

WHAT INNOVATIONS FOR THE NEXT DEVELOPMENT MODES?

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INTRODUCTION

1. Quite all economies are in flux in search for new socio economic organizations and/or engines of growth.
 - ✓ *The US: the end of a financial innovation-led growth.*
 - ✓ *The Euro zone: contrasted North / South growth regimes can no more coexist within common monetary and fiscal rules.*
 - ✓ *China: the limits of the previous development and the search for an alternative socioeconomic regime.*

2. Adopt a theory of **endogenous innovation**:

- ✓ *At the micro level, firms respond to **profit opportunities** linked to relative price and/or dynamism of demand.*
- ✓ *At the macro level, the direction of innovation is governed by the more **pressing society wide issues**.*

3. A strategy of investigation: go back to **long run history** in order to detect generic mechanisms governing ways out of crises.

SYNOPSIS

1. **Fordism**: institutional innovations complement productive breakthrough.
2. **Prosperity by welfare**: the synergy between conceptual and social innovations
3. **ICT** (Information and Communication Technologies) led growth: the private spill-overs from an ambitious Defence programme
4. **KBE** (Knowledge Based Economy): The privatisation of scientific advances.
5. **The finance led regime**: when physicists become quants
6. **A green growth**: an epochal change but a complex and uncertain regime.
7. Assessing the likelihood of **various potential development modes**.
8. A world of **contrasted and interdependent** development modes
9. **Conclusion**: some teachings from history.

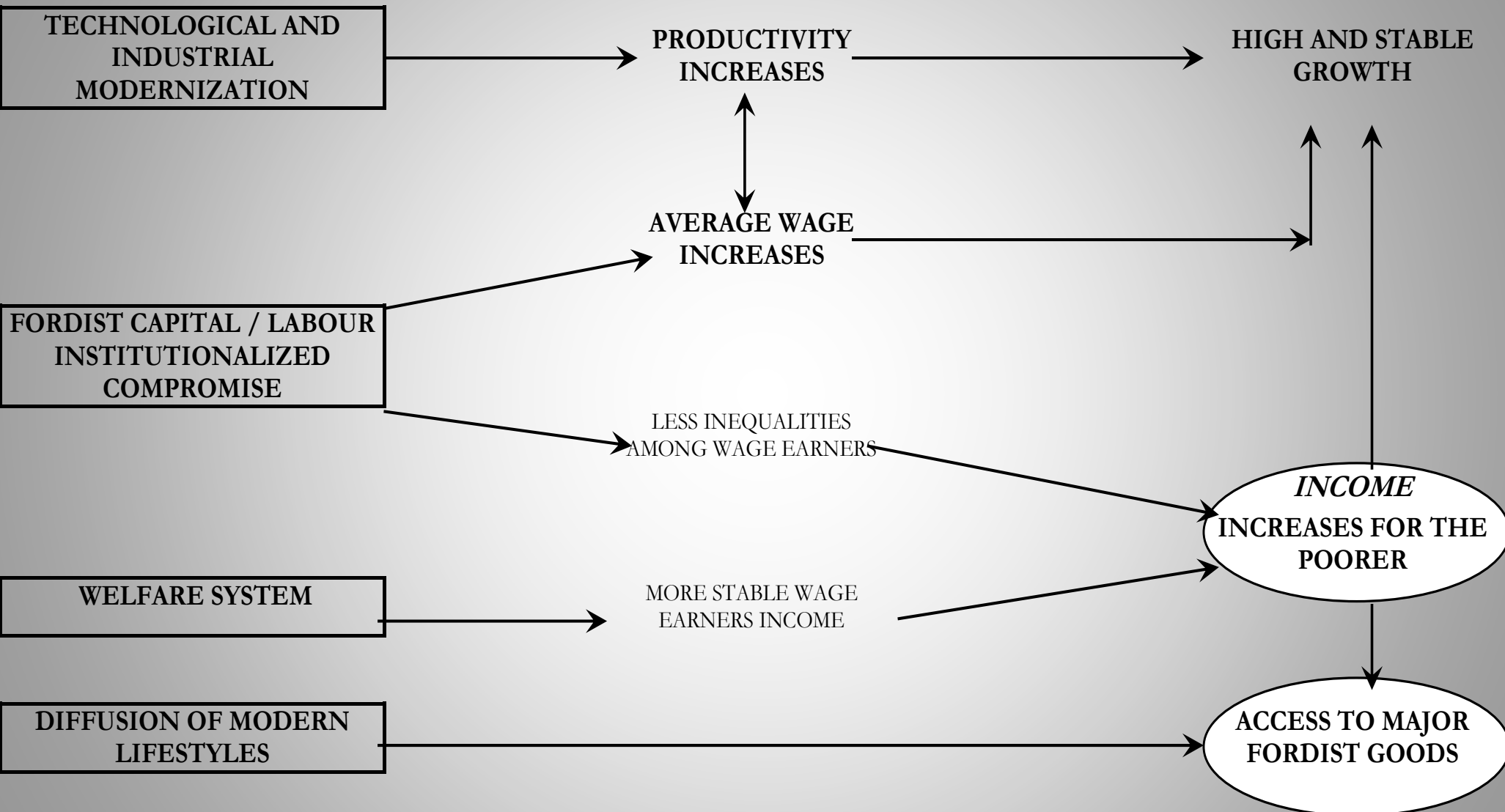
I. FORDISM

*Institutional innovations complement
productive breakthrough*

1. Nature of innovation and development mode

Innovations Development modes	Core innovations	Forces behind innovations	Typical countries	Period
	<ul style="list-style-type: none"> • Productive organization: taylorism, fordism 	<ul style="list-style-type: none"> • Competition among car makers 		
1. Fordism	<ul style="list-style-type: none"> • Institutional: collective agreements 	<ul style="list-style-type: none"> • Rising bargaining power of workers 	US, France	1950-1973
	<ul style="list-style-type: none"> • Conceptual: a new conception for government and macroeconomic policy 	<ul style="list-style-type: none"> • Epochal change associated to the two WW 		

2. **Ex post** these innovations cohere into a new growth regime



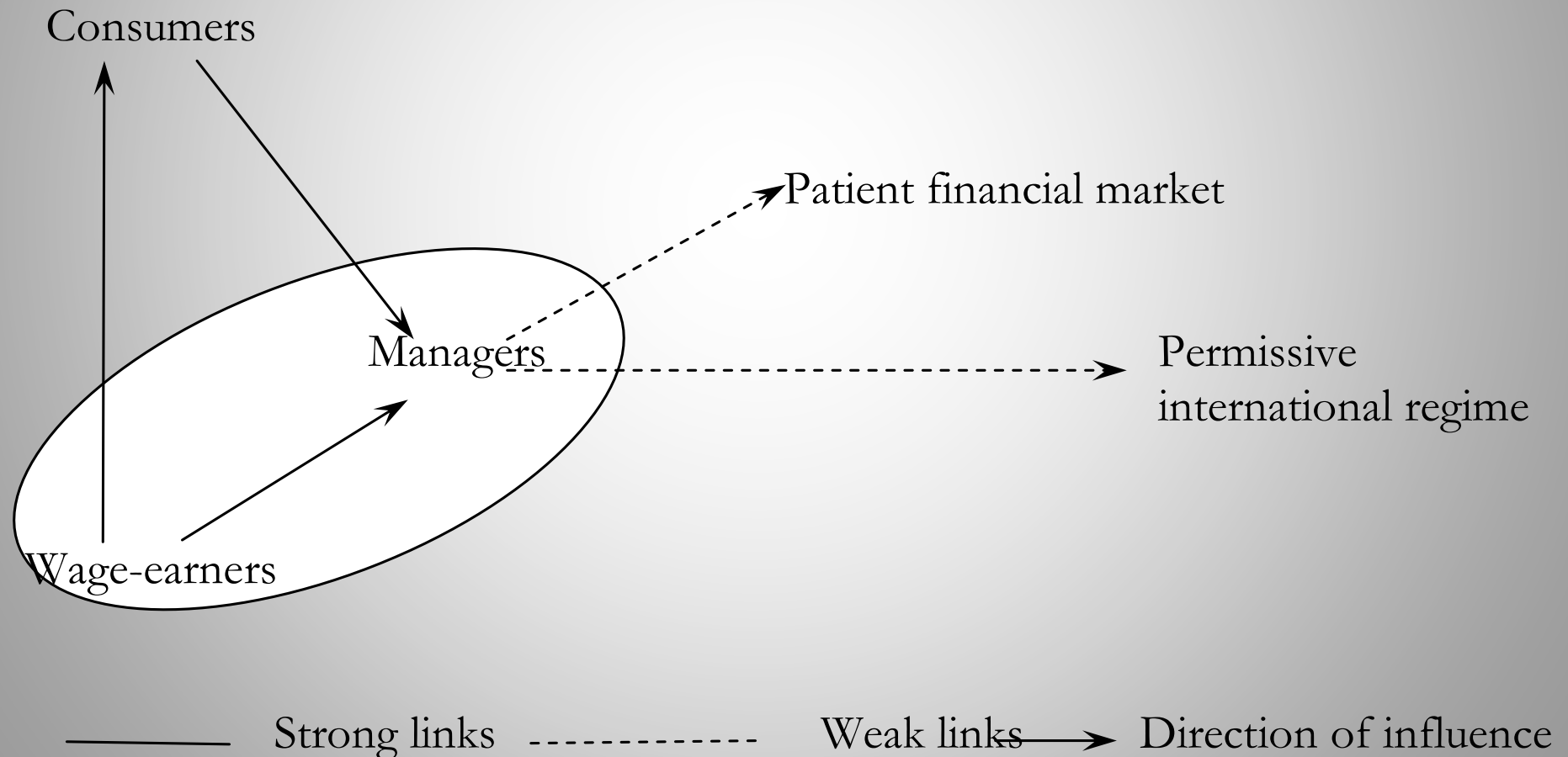
3. Various national configurations for the same growth regime

✓ *The liberal capitalist variant: the United States.*

✓ *The state-led / Social democratic variant:
Europe*

4. Each development mode is embedded into specific sociopolitical compromises

✓ *The 60s: a de facto compromise between managers and wage earners*

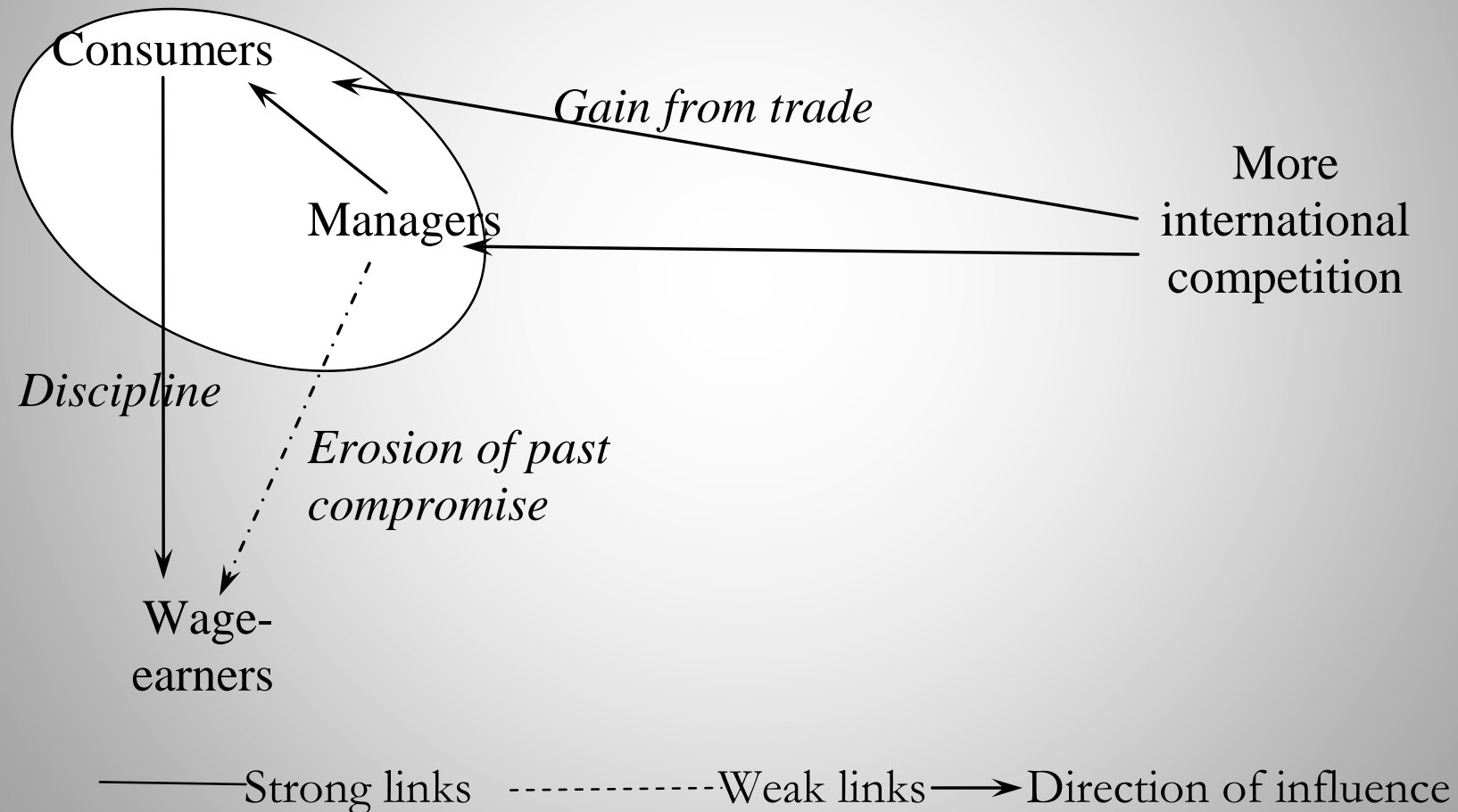


5. The progressive demise of this mass-production / mass-consumption regime

✓ *The opening to world competition.*

✓ *The rise of finance and its impact upon firm governance*

✓ *The 80s: An international competition led regime weakens the bargaining power of wage earners*



II. PROSPERITY BY WELFARE

*The synergy between conceptual and social
innovations*

1. Nature of innovation and development mode

Innovations Development modes	Core innovations	Forces behind innovations	Typical countries	Period
	<ul style="list-style-type: none"> • Conceptual innovation: welfare contribute to social capital 	<ul style="list-style-type: none"> • A large unemployment due to a lack of competitiveness 		
2. Prosperity via welfare	<ul style="list-style-type: none"> • Design of all components of welfare state accordingly 	<ul style="list-style-type: none"> • Ability to negotiate national pacts between business, unions and government 	Netherlands Denmark	1980 1990
	<ul style="list-style-type: none"> • Providing an economic theorizing of such a regime 	<ul style="list-style-type: none"> • Strong voice of citizens in economic policy 		

2. Welfare as a component of social capital, enhancing innovation and growth

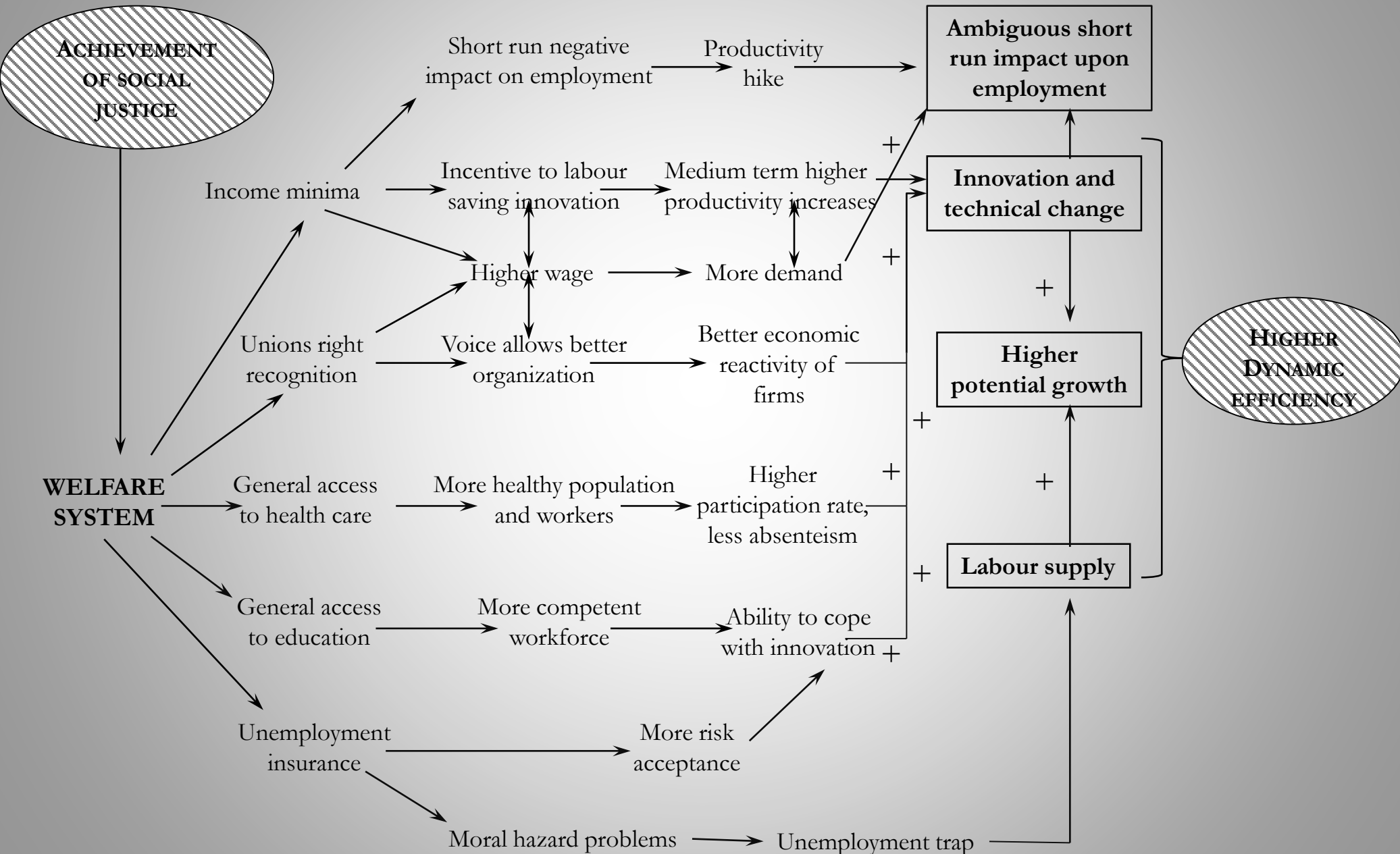
✓ *A legacy of the polder model*

VISSER J. and HEMERIJCK A. (1997), '*A Dutch Miracle*' - Job Growth, Welfare Reform and Corporatism in the Netherlands, Amsterdam University Press.

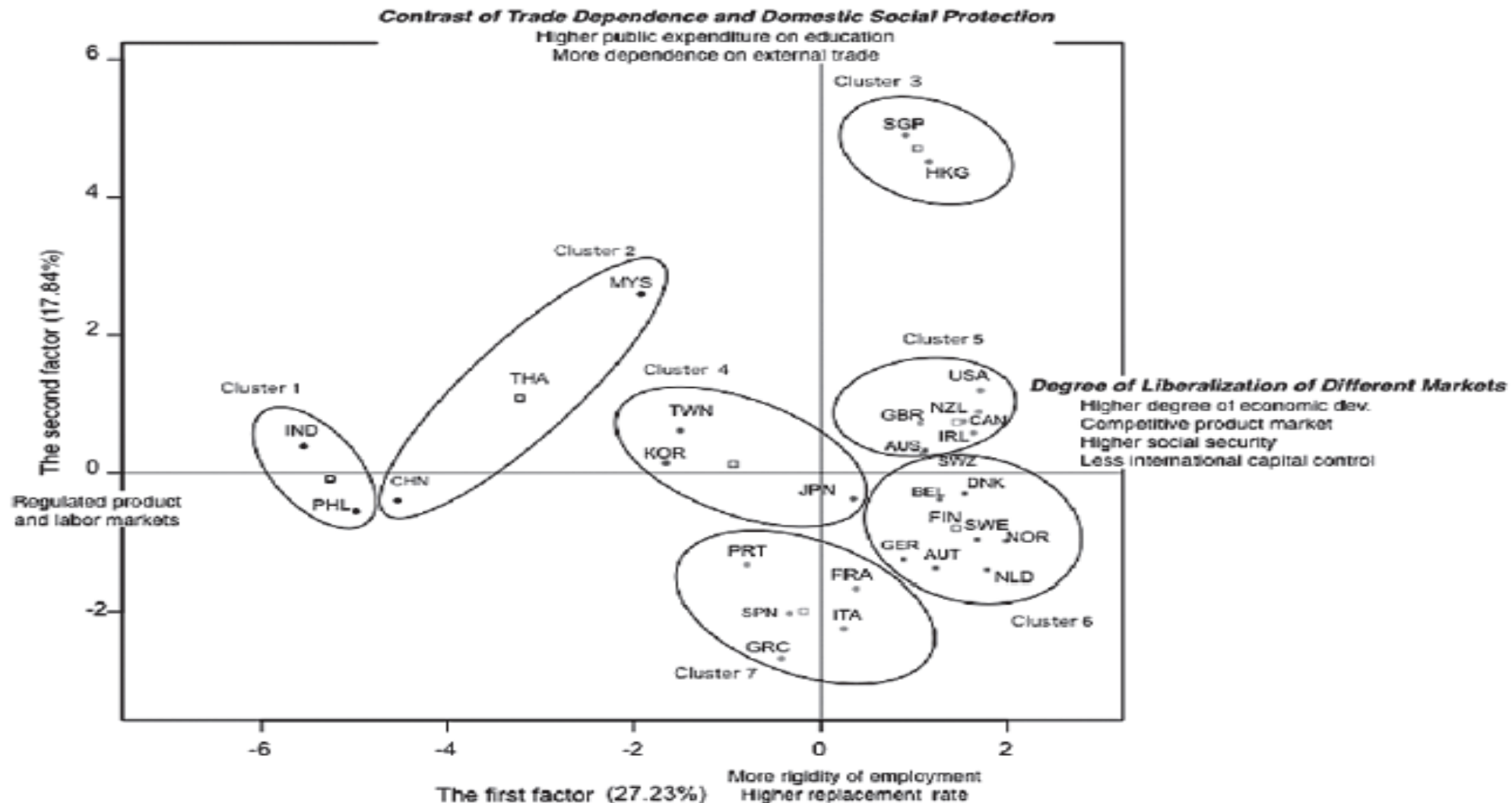
✓ *A powerful analytical tool ...*

.....Alas that has not diffused within the European Union.

How some welfare systems enhance dynamic efficiency



3. Nordic countries are emblematic welfare capitalisms



Source: HARADA Yuji, Hironori TOHYAMA (2012), p. 247

III. ICT (Information and Communication Technologies) LED GROWTH

*The private spill-overs from an ambitious
Defence programme*

1. Nature of innovation and development mode

Innovations Development modes	Direct innovations	Forces behind innovations	Typical countries	Period
	<ul style="list-style-type: none"> Cluster of innovations around digitalization 	<ul style="list-style-type: none"> Spill-over from the Defense program “star-war” 		
3. ICT	<ul style="list-style-type: none"> Modular production in the electronic industry 	<ul style="list-style-type: none"> Deregulation of telecom, transport, public utilities 	US	1980-2000
	<ul style="list-style-type: none"> Silicon Valley, as a new territorial organization of innovation 	<ul style="list-style-type: none"> Markets are now world wide 		

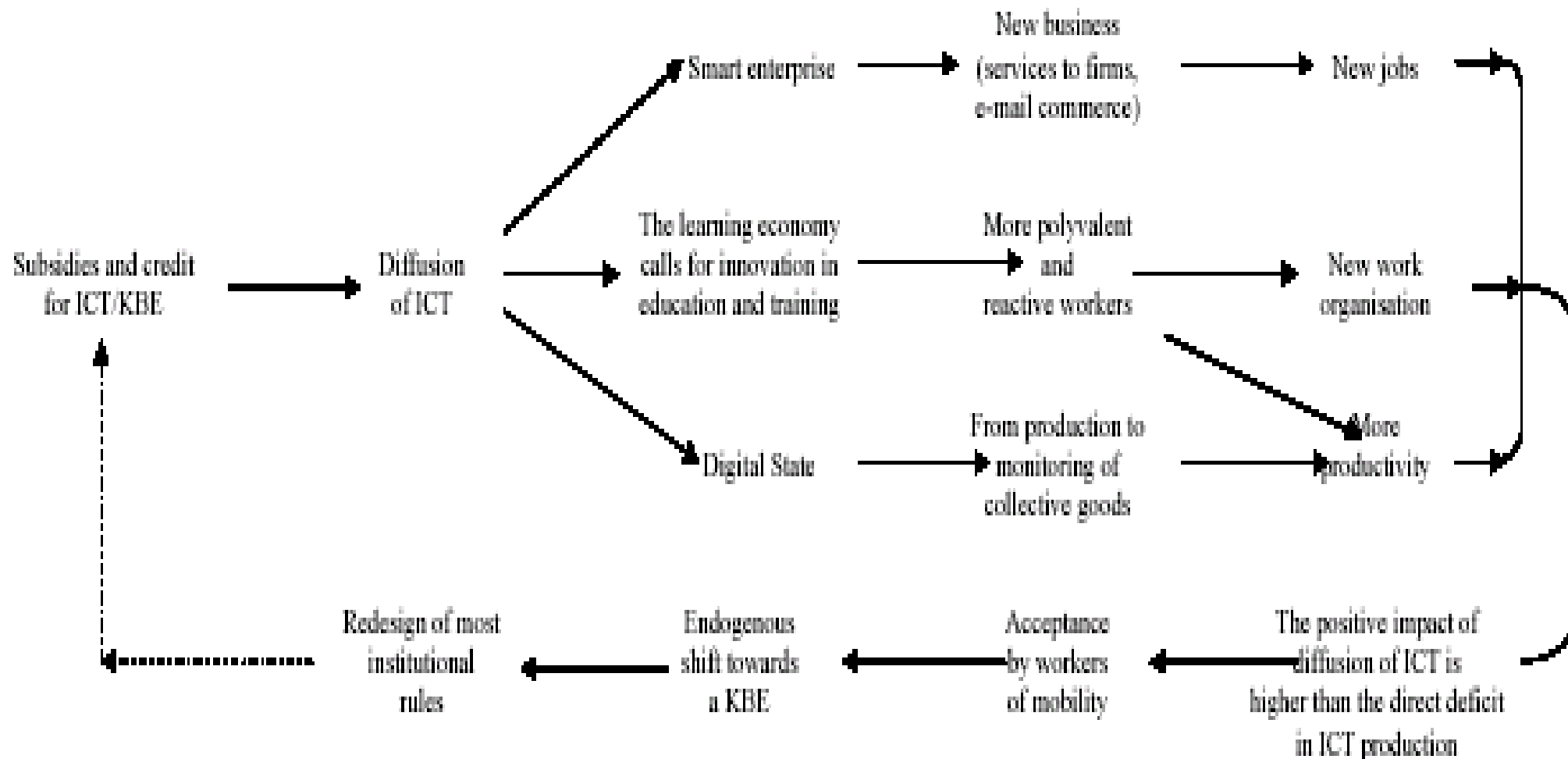
IV. KBE (Knowledge Based Economy)

The privatisation of scientific advances

1. Nature of innovation and development mode

Innovations Development modes	Core innovations	Forces behind innovations	Typical countries	Period
	<ul style="list-style-type: none"> Extended conception of patenting (genome, algorithm) 	<ul style="list-style-type: none"> Bay-Dole Act Marketization of knowledge produced by University 	US	
4. KBE	<ul style="list-style-type: none"> Science based innovation 	<ul style="list-style-type: none"> Rise of intangible capital 	Nordic countries Lisbon Treaty	2000
	<ul style="list-style-type: none"> Power of high speed computers (bio-tech, software for finance..) 	<ul style="list-style-type: none"> Primacy of private RD over public financing of research 		

2. Very positive expectations in the line of a neo-Schumpeterian analysis



3. The contemporary reassessment of the power and the generality of ICT / KBE

- ✓ *A limited impact upon the recovery of total factor productivity*
- ✓ *Some countries produce and use ICT and other only use them*
- ✓ *The value chain is now operating at the world level.*

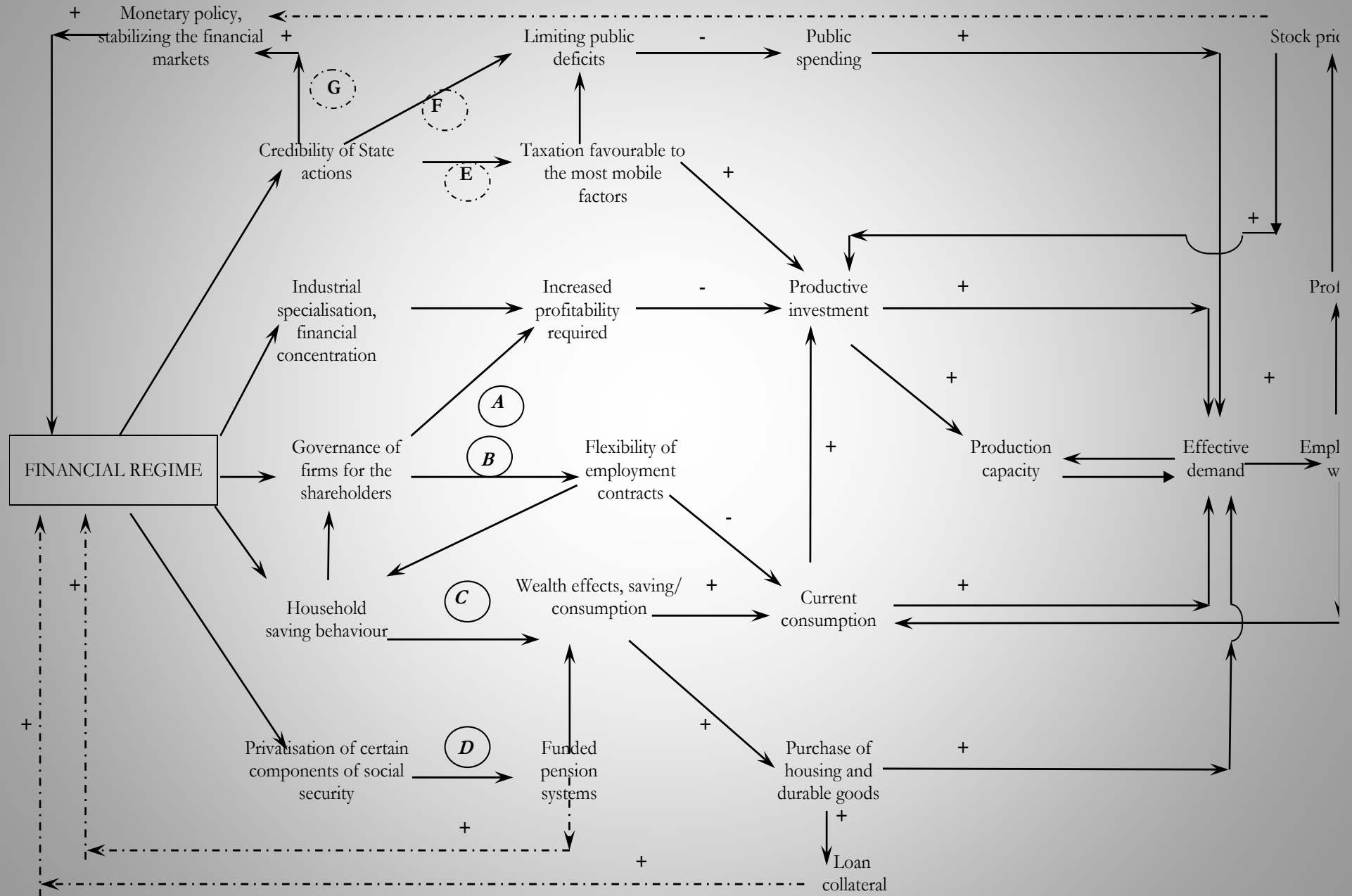
V. THE FINANCE LED REGIME

When physicists become quants

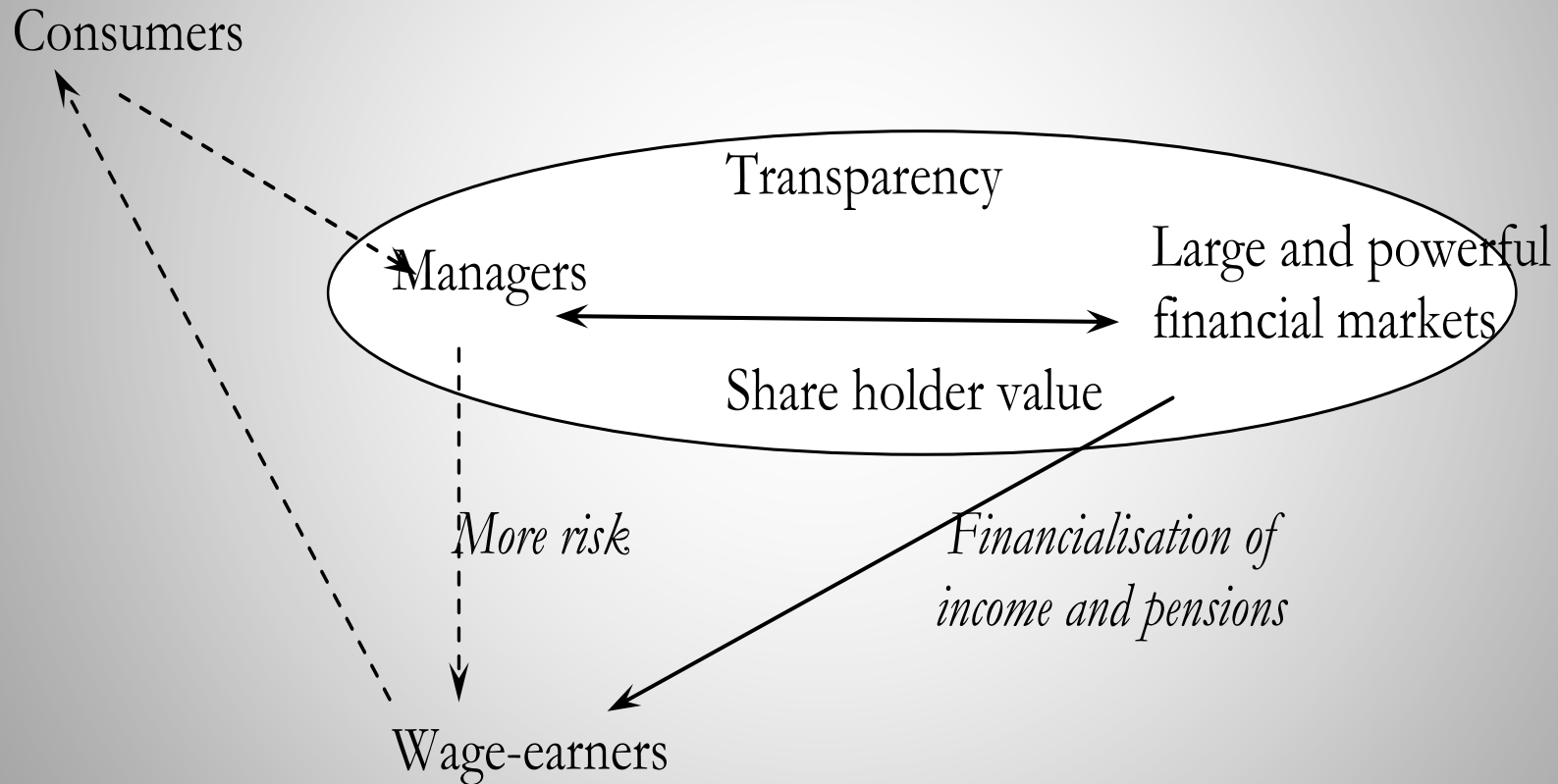
1. Nature of innovation and development mode

Innovations Development modes	Core innovations	Forces behind innovations	Typical countries	Period
	<ul style="list-style-type: none"> Breakthrough in statistical methods of risk valuation 	<ul style="list-style-type: none"> Dynamism of mathematical finance in academia 		
5. Finance-led	<ul style="list-style-type: none"> Actual implementation of related new financial instruments 	<ul style="list-style-type: none"> Full deregulation of financial markets 	US UK	1995-2007 1995-2007
	<ul style="list-style-type: none"> Securitization 	<ul style="list-style-type: none"> Rising power of Wall Street and the City 		

2. A genuine and unprecedented regime

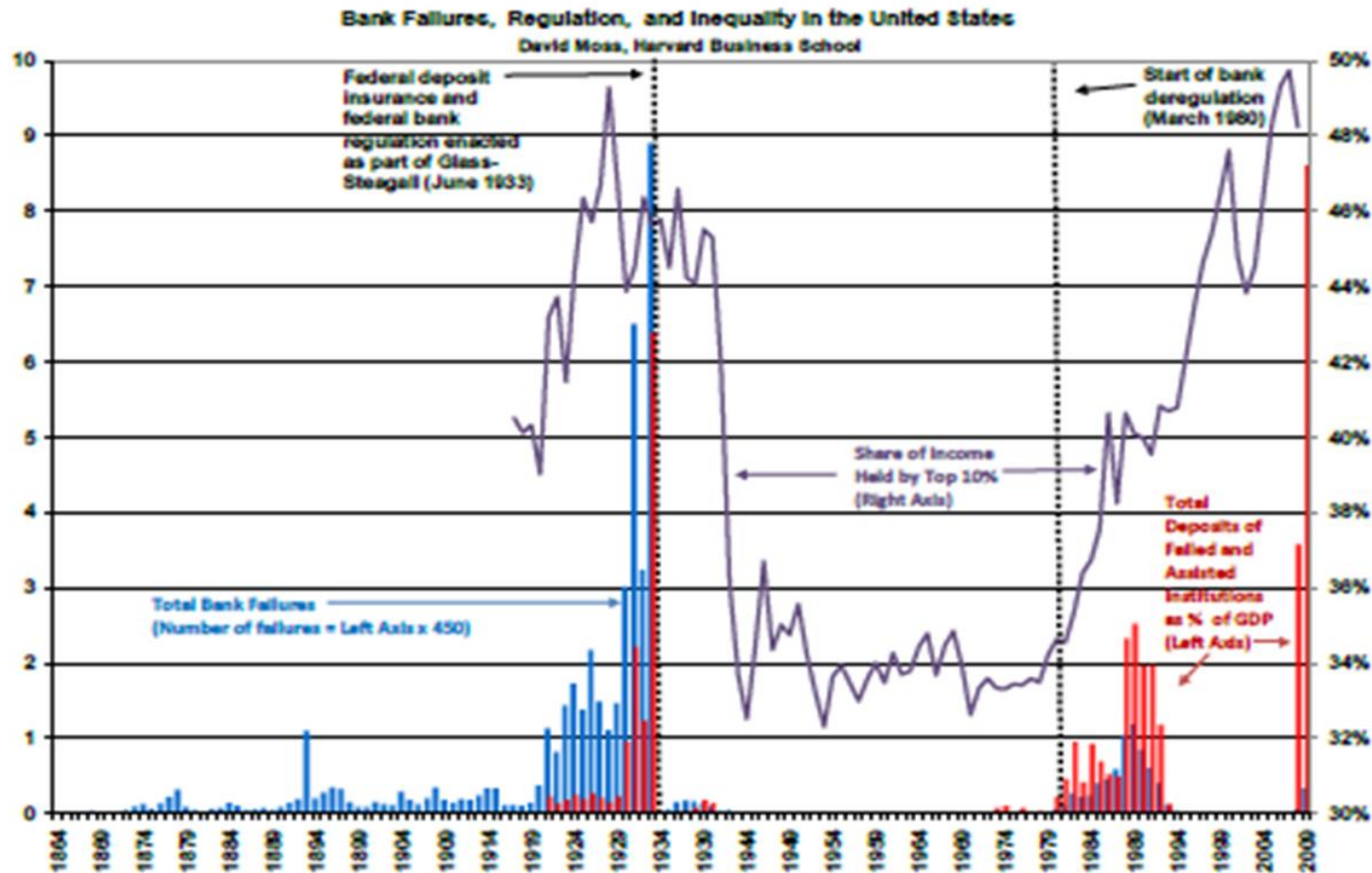


3. The 90s: The ex post alliance of investors and managers



—— Strong links - - - - - Weak links ———> Direction of influence

4. Increasing inequalities and financial fragility and crisis go hand on hand



Source: David Moss
(2010) Comments on
Bank
Failure/Regulation/In
equality Chart, August.

Sources: Historical Statistics of the United States: Colonial Times to 1870 (Washington, D.C.: Government Printing Office, 1970), Series 3, Table 3, p. 1026; "Federal Deposit Insurance Corporation Failures and Assistance Transactions/United States and Other Areas," Table SP-1, FDIC website (<http://www2.fdic.gov/failures/>); Bernard Batlin, "Gross domestic product 1790-2000," Table 1, in: Internet Statistics of the United States: From the Past to the Present (Jefferson, N.C.: Barnes & Noble, 2000), p. 300; Bureau of Economic Analysis, "Gross Domestic Product (GDP) Table 1.1.1.1 (http://www.bea.gov/gdp/gdpmain/gdpmain.asp)"; Thomas Piketty and Emmanuel Saez, "Income inequality in the United States, 1913-1992," Quarterly Journal of Economics, 114(1), 2000, pp. 1-30, with updated data available at <http://www.banqueparibas.com/press/2003/03/03030303.asp>. For an earlier version of this chart, without the inequality overlay, see David Moss, "The Curve of Prosperity," Harvard Magazine, September-October 2005.

Note: David Moss prepared this chart with the assistance of Darrin Christensen and Arthur Kimball Stanley and is deeply indebted to Mitchell Weiss for his insightful observation about the pattern of inequality.

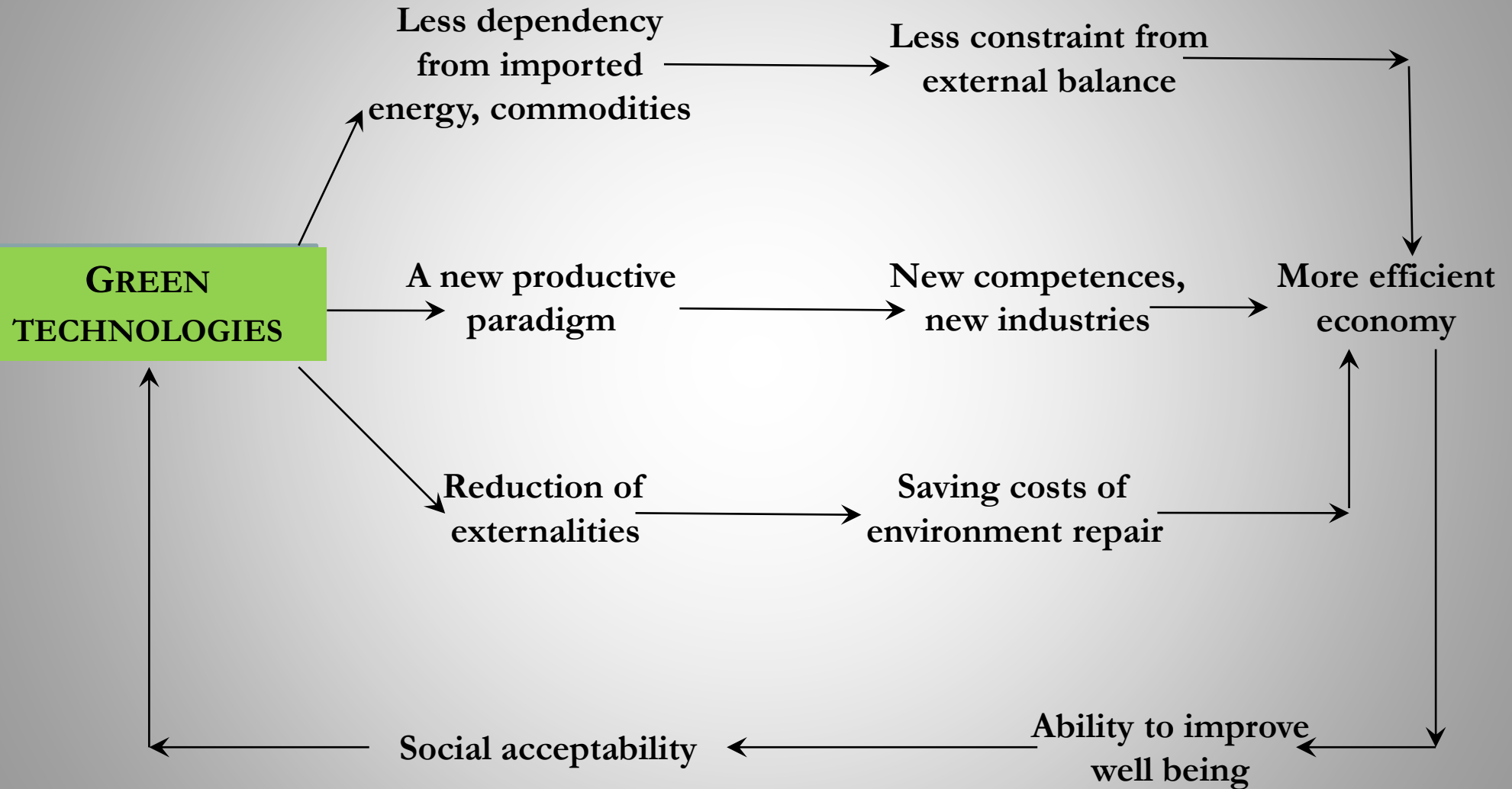
(c) David A. Moss, 2010

See comments on next page →

VI. A GREEN GROWTH

*An epochal change but a complex
and uncertain regime.*

1. The expected virtuous circle of the green economy



2. The issues at stake

- ✓ *Energy, water, pollution, climate change: quite **different issues**.*
- ✓ *Internalizing externalities: **quota and/or price?***
- ✓ *An implicit **trade off** between private consumption and quality of life.*
- ✓ *The balance between **producing** green technologies and **using** them.*
- ✓ *Diverging assessment of climate change and **difficult international coordination**.*

VII. ASSESSING THE LIKELIHOOD OF VARIOUS POTENTIAL DEVELOPMENT MODES.

Limits to present growth Emerging development modes	Technical change slow down	Ecological constraints	Growth without prosperity	Widening social inequalities	Financial Instability and recurring crises
1. ICT and Knowledge Based Economy	Moderate and Inequal impact on productivity	An indirect contribution	Limited impact on perceived wellbeing	Large in market led economies, limited in Nordic countries	Enhanced by ICT
2. Green technologies and societies	A possible next schumpeterian revolution	New innovation pattern but no clear impact on productivity	A shift in the consumption/public welfare trade off	Uncertain impact for individuals and nations	How to stabilize expectations for energy and CO2 prices?
3. Degrowth	A reversal of two centuries industrial revolutions	Ecological sustainability is the founding principle	A complete redesign of life styles and production	Call for large redistribution policies	Collective control of global finance promotes local productive activities
4. Prosperity and Welfare Economies	Public goods led innovation system: health, education, culture	Social sustainability as important as ecological sustainability	Human Development Indexes replace GDP as key objective	Public goods promote a better equality	Credit control and healthy public finance
5. Mixing State and markets: the mixed Economy	Public monitoring of innovation systems	Collective norms on top of market mechanisms to limit ecological destruction	A new trade off between production and wellbeing	A limit upon maximum remuneration by law or progressive taxation	State is the guarantor of monetary, and financial stability

VIII. A WORLD OF CONTRASTED AND INTERDEPENDENT DEVELOPMENT MODES

LATIN AMERICA

①

Structural heterogeneity
but reduced

②

More democracy, more
response to social demand

③

More taxes, learning from
past crises

④

Dynamism of exports of
primary resource

**Commodity export
driven**

UNITED STATES

Opening to foreign
competition

①

Split in the workers
/ Managers alliance

Delocalization of
mass production

②

Weaker bargaining
power of blue collar
workers

New productive
paradigm

③

Employment, discrimination
by schooling / Social
groups

Financialisation

④

Explosion of capital
remuneration

- **Financial
innovation
led**
- **External
unbalances**

*Mutually
reinforcing
diverging
trajectories*

- **Investment/
export led**
- **Competitive
pressures on
the world**
- **Help to
American
finance**

ASIA

①

Destruction of
collective welfare

②

Export-led
growth

③

Kuznets phase 1
inequality

④

Blocking of
social demands

Marketization

Foreign Direct
Investment

Productive
modernization

Centralisation /
Monopoly of power

**The crisis puts at risk
welfare capitalisms**

Financial limits to welfare

Competitive pressures

Slower growth

Less tax basis

Large increases of top income

Single Market

Lag in new
productive paradigm

Outflow of FDI

De facto financialisation

①

②

③

④

EUROPE

IX. CONCLUSION

Some teachings from history

C1 – None of the major crises resulted in an amendment to the margin of the previous development model. **The future does not repeat the past**, farewell to the illusion of a return to a mythical Golden Age.

C2 –Technological revolutions bear fruit only after a painful process in order to synchronize a whole set of organizations, institutions, skills, public interventions within a new geography and geopolitics.

C3 –The multiplicity of actors, interests and visions involves a long process before the emergence of a viable development mode: it is a matter of generation, not of few years.

C4 –The **short-termism of the financial markets** and the **political timetable**, focused upon election and reelection, play **against** the collective mastery of future socio-economic regimes, especially in ecological terms.

C5 –The **interweaving** of technical, social and political innovations processes is combined with the multiplicity of **international interdependencies** to produce **unprecedented complexity** of the ways out of contemporary crises.

C6 –The development models of the twenty-first century will be **composite** as a result of the interaction of **bottom-up and top-down** processes that articulate a myriad of innovations transforming all spheres of contemporary societies.

C7- Since history is not only repetition but **innovation, many surprises** are to be expected and **a century** is quite long indeed.

**Thanks for your attention
and patience**

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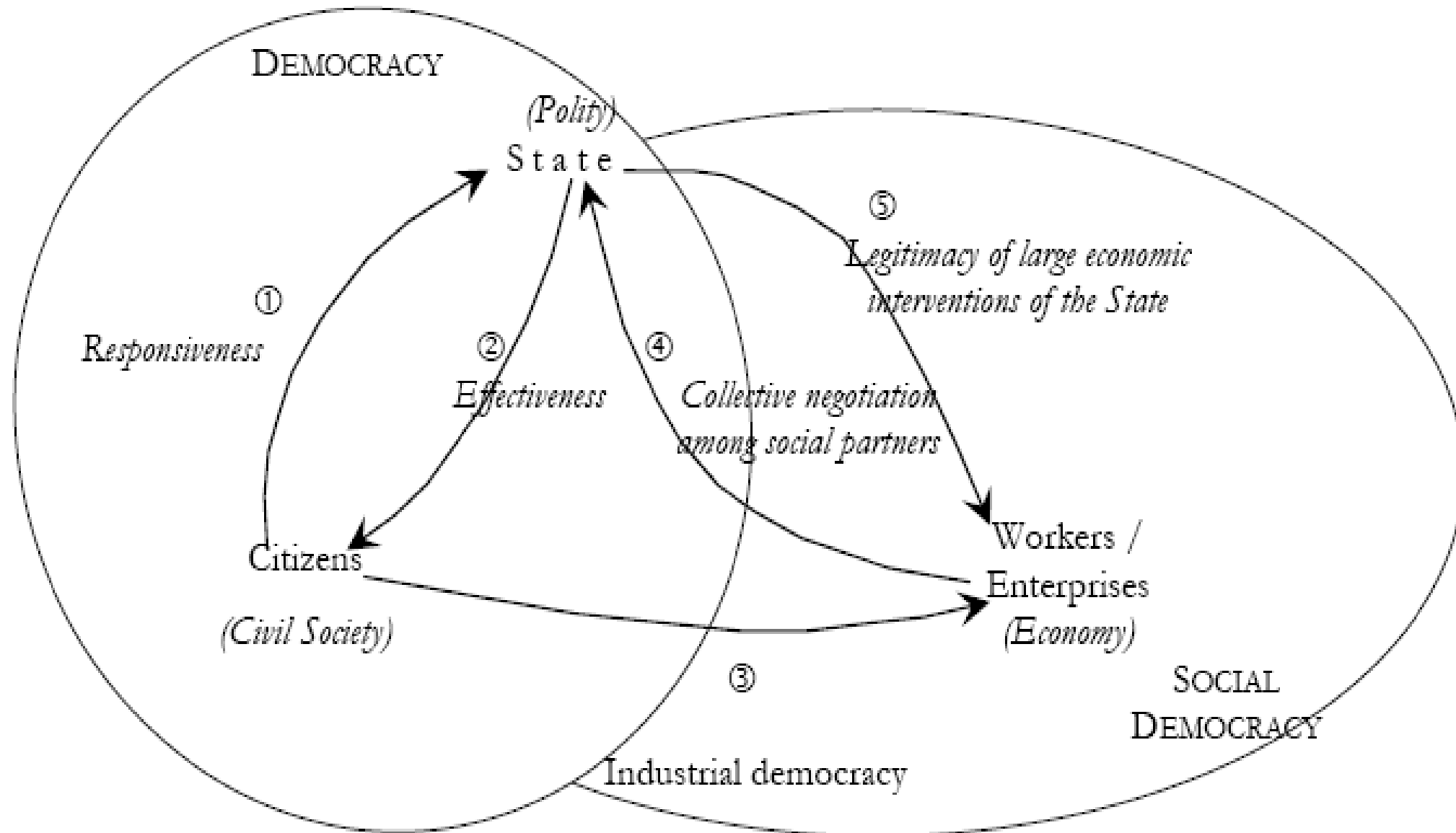
<http://robertboyer.org/>

X. AN EGALITARIAN SCENARIO

1. Nature of innovation and development mode

Innovations Development modes	Core innovations	Forces behind innovations	Typical countries	Period
	<ul style="list-style-type: none"> Progressive personal income tax and capital income tax 	<ul style="list-style-type: none"> Public opinion protests against explosion of top incomes 		
6. An egalitarian scenario	<ul style="list-style-type: none"> Universal welfare 	<ul style="list-style-type: none"> Workers and Citizens movements 	Nordic countries	1980-2010
	<ul style="list-style-type: none"> Democratic access to education, health,... 	<ul style="list-style-type: none"> Social democratic project and party 		

2. The synergy between citizens' universal rights and wage-earners search for security



3. Still limited inequality in some EU countries ..

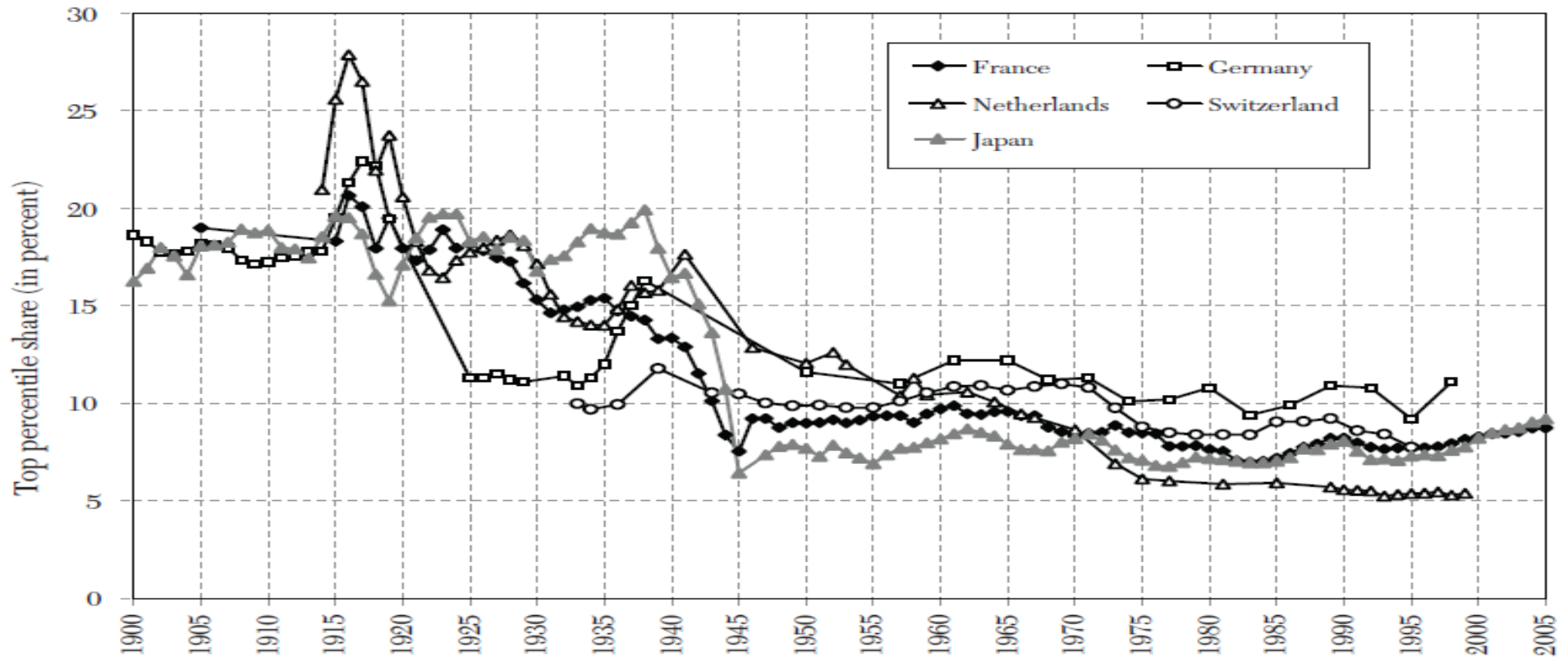


Figure 9. Top 1 Percent Share: Middle Europe and Japan (L-shaped), 1900–2005

Source: Atkinson and Picketty (2007, 2010).

..but explosion of inequality in English speaking countries

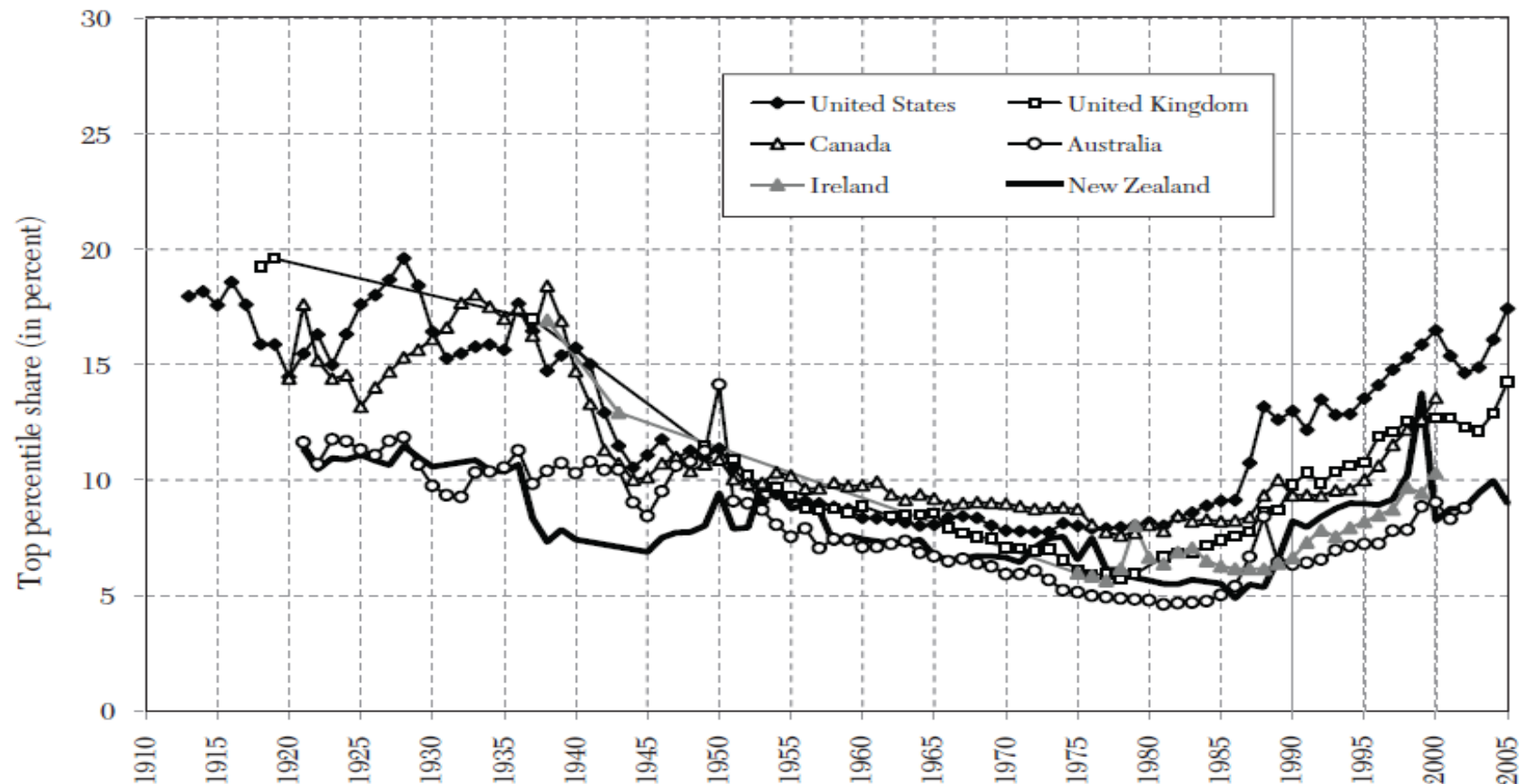
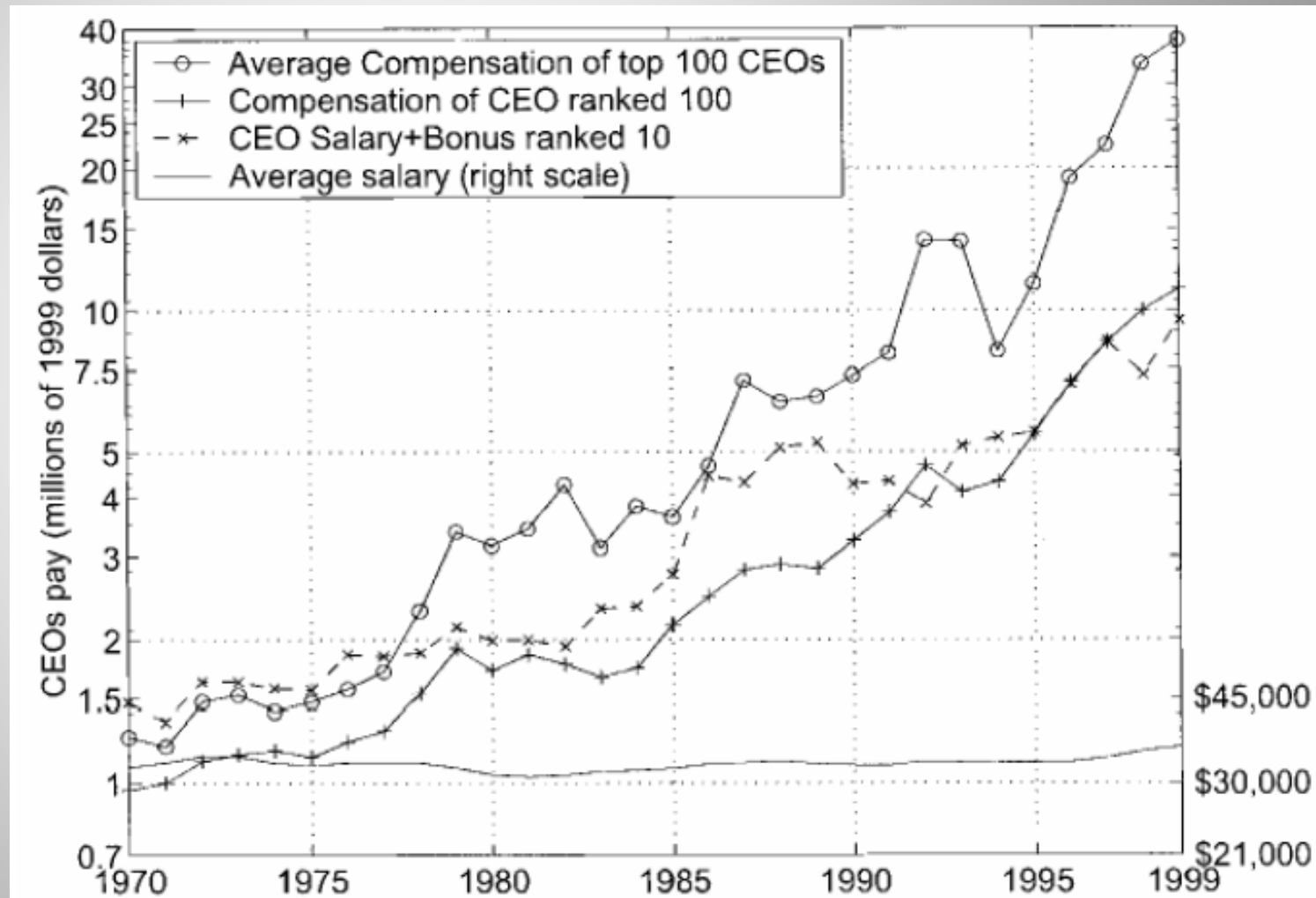


Figure 8. Top 1 Percent Share: English Speaking Countries (U-shaped), 1910–2005

Source: Atkinson and Piketty (2007, 2010).

4. Stagnating real wage, explosion of top manager remunerations

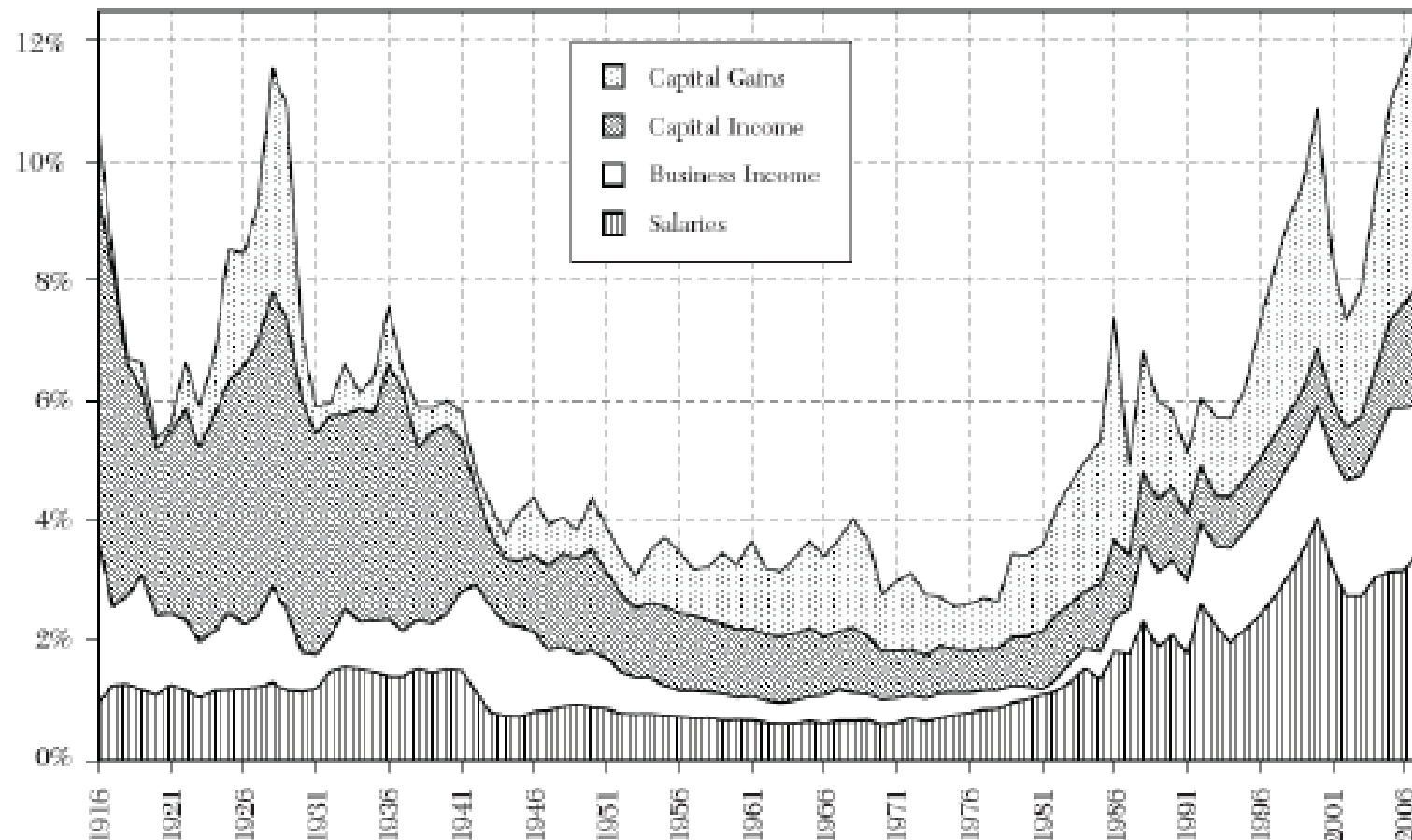
*The
consequence of
the divorce
between wage-
earners and
managers*



Source: Piketty & Saez, 2003, p. 33, figure 11.

5. The rise of finance: the main source of explosive income inequalities

Graph 22 – Capital gain and income are the main sources of the rise of inequalities from the top of the distribution



Atkinson Anthony B., Piketty Thomas, Emmanuel Saez (2011), "Top Incomes in the Long Run of History", *Journal of Economic Literature*, Vol. 49 (1) : 8.