

Abstract of the Master Thesis:

The Turn in Economics

Behavioral Economics' Influence in the Change from Neoclassical Dominance to a Pluralistic Science

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My master thesis *Identitätswandel der VWL: Die Rolle der Verhaltensökonomie im Wandel von neoklassischer Dominanz zur pluralistischen Wissenschaft* (2013) is a first attempt to analyze the development of behavioral economics with quantitative means. Its approach consists of two parts. First, hypotheses emerging from the philosophy of science about the relation of today's economics to its adjacent disciplines are developed. Secondly, these hypotheses are contrasted with empirical data from the *Web of Science* publication database. The results of the quantitative analysis made it possible to identify the actual influence of psychology on economics within the sphere of behavioral economics. The following article represents an excerpt of the master thesis and summarizes its main results.

Economic imperialism vs. reverse imperialism The starting point of the thesis is John Davis' article *The turn in economics: from neoclassical dominance to mainstream pluralism?* (DAVIS, 2006). Davis asks whether the identity of modern economics has changed substantially in recent decades. To illustrate this idea he summarizes the development of the discipline since the 1970s as a change from the paradigm of *economic imperialism* towards a paradigm of *reverse imperialism*. According to Davis, there was a period where the scope of economics extended to other social sciences (starting with Gary Becker), but this process led to a period where economists started to import theories and methods from other sciences and, thus, changed the identity of economics itself.

Davis suggests some measures that could allow to analyze the changing paradigm. Of these measures two are

chosen for which it is possible to contrast them with empirical data.

The first one states that finding a large share of methodology driven articles would argue in favor of a paradigm change in economics. The second one interprets this shift as an import of topics and methods from other disciplines to economics on a relevant scale.

The two measures are applied to assess Davis' hypotheses of a changing identity of economics on the example of behavioral economics. Behavioral economics is one of the most important new sub-discipline within economics. It is often regarded as a new way of economic thinking, where psychological insights are used to explain economic behavior. Because of its rising importance and the potential high influence of psychological concepts, behavioral economics fits the idea of being a new paradigm. It is therefore a feasible example to test Davis' hypotheses.

Ongoing debate of leading behavioral economists A potential paradigm shift would clearly be accompanied by a sizable methodological debate about behavioral economics. The methodological debate itself refers to the need to overcome conceptual gaps between "standard" economics and the emerging discipline. Thus, it is necessary to look at statements of leading behavioral economists about their discipline.

The subtitle of Daniel Kahnemans Nobel Prize lecture (KAHNEMAN, 2003) *Psychology for behavioral economics* suggests that there is a need for methodological orientation. Kahneman presents a new model of behavior based on a combination of intuition and reasoning that should replace the model of rational choice that is used in economics. Kahne-

mans ideas, thus, point towards a new understanding of the economic discipline in the sphere of behavioral economics.

In contrast, there are other perspectives on behavioral economics, which are more conservative. For example, Colin Camerer and George Loewenstein (CAMERER/LOEWENSTEIN, 2004) maintain the perspective that "increasing the realism of the psychological underpinnings of economic analysis will improve the field of economics *on its own terms*" and that "this conviction does not imply a wholesale rejection of the neoclassical approach to economics" (CAMERER/LOEWENSTEIN, 2004, p. 3). Camerer rather hopes that behavioral economics can help to extend the economic analysis of human behavior which then would lead to a general theory of behavior where "behavioral economics will cease to be a distinctive label for an approach as it becomes part of mainstream economic thinking, evincing a healthy reunification of psychology and economics" (CAMERER, 1999, p. 10577).

The discussion illustrates that there is not yet a consensus about behavioral economics' role within economics. Whether it is largely influenced by psychology and, thus, challenging for "mainstream" economics, or whether it is rather a continuation of classical economic thinking is not entirely clear. At this point, an empirical analysis might help to reveal to what extent behavioral economics is influenced by psychology. It might help to answer the question whether the paradigm of economics has changed through the rise of behavioral economics.

An empirical citation analysis of behavioral economics The idea of the empirical investigation is to analyze the influence of psychology on economics through a citation analysis of behavioral economics articles. Were these articles mainly influenced by psychological insights, then one could conclude that Davis'

hypothesis was reasonable and that the paradigm of economics has changed.

To perform the analysis it is necessary to identify those articles that are concerned with behavioral economics.¹ For this reason, I developed a selection mechanism that worked as follows: 1. scan review articles of behavioral economics for the most important "core" articles of behavioral economics (e.g. (KAHNEMAN/TVERSKY, 1979)), 2. search for all articles in top economics and psychology journals that cite the core articles, 3. for all these articles; apply a rule that identifies the text as relevant for behavioral economics.² This selection mechanism delivers 122 articles published in ten of the most important economics journals and 130 articles in the top ten psychology journals that are concerned with behavioral economics. Comparing those articles' reference structure should allow to analyze the boundary between economics and psychology.

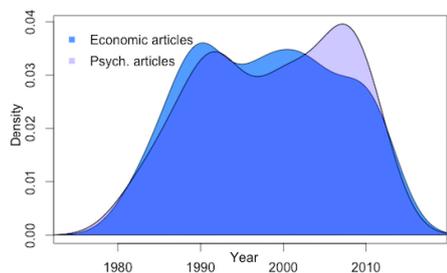


Figure 1: Publication frequency of both subsets 1974 - 2013

The summary statistics for both subsets are very similar, as the frequencies of publications over time in figure 1 indicate.³ This apparently similar development shows that none of the two disciplines has overwhelming influence within behavioral economics. Since these statistics are too aggregated, they do not suffice to evaluate Davis hypothesis, but have to be contrasted with more detailed

Table 1: Detailed statistics for American Economic Review (AER) and Journal of Personality and Social Psychology (JPSP)

(relative values of 45 AER and 25 JPSP articles)	Am.Econ.Rev.	J.Pers.Soc.Psych.
Articles written by economists / psychologists / others	80 / 16 / 4 %	28 / 56 / 16 %
References from other science more than 20 % / 1 to 20 % / 0 %	22 / 60 / 18 %	24 / 76 / 0 %
Relation to "mainstream" economics no link / rejection / acceptance	15 / 29 / 56 %	80 / 20 / 0 %
Interdisciplinary explanation	38 %	48 %

statistics.

Table 1 shows four variables for the subset of the two most important journals in the sample (AER and JPSP). It is assumed that major differences of these variables allow inference on the way behavioral economics research is structured in both scientific disciplines.

Comparing both publications, the academic background of authors in the American Economic Review appears to be relatively homogeneous. 80% of all articles are written by economists, only 16% are written by psychologists. In contrast, relatively more articles published in the JPSP are published by scientists with non-psychology background.

Comparing the references of the articles reveals major similarity, but it is surprising that nearly one fifth (18%) of the AER articles do not refer to any sources from psychology. In addition, there are major differences when comparing the relation to "mainstream" economics. 56% of the AER articles accept explicitly or implicitly rational choice as the theoretical concept of behavior, whereas this is not the case for any of the JPSP articles. There are also relatively more JPSP articles that apply interdisciplinary explanations than AER articles.

What do these statistics tell us? Even though, the sample is very small

and generalizations should not be carelessly made, it is obvious that the understanding of behavioral economics is very different in both disciplines. Whereas the AER deals mainly with the concept of rational decision making, the JPSP is more open to insights from other sciences. This small empirical analysis does not allow a terminal answer to the question about the relation between economics and psychology, but provides some evidence against John Davis' hypothesis. Instead of an opening economic discipline, it seems that the boundary of economics is still relatively closed compared to psychology.

References

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¹It was not possible to consider only those articles that have a certain "behavioral economics JEL code" since I wanted to compare behavioral economics articles published in economics and psychology journals, and psychology articles are not classified in JEL codes.

²The rule applied was to assume every text to be about behavioral economics that cites at least two of the ten core articles.

³The overlapping frequency functions show that the share of articles published in a certain period was nearly identical for both subsets. Other summary statistics show the same trend. E.g. the number citations per year for each of the economics articles was 8.4 on average vs. 7.1 for the psychology articles.