

Earth System Governance, a case of Development, Resilience or Transition

Lennart Olsson

LUCSUS – Lund University Centre for Sustainability Studies
Sweden



Architecture

Agency beyond the state

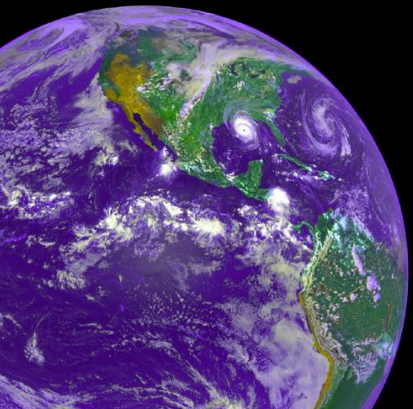
Accountability

Adaptability

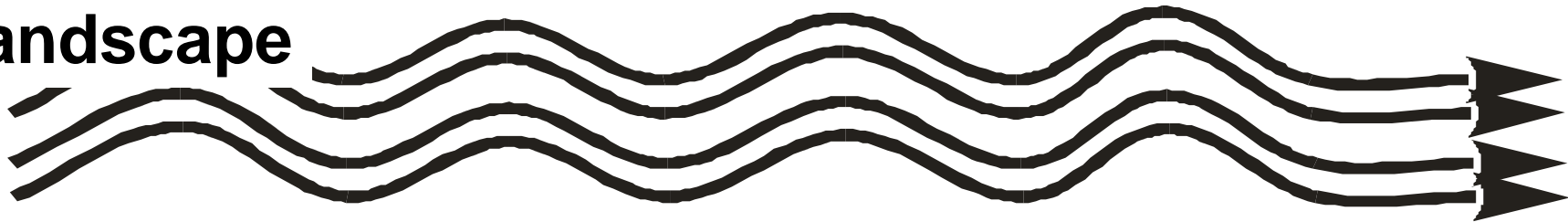
Allocation

Authority (power)

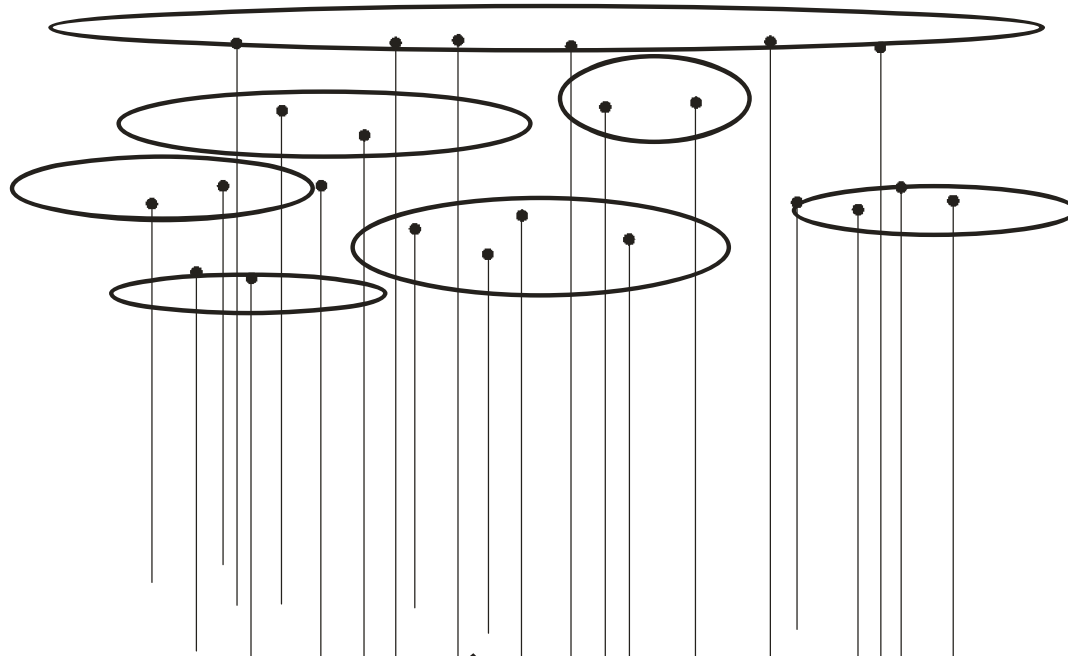
Legitimacy



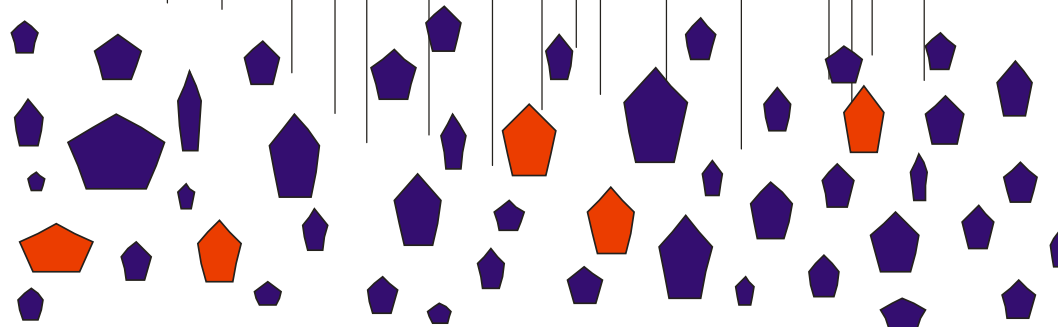
Landscape



Regime



Niches



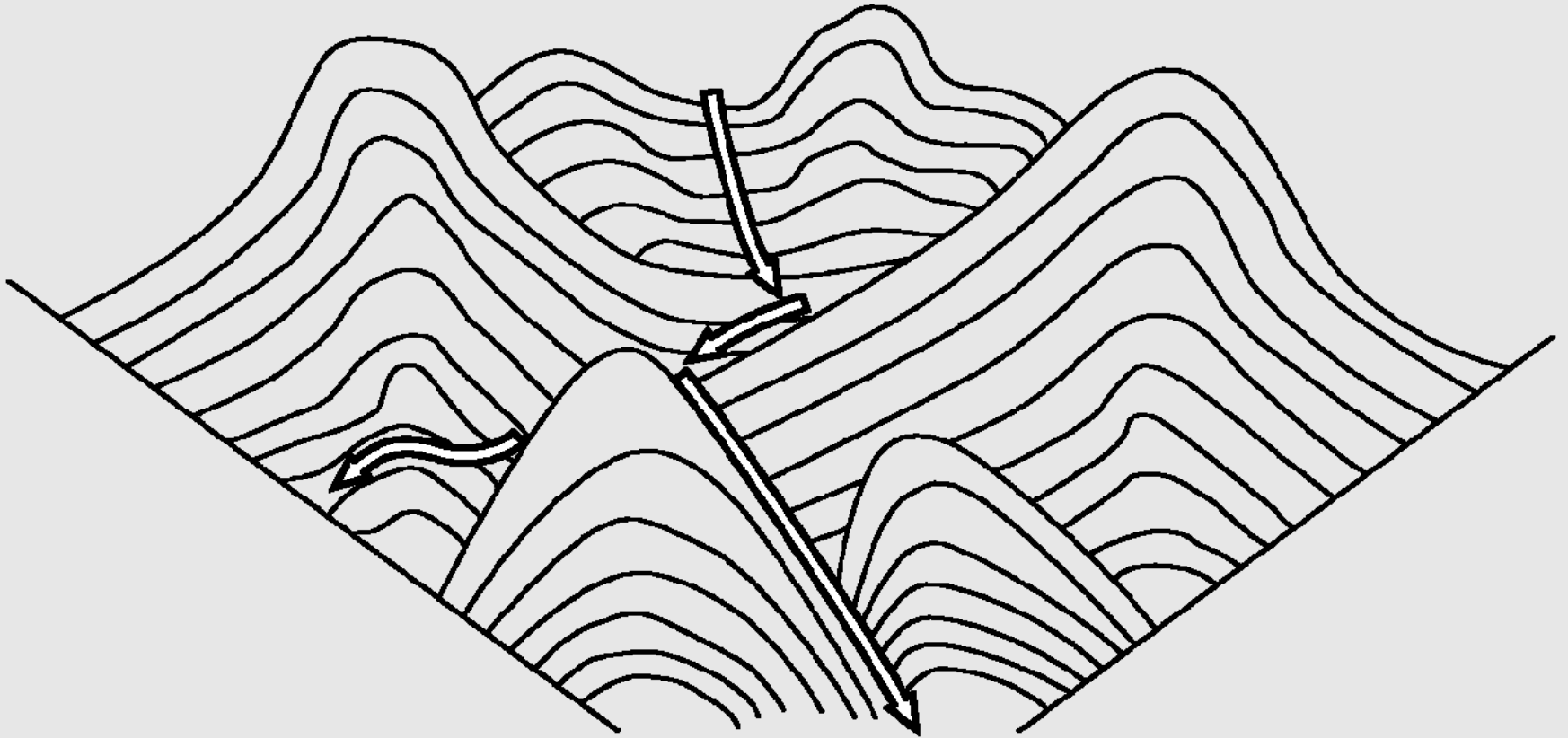
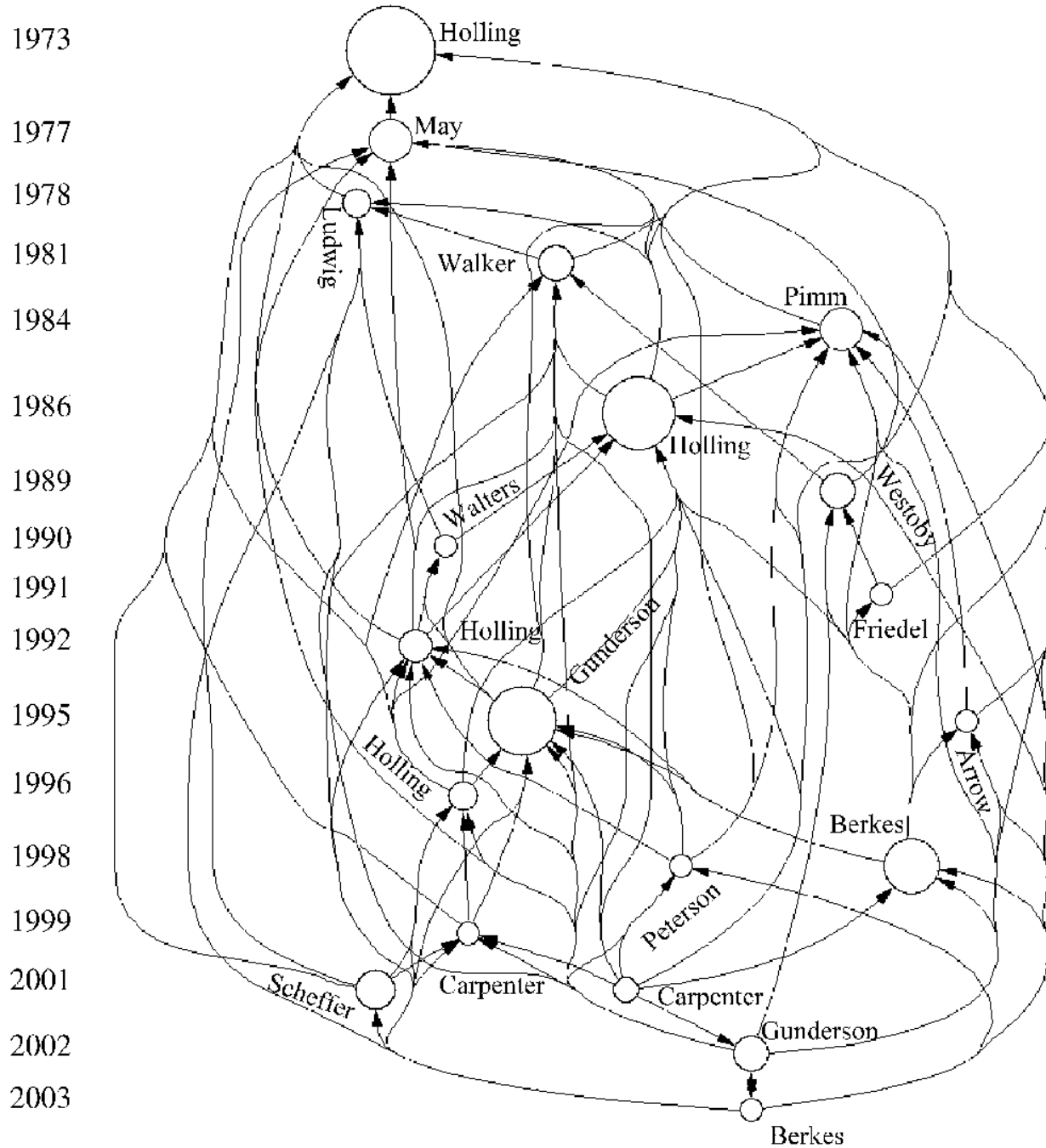


Figure 5 The macro landscape channels micro and meso developments

Resilience

- the amount of disturbance a system can absorb and still remain within the same state or domain of attraction;
- the degree to which the system is capable of self-organisation;
- the degree to which the system can build and increase the capacity for learning and adaptation.

Resilience





Increasing drought frequency



Depletion of fish due to overfishing
Coral reef dieback
Acidification due to CO₂



Changing river regimes – glacial melting



Shrimp farming

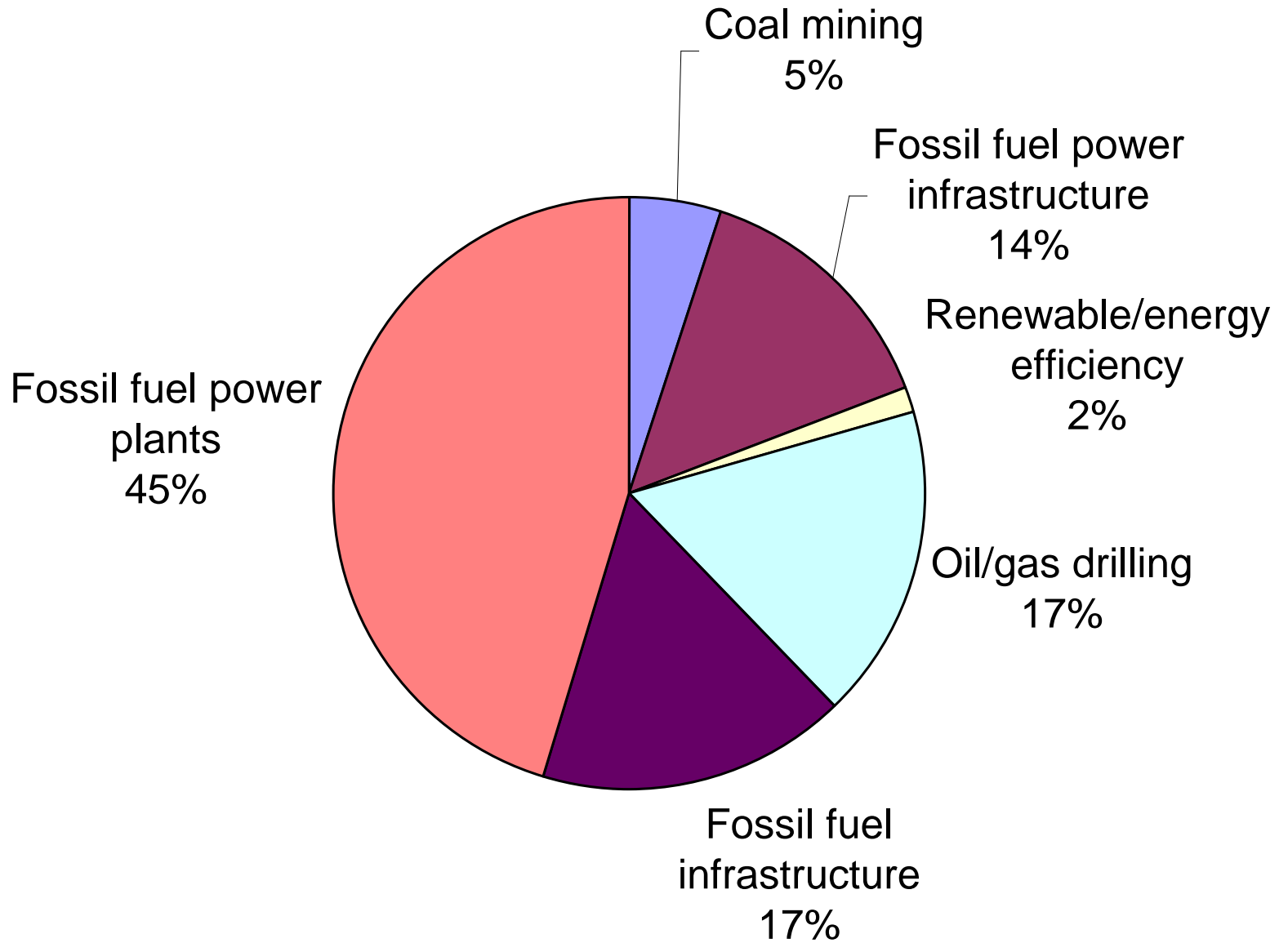
Development

Development – long history of ideology, theory and practice; institutionalised.

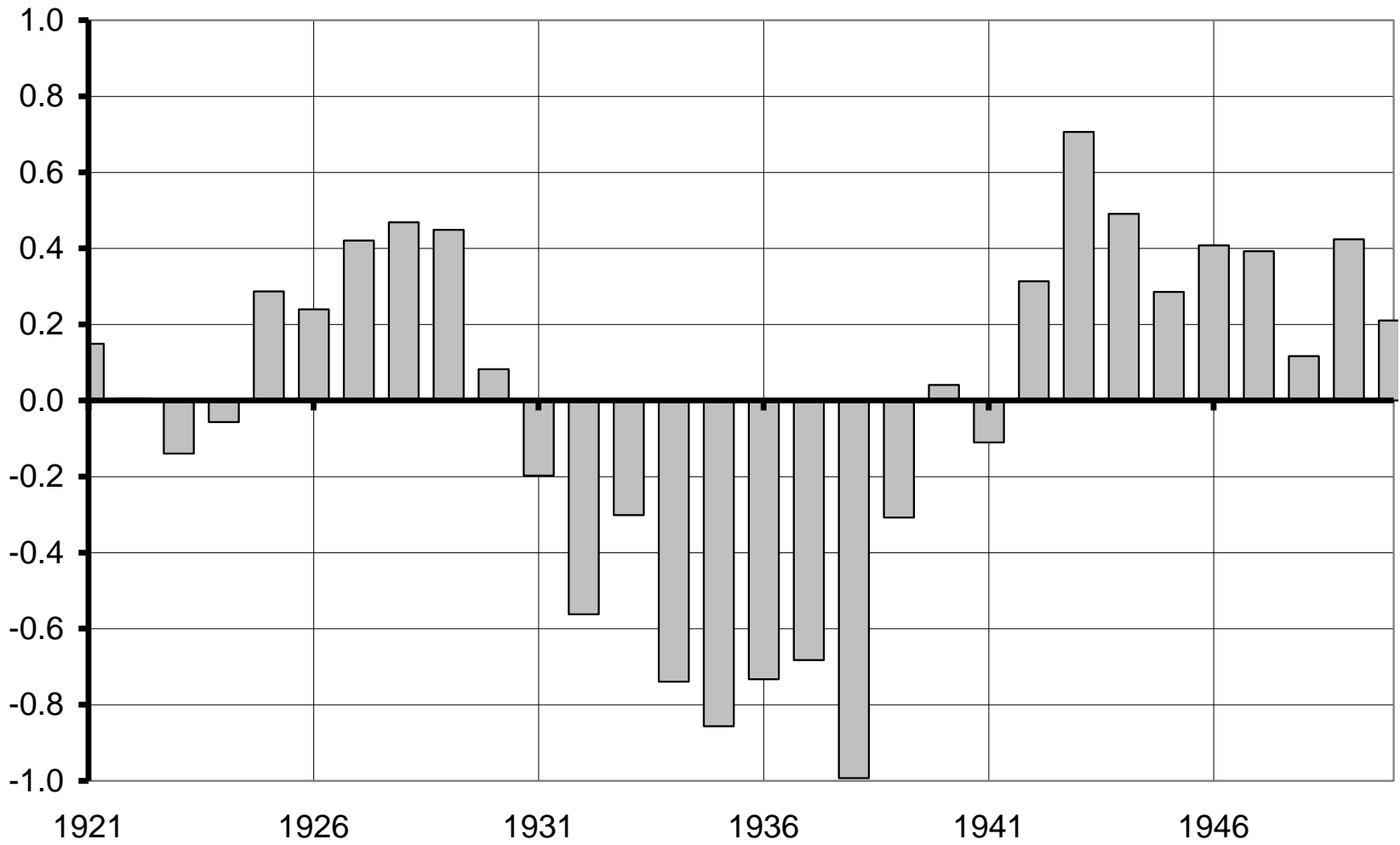
Development theories – no assumption that underlying natural conditions may change.

Development theories – lack a systemic paradigm that links the different parts of the Earth system.

WB lending portfolio – energy 1995 - 2003







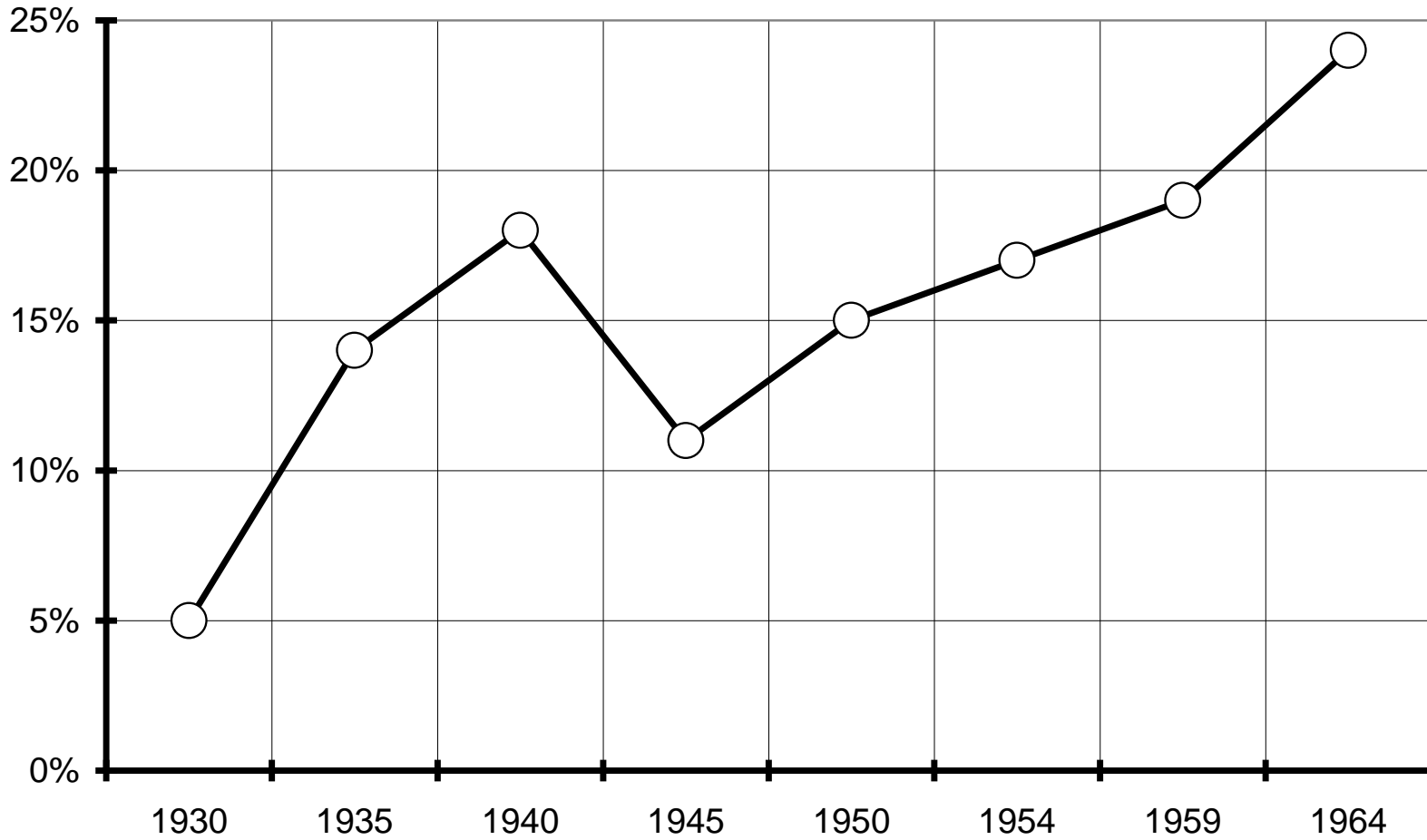


Figure 2. Estimated share of farmland under fallow in the Great Plains. Source of data: (Hansen et al. 2004)

	Micro (niche)	Meso (regime)	Macro (landscape)
1933		<p>Farm Credit Act: a system for setting up local banks to provide credits to farmers.</p> <p>Federal Surplus Relief Corporation (FSRC): to distribute emergency relief.</p>	<p>Emergency Banking Act to restore faith in the banking system.</p> <p>Emergency Farm Mortgage Act: to help farmers who could not pay their mortgages and thereby prevent farm closure .</p> <p>Stabilisation policy: stabilising prices of agricultural products.</p>
1934	<p>Soil Conservation Service (SCS): establishes 79 demonstration areas to encourage farmers to adopt soil conservation measures.</p>	<p>Farm Bankruptcy Act: restrict banks ability to dispossess farmers.</p> <p>Grazing Act by which federal land were made available as grazing land.</p>	<p>Soil Conservation Services: developed and implemented new soil conservation programs.</p>
1935		<p>Drought Relief Service: buying livestock at reasonable prices to be distributed by FSRC.</p>	<p>Works Progress Administration (as part of New Deal): offered employment for 8.5 million people.</p> <p>Resettlement Administration: buying land that could be set aside from agriculture.</p>
1936			
1937	<p>Tree planting programs.</p>	<p>Formation of Soil Conservation Districts: a program for forcing and funding farmers to practice soil conservation measures.</p>	

Resilience



Insurance

Transition



Credits