The end of the Fordism and the emergence of a IV Industrial Revolution

Patterns and policy challenges

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A Blade Runner scenario?

- A blossoming debate on the effects of robotization upon both employment and inequality is now spurring among scholars in the economic discipline.
- Should we expect an age of medieval techno-feudalism governed by a plutocracy which owns machines and robots, which will enjoy high standard of living, together with the most part of the population deprived of the benefits of technology?

Is this time really different?

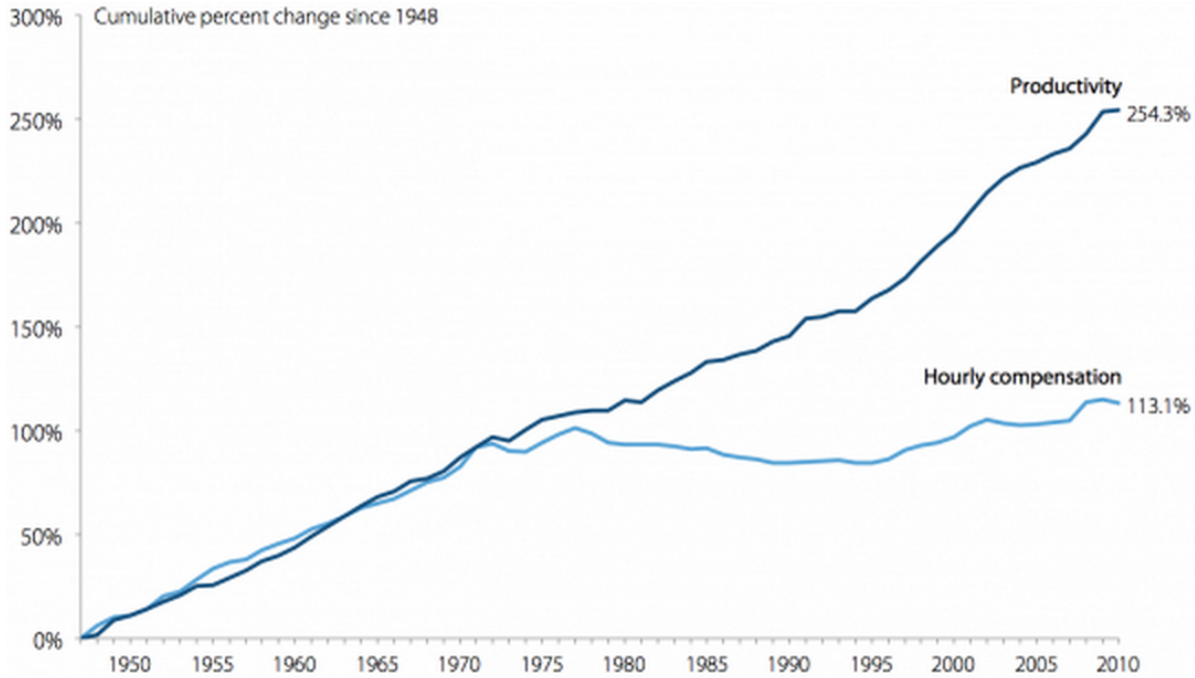
- The Industrial Revolution was no marriage party for the working classes: it was largely an era of degradation of social conditions and it took decades for productivity growth to trickle down to the working classes.
- Today there are worrying factors which hint that it might not be so in near future. And they have to do with both the impact of the new technologies and, even more so, with the ways the old socio-economic regime, call it “Fordist”, progressively exhausted its driving force.

Some long term patterns

1. De-industrialization
2. Stagnant wages and divergence between productivity growth and wage growth
3. Declining labour share and related
4. Massive surge in corporate profits, especially financial ones
5. Declining labour force participation
6. Declining business dynamism and net job creation
7. Soaring inequality
8. Polarization and growing number of part-time jobs (gig-economy)

The wage productivity gap in the US Economy

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Source: Author's analysis of unpublished total economy data from Bureau of Labor Statistics, Labor Productivity and Costs program and Bureau of Economic Analysis, National Income and Product Accounts public data series

Economic Policy Institute

Real wage growth 1973-2012

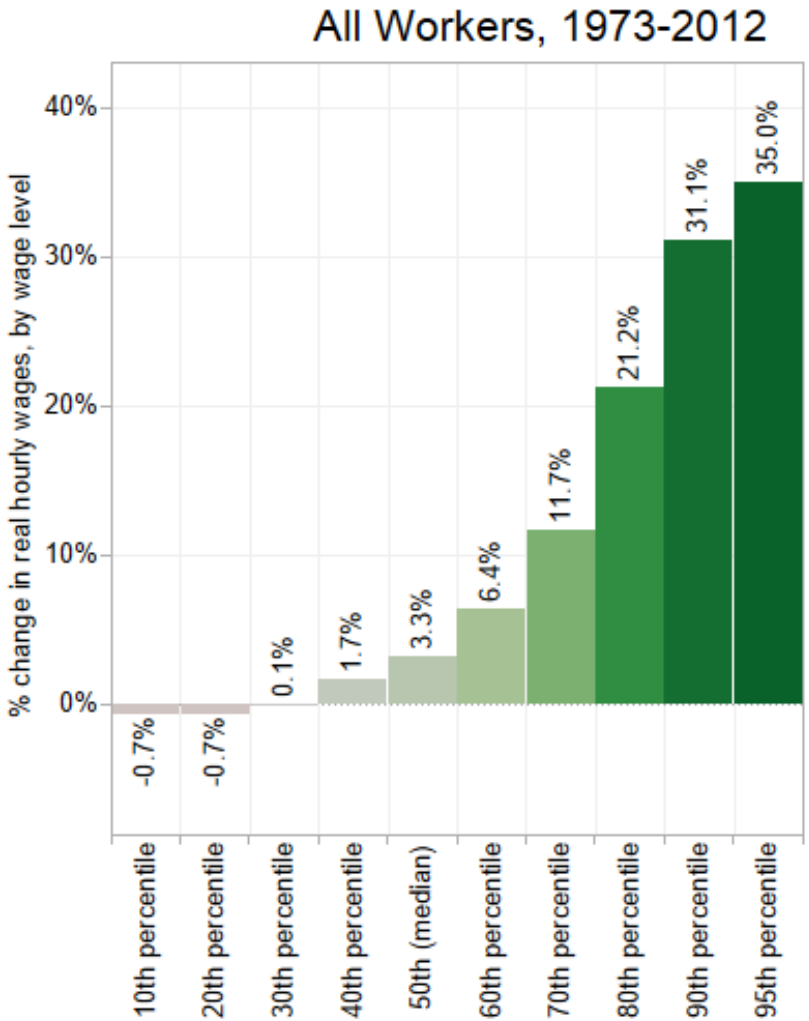


Figure: Source: Economic Policy Institute

Real wage growth 2007-2012

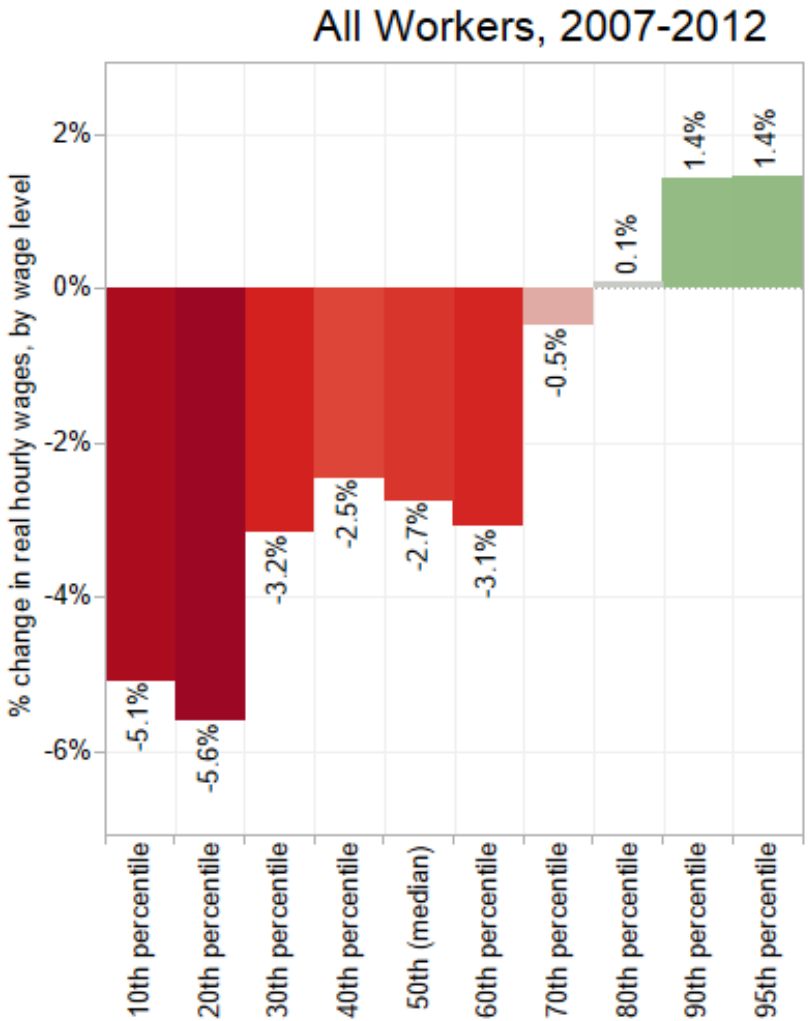
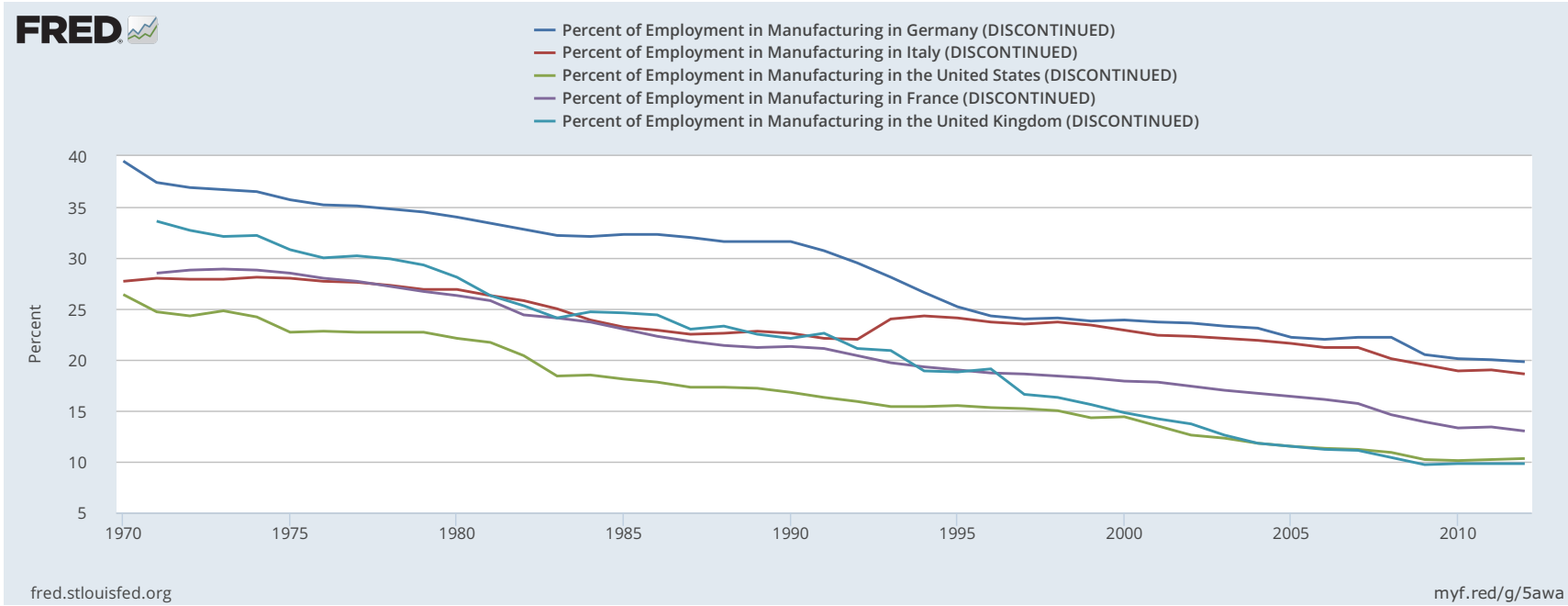
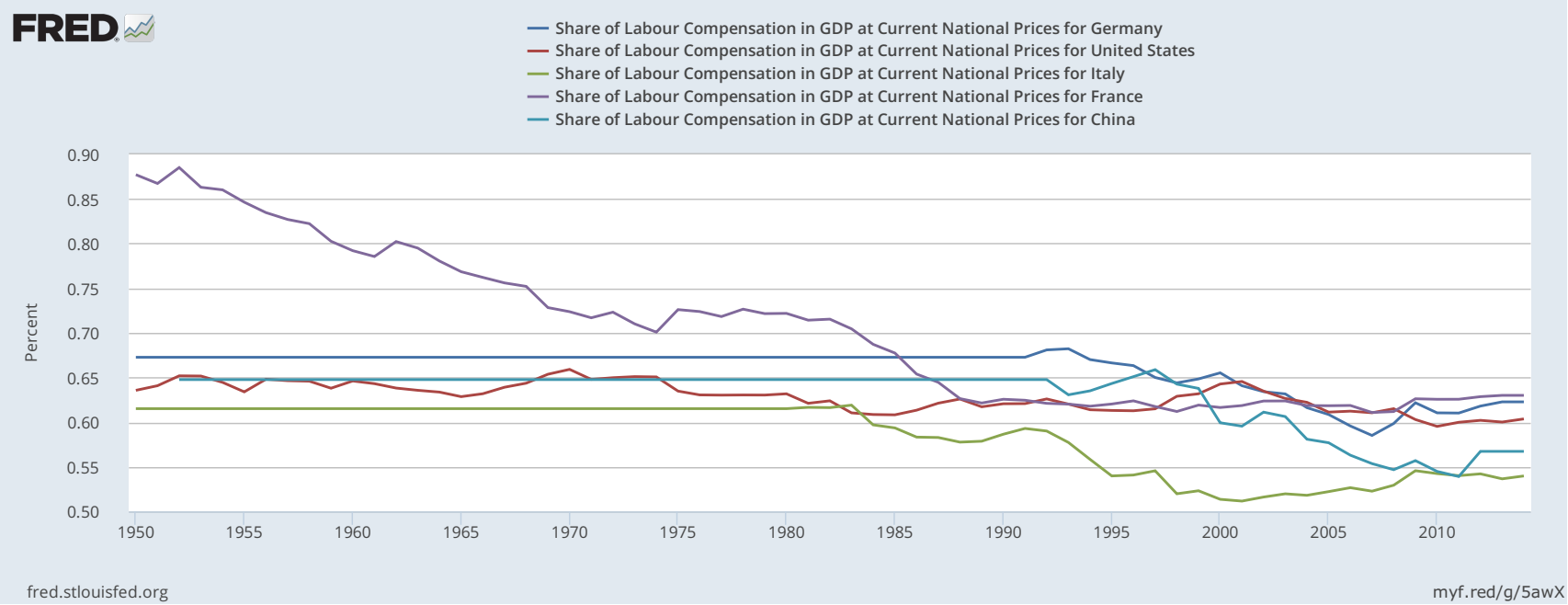


Figure: Source: Economic Policy Institute

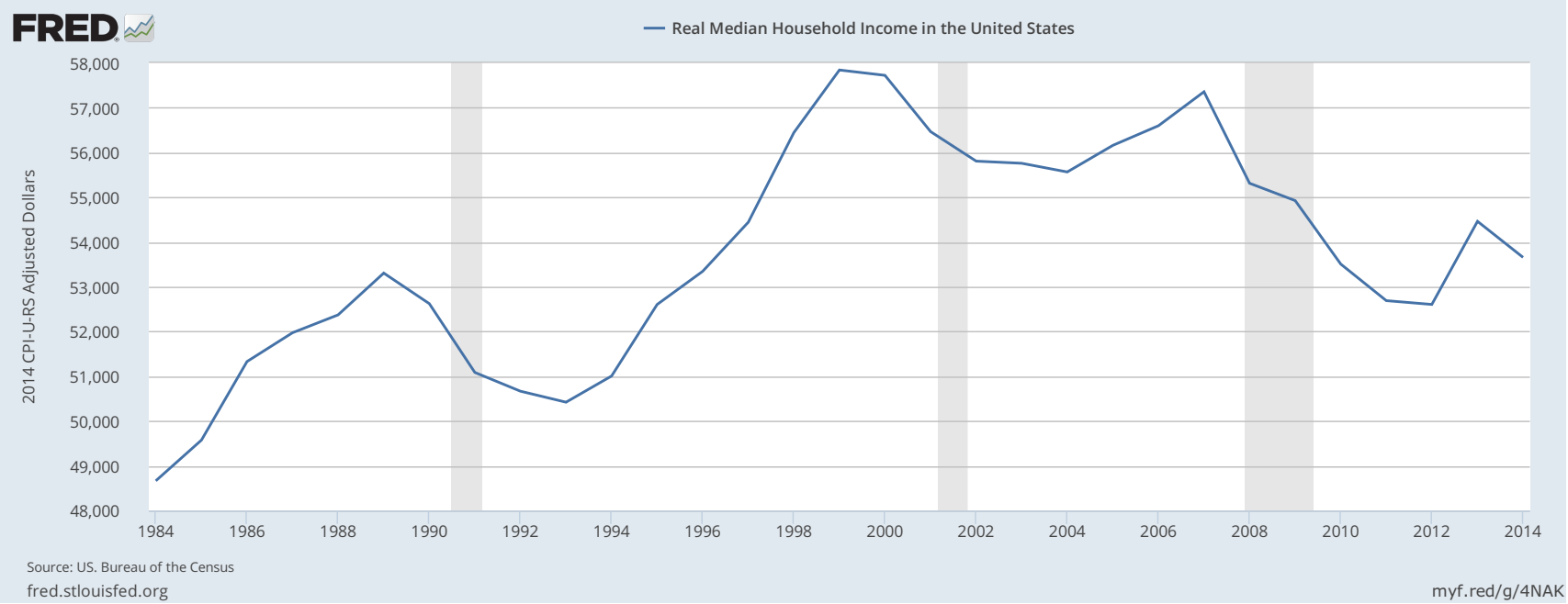
Decline of manufacturing shares



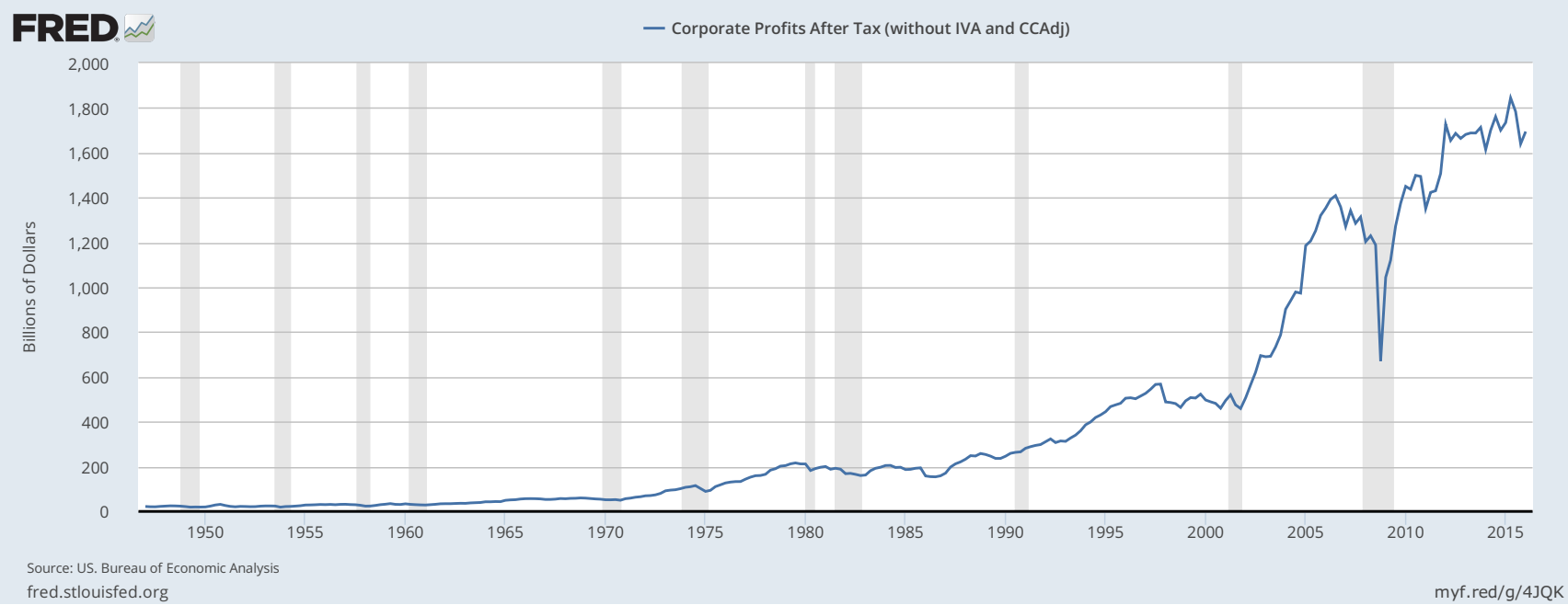
Decline of labour compensation shares



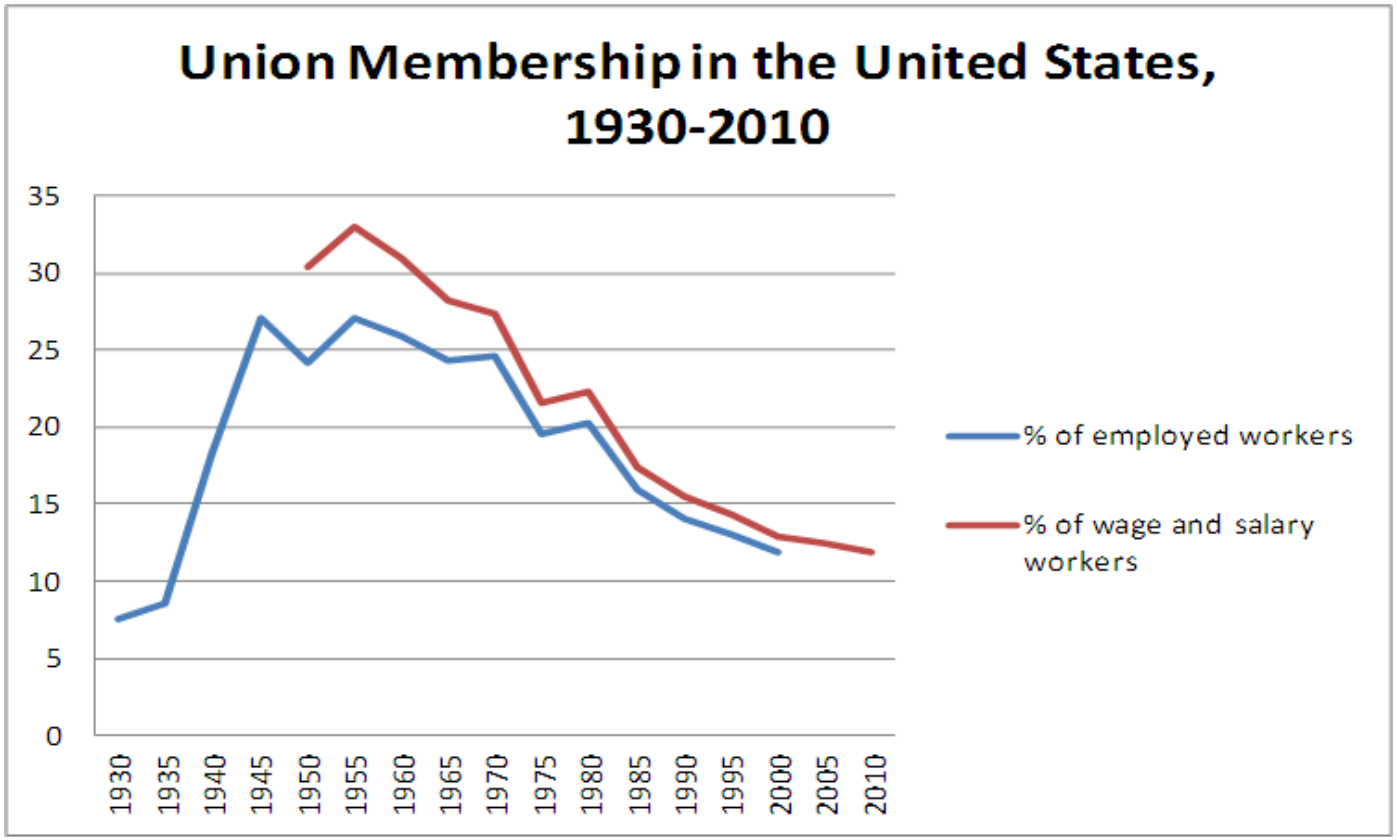
Declining median income



Surge of profits

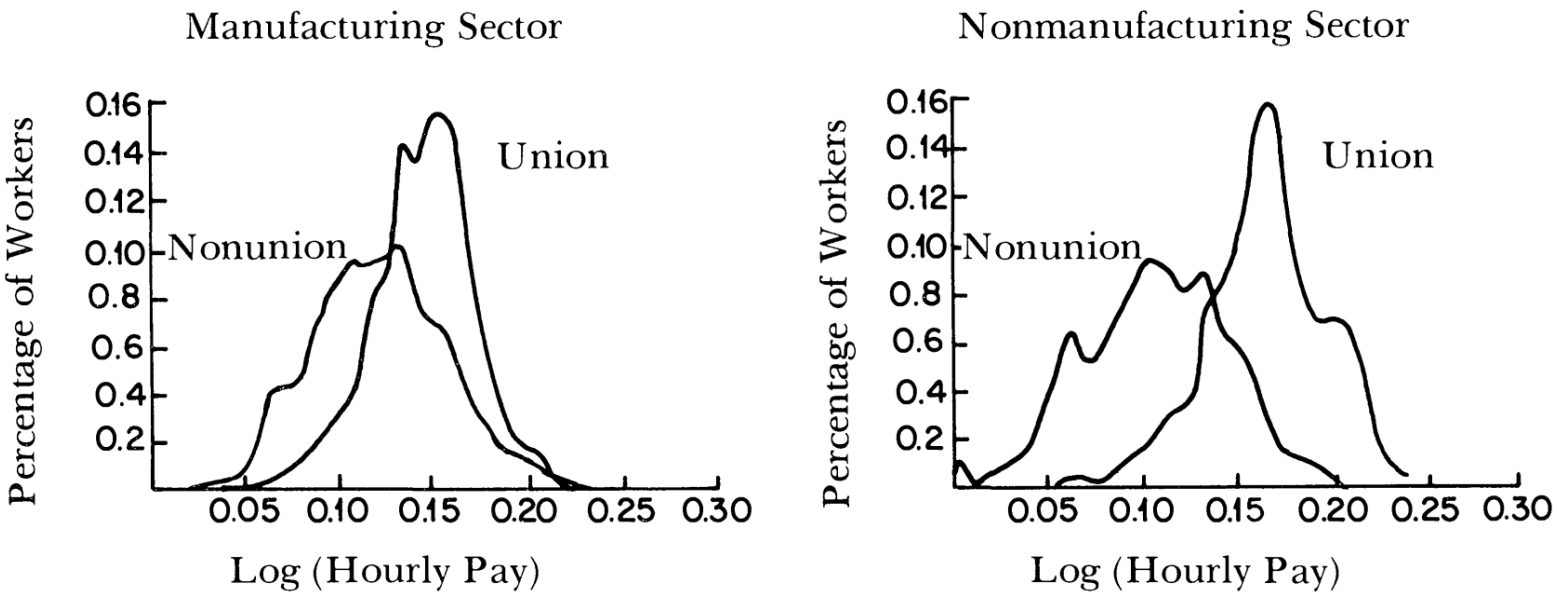


Declining labor force unionization rate

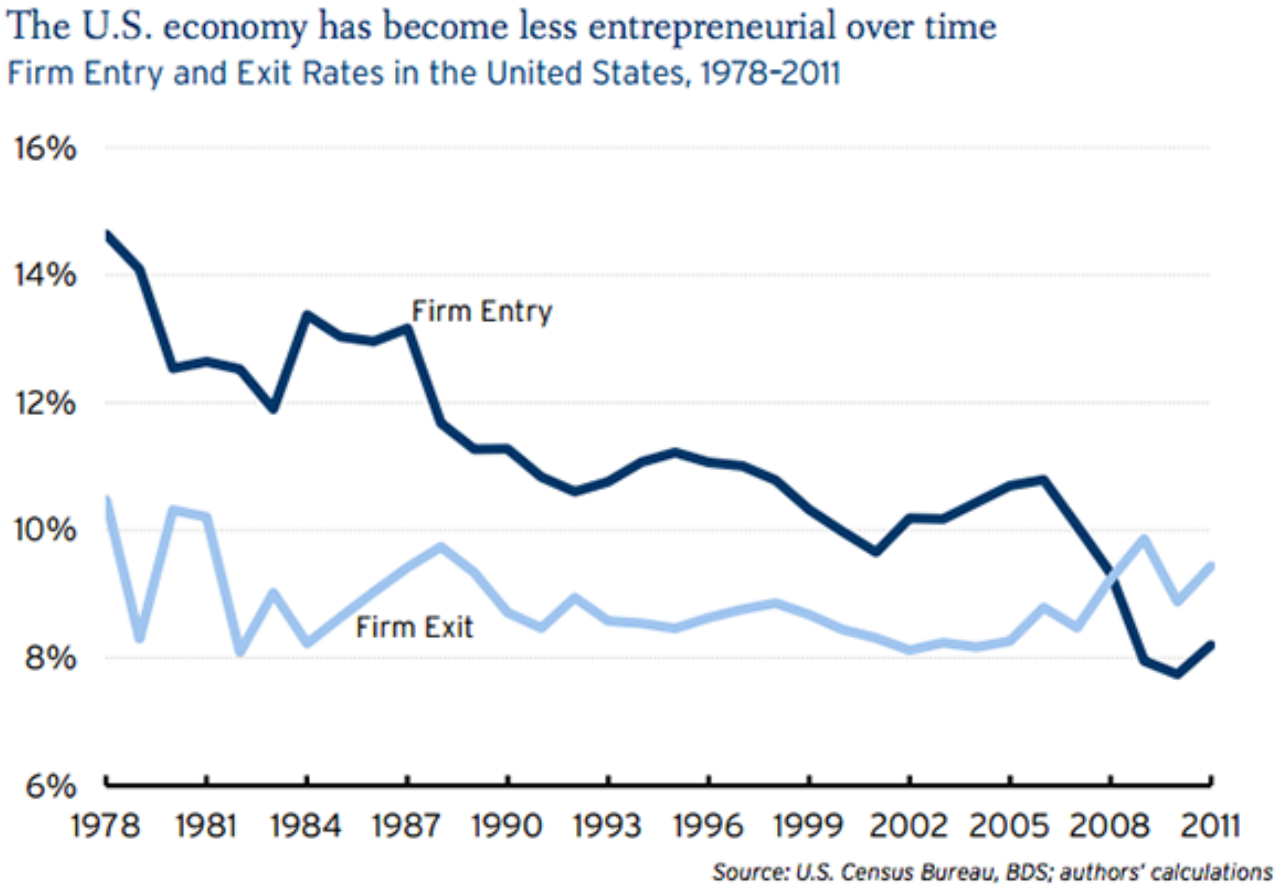


Declining labor force unionization rate

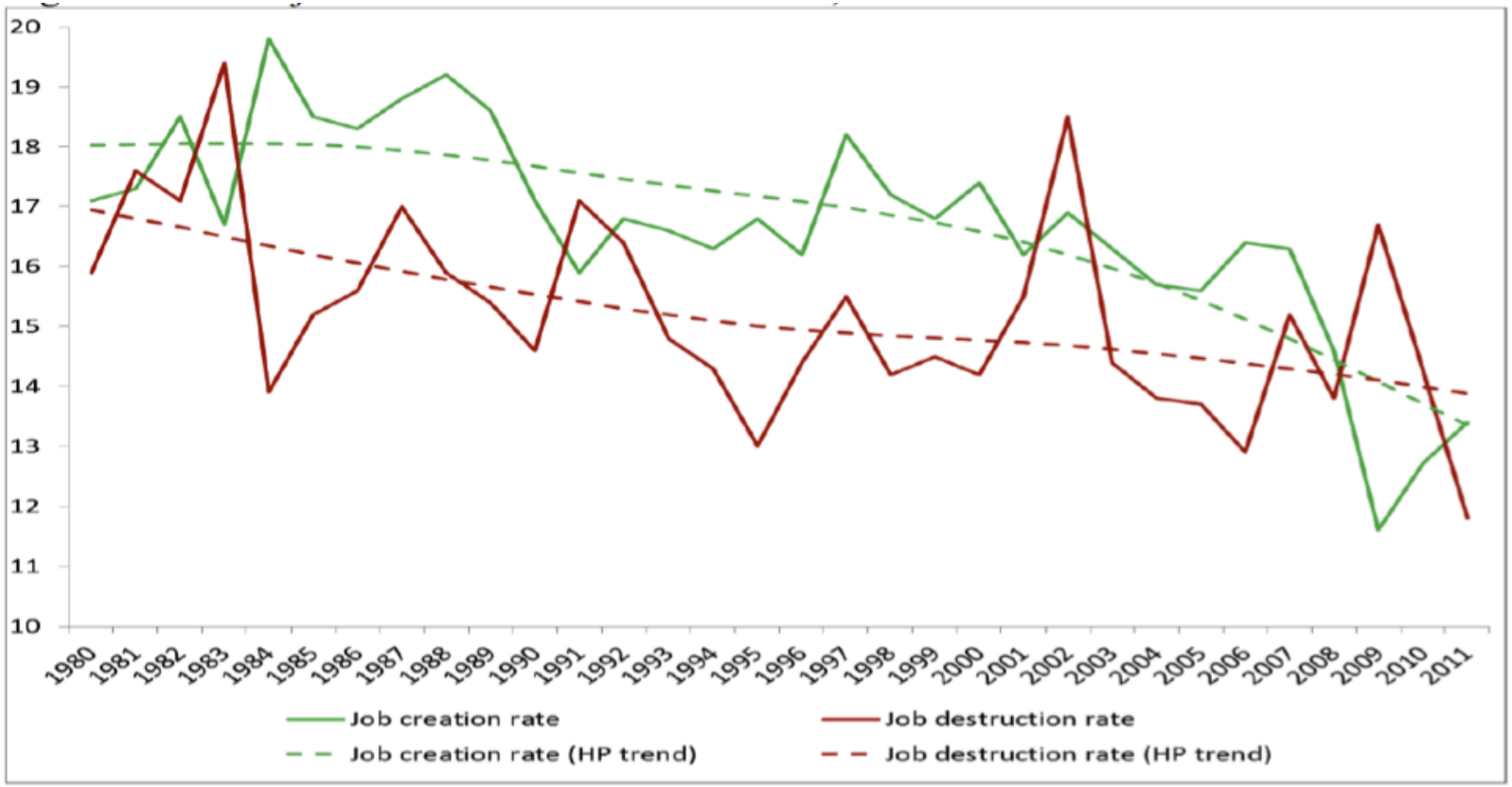
Figure: The beneficial effects of unionization - Freeman, 1980, JOLE



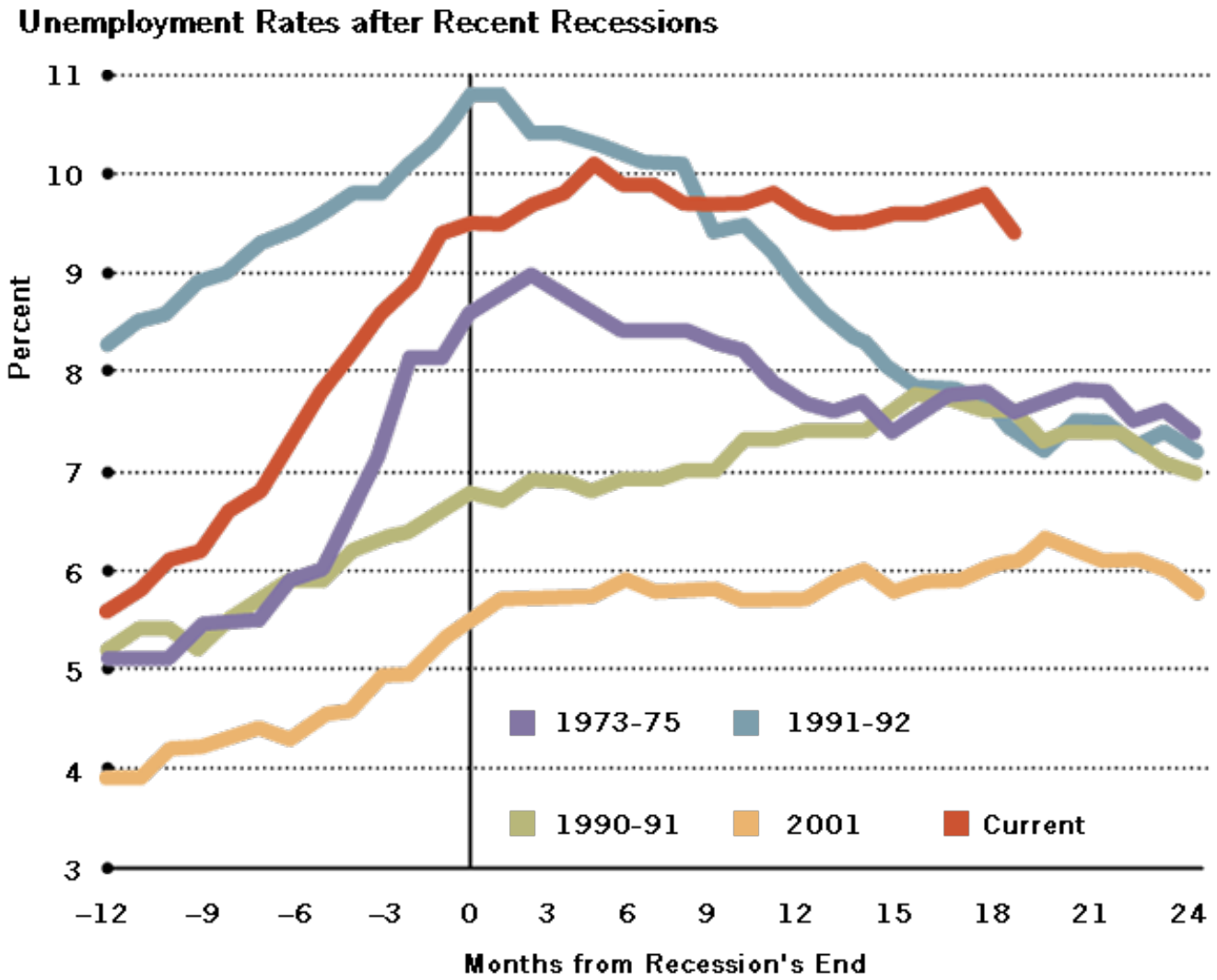
Declining Business Dynamism



Declining Job creation rate

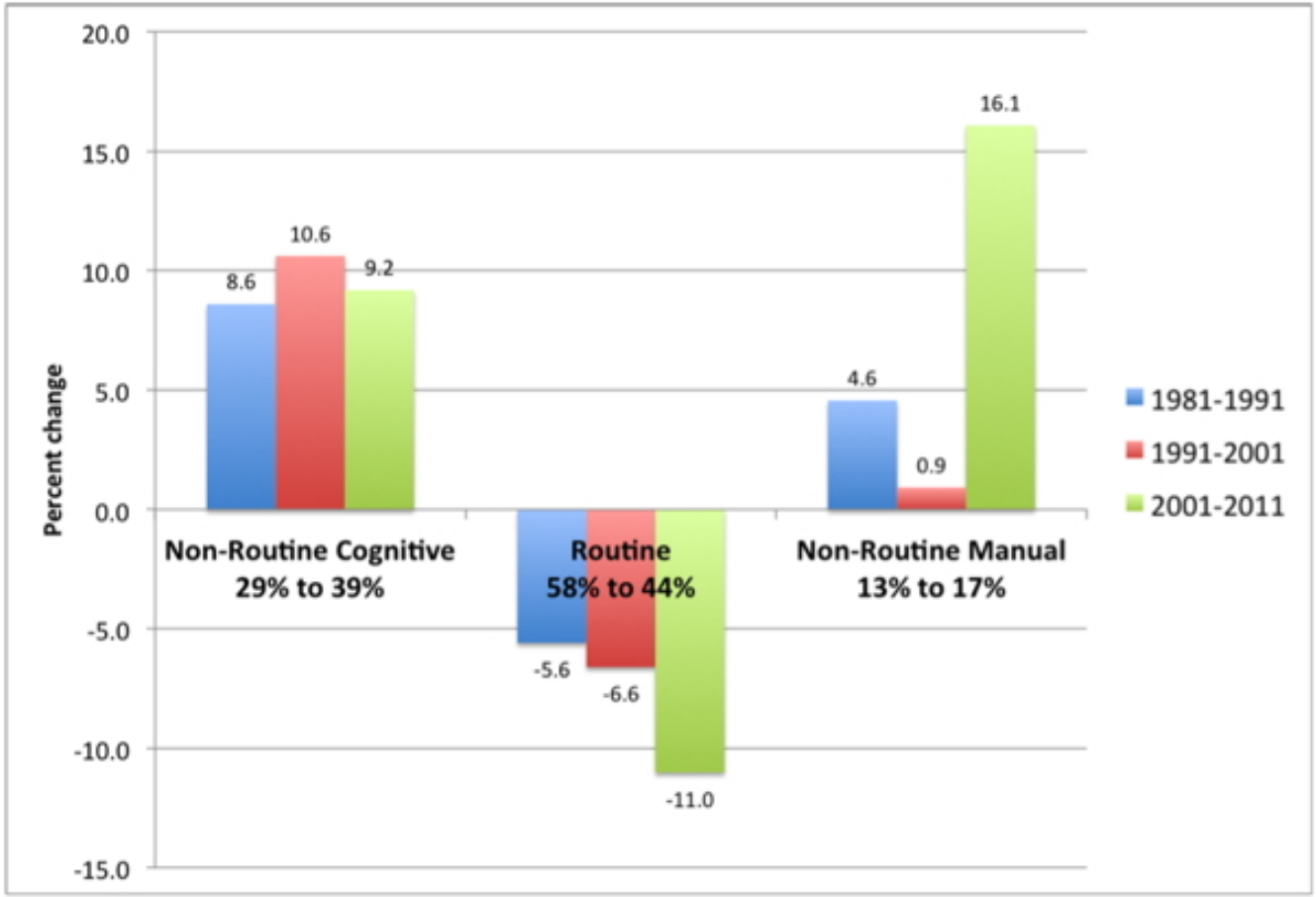


Jobless recovery

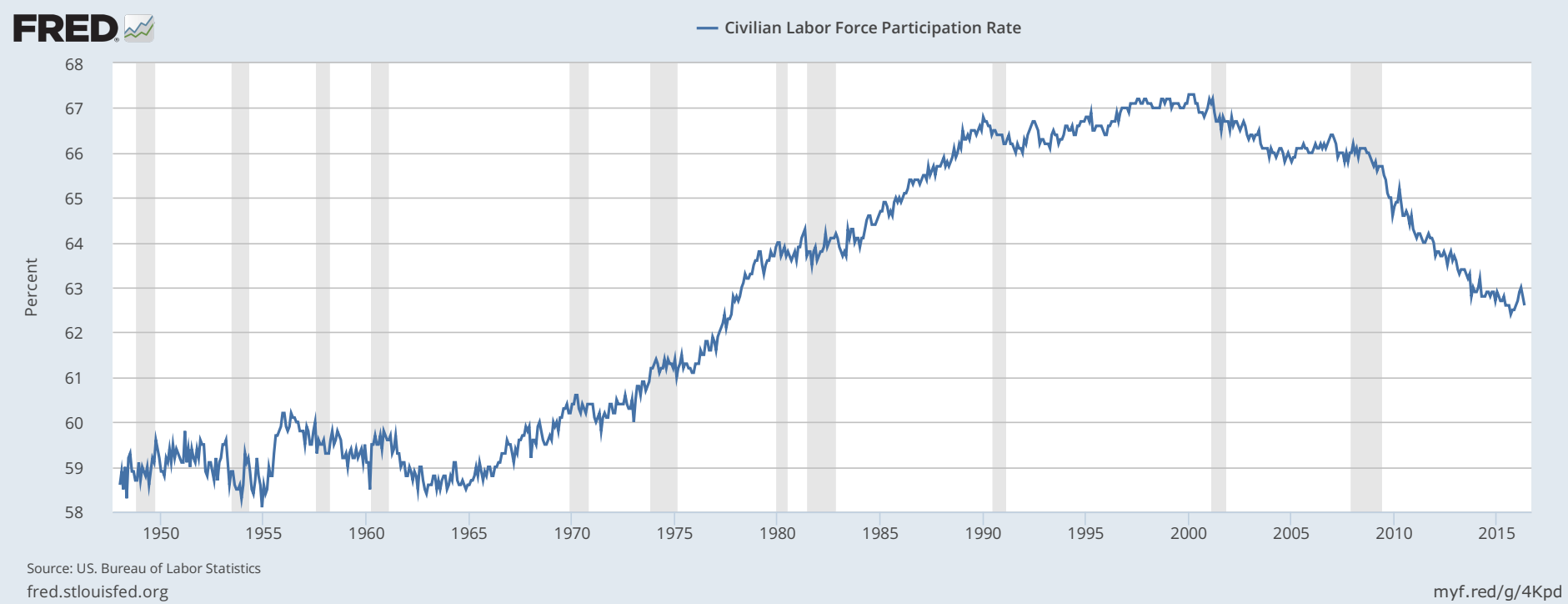


Polarization

Figure 3: Percent Change in Employment Shares by Occupation Group



Declining job participation rate



Matching or mismatching between three subsystems

1. The system of technologies
2. The economic machine
3. The system of social relations and institutions

The main question

The emergence of a new techno-economic paradigm?

The massive introduction of robotized work certainly characterizes the industrial sectors, with robotic arms able to substitute for repetitive and routinized activities.

But, artificial intelligence, algorithms and software developments become increasingly relevant also in the service sectors, which nowadays employs the largest labour share.

As a direct consequence, robotization and AI do not represent a threat only for blue-collars workers, but for the white-collars as well.

How can humans cope with machines?

- Many emerging start-ups in the Silicon Valley or in the Boston Area are explicitly meant at creating and developing technologies able to entirely substitute for human labour.
- Sectors like medicine and health care are lacking the introduction of robots and machine learning algorithms whose massive usage can be complementary to human activity rather than replacing it.
- Potentially, there is ample room to go well beyond the use of robots and artificial intelligence in already standardized and high productive sectors, like fast-food production and delivery, to less routinised ones like medicine and health care.

What to do?

- Be there also on the production side (see the German Program on Industry 4.0)
- Prevent de-industrialization
- Major mission-oriented programs
- Income and working hours redistributions

The bottom line

We are at the cross road between a *Blade Runner Scenario* and *Keynes's vision* (*Economic Possibilities for our Grandchildren, 1930*)

Public policies will make the difference