European Productivity Growth

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Europe’s economic performance

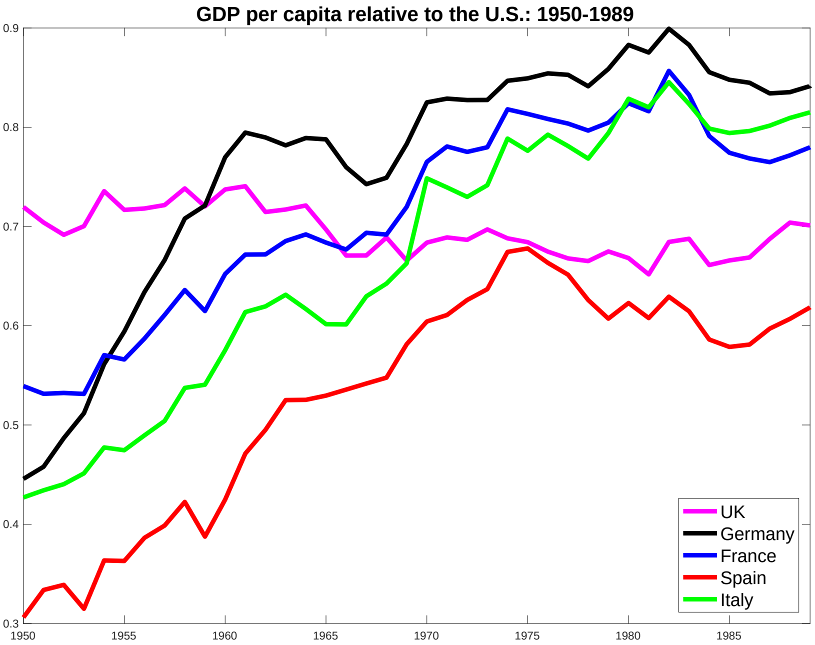
- Western Europe has experienced a disappointing economic performance since the mid-1980s.
- This poor performance predates the creation of the euro.
- European economic problems run deeper than misguided monetary arrangements.
- The European experience is a stern warning for the U.S.

JEAN FOURASTIÉ

LES TRENTE GLORIEUSES

ou la révolution invisible

FAYARD


GDP per capita relative to the U.S.: 1950-1989
0.9
0.8
0.7
0.6
0.5
0.4
0.3
1950
1955
1960
1965
1970
1975
1980
1985
UK
Germany
France
Spain
Italy

Reasons for the thirty glorious years

1. Good demographics.
2. Catch-up growth.
3. Institutional set-up.

Catch-up growth

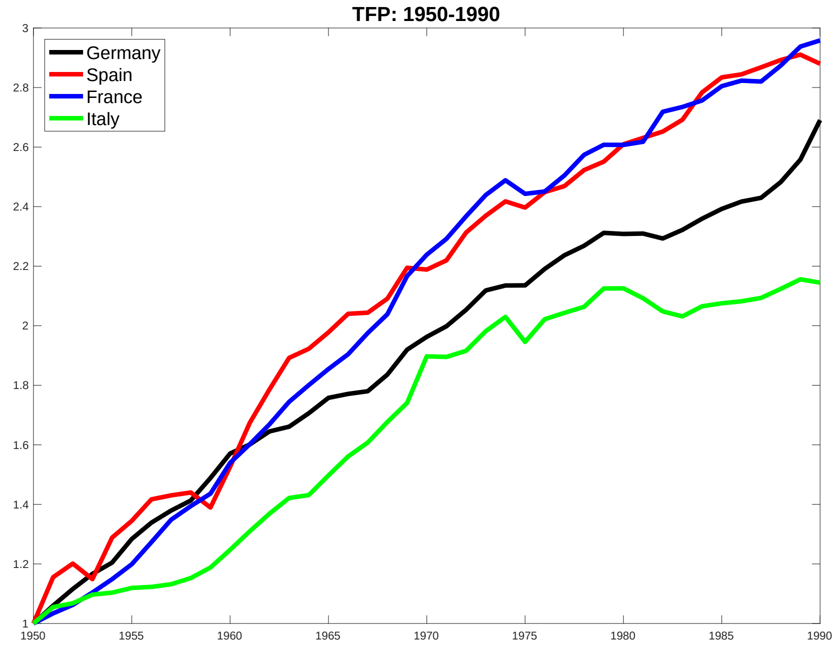
1. Large investments in infrastructure (roads, airports, power grids,....).

2. Fast increases in education attainment.

3. Deep sectorial transformation: workers move from agriculture to manufacturing and services.

4. Technology. Important advances from 1914-1945 that had not been implemented because of war and great depression.

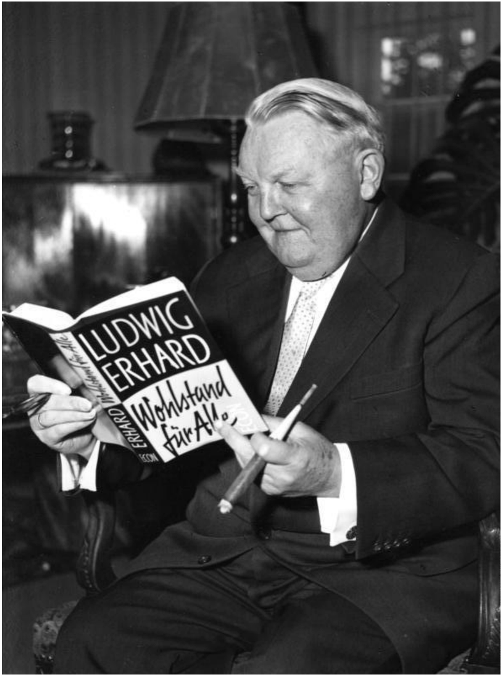
5. Import from the U.S. of modern managerial techniques.

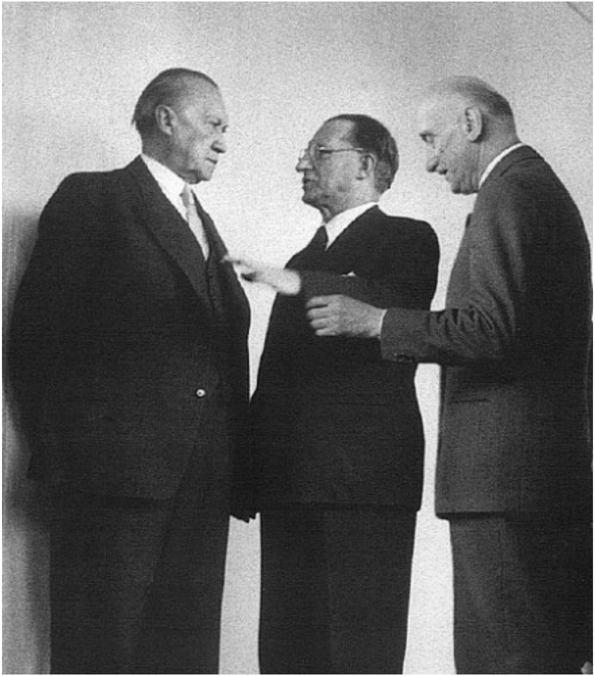

TFP: 1950-1990
Germany
Spain
France
Italy
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
1950
1955
1960
1965
1970
1975
1980
1985
1990

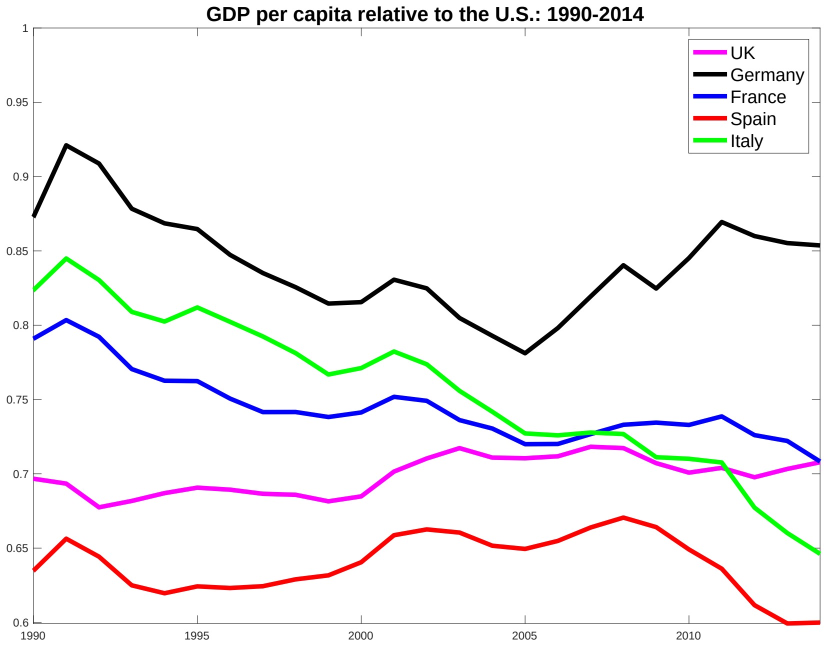
Institutional set-up

- Basic agreement on a quasi-corporatist system of "coordinated capitalism":

    1. Representative democracy.
    2. A "social market economy."
    3. A relatively generous welfare state.
    4. Reasonable limits on the power of interest groups.
    5. Alliance with the U.S.
    6. Process of European integration as a salvation of the nation-state (Alan Milward's, 1935-2010, insight).
    7. A perfunctory *Vergangenheitsbewältigung*.


LUDWIG
ERHARD
Wohlstand
für Alle
ERHARD
ECON




GDP per capita relative to the U.S.: 1990-2014
UK
Germany
France
Spain
Italy
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
1990
1995
2000
2005
2010

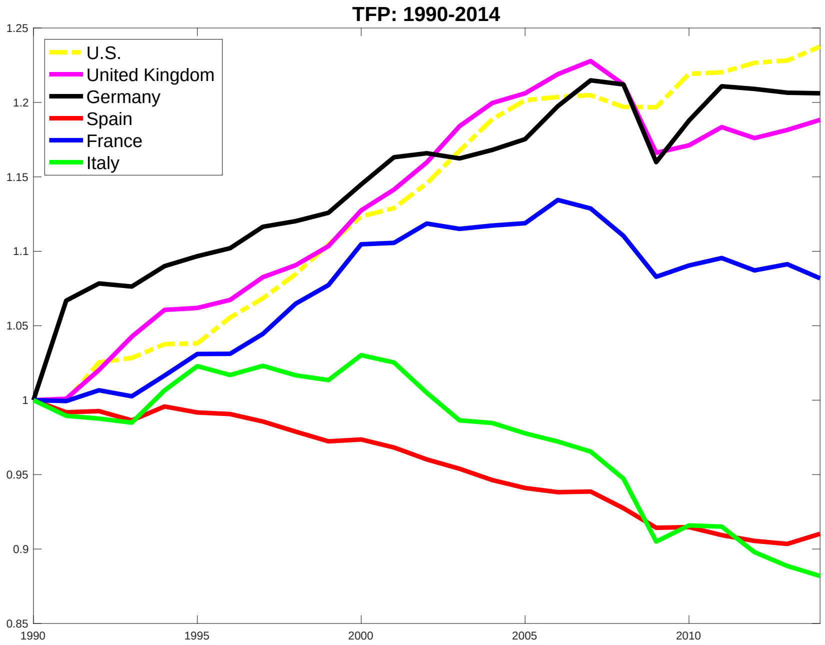
Slowdown after the late 1980s

- On or about December 1989, the European economy changed:

  1. Bad demographics start to be felt.
  2. Process of catch-up growth is basically finished.
  3. Low-hanging fruit of European integration has been completed.
  4. Labor market problems become permanent: low hours per capita.
  5. The welfare state has grown considerably since 1968.
  6. "Consensus" starts to show strains (i.e., interest groups reassert themselves) and limitations (move from a manufacturing economy to a services one).

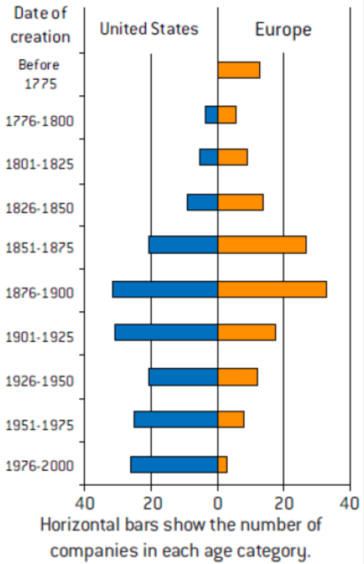
Years of education from Barro-Lee

Average years of schooling, 25+	1980	2010
France	5.96	10.64
Germany	7.63	12.69
Italy	6.19	9.54
Spain	5.74	10.30
United States	11.94	13.42



TFP: 1990-2014
U.S.
United Kingdom
Germany
Spain
France
Italy
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
1990
1995
2000
2005
2010

Fig 1: 'Population pyramid' for largest US/European companies



Source: Bruegel, based on FT Global 500 ranking of the world's largest listed companies, 30 September 2007.

Why no TFP growth?

- Pervasive barriers to entry (Amazon, Uber, Google, ...).
- Lack of competition.
- High regulation.
- Inefficient capital markets (venture capital).
- High taxes.
- Education and R&D system.
- Aging of population.

ZINEDINE
ZIDANE
Height: 185cm; Weight: 80kg; Position: Playmaker
Birthplace: Marseille; Birthdate: 3 June 1972
1Zidane.com

Barriers to entry

- Zinedine Zidane is one of the top 5 soccer players of all time.
- He won everything (World Cup 1998, Euro Cup 2000, Euro Champions League, Intercontinental Cup, Super Cup, Spanish League, Italian League...)
- After retiring, in 2013-2014, he was assistant coach for Real Madrid. Extremely successful year for Real Madrid.
- In August 2014, he becomes main coach for Real Madrid B Team but...
- ... he is sued by the director of the Spanish National Football Coach Education Centre because he does not have a three year higher education degree in Soccer coaching.
- Fined and expelled from Spanish league.
- In appeal, his lawyer finds a loophole (due to his French citizenship).

France approves law stopping Amazon from shipping discounted books for free

by Matt Brian | @m4tt | October 3rd 2013 at 8:21 am

French lawmakers have had it up to "here" with Amazon's book-selling tactics and they're not going to take it any more. In a rare alliance, France's ruling Socialist Party and the opposition UMP Party approved a new bill banning the company and other online retailers from shipping discounted books for free. It comes in the form of an amendment to a 32-year-old law that sets the value of new books at fixed prices. Amazon, you see, heavily discounts books, but also ships them at no extra cost, heavily undercutting aggrieved brick-and-mortar retailers. The restriction

World Bank Doing Business Index

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United States	7
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Belarus	57

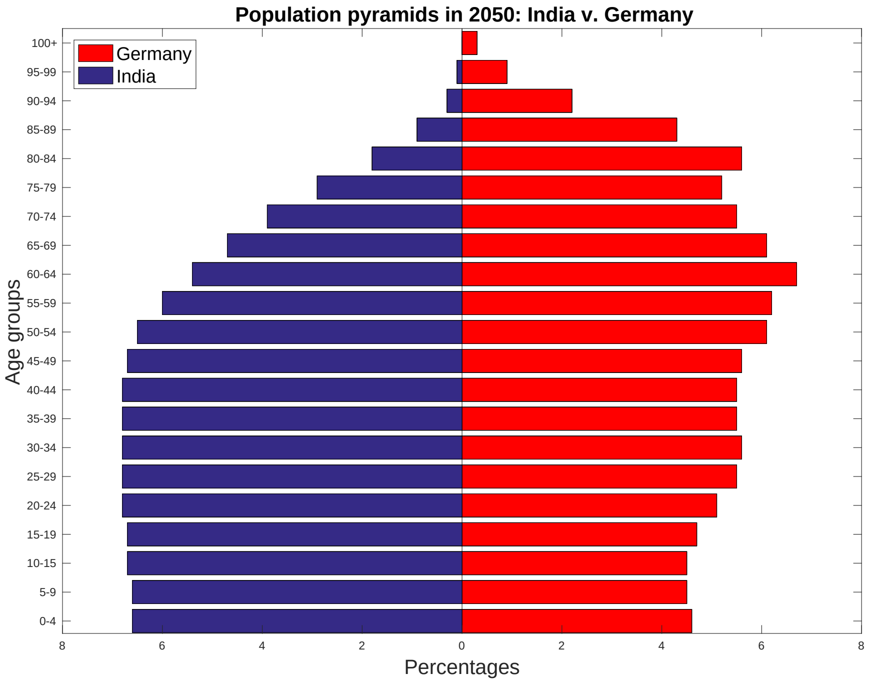
- Personal experience: getting a TIN for a blog in Spain.

Building in Italy

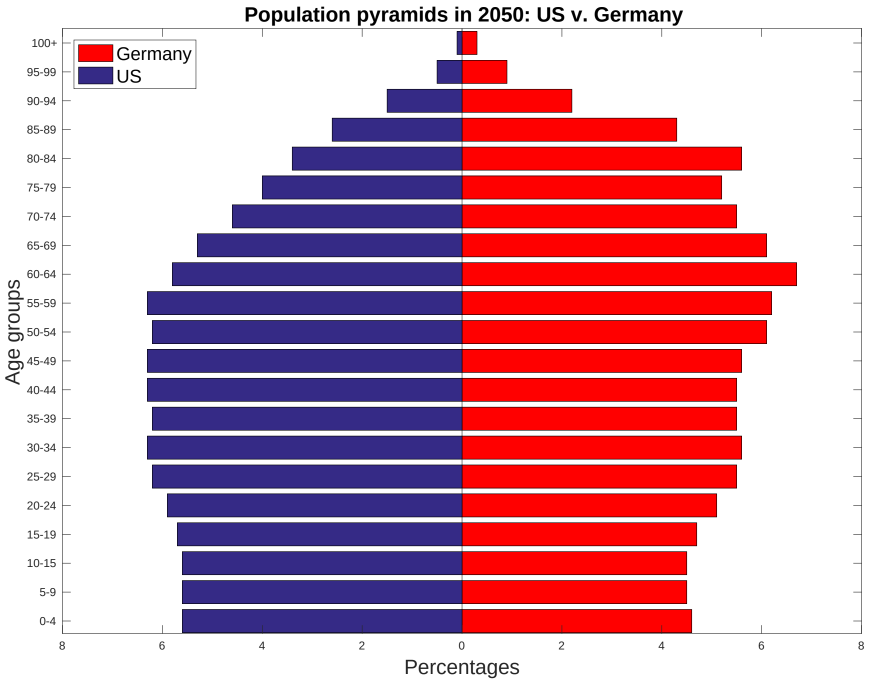
Wall Street Journal, April 29, 2014

Bernardo Caprotti was a 45-year-old entrepreneur when he agreed to buy a suburban plot of land for a new supermarket.
Building permits recently came through. He's now 88. His Milan-based retail chain, Esselunga SpA, had grappled since 1971 with local bureaucrats who raised shifting concerns about traffic volumes, architectural suitability and proximity to a medieval monastery.

VC deals, bn USD
80
70
60
50
40
30
20
10
0
5.1
36.5
5.9
31.9
5.5
35.8
8.4
57.4
13.5
72.4
2011
2012
2013
2014
2015
EU
US



Population pyramids in 2050: India v. Germany
Germany
India
Age groups
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-15
5-9
0-4
8
6
4
2
0
2
4
6
8
Percentages



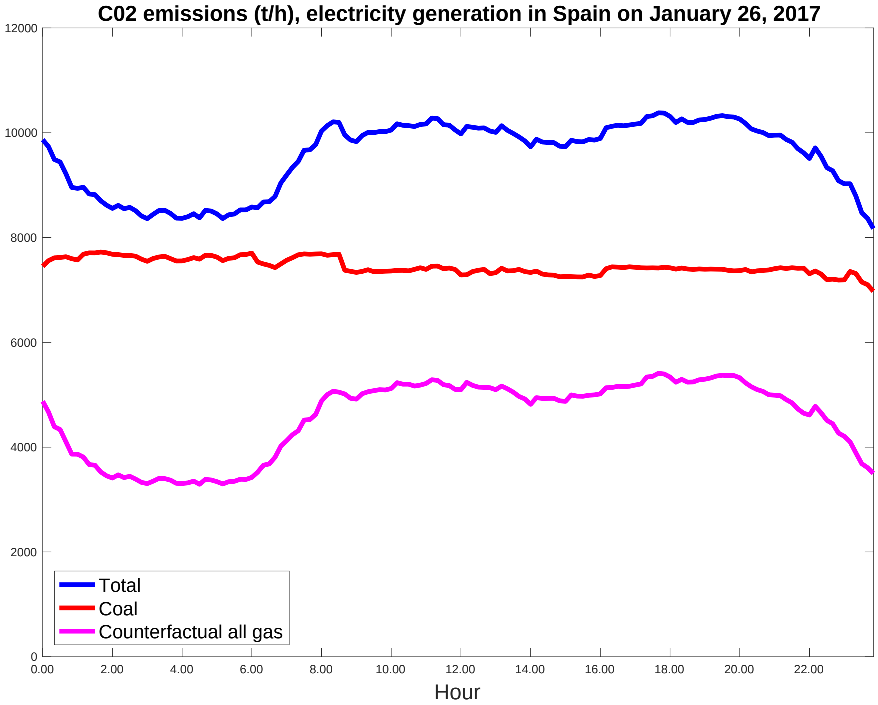
Population pyramids in 2050: US v. Germany
Germany
US
Age groups
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-15
5-9
0-4
8
6
4
2
0
2
4
6
8
Percentages

An example: shale oil and gas industry in the U.S.

- In 2016, the U.S. produced 4.6 MMb/d of tight oil (52% of total oil production; total crude supply is 16.30 MMb/d).
- In 2016, the U.S. produced 26.58 Tcf of natural gas (consumed 27.68 Tcf).
- EIA's *Annual Energy Outlook 2017* forecasts that, by 2025, the U.S. will be a net exporter of energy.
- Tremendous increase in productivity (finding rates, recovery rates, reservoir stimulation, price, ...).
- Reasons:
  1. Federal policy: Natural Gas Policy Act of 1978, R&D support.
  2. Private mineral rights (rejection English common law, *Grimes v. Goodman*).
  3. Free entry and competition.

An example: shale oil and gas industry in Europe

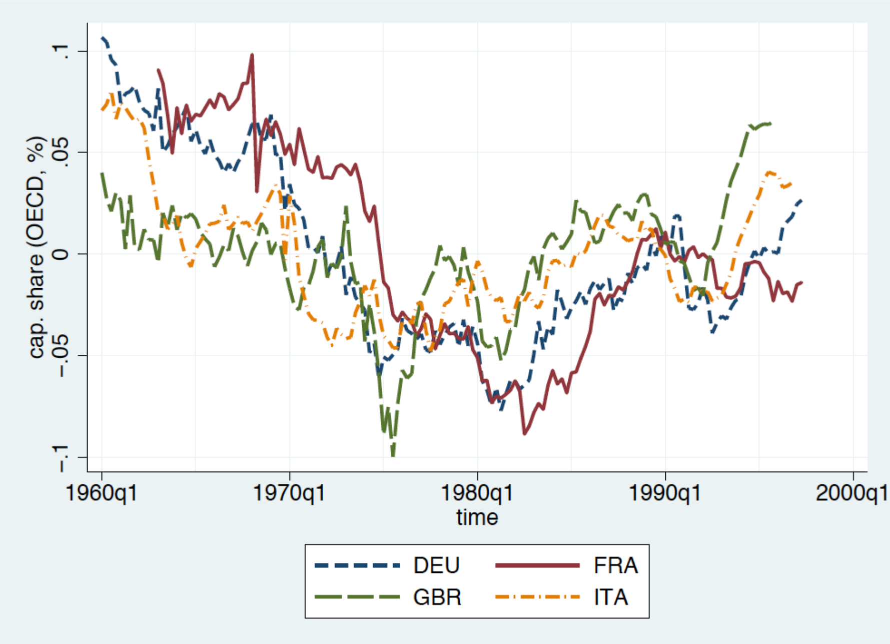
- Tight oil and gas industry is either banned or severely constrained in most European countries.
- Reasons:
  1. Public mineral rights.
  2. Lack of an *energy union* (being changed right now).
  3. Overwhelming public opposition.
- Consequences:
  1. More C02 emissions.
  2. Expensive energy, petrochemicals, and fertilizers.
  3. No services revenue.
  4. Strategic dependency from Russia and Middle East.


C02 emissions (t/h), electricity generation in Spain on January 26, 2017
12000
10000
8000
6000
4000
2000
0
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
18.00
20.00
22.00
Hour
Total
Coal
Counterfactual all gas

Political economy I

- Post WWII consensus: social democrat and Christian democrat parties:
  1. Exogenous political factors.
  2. Endogenous political factors.
- Post 1968 reforms+oil crisis+technological change.

France & Germany & Italy & Great Britain



Political economy II

- Winning coalition: older workers+retirees+civil servants+protected sectors:
  1. Financed by a relatively less distortionary tax system than it seems at first sight.
  2. Limits to political competition (electoral systems, campaign financing, media,...)
- Losing coalition: younger workers+unemployed+new sectors.

Political economy III

- Winning coalitions eroded:

    1. Dissolution of social democrat (i.e. economic change) and Christian democrat (i.e. secularization) political parties.
    2. Economic crisis moves marginal voters from winning to losing coalition.
    3. Corruption.
    4. Welfare state is fiscally unsustainable.
    5. Euro means, sooner or later, large transfers within euro zone.

Political economy IV

- Populist parties growing all across Europe (M5S, Podemos, Syriza, FN, etc.). Why?

    1. Coalition in favor of redistribution.
    2. Coalition in favor of default.
    3. Learning about market economies.
    4. Lack of meritocracy.

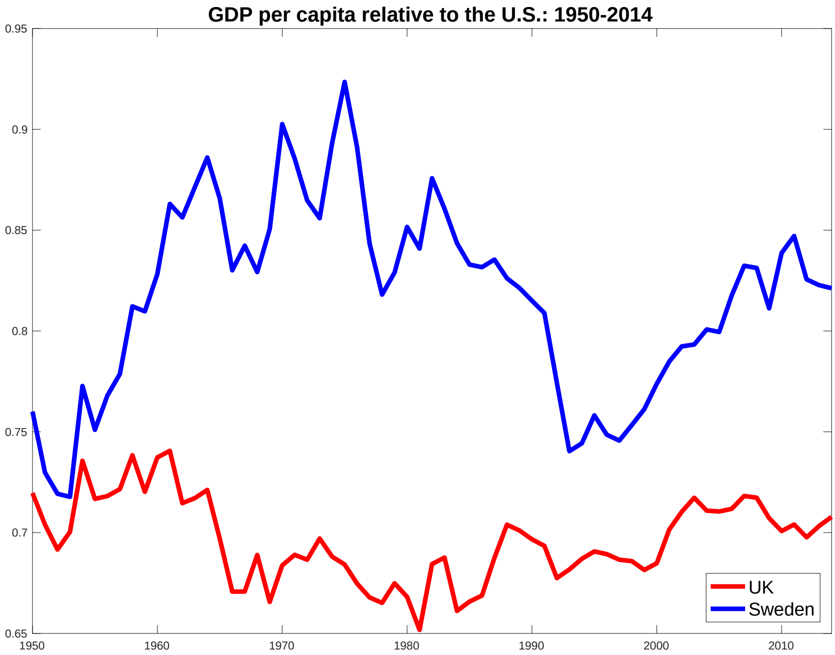
- Origin of this parties: losers of historical big agreements.

A path forward?

- Human capital accumulation cannot grow much more:

Average years of schooling, 25-29	1980	2010
France	7.77	12.61
United States	13.10	13.73

- Continental European countries are already high K/Y.
- In particular, public infrastructures in France or Spain are underutilized.
- Two possibilities:
  1. Hours. Short run yes, but aging puts an inherent limit to this mechanism
  2. Total factor productivity.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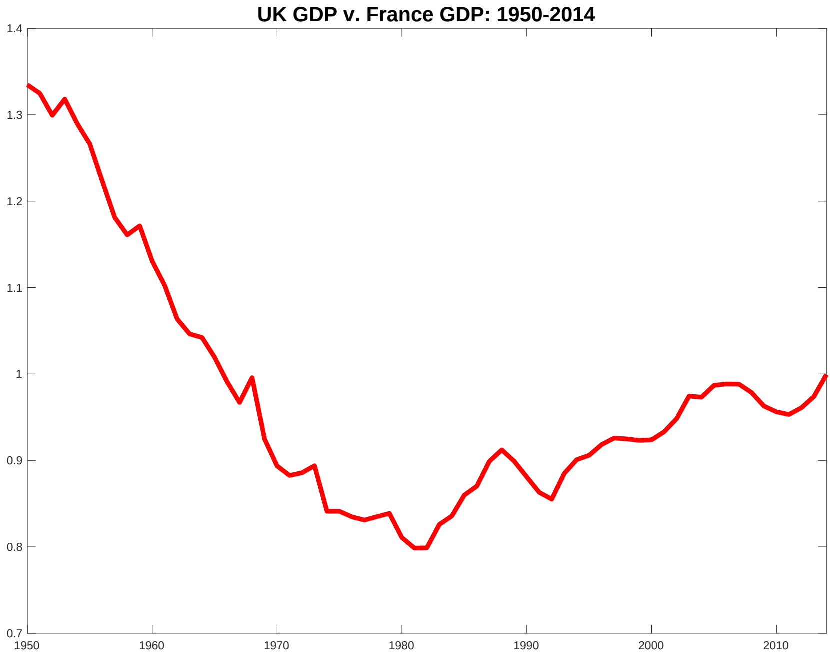
Sweden


UK GDP v. France GDP: 1950-2014
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
1950
1960
1970
1980
1990
2000
2010

European lessons for the U.S., I

- Europe has run an unfortunate experiment that shows how institutions affect economic performance.
- Fast growth after WWII fostered by institutions that offered incentives and opportunities to adopt U.S. technologies and managerial organization, promoted accumulation of physical and human capital, and economic openness.
- European weakness began once institutions changed: higher taxes, restricting competition and depressing entry, regulation of capital and labor markets.
- Timing of changes in TFP and hours worked at the economy-level coincides with timing of institutional quality changes.

European lessons for the U.S., II

- How much can institutions affect TFP?

  Case study of shale oil shows that it can be enormous.

- How much do taxes affect hours worked?

  Prescott (2005) and Ohanian, Raffo, Rogerson (2008) present evidence that it is big.

- U.S. Institutional quality has changed: administrative state that violates rule of law, protection of incumbents by limiting competition and preventing entry, regulations that affect resource allocation, including capital markets (Dodd-Frank) that in turn affect startups.