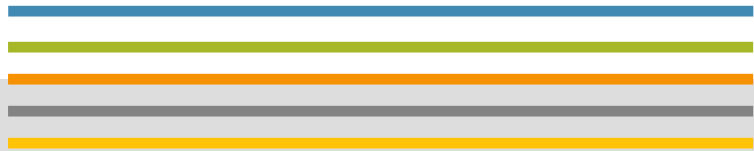


# Lakatos' Research Programmes



Philosophy of Economics

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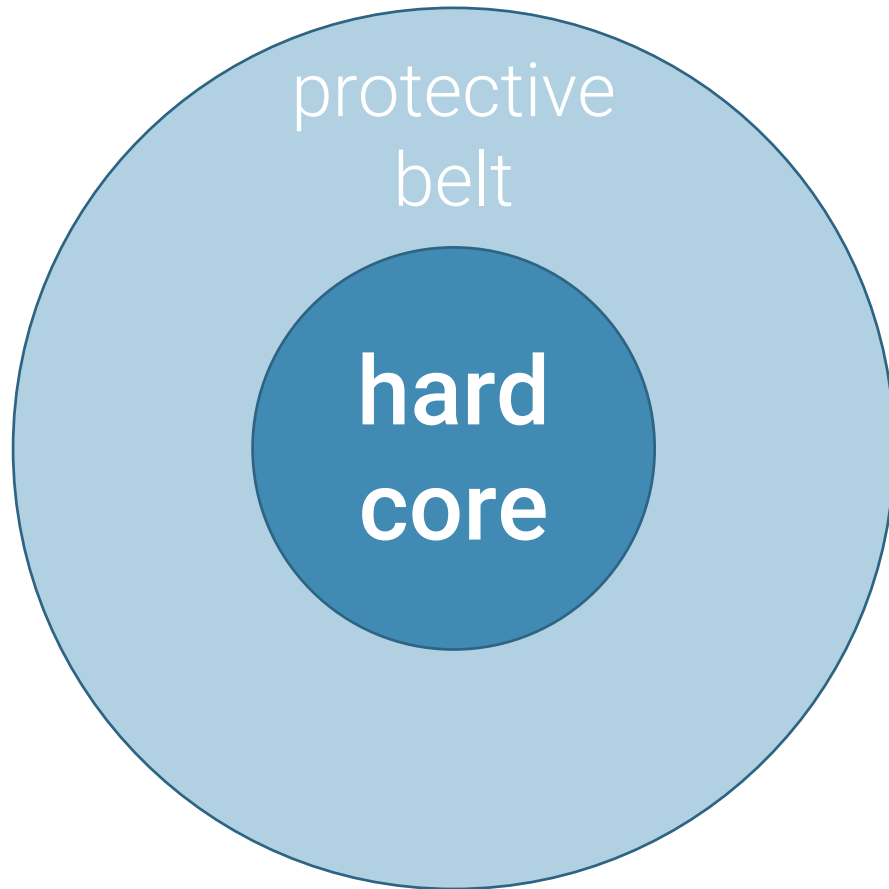
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# Research Programmes

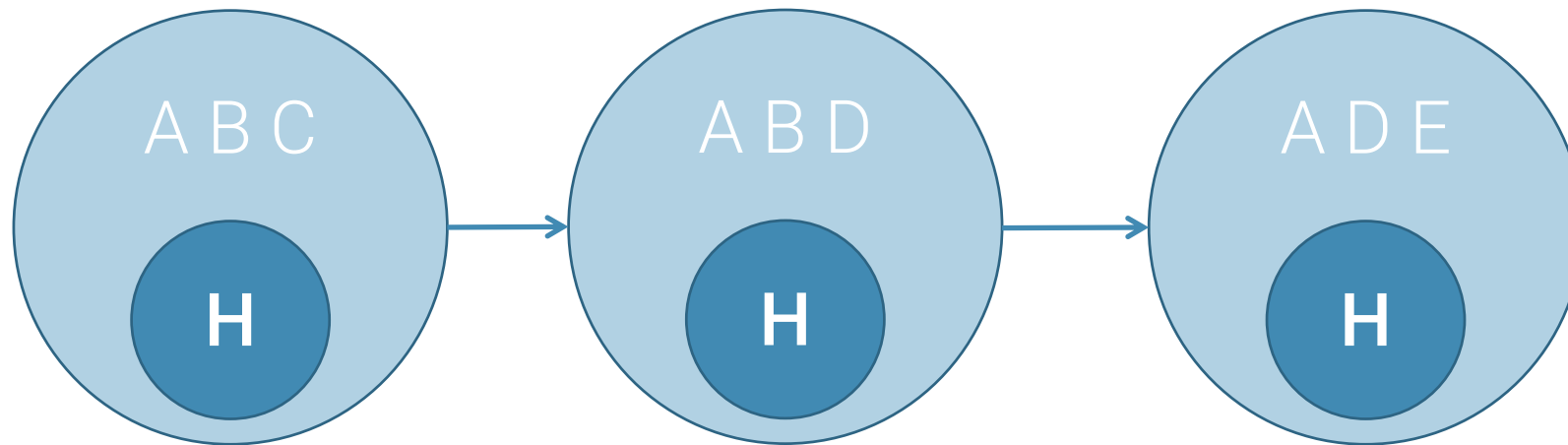
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- The unit of theoretical assessment is the **research program**, not any individual theory
- A research program consists of
  - ❑ a **hard core**: unquestioned assumptions
  - ❑ a **protective belt**: changeable
  - ❑ a **positive heuristic**: injunctions on how to pursue research, and what questions/anomalies to investigate
  - ❑ a **negative heuristic**: prohibitions on how *not* to pursue research/react to new observations

# Progressive vs degenerate research programmes

- Progressive shifts
  - **theoretical progress**: excess empirical content (“predicts some novel, hitherto unexpected fact”)
  - **empirical progress**: some of this excess empirical content is corroborated
- Degenerating shifts
  - **ad hoc modifications** in protective belt in response to empirical anomalies



# Insights from Lakatos

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- What matters for the scientificness of a theory is **how it develops over time**
- Theory choice is **always comparative**
- There are not “scientific” and “unscientific” research programmes; the question is one of **degrees**
- Whether a research programme was successful can often **only be known retrospectively**
- More **focus on the context of discovery** through the idea of positive/negative heuristics
- The **history of science** becomes important

# Questions

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- How do Lakatos and Popper compare?
- Can Lakatos answer Putnam's critique?
- How do Lakatos and Friedman compare?
  
- For the future: How do Lakatos and Kuhn compare?

# Lakatos on Newton's Theory

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For example. Newton first worked out his programme for a planetary system with a fixed point like Sun and one single point—like planet. It was in this model that he derived his inverse square law for Kepler's ellipse. But this model was forbidden by Newton's own third law of dynamics. Therefore, the model had to be replaced by one in which both Sun and planet revolve round their common center of gravitation. This change was not motivated by any observation but by a theoretical difficulty in developing the programme. Then he worked out the programme for more planets as if there were only heliocentric but no interplanetary forces. Then he worked out the case where the Sun and planets were not mass-points but mass-balls. Again, for this change he did not need the observation of an anomaly; infinite density was forbidden by a touchstone theory, therefore planets had to be explained. This change involved considerable mathematical difficulties, held up Newton's work and delayed the publication of the principia, by more than a decade. Having solved this puzzle, he started working on spinning balls and their wobbles. Then he admitted interplanetary forces and started work on 'perturbation'. At this point he started to look more anxiously at the facts, many of them were beautifully explained by this model, many were not. It was then that he started to work on bulging planets, rather than round planets, etc.

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# Weintraub's Reconstruction of the Hard Core

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1. There exist economic agents.
2. Agents have preferences over outcomes.
3. Agents independently optimize subject to constraints.
4. Choices are made in interrelated markets.
5. Agents have full relevant knowledge.
6. Observable economic outcomes are coordinated, so they must be discussed with reference to equilibrium states.

# Advantages

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- Many research programmes in economics seem to have a hard core which researchers don't touch
- Lakatos' approach appears to better account for what economists are actually doing
- Much progress in economics seems to be theoretical (but is this "theoretical" in Lakatos' sense?)

"A methodology that allows access to the kingdom of science without repentance for a lifetime of non-falsificationist practice is simply too alluring for most economic methodologists to resist." (Hands 1985, 2)

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# Questions

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- Does Lakatos' theory adequately portray the history of science? (Feyerabend/Kuhn: it does not.)
- Is there really a hard core in economics? Is Weintraub's reconstruction of the hard core so broad as to be vacuous?
- Do particular economic research programmes make empirical progress? Theoretical progress?
- How do we individuate research programs?
- Are there any clear, usable rules for when a research program is degenerate, and when it is progressive?
- Is Lakatos a realist? Or an anti-realist (e.g., a Hegelian)?