

Resende, Marcelo; Zeidan, Rodrigo M.

Working Paper

Lionel Robbins: a methodological reappraisal

CESifo Working Paper, No. 2165

Provided in Cooperation with:

Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Resende, Marcelo; Zeidan, Rodrigo M. (2007) : Lionel Robbins: a methodological reappraisal, CESifo Working Paper, No. 2165, Center for Economic Studies and ifo Institute (CESifo), Munich

This Version is available at:

<https://hdl.handle.net/10419/26209>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

LIONEL ROBBINS: A METHODOLOGICAL REAPPRAISAL

MARCELO RESENDE
RODRIGO M. ZEIDAN

CESIFO WORKING PAPER NO. 2165
CATEGORY 10: EMPIRICAL AND THEORETICAL METHODS
DECEMBER 2007

An electronic version of the paper may be downloaded

- *from the SSRN website:* www.SSRN.com
- *from the RePEc website:* www.RePEc.org
- *from the CESifo website:* www.CESifo-group.org/wp

LIONEL ROBBINS: A METHODOLOGICAL REAPPRAISAL

Abstract

Lionel Robbins contributions are often discussed in terms of two main aspects. First, the delineation of the scope of economics in terms of decision making conditional on scarcity. Second, a more methodological concern with respect to scientific neutrality and the possibility of meaningful separation between positive and normative statements in economics. The related demarcation issue is subject to intense debate and Robbins is often associated with a strong neutrality view [see e.g. Davis (2005), Mongin (2006)]. This paper attempts to situate Robbins aprioristic point of view in terms of posterior methodological developments. In particular, the methodology of scientific research programmes (MSRP) advanced by Lakatos (1968, 1970) has been subject to adaptations in the context of economics by Latsis (1976) in an attempt to accommodate different degrees of apriorism, falsificationism and conventionalism as scientific criteria in economics.

The historical path towards Robbins's (1932, 1935) essay appears to be well documented [see e.g. Howson (2004)]. The paper aims at clarifying the role of Robbins's essay in shaping the dominant research programme in Economics, and contends that the author's definition of economics is central to the main elements of the hard core of contemporary research programmes in line with the neoclassical research programme.

JEL Code: B4.

Keywords: Lionel Robbins, scientific research programmes, falsificationism.

Marcelo Resende
Economic Institute
Federal University of Rio de Janeiro
Av. Pasteur 250, Urca
22290-240, Rio de Janeiro-RJ
Brazil
mresende@ie.ufrj.br

Rodrigo M. Zeidan
Escola de Gestão e Negócios
Unigranrio
Rua da Lapa, 86, Centro
Rio de Janeiro, RJ, CEP: 20021-180
Brazil
rodrigo_zeidan@hotmail.com

Paper prepared for the Conference on the Nature And Significance of Economic Science 75th Anniversary of Lionel Robbins's Essay, LSE, dec. 2007. We gratefully acknowledge the helpful comments of Jeffrey Goldstein, but the usual caveats apply.

1. Introduction

Reappraisal of scientific theories constitutes a central issue in the history of science, particularly during the last few decades. Although one can classify the appraisal of scientific criteria in economics in different ways, at least one approach stands out as specially germane to the work of an economics theorist as important as Lionel Robbins: the gradualist approach of the Methodology of Scientific Research Programmes (MSRP) first put forward by Lakatos.

The Essay reveals two essential issues, namely, Robbins' delineation of the scope of Economics as going well beyond the assessment of the causes of material welfare that were embodied in previous characterizations and the methodological issues involved in Robbins' position on neutrality. The historical path towards the essay is well documented [see e.g. Howson (2004)], and was summarized by Kirzner (1975, p. 117) "These considerations (on *price and exchange at the margin*) thus clearly set Robbins's definition apart from the earlier definitions of economic activity in terms of maximization, despite the undoubtedly important part that the latter conception, in conjunction with the literature on scarcity, played in the emergence of Robbins's view of economics."

Indeed, the definition of economics as being about the study of decision-making conditional on scarcity has become a standard. The neoclassical dichotomy associated with the optimal allocation of scarce resources across possible alternative ends reinforces just how widespread Robbins's definition did in fact become.

The second issue, pertaining to a more methodological concern with respect to scientific neutrality, involved the possibility of meaningful separation between positive and normative statements in Economics. The demarcation issue has of course been

subject to intense debate and Robbins is often associated with a strong neutrality view [see e.g. Davis (2005)] and it's aprioristic view followed a tradition that could be traced back to Nassau Senior [see e.g. Latsis (1976)].

By focusing on methodological aspects, this paper situates Robbins' aprioristic point of view in terms of posterior methodological developments. In particular, the methodology of scientific research programmes (MSRP) advanced by Lakatos (1968, 1970) has been subject to adaptations in the context of economics by Latsis (1976) and attempts to accommodate different degrees of apriorism, falsificationism and conventionalism as scientific criteria in economics. In particular, Mongin (2006) has considered the possibility of a weaker form of non-neutrality, which is pertinent to establish the logical status of Robbins's neutrality view within the context of this broader conceptual setting.

Hence, two research questions drive this paper: the applicability of the MSRP in economics in general and the place of Robbins's seminal essay of 1932 in particular. However, before getting to the main objective of our paper, certain preliminary issues must first be sorted-out. For that purpose, we analyse the development of the MSRP and how it relates to economics per se, turning to several recent methodological developments (e.g. Mongin, 2006) as well as a reconsideration of old concepts such as situational determinism (Nightingale, 1994).

Focusing on the neoclassical research programme, we then proceed to review methodological developments by Robbins himself that are relevant to the earlier analysis. With these building blocks in mind, we can next evaluate the place of Robbins's essay in the context of the neoclassical research programme. Hence, the first section explores the role of research programmes in economics. The second section overviews most influential methodological approaches for scientific

assessment with reference to Economics. The third section explores Robbins's methodological contributions found in the Essay. The fourth section analyses the role of Robbins's essay and its historical place in the neoclassical research programme in economics. The fifth and last section brings some final comments.

2. Scientific Appraisal in Economics and the Methodology of Scientific Research Programmes

2.1- General Aspects

Even though the MSRP is based on falsification criteria to appraise scientific theories, it operates quite differently in economics than in the natural sciences since the assessment of falsification criteria in economics is destined to be more complex. In fact, despite the growth of experimental economics, one has to concede that it is often a daunting task to obtain testable hypotheses in the context of complex social systems.

It is also true that distinct views on the evolution of economics as a falsifiable domain can be discerned in the history of economic thought literature.¹ In fact, if one seeks to stay within the strictures advanced by Canguilhem (1970), the absence of value judgments in theoretical construction in the social sciences would not be possible at all since the object of study is mutable and the choice of the associated analytical categories cannot be completely neutral. Indeed, the research agenda in

¹ Arida (1996) even argues for the existence of a contrast between the American and European views on the progress of economic thought. In the former, knowledge would essentially be cumulative and evolves progressively according to a Popperian conjecture/refutation sequence and therefore somewhat mimics the trajectory of natural sciences where recent theories incorporate the current temporary 'truth'. The latter, in contrast, conceives the existence of distinct theoretical matrices that cannot trivially suppress each other and must, at least, co-exist at some key points. It is important to stress that beyond highlighting those polar cases, it is possible to detect a non-negligible content of rhetoric in explaining the growing dominance of a particular research framework over time. McCloskey (1998) also pursues similar arguments.

economics may in part possess historical conditioners that may themselves facilitate convincement strategies at a given moment.

With the previously mentioned caveats in mind, it is relevant to consider how certain influential methodological developments are related to Robbins' contributions. Although, Kuhn (1970) argued that the forward thrust of science occurred in terms of revolutions constituted by disruptive changes in paradigms that did not reveal completely rational behaviour on the part of the scientific community, Lakatos (1968, 1970) advanced a counterclaim concerning the methodology of scientific research programmes (MSRP). In the gradualist view of the MSRP, there may be progress or its converse, which implies a much more sophisticated falsificationism in contrast to earlier dogmatic (or naive) falsificationism.² Moreover, the concept of a research programme, positioned in a middle ground between Popper's falsificationsm and Kuhn's paradigmatic shift, concerned itself with "normal science", with the latter conceived primarily for the natural sciences. Experiments and testability were assumed as given in the developing of arguments regarding the research programme. Lakatos' research programme concept is broader than Popper's in the sense that it accounts for what Popper observed as irrational behaviour of scientists. An example of the latter would be a continuing insistence in working with theories where evidence shows them to be of limited value or even, by a Popperian definition, false. In this vein, Caldwell³ (1994, p.86) traces the discussion back to the development of Popper's ideas by Lakatos, showing that "Lakatos' positive contribution is to complete the program begun by Popper by proposing a methodology of scientific research programs that contains the best of Popper's insights (some of which, incidentally,

² Robbins (1979) remarks that Popper should not be included in the latter category. For a discussion of Lakatos' views on Popper see Lakatos (1974)

³ Caldwell is one of the most important authors in tracing the recent developments in the methodology of economics, and his restrained methodological pluralism (instead of the complete relativistic pluralism of Feyerabend) and positive heuristics are relevant contributions.

agree with ideas propounded by Kuhn and Feyerabend) and that enables a rational (as opposed to a sociological or irrational) reconstruction of methodology and of the growth of scientific knowledge.”⁴

The difficulty in empirically falsifying a theoretical hypothesis is also related to the so-called Duhem-Quine problem, i.e., the claim that empirical, testable implications incorporate several interconnected auxiliary hypotheses. In other words, one never faces isolated individual hypothesis, but rather a set of hypotheses, what is sometimes referred to as Quine’s “holistic” thesis of scientific theorizing. In economics, for example, *ceteris paribus* assumptions are often considered and not easily disentangled from a string of hypotheses. *Ceteris paribus* is so central to many economic models that “the requirement of *ceteris paribus*, despite all sorts of ingenious techniques, is very exacting.” (Robbins, 1979, p. 999)⁵.

The MSRP addresses the previously mentioned concerns through delineating the scope of a research program into the *hard core* and the *protective belt* as the essential categories. The former refers to assumptions of a more axiomatic nature that are not directly testable but that define the primitives of the framework. The latter, on other hand, characterize the set of auxiliary hypotheses that are prone to empirical falsification. This means that specific violations do not necessarily jeopardize the existence of the research programme. In fact, the progressive or degenerative nature of a research programme has to do with robustness to empirical refutation and the ability to explain or not new empirical facts, that is, to improve the empirical content/scope of the model with comparable robustness properties.

⁴ Caldwell (1994, p. 86) continues the argument, showing the ultimate goal of Lakatos: “His sophisticated methodological falsificationism, then, not only lays down prescriptions by which science can proceed, it also provides a basis for a descriptive rational reconstruction of how scientific disciplines often evolve”.

⁵ Cross (1982) investigates Quine’s thesis, arriving at an interesting result on grouping hypothesis for testing in macroeconomics. Boyle and Gorman (2003) also revisit the subject of Duhem-Quine, with the goal of disputing the original thesis. Even if they do not match their ultimate goal, it is a work that delineates many important issues regarding Duhem-Quine in economics.

Although criticisms of falsificationism abound, with many claiming a kind of methodological pluralism⁶, economists in general⁷ still consider falsificationism as the method to appraise economics research. Blaug⁸ (1992, p. xiii) even contends that “modern economists do in fact subscribe to the methodology of falsificationism: despite some differences of opinion, particularly about the direct testing of fundamental assumptions, mainstream economists refuse to take any economic theory seriously if it does not venture to make definite predictions about economic events, and they ultimately judge economic theories in terms of their success in making accurate predictions”⁹. In terms of pragmatics, it seems plausible to hold that modern economics subscribes to falsificationism, some controversy still surrounds the applicability of MSRP into economics. Thus, the original admonition by Leijonhufvud (Latsis, 1976) that, since the MSRP was created to natural sciences, a lot of caution is necessary on its transposition to economics, is still valid.

The major critiques to the applicability of the MSRP in economics can be divided into three kinds¹⁰: the conceptualization of a research programme; the search for empirical content; and the rhetorical content of alternative programmes. The first point refers to the fact that it is not a trivial quest to define the hard core or the auxiliary belts of alternative competing research programmes. The second one alludes to how Lakatos emphasized the role of new empirical content as necessary to validate or not the hypothesis brought forward by the programmes. The last point has its roots in Kuhn’s and others’ work in which the commensurability of different

⁶ see e.g. Dow (2007), where the author argues for some form of rigour in the face of methodological pluralism to avoid a disinteresting relativism of the form anything goes.

⁷ The word economists here is used in the same vein as Mongin’s (2006) economist qua economist.

⁸ Blaug has been at times a supporter and a critic of the MSRP, and his works have been central to the discussion of the applicability of the MSRP in economics.

⁹ Blaug (1992), however, shows that there is a strong difference between the discourse of economist regarding falsificationism and their practice.

¹⁰ Following Blaug (1992) and Backhouse (1998).

programmes is considered a necessary condition for appraisal of scientific programmes.

Although several arguments for all three critiques are advanced in this paper, the main point to be emphasized is that the neoclassical research programme is by its very nature *broadly* defined. Logical foundations for the applicability of MSRP in economics then may be based on the same foundations for its applicability in natural sciences: it is based on sophisticated falsificationism and presupposes an ontology of economics that may or may not be acceptable to the interested researcher. Lakatos' work in economics is unfashionable (Backhouse, 1998) and when used is accompanied by several caveats. Based on the former analysis, and considering the validity of some form of methodological pluralism that allows different valid choices, we argue that even if taking into account its limitations, the MSRP is a valid and impartial way to appraise scientific theories. It may not be the furthest a researcher could go into analysing the development of science, especially regarding a subject as problematic as economics, but it is at the very least a concrete and sound foundation on which to build the appraisal of alternative economic theories. Maybe it is a useful starting point (Backhouse, 1998) after all, but one that should not be hidden behind curtains of caveats. However, we want to try arguments based on an unashamed view of Lakatos' ideas, with the goal to arrive at a semi-rigorous definition of the neoclassical research programme on which to base some analytical construct useful in economic methodology, and apply it to Robbins's Essay.

Latsis (1976) illustrates MSRP in economics with four different examples. The most emblematic of the MSRP in economics is that of the *perfect competition* neoclassical research programme. In that case, the hard core would be characterized by hypotheses concerning profit maximization, independence of decisions, and

complete relevant knowledge. Additionally, complementary assumptions regarding homogeneity of the product, the number of competitors and perfect mobility establish the familiar competitive environment. It seems clear that even when one departs from this benchmark, other research programmes in mainstream economics share some common elements with the neoclassical hard core.

2.2- The Neoclassical Research Programme and Situational Determinism

The object of analysis of the MSRP is a scientific theory. To better situate Robbins' contributions in the Essay in terms of the MSRP, it is necessary to understand the specific programme that is consonant with Robbins' work, *viz.*, the neoclassical research programme.

Backhouse (1998, p. 41) summarizes one of the difficulties in defining a research programme as to “whether SRPs are to be defined on a large or small scale”¹¹. We contend that both levels of analysis yield interesting results and are not mutually excludent. We only choose the macro scale because we intend to criticize some aspects of previous definitions of the neoclassical research programme.

Even after choosing the scale on which the analysis is based one is not free from critiques. (Backhouse, 1998, p. 41): “programmes may overlap, with some theories apparently fitting into two different programmes; different programmes may be related to each other; it is sometimes difficult to identify a hard core that is unchanged over the life of a research programme”. To provide a counter argument against the two points we use the metaphor of the definition of sets in abstract algebra in mathematics. Different sets are defined by slight changes on its properties – two different sets can have almost the same properties and still possess unique features.

¹¹ The author continues: “At one extreme we can view neoclassical economics as one SRP, ranged against various heterodox programmes.”

The same situation happens in economics - different economic theories arise from slight changes in the hard core of a research programme, maybe generating alternative research programmes – and this happens on different scales. This may complicate the development of a typology of research programmes in economics, but is not a major problem per se since appraising scientific theories imply a search for the specific features of alternative research programmes. The search cost may be high, and one may discard the MSRP on the grounds that it is unfeasible and does not yield useful content if the search cost involved is taken into account, but there is no major problem in using the MSRP if the proper scale is defined.

Having defined the scale of analysis and its subject – the neoclassical research programme, we look into how this programme has been defined in the past. A central concept to the definition of the neoclassical research programme is situational determinism as advanced by Latsis (1972, 1976).¹² The concept of situational determinism¹³ states that the typical neoclassical agent behaves as part of a single-exit game. In that polar case the agent's decision is uniquely determined by situational considerations. In contrast, in multiple-exit situations non-situational aspects also become relevant for decision-making.

To be sure, there is no claim that psychology is involved and Latsis (1976) argues that single-exit problems define the neoclassical programme¹⁴. His famous example is that the monopolistic theory is methodologically no different than perfect competition models, since the monopolistic firm would face a single-exit game - the firm's "choice" would logically have to be the one predicted by the model, with no

¹² The first version of Latsis's argument dates from 1972, but the often cited reference is 1976, where the author analysis situational determinism alongside the application of MSRP in economics.

¹³ The concept received immediate criticism by Machlup (1974), and was revisited by Nightingale (1994), and Szenberg and Ramrattan (2004).

¹⁴ Nightingale (1974) agrees with Latsis (1976), but there is an implicit assumption in his agreement, that situational determinism defines the neoclassical theory of the firm. Nightingale (1994) identifies the whole neoclassical programme as the theory of the firm, which is a valid view since the MSRP encompasses different levels of analysis, but in the present paper we choose a broader definition.

rational deviation.¹⁵ Alternative research programmes in economics would then be those that had multiple-exit situations. Latsis (1976) advances some alternative programmes in economics, and his examples include economic behaviourism and organizational approaches. Later alternative programme propositions include the work of Lavoie (1992), who argues for a postclassical programme defined as a synthesis of post-Keynesianism and Neo-Ricardianism. Lavoie (1992) is even more stringent when defining an alternative from the neoclassical programme, deriving his synthesis as one that abandons scarcity analysis in favour of alternative foundations.

Machlup (1974) criticizes Latsis (1972) on many grounds, but his specific criticism regarding situational determinism is based on three arguments, what Machlup (1974, p. 276) calls confusion regarding single-exit situations: the confusion between action and reaction; the confusion between reactions and effects of reactions; the confusion between the effects of reactions of particular persons and the effects of mass reactions or, more correctly, of assumed typical reactions of imaginary persons. Although Machlup's (1974) arguments can be emended to allow the possibility for maintaining situational determinism as the neoclassical programme, there is another argument that is even stronger: if one introduces any kind of probability distribution to a neoclassical model, the single-exit situation vanishes, since a researcher would not be able to identify the only course of action of the representative agent. Even more so, a single agent would be able to take different, mutually exclusive actions, and maintain the rationality necessary in neoclassical models, and such a model would then still be characterized by the hard core of the programme.

¹⁵ Szenberg and Ramrattan (2004, p.7) even observe that "the term "situational determinism" has evolved to represent the neoclassical program".

A similar argument is found in Runde (1996) where he analyzes Popper in the context of probabilities, and what Popper defined as propensities, a *prima causa* of probability in social sciences. Runde (1996) argues that Popper's view is incompatible with that of situational determinism, since (Popper, 1990, p. 17): "with the introduction of propensities, the ideology of determinism evaporates. Past situations, whether physical or psychological or mixed, do not determine the future situation."

Game-theory would also be a source of multiple-exit situations, and game-theoretical models thrive in the context of uncertainty. Indeed, Runde's (1996) analysis of Popper's work has also shown how probability plays a role in undermining single-exit situations.¹⁶ We contend that the neoclassical programme envelops single-exit situational determinism; maybe all such situations as they happen economically. However, the neoclassical programme is broader than that, with an auxiliary belt that allows multiple-exit situations. The hard core of the neoclassical programme would then not necessarily be identified with situational determinism, but decision-making conditional on scarcity, based on rational behaviour.

Alternatives research programmes would have to be based on a different hard core than the neoclassical programme. A compelling new programme (certainly not the only one as the aforementioned work by Lavoie (1992)) is particularly interesting as well, that of complexity theory. An argument can be made that the study of complex adaptive systems is not a theory when applied to social sciences, but enough work has been done on these kinds of dynamical systems for complexity to warrant

¹⁶ As Runde (1996, p. 478) puts it, "Of course there may be more than one action for each agent that follows from the "logic" of his or her situation, particularly in game-theoretic situations in which the payoffs to any one agent of taking some course of action depend on the actions of other agents. Popper does not have much to say situations of this kind." Although trying to specifically analyse situational determinism in the context of Popper's work, Runde's point is easily generalized to reinforce the notion that single-exit situations are not found in more developed models. We argue that those developed models are still part of the neoclassical programme, since they do not violate the hard core but bring more empirical content to the programme, constituting novel facts, one of the conditions for the applicability of the MSRP. .

the moniker of an alternative research programme, if not a proper theory. Thus, Colander et al (2004, p. 485) observes that “this article argues that economics is currently undergoing a fundamental shift in its method, away from neoclassical economics and into something new. Although that something new has not been fully developed, it is beginning to take form and is centered on dynamics, recursive methods and complexity theory.”

It is in fact not particularly difficult to describe complexity theory and evolutionary economics as an alternative research programme, since no main characteristic of the neoclassical research programme appears to be included in it. For instance, evolutionary economics has incorporated Simon’s idea of satisficing instead of the usual decision making concept. Satisficing is a strategy where agents attempt to meet some adequate criteria (for instance, have to satisfy some constraint) for its decision, instead of identifying an optimal solution. Although some of the new terminology brought by complexity theory is definitely noise and could be explained through orthodox economics theory (see Zeidan and Fonseca, 2004), enough new concepts are brought that make complexity theory an alternative theory to neoclassical and other research programmes in economics¹⁷¹⁸.

Nevertheless, we also contend that despite the existence of different research programmes in economics, some relative consensus has been attained with respect to central elements. Latsis (1976) outlined the implicit positive heuristics that would indicate appealing features to be on the look-out for. Apart from analytical tractability that largely justified more static formulations and formulations with well defined equilibrium, one faces aspects that relate to the rationality of agents’ decision making.

¹⁷ Nightingale (1994) applies the Lakatosian framework to evolutionary economics and arrives at a hard core of evolutionary economics composed of four assumptions, including the differentiation of individuals in a population (no representative agent), and the obvious mechanism of selection.

¹⁸ See Markose (2005), for an important survey and contribution on the analysis of the relationship between complexity and economics.

In fact, Latsis (1976) contends that the neoclassical research programme embodies a rationalistic view more along the lines of a single-exit situation. Nevertheless, it is important to stress that the reshaping and broadening of the protective belt of the neoclassical research programme makes multiple-exit situations worth discussing and related issues will be further addressed in the text.¹⁹

The next section will further discuss to what extent one can relate Robbins's contributions to those methodological developments.

3. Lionel Robbins: Some Methodological Remarks

Taking as reference modern methodological tools, one can reassess Robbins's Essay to put it in the context of MSRP and other modern lines of research, as delineated in the previous section. With historical hindsight, the main transforming ideas put forward in the Essay accomplish a great deal to mold modern economics.

The classic definition by Robbins (1935, p. 16) that "Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses" is still the standard definition of the field. But the impact of his other contributions in the Essay can be considered more important for the shaping of modern economics – first, the differentiation between positive and normative economics, and second, the idea that economics can be expressed as a system of logical deductions from axiomatic principles.

The impact of Robbins's ideas was immediate and of course much criticism has been aimed at his work. Three major contributions summarize the historical background and impact, and offer a thorough criticism of Robbins's Essay - Kirzner (1960, 1975), Blaug (1980, 1992), and Caldwell (1982, 1994). In the realm of current

¹⁹ Sabooglu and Villet (1992) also criticise Latsis for the excessive identification of the neoclassical research program with single-exit situations.

economic methodology Robbins's positivism is considered dead and plural methodological approaches are advocated (see, for instance, Dow, 2004).

One good example of the current methodological debate is Mongin (2006), who analyzes the value judgment problem through economic evaluations, by trying to distinguish evaluative statements from actual value judgments. For Mongin (2006), the value neutrality problem has received three solutions in modern economics, with Robbins's position being central to one of them. Those three solutions are classified as strong neutrality, weak neutrality, and complete non-neutrality. The author dismisses the two polar extremes that were respectively defended by Robbins and Myrdal and aims at establishing a compromise in terms of a weak version of non-neutrality.²⁰ The proposed fourth category defines weak non-neutrality, that (Mongin, 2006, p.) "starts with the broad claim that the question of making value judgments does arise for the economist qua economist, and that he might, might and should, or might not, make these judgments, depending on the case at hand. This claim clashes with the strong neutrality thesis and fits in with the weak neutrality thesis. The line is drawn with the latter by rejecting its containment claim." In any case, the main departure from strong neutrality is associated with the excessive simplicity involved in the dichotomy between evaluative or ethical predicates that embodies the usual separation between normative and positive analyses as motivated by Hume.

The Essay can easily be classified as adherent to the strong neutrality position. The work was fundamental to the view of economics as a "quasi-hard" science, in line with the Austrian school of economics. Robbins (1979, p. 999) recognizes this and reiterates: "but on the positive analysis of the implications for behaviour of the fact of

²⁰ The third category would refer to the acceptance of normative statements in very narrow specific contexts.

scarcity – Economics – I see no reason to recognize any difference between such generalizations and the generalizations of Physics or of Biology”.

Although the modern discussion of methodological issues in economics considers the strong neutrality position as naive²¹, its strength is pervasive in modern economics. First of all, Robbins's (1932, 1935) position stems from the original problem of the demarcation of economics as a science, a problem very much unresolved then, as summarized by the author (Robbins, 1935, p. 2): “indeed, it follows from the very nature of a science that until it has reached a certain stage of development, definition of its scope is necessarily impossible. For the unity of a science only shows itself in the unity of the problems it is able to solve, and such unity is not discovered until the interconnection of its explanatory principles has been established.” This argument is hardly ever brought up when criticism of Robbins's positivism arises.

Even Robbins (1979) found it easy to defend his earlier canonical work, subscribing, with some clarifications, to the same position held over 45 years before. For instance, regarding his definition of economics as based on scarcity, Robbins (1979, p.997) expands on his earlier work by affirming that: “as regards the accusation of narrowness, I suspect this rests on misapprehension due perhaps to undue preoccupation with the theory of exchange. In fact, explanation of the influence of scarcity extends far beyond the immediate incidence of catallactics: it covers questions of incentive, institutions, and indeed much of the legal framework of society, not to mention matters of indiscriminate, as well as of discriminate, benefit.”

The positivism subscribed by Robbins, in his Essay and later work, is based on the original demarcation problem, where his preoccupation is with an analysis that

²¹ For a particularly sharp critique, see Davis (2005).

resonates with the work of his contemporaries, e.g., Austrian authors such as Mises and Hayek. Much has been written on the influence of Austrian authors on Robbins works²² and Robbins (1979) remark on cattalactics, above, is a return to a concept first developed by Mises, and later used also by Hayek.²³

In Mongin (2006), the position of positivism in modern economics methodology is subsumed in the strong neutrality view. In this sense Robbins (1932,1935) is still ingrained in mainstream economics. But Robbins (1932,1935) also advances further methodological issues in his search for unifying principles of economics thoughts. Robbins's *apriorism* is a tentative search for the definition of economics as a logical system derived from basic principles.

Even though the prevalence of strategic interdependence in non-ideal settings is largely explored with the development of Game Theory and other important tools in economics, the explicit optimization assumption is recurring. It is important therefore to characterize Robbins's Essay contributions in later delineating the central issues on MSRP in Economics. The aprioristic view presented in the essay is often referred as embodying a strong rationality assumption. Nevertheless, as indicated by Robbins (1979, p. 998): "But if 'rational action' means, as I think it should mean, *consistent* action, in the sense that, if one prefers A to B and B to C, then it is consistent to prefer A to C and inconsistent to prefer the contrary, I certainly do not hold that all action that is not vegetative must be regarded as rational in the sense that mutual contradictory preferences and policies on the part of single individuals or collection of individuals are ruled out."

²² See, for instance, Kirzner (1960,1975), or Robbins' biography by O'Brien (1988).

²³ Cattalactics is nowadays a footnote to the history of political economy, but is an interesting expression of the desire of political economists to clearly and unambiguously define their craft. Its definition is the economics of market society, and Mises used it to try to define the scope of economics from his more general study of human action principles (*praxeology*), since he was dissatisfied with then current economics terminology, which he did not consider rigorous enough.

He does not necessarily champion an extreme rationality view but rather the prevalence of consistent constructions at the logical level and in therefore would be open to different configurations of the protective belt of the research programme. In that sense, some form of flexible *apriorism* as given by conventionalism is accommodated. In that case creativity is allowed and one is not hostage of a very limited set of *apriori* categories. Influential examples are given in terms as the 'as if' approach considered by Machlup (1955) or most notably the instrumentalism defended by Friedman (1953) that emphasizes predictive power of the theoretical construct rather than realism. Examples of unrealistic frameworks proliferate in economics as for example the Real Business Cycle research that emphasizes the role of technological shocks in explaining economic activity fluctuations. The lack of closed analytical closed form solutions for those dynamic general equilibrium models were later made feasible by the use of calibration methods that became widespread in macroeconomics.

At any rate, however, even when computational improvements provide an additional capacity for refutation (or rather generic consistency), it is important to emphasize that the route towards a progressive scientific research programme in economics is likely to be less smooth than in the natural sciences and diverge from a conjecture/refutation path, since it is more difficult to generate testable empirical hypothesis in economics than in natural sciences. Indeed, that should be the case even when it is not a matter of theory being ahead of measurement.

4. Lionel Robbins and Research Programmes in Economics

The argument for the usefulness of the MSRP as a tool to explain the development of economics was advanced in the first section. Robbins (1979) is an

important contribution to the debate regarding Robbins (1932,1935) and its links with the work on MRSP being advanced by Latsis (1976). It is worth mentioning that Robbins (1979) is sympathetic to the MSRP approach, but with some caveats, especially regarding the possibilities of accruing true generality with MSRP. In the next section, we follow that direction and attempt to articulate Robbins' contributions when one regards economics in terms of the MRSP.

Where does Robbins's essay rank if one is to analyze the evolution of economics through the prism of MSRP? To answer this research question, which is the ultimate goal of the paper, we first take the neoclassical programme as a benchmark.

The neoclassical research programme and other mainstream research programmes are often criticized for their static character and reliance on a strong informational assumption. It is important to stress, however, that at least with respect to this claim the scope of neoclassical economics has greatly expanded to encompass different forms of asymmetric information. There are in fact progressive research programmes in mainstream economics and even anomalies detected in the realm of Economic Psychology which have not imposed serious wounds in what concerns the hard core of mainstream research programmes. One example is the issue of self-control and conflicts between short-run and long-run that are addressed with hyperbolic discounting in contrast with exponential discounting without, nevertheless, abandoning an optimization approach.

We propose that Robbins's definition of economics in terms of decision- making conditionalities on scarcity and the associated optimal allocation of resources highlights the essential element of the hard core of research programmes in economics, namely, that objective functions and constraints as defining an

optimization problem characterizes economic analysis. This does not mean that those elements remain as simple as in initial neoclassical formulations. In fact, the protective belt is gradually reshaping itself, but the essential optimization notion remains central in the hard core of mainstream research programmes, and the explicit consideration of it in the delineation of economics presented in the essay is important.

The modern neoclassical research programme may or may not still be classified as progressive since many research questions are still open and many models are still being carried out in the grand tradition of this research programme. The hard core is mostly constant, as would be expected, and the nature of the programme, its definition as progressive, depends on the formulation and research being done in the auxiliary belt axis. Heterodox theory, of course, assumes that the neoclassical model does not hold. Appraisal of current alternatives research programmes is unusual, since philosophy of science is regarded as a historical discipline – one major issue is the identification problem, i.e., it is very difficult to rigorously account for alternative research programmes while they are developing. Contemporary economics presents an interesting case, however, where complexity theory is clearly an alternative research programme to all other programmes in economics, be it orthodox or heterodox, since the hard core of the complexity theory research programme is almost completely (but not completely) incongruent with mainstream economic research programmes.

An alternative to Robbins' (1932, 1935) famous definition is given by him in the same essay (Robbins, 1935, p. 83): "In pure Economics we examine the implication of the existence of scarce means with alternative uses. As we have seen, the assumption of relative valuations is the foundation of all subsequent complications." That the points raised above are in the center of the neoclassical research

programme is hardly controversial. Coupling that with the strong neutrality position expressed in the rest of the work, we contend that Robbins's essay is one of the central pieces of the neoclassical research programme. We argue that situational determinism, although not incongruent with Robbins' decision-making conditional on scarcity, presents more problems to the definition of the neoclassical research programme than Robbins' and others authors' contributions. A straightforward axiomatic set with decision- making under scarcity as one of the axioms would better characterize the neoclassical research programme²⁴.

The neoclassical research programme has an in-built strong aversion to value judgments, for better or worse. Monguin's (2006) version of the weak-non neutrality, as plausible and interesting as it is, is clearly incongruent with the *praxis* of neoclassical economics. Models that strive for pure impartiality are the norm in modern micro- and even macroeconomics, and are judged, in theory, by falsificationism, while value judgments as observed by Monguin (2006) are strange to its core. In this sense, a epistemology of science that incorporates Monguin's concept of weak non-neutrality would certainly be an alternative to the neoclassical research programme.

Not every argument, however, found in the Essay has permeated the neoclassical research programme. Robbins' distrust of empirical studies is expressed when he argued against the incautious use of empirical studies (Robbins, 1935, p. 107): "we are here entering upon a field of investigation where there is no reason to suppose that uniformities are to be discovered. The "causes" which bring it about that the ultimate valuations prevailing at any moment are what they are, are heterogeneous in nature: there is no ground for supposing that the resultant effects

²⁴ Although an interesting and maybe herculeous research question in itself, a complete hard core definition of the neoclassical research programme is not the goal of this paper. Here we merely argue that points raised in the essay are part of it.

should exhibit significant uniformity over time and space.” The same argument is echoed in Robbins (1979, p. 1003): “in my judgment current appreciation of the real value of economic science has been too much influenced by excessive focus on its power to *predict* to the neglect of its wider power to *explain*.” Although an interesting argument, it is a battle that Robbins’s ultimately lost since prediction models that use real data are currently widespread in all areas of economics, be they neoclassical or not.

5. Final Comments

The paper aimed at assessing Lionel Robbins’s impacts on methodological developments that were later advanced to appraise scientific method in economics. For that purpose we revisited important issues in economics methodology. In particular, we discussed the methodology of scientific research programmes-MSRP as advanced by Lakatos (1968, 1970) and further discussed by Latsis (1976).

We tried to highlight the limitations of the MSRP utilisation in Economics, but also how it can lead to some interesting insights, especially since economists still regard themselves as practitioners of falsificationism in their craft. Recent developments in the methodology of economics lead to possible increased interest in the applicability of MSRP in economics since we showed that some arguments show promise in dealing with the limitations of the applicability of the MSRP into economics. Using these arguments as a logical foundation, we then proceeded to use the MSRP to assess Robbins’s essay. We emphasized the role of situational determinism as the definition of the neoclassical research programme and concluded that the concept is insufficient to broadly define this particular programme.

We contend that Robbins's dichotomy between scarce resources and pressing necessities that require optimal allocations define optimization as a central element in the hard core of different research programmes, in special the neoclassical research programme. We also argue that this definition, alongside the aprioristic view – now regarded as strong neutrality -- found in the essay is central to the neoclassical research programme.

In summary, we concur about the seminal character of Robbins's Essay in explicitly setting the basis of the neoclassical research programme. Even though the programme might have not attained the stability it strived for and has maybe entered its degenerative phase, the notion of optimization remains central to it.

An issue that deserves further investigation refers to the reconfiguration of the protective belt of the neoclassical research programme to assess if the programme has entered its degenerative phase. In fact, the particular new forms of optimization problems that arise as new research questions merit further discussion. However, those considerations extrapolate Robbins's more general considerations that characterise the essential elements of the hard core of the neoclassical research programme.

References

Arida, P. (1996), A História do Pensamento como Teoria e Retórica, In J.M. Rego (org.), *Retórica na Economia*, São Paulo: Editora 34.

Backhouse, R. (1998) Explorations in Economic Methodology: From Lakatos to Empirical Philosophy of Science (Routledge Frontiers of Political Economy, 17), London: Routledge.

Blaug, M. (1980, 1992), Methodology of Economics or How Economists Explain. Cambridge University Press, 2nd edition.

Boylan, T.A. and O'Gorman, P.F. (2003), Pragmatism in Economic Methodology: the Duhem-Quine Thesis Revisited. *Foundations of Science*, 8, pp. 8–21.

Canguilhem, G. (1970), *Etudes D'Histoire et Philosophie des Sciences*, 2nd ed., Paris: Lib. Philosophique J. Vrin

Caldwell, B. J. (1982, 1994), Beyond Positivism. London: Geo. Allen & Unwin.

Colander, D., Holt, R., Rosser, J.B, Jr. (2004), The Changing Face of Mainstream Economics, *Review of Political Economy*, 16, 485-499.

Cross, R. (1982), The Duhem-Quine Thesis, Lakatos and the Appraisal of Theories in Macroeconomics, *Economic Journal*, 92, 320-340.

Davis, J. B. (2005), Robbins, Textbooks and the Extreme Value Neutrality View, *History of Political Economy*, 37, 191-196.

Dow, S. C. (2004), Structured Pluralism. *Journal of Economic Methodology*, 11, 275-290.

Dow, S. C. (2007), Variety of Methodological Approach in Economics, *Journal of Economic Surveys*, 21, 447-465.

Friedman, M. (1953), *Essays in Positive Economics*, Chicago: University of Chicago Press.

Howson, S. (2004), The Origins of Lionel Robbins's Essay on the Nature and Significance of Economic Science, *History of Political Economy*, 36, 413-443.

- Kirzner, I. M. (1960, 1975), *The Economic Point of View: an Essay in the History of Economic Thought*. Kansas City: Sheed and Ward, Inc. 2nd Edition.
- Kuhn, T. (1962), *The Structure of Scientific Revolutions*, Chicago: University of Chicago Press.
- Lakatos, I. (1968), Criticism and the Methodology of Scientific Research Programmes, *Proceedings of the Aristotelian Society*, 69, 149-186.
- Lakatos, I. (1970), Falsification and the Methodology of Scientific Research Programmes, In I. Lakatos and A. Musgrave (eds.), *Criticism and the Growth of Knowledge*, Cambridge: Cambridge University Press.
- Lakatos, I. (1974). Popper on Demarcation and Induction, in P. Schlipp, ed. *The Philosophy of Karl Popper*. LaSalle, IL: Open Court, 241-73.
- Latsis, S. (1972). Situational Determinism in Economics. *British Journal for the Philosophy of Science*. 23, 207-245.
- Latsis, S. (1976), A Research Programme in Economics, In S. Latsis (ed.), *Method and Appraisal in Economics*, Cambridge: Cambridge University Press, 1-41
- Lavoie, M. (1992), Towards a New Research Programme for Post-Keynesianism and Post-Ricardianism, *Review of Political Economy*, 4, 37-78
- Machlup, F. (1955), The Problem of Verification in Economics, *Southern Economic Journal*, 22, 1-21.
- Machlup, F. (1974), Situational Determinism in Economics *The British Journal for the Philosophy of Science*, vol. 25(3), pp. 271-284.
- McCloskey, D. N. (1998), *The Rhetoric of Economics*, 2nd ed., Madison: Wisconsin University Press.
- Markose, S. M. (2005) Computability and Evolutionary Complexity: Markets as Complex Adaptive Systems (CAS), *Economic Journal* 115, 159–192.
- Mongin, P. (2006), Value Judgments and Value Neutrality in Economics, *Economica*, 73, 257-286

- Nightingale, J. (1994), Situational Determinism Revisited: Scientific Research Programmes in Economics Twenty Years On, *Journal of Economic Methodology*, 1, 233-252.
- O'Brien, D. P. (1988), Lionel Charles Robbins, 1898-1984, *Economic Journal*, 98, 104-125.
- Robbins, L. (1932, 1935), *Essay on the Nature and Significance of Economic Science*, 2nd ed, London: Macmillan
- Robbins, L. (1979), On Latsis's Methods and Appraisal in Economics: a Review Essay, *Journal of Economic Literature*, 17, 996-1004
- Runde, J. (1996), On Popper, Probabilities, and Propensities, *Review of Social Economy*, 54, 465-85
- Sabooglu, M., Villet, M. (1992), Déterminisme Situationnel et Rationalité, *Economies et Sociétés*, 17, 5-31
- Szenberg, M., Ramrattan, L. (eds.) (2004), *New Frontiers in Economics*, UK: Cambridge University Press.
- Zeidan, R., Derengowski Fonseca, M.G. (2005), Epistemological considerations on agent-based models in evolutionary consumer choice theory. *Emergence: Complexity and Organization*, 6, 32-39.

CESifo Working Paper Series

for full list see www.cesifo-group.org/wp

(address: Poschingerstr. 5, 81679 Munich, Germany, office@cesifo.de)

- 2100 Gunther Schnabl and Andreas Hoffmann, Monetary Policy, Vagabonding Liquidity and Bursting Bubbles in New and Emerging Markets – An Overinvestment View, September 2007
- 2101 Panu Poutvaara, The Expansion of Higher Education and Time-Consistent Taxation, September 2007
- 2102 Marko Koethenbueger and Ben Lockwood, Does Tax Competition Really Promote Growth?, September 2007
- 2103 M. Hashem Pesaran and Elisa Tosetti, Large Panels with Common Factors and Spatial Correlations, September 2007
- 2104 Laszlo Goerke and Marco Runkel, Tax Evasion and Competition, September 2007
- 2105 Scott Alan Carson, Slave Prices, Geography and Insolation in 19th Century African-American Stature, September 2007
- 2106 Wolfram F. Richter, Efficient Tax Policy Ranks Education Higher than Saving, October 2007
- 2107 Jarko Fidrmuc and Roman Horváth, Volatility of Exchange Rates in Selected New EU Members: Evidence from Daily Data, October 2007
- 2108 Torben M. Andersen and Michael Svarer, Flexicurity – Labour Market Performance in Denmark, October 2007
- 2109 Jonathan P. Thomas and Tim Worrall, Limited Commitment Models of the Labor Market, October 2007
- 2110 Carlos Pestana Barros, Guglielmo Maria Caporale and Luis A. Gil-Alana, Identification of Segments of European Banks with a Latent Class Frontier Model, October 2007
- 2111 Felicitas Nowak-Lehmann D., Sebastian Vollmer and Immaculada Martínez-Zarzoso, Competitiveness – A Comparison of China and Mexico, October 2007
- 2112 Mark Mink, Jan P.A.M. Jacobs and Jakob de Haan, Measuring Synchronicity and Co-movement of Business Cycles with an Application to the Euro Area, October 2007
- 2113 Ossip Hühnerbein and Tobias Seidel, Intra-regional Tax Competition and Economic Geography, October 2007
- 2114 Christian Keuschnigg, Exports, Foreign Direct Investment and the Costs of Corporate Taxation, October 2007

- 2115 Werner Bönnte, Oliver Falck and Stephan Heblich, Demography and Innovative Entrepreneurship, October 2007
- 2116 Katrin Assenmacher-Wesche and M. Hashem Pesaran, Assessing Forecast Uncertainties in a VECX Model for Switzerland: An Exercise in Forecast Combination across Models and Observation Windows, October 2007
- 2117 Ben Lockwood, Voting, Lobbying, and the Decentralization Theorem, October 2007
- 2118 Andrea Ichino, Guido Schwerdt, Rudolf Winter-Ebmer and Josef Zweimüller, Too Old to Work, too Young to Retire?, October 2007
- 2119 Wolfgang Eggert, Tim Krieger and Volker Meier, Education, Unemployment and Migration, October 2007
- 2120 Stefan Napel and Mika Widgrén, The European Commission – Appointment, Preferences, and Institutional Relations, October 2007
- 2121 Bertil Holmlund and Martin Söderström, Estimating Income Responses to Tax Changes: A Dynamic Panel Data Approach, October 2007
- 2122 Doina Maria Radulescu, From Separate Accounting to Formula Apportionment: Analysis in a Dynamic Framework, October 2007
- 2123 Jelle Brouwer, Richard Paap and Jean-Marie Viaene, The Trade and FDI Effects of EMU Enlargement, October 2007
- 2124 Kurt R. Brekke, Luigi Siciliani and Odd Rune Straume, Competition and Waiting Times in Hospital Markets, October 2007
- 2125 Alexis Direr, Flexible Life Annuities, October 2007
- 2126 Johannes Becker and Clemens Fuest, Quality versus Quantity – The Composition Effect of Corporate Taxation on Foreign Direct Investment, October 2007
- 2127 Balázs Égert, Real Convergence, Price Level Convergence and Inflation Differentials in Europe, October 2007
- 2128 Marko Koethenbueger, Revisiting the “Decentralization Theorem” – On the Role of Externalities, October 2007
- 2129 Axel Dreher, Silvia Marchesi and James Raymond Vreeland, The Politics of IMF Forecasts, October 2007
- 2130 Andreas Knabe and Ronnie Schöb, Subsidizing Extra Jobs: Promoting Employment by Taming the Unions, October 2007
- 2131 Michel Beine and Bertrand Candelon, Liberalization and Stock Market Co-Movement between Emerging Economies, October 2007

- 2132 Dieter M. Urban, FDI Technology Spillovers and Wages, October 2007
- 2133 Valentina Bosetti, Carlo Carraro, Emanuele Massetti and Massimo Tavoni, Optimal Energy Investment and R&D Strategies to Stabilise Greenhouse Gas Atmospheric Concentrations, October 2007
- 2134 David-Jan Jansen and Jakob de Haan, The Importance of Being Vigilant: Has ECB Communication Influenced Euro Area Inflation Expectations?, October 2007
- 2135 Oliver Falck, Heavyweights – The Impact of Large Businesses on Productivity Growth, October 2007
- 2136 Xavier Freixas and Bruno M. Parigi, Banking Regulation and Prompt Corrective Action, November 2007
- 2137 Jan K. Brueckner, Partial Fiscal Decentralization, November 2007
- 2138 Silvia Console Battilana, Uncovered Power: External Agenda Setting, Sophisticated Voting, and Transnational Lobbying, November 2007
- 2139 Alan J. Auerbach, Michael P. Devereux and Helen Simpson, Taxing Corporate Income, November 2007
- 2140 Lorenzo Cappellari, Paolo Ghinetti and Gilberto Turati, On Time and Money Donations, November 2007
- 2141 Roel Beetsma and Heikki Oksanen, Pension Systems, Ageing and the Stability and Growth Pact, November 2007
- 2142 Hikaru Ogawa and David E. Wildasin, Think Locally, Act Locally: Spillovers, Spillbacks, and Efficient Decentralized Policymaking, November 2007
- 2143 Alessandro Cigno, A Theoretical Analysis of the Effects of Legislation on Marriage, Fertility, Domestic Division of Labour, and the Education of Children, November 2007
- 2144 Kai A. Konrad, Mobile Tax Base as a Global Common, November 2007
- 2145 Ola Kvaløy and Trond E. Olsen, The Rise of Individual Performance Pay, November 2007
- 2146 Guglielmo Maria Caporale, Yannis Georgellis, Nicholas Tsitsianis and Ya Ping Yin, Income and Happiness across Europe: Do Reference Values Matter?, November 2007
- 2147 Dan Anderberg, Tax Credits, Income Support and Partnership Decisions, November 2007
- 2148 Andreas Irmen and Rainer Klump, Factor Substitution, Income Distribution, and Growth in a Generalized Neoclassical Model, November 2007

- 2149 Lorenz Blume, Jens Müller and Stefan Voigt, The Economic Effects of Direct Democracy – A First Global Assessment, November 2007
- 2150 Axel Dreher, Pierre-Guillaume Méon and Friedrich Schneider, The Devil is in the Shadow – Do Institutions Affect Income and Productivity or only Official Income and Official Productivity?, November 2007
- 2151 Valentina Bosetti, Carlo Carraro, Emanuele Massetti and Massimo Tavoni, International Energy R&D Spillovers and the Economics of Greenhouse Gas Atmospheric Stabilization, November 2007
- 2152 Balázs Égert and Dubravko Mihaljek, Determinants of House Prices in Central and Eastern Europe, November 2007
- 2153 Christa Hainz and Hendrik Hakenes, The Politician and his Banker, November 2007
- 2154 Josef Falkinger, Distribution and Use of Knowledge under the “Laws of the Web”, December 2007
- 2155 Thorvaldur Gylfason and Eduard Hochreiter, Growing Apart? A Tale of Two Republics: Estonia and Georgia, December 2007
- 2156 Morris A. Davis and François Ortalo-Magné, Household Expenditures, Wages, Rents, December 2007
- 2157 Andreas Haufler and Christian Schulte, Merger Policy and Tax Competition, December 2007
- 2158 Marko Köthenbürger and Panu Poutvaara, Rent Taxation and its Intertemporal Welfare Effects in a Small Open Economy, December 2007
- 2159 Betsey Stevenson, Title IX and the Evolution of High School Sports, December 2007
- 2160 Stergios Skaperdas and Samarth Vaidya, Persuasion as a Contest, December 2007
- 2161 Morten Bønsnes and Christian Schultz, Arm’s Length Provision of Public Services, December 2007
- 2162 Bas Jacobs, Optimal Redistributive Tax and Education Policies in General Equilibrium, December 2007
- 2163 Christian Jaag, Christian Keuschnigg and Mirela Keuschnigg, Pension Reform, Retirement and Life-Cycle Unemployment, December 2007
- 2164 Dieter M. Urban, Terms of Trade, Catch-up, and Home Market Effect: The Example of Japan, December 2007
- 2165 Marcelo Resende and Rodrigo M. Zeidan, Lionel Robbins: A Methodological Reappraisal, December 2007