

## CSAI – Escalating Inequality

Session #11 – Automation: Inequality on Steroids?

UUCF – April 18, 2016

# What is a CSAI?

- “Congregational Study/Action Issue”
- Bi-annual selection by UU General Assembly
- Usually leads to “Statement of Conscience”
- Four year duration (3 plus SOC)
- Recent CSAIs:
  - Escalating Inequality (2014; est 2017 SOC)
  - Reproductive Justice (2012; 2015 SOC)
  - Immigration as a Moral Issue (2010; 2013 SOC)
  - Ethical Eating (2008; 2011 SOC)
  - Creating Peace (2006; 2010 SOC)

# **Review of our progress so far**

**What is the escalating inequality problem? (Seminar 1)**

**How serious is it? What are its consequences? (Seminar 2)**

**What's (really) causing it? (Seminars 3, 4, 5)**

**What's been tried and what came of it? (Seminars 6, 7)**

**What role does government policy play? (Seminar 8)**

**What is the impact of globalization/trade – TPP (Seminars 9, 10)**

# Historical Perspective

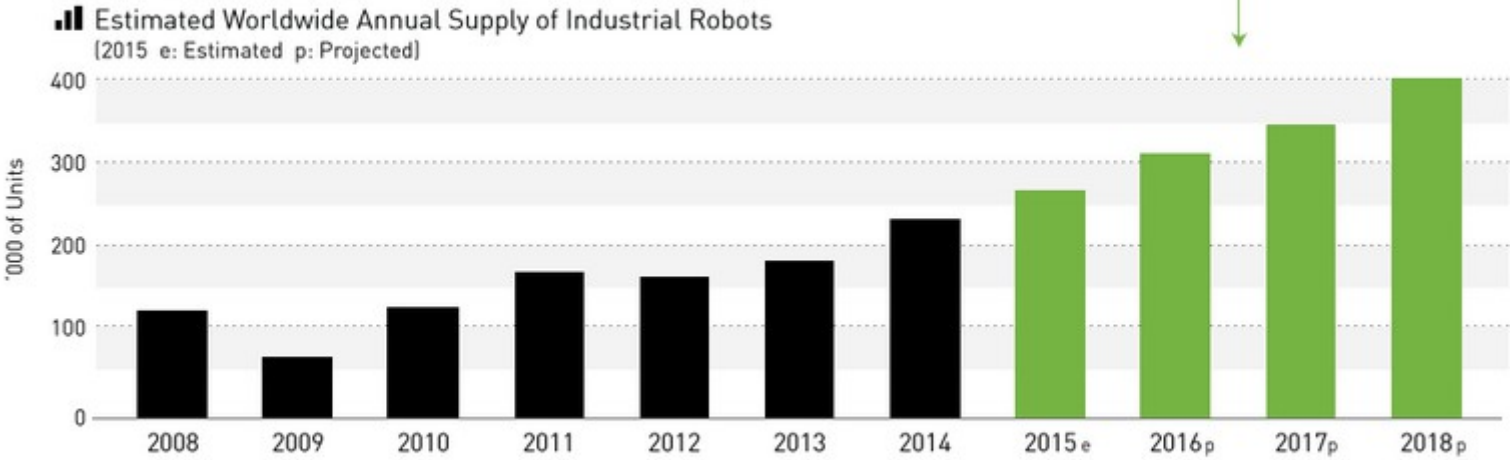
The Steam Engine – 1789

Electricity – 1870

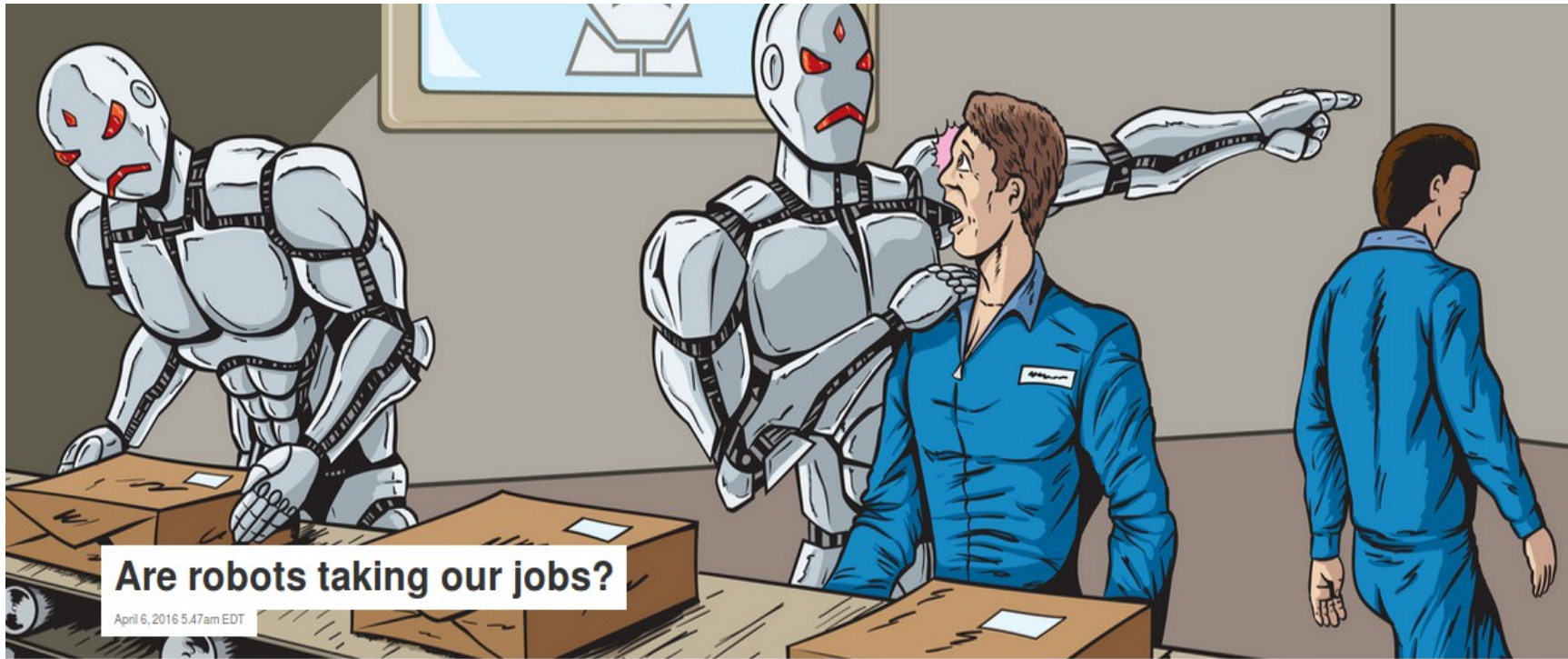
Computerization – 1970's

Robotic Automation - Now

The market for robot systems is growing at 15% pace, with 1.3 million new units installed by 2018



Number of Multipurpose Industrial Robots per 10,000 Employees in Manufacturing



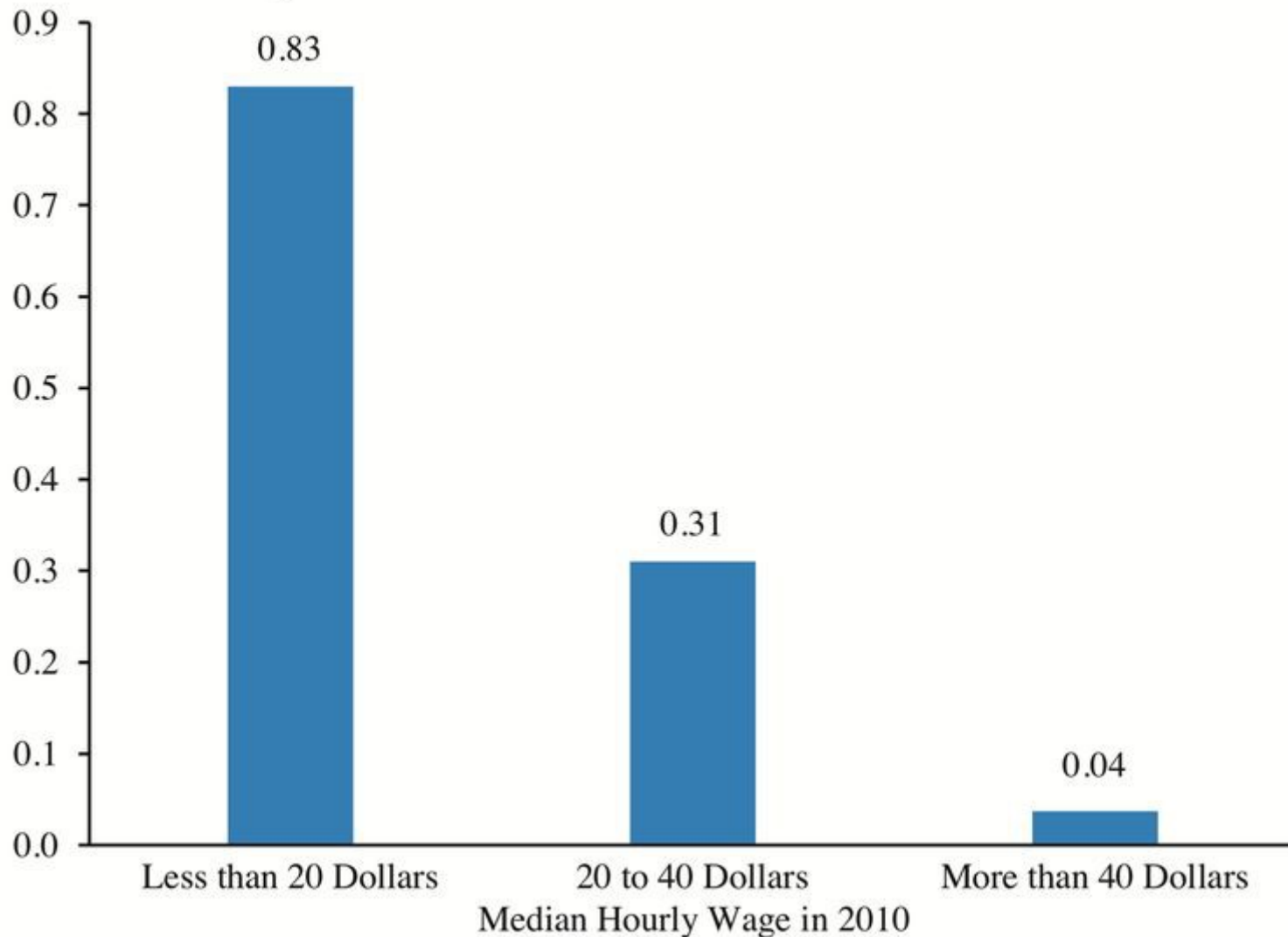
**Are robots taking our jobs?**

April 6, 2016 5:47am EDT

Figure 5-15

**Probability of Automation by an Occupation's Median Hourly Wage**

Median Probability of Automation



Source: Bureau of Labor Statistics; Frey and Osborne (2013); CEA calculations.

# Classic Example: Manufacturing Robots

Phase 1: Power assist tools



Phase 2: Partial Human replacement



Phase 3: Increasing Operator replacement



## Is this Technological Phase Different?

Keynes – 1930: “A new disease: technological unemployment

Jeremy Rifkin – 1995 “The End of Work”

Paul Krugman – 2013 “Sympathy for Luddites”

Tyler Cowan – 2013 “The Great Stagmation”

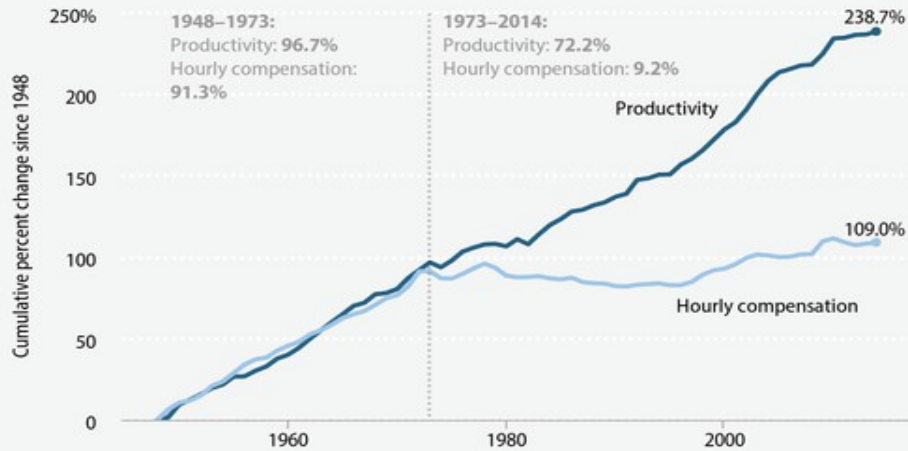
James Huntington – 2011 “Work's New Age”

Tim Fernholz – 2012 “What bankrupted Detroit – China or Robots”

# Houston: We've Got A Problem!



## Disconnect between productivity and a typical worker's compensation, 1948-2014

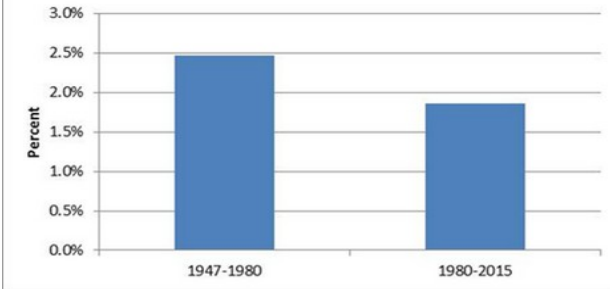


**Note:** Data are for average hourly compensation of production/nonsupervisory workers in the private sector and net productivity of the total economy. "Net productivity" is the growth of output of goods and services minus depreciation per hour worked.

**Source:** EPI analysis of data from the BEA and BLS (see technical appendix for more detailed information)

ECONOMIC POLICY INSTITUTE

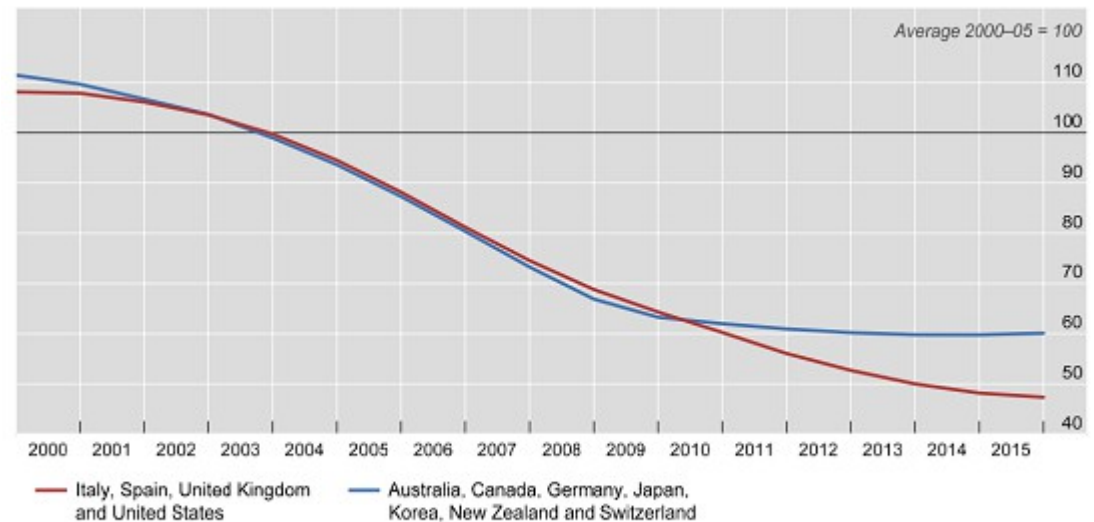
## Annual Rate of Productivity Growth



Source: Bureau of Labor Statistics.

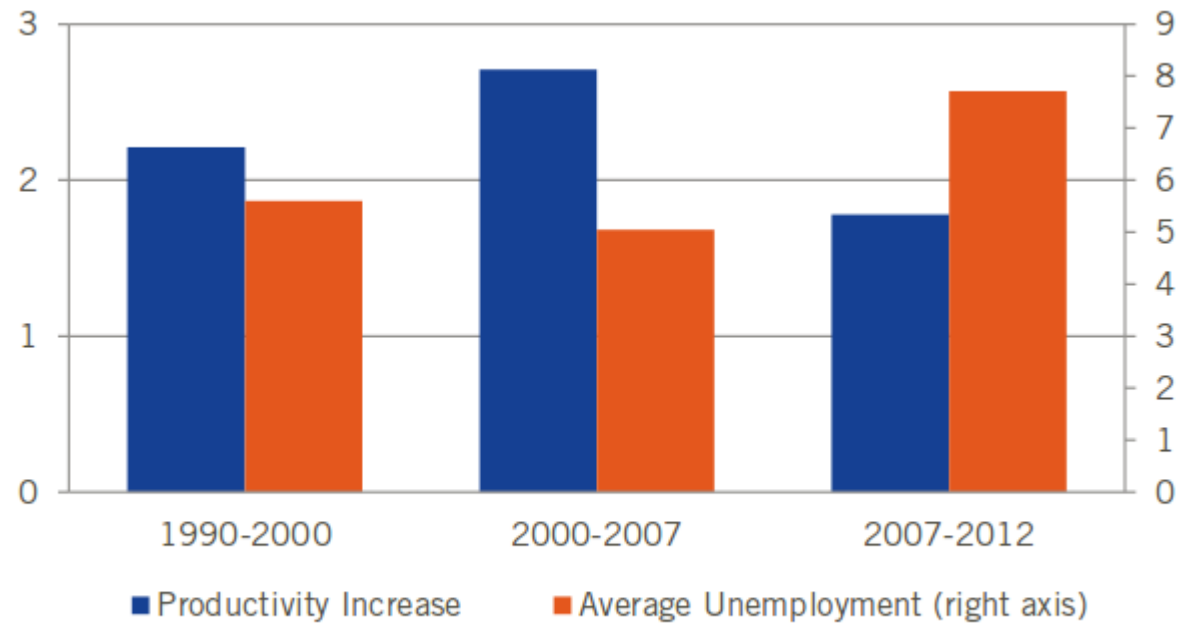
# But, Why is Productivity Stagnating?

## Graph 4: Productivity growth declines



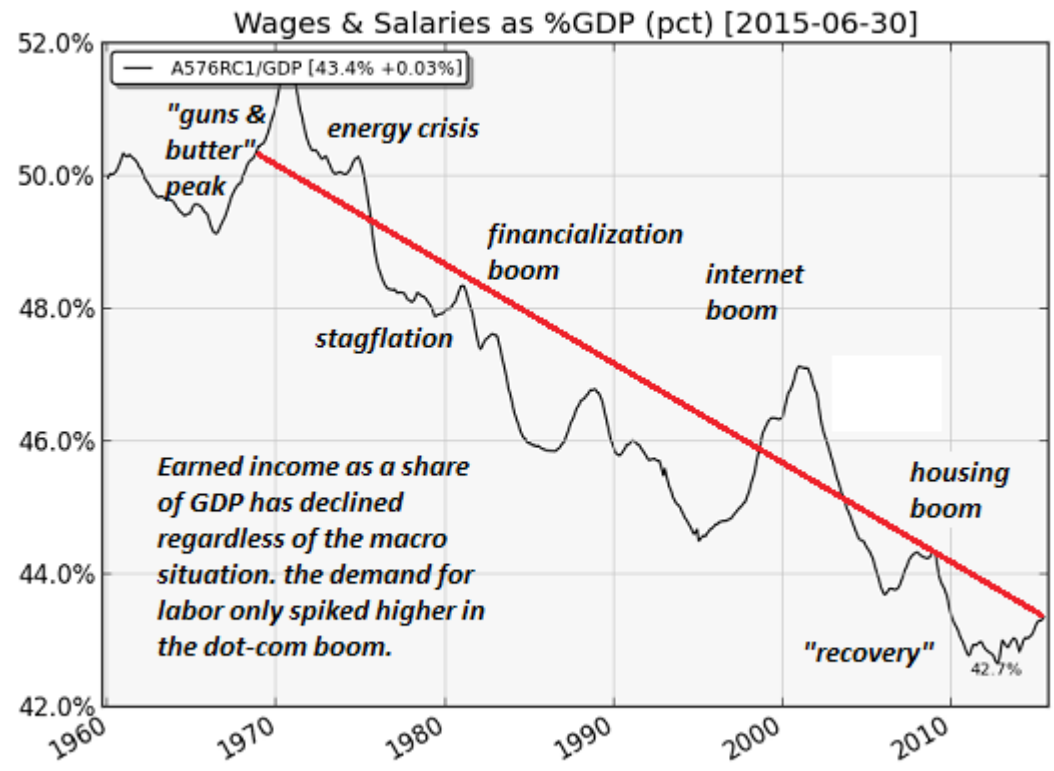
Hodrick-Prescott (HP) filter applied to annual growth of output per person employed. Aggregates are weighted averages of trend growth based on GDP at current PPP exchange rates.





**Figure 8: U.S. average productivity change and average unemployment (percent)<sup>34</sup>**





Last update Aug 6, 2015

<http://www.mdbriefing.com>

## Relationship to Off-shoring Jobs

Claim: off-shoring isn't the problem, automation is

Claim: automation isn't the problem, off-shoring is

Likelihood: both are true

Both reduce jobs here

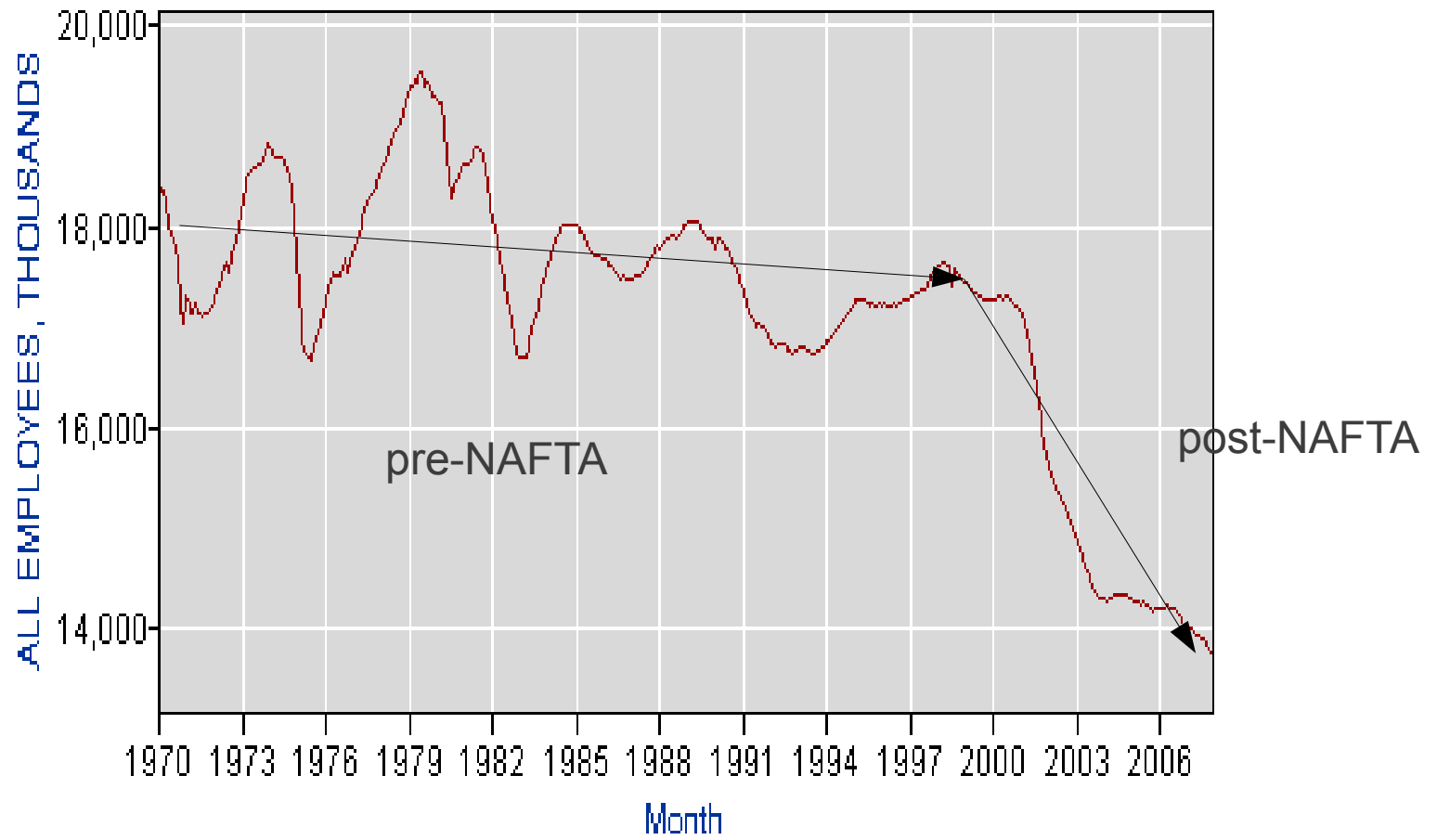


# TPP Advocates' Treatment of Jobs-related Issues

Strong emphasis on growth in export-related jobs

Fallback #1: real problem is growth in automation,  
not trade

Fallback #2: we need a better distribution of benefits  
("nothing to see here, just move along.")



# The Vicious Cycle

- Trigger
  - Corporate costs reduction
- Mechanism
  - Off-shoring
  - Automating
- Near-term consequences
  - Profits rise
  - Worker job/wage cuts
- Long-term consequences
  - “Race to the Bottom”
  - Economic stagnation



# Marketing Limits of Automation (as we shift from goods to services)

- Starbucks
- Automated phone support
- Grocery self-service aisles
- Fast food vendors
- Movie theaters
- Airports

## Bottom Line: Winners and Losers

Investors/Management – clear “winners”

Customers – mixed effects

Worker communities – mixed effects

Workers – clear net “losers”

## (Mostly Public) Assistance for “Losers”

Unemployment insurance

Subsidies (food stamps, disability, etc.)

Growth in numbers may outstrip resources

Retraining (TAA, etc.)

Voluntary outplacement services

# Technological Change: a “Force of Nature?”

Resistance same as Luddites?

Who sets the direction? (largely industry)

What are the goals? (largely increased profits)

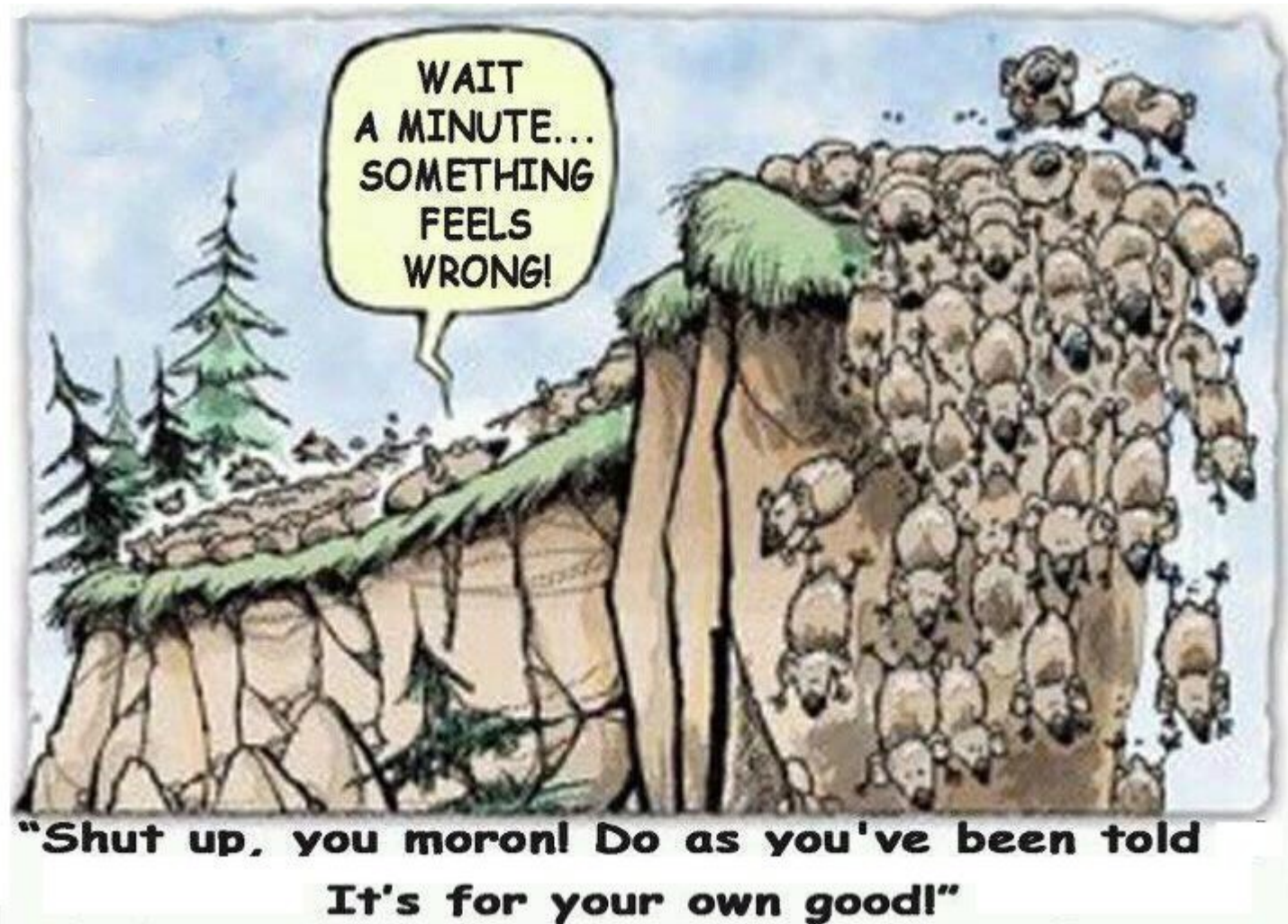
Who funds? (government, industry)

# Coping Strategies

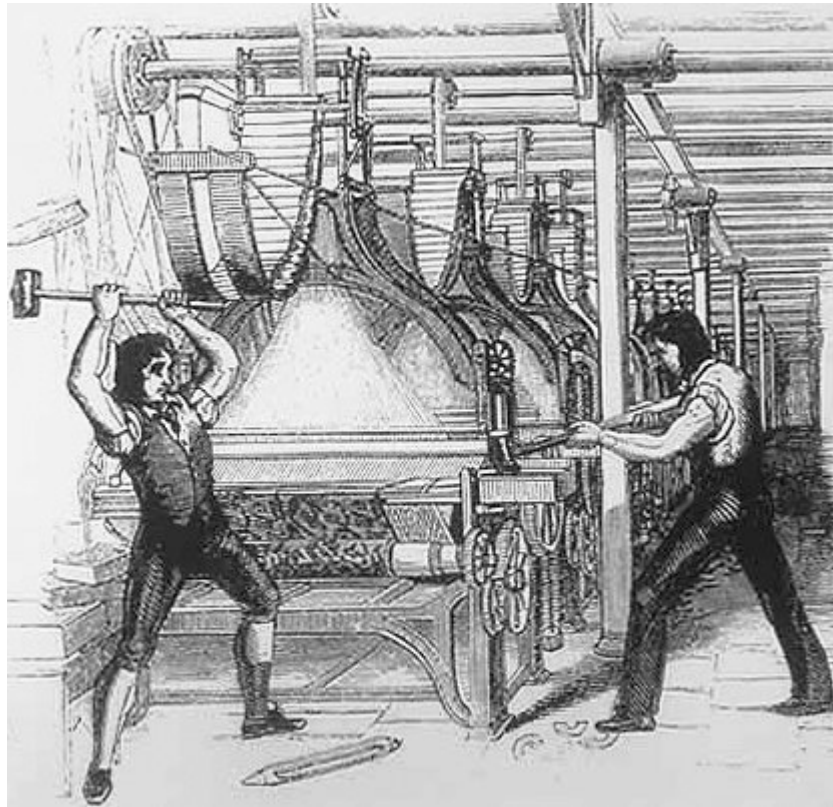
1. Passively accept as inevitable
2. Actively oppose (Luddite-like)
3. Price to Cost



## Strategy 1: Passively Accept As Inevitable



## Strategy 2: Luddite-like Reaction



Newspaper illustration of British weavers destroying textile machines in the early nineteenth century

## Strategy 3: Price to Cost

### ▶ Lots of Precedents

- Labor standards (sweatshops, child labor, hours, wages)
- Environmental standards (clean emissions)
- Pollution controls (safe disposal)
- Carbon tax/fee

### ▶ Addresses automation and off-shoring

- Political will building? (tax on off-shoring)

**Bottom line: Can we treat layoff protections as a similar (non-radical, not socialistic) “cost of doing business?”**

## Possible Example: New Technological Incentives

Phase 1: Power assist tools



Phase 2: Partial Human replacement



Phase 3: Increasing Operator replacement



Phase 4: Partial Human replacement \*



Phase 5: Power assist tools \*

\* possibly more cost-effective with price-to-cost regulation

# Issues

1. Should corporations pay more of the costs associated with displacing workers?
2. Should a fee be imposed on organizations that shift to automated operations (counterintuitive but worth discussing anyway)?
3. Should we shift full-time work from 40 hours/week to perhaps 30 hours/week (meaning labor costs stay roughly the same)?
4. Should we implement a guaranteed income (and, if so, how much, as well as who should pay for it)?
5. Should more or most productivity gains be shared with workers?
6. Should corporate boards be obligated to include labor representation (like Germany)?
7. Are the mass unemployment risks associated with automation a direct consequence of capitalism?
8. Should we expect the labor productivity curve to show a sharp upturn in the near future?
9. Should the government take a more direct role in guiding technological automation development?
10. Is the existing (and potential) job loss due to automation, greater than the job loss resulting from off-shoring?

## Issue #1: Who Pays?

### **Should we make corporations pay more of the costs associated with displacing workers?**

- Yes
  - these are real costs created by corporate decisions.
  - Someone has to bear the costs
- No
  - this will just make corporations less likely to hire people in the first place.
  - there's no practical way to identify some/all of those costs.
  - there's no way to represent those costs on an accounting sheet
  - it will stifle progress and even the viability of corporations

## Issue #2: Use Tax?

Should we impose a tax on organizations that shift to automated operations (not appealing but worth discussing anyway)?

- Yes
  - that's the most straightforward way to protect workers
  - corporations must assume a responsibility for providing decent jobs
- No
  - imposing such a tax is completely backward - it penalizes innovation
  - It's not possible to define automation to that degree of precision

## Issue #3: Reduce Hours?

**Should we shift full-time work from 40 hours/week to perhaps 30 hours/week (meaning labor costs stay roughly the same)?**

- Yes
  - that's the only way to keep a sustainable work environment
  - there's nothing sacred about 40 hours/week as full time
  - if we don't keep people making good wages, the economy itself will suffer
  - if people lose full-time work, the taxpayer will have to pick up the slack
- No
  - that will just make businesses less profitable and will lead to more layoffs



## Issue #4: Guaranteed income?

**Should we implement a guaranteed income (and how much, as well as who should pay for it)?**

- Yes
  - that's better than trying to fine-tune number of hours and layoff obligations
- No
  - that merely causes the taxpayer to pick up what corporations should pay
  - that merely shifts corporate costs to the taxpayers.

## Issue #5: Shared Gains?

**Should we require that some/most of the productivity gains be shared with workers?**

- Yes
  - we should move back to the social compact that existed before 1980
- No
  - business decisions should be made freely, without regulations.

## Issue #6: Worker Representation?

### **Should we require that corporate boards include labor representation (like Germany)?**

- Yes
  - that will ensure that the workers' perspective is given appropriate visibility
- No
  - corporations should be free to select directors that will most benefit the organization
  - all that will do is encourage a growth in union activity

## Issue #7: Inherent Capitalism Problem?

**Are the mass unemployment risks associated with automation a direct consequence of capitalism?**

- Yes
  - the unfettered pursuit of greater profits is behind it.
- No
  - it's merely the consequence of technology, regardless of the economic philosophy

## Issue #8: Productivity Expectations?

**Should we expect the labor productivity curve to show a sharp upturn in the near future?**

- Yes
  - the onset of automation of the mind will be dramatically greater than that of the bod
- No
  - Productivity has been declining for decades and there's no indication it will change
  - If it were going to change because of automation, we'd have seen some indication by now.

## Issue #9: Expanded Government Role?

### **Should the government take a more direct role in guiding technological automation development?**

- Yes
  - otherwise the direction of technology is solely directed toward producing more profits
  - there are other objectives that we must honor to make our world livable
  - through subsidies and programs, the government already plays a role (just not directed right)
- No
  - government influence would be a disaster - who knows what the bureaucrats would want.

## Issue #10: Role of Off-shoring?

**Is the existing (and potential) job loss due to automation, greater than the job loss resulting from off-shoring?**

- Yes
  - while data is elusive, virtually every new factory is more automated
- No
  - offshoring makes no sense to corporations unless there is a lot of labor/environmental exploitation
  - domestic production is not expanding at a rate that suggests automation is dominating here

The End