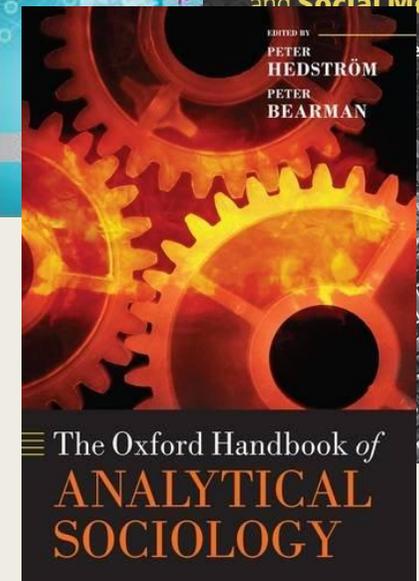
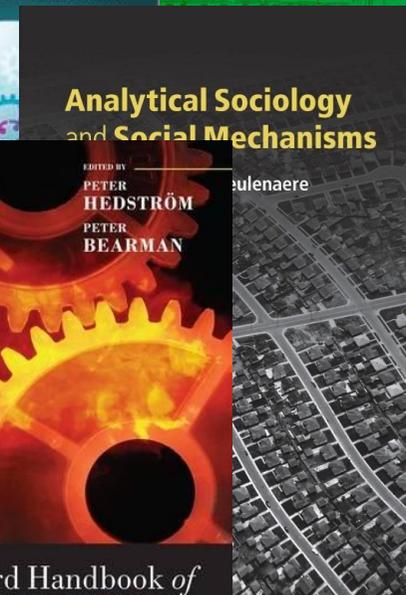
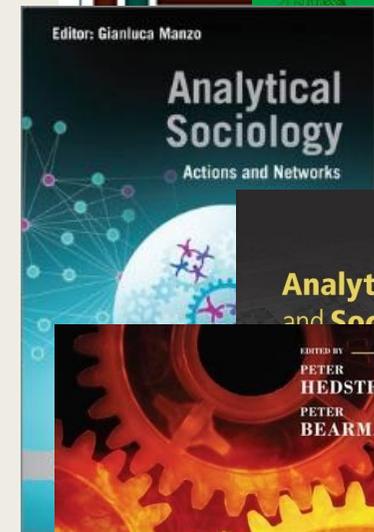
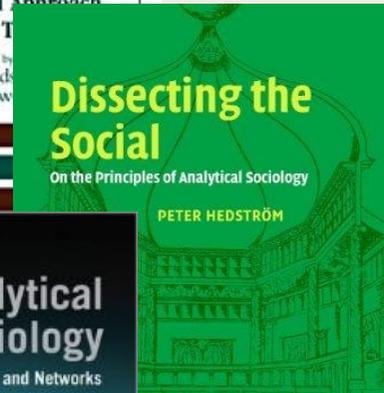
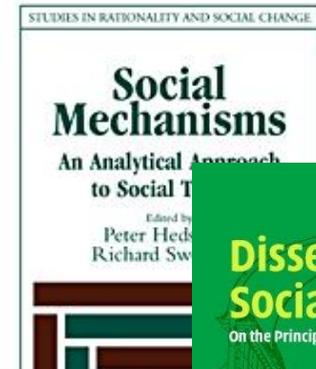


INTEGRATING EVIDENCE FOR SOCIAL MECHANISMS: LESSONS FROM GROWTH DIAGNOSTICS

IASR lecture series 7.11.
Jaakko Kuorikoski NSR

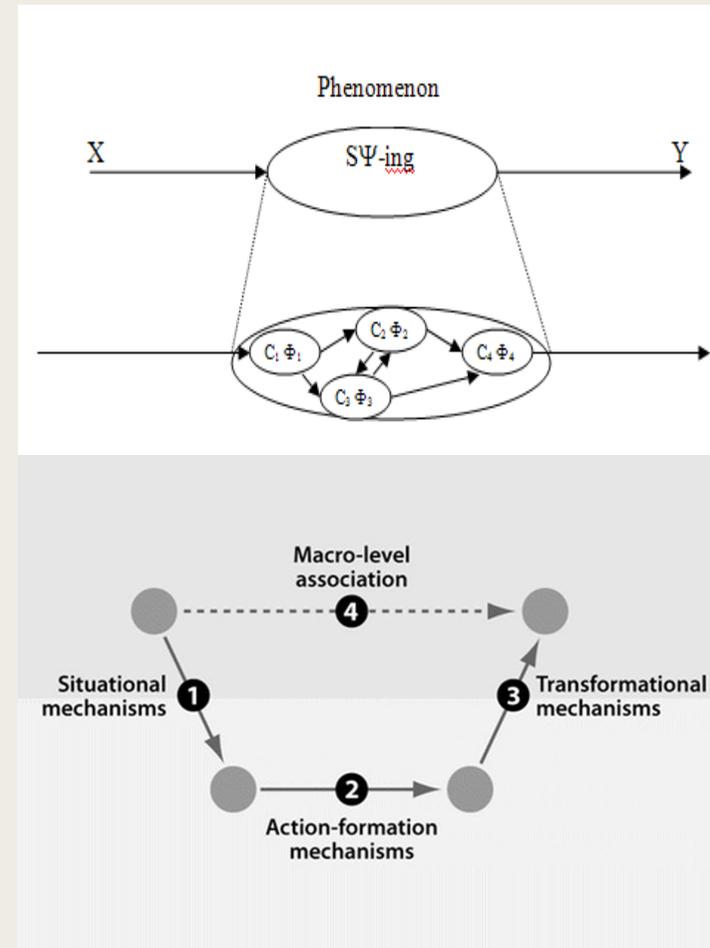
Analytical sociology...

- For *explanatory, middle-range* theorizing (cf. Merton)
 - Vs. *atheoretical "variable-sociology"*
 - Vs. *atheoretical "interpretive" social science*
 - Vs. *unempirical "social theory"*
- Inspirations: Merton, Schelling, Elster, Analytical Marxism...
- Characteristic methods: agent-based simulation, network analysis, experimentation...
- Most importantly, commitment to...



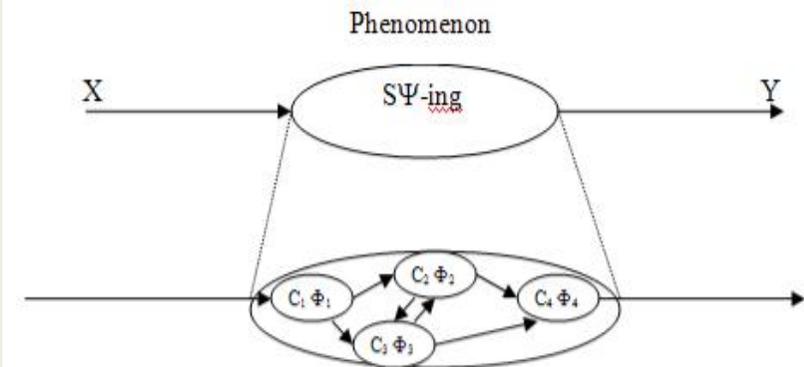
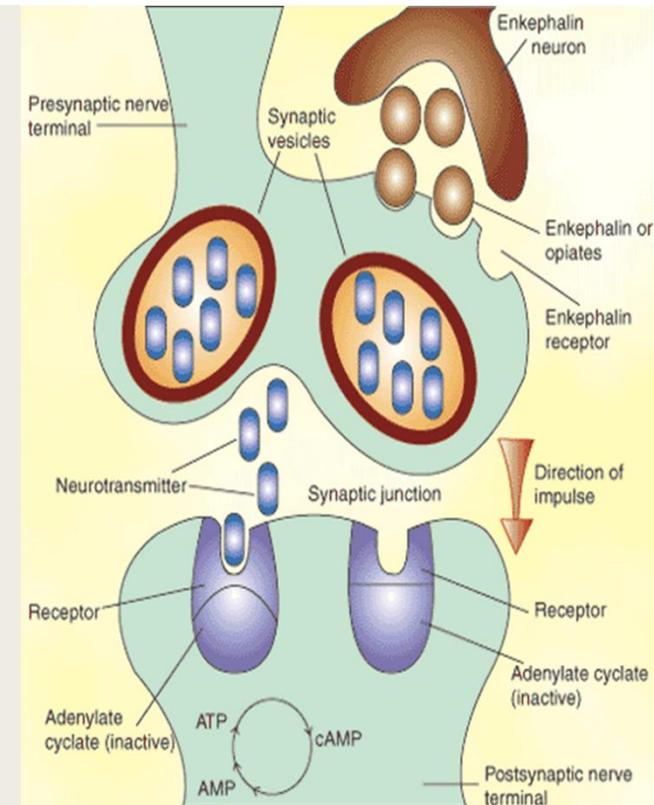
...and social mechanisms

- Mechanistic explanation: explaining properties of social system and social outcomes by showing by how they result from the interaction and organization of their parts (usually agents)
- Inspiration from the mechanistic turn in philosophy of science
- Mechanism also as evidence for a (macro-level) causal claim
- "Generative explanation"
 - *Background in methodological individualism and rational choice*



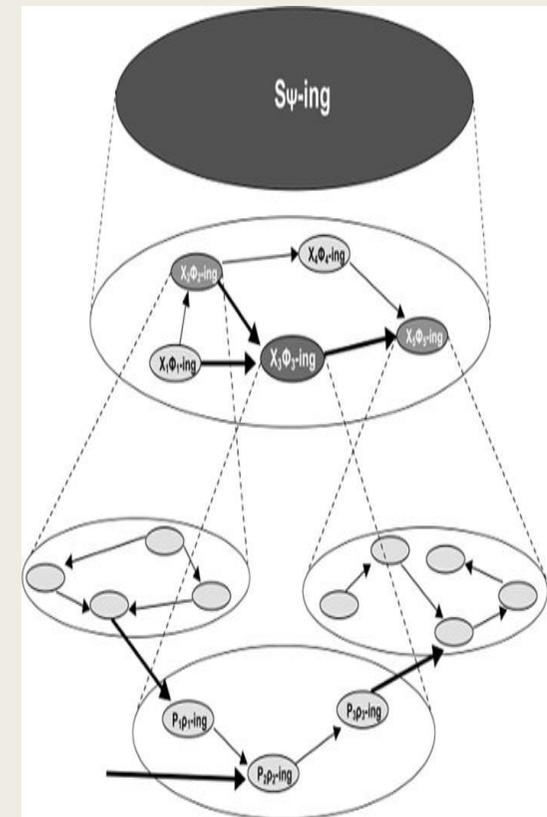
On mechanisms

- ...are mechanisms *for* something
 - *Identified by the kind of phenomenon or effect they produce*
- ...involve irreducibly *causal* notions
 - *a causal process that produces the effect of interest*
 - *Neither necessarily invisible nor deterministic*
- ...have a *structure*
 - *made up of components organized in particular way*
- ...form a *hierarchy*
 - *the properties of the components are realized by yet lower level mechanisms*



Mechanisms and the organization of knowledge

- Locus of *general* social scientific knowledge (i.e., theory)
- The mechanistic *toolbox*, rather than a general theory
 - *E.g., rational choice as a template for building mechanistic models, not a substantial explanatory theory in itself*
- self-fulfilling prophecies, market forms, selection mechanisms, crowding out, diffusion, non-intended segregation, vacancy chains, network effects, “The emperor’s dilemma” ...



A toolbox of mechanisms

■ CONTENTION

- *Escalation*
- *Brokerage*
- *Diffusion*
- *Coordinated action*
- *Social appropriation*
- *Boundary activation*
- *Certification*
- *Framing*
- *Competition for power*

■ COLLECTIVE ACTION

- *Prisoners' dilemma*
- *Free rider behavior*
- *Convention*
- *Norms*
- *Selective benefits*
- *Selective coercion*
- *Conditional altruism*
- *Reciprocity*

■ ORGANIZATIONAL ENFORCEMENT

- *Audit and accounting*
- *Supervision*
- *Employee training*
- *Morale building*
- *Leadership*

■ ECONOMIC ACTIVITY

- Market
- Auction
- Ministry direction
- Contract
- Market for lemons
- Democratic decision making
- Producers' control
- Soft budget constraint

■ GOVERNMENT

- Agenda setting
- Cyclical voting
- Log rolling
- Regulatory organizations
- Influence peddling

■ STATE REPRESSION

- Secret police files
- Informers
- Spectacular use of force
- Propaganda
- Deception
- Control of communications systems

■ NORMS AND VALUES

- Altruistic enforcement
- Person-to-person transmission
- Imitation
- Subliminal transmission
- Erosion
- Charisma
- Stereotype threat

■ SOCIAL COMMUNICATIONS

- Interpersonal network
- Broadcast
- Rumor
- Transport networks

■ SYSTEM EFFECTS

- Flash trading
- Interlocking mobilization
- Overlapping systems of authority
- Non-linear networks

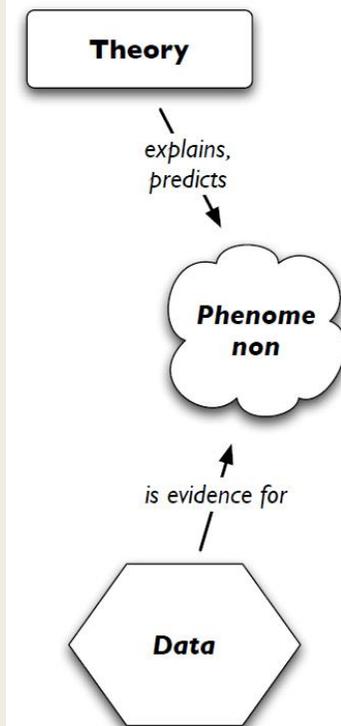
From D. Little *Understanding society*, 21.7.2014

Evidence for mechanisms

- Evidence is relevant to a theory about that phenomenon, if it constrains the set of possible mechanisms potentially realizing the phenomenon
 - *“Top-down” (theory-driven)*
 - *Presupposes “the toolbox” of simpler mechanisms*
- Evidence for mechanisms discriminates between *alternative mechanism-hypotheses*
 - *Mechanistic evidence is contrastive*
 - *A criterion for evidential relevance*

Evidence for mechanisms

- Evidence E is *efficient* mechanistic evidence for hypothesis H if it *strongly favours* H1 over a set of plausible alternative (mutually exclusive) mechanistic hypotheses H2...n.
- Importance of "pattern matching" (D. Campbell)
- *Reliability of data vs efficiency of evidence*
 - How reliably can we infer from a concrete set of data that such and such is the case?
 - What we learn about the possible mechanisms if we know that such and such is the case?



GROWTH DIAGNOSTICS IN DEVELOPMENT ECONOMICS



People in Economics profile:
Ricardo Hausmann

“Good economics is driven
by an attempt to understand,
to own the problem.”

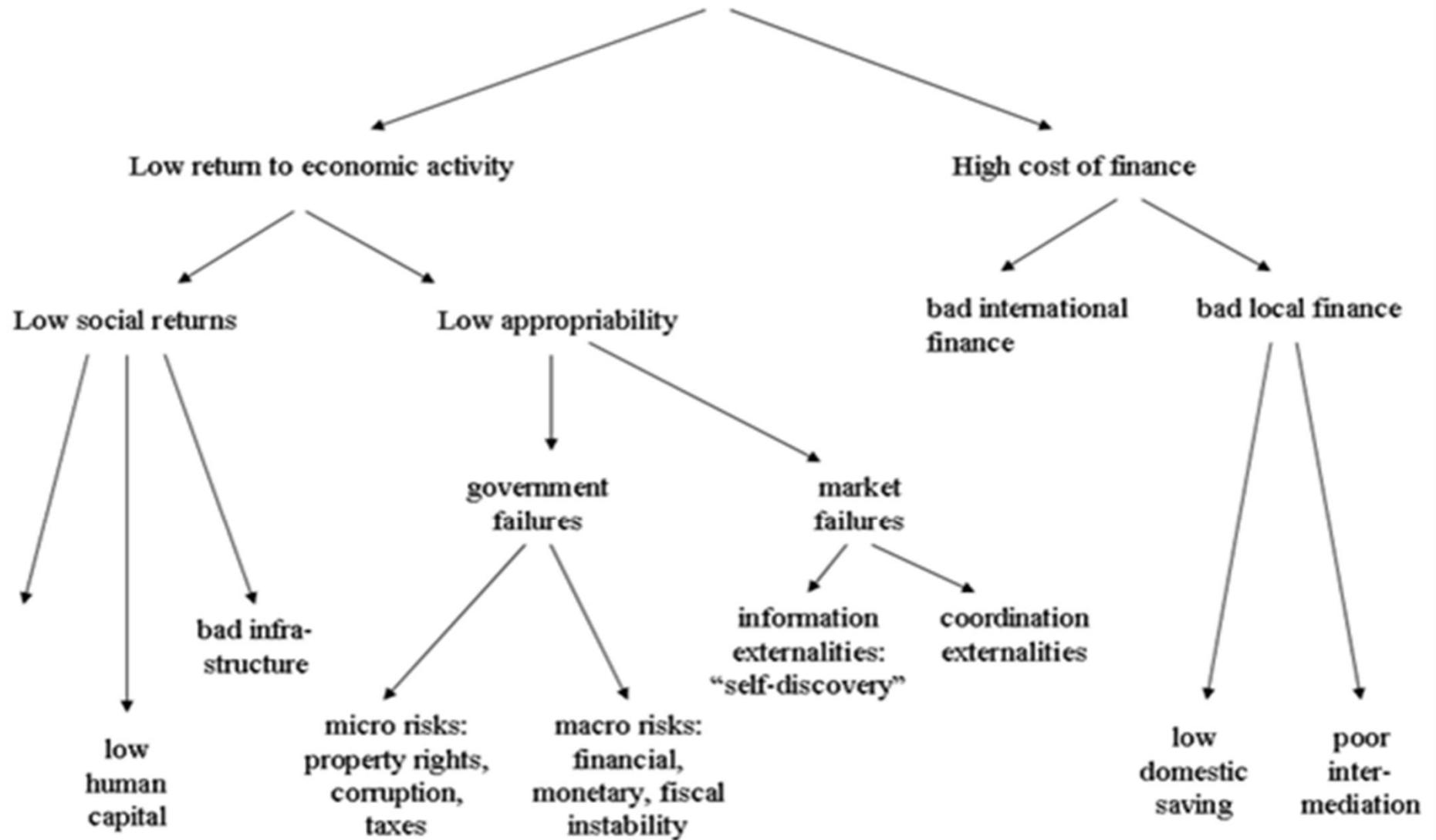
— Ricardo Hausmann, Harvard University

Using evidence for development policy

- Competing approaches to "Macro"-development economics:
- Cross-country regressions
 - + *Empirical*
 - - *Heterogeneity and the unreliability of the ecological inference*
- Benchmarking
- Growth (decomposition) accounting
 - + *Country specific*
 - - *Highly theory-laden*
 - - *Implementation?*
- Growth diagnostics (Hausmann, Rodrik & Velasco 2005; 2008)

Growth Diagnostics

Reasons for low private investment



Why diagnostics?

- One size does not fit all!
- Focus on institutions and policy-instruments, not first principles
- Systematic formula for mobilizing many kinds of evidence
 - *"emphasizes experimentation"*
- Targets only the most binding constraint on growth
 - *Wholesale reforms politically unfeasible*
 - *Avoids possible harmful second-best interactions*

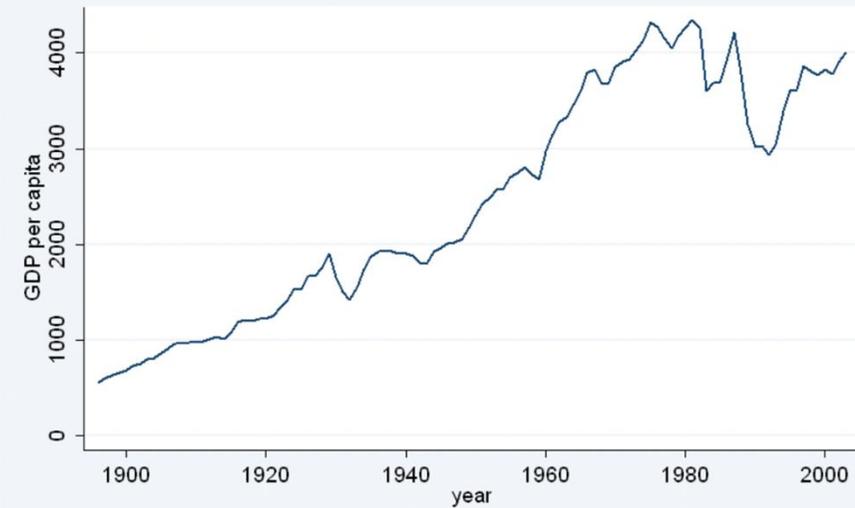
Why trees?

- Diagnostic trees
 - *"Small-world" decision tools:*
 - Sequential cues
 - Noncompensatory
 - *Good when time, information and computational constraints*
 - Easy to use, fast
 - Can correct for biases in intuitive evidential reasoning
 - Can out-predict regression when n is small
 - *Cue-order usually derived from data*
 - Machine-learning

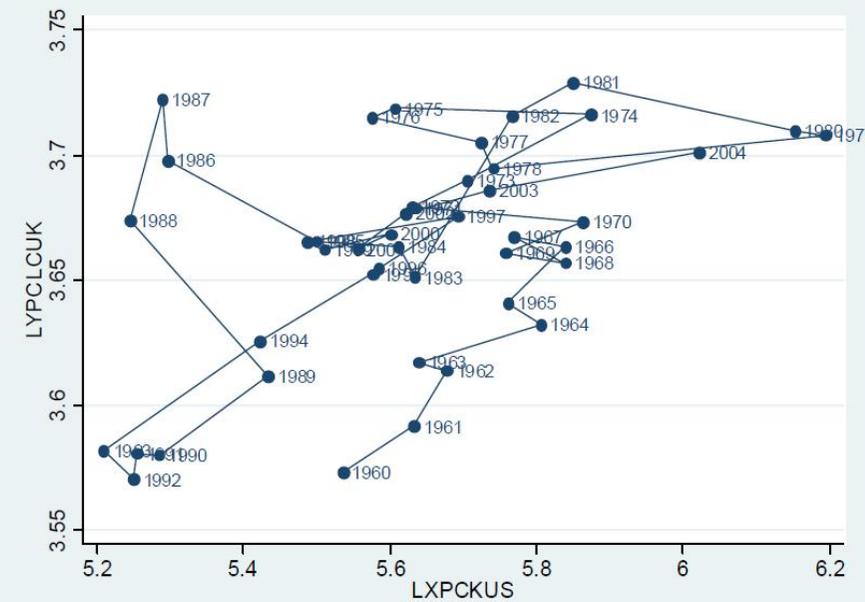
Example: Peru

- Hausmann & Klinger 2008
- Long term perspective: recent growth simply a recovery from a drawn-out growth collapse
- Collapse was export led (vs. political crisis, problems in human or physical capital, macroeconomic instability...)

Long run GDP per capita Peru (Maddison)
1990 International GK dollars



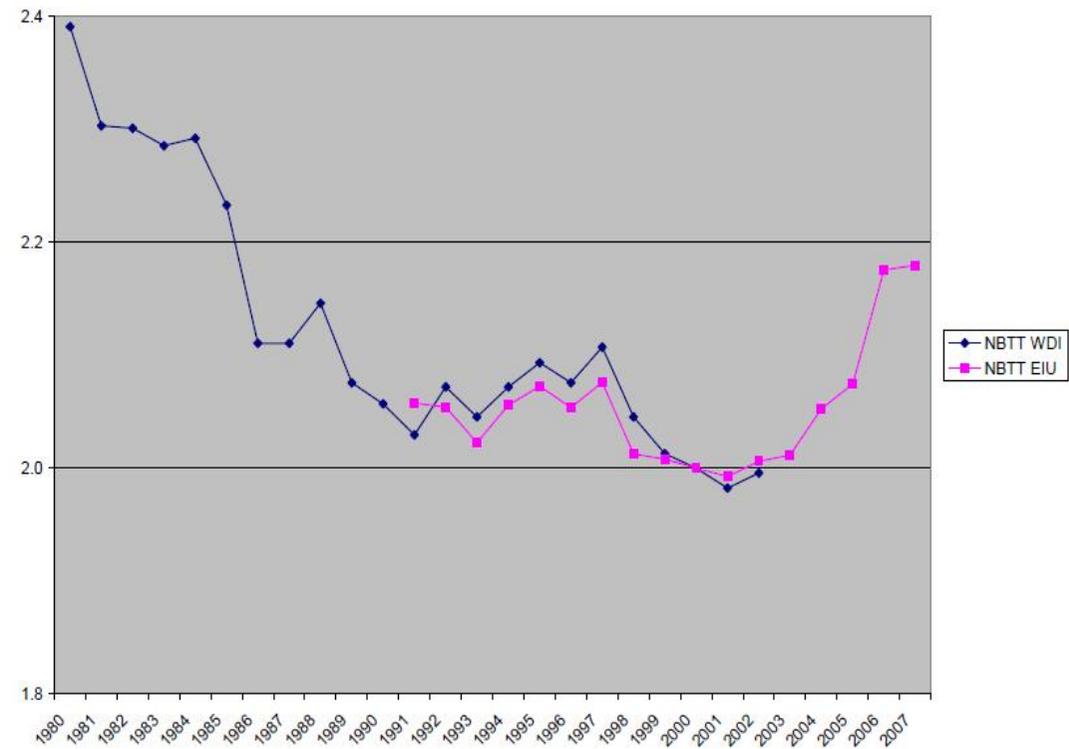
The Evolution of Output and Exports per Capita



Example: Peru

- Hausmann & Klinger 2008
- No structural response to the external trade shock

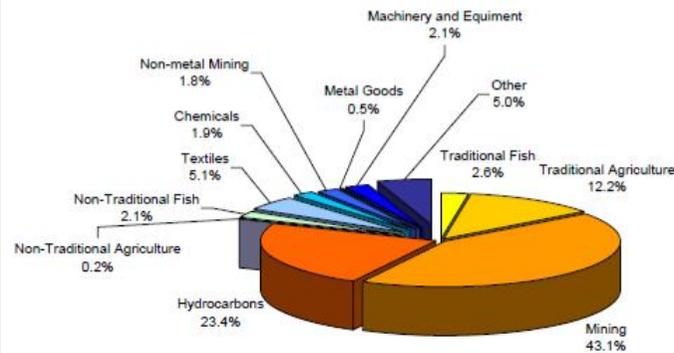
Figure 3
Terms of trade 1980-2007 (logs)



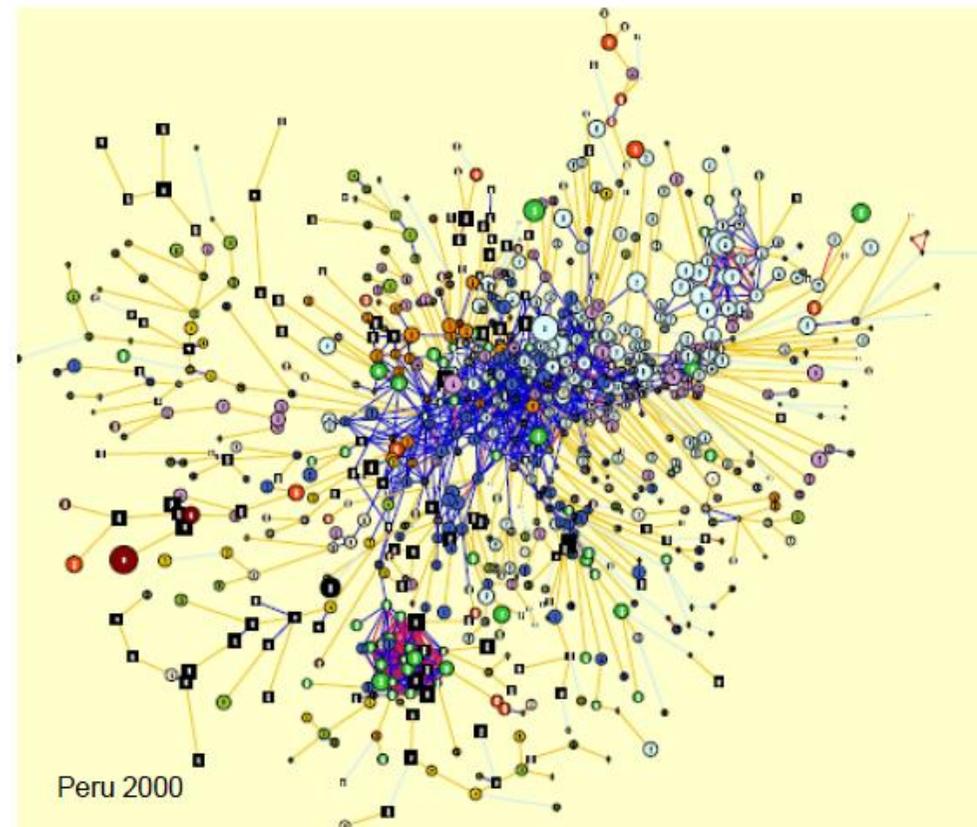
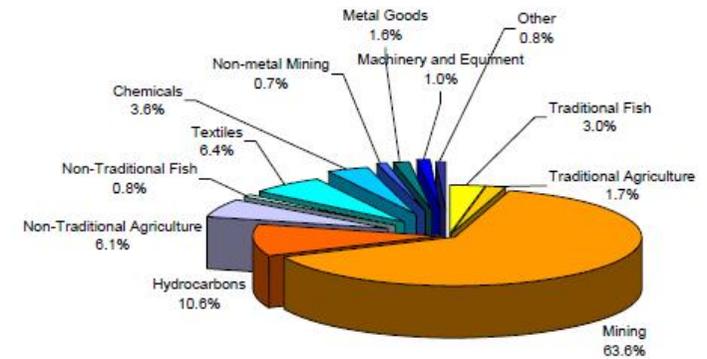
Example: Peru

- Peru's exports are "highly peripheral", intense in foreign capital, and un-intensive in especially urban labour

Decomposing the Export Collapse: 1979-1993



Decomposing the Export Recovery 1993-2005

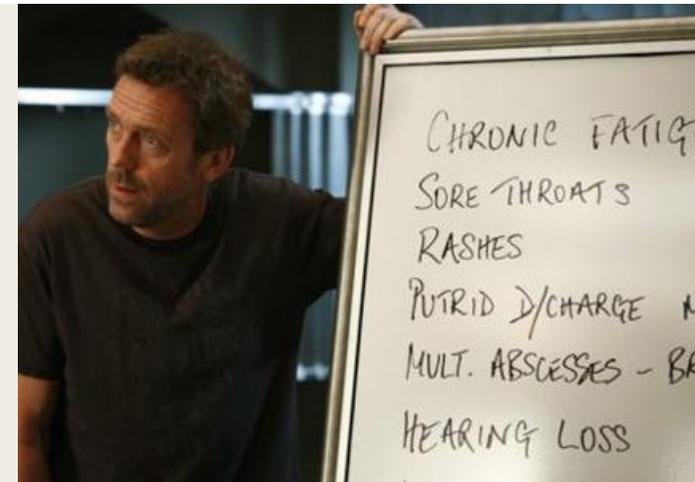


Is the social scientist really like a diagnostician?

- Social pathologies? Functionalism?
- Not necessarily. Sequential eliminative reasoning
 - *Decision tree as a search procedure in a pre-specified space of alternatives*
 - *Most binding constraint*
 - *Most important mechanism/cause*
- Theory-driven way of integrating diverse evidence
 - *Guides analysis, collection, and production of data*
 - *Look for the most informative signals (the most severe tests)*
 - *Contextual, yet informative*



Is the social scientist really like a diagnostician?



- Requires strong theory
 - *GD decision tree premised on the validity of a general (neo-classical HRV) growth theory*
 - *The decision tree as a heuristic, not a true decision tool*
- In principle, each mechanism-schema implies its own "decision tree"
- General lessons from diagnostic thinking:
 - *Look for phenomena that efficiently discriminate between alternative hypotheses*
 - *Look for (or produce) data that provides the strongest signal (severest test) for the existence of that phenomenon*
 - *Iterate...*