	AMGEN	AMGN	155	47	53	29	33	62		
17	AMGEN	AMGN	155	46	13	80	22	101		
18	AMGEN	AMGN	155	46	54	26	31	57		
19	AMGEN	AMGN	155	119		45	99	37	83	121
20	AMGEN	AMGN	155	131		45	65	34	50	84
21	AMGEN	AMGN	155	47	26	89	56	146		
22	AMGEN	AMGN	155	61	4	61	7	68		
23	AMGEN	AMGN	155	61	32	59	53	112		
24	AMGEN	AMGN	155	40	30	88	75	163		
25	CHEVRON	CVX	173	35	65	20	38	58		

**2007-2016: 461 companies in the S&P 500 Index did \$4.0 trillion in buybacks, equal to 54% of profits, and another \$2.9 billion in dividends, equal to 39% of profits, that buybacks to do employment, wages, and innovation contribute to predatory value extraction and the damage**

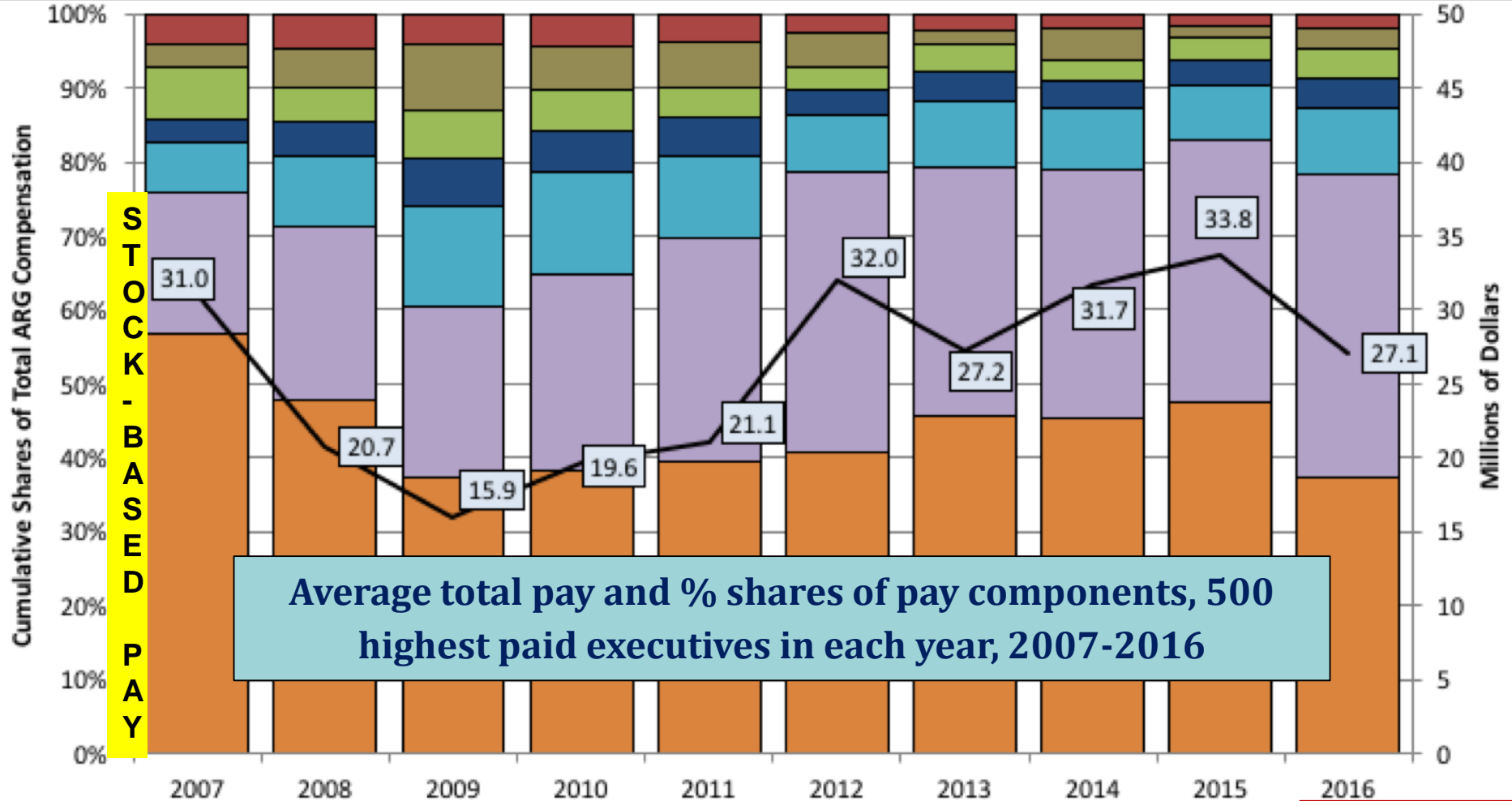
# Value-extracting insiders, enablers, and outsiders

- **Value-extracting insiders:** senior corporate executives incentivized by stock-based pay to engage in downsize-and-distribute rather than retain-and-reinvest
- **Value-extracting enablers:** institutional investors, mainly pension and mutual fund managers, holding over 60% of market cap of outstanding shares in the United States, incentivized to secure high yields on stock portfolios and required to exercise proxy votes
- **Value-extracting outsiders:** hedge-fund activists, holding small fractions of shares of companies, lobby proxy-voting services (ISS and Glass Lewis) to back board of director candidates who will pursue the activists' agenda to “maximize shareholder value” (MSV)

# “Salaried” incomes of the top 0.1%, 1916-2011



# Value-extracting insiders: Stock-based pay incentivizes senior executives to do buybacks to boost stock prices

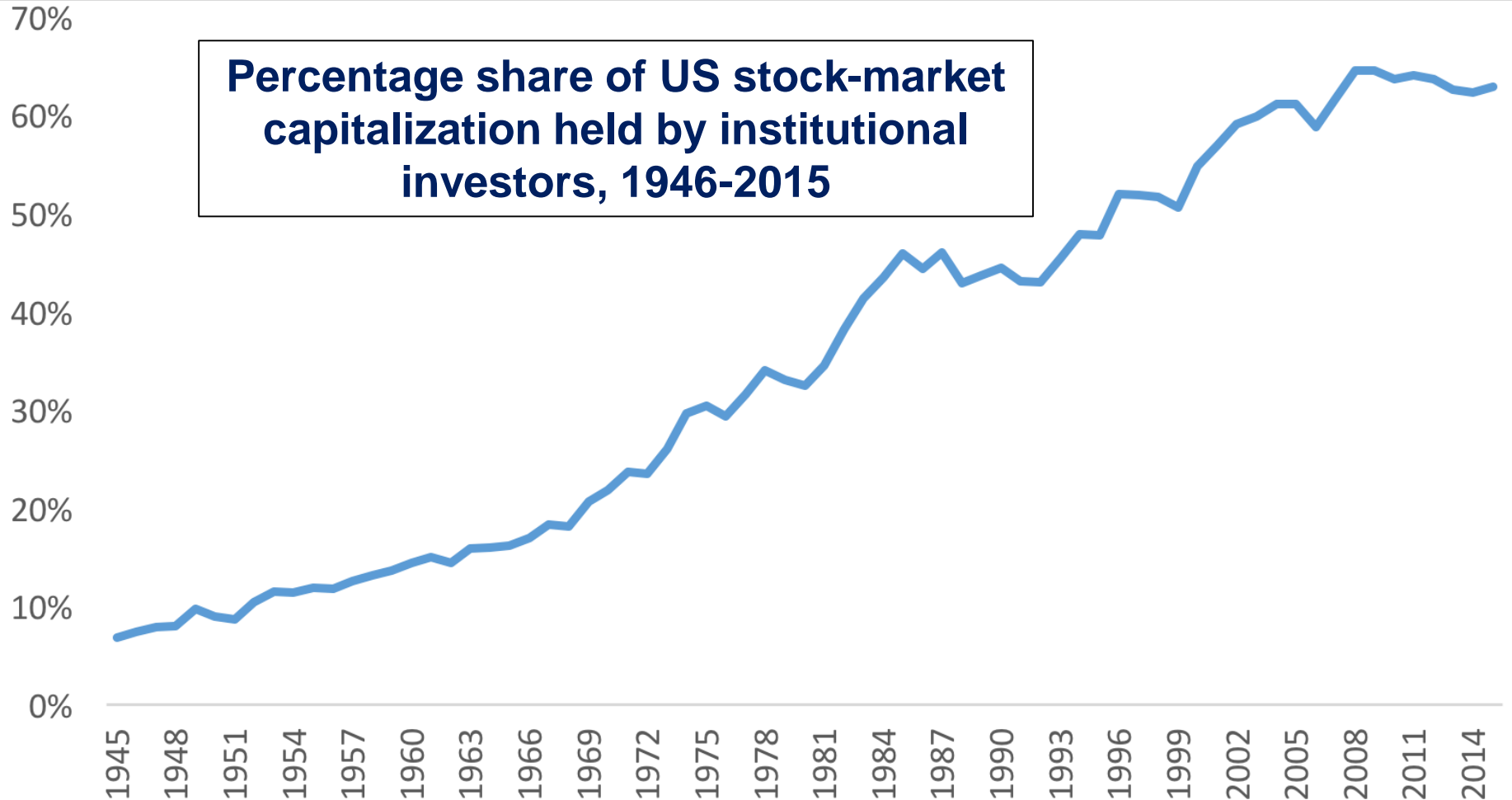


Average total pay and % shares of pay components, 500 highest paid executives in each year, 2007-2016

- Realized Gains from Stock Options Exercised
- Nonequity Compensation
- Other Comp
- Bonus
- Realized Gains from Stock Awards that Vested
- Salary
- Increase in Pension Value or Deferred Benefits
- Total ARG Pay

Source: S&P ExecuComp database; calculations by Matt Hopkins, theAIRnet

# Value-extracting enablers: Pension-fund and mutual-fund managers control an increasing share of corporate stocks



**Since the 1990s, the proxy voting system requires fund managers to vote portfolio shares, and they rely on proxy advisers (mainly ISS and Glass Lewis) to recommend how to vote.**

# Value-extracting outsiders: Take-home pay of hedge-fund managers, 2016; shareholder activists underlined

Name	Hedge Fund	Take-Home Pay
James Simons	Renaissance Technologies	\$1.5 billion
Michael Platt	BlueCrest Capital Management	\$1.1 billion
Raymond Dalio	Bridgewater Associates	\$1 billion
<u>David Tepper</u>	Appaloosa Management	<u>\$900 million</u>
Kenneth Griffin	Citadel LLC	\$500 million
<u>Daniel Loeb</u>	Third Point	<u>\$400 million</u>
Paul Singer	Point72	\$375 million
David Shaw	Two Sigma	\$375 million
John Overton	Two Sigma Investment	\$375 million
David Siegel	Two Sigma	\$375 million
Michael Hintze	Man AHL	\$325 million
Jeffrey Talpins	Man AHL	\$300 million
Stanley Druckenmiller	Renaissance Family Office	\$300 million
<u>Brett Icahn</u>	Icahn Capital Management	<u>\$280 million</u>
<u>David Schechter</u>	Icahn Capital Management	<u>\$280 million</u>

**Take-home pay of the top 15 hedge-fund managers, USA, 2016 (top15 average=\$606 million)**

**Top15 corporate executives in 2016  
Average total pay=\$120 million (93% stock-based)  
Range: \$83 million to \$220 million**

# Milton Friedman's clarion call for MSV

**Milton Friedman, "The social responsibility of business is to increase its profits" *NYT Magazine*, Sept. 13, 1970.**

**"In a free-enterprise, private-property system, a corporate executive is an employee of the owners of the business. He has direct responsibility to his employers. That responsibility is to conduct the business in accordance with their desires, which generally will be to make as much money as possible while conforming to the basic rules of the society, both those embodied in law and those embodied in ethical custom."**

**Friedman concludes the article by quoting himself from his 1962 book *Capitalism and Freedom*: "There is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud."**



Friedman's article as it appeared  
in the *New York Times*, September  
13, 1970

***A Friedman doctrine—***  
**The Social  
Responsibility  
Of Business Is to  
Increase Its Profits**

By **MILTON FRIEDMAN**

**TAMING G.M.**—Chairman James Roche of General Motors (right) replies to members of Campaign G.M. (below, wearing "Tame G.M." buttons) at the corporation's stockholders' meeting in May. Representatives of the campaign demanded that G.M. name three new directors to represent "the public interest" and set up a committee to study the company's performance in such areas of public concern as safety and pollution. The stockholders defeated the proposals overwhelmingly, but management, apparently in response to the second demand, recently named five directors to a "public-policy committee." The author calls such drives for social responsibility in business "pure and unadulterated socialism," adding: "Eunucemen who talk this way are unwitting puppets of the intellectual forces that have been undermining the back of a free society."



# **“Campaign GM” demands that GM address car safety and environmental pollution**

**In the photo from GM’s shareholder meeting in May 1970, Roche was replying to members of Campaign G.M., an organization that**

**“demanded that G.M. name three new directors to represent ‘the public interest’ and set up a committee to study the company’s performance in such areas of public concern as safety and pollution. The stockholders defeated the proposals overwhelmingly, but management, apparently in response to the second demand, recently named five directors to a “public-policy committee.” The author [Milton Friedman] calls such drives for social responsibility in business “pure and unadulterated socialism,” adding: “Businessmen who talk this way are unwitting puppets of the intellectual forces that have been undermining the basis of free society.”**

# Milton Friedman tells US corporations how **NOT** to be innovative in global competition

The photo of Roche and the editorializing on it, points out that, in historical retrospect, the demands of Campaign G.M. for safer and less polluting cars were in effect demands for GM to engage in automobile innovation. In the 1970s and beyond, the world leaders in producing these “socially responsible” cars would be Japanese and European companies, leaving the “profit-maximizing” General Motors lagging further and further behind.

What Friedman (and, quoting him, the *New York Times* editor) called “pure and unadulterated socialism” proved to be *the future of the innovative automobile industry!*

# How MSV undermines innovation

**Maximizing Shareholder Value (MSV) is an ideology that is destructive of innovative enterprise**

- **Strategic control:** MSV permits separation of interests of top executives from interests of the corporation's other stakeholders; executives use MSV to justify resource allocation (e.g., buybacks) for their personal gain
- **Organizational integration:** MSV undermines workers' incentives and abilities to engage in collective and cumulative learning (the essence of the innovation process)
  - MSV favors “downsize” (layoffs, wage cuts, offshoring)
- **Financial commitment:** MSV drains the company of financial resources needed to sustain innovation—in the name of MSV, top executives and activist shareholders make tens or hundreds of millions of dollars as *predatory value extractors*
  - MSV favors “distribute” (buybacks & dividends)

# How did agency theorists get it so wrong?

- They are “well-trained” neoclassical economists: they posit that *the most unproductive business firm is the foundation for the most efficient economy*
- They view the large-scale business enterprise as a massive “market imperfection”; *not* as a value-creating, i.e., innovative, social organization that must distribute gains to value creators and defend itself from value extractors
- With their training in “the myth of the market economy”, even progressive economists have been blind to the looting of the US industrial corporation

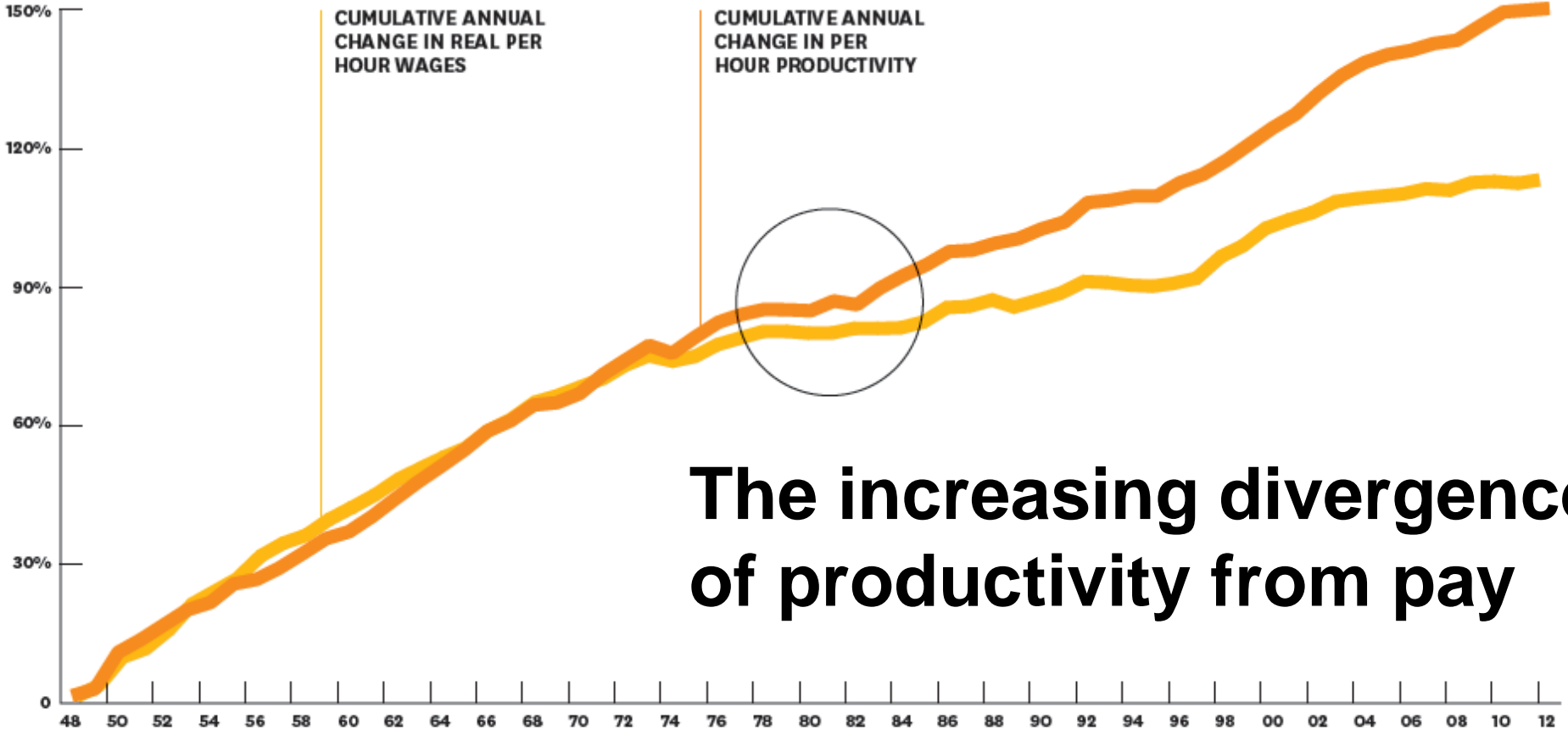
# profits without prosperity

STOCK BUYBACKS  
MANIPULATE THE  
MARKET AND LEAVE  
MOST AMERICANS  
WORSE OFF.

## WHEN PRODUCTIVITY AND WAGES PARTED WAYS

From 1948 to the mid-1970s, increases in productivity and wages went hand in hand. Then a gap opened between the two.

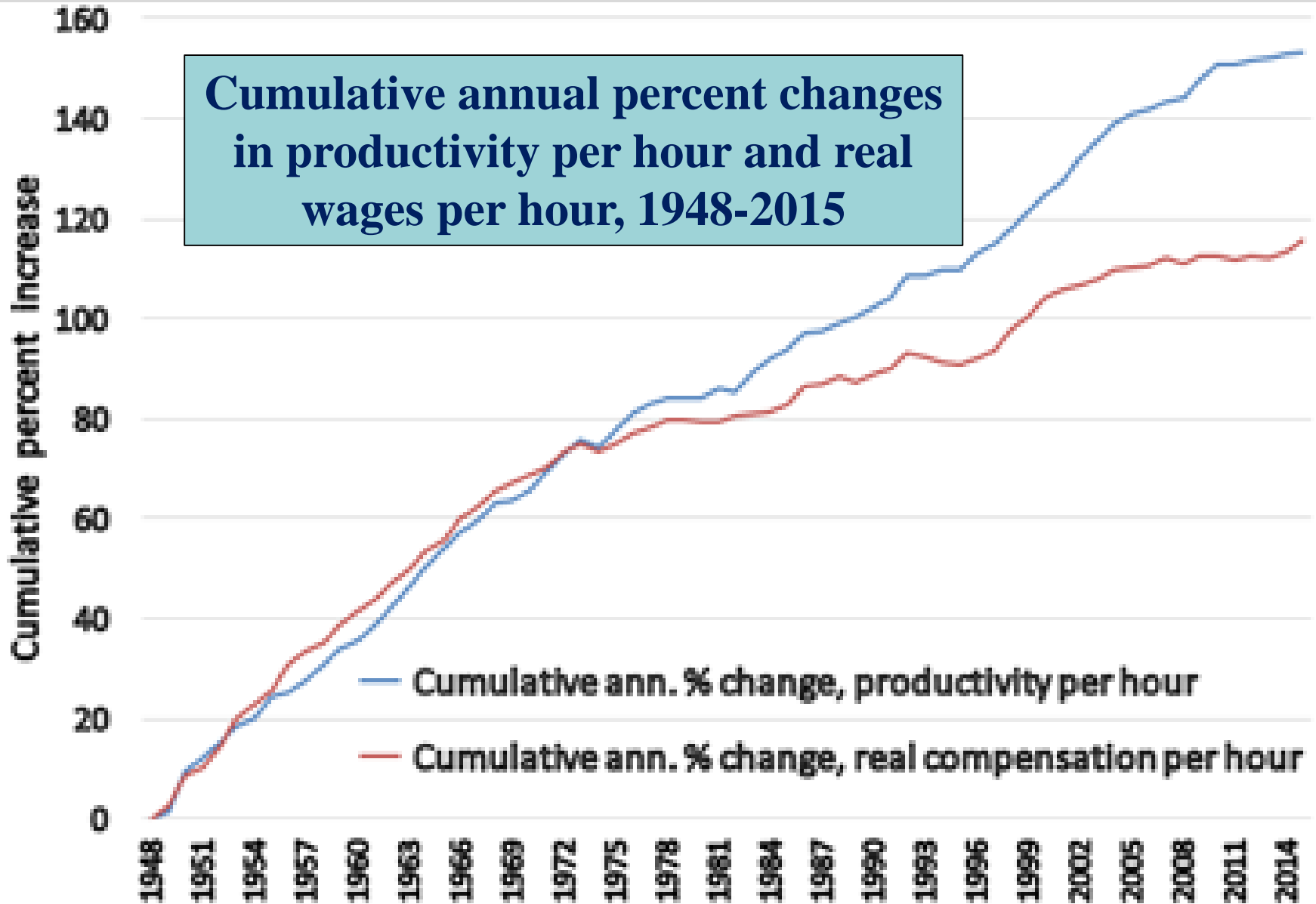
Harvard Business  
Review, Sept. 2014

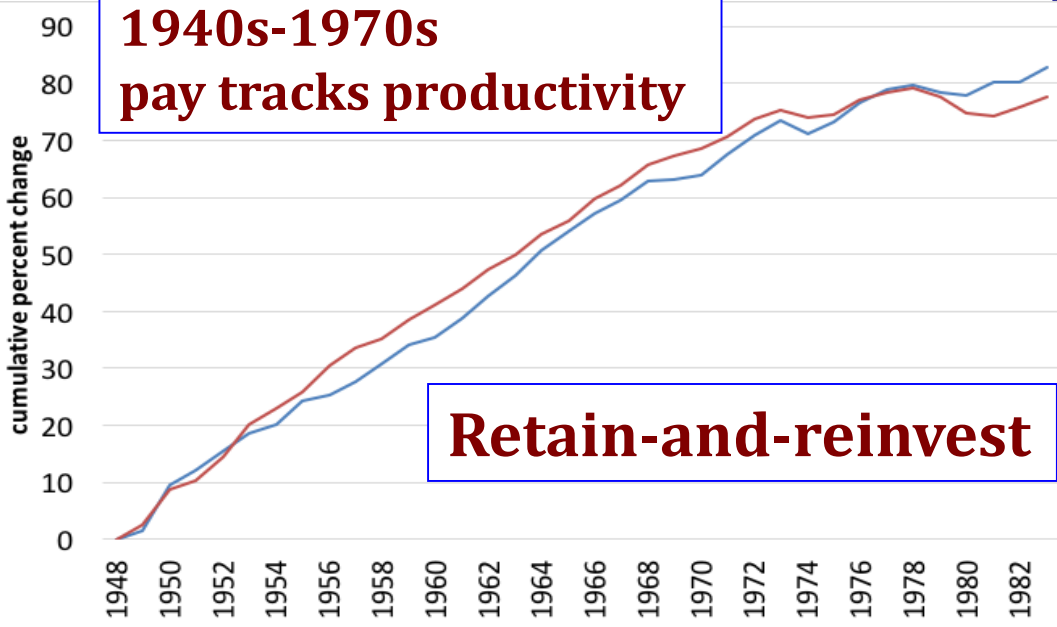


The increasing divergence  
of productivity from pay

# Wage increases track productivity increases to late 1970s

## And then wage increases lag with a growing gap

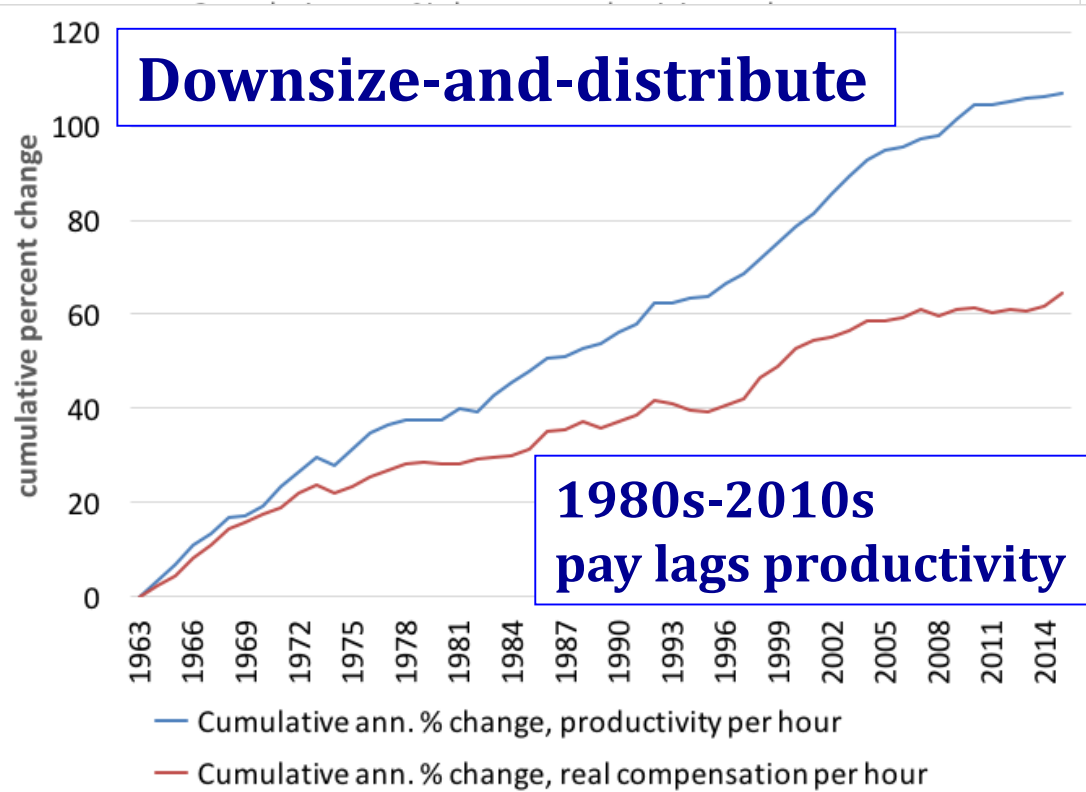




**Career employment:  
Key driver of the  
productivity-pay relation**

**Old Economy Business Model**

**Career-with-one-company  
norm: employees share in  
profits through job security, pay  
raises, defined-benefit  
pensions, and health coverage**



**New Economy Business Model**

**Insecure jobs, globalized labor,  
defined-contribution pensions**

**Massive stock buybacks and  
exploding top executive pay**

**Erosion of middle-class  
employment  
opportunities as careers  
in companies disappear**



# Stock buybacks and the transformation of U.S. corporate resource allocation

## BROOKINGS

Paper | April 17, 2015

### Stock buybacks: From retain-and-reinvest to downsize-and-distribute

By: William Lazonick

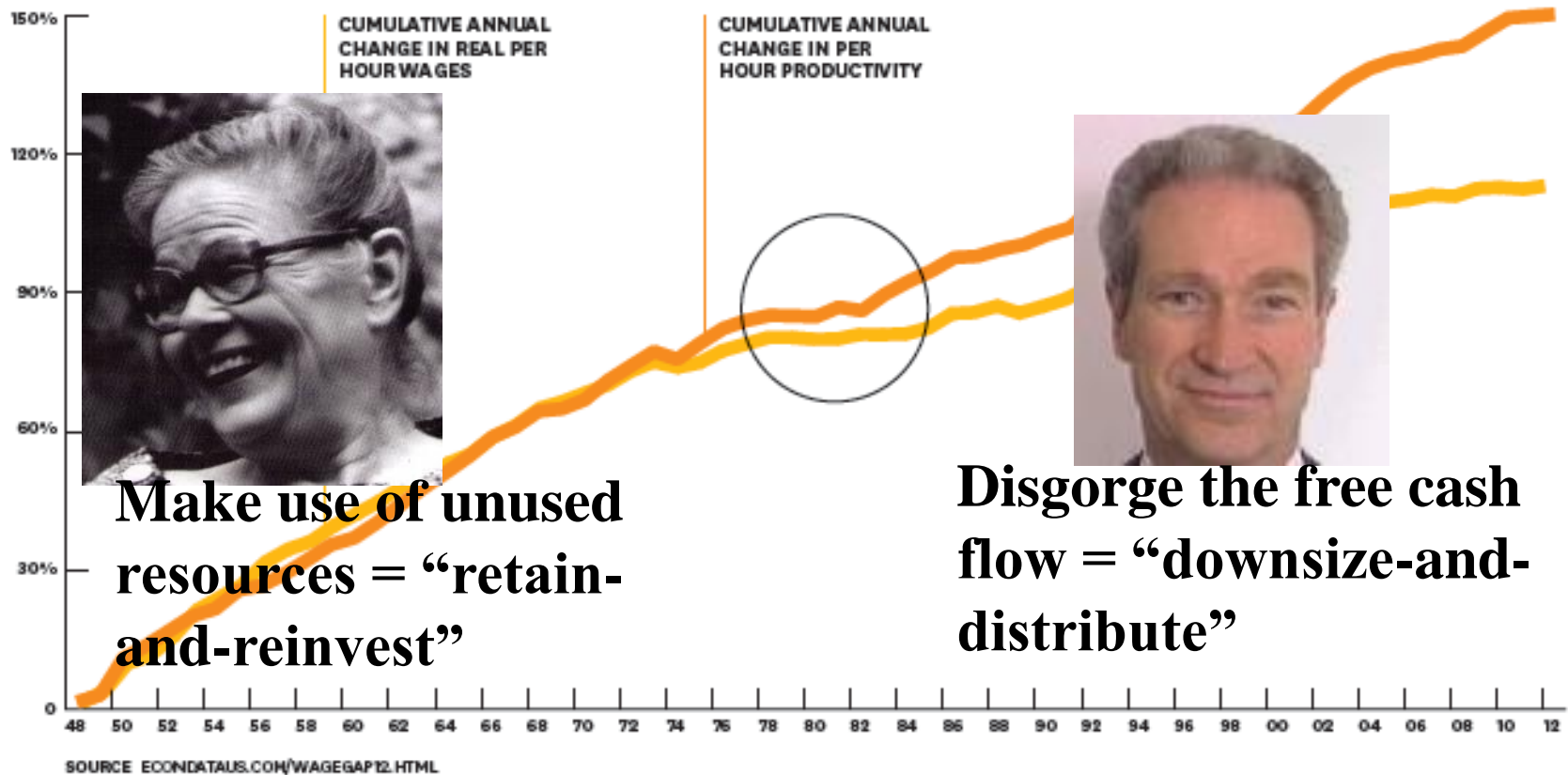


**Stock buybacks are an important explanation for both the concentration of income among the richest households and the disappearance of middle-class employment opportunities in the United States over the past three decades. Over this period, corporate resource-allocation at many, if not most, major U.S. business corporations has transitioned from “retain-and-reinvest” to “downsize-and-distribute,” says William Lazonick in a new paper.**

# Transformation of the social conditions of innovative enterprise: From “retain-and-reinvest” to “downsize-and-distribute”

## WHEN PRODUCTIVITY AND WAGES PARTED WAYS

From 1948 to the mid-1970s, increases in productivity and wages went hand in hand. Then a gap opened between the two.



**Make use of unused resources = “retain-and-reinvest”**

**Disgorge the free cash flow = “downsize-and-distribute”**

# Innovation and competition: communication technology



**Revenues, 2017**  
**Cisco: \$48.0b**  
**Huawei: \$92.1b**

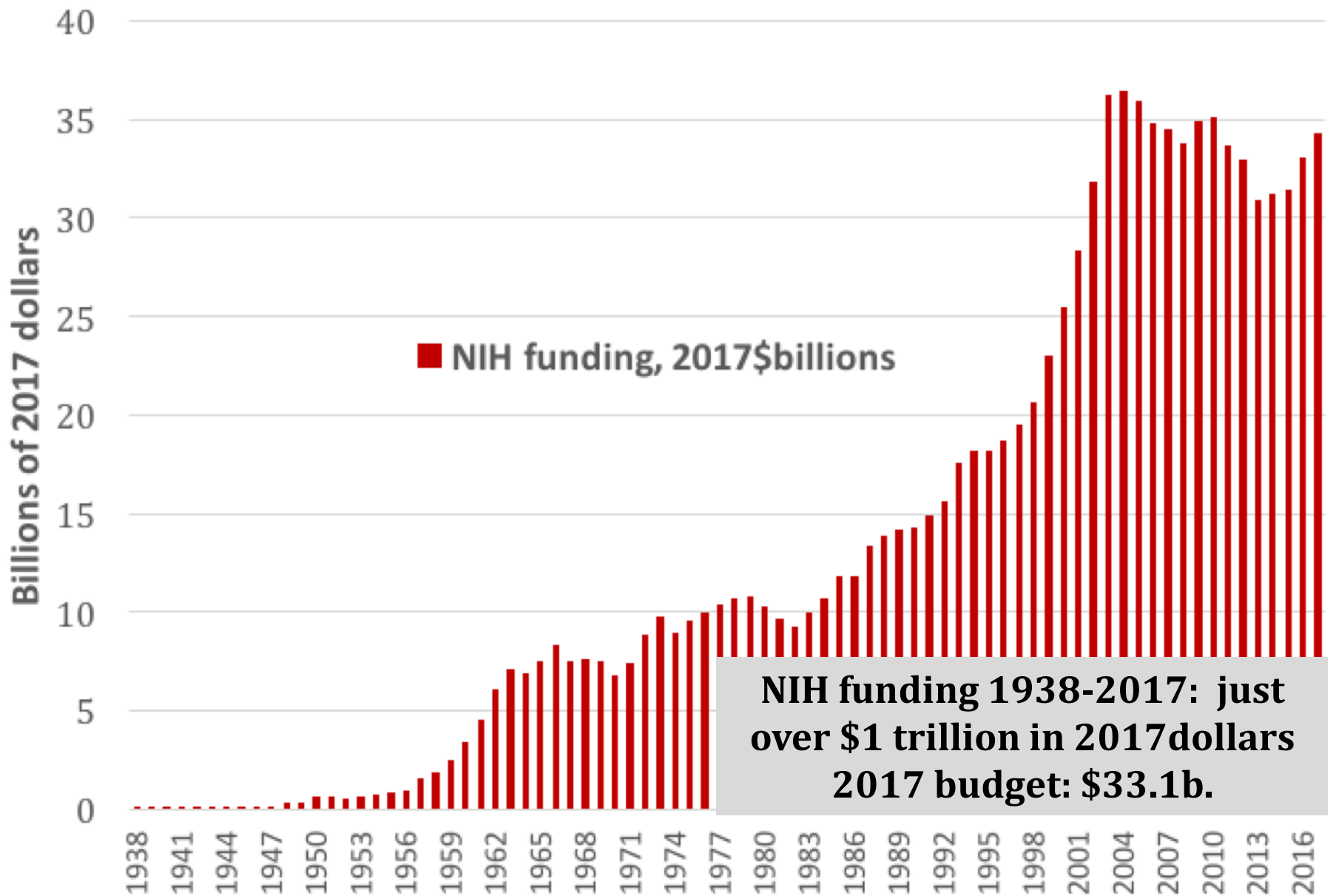


**2002-2017 Cisco expended \$103b, or 91% of net income, on buybacks, on top of \$24b on dividends (21% of net income). In the process Cisco eschewed investment in sophisticated communication technologies, despite being well positioned to do so at the beginning of the 2000s. Huawei, a 100% employee-owned Chinese company, not listed on a stock market, has become what Cisco could have been: the world's leading communication technology company.**

**See Bob Bell, Marie Carpenter, Henrik Glimstedt and William Lazonick, "Cisco's Evolving Business Model: Do Massive Stock Buybacks Affect Corporate Performance" theAIRnet working paper, November 2014.**

# Developmental State:

## US National Institutes of Health (NIH) funding, 1938-2017



# Does all that NIH funding result in high levels of innovation?

**NO!**

- ❖ **NEBM in biopharma results in too much labor mobility of key employees in search of stock-based returns plus employee churn of the rest**
- ❖ **Doubling of NIH funding has probably been detrimental to productivity in the biopharma industry because the executives of US pharma companies are obsessed with MSV**

# Pharma profits are used to manipulate stock prices

Stock buybacks (BB) and cash dividends (DV), billions of dollars, 2007-2016,  
**19 pharmaceutical companies in the S&P 500 Index January 2017**  
 with BB and DV as % of net income (NI) and R&D as % of revenues (REV)

Company	REV \$b	NI \$b	BB \$b	DV \$b	R&D \$b	BB/NI %	DV/NI, %	(BB+DV)/ NI %	R&D/ REV %	Employees, FY16 end
JOHNSON & JOHNSON	668	131	45	65	82	34.0	49.8	83.8	12.3	126,400
PFIZER	546	86	61	68	82	71.0	79.4	150.4	15.0	96,500
MERCK	382	62	32	45	75	51.8	72.5	124.3	19.5	68,000
ABBOTT LABORATORIES	283	40	13	21	26	32.2	51.5	83.7	9.1	75,000
LILLY (ELI)	215	31	5	21	47	14.8	68.2	83.0	22.0	41,975
BRISTOL-MYERS SQUIBB	185	37	5	24	41	13.0	63.2	76.2	22.2	25,000
AMGEN	176	50	33	10	35	66.8	20.8	87.6	20.2	19,200
GILEAD SCIENCES	142	61	37	4	19	61.2	7.1	68.3	13.7	9,000
BAXTER INTERNATIONAL	129	22	11	7	9	50.6	33.0	83.6	7.3	48,000
ALLERGAN	73	18	16	0	9	88.0	2.8	90.7	12.1	16,700
MYLAN	66	3	2	0	6	73.0	13.4	86.4	8.4	35,000
BIOGEN	66	18	15	0	15	84.7	0.0	84.7	22.4	7,400
CELGENE	55	10	16	0	19	155.4	0.0	155.4	35.3	7,132
PERRIGO	34	(2)	1	0	1	-40.1	-20.5	-60.6	3.6	12,800
ENDO INTERNATIONAL	24	(4)	1	0	2	-23.7	0.0	-23.7	6.5	4,894
REGENERON PHARMACEUTICALS	17	2	0	0	8	0.0	0.0	0.0	49.2	5,400
IDEXX LABORATORIES	13	2	3	0	1	160.0	0.0	160.0	6.4	7,365
ALEXION PHARMACEUTICALS	13	2	1	0	3	51.3	0.0	51.3	23.5	3,121
VERTEX PHARMACEUTICALS	8	-4	0	0	8	0.0	0.0	0.0	93.4	2,150
<b>Totals, 19 pharma companies, 2007-16</b>	<b>3,095</b>	<b>566</b>	<b>297</b>	<b>267</b>	<b>488</b>	<b>52.4</b>	<b>47.2</b>	<b>99.6</b>	<b>15.8</b>	<b>611,037</b>
<b>Total, 461 S&amp;P 500 companies, 2007-16</b>	<b>91,484</b>	<b>7,338</b>	<b>3,995</b>	<b>2,881</b>	<b>1,904</b>	<b>54.5</b>	<b>39.3</b>	<b>93.7</b>	<b>2.1</b>	<b>24,920,918</b>
<b>19 Pharma as % of 461 S&amp;P 500 = 4.1%</b>	<b>3.4%</b>	<b>7.7%</b>	<b>7.4%</b>	<b>9.3%</b>	<b>25.6%</b>					<b>2.5%</b>

**BB=\$297b DV-\$267b (BB+DV)/NI%=99.6%; R&D=\$488b**

# Stock buybacks and big pharma: End of the (pipe)line

<b>Merck</b>	<b>BB \$b</b>	<b>DV \$b</b>	<b>BB/NI%</b>	<b>DV/NI%</b>	<b>(BB+DV)/ NI%</b>	<b>R&amp;D/ Sales%</b>
<b>1975-1984</b>	0.4	1.6	9.7	44.8	54.5	9.4
<b>1985-1994</b>	4.8	7.3	30.3	46.1	76.5	10.8
<b>1995-2004</b>	26.4	25.8	46.4	45.5	91.8	7.9
<b>2005-2014</b>	26.5	42.2	51.6	82.2	133.8	19.1
<b>2015</b>	4.2	5.1	94.2	115.2	209.4	16.7
<b>2016</b>	3.4	5.1	87.6	130.7	218.3	25.4
<b>2017</b>	4.0	5.2	167.7	215.8	383.5	25.4
<b>Pfizer</b>	<b>BB \$b</b>	<b>DV \$b</b>	<b>BB/NI%</b>	<b>DV/NI%</b>	<b>(BB+DV)/ NI%</b>	<b>R&amp;D/ Sales%</b>
<b>1975-1984</b>	0.0	1.2	0.0	43.1	43.1	5.5
<b>1985-1994</b>	3.2	4.0	41.7	51.4	93.1	10.5
<b>1995-2004</b>	34.5	21.9	71.6	45.6	117.2	17.8
<b>2005-2014</b>	60.8	66.6	52.3	57.3	109.5	15.5
<b>2015</b>	6.2	6.9	88.5	99.7	188.2	15.7
<b>2016</b>	5.0	7.3	69.3	101.4	170.7	14.9
<b>2017</b>	5.0	7.7	40.6	62.2	102.9	14.4

# Price gouging: drug prices and stock prices

- ❖ **Unregulated US pharma companies engage in price gouging**
- ❖ **Claim that high prices fund augmented R&D and innovation**
- ❖ **But in the name of MSV, these companies use the profits from high drug prices to make massive distributions to shareholders**
- ❖ **The purpose of buybacks is to manipulate the company's stock price**
- ❖ **Prime beneficiaries of buybacks are pharma executives, hedge-fund managers, and Wall Street bankers**



# Innovation and competition: pharmaceuticals

- ❖ Öner Tulum and William Lazonick, “Financialized Corporations in a National Innovation System: the US Pharmaceutical Industry,” *International Journal of Political Economy*, forthcoming.
- ❖ US national innovation system offers high unregulated prices, massive NIH funding, and various subsidies to pharmaceutical innovation
- ❖ Financialized US pharma companies are abusing the system: use profits to prop up stock prices
- ❖ **Less financialized European companies are using the US system to engage in innovation: prime example is Roche, which has become the world leader in pharmaceutical innovation**

# The case of the United States: Unstable employment, inequitable income, and sagging productivity growth

**The economic performance of the United States is the antithesis of sustainable prosperity**

- **Unstable employment:** since the 1980s “middle class” employment opportunities with US business corporations have eroded
- **Inequitable income:** U.S. productivity gains have gone mainly to the richest households, with stagnating real incomes for most Americans
- **Slow productivity growth:** innovative enterprise having less impact on the whole economy, even as the world faces major health and environmental challenges

# Implications for development strategy

- ❖ **Reject** the absurd **body of “knowless”** called neoclassical economics; it perpetuates the myth of the market economy, and undermines sustainable prosperity
- ❖ **Build** a rigorous and relevant economic perspective based on the **theory of innovative enterprise**, supported by the developmental state
- ❖ **Train** development professionals to **integrate theory and history** (i.e., use logic to explore rather than ignore facts, and use facts to build logic)
- ❖ **Attack** the **fundamentally flawed ideology**, built on the neoclassical theory, that companies should be run to “maximize shareholder value”