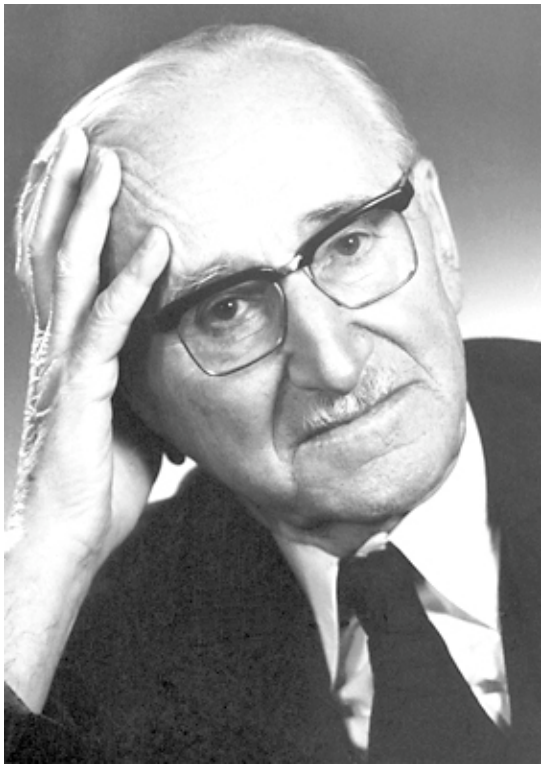
We [economists] have indeed at the moment little cause for pride: as a profession we have made a mess of things.

The Pretence of Knowledge

Lecture in memory of Alfred Nobel,

December 11, 1974



Friedrich August von Hayek
U. of Salzburg, Austria
b. 8 May 1899 Vienne
d. 23 March 1992 Freiburg

The SverigesRiksbank Prize in Economic Sciences in Memory of Alfred Nobel 1974

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1974 was awarded jointly to Gunnar Myrdal and Friedrich August von Hayek *"for their pioneering work in the theory of money and economic fluctuations and for their penetrating analysis of the interdependence of economic, social and institutional phenomena"*

COMPETITION AS A DISCOVERY PROCEDURE

F.A. HAYEK

TED BY MARCELLUS S. SNOW

This paper has been published without a proper referee process. Read at your own risk!

Sense and Nonsense in Hayek's "Competition as a Discovery Procedure"

Ramon Marimon

Max Weber Programme

June 9, 2010

With the help of…

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1995

” For the development and application of the theory of rational expectations in macroeconomic analysis."

Robert E. Lucas Jr.
b. 15 September 1937
U. of Chicago, Chicago, USA

Invitation to discuss Hayek's views Inbox Sun, Mar 28, 2010 at 4:41 PM
relucas@uchicago.edu<relucas@uchicago.edu>
To: Ramon Marimon <ramon.marimon@gmail.com>

Ramon,

I am not going to be able to attend the Hayek conference. His paper is interesting to me, but I do have some reactions. *I think the main problem with his paper stems from his complete ignorance of general equilibrium theory and game theory*, even as these disciplines stood in 1968. He is writing about something called "competition" without providing any decent definition or any awareness of how other people use this term. He is criticizing views he thinks are misguided without citing a single person or written work that exemplifies these views! (Lucas *dixit*)

Sense

Starting point [Naomi's 'Definition']:

Competition as a procedure for discovering facts, which, if the procedure did not exist, would remain unknown or would not be used (p. 9)

Sense

- [Barriers to riches] The necessary changes in habits and customs will occur only when those who are ready and able to experiment with new procedures can make it necessary for the others to imitate them, with the former thereby showing the way; but *if the majority is in a position to prevent the few from conducting experiments, the necessary discovery procedure will be frustrated* (p. 19)

(Obvious) Sense

- [Naomi's 'First Corollary'] The theory of competition can never be empirically verified *for those cases in which it is of interest* (p. 10)
- All that can be empirically verified is that societies making use of competition [learn more] than do others (p.10)

- We can derive from our theories only very general statements, or "pattern predictions," we cannot, however, derive any specific predictions of individual events from them. (p.12)

(Obvious) Sense

I do think he is right that "competition" is not itself an empirically testable situation. But *who disagrees?* Here again the paper suffers from a complete absence of concrete illustrations of the views he opposes. (Lucas *dixit*)

Indeed, the chief point was already seen by those remarkable anticipators of modern economics, the Spanish schoolmen of the sixteenth century, who emphasized that what they called *pretium mathematicum, the mathematical price, depended on so many particular circumstances that it could never be known to man but was known only to God.* (Hayek's 1974 Nobel Prize Lecture)

(Obvious) Sense

- [Naomi's 'Second Corollary'] It is precisely through the disappointment of expectations that a high degree of agreement of expectations is brought about (p. 15).
- The more available opportunities of a country remain unexploited, the greater its opportunities for growth (p. 19).

Nonsense

- Competition is important *only* because and insofar as its outcomes are unpredictable (p.10)

[Giunia's remark]

[Ulrich's 'price competition vs. competitive innovation']

- The opportunity for the *activity* we call competition no longer exists when all essential conditions are assumed to be known (p13)
- Using macro-theory we can never formulate the conditions under which "empirical laws" about macro-aggregates (e.g. price levels) apply (p.12)

Nonsense

I am not clear on what Hayek means by "macro-" and "microeconomics." By macro, he seems to mean the use of national accounts. If so, *I think he is confused (as are most people) by contrasting "coarse" and "fine" descriptions*. Everything we do is "coarse!" Even "homogeneous" products like wheat or rice turn out to be complicated categories blurring many distinctions. What he is really *opposing*, I think, is any kind of *abstract modeling and empirical work based on such modeling*. (Lucas *dixit*)

Nonsense

- [Naomi's 'Conclusion'] "Social justice"… [has] only one meaning: protecting some groups of people from having to descend from the absolute or relative lifestyle they have heretofore enjoyed
- "Social justice"… cannot be implemented in general without destroying the foundations of the market order (p.17)

[Harold's interpretation: "Justice as a way to guarantee that human potential is realized"]

(Wishful thinking) Nonsense

- Part VII, with his 5/6 salary of previous year + share of change of profits…

Sense and Nonsense

- The dichotomy between:
  'economy' (allocation of resources) and
  'catallaxy' (competitive discovery & market order)
  - [Going back to Lange's debate on socialism!] Socialism has no other aim than to transform catallaxy into a true economy (p. 14)
  - [Yet in modern macro it has been useful to exploit the duality between market allocations and solutions to –possibly constrained– planners' problems!]
- "Equilibrium" of theory represents a sort of ideal type [Max Weber's 'ideal type'?] which is realized to a great extent, as agents' expectations are *to a considerable extent* realized. (p. 15)

Making sense of Hayek's conjecture

[Discovering own capacities] The knowledge of which I am speaking consists to a great extent of the ability to detect certain conditions –an ability that individuals can use effectively only when the market tells them what kinds of goods and services are demanded and how urgently. (p.13)

Making sense of…

- *In a Walras auction, participants know nothing but their own endowments and preferences and the whole process is one of discovery*. Everyone just looks at the proposed price vector and says to himself "if these prices prevail, what do I want to do?" I suppose it is implicit in Hayek's essay that he wants a more descriptively realistic definition of competition than Walras provided, but what is it? (Lucas *dixit*)

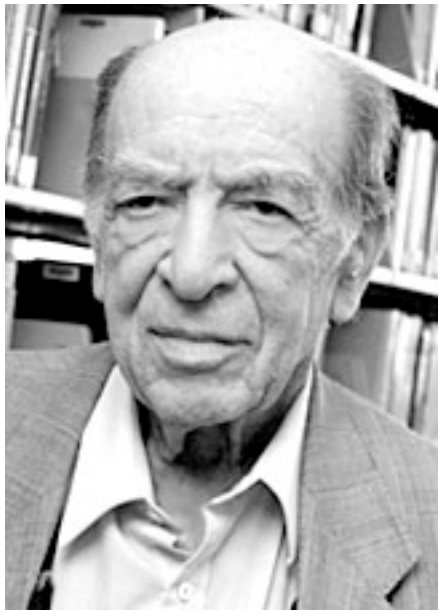
Making sense of…

- For a post-1968 theorist, mechanism design in general and maybe auction theory in particular could be a better starting point…And, obviously, auctions are discovery procedures. (Lucas *dixit*)

[see: Erik Maskin's "On Mechanism Design" 2008 MWL]

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2007

"for having laid the foundations of mechanism design theory"



Leonid Hurwicz
1/3 of the prize
USA
University of Minnesota
Minneapolis, MN, USA
b. 1917(in Moscow)
d. 2008

Eric S. Maskin
1/3 of the prize
USA
Institute for Advanced Study
Princeton, NJ, USA
b. 1950

Roger B. Myerson
1/3 of the prize
USA
University of Chicago
Chicago, IL, USA
b. 1951

Making sense of…

- But modern macro also builds on a second set of ideas:

  ‘adaptive learning processes converging to self-confirming equilibrium (SCE)’. (Thomas Sargent “Evolution versus Intelligent Design in Macroeconomics ” 2008 Max Weber Lecture)

  and other variations of less than, but not ad-hoc, Rational Expectations Equilibrium, coupled with learning processes.

A summary of post-1968 economic theory

Equilibrium Theory + Mechanism Design accounts for:

- Uncertainty, private information, macro-aggregates based on micro-decisions, and micro-decisions affected by macro-aggregates [Hayek dismisses]

- However, in social sciences (in contrast with natural sciences) 'expectations about the future affect today's decisions' [as in the *euro* crisis]. The Rational Expectations Hypothesis 'closes the model'

- The Rational Expectations Hypothesis does not require full information, or full knowledge of the economy, just that 'rational agents use the correct distribution in predicting the variables relevant for their decisions'

Some implications of the REH

- Subjective distributions (beliefs) are equated with objective distributions
- Agents' expectations are automatically coordinated and mutually consistent
- Even regarding events that do not occur (out of the equilibrium path)
- The only discoveries are about 'realizations of the objective distributions'
- Realizations can be disappointing, but expectations cannot be disappointed!

Self-Confirming Equilibrium

- In a SCE, subjective beliefs only need to be consistent with individual experiences; therefore, subjective beliefs can be mutually inconsistent, regarding out-of-equilibrium events.
- Similarly, bad policies can persist: for fear of experimenting with other policies, better policies are never used!
- Discovery is about underlying distributions and new possibilities (individual and social).
- Recall Hayek's 'starting point' (Naomi's 'Definition'):

  Competition as a procedure for discovering facts, which, *if the procedure did not exist, would remain unknown or would not be used* (p. 9)

Adaptive Learning and SCE

- With learning, expectations are revised through disappointments, as Hayek suggests:

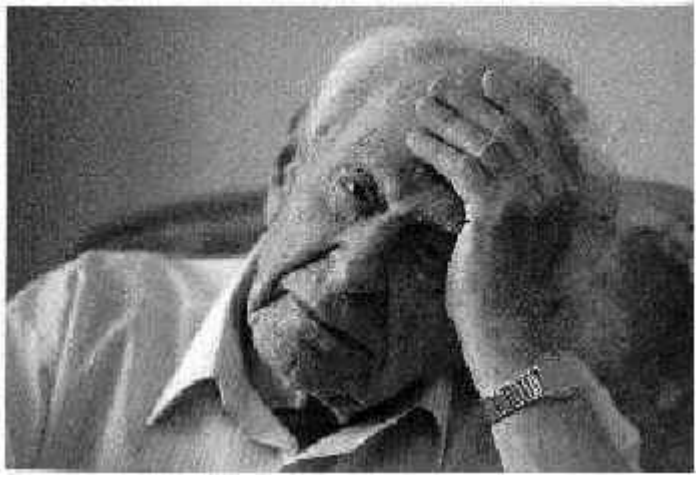
  it can be an outcome of the market mechanism that someone is induced to fill the gap that arises when someone else does not fulfill the expectations on the basis of which a third party has made plans (p.18) [Recall Naomi's 'Second Corollary']

Making sense of…

- There is no ‘objective knowledge’ but ‘subjective beliefs,’ resulting in ‘equilibrium distributions.’
- Subjective beliefs are also beliefs about own capacities and possibilities (e.g. low productivity may persist).
- Learning should be persistent and optimizing agents rational, given their past information.
- Competition enhances experimentation and facilitates learning (e.g. less likely that ‘bad policies’ persist).
- In a more competitive environment agents’ beliefs are closer to being mutually consistent.
- Yet policies based on subjective beliefs from ‘wrong statistics’ can be bad ‘equilibrium’ policies.

“The process of learning,
of the growth of
subjective knowledge,
is always fundamentally
the same.
It is *imaginative criticism.*”

(Karl Popper’s *Objective Knowledge* (1979))



Karl Popper
(Vienna July 1902 – 1994)

Max Weber Programme Conference
"On Objective knowledge in the Social Sciences and Humanities
-Karl Popper and Beyond”
-13 March 2009

But Hayek's conjecture is a theory to be…
A pretence of knowledge?

As you showed me years ago, Hayek was an accomplished technical theorist in the 1930s. But something happened that led him to leave theory behind. I just cannot make sympathetic contact with his later writings.

Best regards.

Bob

An application of a non-existent theory

Competitive research funding

Research funding made simple:

The Olympics of Science & Technology !

- Competition for a well defined discovery

(a specific vaccine, a pre-specified solar cell, a missing theorem, etc.)

- Competition for an S&T well-defined service

(monitoring & forecasting earthquakes, etc.)

- Recognition of well defined achievements

(e.g. publication impact, according to…)

Research funding made simple:

Prizes and Tournaments!

- **Prizes**: at best they recognize past discoveries, their effect on new ones is, at best, very indirect.
- **Tournaments**: at best can realize an existing idea, but they are not a 'discovery procedure' for new ideas.

although the incentives often work…

What a ‘discovery’!

Small problem:

For most part, the Scientific and Technological Process is not an Olympic Game!

We may know a scientific and/or social challenge in general terms (e.g. financial crisis), but it is precisely part of the scientific process to define specific problems, proper methods, etc.

The problem is not just of assignment of funds to a winner to perform a well defined task, or to recognize past achievements.

Public Funding for Research

- It's not about distributing funds to researchers because they deserve it.
- It's about distributing funds to researchers because they can generate new ideas and innovations.
- It's about stimulating competition as a discovery procedure, a process with its own intrinsic complexity.

Some of the last slides are self-plagiarism from:

Presidencia Española 2010.es

On the Simplification of Community Funding for Research: Some Basic Principles

Ramon Marimon

European University Institute &
Universitat Pompeu Fabra

Brussels, February 24, 2010

And I got permission to quote…

From: relucas@uchicago.edu
Subject: Re: Hayek's conference
Date: June 5, 2010 7:02:41 PM GMT+02:00To: Ramon.Marimon@eui.eu

Dear Ramon,

Sure: Use whatever you want. Im sorry I can't be there. It is always rewarding to spend time with Hayek, whether or not you understand him fully or agree with him.

Bob

Thanks!