



Finland at the Frontier of Knowledge Economy

Dr. Timo J. Hämäläinen

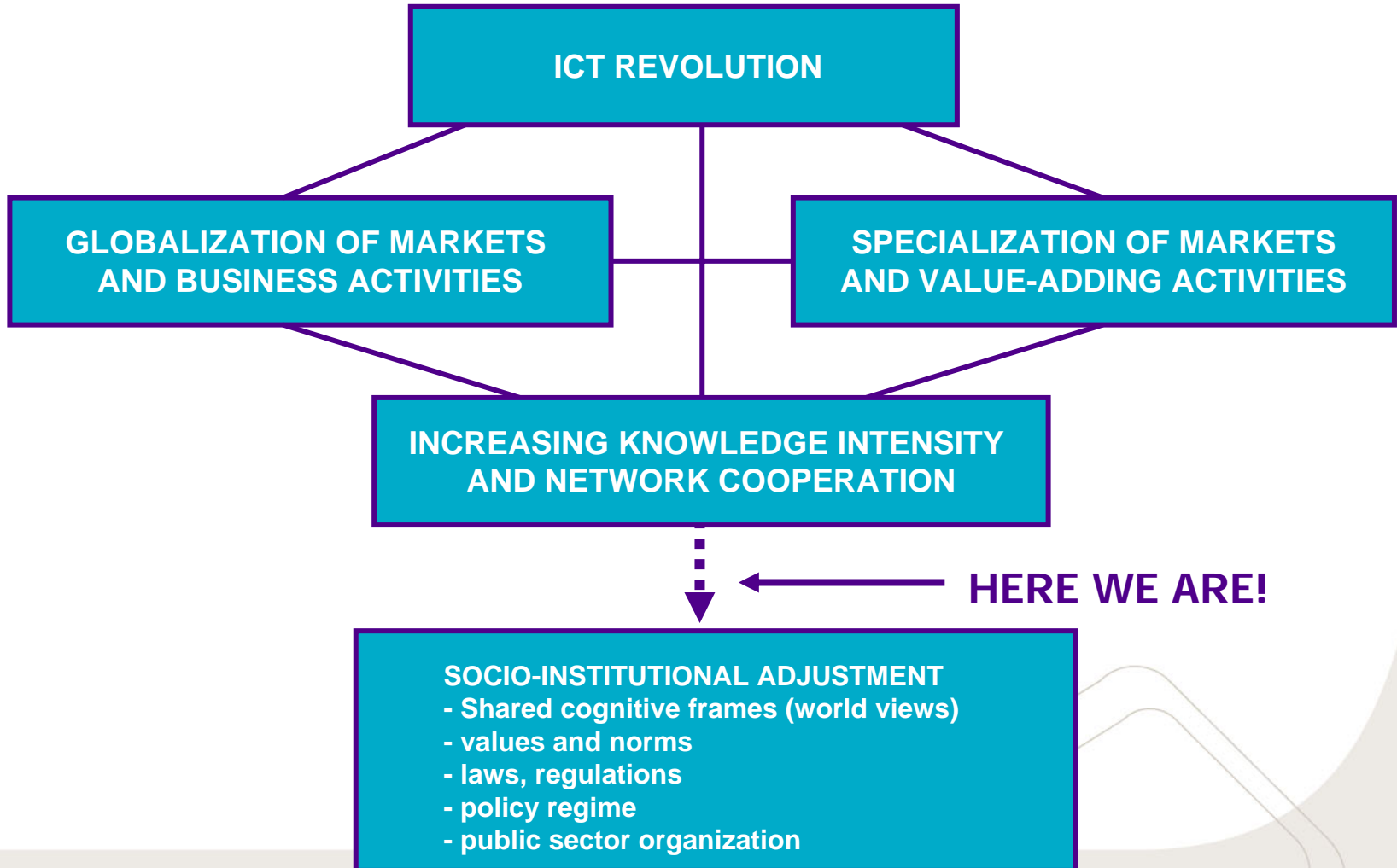
timo.hamalainen@sitra.fi

Sitra, The Finnish Innovation Fund

in "Knowledge Economy Behind the Scenes"

Westin Hotel, Jeddah, Saudi Arabia, 2. June 2008

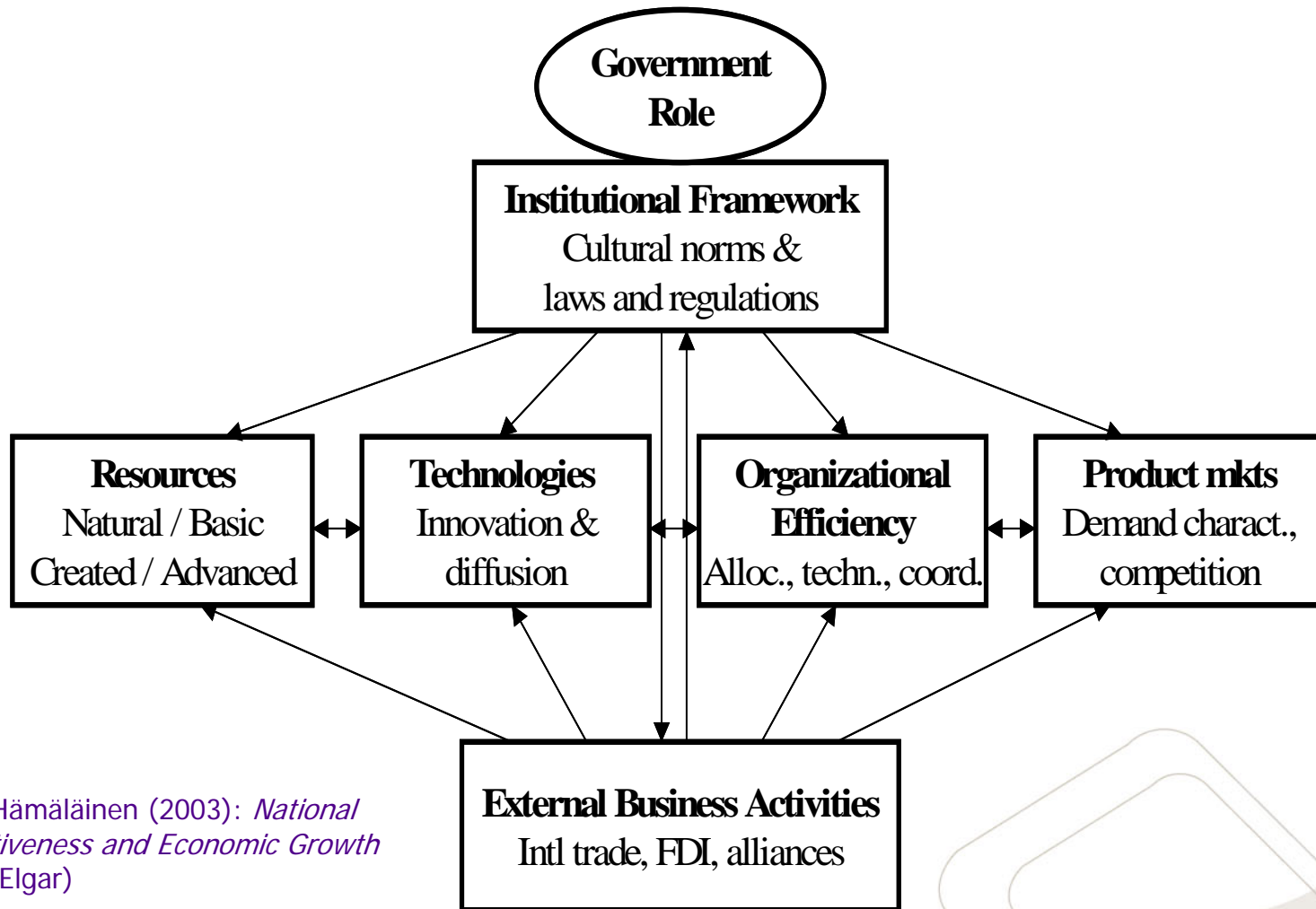
Historical Paradigm Shift Challenges Industrial Societies



Outline of Presentation

1. Changing determinants of competitiveness
2. Social innovation processes
3. Finland's transformation to knowledge society
4. Policy challenges and implications
5. Vision of Finland as the pioneer of a new sustainable socio-economic paradigm

Systemic Change in Determinants of National Competitiveness



Source: Hämmäläinen (2003): *National Competitiveness and Economic Growth* (Edward Elgar)

Rapid Changes in National Competitiveness

Competitive- ness ranking:	Early 1980s		Late 1980s		Early 1990s		Mid-1990s		Late 1990s		Early 2000s	
1.	Canada	0.62	USA	1.27	Japan	0.82	Sweden	0.85	USA	1.04	USA	1.18
2.	Switzerland	0.46	Switzerland	1.19	USA	0.69	Finland	0.71	Finland	0.87	Finland	1.00
3.	Australia	0.43	Japan	0.7	Sweden	0.47	USA	0.62	Switzerland	0.73	Canada	0.75
4.	USA	0.42	Germany	0.65	Netherlands	0.45	Canada	0.59	Netherlands	0.55	Ireland	0.53
5.	Sweden	0.41	United Kingdom	0.62	Canada	0.42	Switzerland	0.56	Canada	0.53	Sweden	0.53
6.	Japan	0.23	Sweden	0.6	Switzerland	0.38	United Kingdom	0.5	Denmark	0.43	Switzerland	0.49
7.	Germany	0.2	Canada	0.52	Denmark	0.34	Japan	0.44	Australia	0.41	Netherlands	0.36
8.	Netherlands	0.18	Netherlands	0.52	Germany	0.29	Norway	0.41	Sweden	0.37	Australia	0.29
9.	Finland	0.15	Belgium	0.14	United Kingdom	0.27	Denmark	0.34	Ireland	0.30	Denmark	0.24
10.	United Kingdom	0.11	Australia	0.08	New Zealand	0.2	Netherlands	0.32	Norway	0.25	Austria	0.21
11.	New Zealand	0.1	France	0.01	Belgium	0.16	Australia	0.22	Japan	0.24	Belgium	0.12
12.	France	0.01	Finland	-0.02	Australia	-0.04	New Zealand	0.21	United Kingdom	0.23	United Kingdom	0.08
13.	Norway	0.01	Denmark	-0.06	Norway	-0.05	Germany	0.1	Belgium	0.11	Japan	0.02
14.	Austria	-0.01	Austria	-0.12	Finland	-0.08	France	0.01	Germany	0.06	New Zealand	0.02
15.	Denmark	-0.02	New Zealand	-0.17	Austria	-0.12	Belgium	-0.02	New Zealand	-0.11	Germany	0.02
16.	Belgium	-0.06	Norway	-0.24	France	-0.13	Ireland	-0.04	Austria	-0.27	Norway	-0.05
17.	Greece	-0.27	Ireland	-0.3	Ireland	-0.18	Austria	-0.09	France	-0.37	France	-0.41
18.	Ireland	-0.27	Portugal	-0.79	Portugal	-0.63	Portugal	-0.75	Portugal	-0.45	Spain	-0.70
19.	Spain	-0.38	Italy	-0.8	Turkey	-0.63	Spain	-0.83	Spain	-0.62	Portugal	-0.86
20.	Portugal	-0.62	Spain	-1	Greece	-0.66	Italy	-1.06	Italy	-1.32	Italy	-0.90
21.	Italy	-0.63	Greece	-1.18	Spain	-0.9	Greece	-1.47	Turkey	-1.35	Turkey	-1.42
22.	Turkey	-1.05	Turkey	-1.6	Italy	-1.1	Turkey	-1.62	Greece	-1.64	Greece	-1.51

Source: Hämmäläinen (2003) and Hämmäläinen & Heiskala (2007): *Social Innovations, Institutional Change and Economic Performance* (Edward Elgar)

Next Phase in the World Economy: Forging ahead Again?

Difference from the per Capita GDP Growth of the Leading Country (USA), 1913 - 1989

Country	1913-50	1950-89
Austria	-1,4	1,9
Belgium	-0,9	0,9
Denmark	-0,1	0,6
Finland	0,3	1,7
France	-0,4	1,2
Germany	-0,8	1,7
Italy	-0,7	2,0
Netherlands	-0,5	0,6
Norway	0,6	1,2
Sweden	0,6	0,5
United	-0,7	0,3
Australia	-0,8	0,2
Canada	-0,1	0,7
Czechoslovak	-0,2	0,4
Greece	-1,0	2,3
Hungary	-0,8	0,6
Ireland	-0,8	1,0
Portugal	-0,8	2,0
Spain	-1,3	1,8
Soviet Union	0,7	0,6

Source:
Maddison (1995)

National Competitiveness during Techno-Economic Paradigm Shifts

- A paradigm shift in the world economy opens a “**window of opportunity**” for the leading catching up countries to pass by the old leading countries.
- During after a major paradigm shift, the competitiveness and growth of national economies depends on their
 - particular socio-economic **starting point** and
 - **adjustment capacity** relative to the new paradigm.
- Quick and balanced adjustment to the new techno-economic environment leads to “**increasing returns**” and rapid economic growth due to systemic interdependencies, complementarities, synergies and feedback loops
- Slow and partial adjustment leads to increasing systemic contradictions, “**decreasing returns**” and poor economic performance

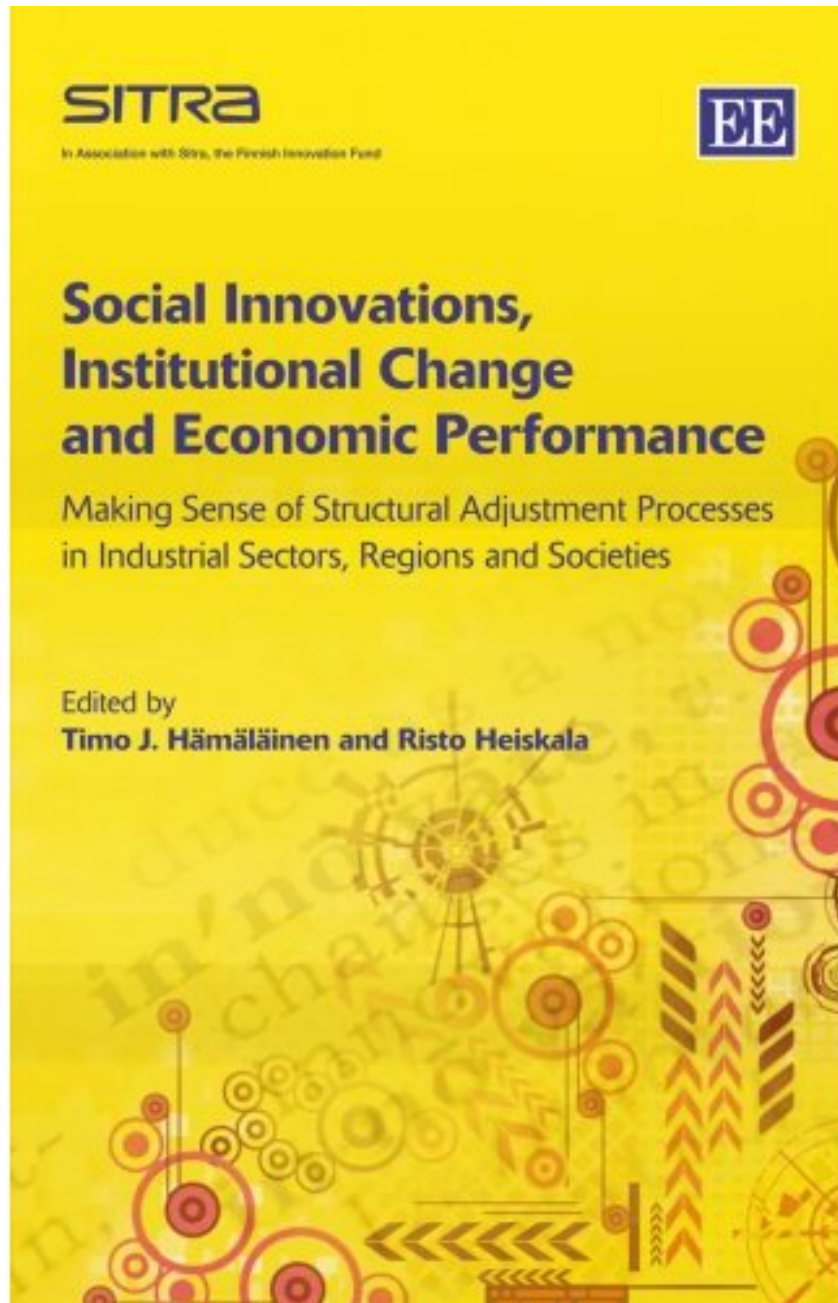
Key questions

- Why do some societies, sectors, regions and organizations get stuck while others are able to change their structures? →→
- What are social innovation and structural change processes like?
- What could be done by policy makers to facilitate smooth and proactive change processes?
- ➔ Sitra's research project on "Social innovation, structural change and economic performance" 2002 - 2004.

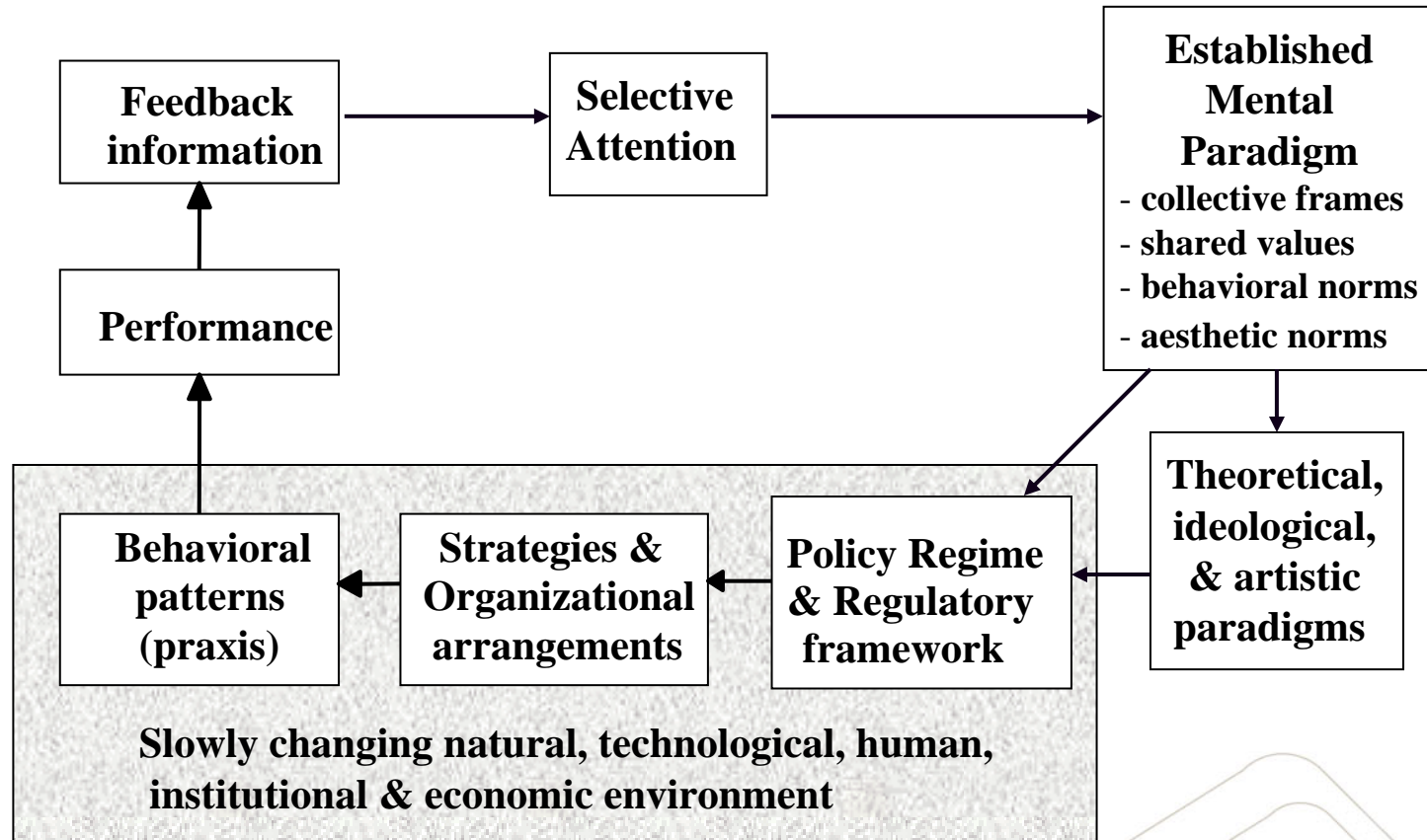
Social Innovations, Institutional Change and Economic Performance

Making Sense of Structural Adjustment Processes
in Industrial Sectors, Regions and Societies

Edited by
Timo J. Hämäläinen and Risto Heiskala



Incremental Change in Stable Environments

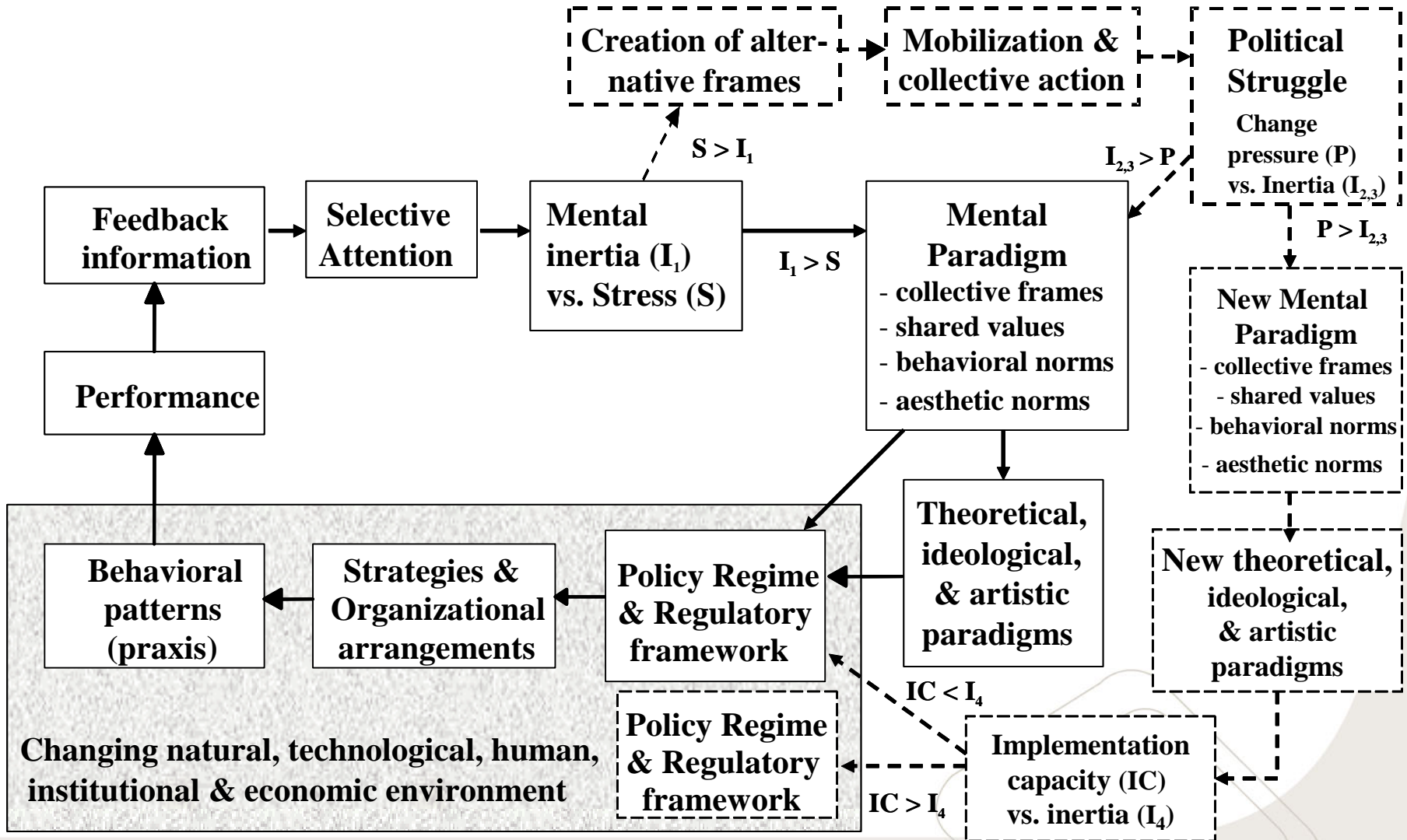


Accumulating Inertia in Social Systems

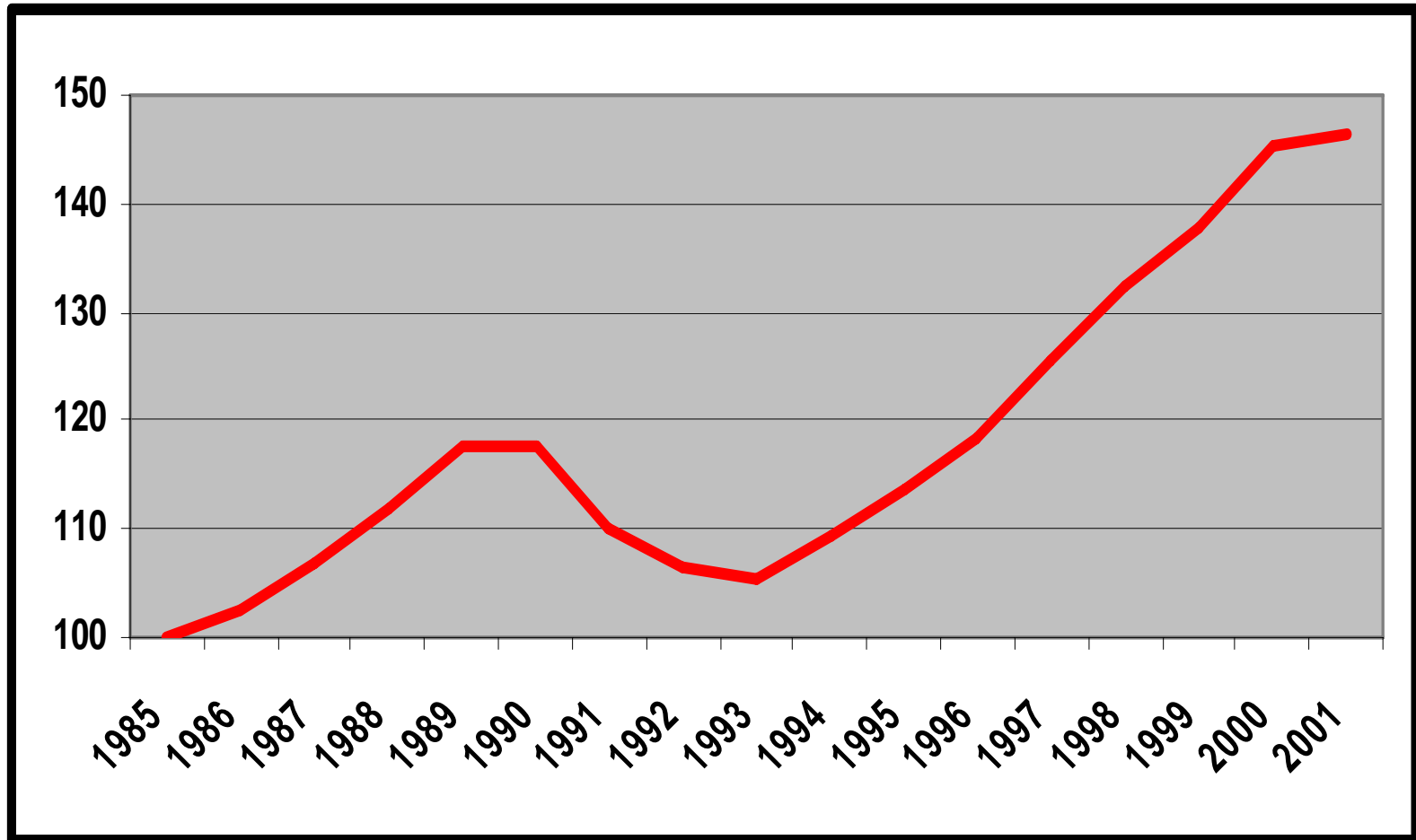
- Mental inertia I_1 (people like "stable state")
- Economic inertia I_2 (change involves losers)
- Social inertia I_3 ("don't rock the boat")
- Systemic inertia I_4 (difficult to implement complex, systemic change processes)



Social Innovation and Structural Change



Finland's Economic Crisis in the Early 1990s (GDP 1985=100)



Mental and Structural Change in Finland

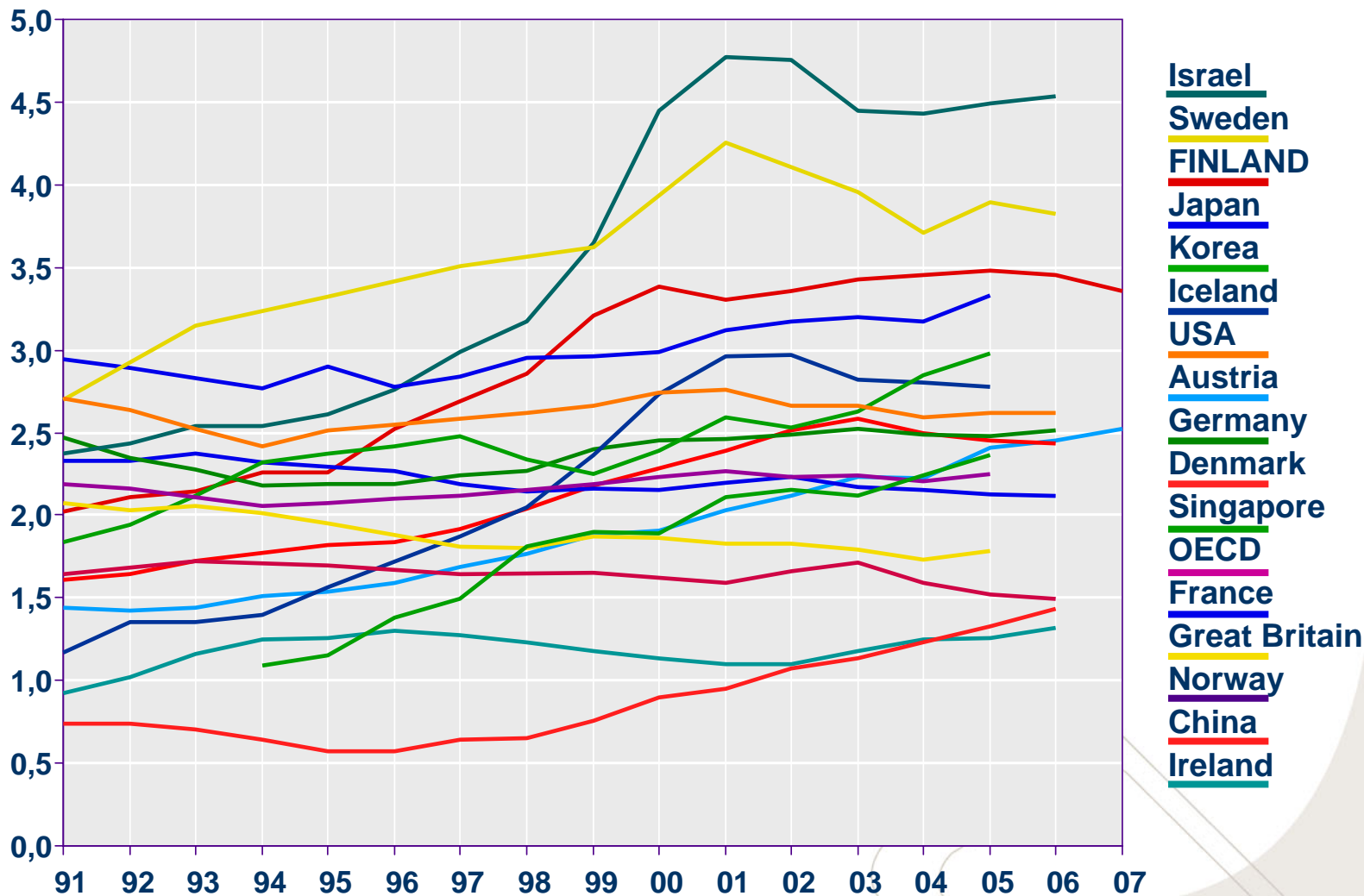
SYSTEM CHARAC- TERISTICS	POSTWAR MENTAL PARADIGM	NEW MENTAL PARADIGM IN THE 1980'S AND EARLY 1990'S	STRUCTURAL CHANGES IN THE 1990'S
Coordination mechanism	Hierarchical planning	Market mechanism	New organizational arrangements (corporate governance reform, networking), new public management (privatization, management by objectives, decentralization, law on public procurement)
National economy	Closed and regulated	Open and competitive	Deregulation of financial markets and foreign investments, increasing exports and FDI by Finnish firms, EU-membership, deregulation of markets for goods and services, improvements in competition law and its enforcement, EMU-membership
Key sectors of economy	Forest and metal industries	High technology sectors	Rapid growth of the telecommunications sector
Competitiveness strategy	Physical investments and currency devaluations	Knowledge and technology	Rapid growth R&D investments, development of VC markets, creation of the polytechnic system, mgmt by objectives introduced in universities, increasing numbers of new Ph.D.s

Mental and Structural Change in Finland

Main goal of government	Social and regional equality	Economic growth and efficiency	Reform of industrial policy (reduction of investment and regional subsidies, increase in R&D subsidies, improving effectiveness of competition policy, development of service sector), cuts in public income transfers (incl. reduction in employment and income “traps”)
Role of citizens	People to be governed	Customers to be served	Decentralization and reform of public sector activities (mgmt by objectives, one-stop service)
Role of labor market organizations	Strong participation in labor market and public decision making (corporatism)	Collective agreements on industry or firm basis; no participation in public policy making	Two successive rounds of industry level agreements in the early 1990s, then return to economy-wide agreements
Culture	Homogenous values and preferences, collectivism, conservatism, national protectionism	Heterogeneous values and preferences, individualism, readiness for change, freedom and openness	Abolishment of paternalistic regulation in alcohol, communication (TV, radio), education and cultural policies and growth of foreign immigration to Finland.

R&D Investments

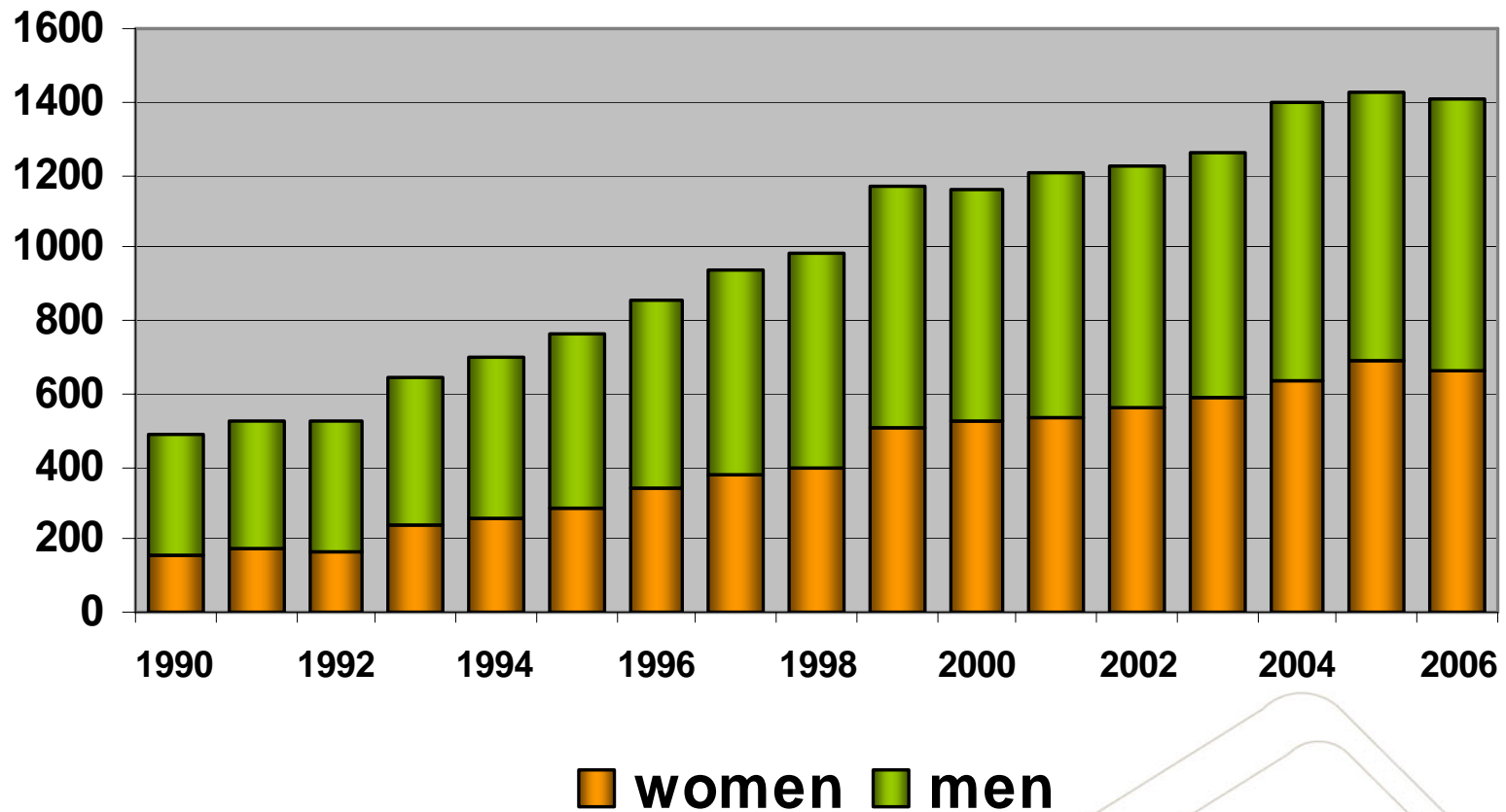
Percentage of GDP



Sources: OECD, Main Science and Technology Indicators and Statistics Finland

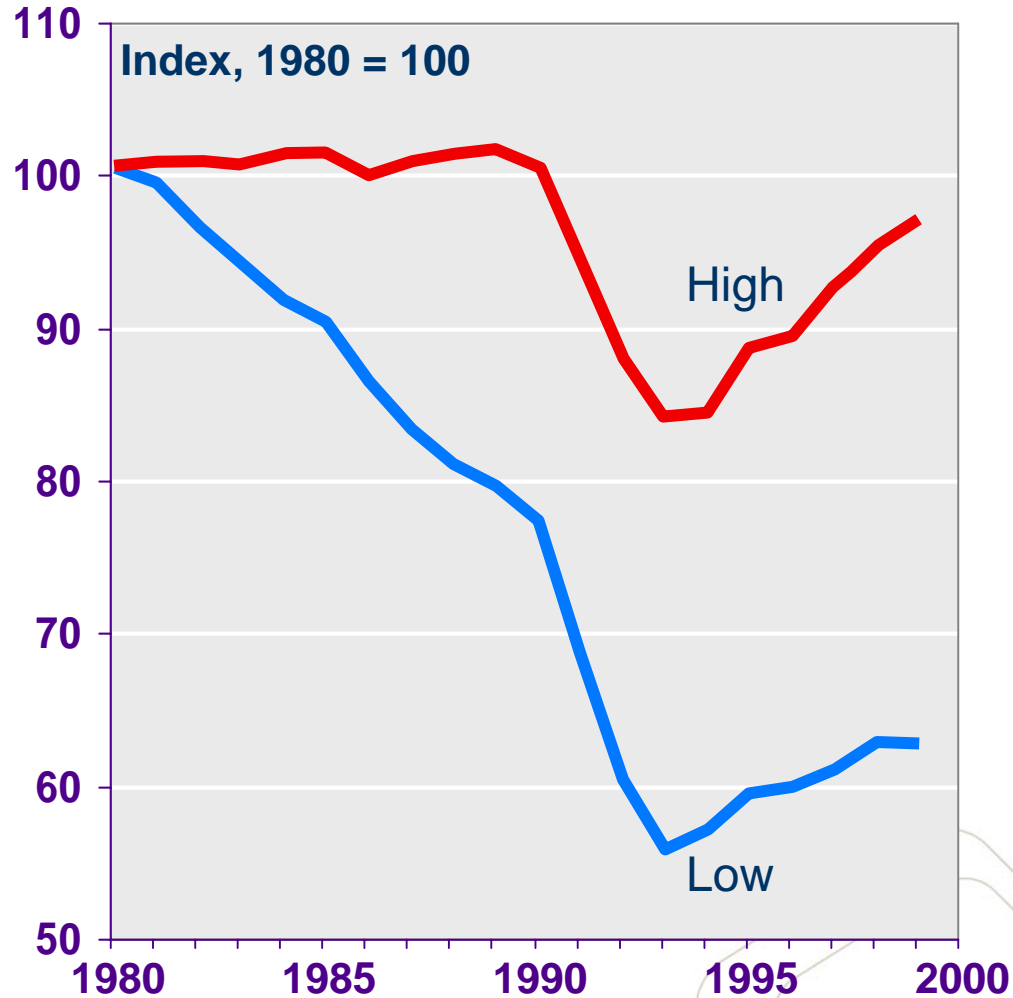
Prel.

Doctoral Degrees 1990-2006

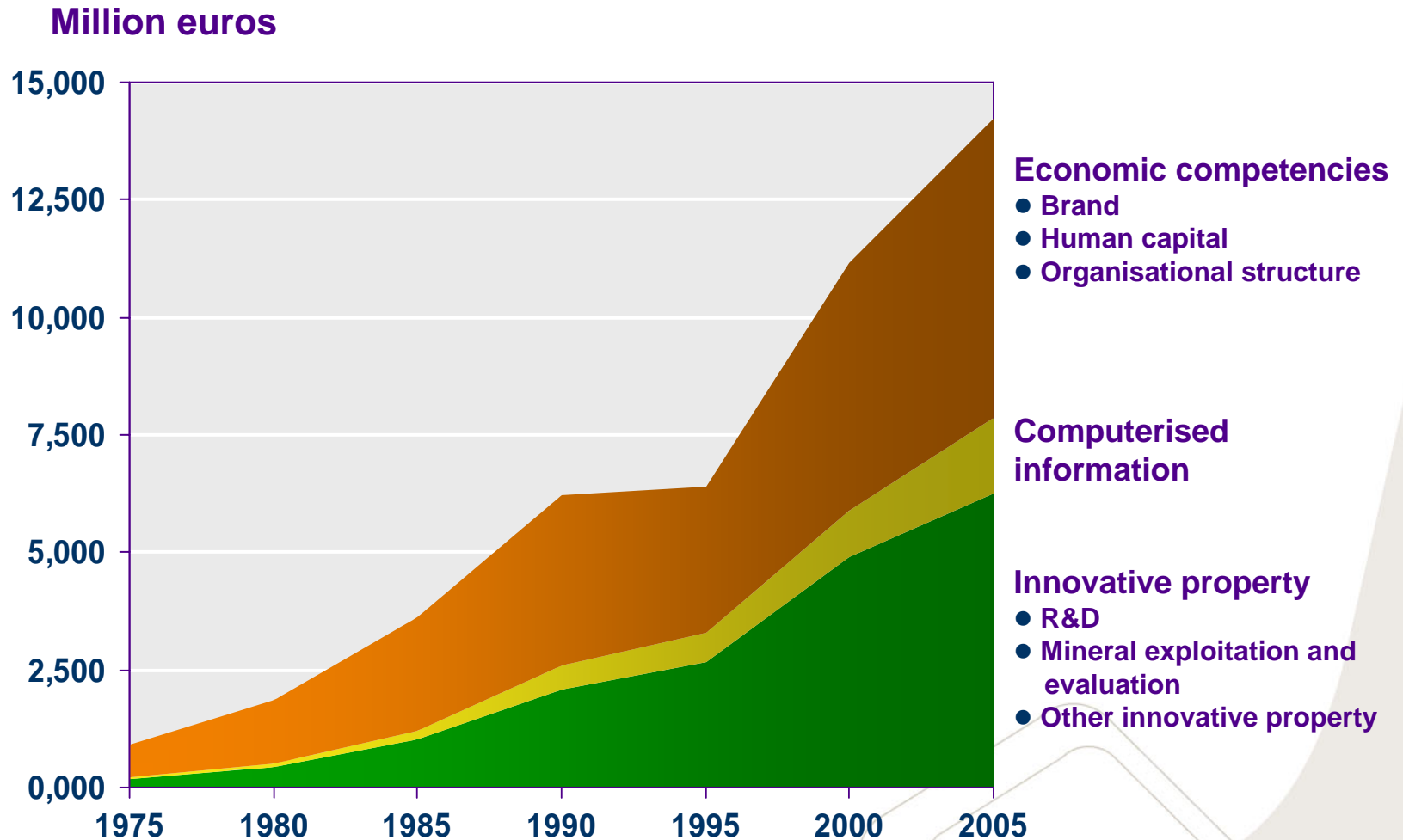


Structural changes in Employment

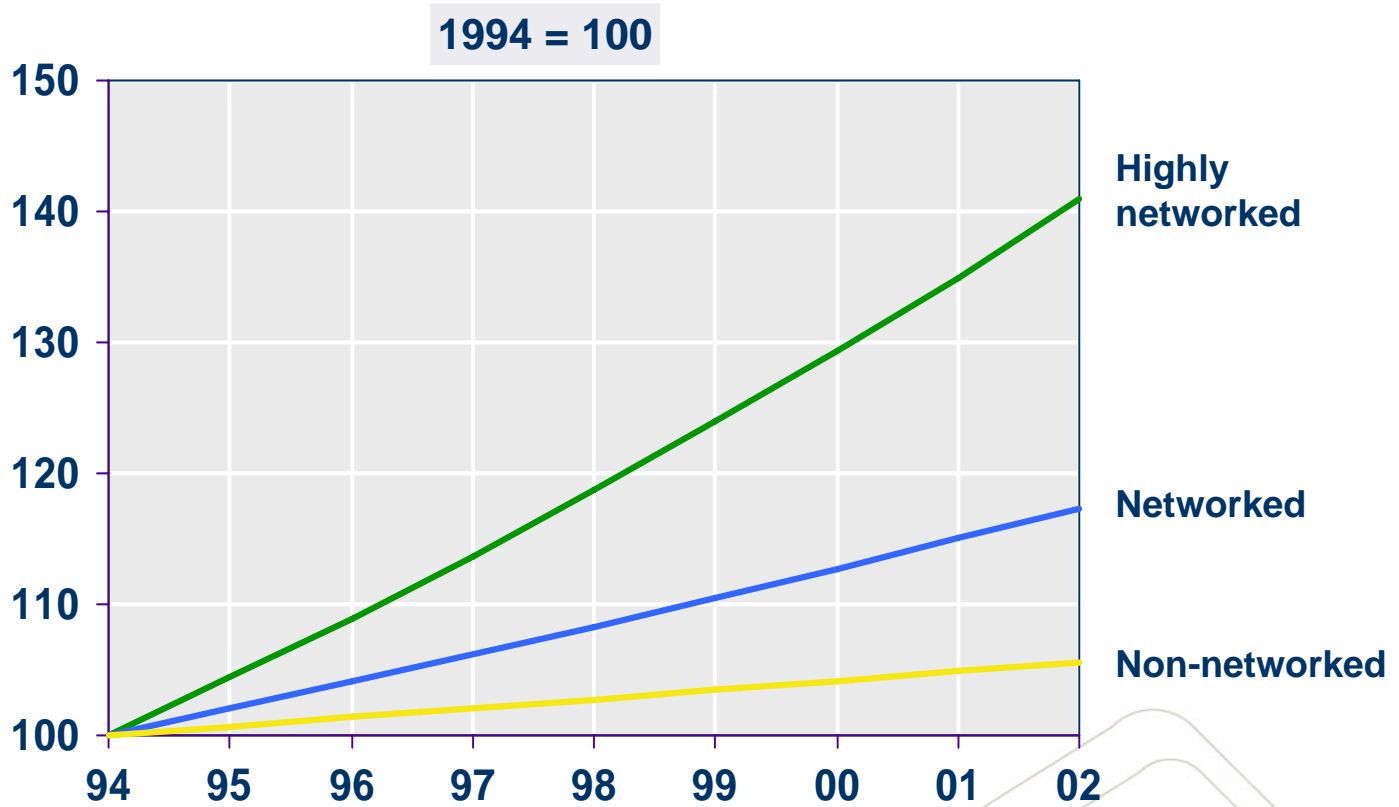
Level of know-how



Intangible Investments in Business

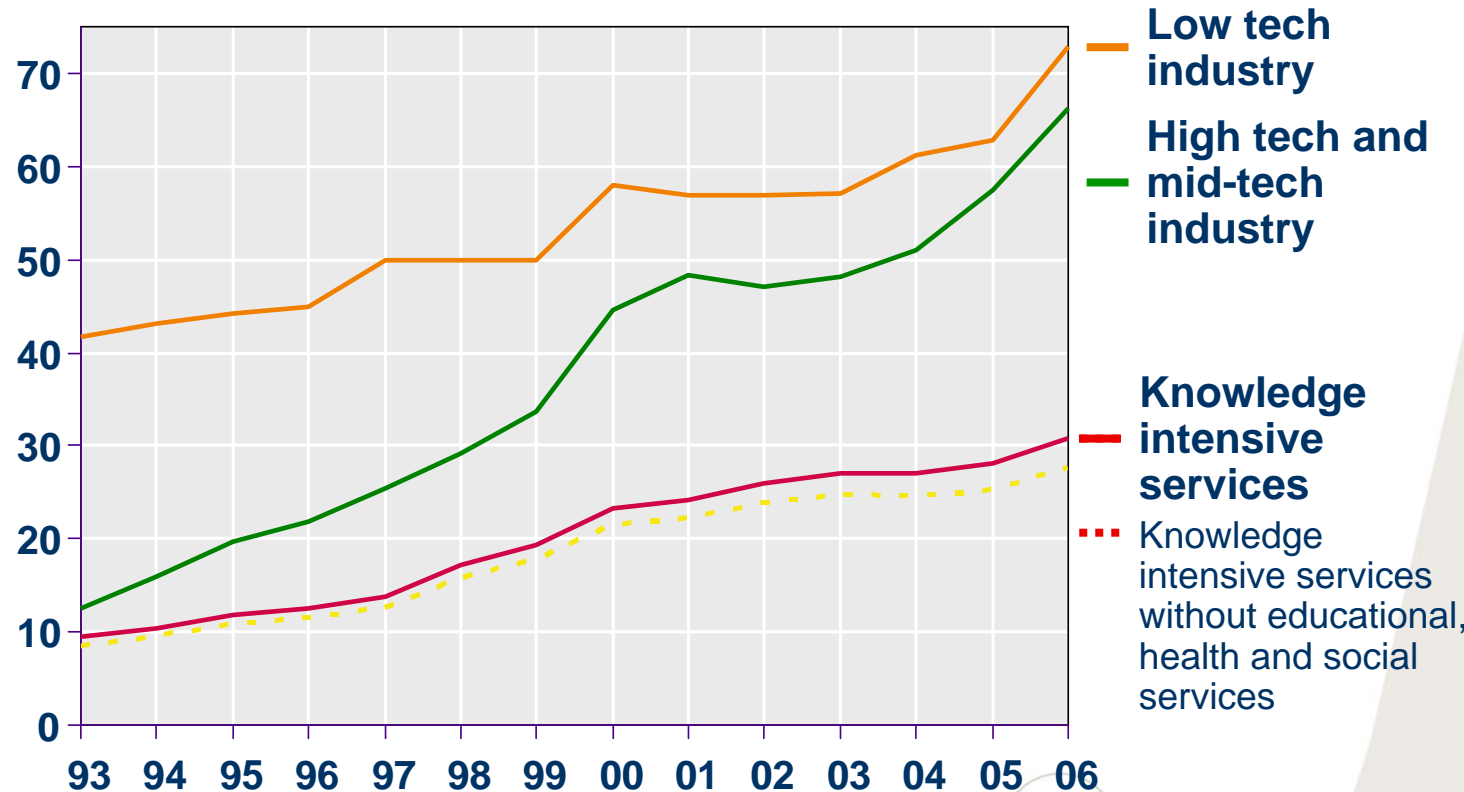


Industrial employment in Networked and Non-Networked Firms



Turnover in Industry and Knowledge Intensive Services

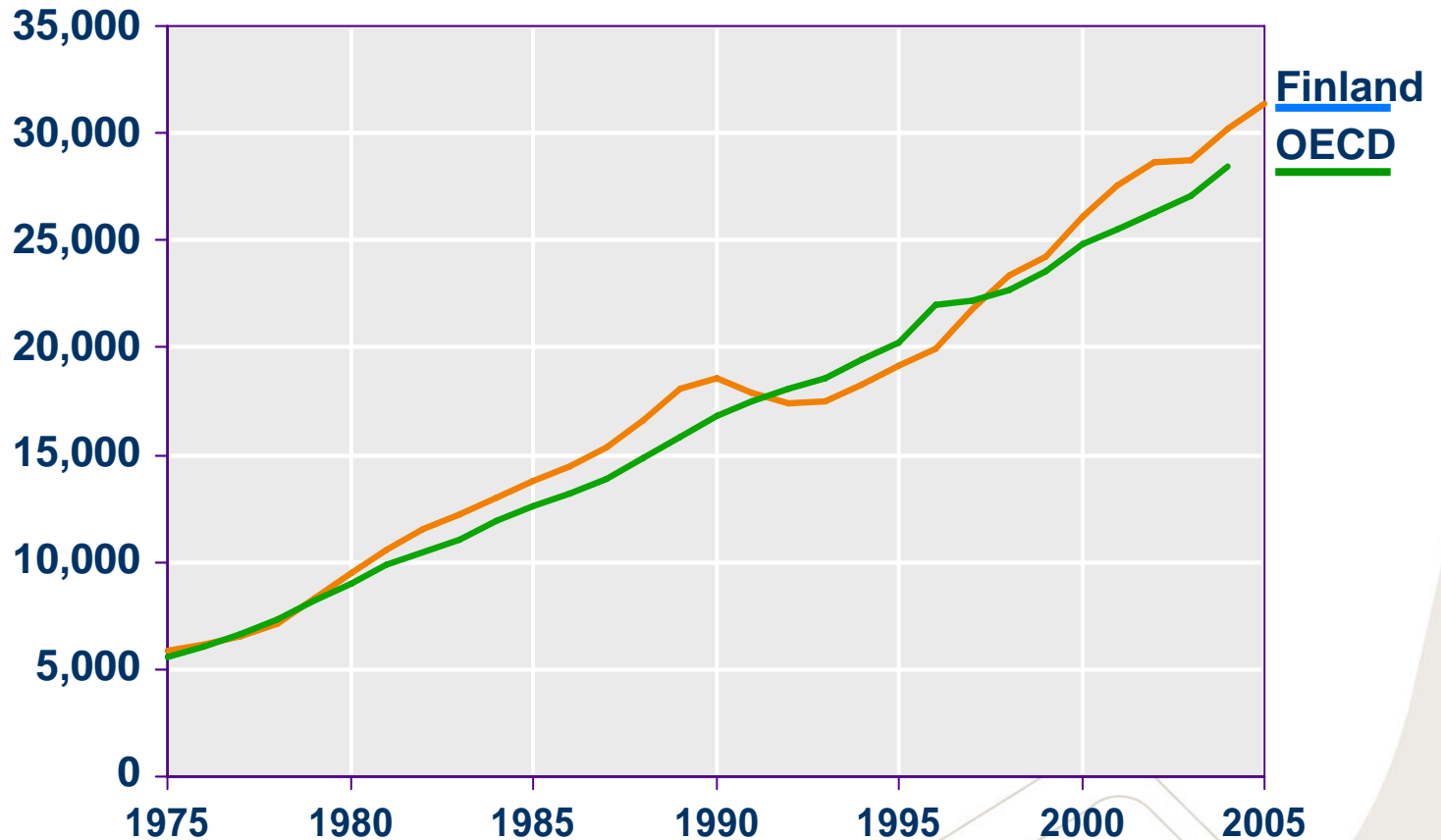
Turnover, billion euros



R&D investments in the high tech and mid-technology sectors are at least 2 per cent, in low tech industries less than 2 per cent of turnover. Knowledge intensive services include banking and insurance services, postal services and telecommunications, leasing of equipment, R&D, information technology and other business services and education, health and social services.

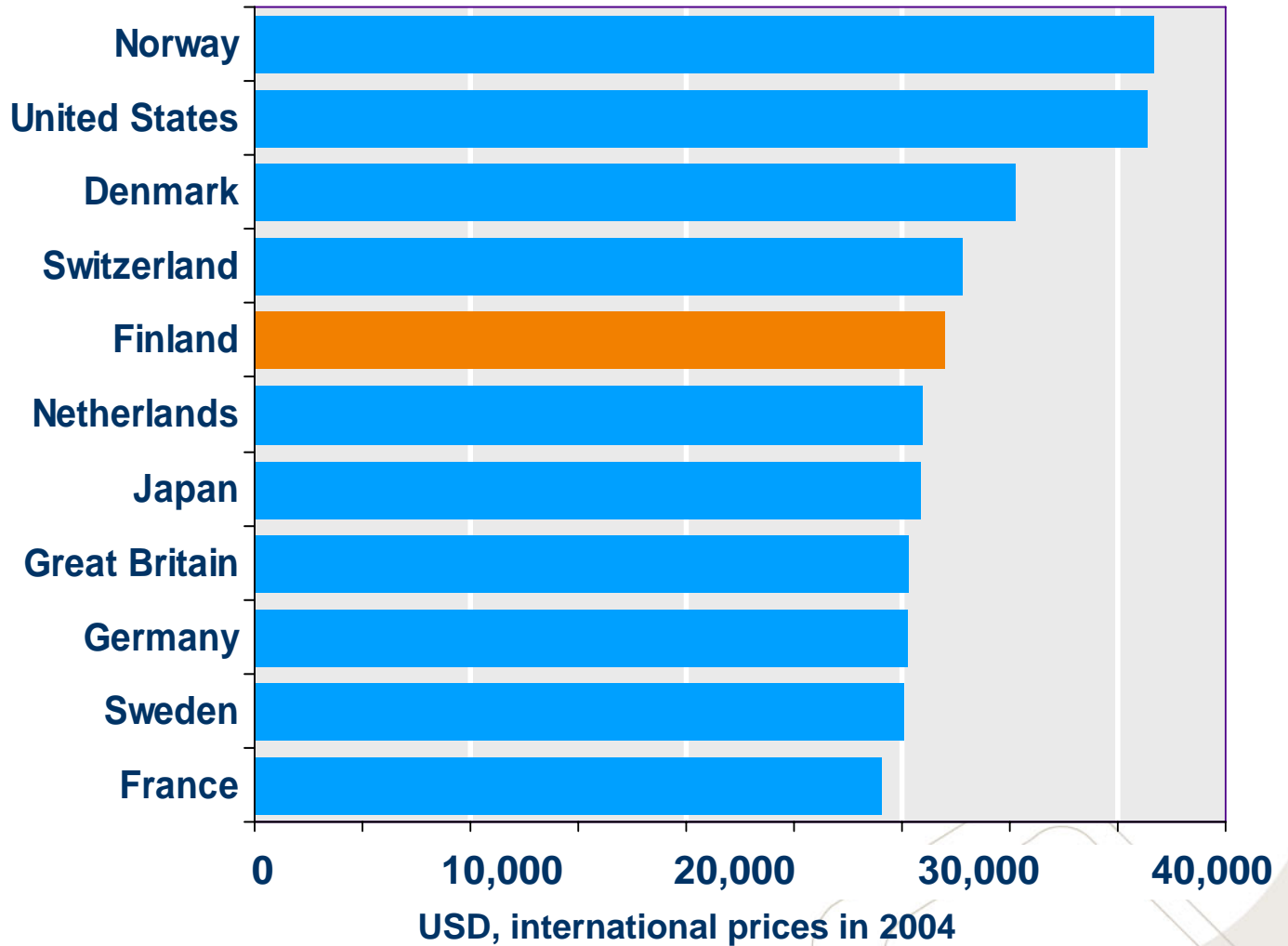
GDP per Capita Growth

USD in current prices and PPPs



Figures for Finland according to new calculations from Statistics Finland.

GDP per capita in 2006



New Challenges to Finland

- Global disintegration of established industrial clusters (ICT, forest, metal) → Need for new economic activities.
- Importance of users in innovation processes.
- Systemic renewal and innovation in the public sector.
- Transformation of the university system.
- Attractiveness of Finland in the eyes of foreign experts and investors.
- New life style -related well-being problems in affluent, free and market-dominated society.



Improving Systemic Adjustment Capacity

Media & Communication policies

- Progressive vs. conservative media
- 'Five filters': entry barriers/concentration, advertising, dependence on established interests, negative feedback, ideology
- Competition and public broadcasting

Education

- Progressive vs. conservative education
- Critical thinking skills
- Mental flexibility
- Social skills
- Multidisciplinary prog's

Culture policies

- Progressive vs. conservative arts
- Critical new art vs. Popular interest
- First interpretations
- New values & norms

Collective vision & strategy process

- Social conditioning
- Effective systemic coordination
- Cross-sectoral participation
- Individual change incentives

Compensation of losers

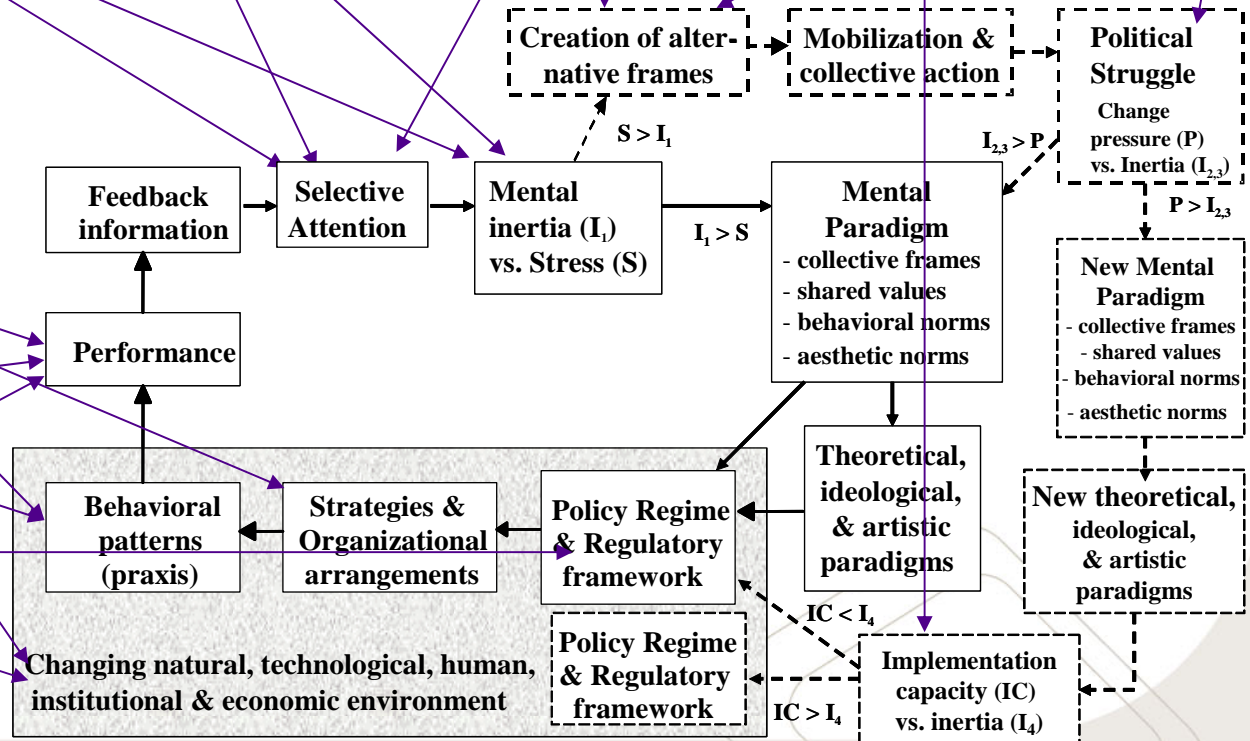
Research

- Progressive vs. conservative
- Future- & policy-oriented
- Paradigm-challenging
- Collective learning processes
- Comparative organizational analysis

Small pilot projects

Strategic Policy Intelligence

- Foresight
- Benchmarking
- Assessment
- Evaluation



Remaining Question:

Assuming structural change capacity, what should be the direction of socio-economic change in the society?

What kind of society do we want in the future?

- ➔ Finland can be the pioneer in the development of a new economically, socially and environmentally sustainable socio-economic model!



Vision of Well-Being and Competitive Finland

- The **everyday well-being of people is the ultimate goal** of social and economic development.
- **Economic competitiveness** and **welfare state** serve this goal. They are **not independent goals** in themselves.
- Superior well-being knowledge, infrastructure and markets produce **world class environment** for (a) everyday well-being of citizens and (b) firms' innovative activities.
- Firms can develop products and services with **superior value-added** (well-being impact, usability) in Finland.
- The high level of well-being and innovative environment **attract international experts and firms** to Finland.
- The move towards **intangible service economy, clean technologies and non-material sources of well-being** reduce environmental problems.
- Finland develops **the first economically, socially and ecologically sustainable social model** for the coming century.

SITRA

Thank you for your attention!

timo.hamalainen@sitra.fi

Suomen itsenäisyyden juhlarahasto

