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**Mainstream and Heterodox Economists: an
Overview of Schools Of Thought and their Policy
Implications in the Portuguese Academia**

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Bio

José Sousa is a master's student in Economics in University of Porto. He is interested in economic policy, innovation and technology, game theory and energy economics. More concretely, his work addresses the opinion of Portuguese economic economists about the impact, on the causes and the policies, of the recent economic crisis in Portugal.

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Abstract

The aim of this dissertation was to ascertain whether the opinions of Portuguese academic economists regarding the recent (and still on-going) economic crisis vary according to the schools of thought economists claim following.

This analysis contributes to the current stock of knowledge on the relation of policy and schools of thought and it is of particular importance given the lack of studies published about the relation and the implications that such knowledge has to understand economic policy implications.

The opinions regarding the causes for the economic decline and the policies for overcoming that decline were gathered through an online questionnaire which was sent to 1986 academics actively researching in economic related subjects. A total of 417 answers were received (21% response rate), with a third of the academics claiming do not possessing any specific methodological orientation whereas, among others, 12.5% identify themselves as Neoclassical, 11.3% as Eclectics, 11.8% as Behavioralists, 7.9% as Institutional / New Institutional, and 6.7% New Keynesians.

Based on descriptive, exploratory and causality analyses, we found that:

- i) Mainstream and heterodox economists differ regarding their individual characteristics - albeit gender and academic position do not discriminate between mainstream and non-mainstream academics, logistic estimation reveal that non-mainstream respondents are older, have a more theoretical approach to research and are less market oriented than their mainstream counterparts.
- ii) For a large share of the Portuguese academic economists, and to a larger extent in the case of non-mainstream economists, the increase in poverty and the increase in unemployment are a materialization of the economic decline of a country.
- iii) Both mainstream and non-mainstream disagree more on the causes of the current economic crisis than on the policies to overcome such crisis.
- iv) The vast majority of the respondents consider the economy's 'structural characteristics' as the first or second most important for explaining Portugal's economic backwardness. Within the economy's structural characteristics, the poor quality of public institutions (including, bureaucracy, justice and regulators), and though in lesser extent, the 'high levels of corruption' and 'the low level of competition, the existence of barriers to firms to operate and rent seeking activities', are seen as the most important catalysts of the current crisis.
- v) Heterodox/non-mainstream academics, to a larger extend than their mainstream counterparts, tend to propose policies that encompass increases of investment in physical infrastructures, public investment in strategic sectors, investment in ICT by firms, modification in the productive specialization of the economy, and to encourage public research. Mainstream academics are also quite distinctive from the remaining individuals as a larger proportion of them see further privatizations and the reduction of the power of the unions as important policy measures to overcome performance weaknesses of the Portuguese economy.
- iv) Between differences among schools of thought reveal that respondents disagree less on the policy proposals to overcome the Portuguese crisis than on the causes that led to the current state of affairs. In terms of within differences, we found that non-mainstream / heterodox respondents are in more agreement with each other than their mainstream counterparts and that disagreement within groups is always lower on policy proposals than on causes.

Keywords: Schools of thought; Economic policy; Mainstream economics; Heterodox economics; Economic crisis

JEL-Codes: N00 – B4 – B5

Resumo

O objetivo desta dissertação foi o de verificar se as opiniões dos economistas académicos portugueses quanto à recente (e ainda em curso) crise económica variam de acordo com as escolas de pensamento economistas afirmam seguir.

Esta análise contribui para o conhecimento sobre a relação da política e escolas de pensamento e é de particular importância dada a falta de estudos publicados sobre a relação e as implicações que esse conhecimento tem na compreensão das implicações de política económica.

As opiniões sobre as causas para o declínio económico e as políticas para a superação desse declínio foram recolhidas através de um questionário online que foi enviado a 1.986 académicos que investigam ativamente em assuntos económicos. Um total de 417 respostas foram recebidas (taxa de resposta de 21%), com um terço dos académicos a afirmar não possuir qualquer orientação metodológica específica e, entre outros, 12,5% identificam-se como neoclássicos, 11,3% como Ecléticos, 11,8% como Comportamentalistas, 7,9% como institucionalistas / Novos institucionalistas, e 6,7% Novos keynesianos.

Com base em análises descritivas, exploratórias e de causalidade, verificou-se que:

i) Os economistas mainstream e heterodoxos diferem quanto suas características individuais - ainda que de género e posição académica não discriminem entre académicos mainstream e heterodoxos, estimativas logísticas revelam que os inquiridos não-mainstream são mais velhos, têm uma abordagem de investigação mais teórica e são menos orientados para o mercado do que seus homólogos mainstream.

ii) Para uma grande parte dos economistas académicos portugueses, e em maior medida no caso dos economistas não-mainstream, o aumento da pobreza e do desemprego são a materialização do declínio económico de um país.

iii) Mainstream e non-mainstream discordam mais sobre as causas da atual crise económica do que sobre as políticas para superar essa mesma crise.

iv) A grande maioria dos inquiridos consideram as ‘características estruturais’ da economia como a primeira ou a segunda mais importante causa para explicar o atraso económico de Portugal. Dentro de características estruturais da economia, a baixa qualidade das instituições públicas (incluindo, a burocracia, a justiça e os reguladores) e, embora em menor medida, dos altos níveis de corrupção, o baixo nível de concorrência, e a existência de barreiras para as empresas, são considerados como os mais importantes catalisadores da atual crise.

v) Os académicos heterodoxos / não-mainstream, mais do que os seus homólogos mainstream, tendem a propor políticas que envolvem aumentos de investimento em infra-estruturas físicas, o investimento público em setores estratégicos, o investimento em TIC por parte das empresas, a modificação na especialização produtiva da economia, e o incentivo à investigação pública. Os académicos mainstream também são bastante distintos dos demais indivíduos como uma proporção maior deles a considerar mais privatizações e a redução do poder dos sindicatos como medidas políticas importantes para superar as fraquezas da economia Portuguesa.

iv) As diferenças entre escolas de pensamento revelam que os inquiridos discordam menos sobre as propostas de políticas para superar a crise Portuguesa do que sobre as causas que levaram ao estado atual das coisas. Em termos de diferenças dentro de cada escola de pensamento, constatamos que os inquiridos não-mainstream / heterodoxos estão em maior concordância uns com os outros do que os seus congéneres mainstream e que a discordância dentro dos grupos é sempre menor no que respeita às propostas políticas do que as relativas às causas.

Palavras-chave: Escolas de pensamento; política económica; economia mainstream; economia heterodoxa; crises económicas

Códigos JEL: N00 – B4 – B5

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1. Introduction

Different schools of thought often assume a different ontological view about the world (see, for instance, Backhouse (2000a), Lawson (1994, 2013), Palley (2007), Vromen (2012) or Witt (2008)). Studies, in general, present quite different approaches to explain reality, which are related to a large extent to the corresponding authors' school of thought.

Figuring who belongs where is always a motive for discussion and criticism. The task at hands is not an easy one. Restraining the analysis to assess ontological and methodological positions of each school and their primary level of policy, in other words, how they view the world and how they propose to change something about it (if there is something to be changed), we might consider two approaches.

One way to tackle the problem would be to take a view similar to Lakatos (1982), considering various 'scientific research programs' that compete with each other. Each program is composed from three dimensions, a 'hard core', a negative heuristic and a positive heuristic. A negative heuristic establishes what the 'hard core' in the research is, and this core must be defended to the limit with ingenious 'auxiliary hypotheses.' The positive heuristic relates to how these 'auxiliary hypotheses' should evolve (how the researchers investigate and create new knowledge). Lakatos sees these 'scientific research programs' as having well defined frontiers and competing with each other. Some issues with this proposal arise concerning the rigidity of the frontiers – such rigidity does not allow many theories to become independent 'scientific research program.'

Another approach, which we consider more appealing, is Hoover's (1991) tribal categorization. This proposal takes some models as 'exemplars' and the tribe would be composed with similar 'family' models. One difference in this analysis is that the frontiers are not well defined. There are a core of models which we can affirm with security that belong with some 'family' but others lie in the frontiers and have shared elements with one or more 'families.' This analysis enables us to provide a broader picture to economics' schools of thought without limiting ourselves to too rigid frontiers.

In modern times, the economics' objects of study are vast. So much as so, it would help to remember some words by Joseph Schumpeter (in Backhouse (2002: 321-322):

The more we approach modern times the less possible it becomes to characterize briefly the wealth of currents and cross-currents and the more untrue, forced and misleading appears any systematic arrangement and grouping... We must add that hand in hand with the progressing specialization resulting from the increase of the subject-matter and from the advances in analysis, which turned many of the best workers into laymen in all branches except their own special ones, a tendency established itself in most recent times to break down the barriers between the various specialized branches.

These words proclaimed more than a century ago, are still very relevant, if not more, today. The analysis laid below covers a large ground of the field of economics and some schools of thought are not necessarily in competition with each other, as mentioned above, and cover different areas of research. Having these considerations it is impossible to cover all the areas of research in this study.

In the area of economics (but not only), public authorities, in general, and politicians in particular, often ask for recommendations to researchers/academics.¹ Thus, one might conjecture that economists' ontological viewpoints would impact on the policies these economists might recommend and/or thought as relevant in a context of a particular problem. Consequently, knowing the prevalent school of thought might be an indicator to what future implemented policies will be.

The issue of which economic policies are to be implemented has been a particularly hot topic in the context of the southern European economies, most notably Italy, Greece, Portugal or Spain, which have been strongly hit by the financial crises and where austerity measures supported, mainly by mainstream viewpoints, have been implemented, not without a fierce discontent among several fractions of the society, namely the heterodox economists (Teixeira et al., 2014). In Portugal, for instance, several movements emerged, including, in 2014, the '*Manifesto dos 70*'. This manifest questioned mainstream, liberal policies implemented to fight country's public debt and external account imbalances. This *Manifesto* was also signed by 74 foreign economists, including the Danish economist Bengt-Åke Lundvall, a well renowned heterodox economist. He emphatically added, when questioned on why he signed the *Manifesto*, that "it would signal a protest against *the dictatorship of 'the market'* and against what I see as misdirected austerity policies in Europe", and further established that "[a]fter the 2008 crisis it has become even more clear that *economic policy has become*

¹ In Portugal, a large number of Finance and Economics Ministers came from the academia: for instance, the present (2015) Minister Maria Luís Albuquerque was a professor until 2006. Her predecessor, Vítor Gaspar, has several scientific publications and is currently affiliated with the ECB. Before, Fernando Teixeira dos Santos is and was a professor of economics at the University of Porto. To give a final example, Luís Campos e Cunha is a professor at Universidade Nova in Lisbon.

subordinate to 'the market' and what is presented as 'the necessary policy' – sometimes referred to as the competitiveness pact – results in an increase rather than a reduction in the gaps in welfare between the North and South of Europe.” (emphasis added).²

The literature is rather scarce about associating different schools of thought to economists' opinions on policies. The only published paper we know of, besides Di Maio's (2013), is that from De Benedictis and Di Maio (2011). The study of Di Maio (2013) explicitly addresses the above mentioned issue. Specifically, based on a sample of 335 Italian academic economists, Di Maio (2013) assesses whether there are differences between heterodox and mainstream economists. The author concluded that such differences exist as to their individual and academic characteristics and political views, including their views on core economic policies. However, and rather unexpectedly, he found that there is less disagreement within heterodox economists than mainstream economists. Globally, Di Maio found that individual opinions do not seem to be explained by common grouping of heterodox or mainstream schools of thought. In Di Maio's study respondents self-identify their schools of thought.

Being Portugal, as Italy, a Southern European country where austerity, market driven policy measures have been fiercely contested, namely by academics, it would be interesting to assess the extent to which results differ or are similar to those found in Italy.

In the present dissertation, we follow Di Maio's (2013) study, implementing it in a pool of Portuguese academic economists, identifying which schools of thought are predominant in the Portuguese academia and associate each school of thought to different opinions about economic policies and the reasons/causes, according to those same economists, for the crises and the Portuguese economy's current, cyclical and structural state.

In methodological terms, we resort to quantitative descriptive and causality methods, gathering the data through a national wide survey to all academic researchers in Portugal affiliated in the 14 public universities.

² In <http://yanisvaroufakis.eu/2014/03/27/bengt-ake-lundvall-the-portuguese-manifesto-could-become-a-trigger-for-change/>, accessed on January 2015.

The present dissertation is structured as follows. In the next section, a literature review on the different schools of thought within economics is performed. Then, in Section 3, the methodology is described. In Section 4 we present the analysis of the results. Finally, in Section 5 we conclude the study.

2. Literature review on the different schools of thought within economics

2.1. Mainstream Economics

There is a debate about what is mainstream and what is orthodox (see for example Colander et al., 2004 or Dequech, 2007). Orthodox, according to Colander et al. (2004), is a “backward looking term” that represents the state of the art at a given point in time. Differently, mainstream, according to the same authors, refers to “the ideas that are held by those individuals who are dominant in the leading academic institutions, organizations, and journals at any given time, especially the leading graduate research institutions.” (Colander et al., 2004: 490). In this regard, orthodoxy refers to an intellectual state (based on concepts) whereas mainstream refers to a sociological state (based on the composition of the groups). The ideas dominant at one point in time, by the elite, do not necessarily reflect the leading concepts of the science, so these two terms are conceptually different.

Assuming that all schools of thought are, at the present, at the edge of the science in their areas of study, what separates them is how widespread their ideas are at the policy and academic level. We use the classification provided in Colander et al. (2004) plus Lawson’s (2013) classification. Lawson states that the modern mainstream is composed by “an overly taxonomic approach to science, a group dominated in modern times by those that accept mathematical deductivism as an orientation to science for us all, and (...) effectively regard any stance that questions this approach, whatever the basis, as inevitably misguided” (Lawson, 2013: 978). Lawson’s argument has implicitly the concept of orthodox referred by Colander et al. (2004). He separates heterodox from the mainstream based on a methodological approach (which we can affirm is a conceptual differentiation).

In the present study, we consider mainstream not only being composed by the sociological states but with conceptual states as well. Crossing the differentiation from Lawson (2013) and the concept of mainstream from Colander et al. (2004), what is considered, in the present study, the (modern) mainstream economics is the group of ideas that are dominant in academic and policy organizations which seek to describe the events of reality recurring mostly to mathematical deductivism.

Different schools of thought have distinct ontological views. Lawson (2013) argues that one problem with modern economics is their methodological and social ontological stance. He continues arguing that mainstream economics relies on tradition and the repeated use of mathematical models, and those models have assumptions that do not confer to the nature of the reality and “[t]he defining feature of the mainstream is the *insistence* on methods of mathematical modelling” (Lawson, 2013: 957). Since mathematical models are composed by system(s) of equations, it is necessary that all the variables and relations between them are known or the system is not analytical determinable. This is what distinguishes mainstream from heterodox; mainstream models need to be closed systems (Dow, 2000).

A further and pertinent reference to mainstream economics is instrumentalism. Instrumentalism affirms that theories are neither true nor false, they are just an instrument and are useful as long as they fulfill an adequate result, in other words, as long as they can explain some phenomenon (Caldwell, 1980). The foremost text in economics is Friedman’s (1953) *Essays in Positive Economics*. In it, Friedman defends this view. Not only he argues that we cannot state if a hypothesis is true or not, he also adds, that it does not matter if the hypothesis is false as long the predictions are “sufficiently accurate” (Friedman, 1953: 9). This leads to the ‘*as if*’ statements. It does not matter if the individual does or does not behave as the assumptions state, but if the effect of the behavior (what we can see) is the effect that would result if in fact the individual behaved as the assumption then, Friedman states, the assumption is acceptable (Boland, 1979). This ‘*as if*’ statements are of utmost importance because it is one of the reasons mathematical insistence, as Lawson argues, is pursued.

Below we describe the principal schools in this section (following Dequech’s (2007) analysis) - Table 1 provides a synthetic overview of these schools.³ We start with neoclassical economics (which appeared in the 19th century) and then we move in two different directions showing, on one hand, the advances in macroeconomic theory after 1970s and, on the other, discussing an emerging field that seeks to understand how individual make choices, behavioral economics, which is an interdisciplinary field combining economics and psychology. We consider an emerging area of research started in evolutionary biology as mainstream, which is evolutionary game theory.

³ Dequech considers that mainstream is composed mostly from neoclassical economics. He considers additional schools as behavioral economics, experimental economics, new institutional economics and evolutionary game theory. We however, introduce new institutional economics in the heterodox category.

2.1.1. Neoclassical Economics

Neoclassical economics was first coined by Veblen (Lawson, 2013).⁴ There seems to be a disagreement to the beginning of this school, some put it in the 1870s, with the marginalists, Jevons and Menger and later at the turn of the century with Marshall's synthesis of their work. Others include previous works like Cournot and Dupuit in the 1840s. The synthesis of this school appears in two books, Hicks's *Value and Capital* (1939) and Samuelson's *Foundations* (1947).⁵ The neoclassical synthesis, as was named, viewed prices as perfectly flexible in the long run with competitive markets in equilibrium, however, in the short run prices and wages were viewed as given (Dixon, 2008).

The central concept to begin the analysis of this school of thought is scarcity. The 'Law of Scarcity' (Samuelson, 1955) states that since goods are not infinite and needs for consumption increase with the wealth of individuals there is always scarcity. If no goods were relatively scarce then there would be no need to have a discipline called economics. As Panayotakis points (referring to neoclassical economics), it is this concept that gives a reason for the existence of the economics. Moreover, scarcity serves to legitimize the concept of the "capitalist socio-economic system" (Panayotakis, 2013: 184). The emphasis of this school is at the individual level where he is viewed as a possessor of farsighted rationality (assumption necessary to maximize his utility) and decides on the margin. The analysis is predominantly micro based and when there is a necessity to study aggregate variables, usually a homogeneous agent is considered and individual rationality, through a process of aggregation through a market process, becomes a 'social rationality' (Colander, 2000: 134). Synthesizing, as Weintraub (2002, in Lawson, 2013: 949) focuses on three points that make this school different than others: "1. People have rational preferences among outcomes. 2. Individuals maximize utility and firms maximize profits. 3. People act independently on the basis of full and

⁴ In this article Lawson refers to what Veblen meant with the term neoclassical economics. Veblen distinguishes between a taxonomic science and an evolutionary or 'modern science'. Not that taxonomy does not matter but "taxonomy for taxonomy's sake, definition and classification for the sake of definition and classification, meets no need of modern science" (Veblen, 1908: 113). As evolutionary he refers to the causal sequence of events. He states that neoclassical economics is caught between the two as will be shown later.

⁵ See Colander (2000) for a collection of the authors that proclaim these arguments.

relevant information. Theories based on, or guided by, these assumptions are neoclassical theories”.⁶

Some authors that consider that the neoclassical period ends with the two books referred earlier but Lawson (2013) arguments differently. Lawson refers methodological questions to refute the claims about the end of the neoclassical period. For this author, neoclassical economics is composed by “those who are aware (at some level) that social reality is of a causal-processual nature as elaborated above, who prioritise the goal of being realistic, and yet who fail themselves fully to recognise or to accept the limited scope for any overly-taxonomic approach including, in particular, one that makes significant use of methods of mathematical deductive modelling” (Lawson, 2013: 979).⁷ Lawson concludes that this is the most coherent interpretation of the term and points to the inconsistencies.⁸ In a similar view, Clark adds that neoclassical economics adopts the ‘rational economic individual’ as its primary heuristic, and that for this very reason the analysis of reality excludes topics such as “history, culture, politics, and religion, leaving only autonomous individuals with preferences and factor endowments searching for trading opportunities” (Clark, 2014: 138). Further, he explores an analogy between this school of thought and faith and states that neoclassical economics is a “competing faith” to Christianity but the emphasis is at the individual level instead of a union (with God) and that this individual emphasis is insufficient to explain economic reality.

To finalize, the term neoclassical economics is not dead, although some defend it should (for example, Colander (2000) defends this and points to other authors who do the same as it can be a misleading term) and does not constitute the whole of mainstream but is an important part of it.

⁶ Another reference is Gary Becker who wrote that the economic approach is formed by “the combined assumptions of maximizing behavior, market equilibrium, and stable preferences, used relentlessly and unflinchingly” Becker (1976: 5).

⁷ In this article Lawson considers three groups to characterize modern economics regarding their methodological stance. The first one is composed by most modern mainstream economics, and the second one is composed by the “core of modern heterodoxy”. In the former are the ones that adopt mathematical deductivism and disregard any attempts to question this methodology. The latter are the ones that being aware of the “causal-processual” nature of reality adjust the method used to being the more realistic possible. The third one encompasses neoclassical economics.

⁸ Using inappropriate deductivistic mathematical models to explain a causal-processual reality.

Table 1: An Overview of Mainstream's Schools of Thought

	Neoclassical Economics	New Keynesian Economics	Behavioral Economics
Central Problems	Scarcity	Unemployment and real effects of nominal variables	Individual Behavior
Solution	Efficiency	Monetary Policy	Correct behavior deficiencies
Level of Analysis	Micro	Macro	Micro
Agents	Optimizing agent with rational preferences, homogeneous	Rational and Representative	Non Rational Behavior, Bounded Rationality
Property of Markets	Equilibrium	Equilibrium	Disequilibrium
Archetypical Individuals	Paul Samuelson, Leon Walras, Gary Becker	David Romer, Joseph Stiglitz	Amos Tversky, Daniel Kahneman
Idiosyncratic Terms	Marginal, Equilibrium, Rationality	Money, Interest Rate, Monetary Policy	Behavior, Rationality, Choice Heuristics
Important Journals	American Economic Review, Journal of Political Economy, Quarterly Journal of Economics, Journal of Economic Literature, Review of Economic Studies	-	Journal of Socio Economics, Journal of Economic Psychology, Journal of Economic Behavior and Organization
Methodologies (or Heuristics)	Mathematical Modeling	-	Inductive / Descriptive approach
Ontological Considerations	Empirical Realism	Classical dichotomy fails / non walrasian features of the economy	-

Several long run growth models were formulated following this line of thought. Two notable mentions are the Solow model⁹ and the Ramsey-Cass-Koopmans model. Although the (necessarily) strict scope of the present dissertation does not involve the detailed explanation of these models, we nevertheless thought important to synthesize the predictions the models yield (following Romer (2006)), most notably the Solow model, as they have been extensively used to predict countries' growth rates due to passing Kaldor's stylized facts.

The Ramsey's model predicts the same as the Solow's model does in the balanced growth path (the path the economy follows once all variables have reached their steady state values), but it endogenizes the saving rate. The conclusions of both models are that the economy grows at the rate of the population growth plus the rate of "technical progress." This demonstrates how neoclassical economics perceives reality and how ingenious it was as to simplify the complex reality and describe it in a simple fashion. Such outcome might lead to think that policy intervention is not necessary because the policy maker power to shape the evolution of these variables (population growth and technical progress) is limited. However, this school of thought forearms the possibility of the market not being perfect, a market failure. The way to determine a market failure is to assess if at least one of the propositions of the first fundamental theorem of welfare economics. The propositions are as follows: "(1) if there are enough markets, (2) if all consumers and producers behave competitively, and (3) if an equilibrium exists, then the allocation of resources in that equilibrium will be Pareto optimal" (Ledyard, 2008). Hence, only in these situations is adequate to intervene at the policy level.

Assuming Colander's (2000) argument which considers that modern economics is more than what neoclassical economics, below we introduce the developments of the second half of the 20th century. We introduce briefly New Classical Economics, New Keynesian Economics and, more recently, the convergence in macroeconomic theorizing.

⁹ The model was originally introduced by Solow (1956). Some important modifications were added to the original in Solow (1957) which includes technical progress and, in Mankiw et al. (1992), human capital.

2.1.2. New Classical Economics, New Keynesian Economics and the “New Neoclassical Synthesis”

Though the 1970s and the following decade, in an effort to explain macroeconomic phenomena, prominent economists emphasized the modeling of the economy with the assumptions of market clearing and agents’ economic optimization (Fischer, 2008). The hypotheses, in the interpretation given by this line of thought, are not “realistic” – in the sense that they can be observed and verified – but the results can be predicted with some accuracy. Friedman explains that the underlying hypotheses of a theory do not need to be true (in fact, he argues, the more important an hypotheses is, the less realistic it becomes because it explains more from less and, thus, that indicates the hypotheses were built from “descriptively false” assumptions), and they only need to make “sufficiently accurate predictions” (Friedman, 1953: 9).

The foundations or the hard core of new classical economics include: methodological individualism, general equilibrium in the economy, agents have rational expectations and economic decisions depend only on real variables and not depend, whatsoever, on nominal variables (Hoover, 1991). Although many, if not all, of these propositions are not “realistic” they establish the framework to predict human behavior without knowing much about it and, as Lucas (1986) argues, this is what gives economics the power it has.

Given that it is not our objective to ascertain if the concept of rational expectations is itself a sufficient important concept to render this school (new classical economics) an entirely different school (from neoclassical), in the present dissertation we consider neoclassical and new classical economics as the same.¹⁰ Specifically, we view new classical economics school as an “evolution” of neoclassical economics. On this note, the concept of rational expectations is a fundamental hypothesis of new classical school. It states that agents’ predictions about future economic variables are the same, on average, to the predictions of the model about the same variables (Muth, 1961), in other words, agents are correct on average.

An extreme form of viewing the business cycle (fluctuations of the output over a period of time) is proposed initially by proponents of this school and is denominated as ‘Real

¹⁰ The reader can compare the basic assumptions of the two schools to see their likeness. This note is important because in Section 4 we only consider neoclassical economics and do not give this as an option to the target subjects of our survey.

Business Cycle' (RBC). Its basic assumptions are: "the models are built from up from microeconomic foundation; they are entirely Walrasian; agents are intertemporal optimizers; and agents' success is assessed through the sort of qualitative calibration exercises" (Romer, 2006: 179). In this line of thinking, what fluctuates is the real output (for the new Keynesian what fluctuates is the nominal output – see below) and the main causes for the variation are technological shocks. Since these are real shocks and the economy is Walrasian, the movements are the agents' best response to the shock and they are Pareto optimal.

The model has significant implications for policy proposals. For instance, since the economy is, in every moment, in a Pareto optimum, any policy measure (be it fiscal or monetary) can only worsen the situation and, different from neoclassical economics, there can be no market failures (Romer, 2006). It leaves the policy makers little room to intervene except in the case where it improves the technological conditions of the economy.

New Keynesian economics appears as an advancement to what dominated macroeconomic policy starting in the 1950s through 1970s, the neo-Keynesian economics. In this view, the central problems studied are at the macro level, usually related to the relation between inflation, money supply and output, and there is a strong relevance with the so called micro foundations to explain these relations (Gali and Gertler, 2007; Palley, 2007).¹¹ Authors within this school reject the view that the economy functions in a Walrasian way.¹² This implicates that they consider, for instance, unemployment as an important phenomenon and 'nominal' variables have impact on 'real' variables, at least in the 'short run' (i.e., the classical dichotomy fails).¹³ The argument is presented as: if 'nominal' variables impact 'real' variables, then there must be some rigidity of real variables (Romer, 1993).¹⁴

¹¹ Contrary to early Keynesians, which looked at the macro variables and their relations alone, New Keynesians seek to understand how macro variables are formed at the micro level and extrapolate to the macro level from them.

¹² In a Walrasian economy, we have perfect competition in goods and labor markets, no externalities and perfect information.

¹³ In a different version of the New Keynesian approach (see Greenwald and Stiglitz (1993)) it is defended that even if prices and wages were completely flexible (in other words, the classical dichotomy is preserved) monetary policy has real effects. In this view, flexibility of prices and wages amplifies the economy's shocks creating high volatile variations in output and employment.

¹⁴ If real variables are perfectly and instantly adjusted to some phenomenon then nominal variables would not interfere on them. If, for example, money supply doubled, prices would double too and all the relative prices would be the same.

The “micro foundations” referred earlier are composed by nominal frictions (or price stickiness) and real rigidities. Blinder’s (1994) survey for the USA ranks the most important nominal stickiness reasons as follows: “Coordination failure” (firms wait for each other to change prices), “cost based pricing with lags” (prices only rise after costs have risen), “delivery lags” (firms prefer to change other variables than price, such as delivery times, product quality, etc.) and “implicit contracts” (firms stabilize prices to be fair with customers).

Some potential sources of real rigidity, are the different mechanisms that affect the capability of firms buying their inputs selling their outputs during booms or recessions; the nature of asymmetrical information between lenders and borrowers in external finance of firms; the cyclical behavior of demand elasticity in good markets; and, related to labor market, the rigidity is explained by the relatively elastic short run supply of labor and/or sticky nominal wages (Romer, 1993).

New Keynesians have a view on the business cycle which revolves around explaining what happens in the economy based on the output gap. They define output gap (which does not exist under a Real Business Cycle approach) as the difference between the observed output level and the output that could be achieved if the economy operated under flexible wages and prices.¹⁵ But since there is wage and price stickiness, in their view, the observed output will deviate most of the time from the optimal and thus, New Keynesians argue, monetary policy should be aimed at reproducing the conditions of flexible prices and wages (Cukierman, 2005). In this context, central banks have a decisive impact on the economy and how it behaves. In Clarida et al. (1999), it is argued that the policy should be performed in a way to target inflation, and this is accomplished managing short term interest rates, mostly in the interbank overnight lending market. The central bank has an utility function, or a welfare function, that serves as guide for the instrument of managing short term interest rates and at each moment it chooses the triplet (output gap, inflation and short term interest rate) which maximizes that function. This policy framework is done in an environment in which the private sector forms beliefs rationally (it is used a representative agent and he is rational). One of the results

¹⁵ Shiller (1997) argues that there is a resistance to indexation of future payments. Among many reasons, people believe that inflation is harmful to everyone, firms and individuals, and as such refrain from indexing contracts to inflation fearing they might not be able to meet the agreements. Another interesting reason, inflation is negatively correlated with economic growth after 1970s, which might induce in people’s minds further fear as mentioned. Furthermore, lack of indexation could be caused by the technical knowledge required to understand the issue or lack of interest in some economic topics.

of this explanation (see Clarida et al. (1999) for the mathematical deduction) is the “lean against the wind” policy; if inflation is above the target of the central bank, it seeks to contract demand below capacity, using the instrument short term interest rate (raising it), and vice versa. These actions are performed in a dynamic general equilibrium framework (in other words, the model predicts an optimum decision for the central bank).

These last two views presented involve the polarization of what we can do methodologically in macroeconomics in the present times. But neither of them captures reality in the best way possible. In due course, the macroeconomic analysis employed entailed a mixture of both views and was labeled the New Neoclassical Synthesis. As Goodfriend and King (1997) declare, this synthesis merge the analysis of intertemporal optimization and rational expectations applied using the Keynesian (rigid) pricing and output decisions framework. The view encompasses, essentially, the act (or the study of) monetary policy and it states four crucial conclusions. First, monetary policy impacts on real economic activity and it can persist during several years (Keynesian side). Second, in the long run, there does not seem to appear that inflation and real activity impact each other (New Classical side). Third, low inflation is preferred due to more efficient transactions and less relative price distortions. And fourth, credibility is an important factor to grasp the effects of monetary policy (Goodfriend and King, 1997).

2.1.3. Behavioral Economics

The classification of behavioral economics within the mainstream group is debatable. On the one side, this school does not pass the criteria we use from Lawson (2013), as it does not have an insistence on a mathematical deductive modeling. However, on the other side, it appears to be a topic debated in high impact factor journals as the literature below illustrates and includes some Nobel laureates as, for instance, Herbert Simon and Daniel Kahneman, among their active researchers and proponents. Another point favoring the introduction of this school in the mainstream can be captured in the following sentence, “[a]s a rule, it is bad to spend time on “methodological” and broad-stroke issues rather than the nitty gritty of the phenomena being studied. The goal of this research program is that it become “normal science”, and, as such, the nitty gritty is the point” (Rabin, 2002: 659). Detachment from methodological debate is a common

argument used by heterodox economists to identify mainstream economists and one of the reasons for the inclusion of this school in this group.¹⁶

Having these considerations in mind, behavioral economics is a combination between psychology and economics with of Amos Tversky and Daniel Kahneman as the first head proponents. The central theme of study in this school relates to human behavior. In more depth, it is their understanding that several features of human psychology affect decision, and these decisions deviate from the postulated rational expectations formulation. In other words, rationality is systematically violated and, moreover, the decision errors are predictable and individuals use (simple) heuristics to make decisions instead of knowing and evaluating all the possibilities, and thus, the agents are treated as having bounded rationality. These heuristics are representativeness, availability and anchoring. Representativeness signifies that individuals evaluate an event attending a representative in the class of this event. In the availability heuristic, individuals use events recalled from mind as a proxy to evaluate the probability of this event and the anchoring heuristic refers to the observation that individuals make decisions to some reference point.¹⁷ Some other mainstream economists' debate that these violations cannot be continued practiced because if rationality is consistently being violated then arbitrageurs act, gain a profit and the market tends to the state that it would be in case everyone was acting rational. DellaVigna (2009) refutes two arguments that defend that market forces are sufficient to eliminate "nonstandard behavior."¹⁸ One is that accumulated experience is supposed to reduce nonstandard behavior but it does not. The other is, even if this experience mentioned does not eliminate the effects of nonstandard behavior, these effects do not impact aggregate market outcomes, which DellaVigna refutes too. Frederick et al. (2002) explain why the expected utility model is not correct to analyze how individuals make intertemporal choices. They refer that individuals have decreasing discount rates over time (hyperbolic discounting), "gains are discounted more than losses, small amounts more than large amounts, and explicit sequences of

¹⁶ Another factor for the inclusion in mainstream economics, presented in section 4, is the importance of this school in the Portuguese academia.

¹⁷ The relevant literature on these arguments can be found in Laibson and Zeckhauser (1998), Rabin (1998), DellaVigna (2009) and references therein. Camerer (1999) relates the rational principle (which he treats as a special case) with the behavioral (equivalent) principle (which he considers the general case). For example, expected utility is a special case of a more general theory, prospect theory, as is equilibrium a special case of continued learning and evolution. These relations are explained from the psychological foundations studied. The original article on prospect theory is Kahneman and Tversky (1979).

¹⁸ See the original article for a more detailed explanation.

multiple outcomes are discounted differently than outcomes considered singly” (Frederick et al., 2002: 360).

Methodologically, we observe that this school recurs mostly to experiments as “field experiments, natural experiments, and inference from menu choice, in addition, of course, to the laboratory experiments” (DellaVigna, 2009: 366) based on experimental psychology methods and on methods of empirical economics (Bruni and Sugden, 2007). Behavioral economics observes how individuals act instead of stating *a priori* assumptions about rationality and aim to model the individuals’ decisions subjacent to their cognitive processes (Bruni and Sugden, 2007). A subfield, called neuroeconomics, seeks to find answers to some of thematic of behavioral economics; but instead of analyzing individual actions they analyze the brain using functional magnetic resonance imaging (fMRI). With this method some conclusions can be obtained regarding preferences, decision making under uncertainty and risk and game theory and social preferences (see, for instance, Camerer (2007); Camerer et al. (2004)).

At the policy level, Camerer (1999) refers an interesting point. If agents were rational there would be no need to policy intervention. But, since they are not, there is scope for it. For instance, agents give more importance to present pleasure than to future one (they do not use discounted utility but hyperbolic discounting), and so tend to impulsively spend more today. One policy proposal would be one that slowed these effect and made consumers spend their money more sparsely over time. With the same problem in mind, Lynch Jr and Zauberman (2006: 73), and considering “that internal self-control and externally induced self-control are substitutable,” defend the institutionalization of self-control strategies, i.e., strategies that make people choose in a “cold” moment.¹⁹ In another article Bertrand et al. (2006) relate the poor with some aggressive market campaigns and how these influence the poor’s behavior in a negative way. Arguing that cognitive processes and typical financial behaviors matter, they conclude that policy aiming at these lower class groups should be done with simplicity, persuasion, with detailed program and honesty. Gowdy (2008), discussing how this school of thought can aim to provide answers to global climate change, points to two considerations: well-being does not rise after certain income per capita; and the human

¹⁹ A “cold” moment is a moment where deprivation of some necessity is absent and the opposed is a “hot” moment. In this “hot” moment people tend to choose poorly. For example, a person deprived of nicotine (is in a hot state) is much more willing to buy a pack of cigarettes.

quality of cooperation (giving as example, the Marshall Plan and the formation of NATO).²⁰

2.2. Heterodox economics

There are several different ways of defining heterodox. We can define heterodoxy negatively from orthodoxy or from mainstream (Colander et al., 2004; Dequech, 2007), meaning that a heterodox economist is something different from an orthodox or mainstream economist. Alternatively, we could apply intellectual criteria to differentiate heterodox from orthodox (it would involve the divergence from the orthodox ideas) or apply a sociological criteria (we would consider less prestigious ideas for comparison (Dequech, 2007)). Defining heterodoxy negatively from orthodoxy or from mainstream is too simplistic. It would mean that an heterodox is something that an orthodox is not. Comparing heterodox to the definition referred in the mainstream section of orthodox would mean that heterodox is composed by conceptually different ideas. This corresponds as a positive characterization, in other words, defining heterodoxy based on their different concepts or methodology. In this approach, an heterodox economist does not follow the same methodologies used by the orthodox group and/or does not have the same assumptions about how the world works. As Lawson argues in several articles (Lawson, 1994, 2006, 2013) one of the defining characteristics of the mainstream approach is the insistence on mathematical deductivism and formal modeling. This author proposes that heterodoxy can be identified as “a rejection of this emphasis [mathematical modeling]. [Which] does not amount to a rejection of all mathematical–deductive modelling. But it is a rejection of the insistence that we all always and everywhere use it” (Lawson, 2006: 492). He continues, “mathematical methods are mostly inappropriate to social analysis that ultimately underpins the heterodox opposition. In short, I am contending that the essence of the heterodox opposition is ontological in nature” (Lawson, 2006: 493).²¹

Complementing Lawson’s differentiation, in the present study, we define each of the most prominent schools of thought in the heterodoxy, define conceptually and ontologically each of them, and apply the criteria explained by Backhouse (2000b). This

²⁰ And also critiquing the Kyoto plan. The question is about doing something to show commitment and not exactly to define strict objectives.

²¹ See Mearman (2011) and citations therein for a literature selection on heterodoxy. There is not a consensual definition of heterodox and many different authors choose different dimensions to define the term. In this study, since the initial hypothesis is that ontological differences could be a determinant factor for different views of the economists, Lawson’s classification seems more adequate to guide the study.

latter author argues that, for an economist to be considered heterodox three criteria must be verified (enabling to distinguish him/her from an orthodox or mainstream): *self-identification*, *sociology* and *core assumptions*. The first refers to a conscious decision by the economist to not work in the dominant way in economics. The second one refers to the institutionalization of a school of thought “in terms of separate journals, separate conferences, who people talk to, and who they cite” (Backhouse, 2000b: 149). The last one refers to the different core beliefs that heterodox economists have that will translate into different theories about the economy.

In the next section we discuss the various and most important heterodox schools of thought that verify the criteria previously explained: Evolutionary economics; Post Keynesian economics; Austrian economics and New Institutional economics (see Table 2 for a synthesis).

2.2.1. Evolutionary economics

The distinguishing feature about this school of thought is its emphasis on the theme of innovation. Innovation is defined as a commercial introduction of a new product or process (Fagerberg, 2005). Starting with Schumpeter, at the beginning of the 20th century, a different form of observing economic phenomena emerged. Following the work by Walras, he wanted to create a divergent economic theory, not based on static equilibrium, but a theory of economic evolution. By evolution Schumpeter meant “qualitative, economic change brought about through innovation” (Fagerberg, 2003: 129). This permanent force to change, fueled by the constant influx of innovations, distanced his theory from the neoclassical equilibrium theory. Without innovation the economy would tend to a stationary state, portrayed by the models of Walras and others and it is this economic evolution that is central problem in this school. The approach to these questions is performed in a context where the agents have bounded rationality (they cannot see all the possible futures of each decision) and so they adopt ‘rules of thumb’ or ‘routines’ to decide. Moreover, the analysis is done not at the individual level but at the level of the firm or organizations, or even countries. The emphasis of evolutionary economics is on firm capabilities and routines (Vromen, 2012).

Table 2: An Overview of Heterodox's Schools of Thought

	Evolutionary Economics	Post Keynesian Economics	Austrian Economics	New Institutional Economics
Central Problems	Economic Evolution	Scarcity of Effective Demand / Growth and Dynamics / Unemployment	Investigate the Coordination of Agents and their Specialized Activities	Transactions costs, property rights, and contracts
Solution	Development / Technological Change	Manage Aggregate Effective Demand	Decentralization	Institutions that promote market freedom and protect property rights
Level of Analysis	Meso	Macro	Macro	Meso
Agents	Heterogeneous, Bounded Rationality	Heterogeneous	Subjective Theory of Value / Trial and Error	Individual rational choice with constrains
Property of Markets	Non Equilibrium, Always Evolving	Non Equilibrium, non-Market Clearing	Always Evolving	-
Archetypical Individuals	Veblen, Schumpeter, Nelson & Winter	Keynes, Kalecki	Menger, Von Mises, Hayek	Coase, North, Williamson
Idiosyncratic Terms	Innovation, Imitation, Technology, Path Dependence, Routines, Rules of Thumb	Income, Money, Public Policy, Uncertainty, Social Relations, Institutions, Path Dependence	Institutions, Decentralization, Market System	Institutions, Development, Contracts
Important Journals	Journal of evolutionary economics, Industrial and Corporate Change, Structural Change and Economic Dynamics	Journal of Post Keynesian Economics	Quarterly Journal of Austrian Economics, Review of Austrian Economics	Journal of Institutional Economics,
Methodologies (or Heuristics)	Novelty-emergence-and-dissemination or variation-selection-retention	Babylonian Methodology	Praxeology	-
Ontological Considerations	Critical Realism	Critical Realism	Marginalism plus Open Reality	-

There are various explanations to this phenomenon of economic evolution.²² The so called “old evolutionary economics” (Andersen, 1994: 1) and the “new wave of evolutionary theorists” (Hodgson, 1993: 149). The first one follows the work by Schumpeter. The latter, refers to the work by Nelson and Winter, which culminated in the book *An Evolutionary Theory of Economic Change*, published in 1982.

The “old evolutionary economics” is a non-domain view (not associated ontologically with another science) and states that change is caused by endogenous factors inside the system, be it a language or a firm in a competitive market. To be considered evolutionary, a system must evolve into a state that did not exist previously. In this sense, evolution is defined generically, meaning that the evolution is the self-transformation of the system through time (Witt, 2004, 2008). In an earlier stage of the theory, Schumpeter viewed the entrepreneur as an individual with certain characteristics that distanced him/herself from the others and was capable of an innovative leap (in this analysis the agents are heterogeneous and each have bounded rationality). Later, he substituted his entrepreneur by the organizations inside large firms but did not explain how these organizations operated. From this perspective, it is the generation and dissemination of novelty the portrayer of evolution (Witt, 2008).

The “new wave of evolutionary theorists”, which imported some terminology from evolutionary biology, uses Darwinian concepts to explain change inside a system.²³ It uses an heuristic of variation-retention-selection applied to economic change but the ontological issue is left open about the relation with biology and is by now the most popular heuristic in the evolutionary approach (Witt, 2004).²⁴ This form of explanation recurs to metaphors and comparisons with the biological realm to understand economic phenomena, especially the selection metaphor. It has some problems because these mechanisms do not function in economic reality as they do in the biological one (for

²² Witt (2008) proposes four distinct subcategories in evolutionary economics. He devises a 2x2 matrix with a monistic or dualistic ontology in one hand and a variation-retention-selection or novelty emergence and dissemination heuristic on the other hand. A monistic ontology states that economic reality is interdependent with biologic reality. A dualistic ontology is the opposed. A variation-retention-selection heuristic borrows the process of inferring from evolutionary biology. And novelty emergence and dissemination heuristic refers to a generic and endogenous evolution process.

²³ For a synthesis on evolutionary thinking in social sciences see Nelson (2006).

²⁴ Witt (2008) points to Donald Campbell (1965) which reduced the explanation of evolution in biology to the terms variation, selection and retention modified to fit the specific nature of other sciences.

instance, cognition plays a vital role in the selection process and is not at all independent from variation (Witt 2004)).²⁵

Although, the two views seem different there are three common links (Fagerberg 2003): the innovation as the engine of long term economic growth; the regularities in the innovative process (innovation followed by imitation and the new opportunities created by innovations that lead, with accumulated experience, to a certain path dependency); and the importance of cognition, with routines being reproduced through practice are the commonalities.

Policy intervention can be considered problematic in an environment continuously evolving. van den Bergh and Kallis synthesize the different policies in evolutionary economics literature and remark that “[p]olicy advice from an evolutionary perspective emphasises, among others, innovation and learning, diversity management, stimulating recombinant innovation, exploiting status seeking behaviour of consumers to stimulate escape from lock-in, and protected niches to nurture new technological variants” (van den Bergh and Kallis, 2013: 298). These fields of intervention are in a framework of an evolutionary process (evolving and uncertain) and it can be difficult to make a normative statement about how the economy should perform. However, one can still use a maximum social welfare as an objective of policy. What van den Bergh and Kallis defend is that evolutionary policy assume a a priori emphasis on “diversity, experimentation, learning and democratic deliberation” (van den Bergh and Kallis, 2013: 299) and, as such, understanding the right level of diversity at a given time is crucial to promote the correct trade-offs necessary on any kind of economic policy proposal.

This school of thought passes the three criteria by (Backhouse, 2000b). It purposely distance itself from mainstream economics on its arguments. Additionally, it has separate journals such as *Journal of Evolutionary Economics, Industrial and Corporate Change, and Structural Change and Economic Dynamics* (Vromen, 2012). Lastly, the innovation and technological competition (with heterogeneous firms’ capabilities) constitutes the engine of economic transformation.

²⁵ This is but one of four ways of importing the Darwinian principles to economics (see Witt, 2004). From those, two others are gaining popularity, Universal Darwinism and the ‘continuity hypothesis’. About Universal Darwinism one of the principal articles defending it is Hodgson (2002). Some critics to Universal Darwinism provided by Cordes (2006, 2007). And for the ‘continuity hypothesis’ see Witt (2004). For a side by side comparison of the two sides see Vromen (2012).

2.2.2. Post Keynesian Economics

According to Arestis (1996), the starting point of economic analysis of this school is Keynes's *principle of effective demand*.²⁶ It seeks to extend the understanding Keynes's *General Theory of Employment, Interest and Money*.²⁷ The central problems studied are the scarcity of effective demand, growth and dynamics, and (un)employment.

The “role of aggregate demand in the context of a monetary production economy” gives this school the framework necessary to be mentioned as an independent school of thought (Arestis et al., 1999: 527-528). The level of analysis in this school is centered at macro level. Post Keynesians reject the ‘methodological individualism’ and defend that the individual is conditioned by the surrounding environment and so individual choices “have unintended macroeconomic consequences” (Chick, 1995: 26).

Being an heterodox school and according to Lawson's (2013) groups, this school searches for realistic descriptions of reality (Chick, 1995) and uses critical realism as its ontology (see Lawson, 1994).

There are, as stated from Kerr (2005), three strands in this school, which he refers to as the fundamentalist Keynesians, the neoRicardians (or surplus approach) and the Kaleckian-Robinsonians.²⁸

The fundamental Keynesians and the Kaleckian-Robinsonians share some core concepts such as the role of investment in determining the level of output and employment, inserted in a monetary production economy. Each strand, then, gives different emphasis to particular dimensions of analysis. Fundamental Keynesians, as in evolutionary economics explained earlier, give a particular attention to history in economics but consider different phenomena as relevant. Evolutionary economics is concerned with how novelty is generated in a system and its repercussions, but fundamental Keynesians are worried about the “non-neutrality of money and the absence of gross substitutability between money and all other goods” (Kerr, 2005: 477). In this sense, path dependency

²⁶ The same author explains that this principle states that in a modern economy it is the lack of demand and not the lack of resources that constrains the amount of output that the economy produces (although the theory does not discard the possibility of scarcity of resources).

²⁷ For a further reading on why this can be considered an independent and coherent school of thought see Chick (1995).

²⁸ In this article, Kerr uses the groups defined by Hamouda and Harcourt (1988). Elsewhere, it is mentioned other authors that propose other groupings (Arestis et al., 1999: 544). Arestis (1996) considers the institutionalists (in the tradition of Veblen) as the third strand instead of the neoRicardians. More recently, Dequech (2012) synthesizes that neoRicardians are a separate group, nevertheless we maintain the groups listed above.

results on the ‘long run’ being a chain of successive ‘short runs’ (Kerr, 2005). ‘Long run’ equilibrium is not addressed because at the end of an investment the world would have already changed, rendering the task to calculate it meaningless (Chick, 1995). As a further matter, this approach regards uncertainty and financial institutions as pillars of research (Dequech, 2012).

Kaleckian-Robinsonians emphasize that the distribution of income is crucial to growth dynamics. The surplus approach is quite different from the previous. It excludes the role of money to the determination of prices and views these prices as fluctuating around a ‘rest state’ in the long run (Kerr, 2005).²⁹ All in all, uncertainty plays a large role, institutions matter (money is considered an institution and is generally endogenous and affects ‘real’ variables), historical context is necessary to understand reality, social relations are important (for instance, contracts usually reduce uncertainty) and methodological questions are addressed in an important way (Asensio, 2013; Dequech, 2012; Lawson, 1994).

At the policy level, post Keynesianism lies somewhere between a deterministic policy control and “nondecisionism” (Heise, 2009).³⁰ Post Keynesians consider that the policy maker is not just an agent that corrects “market failures” but is part of the process with the aim to make some alteration in a market. Plus, every agent in the market can influence aggregate variables (such as GDP, or unemployment rates or inflation).³¹ Having in mind that this school considers that the economy does not converge to a Pareto optimum, usually, the emphasis of policy is on monetary issues.³² As was argued by Lavoie (2006), there is a consensus that monetary policy is achieved through the control of an interest rate (the Taylor rule). With some modifications, Lavoie (2006) addresses the post Keynesian side, referring that demand has ‘real’ impacts in the ‘long

²⁹ Arestis et al. (1999) argue that Sraffians (neoRicardians) and Post Keynesians form a larger group of postclassical economics. If we interpret this long run as a guide and a not reachable one, then the two views can be grouped. However, Dequech (2012) mentions other articles that do not consider this approach as being Post Keynesian. We leave the issue open to debate, and maintain the approach in our analysis.

³⁰ For example, the author uses the IS-LM model as a case of deterministic policy model. In this framework policy proponents use it to make fine-tuning decisions. On “nondecisionism”, it is used the case of New Classicals and Hayek. New Classicals state that agents use rational expectations and thus policy interventions are anticipated and incorporated in the agents’ decisions. Hayek defended that the policy maker should only “provide the framework for self-regulation and self-control” (Heise, 2009: 388). These two views, place the emphasis of decision at the individual level and economic policy is, thus, unnecessary.

³¹ They are not always price takers as in other views.

³² Arestis and Sawyer (2010) are two authors, among others, that consider fiscal policy more “potent” than monetary policy.

run' as in the 'short run'. As a further matter, and relative to R&D, post Keynesians emphasize the relevance of an "adequate budgetary policy" that leads to full employment. This policy aims at providing short term growth investing in issues not attractive to private investors (Bellais, 2004: 438).³³ In sum, managing effective demand through monetary policy seems to be of central importance in this analysis.

As mentioned in the previous school of thought, post Keynesians pass the criteria of Backhouse (2000). They distance themselves from mainstream (some critics of this school even suggest that it is the only feature of it). We can find articles related to this school in, for example, *Cambridge Journal of Economics*, *Journal of Post Keynesian Economics*, *Review of Keynesian Economics*, *Review of Political Economy* and *European Journal of Economics and Economic Policies: Intervention*. The core assumption that deviates from the mainstream theory is that this school considers that there are 'real long run' impacts of monetary policy.

2.2.3. Austrian Economics

The history of this school goes back to Carl Menger and, more recently, to the contributions from Ludwig von Mises and Friedrich Hayek. Martin (2009) argues that, of all heterodox schools, this is the one closer to mainstream economics. The main difference comes from its ontology and slightly from methodology. Against mainstream, Austrian Economics emphasizes the critique of mathematical formalism and this detachment is one of the primary distinctions that puts this school in the heterodox category (Backhouse, 2000a; Martin, 2009). The proponents of this school view reality as an open system but at the same time accept methodological individualism as their principal heuristic (Lewis, 2010). This creates a unique relative position of this school in that it accepts rationality and agents pursue it, at the same time that it considers the system open. This is possible because, as in other heterodox schools, there is (Knightian) uncertainty.³⁴ It is possible for individuals to be rational even in a non-perfect information scenario because, as von Mises explains,

Human action is necessarily always rational....When applied to the ultimate ends of action, the terms rational and irrational are meaningless. The ultimate end of action is always the satisfaction of some desires of the acting man. Since nobody is in a position to substitute

³³ As referred early, post Keynesians view the 'long run' as a succession of 'short runs'.

³⁴ Agents are not only maximizing their utility based only on their scarcities (objective maximization) but, because of an uncertain future, they need subjective values. Thus, they are still maximizing their utility but as they do not know all the possibilities, only by chance that is the best possible choice. This framework permits at the same time that agents maximize their behavior (based on subjective and not objective values but maximization nevertheless) and the openness of the system.

his own value judgments for those of the acting individual, it is vain to pass judgment on other people's aims and volitions. No man is qualified to declare what would make another man happier or less discontented. (von Mises, in Holcombe (2009: 305).

Austrian economics explains reality based on axiomatic propositions, known as praxeology. Instead of starting the analysis at the empirical level, what praxeology states is that we start with explanatory axioms we know to be true (Backhouse, 2000a).³⁵ Those axioms are concluded after “a process of self-examination and introspection” (Lewis, 2010: 281) and are always true despite any historical context. This school of thought “embraces the central tenets of marginalism without abandoning a conception of social reality as open” (Martin, 2009: 518). Although a lot of attention is dedicated to the individual, the level of analysis of this school is at the aggregate level and the questions to answer are related to how this individual behavior translates to social order and the mechanisms that operate in such process (Rosen, 1997; Yeager, 1997). But to see a broader picture from a small scale, coordination problems arise.³⁶ According to Hayek (1945), these coordination problems are resolved through a relative price institution. In his view, people take actions decentralized without needing to know what really caused them to change, observing only the changes in prices taken, and order is achieved spontaneously.

At the policy level, we would like to refer two areas of policy intervention, one is how central banks should act in a recession phase and the second about climate change. On central bank policy, Cwik (2008), arguing in a context of Austrian business cycle theory³⁷, draws five implications; the first is that increasing interest rates without increasing input prices does not necessarily cause a recession: the second, explains that the selling of fixed capital investment is does not explain the duration of recessions; the third defends that real savings are necessary to transition the economy back again to expansion; fourth and fifth, expansionist fiscal and monetary policy are not sufficient to the said transition. A guide to a government and central bank from these implications is

³⁵ For instance, “[t]he fundamental axiom is that human beings act – they make choices in order to achieve their goals” (Backhouse, 2000a: 32).

³⁶ “How can it be that a very large number of agents with some success are able to coordinate their actions, when they are all engaged in a division of labor that is steadily increasing, and when each of them have only very little knowledge of most other agents?” (Foss, 1996: 77). Moreover, at the individual level agents maximize their utility, but since all of them have different subjective values how can society coordinate and attain ‘social order’?

³⁷ Austrians argue that monetary policy is responsible to “interfere in the normal working of the credit market.” On a monetary economy, the pressure applied to bankers to keep interest rates below the natural interest rate would only lead to inflation and misallocation of intertemporal resources. (Backhouse, 2002: 217).

to not interfere with the price adjustment process, to not increase the monetary base and to intensify the want from agents on savings.

On climate change, Dawson (2013) defends that externalities caused from pollution are not a market failure but result from the misallocation of property rights. An implication from this statement results in saying that conventional policy instruments used, such as taxes and emissions trading, are wrongly applied. Since it is a question of property rights being violated, tort litigation would be sufficient to protect the damage caused on individuals. From this viewpoint, there should not be public policy regarding climate change.

2.2.4. New Institutional Economics

In the early 20th century, Hamilton (1919: 313) stated: “The proper subject-matter of economic theory is institutions.” The study of institutions was largely ignored in the decades after in favor of more mathematical formulations (see the sub chapters above on neoclassical economics and subsequent schools). Later in the century, and distancing from this “old institutionalism”, Williamson (1975) coined the term “new institutional economics.”³⁸

In more recent times, Jameson (2006) identifies two strands in this school. The “New New Institutional Economics” and the “New Old Institutional Economics.” The first group is associated with the work of Douglas North and his contribution to the understanding of economic change in conjunction with a comprehensive micro analysis. The second group, associated, for example, with Geoffrey Hodgson, focuses on continuing the institutionalist tradition, with orientation to policy matters and a critique of market fundamentalism. The new view, in general, does not distance too much from the accomplishments from mainstream (particularly neoclassical economics) and accept methodological individualism (Ménard and Shirley, 2014; Richter, 2005; Searle, 2005). The emphasized problems relate mainly to three concepts: transactions costs, property rights and contracts (Ménard and Shirley, 2014).³⁹ The transaction cost importance can be observed in Coase (1998: 73): “the productivity of the economic system depends on specialization (he [Adam Smith] says the division of labor), but specialization is only possible if there is exchange – and the lower the costs of exchange (transaction costs if

³⁸ For a broader view on the history of “new institutional economics” see Hodgson and Stoelhorst (2014) and references therein.

³⁹ Ronald Coase is a central author in this school. For a deeper understanding of his contribution see Shirley et al. (2014).

you will), the more specialization here will be and the greater the productivity of the system. (...) In effect it is the institutions that govern the performance of an economy.” But is it really institutions that affect economic growth or the other way around? For instance, Acemoglu et al. (2001) defend that the European colonial experience is a source for differences in institutions.⁴⁰ Arguing in the other direction, Chang (2011) gives counterexamples as to why it is economic growth that affect institutions.⁴¹ The consensus seems to be that better institutions improve economic development (Gagliardi, 2008).

About property rights, Coase (1960) explains that what owners own is not a good but the right to use that good (or a factor of production). Exploring this right to use, individuals often impose a cost to others. What the author defends is that, since transaction costs are positive, attributing property rights in a way that social welfare is higher than the sum of private welfare is a better alternative than laissez faire. The contracts are central to the analysis too because, opposing the neoclassical assumptions, they are not completely enforced neither complete (Ménard and Shirley, 2014). As stated by Williamson (1996: 377), a contract is “an agreement between a buyer and a supplier in which the terms of exchange are defined by a triple: *price, asset specificity, and safeguards*”.⁴² These concepts form the nucleus of the new institutional approach. Accordingly, the institutional framework is of utmost importance in determining economic performance.

We have yet to define an institution but this definition is not yet established as definite. There are a variety of definitions of institution depending on the perspective one wants to analyze. Gagliardi (2008: 417) summarizes three distinct definitions of institution. On one, institutions can be seen as the rules of the game, i.e., the rules that conduct individual’s behavior. In another, institutions are defined as the players of the game. The third definition the author considers is appraising institutions as “the self-enforcing equilibrium outcome of the game.” This definition is linked with game theory (repeated games) and with evolutionary game theory (see subchapter above). Hodgson (2006: 2)

⁴⁰ Colonized countries with lower mortality rates of settlers are today richer than the others. The countries with higher mortality rates were the ones in which colonizers focused only in extractive industries. The ones with lower rates saw the incoming of many of the colonizers’ institutions. This article has the assumption that institutions that promote market freedom and protect property rights contribute to a larger economic growth.

⁴¹ In his view it is erroneous to think that promoting free markets and protecting property rights is an automatic generator of growth.

⁴² Since they are not completely enforced, neither complete, there is room for opportunism.

proposes to consider “institutions as systems of established and prevalent social rules that structure social interactions.”

According to Searle (2005), there are two functions that explain an institution. The first is “X counts as Y in C” and the second one is “S has power (S does A)”. In the former, X can be an individual or an object with certain characteristics that gained a status function Y in a context C. This status Y permits X to fulfill actions that were not possible previously. With this status gain, come responsibilities and rights, giving X deontic powers.⁴³ In the latter, S has an appropriate relation with X (S=X). Let us give an example. Some individual X is appointed “CEO” of such company. The position “CEO” is the equivalent to “S has power (S does A)”. Since X equals S, the individual has gained the power and responsibility (has a deontic power) and is recognized by society to act in such manner. The individual X can now act further from before being a “CEO” because it was assigned to him/her a certain status. “The whole analysis then gives us a systematic set of relationships between collective intentionality, the assignment of function, the assignment of status functions, constitutive rules, institutional facts, and deontic powers” (Searle, 2005: 22).⁴⁴

Hindriks and Guala (2014) provide a broader picture of institution compatible with Searle’s (2005). Accounting the various meanings of institution, the *rule-based*, the *equilibrium-based* and the *constitutive rules*, they argue that these cases can be aggregated into a single framework they designate by *rules-in-equilibrium account*. What they add is a third condition besides rules and equilibrium which is *representation*. The representation state is “to capture the idea that the players must be able to represent the equilibrium in symbolic form” (Hindriks and Guala, 2014: 8). In sum, what these authors propose can be described as: individuals have rules as to act in certain circumstances; they have strategies to act based on what the other individual can do; there is at least a strategy that is an equilibrium; these equilibrium strategies can be explained from “symbolic markers” (representation); and these representation rules permit the individuals to achieve some kind of coordination. Now we have a better understanding of what is and what does institutions accomplish.

⁴³ Deontic powers are here referred as “rights, duties, obligations, authorizations, permissions, empowerments, requirements, and certifications” (Searle, 2005: 10).

⁴⁴ See the article for the complete explanation.

2.3. Final considerations

We established a frontier to distinguish between mainstream and heterodox economics although this frontier is not static through time because there is progress. Since there is progress, heterodoxy is not composed by the same theories over time and mainstream eventually adopts new theories and renegades others. We cannot, thus, ignore the historically context in this dualism. As Coats (2000) points out, there are four areas of work in which new results are being developed. First, a new way of defining human nature with a special critique to the homo oeconomicus stereotype; second, noticing that an economic system is not static and evolves, which causes friction with the concept of equilibrium (history matters and some decisions in the present lead to path dependent futures); third, economics is now a more interdisciplinary science as it should be; fourth and finally, Coats (2000) considers too economic methodology as an heterodox field. These topics, many very important in some schools, will possibly become mainstream one day.

3. Methodological considerations

3.1. Research question and the methodological choice

The aim of the present study is to ascertain whether schools of thought that economists share have impact on their perceived causes of the current, cyclical and structural state of the Portuguese economy, as well as on the policies they recommended to overcome such state (see Table 3).

Table 3: Details on the data gathered though the on line survey

Questionnaire - Part	Investigative questions	Variable(s) required	Detail in which data is measured
	How would you define your methodological orientation?	All schools of thought listed in the literature review	All schools of thought listed in the literature review
Part I – causes of economic performance	It is a cause of poor performance of the Portuguese economy...(opinion) - Part 1		
Part II	The causes of the weak economic performance of the Portuguese economy (opinion) - Part 2	Opinion of the inquired	Strongly agree, Mildly agree, Neither agree nor disagree, Mildly disagree, Strongly disagree, Do not know / do not answer
Part III - Policy	It can be effective to lift the Portuguese economy from the current phase of difficulty...(behavior) - Part 3		

Taken this aim into consideration, the most adequate methodology to follow is quantitative. In concrete, we gather economists' opinions/viewpoints through a purposely created questionnaire. Similarly to De Benedictis and Di Maio (2011), in this dissertation we administer a questionnaire to 1986 academic economists.

In our specific case, we consider the academic economists included in the 'Economics Research in Portugal: People and Institutions' database, which considers academic economists with at least one paper published in journals indexed in Econlit database.⁴⁵ In selecting academic economic researchers with articles published we are assuming that these individuals have a higher propensity to be chosen to policy positions in future governments. Moreover, we assume the academic researchers know how to self-identify their school of thought. Alongside the database, we sent the questionnaire to professors

⁴⁵ In <http://www3.eeg.uminho.pt/economia/nipe/cef.up+nipe-rank/index.asp>. This is a database administered by Paulo Guimarães or Miguel Portela, which contains 3278 publications of Portuguese Authors and Portuguese institutions in 618 international journals indexed in the EconLit database.

in the department of economics in the various public and private Portuguese universities.

Questionnaires are best used for descriptive or explanatory research (Saunders et al., 2009) and, as such, we consider this is the most adequate method according to our research objectives.

3.2. Description of the survey

The questionnaire includes three main parts. The first part includes 13 propositions about the opinion on what constitutes a sign of economic decline. The second part is divided in 5 categories and has a total of 39 propositions which aim to capture the causes of the Portuguese crisis. The third part encompasses 17 propositions relative to solutions to overcome such crisis. These propositions, which reflect personal opinions, permit us to identify and discuss some relevant issues. First, the degree of (dis)agreement between advocates in each school - one thing is what the relevant literature refers as the policy guides from each school, the other is what researchers would *de facto* implement if the chance was given to him/her. Second, the degree of (dis)agreement between proponents from different schools of thought – in concrete to assess whether there are different perceptions about the causes of the Portuguese economy according to economists' distinct school of thought positions.

One problem with this analysis is that some proponents of some schools might not be tempted to respond. In the literature review we emphasized the mainstream's lack of attention given to study methodological and ontological considerations. This might lead to a higher percentage of responses by heterodox economists, making our somehow biased. One alternative would be to choose one known individual with characteristics that linked him/her to a certain school of thought and proceed with an interview method. This method would not, however, be able to capture the (dis)agreement between proponents from the same school, which is a dimension we consider relevant to our analysis.

Recall that the ontological basis of our argument is that schools of thought followed by researchers influence their tendency to choose between a different set of policies if they were in a position of policy making. If so, the predominant school of thought today, mainly in universities of reference, can be a proxy to predict what kind of policies will be implemented. And so, our ontological basis is explained by subjectivism. “The

subjectivist view is that social phenomena are created from the perceptions and consequent actions of social actors” (Saunders et al., 2009: 111). Subjectivism states that each individual perceives the same situation differently based on how they view the world. No academic researcher is one hundred percent from one school and is able to understand and accept some arguments from other schools, so we expect that different proponents of the same school have slightly different opinions on the world.

3.3. Data gathering procedure

The questionnaire was implemented through an online platform, LimeSurvey. The survey period occurred over 1 month (February 2015).

The first email inviting the target population for responding the questionnaire was sent on the 2nd February 2015. To this first call 146 individuals responded.

We sent 4 additional reminders, one per week - 9 february, 16 February, 21 February and 27 February – managing to get further (but decreasing) responses – 150, 79, 36, and 6, respectively.

Thus, out of the 1986 individuals inquired we got 417 responses (with 126 individuals deciding to opt out). This resulted in a response rate of 21%, which is lower than that of Di Maio (2013), who got a reply of 33% (out of a set of 1511 Italian economists).

However, as we realized over the inquired period, our set of Portuguese academics included some non-economists that had written and published articles (alone or in co-authorship) in economic related journals. Some of these opted out of the survey, but the majority simply did not respond.

It is important to note that, in terms of respondent sample, we were able to select only economists or individuals who, albeit not having a degree in economics, were actively involved in economic related issues. Therefore, our ‘effective’ rate is higher than 21%.

4. Schools of Thought and the perception of Portuguese Academics regarding the economy

4.1. General characterization of the respondents

The questionnaire was sent to 1986 academics actively researching in economic related subjects (the vast majority are economists although some non-economists also responded). A total of 417 answers were received (21% response rate).

In a broader perspective (see Table A1 in Appendix), 65% of the respondents are males with an average age of 47 years old. According to their professional occupation, 66% are university professors (out of these, 50% are assistant professors and 18% full professors), with 30% developing their activities in the public universities of Porto, Lisbon and Coimbra), and 19% being affiliated in polytechnic institutes. Only 3% have as the primary professional position ‘researcher’.

Having in consideration the Journal of Economic Literature (JEL) classification, and excluding the ‘Other topics’ (e.g., economic anthropology, cultural economics, economic sociology), the respondents’ primary areas of research are (see Table A2 in Appendix) ‘Economic Development, Innovation, Technological Change, and Growth’ (10.3% of the total), ‘Financial Economics’ (10.3%), ‘Macroeconomics and Monetary Economics’ (9.6%), and ‘Mathematical and Quantitative Methods’ (7.9%). The respondents consider the contents of their research as more empirically than theoretically led (24% of the respondents evaluate their research distinctly theoretical).

Although 86% of the respondents recognize that the academic debate on the performance of the Portuguese economy has been (over the last 15 years) rather superficial and lacking of a depth discussion, and for 63% failed to raise the awareness of the average citizen for weaknesses of the Portuguese economy, they admit having followed closely that academic debate. Indeed, 64% admitted to have followed the debate often and always whereas only 9% admitted never or rarely keep up with the debate. Almost all the respondents (95%) followed the debate through the media and 65% resorted to specialized scientific publications. Those who contributed more directly to the debate, that is published books, chapters, articles and/or participated in conferences and other related public events about the performance of the Portuguese economy involved approximately one quarter (23% of the sample published something

on the issue) to one third (30% participated in public sessions as speakers) of the sample.

Interestingly, only 14.4% of the respondents consider that the debate undertaken on the performance of the Portuguese economy produced an impact on the public policies implemented.

Regarding the school of thought, almost a third of the respondents state that they do not possess any specific methodological orientation (see Table 4). Those who reported a given orientation, 12.5% identify themselves as Neoclassical, 11.8% as Behavioralists and 6.7% New Keynesians.

Although, as referred in Section 2, the boundaries of the so-called ‘mainstream’ and ‘non mainstream’ streams are not clear cut, we following Di Maio (2013) and consider different groupings (see Table 4) – Mainstream extra vs Heterodox; Mainstream large vs Heterodox large; and Mainstream vs Non-Mainstream - which permit us latter to analyze the main characteristics of each group and assess the intra and inter group (dis)agreement regarding namely the policies.

Table 4: Distribution of Portuguese economists regarding schools of thought

			School of thought	Number of Respondents	%
Mainstream extra (30.9%) [45.3%]	Mainstream large (19.2%) [28.1%]	Mainstream (12.5%) [18.2%]	Neoclassical	52	12.5
			Keynesian / New Keynesian	28	6.7
			Behavioral	49	11.8
			Eclectic	47	11.3
			Austrian / Neo Austrian	2	0.5
Heterodox (37.4%) [54.7%]	Heterodox large (49.3%) [71.9%]	Non-mainstream (55.9%) [81.8%]	Evolutionary	20	4.8
			Experimental	33	7.9
			Institutionalist / New Institutionalist	27	6.5
			Keynesian / Post Keynesian	12	2.9
			Marxist	6	1.4
			Other	9	2.2
			Without a specific methodological orientation	132	31.7
No school (31.7%)	No school (31.7%)	No school (31.7%)			
Total				417	100.0

Note: The question posed was: “How would you define your methodological orientation?”

Using those groupings, about 31% of the respondents can be included within the ‘mainstream’ economics, considering the latter in its more comprehensive setting (‘Mainstream extra’). Eclectics comprise 11.3% of the total and are the largest category within the so called Heterodox economics (which includes beside Eclectics, Austrian /

Neo Austrian, Evolutionary, Experimental, Institutionalist / New Institutionalist, Keynesian / Post Keynesian, and the Marxist). The rest of the sample is dispersed by the remaining schools of thought (see Table 4).

Characterizing a little further the sample, researchers within the mainstream group are mainly involved in ‘Public Economics’ (15.4% of mainstream), ‘Economic Development’ (13.5%), ‘Industrial Organization’ (13.5%), ‘Financial Economics’ (9.6%), and ‘Macroeconomics and Monetary Economics’ (9.6%). The non-mainstream group focuses its investigation (excluding the ‘other topics’ of research) in ‘Economic Development’ (11.1% of non-mainstream), ‘Financial Economics’ (9.9%), ‘Macroeconomics and Monetary Economics’ (9.4%) and ‘Business Administration and Business Economics, Marketing, Accounting, Personnel Economics’ (8.2%). Mainstream respondents are relatively more inclined than non-mainstream to ‘Public Economics’ and ‘Industrial Organization.’

4.2. Main distinctive characteristics between mainstream and heterodox academics

Exploring individual characteristics, in Table 5, we test various dichotomies to understand whether the respondents’ individual characteristics (such as their age, sex, academic position, research preference, market orientation and if they favor social mobility) are in any way linked with schools of thought.

Considering the main dichotomy we follow expressed in column (1), we conclude that non-mainstream respondents are older, have a more theoretical approach to research and are less market oriented than their mainstream counterparts.

As we enlarge the mainstream group, in columns (2) and (3), the differences of age and research orientation fade and only the market parameter remains significant.

Interestingly to analyze is the case of the proponents of no specified school of thought. In column (4) we analyze the dichotomy mainstream against no school of thought. The results show that mainstream are more empirical and market oriented. In column (5) opposing non-mainstream with no school of thought we gather that non-mainstream respondents are older. If we combine the information of columns (4) and (5), we conclude that, regarding individual characteristics, the proponents of no school of thought are very similar to non-mainstream ones, except that they are younger.

Table 5: Individual characteristics between different groups of mainstream and heterodos economists: Logistic estimations

Dependent variable	Non-Mainstream vs. Mainstream	Heterodox Large vs. Mainstream Large	Heterodox vs . Mainstream extra	Mainstream vs. No School	Non-mainstream vs. No School
	(1)	(2)	(3)	(4)	(5)
Independent variables					
Age (ln)	1.634* (0.914)	1.394* (0.742)	1.050 (0.679)	-0.674 (0.902)	1.174** (0.585)
Male (dummy 1 if man, 0 if woman)	-0.355 (0.374)	-0.465 (0.310)	0.261 (0.273)	0.365 (0.384)	0.067 (0.235)
Academic Position (dummy 1 if Full professor or associate with habilitation and equivalent; 0 if otherwise)	-0.035 (0.433)	0.145 (0.402)	0.257 (0.356)	0.476 (0.523)	0.289 (0.342)
Research (dummy 1 if research is more theoretical oriented, 0 if research is more empirical oriented)	-1.219*** (0.362)	-0.778** (0.308)	-0.198 (0.289)	1.081** (0.377)	0.128 (0.279)
Market (dummy 1 if market oriented, 0 if state oriented)	-1.598*** (0.357)	-0.969*** (0.282)	-1.105*** (0.260)	1.127** (0.364)	-0.295 (0.299)
Social Mobility (dummy 1 if governments should promote social mobility, 0 if otherwise)	0.475 (0.338)	0.122 (0.281)	0.500 (0.255)	-0.172 (0.355)	0.277 (0.225)
Observations	285	285	285	184	365
Hosmer and Lemeshow Test – p-value	0.023	0.354	0.107	0.515	0.585
Correct % predicted by the model	82.8%	75.1%	63.5%	73.9%	64.4%

Note: *** (**) [*] - Coefficient is significant at 1% (5%) [10%]. Standard errors in parentheses. Grey cells identify the significant estimates.

4.2. A descriptive account about the perceptions of Portuguese academics according to their school of thought

4.2.1. The situation of the Portuguese economy

The widespread opinion (with 82% of individuals agreeing) about the performance of the Portuguese economy is that it has been declining – see Table A1 in the Appendix. Both mainstream and non-mainstream economists agree that the economy's performance is in a declining route (77% and 84%, respectively), and for the majority this declining phase endures at 10 to 14 years (40% of mainstream respondents and 31% of non-mainstream) or more (27% for the mainstream and 25% for the non-mainstream). The fact that a substantial number of respondent associates the declining economic performance to the last 15 year might be partially explained by the important institutional changes in the worldwide and European economy, most notably the entrance of China in WTO and the enlargement of the EU, and the first years of Euro, which severely limited Portugal's competitiveness. Answers to the proposition "The results of the Portuguese economy in recent years show a decline in their economic performance"

For a large share of the Portuguese academic economists (over 70% of the total), and to a larger extent in the case of non-mainstream economists, the increase in poverty and the increase in unemployment are a materialization of the economic decline of a country. The low investment level in R&D, the low return on human capital, the slowdown in per capita income growth and the increase in income inequalities stand also higher as relevant indicators of countries' economic decline – see Table A2 in the Appendix.

There are, nevertheless, noticeable differences between non-mainstream and mainstream economists regarding the signs of economic decline. Indeed, about 72% of the non-mainstream economists, against only 42% of the mainstream, consider the increase in income inequalities an important indicator of a country's economic decline. Also a higher percentage of non-mainstream economists compared to that of mainstream envisage the slowdown in per capita income growth (67% vs 52%), the slowdown in total factor productivity growth (61% vs 46%) and the slowdown of labor productivity growth (53% vs 39%) as concrete manifestations of economic decline.

In relation to the degree of concern about the past, present and future of the Portuguese economy, the opinions diverge significantly between mainstream and non-mainstream.

Mainstream economists have become more optimistic about the future in the last five years (the percentage of “very concerned” diminished from 52% five years ago down to 33% today). For the non-mainstream, in contrast, ‘only’ 29% of them stated to be “very concerned” five years ago, against 63% that reveal being today “very concerned”. Regarding the future, 66% of the non-mainstream economists, against 51% of the mainstream, admit to be very concerned with the prospects of the Portuguese economy – see Table A3 and A4 in the Appendix.

4.2.2. The causes that led to the crisis of the Portuguese economy

Respondents were asked to give their opinions regarding the causes for the poor performance of the Portuguese economy. The possible causes (reflected in 39 propositions) were presented to the respondents into five main macro categories: economy’s structural characteristics, international position of Portugal, firms’ characteristics, public sector and labor market.

Almost 80% of the respondents considered the economy’s ‘structural characteristics’ as the first or second most important for explaining Portugal’s economic backwardness (see Table A6 in the Appendix). Interestingly, the characteristics/issues related to ‘the labor market’, the latter being a central object of the policy intervention with the Troika memorandum, were considered highly relevant causes for economic decline by only 14.4% of the respondents. The ‘international position of Portugal’, ‘firms’ characteristics’, and the ‘public sector’ are considered as relevant explanations for the Portuguese economy by respectively 40.3%, 33.3% and 32.9% of the respondents.

Within the economy’s structural characteristics, the vast majority of the respondents (83% of total) consider the poor quality of public institutions (including, bureaucracy, justice and regulators) as a catalyst of the current crisis. Moreover, the ‘high levels of corruption’ and ‘the low level of competition, the existence of barriers to firms to operate and rent seeking activities’ are also considered important hindered factors for over 60% of the respondents.

Regarding these same structural characteristics/weaknesses, non-mainstream economists consider significantly more than the mainstream ones the insufficient level of public investment in education (58% vs 31%), the weak dynamic in ICT investment (42% vs 29%) and the insufficient quantity of public infrastructures (17% vs 6%) as explanations for the low economic performance of the Portuguese economy.

Within the international position of Portugal, the low tendency for the internationalization of the Portuguese firms, the lack of attraction regarding foreign direct investment, and the European Commission policies undertaken are the primary factors agreed upon by around half of the respondents. Nonetheless, there are significant differences mostly to what relates to European policy and decisions. Non-mainstream economists are much more critical with respect to the policy choices of the European Commission (60% vs 33%), the ECB's monetary policy (56% vs 25%) and the Euro currency (40% vs 25%). There are significant differences between non-mainstream and mainstream economists relating also with the low tendency for the internationalization of the Portuguese firms (66% vs 44%) and the increase in international competition through dumping and counterfeiting (33% vs 11%).

Within the firms' characteristics, it is affirmed that firms' relative small size is an important cause for the poor performance in the process of internationalization of firms (65% of total answers) and a barrier when it comes to borrow from banks (56%). It is also agreed that Portuguese businesspersons are more risk-averse (59%). Non-mainstream respondents emphasize the relative firms' small size as a cause for the Portuguese slowdown because, they argue, their small size generates difficulties in accessing credit lines (59% vs 42%) and to adopt new technologies (51% vs 30%).

Regarding the considerations concerning the public sector, a high percentage of respondents consider the policies implemented to the reduction of the public deficit (69%), the public debt (67%), the low efficiency level of the public sector (63%), and the inefficient management of the public sector's working force (63%) as important causes for Portuguese economic laggardness. Interestingly, mainstream respondents are more inclined than non-mainstream respondents to consider public debt (80% vs 64%), the public deficit (73% vs 51%) and the inefficiency of public sector (71 vs 59%) as causes of the Portuguese economic decline. Non mainstream, on the other hand, view the policies implemented from the governments to reduce public debt and deficit as a cause (75% vs 42%) and the reduction of public employees (26% vs 8%).

Regarding the issues of the labor market, 67% of the respondents consider the dynamics of population ageing a relevant cause for the decline of the Portuguese economy. The scarcity of human capital demand is considered an important cause for 58% of the respondents. Significantly differences arise when comparing the perceptions of mainstream and non-mainstream respondents. Mainstream economists contemplate

more than non-mainstream, the low flexibility of the labor market (54% vs 33%), and the increased propensity of unions to invoke a strike (37% vs 24%). Non-mainstream, however, emphasize more the scarcity of human capital demand (63% vs 42%), the policy of wage moderation since the consensus phase, achieved after the signing of the memorandum of understanding⁴⁶ (48% vs 23%), the increase in emigration (46% vs 25%) and the negative impact on productivity of the reforms in the labor market (32% vs 12%).

Table 6: Summary of the opinions on the causes of the current economic crisis

	Total	Mainstream	Non-mainstream
The quality of infrastructure assets (bureaucracy, justice, regulators)	0.825	0.885	0.811
The policies undertaken for reduction of public debt	0.693	0.423	0.755
The demographic dynamic	0.671	0.635	0.687
The situation of public debt	0.667	0.808	0.639
The small size of the firms, as it makes it more difficult to process internationalization	0.650	0.673	0.665
The high levels of corruption	0.638	0.596	0.648
The low efficiency of the public sector	0.628	0.712	0.588
The inefficient management of public sector employees	0.626	0.654	0.622
The level of competition, the existence of other barriers to entry and income positions	0.602	0.712	0.601
The low propensity for internationalization of Portuguese business	0.590	0.442	0.661
The low risk entrepreneurs	0.585	0.558	0.588
The low level of education / professional formation	0.580	0.538	0.554
The demand scarcity of human capital	0.578	0.423	0.627
The lack of attractiveness of Portugal for Foreign Direct Investment	0.568	0.519	0.588
The small size of the firms since it makes it more difficult to access the credit	0.561	0.423	0.592
The situation of public deficits	0.547	0.731	0.511
The low level of public investment in education	0.530	0.308	0.584
The choices of economic policy of The European commission	0.525	0.327	0.601
The ownership structure of Portuguese firms	0.523	0.519	0.511

Notes: the values represent the percentage of individuals whose answer was "strongly agree" or "agree". Bold indicates the largest value.

4.2.3. Policy propositions

Potential policy measures to overcome Portugal's weak economic performance would include, according to the respondents, the Portuguese firms should be more global (87%

⁴⁶ See "http://economico.sapo.pt/public/uploads/memorandotroika_04-05-2011.pdf." Accessed on April 4 2015.

of total), backed up with more private R&D (86%) and research in universities (83%). Creating more synergies among firms (e.g., science parks or industrial areas) within the country (71%) would enable the increase in the quality of goods and services produced (74%) and would, in due time, strengthen the economy's productive structure (72%). The public sector should engage in improving its efficiency (83%) and support the lack of R&D of the private sector (72%) - see Table 7.

There are several differences between mainstream and non-mainstream regarding policy proposals. Non-mainstream would like to have a government promoting more the increase in R&D performed by universities (88% vs 71%) and by the public sector (81% vs 56%). Also concerning the public sector intervention non-mainstream respondents are particular more keen (than mainstream) in having a government encouraging more actively investment, through strategic guidelines (70% vs 21%) and investing, itself, in infrastructure (32% vs 8%).

Regarding courses of action related with firms, non-mainstream respondents also more vigorously recommend a more interventive approach. In particular, non-mainstream respondents underline that something should be changed in the economy's productive structure (78% vs 52%), the investment in ICT should be promoted (68% vs 40%), and that it should be created a consortium of small and medium-sized enterprises (73% vs 62%). These differences indicate that mainstream respondents are less prone to think that active intervention by the government on private/firms issues might be beneficial. Adding to this statement, mainstream respondents would, to a higher extent than non-mainstream, like to see unions' powers reduced (39% vs 19%) and government proceeding with more privatizations (35% vs 11%).

Regarding the answers of the respondents that claimed not pursuing a specific school of thought (which represent 32% of the total respondents), we observe, similarly to the respondents that pursue a given school of thought, that the most agreed propositions are: promoting the internationalization of firms (84%), increasing public sector efficiency (83%), promoting private research (82%) and public research (78%); the least agreed include: reducing the power of unions (24%), increase investment in physical infrastructures (21%) and proceed with more privatizations (13%).

Table 7: Policy proposals for improving the performance of the Portuguese economy (differences in means)

	All respondents	Mainstream	Non-mainstream	No School of Thought	Kruskall-Wallis Test - p value
... to promote the internationalization of firms	0.868	0.846	0.888	0.841	0.396
... to encourage private research	0.863	0.788	0.906	0.818	0.170
... to proceed with simplifying/increasing the efficiency of the public sector	0.832	0.846	0.833	0.826	0.812
... to encourage academic research	0.827	0.712	0.880	0.780	0.002
... to increase the quality of products	0.741	0.712	0.773	0.697	0.352
... to modify the productive specialization of the economy	0.724	0.519	0.781	0.705	0.000
... to encourage public research	0.722	0.558	0.807	0.636	0.000
... to better connect firms within the territory	0.710	0.615	0.768	0.644	0.230
... to create a consortium of small and medium firms	0.679	0.615	0.734	0.606	0.088
... to reduce precariousness in the labor market	0.602	0.404	0.661	0.576	0.001
... to increase the investment in ICT by firms	0.592	0.404	0.682	0.508	0.000
... to increase public investment in strategic sectors	0.585	0.212	0.695	0.538	0.000
... to incentivize the growth of the firms' dimensions	0.540	0.346	0.575	0.553	0.003
... to promote a more flexible labor market	0.412	0.519	0.361	0.462	0.340
... to increase investment in physical infrastructures	0.252	0.077	0.318	0.205	0.000
... to reduce the power of the unions	0.230	0.385	0.189	0.242	0.002
... to proceed with further privatizations	0.144	0.346	0.107	0.129	0.000

Notes: the numbers represent the proportion of individuals whose answer was "strongly agree" or "agree" with the proposal; grey cells indicate statistical significant differences in means; bold figures indicate the largest values.

Although for some of the most frequently proposed policy measures (e.g., to promote the internationalization of firms; to encourage private research; to proceed with simplifying/increasing the efficiency of the public sector; and to increase the quality of products), no significant differences exist among academics pursuing distinct schools (mainstream vs heterodox) or those not pursuing a given school of thought, for the vast majority of proposals there are noticeable differences. Specifically, heterodox/non-mainstream academics, to a larger extent than their mainstream counterparts, tend to propose increases of investment in physical infrastructures (p-value=0.000); increase public investment in strategic sectors (p-value=0.000), increase the investment in ICT by firms (p-value=0.000), modify the productive specialization of the economy (p-value=0.000), and encourage public research (p-value=0.000). To reduce precariousness in the labor market (p-value=0.001), to incentivize the growth of the firms' dimensions (p-value= 0.003) or to create a consortium of small and medium firms (p-value=0.088) are also policy measures that heterodox tend to propose to larger extent than their mainstream or no school counterparts.

Mainstream academics are also quite distinctive from the remaining individuals as a larger proportion of them see further privatizations and the reduction of the power of the unions as important policy measures to overcome performance weaknesses of the Portuguese economy.

Within the mainstream, neoclassical academics emphasize the argument of market failures to support policy intervention since some markets cannot reach an efficient level by their own. One known market failure is the disincentive to invest in R&D, as the researcher cannot fully appropriate the benefits of said research. Our results are convergent with this argument. 79% and 71% of neoclassical respondents agree, respectively, with encouraging private research and academic research (see Table 8).⁴⁷ They are, however, indecisive as to the efficiency of public research with 56% of them agreeing with more public funding. They also give utmost importance, as the theory suggests, to improving the efficiency of public sector (85% agree).⁴⁸ To no surprise, since they defend a freer market, they do not agree with more public intervention, either by investing in strategic sectors (21%) or in physical infrastructures (8%).

⁴⁷ Private research is usually associated with applied research and academic research is usually associated with basic research. For a review on the benefits of basic research funding see Salter and Martin (2001).

⁴⁸ When governments intervene the result may not correct the market failure but accentuate it. Therefore, the government should be as efficient as possible to minimize the errors it makes.

New Keynesians and Behavioral economists, which are also part of the mainstream group share close views with their neoclassical counterparts. The top four most agreed propositions by the academics of the three schools are the same: the increase in the efficiency of public sector, promoting the internationalization of Portuguese firms, and encouraging private and academic research. There are, notwithstanding, some differences between New Keynesians / Behavioralists and neoclassical respondents. The former do not consider, at all, the reduction in the power of unions and the continuation of more privatizations as envisaged policies. At hindsight, they appear to defend a more proactive public presence than neoclassical respondents.

Within the heterodox group, as we summarized earlier, evolutionary proponents give special consideration to change and economic evolution. They are interested in explaining what causes long term secular growth one important factor is R&D as they consider it a key factor shaping economic change. Our respondents' answers reflect such endeavors. Private research, academic research and public research are all highly valorized by, respectively, 90%, 85% and 85% of the evolutionary respondents. An additional source of change can be achieved by active policies targeted at modifying the productive structure of the economy which would impact the competitiveness of firms and their ability to compete in international markets, which are defended by 85% of the evolutionary respondents. On the opposite side of compliance are the needs to increase physical infrastructures and the reduction in the power of unions (only 15% of the respondents from the evolutionary school agree/strongly agree with this) and to proceed with more privatizations (10%) since, in their perspective, no economic development can be achieved through the persecution of these proposals.

Also related to heterodox stances, new Institutional economists tend to focus on understanding transactions costs, property rights and contracts (Ménard and Shirley, 2014). This school argues that a more efficient market result can be attained if the public sector defines clearly property rights (the Coase theorem). And, indeed, the proposition that express this is agreed by 90% of new institutionalist respondents. The other most agreed propositions (although not strictly connect to the scope of study of this school) include to increase private and academic research and the promotion of firms' internationalization, supported by 93% of institutionalist respondents. In line with the evolutionists, they do not confer importance to reducing the power of unions (19%), increasing investment in physical infrastructures (15%) or proceeding with more privatizations (11%) as solutions/policy measures to improve the economic performance of the Portuguese economy.

Table 8: Policy proposals for improving the performance of the Portuguese economy by school of thought

	Neoclass.	Behavioral	New Keynesian	Evoluti.	Experim.	Post Keynesian	New Institut.	Eclectic	No School of Thought
To proceed with simplifying/increasing the efficiency of the public sector	0.846	0.898	0.964	0.700	0.818	0.833	0.889	0.723	0.826
To promote the internationalization of firms	0.846	0.939	0.964	0.800	0.879	0.833	0.926	0.872	0.841
To encourage private research	0.788	0.898	0.929	0.900	0.970	0.917	0.926	0.872	0.818
To encourage academic research	0.712	0.878	0.893	0.850	0.848	1.000	0.926	0.872	0.780
To increase the investment in ICT by firms	0.404	0.735	0.857	0.550	0.788	0.583	0.593	0.660	0.508
To increase the quality of products	0.712	0.755	0.821	0.850	0.758	0.750	0.778	0.766	0.697
To modify the productive specialization of the economy	0.519	0.796	0.821	0.850	0.788	0.833	0.741	0.745	0.705
To better connect firms within the territory	0.615	0.837	0.786	0.700	0.818	0.917	0.667	0.723	0.644
To create a consortium of small and medium firms	0.615	0.837	0.714	0.700	0.727	0.750	0.630	0.702	0.606
To encourage public research	0.558	0.796	0.714	0.850	0.818	1.000	0.815	0.851	0.636
To reduce precariousness in the labor market	0.404	0.735	0.643	0.500	0.727	0.750	0.630	0.574	0.576
To incentivize the growth of the firms' dimensions	0.346	0.633	0.607	0.500	0.697	0.583	0.556	0.532	0.553
To increase public investment in strategic sectors	0.212	0.714	0.536	0.750	0.697	1.000	0.593	0.723	0.538
To promote a more flexible labor market	0.519	0.490	0.321	0.300	0.485	0.167	0.259	0.340	0.462
To increase investment in physical infrastructures	0.077	0.408	0.321	0.150	0.303	0.583	0.148	0.277	0.205
To reduce the power of the unions	0.385	0.306	0.107	0.150	0.242	0.083	0.185	0.170	0.242
To proceed with further privatizations	0.346	0.163	0.107	0.100	0.061	0.083	0.111	0.128	0.129

Notes: the numbers represent the proportion of individuals whose answer was "strongly agree" or "agree" with the proposal

4.3. Between and within differences among mainstream and non-mainstream academics regarding the causes of economy decline and policy proposals

4.3.1. Between differences

By measuring the correlation between mean opinions on causes and on policy proposals by school of thought we are able to perceive the disagreement between schools of thought (the results are summarized in Table A8 and Table A9 in the Appendix).

On a first note, the correlations are stronger on policy proposals than on causes. Such statement indicates that respondents disagree less on the policy proposals to overcome the Portuguese crisis than on the causes that led to the current state of affairs. Given the amount of public discussion (in published articles and in the press) this result is somewhat unexpected and very interesting to analyze.

Considering more closely the causes by schools of thought, it is worth mentioning first, that Marxists and Post Keynesians are the schools that disagree more with the others – the correlations are close to zero compared with Neoclassical Economics / Mainstream.⁴⁹ Within the three mainstream schools, Neoclassical and New Keynesian have more synchronized views with each other than with Behavioral Economics – the latter, interestingly, has higher correlation coefficients with several non-mainstream schools than with mainstream ones. New Keynesians, despite being considered mainstream in Section 2, have high correlations with most schools, mainstream or non-mainstream.

Taking notice on policy proposals, as referred, the correlations are higher compared to causes. Even Marxists and Post Keynesians, which disagreed severely on causes, have high correlations with other schools of thought. Policy wise, Neoclassical respondents' answers are quite distanced from most of other schools. They have some similarities with Austrian and Institutional economics, which is somewhat predictable.⁵⁰ The remainder schools share with each other very high correlation coefficients (most above 0.85).

⁴⁹ The Austrian school of thought has lower values but there are only 2 observations in our sample and the results are, mostly, not significant.

⁵⁰ Please refer to the explanations given in section 2 to comprehend some core ideas shared between these schools.

4.3.2. Within differences

To understand the within differences about the respondents' perceptions regarding the causes and the proposals we resort to analyze the level of entropy associated with the answers provided.

We use Shanon and Weiner diversity index or entropy index to capture the differences in the respondents' perceptions. This index is ranges between 0 and 1. The lower value indicates that the answers were fully concentrated in one of the options given; a higher value indicates that the answers were equidistributed along our 5 point likert scale. Following this, closer to 0 means more agreement between respondents, closer to 1 more disagreement.

In Table 9, we observe the level of disagreement within the groups we defined earlier. Two results emerge: 1) whichever categorization we consider, non-mainstream / heterodox respondents are in more agreement with each other than their mainstream counterparts; 2) disagreement within groups is always lower on policy proposals than on causes.

Disaggregating the values in Table 9, we now consider the within differences in particular questions for mainstream and non-mainstream respondents. In Table 10, we order the five most and least debated (with higher degree of within differences, i.e., higher entropy) causes for mainstream proponents and we compare them to the answers from non-mainstream respondents. In Table 11 we do the same with the non-mainstream perspective in mind.⁵¹

Table 9: Disagreement within groups - average entropy indexes

	Number of respondents	Causes for the economic decline	Policy Proposals
Mainstream	52	0.86	0.84
Mainstream Large	80	0.87	0.81
Mainstream Extra	129	0.86	0.79
Non-Mainstream	233	0.84	0.73
Heterodox Large	205	0.83	0.73
Heterodox	156	0.83	0.72

Note: the values are weighted averages of the relative entropy indexes. The weight is calculated according to the relative size that each school represents in the group.

⁵¹ See Table A8 and Table A9 in the appendix for the complete ranked list – recall that in total there are 39 propositions about the causes and 17 about policy proposals.

In Table 10 we can distinguish two causes which demonstrate a distinctively view on the phenomena. Mainstream economists are substantially divided as to how they perceive the policies undertaken for the reduction of public debt and the European Commission policy choices. Interestingly to note is that non-mainstream respondents, besides showing less disagreement, also are more assertive to consider, than mainstream respondents, these two as causes for the Portuguese economic decline.

Table 10: Disagreement about the causes (mainstream’s view)

Causes	Mainstream			Non-mainstream		
	Entropy	Rank	Agree %	Entropy	Rank	Agree %
The policies undertaken for reduction of public debt	0.985	1	42.3	0.743	38	75.5
The choices of economic policy of The European Commission	0.969	2	32.7	0.839	21	60.1
The increase in emigration	0.965	3	25.0	0.896	6	45.5
The low level of public investment in education	0.954	4	30.8	0.897	5	58.4
The monetary policy of ECB	0.945	5	25.0	0.881	9	55.8
The small size of the firms, as it makes it more difficult to process internationalization	0.762	35	67.3	0.813	30	66.5
The situation of public debt	0.750	36	80.8	0.832	23	63.9
The lack of attractiveness of Portugal for Foreign Direct Investment	0.746	37	51.9	0.843	19	58.8
The low efficiency of the public sector	0.730	38	71.2	0.829	24	58.8
The quality of infrastructure assets (bureaucracy, justice, regulators)	0.610	39	88.5	0.671	39	81.1

Note: The questionnaire included 39 propositions about the causes of the Portuguese economy’s decline.

About the five most agreed causes (lower entropy) for mainstream academics, they look similar to non-mainstream in terms of ranking. Nevertheless, a closer look indicates that the levels of entropy are smaller in mainstream economists (compared to that of non-mainstream) indicating, at least, a more coherent group view on these phenomena.

In Table 11, unlike in the previous paragraph, it is compelling to note that if we order the entropy index on the causes for the Portuguese economic decline from the non-mainstream view, non-mainstream and mainstream groups present a much similar entropy rank (excluding the already mentioned proposition related with the policies undertaken to the reduction of the public debt). This indicates that for those five causes the answers are considerably distributed along the possible answers.

Table 11: Disagreement about the causes (non-mainstream view)

Causes	Mainstream			Non-mainstream		
	Entropy	Rank	Agree %	Entropy	Rank	Agree %

The introduction of Euro	0.941	9	25.0	0.940	1	40.8
The low flexibility in the labor market	0.885	18	53.8	0.915	2	32.6
The behavior of unions	0.927	13	36.5	0.911	3	23.6
The range and quality of products exported by Portuguese companies	0.945	6	30.8	0.903	4	38.6
The low level of education / professional formation	0.954	4	53.8	0.897	5	55.4
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The demographic dynamic	0.845	23	63.5	0.788	35	68.7
The low propensity for internationalization of Portuguese business	0.840	25	44.2	0.784	36	66.1
The evolution of input prices	0.776	34	13.5	0.774	37	21.0
The policies undertaken for reduction of public debt	0.985	1	42.3	0.743	38	75.5
The quality of infrastructure assets (bureaucracy, justice, regulators)	0.610	39	88.5	0.671	39	81.1

Below, in Table 12 and

Table 13, we replicate the analysis above, in this case for the policies proposed. Focusing on Table 12, in spite of the fact that the ordering appears to be identical, the level of entropy is lower, overall, for non-mainstream than for mainstream respondents. The differences in this analysis are in line with section 4.2.3. related to the intervention of the government in the economy.

Table 12: Disagreement about the policy proposals (mainstream view)

Policy Proposals	Mainstream			Non-mainstream		
	Entropy	Rank	Agree %	Entropy	Rank	Agree %
To proceed with further privatizations	0.974	1	34.6	0.797	6	10.7
To reduce precariousness in the labor market	0.974	2	40.4	0.812	5	66.1
To reduce the power of the unions	0.964	3	38.5	0.891	3	18.9
To increase public investment in strategic sectors	0.914	4	21.2	0.785	7	69.5
To promote a more flexible labor market	0.875	5	51.9	0.909	1	36.1
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To increase investment in physical infrastructures	0.789	13	7.7	0.901	2	31.8
To encourage academic research	0.783	14	71.2	0.570	16	88.0
To encourage private research	0.699	15	78.8	0.547	17	90.6
To proceed with simplifying/increasing the efficiency of the public sector	0.671	16	84.6	0.646	14	83.3
To promote the internationalization of firms	0.671	17	84.6	0.586	15	88.8

Table 13: Disagreement about the policy proposals (non-mainstream view)

Policy Proposals	Mainstream			Non-mainstream		
	Entropy	Rank	Agree %	Entropy	Rank	Agree %
To promote a more flexible labor market	0.875	5	51.9	0.909	1	36.1
To increase investment in physical infrastructures	0.789	13	7.7	0.901	2	31.8
To reduce the power of the unions	0.964	3	38.5	0.891	3	18.9
To incentivize the growth of the firms' dimensions	0.854	8	34.6	0.847	4	57.5
To reduce precariousness in the labor market	0.974	2	40.4	0.812	5	66.1
To better connect firms within the territory	0.873	6	61.5	0.672	13	76.8
To proceed with simplifying/increasing the efficiency of the public sector	0.671	16	84.6	0.646	14	83.3
To promote the internationalization of firms	0.671	17	84.6	0.586	15	88.8
To encourage academic research	0.783	14	71.2	0.570	16	88.0
To encourage private research	0.699	15	78.8	0.547	17	90.6

We observe, in Table 14, that to every single school, the disagreement is higher regarding the causes that led to the present economic situation than on the policy proposals. From the proponents with a specified school of thought New Keynesians are the ones which disagree more and Marxists which disagree less, relative to causes. On policy proposals, Neoclassical respondents dispute more with each other and Marxists, again, express their opinions much more similarly.

Table 14: Within disagreement by school of thought

	Number of respondents	Causes for the economic decline	Policy Proposals
No School	132	0.89	0.83
Neoclassical	52	0.86	0.84
Keynesian / New Keynesian	28	0.88	0.76
Behavioral	49	0.85	0.75
Eclectic	47	0.86	0.76
Evolutionary	20	0.81	0.74
Keynesian / Post Keynesian	12	0.74	0.64
Institutional / New Institutional	27	0.88	0.76
Marxist	6	0.67	0.61
Experimental	33	0.85	0.72
Others	9	0.76	0.62

5. Conclusion

Along the quest to comprehend the differences between and within mainstream and heterodox economists we detailed the theory underlying the existence of each school. Some schools favor mathematical modeling to capture the idiosyncrasy of reality, others entail more ad hoc approaches.

Our main goal was to figure out whether such differences in the theoretical approaches of the schools of thought led to *de facto* differences when economists had identify the cause of (declining) economic performance and to defend/propose policies regarding a real economic crisis.

Albeit some results are sensitive to the way we classify the groups between mainstream and non-mainstream, for the sake of the present study's conclusions we opted to consider neoclassical economics as the primary school of mainstream economics.

Using a sample of (417) Portuguese academic economists we obtained the following main results.

First, considering individual characteristics, mainstream and heterodox economists differ. On average, mainstream economists are younger, have a more theoretical approach to academic research and are more market oriented than heterodox economists.

Second, respondents disagree more on the causes that led to the present Portuguese economic crisis than on the policy proposals to overcome such decline. Such result is not in line with that from Di Maio's (2013) study focused on Italian economists which concluded the opposite. Portuguese economists consider the low quality of public institutions (such as bureaucracy, regulators and justice), the implemented policies undertaken to reduce public deficit and the demographic dynamic as the most important contributors to the present state of the Portuguese economy. They, however regard as utterly irrelevant the quality and quantity of the physical infrastructures, the evolution on input prices in global markets and even the reduction in public employees. Policy wise, there is a strong agreement related to the internationalization of Portuguese firms, the improvement of the public sector and the increase of academic and private R&D. They consider proceeding with more privatizations, reducing the power of unions and invest in more infrastructures as policies not worth pursuing.

Third, and finally, looking to the within differences, whichever mainstream or heterodox dichotomy we consider, heterodox respondents appear more coherent (with more similar answers) than the mainstream groups. This contradicts some research which points to heterodox economics as a more fractioned group. To mainstream economists, the policies undertaken to minimize the public deficit and the economic policies of the European Commission are the ones which originate more disagreement. To non-mainstream economists, the introduction of Euro and the low flexibility of the labor market originate more clutter.

Some limitations that also constitute interesting and challenging avenues for further and future research comprise two points.

First, one could test whether the respondents defend what the theory suggests they should defend. A possible method for undertaking such assessment would be to design a questionnaire with policy proposals clearly focused on the theory behind each school of thought. Such an analysis would permit to understand whether economists know how to self-identify their school of thought and / or whether they really defend what the theory suggests they should.

Second, given that the results of policy proposals between mainstream and heterodox were so similar when the theory predicts it should not have been that way, it would be interesting to analyze whether the differences lie on the implementation of the policies.

A better designed questionnaire, able to capture the above mentioned two points would, for sure, increase the knowledge on the relationship between schools of thought and policy action.

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Appendix

Email inviting academics to respond the questionnaire

Assunto: Inquérito às ‘Opiniões dos Economistas sobre a Economia’

Cara/o colega,

Em 2007 Luca De Benedictis (Universidade de Macerata) e Michele Di Maio (Universidade de Naples "Parthenope"), no âmbito de um projecto sobre o tema "A economia italiana entre o declínio nacional e competitividade Internacional", implementaram um inquérito aos economistas académicos italianos questionando-os sobre as suas orientações e opiniões no debate sobre o declínio económico.

Em colaboração e com a autorização destes colegas, decidimos adaptar e implementar o inquérito original à realidade portuguesa.

O objetivo da presente investigação é puramente científico. Pretende-se descrever os pontos de vista dos economistas académicos portugueses (e/ou colegas, não-economistas, que publicaram artigos de conteúdo económico em revistas indexadas na Econlit) em relação ao desempenho da economia portuguesa, as suas percepções sobre as causas/explicações para tal desempenho, assim como as propostas de intervenção que considerariam mais eficazes.

A recolha dos dados é feita via web, de forma anónima, sendo que a análise dos dados será feita em agregado. O preenchimento do questionário leva cerca de 20 minutos.

Pode aceder ao questionário on-line em **link**.

O inquérito estará disponível para preenchimento até 28 de fevereiro de 2015.

A sua colaboração é extremamente importante já que a baixa taxa de resposta ao inquérito coloca em causa a possibilidade de sucesso do projeto.

A síntese dos resultados agregados do projecto será disponibilizada, a partir de abril de 2015, no site <http://www.fep.up.pt/docentes/ateixeira/>

Agradecendo desde já a sua atenção e generosidade, subscrevemo-nos com elevada consideração

José Mendes de Sousa

Aurora A.C. Teixeira

Questionnaire

Opiniões dos Economistas sobre a Economia

A finalidade da presente investigação é estritamente científica. A investigação tem como objectivo descrever os pontos de vista dos **economistas académicos portugueses** e/ou colegas **não-economistas que publicaram artigos de conteúdo económico em revistas indexadas na Econlit** em relação ao desempenho da economia portuguesa, as suas percepções sobre as causas/explicações para tal desempenho, assim como as propostas de intervenção que considerariam mais eficazes.

A análise dos dados será feita em agregado, estando garantida a confidencialidade dos mesmos.

O preenchimento do questionário leva cerca de 20 minutos.

Investigadores do projecto: José Mendes de Sousa e Aurora A.C. Teixeira (Faculdade de Economia, Universidade do Porto)

Parte A: Investigação científica

A1. Indique, por favor, a sua área de investigação principal e secundária (de acordo com a classificação do *Journal of Economic Literature*):

	Principal	Secundário
História do pensamento económico, metodologia e abordagens heterodoxas		
Métodos matemáticos e quantitativos		
Microeconomia		
Macroeconomia e economia monetária		
Economia internacional		
Economia financeira		
Economia pública		
Economia do trabalho e demografia económica		
Direito e economia		
Organização industrial		
Administração de empresas e economia da empresa; Marketing; Contabilidade		
História da economia		
Desenvolvimento económico, evolução tecnológica e crescimento		
Sistemas económicos		
Economia agrícola e dos recursos naturais; Economia do meio ambiente e da ecologia		
Economia urbana, rural e regional		
Outros tópicos		

A2. Numa escala de 1 (Empírica) a 5 (Teórica), indique, por favor, a sua principal abordagem de investigação:

1 - Empírica	2	3	4	5 - Teórica

A3. Como definiria a sua orientação metodológica?

Eclética

Institucionalista / Novo Institucionalista

Keynesiano / Pós Keynesiano

Keynesiano / Novo Keynesiano

Marxista
 Neoclássica
 Austríaca / Neo-austríaca
 Evolucionista
 Comportamental
 Experimental
 Sem orientação metodológica específica
 Outra (por favor especifique):

Parte B: Situação da economia

Indique, por favor, a sua opinião relativamente às seguintes afirmações (1 - Total desacordo... 5- Total acordo; NS – não sei responder)

B1. É uma manifestação de declínio económico...

(1 - Total desacordo... 5- Total acordo; NS – não sei responder)

	1	2	3	4	5	NS
... a desaceleração do crescimento da produtividade do trabalho.						
... a desaceleração do crescimento da produtividade total de factores.						
... a perda de quota das exportações no mercado mundial.						
... o aumento do desemprego.						
... o aumento da dívida pública.						
... a desaceleração do crescimento do rendimento per capita.						
... o aumento da pobreza.						
... o aumento das desigualdades de rendimento.						
... o baixo retorno do capital humano.						
... o baixo nível de investimento em I&D.						
... o 'atraso' económico relativamente a outros países europeus.						
... o 'atraso' económico relativamente aos Estados Unidos.						
... o baixo nível de crescimento económico comparado com os novos países industrializados.						

B2. Os resultados da economia Portuguesa em anos recentes mostram um declínio no seu desempenho económico.

- 1 – Discordo totalmente
- 2- Discordo em parte
- 3- Não discordo nem concordo
- 4- Concordo
- 5- Concordo totalmente
- NS – não sei responder.

B3. Na sua perspectiva, há quanto tempo a fase descendente da economia Portuguesa perdura?

- Menos de 1 ano
- 1-4 anos
- 5-9 anos
- 10-14 anos
- 15-19 anos
- 20-29 anos
- 30-39 anos
- 40 ou mais anos

B4. Indique o seu grau de preocupação relativamente à situação económica Portuguesa...

(1 – Nada preocupado... 5- Muito preocupado; NS – não sei responder)

	1	2	3	4	5	NS
... há 5 anos atrás						
...há 1 ano atrás						
... na actualidade						

B5. Relativamente ao futuro da economia Portuguesa a sua posição é

1 – Pessimista.

2- Algo pessimista.

3- Nem pessimista nem otimista.

4- Algo otimista.

5- Otimista.

Parte C: Causas do fraco desempenho económico de Portugal

Indique, por favor, para cada um dos itens listados em baixo, se, em sua opinião, tal é causa do fraco desempenho da economia Portuguesa (1 - Total desacordo... 5- Total acordo; NS – não sei responder).

C1. Categoria Macro I: Posição internacional de Portugal e desenvolvimento dos mercados globais

(1 - Total desacordo... 5- Total acordo; NS – não sei responder)

	1	2	3	4	5	NS
A especialização internacional de Portugal.						
A cada vez maior concorrência internacional nos mercados de bens e serviços.						
O aumento da concorrência internacional através do uso do <i>dumping</i> e contrafacção.						
A variedade e qualidade dos produtos exportados por empresas Portuguesas.						
A falta de atratividade de Portugal para Investimento Direto Estrangeiro.						
A baixa tendência para a internacionalização das empresas Portuguesas.						
A introdução do Euro (moeda).						
As escolhas de política económica da Comissão Europeia.						
A política monetária do BCE.						
A evolução dos preços das matérias-primas.						
A situação política desfavorável Portuguesa.						

C2. Categoria Macro II: Características das empresas

(1 - Total desacordo... 5- Total acordo; NS – não sei responder)

	1	2	3	4	5	NS
A relativa pequena dimensão das empresas torna difícil o acesso ao crédito.						
A relativa pequena dimensão das empresas torna difícil o processo de internacionalização.						
A relativa pequena dimensão das empresas torna difícil adoptar o uso de novas tecnologias.						
A estrutura de propriedade das empresas Portuguesas.						
O papel da família na empresa.						
A baixa propensão dos empresários para o risco.						

C3. Categoria Macro III: Características estruturais da economia.

(1 - Total desacordo... 5- Total acordo; NS – não sei responder)

	1	2	3	4	5	NS
A fraca dinâmica de investimento em tecnologias de informação e comunicação.						
O insuficiente investimento público em educação.						
A fraca qualidade da educação/formação dos portugueses.						
A insuficiente quantidade de infra-estruturas físicas.						
A fraca qualidade das infra-estruturas físicas.						
A fraca qualidade das instituições públicas (burocracia, justiça, reguladores).						
O baixo nível de concorrência, existência de barreiras à entrada e/ou existência de atividades “rent seeking”						
A elevada corrupção.						

C4. Categoria Macro IV: Mercado de trabalho

(1 - Total desacordo... 5- Total acordo; NS – não sei responder)

	1	2	3	4	5	NS
Os efeitos negativos (em termos de produtividade) resultantes das reformas ao mercado de trabalho.						
A baixa flexibilidade no mercado de trabalho.						
A política de moderação/corte salarial seguida a partir da fase de consenso política.						
A dinâmica demográfica (envelhecimento da população).						
A escassa procura de capital humano.						
A escassa oferta de capital humano.						
O aumento da emigração.						
O comportamento dos sindicatos (de maior propensão às greves).						

C5. Categoria Macro V: Sector público

(1 - Total desacordo... 5- Total acordo; NS – não sei responder)

	1	2	3	4	5	NS
O défice público.						
A dívida pública.						
As políticas implementadas para a redução do défice público.						
A baixa eficiência do sector público.						
A ineficiente gestão dos empregados do sector público.						
A redução do número de funcionários públicos.						

C6. Relativamente às causas para ao declínio (fraco desempenho económico) de Portugal, por favor ordene do mais relevante (1) para o menos (5) relevante os seguintes conjuntos de causas (tal como descrito em anteriormente)

(1- Mais relevante... 5 – Menos relevante)

Posição internacional de Portugal e desenvolvimento dos mercados globais.	
Caraterísticas das empresas.	
Caraterísticas estruturais da economia.	
Mercado de trabalho.	
Sector público.	

Parte D: Potenciais medidas para ultrapassar/resolver/melhorar o fraco desempenho económico de Portugal

Indique, por favor, para cada um dos itens listados em baixo, se, em sua opinião, tal é causa do fraco desempenho da economia Portuguesa (1 - Total desacordo... 5- Total acordo; NS – não sei responder).

D1. Para melhorar o estado da economia Portuguesa as autoridades de política/Governo deveriam

(1 - Total desacordo... 5- Total acordo; NS – não sei responder)

	1	2	3	4	5	NS
... proceder a mais privatizações.						
...melhorar a eficiência do sector público.						
... modificar a estrutura produtiva da economia.						
... aumentar a qualidade dos bens e serviços produzidos.						
... promover a internacionalização das empresas.						
... promover o aumento da dimensão das empresas.						
... criar consórcios de PME.						
... criar melhores condições para ligar as empresas dentro do território nacional.						
.... aumentar o investimento público em sectores estratégicos.						
... promover o aumento do investimento das empresas em Tecnologias de Informação e Comunicação.						
... encorajar o aumento da investigação pública.						
.... encorajar o aumento da investigação privada.						
.... encorajar o aumento da investigação nas universidades.						
... aumentar o investimento em infra-estruturas.						
... promover um mercado de trabalho mais flexível.						
... reduzir a precariedade no mercado de trabalho.						
... reduzir o poder dos sindicatos.						

D2. Adicionalmente às propostas anteriores, por favor sugira outras (máximo de 3) que entenda relevantes

Proposta 1:

Proposta 2:

Proposta 3:

Parte E: Avaliação do debate sobre o declínio da economia Portuguesa

E1. Por favor indique qual a frequência com que tem seguido o debate académico sobre o declínio da economia Portuguesa

Nunca

Raramente

Às vezes

Frequentemente

Sempre

E2. Relativamente ao debate sobre o declínio da economia Portuguesa.

	Não	Sim
Publicou algum artigo ou livro sobre o assunto?		
Participou em sessões públicas como orador?		
Seguiu o debate mas não participou nele activamente?		
Seguiu o debate através de publicações científicas?		
Seguiu o debate através da imprensa?		

E3. Tendo por referência os últimos 15 anos, como avalia o debate académico sobre o estado da economia Portuguesa?

Inexistente

Superficial

Um pouco superficial

Um pouco aprofundado

Aprofundado

Não sabe / não responde

E4. Por favor indique o seu grau de concordância face às seguintes afirmações

(1 - Total desacordo... 5- Total acordo; NS – não sei responder)

	1	2	3	4	5	NS
O debate académico sobre o estado da economia Portuguesa aumentou a consciência dos cidadãos portugueses sobre as fragilidades da economia.						
O debate académico sobre o estado da economia Portuguesa teve impacto sobre as políticas implementadas.						

Parte F: Outras dimensões

F1. Por favor, coloque a opção em baixo que na sua opinião constitui a forma/ combinação mais eficaz na organização da actividade económica

	1 – Só Estado	2	3	4	5 – Só Mercado

F2. Segundo a sua perspectiva, os Governos devem encetar medidas de política para promover a mobilidade social (i.e., transição de indivíduos ou grupos de um estrato ou de uma classe social para outra)?

1 – Não

2- Talvez, em determinadas circunstâncias.

3 – Sim

4- Não sei responder

F3. Idade (anos)

F4. Género:

Feminino

Masculino

F5. Afiliação profissional principal

Banco de Portugal

Instituto Politécnico de Beja

Instituto Politécnico de Bragança

Instituto Politécnico de Coimbra

Instituto Politécnico de Leiria

Instituto Politécnico de Setúbal

Instituto Politécnico do Porto

Instituto Superior de Ciências do Trabalho e da Empresa - Instituto Universitário de Lisboa

Universidade Aberta

Universidade Autónoma de Lisboa

Universidade Católica Portuguesa

Universidade da Beira Interior

Universidade da Madeira

Universidade de Aveiro

Universidade de Coimbra

Universidade de Évora

Universidade de Lisboa

Universidade de Trás-os-Montes e Alto Douro

Universidade do Algarve

Universidade do Minho

Universidade do Porto

Universidade dos Açores

Universidade Lusíada

Universidade Lusófona de Humanidades e Tecnologias

Universidade Nova de Lisboa

Universidade Portucalense Infante D. Henrique

Outra (por favor especifique):

E6. Categoria profissional (escolher apenas 1 opção)

Ensino Universitário

- Professor Catedrático
- Professor Associado c/ agregação
- Professor Associado e Auxiliar c/ agregação
- Professor Auxiliar
- Assistente e Leitor
- Assistente Estagiário

Ensino superior Politécnico

- Professor Coordenador Principal
- Professor Coordenador c/ agregação
- Professor Coordenador s/ agregação
- Professor Adjunto
- Assistente do 2º Triénio (Mestres ou Doutores)
- Assistente do 2º Triénio
- Assistente do 1º Triénio

Carreira de Investigação

- Investigador Coordenador
- Investigador Principal c/ habilitação ou agregação
- Investigador Principal e Auxiliar c/ habilitação ou agregação
- Investigador Auxiliar
- Assistente de Investigação
- Estagiário de investigação

Outra (por favor especifique):

Obrigada pela sua colaboração. A sua resposta é muito importante para nós.
Caso tenha alguma questão, por favor, contactar Aurora Teixeira (ateixeira@fep.up.pt)

Table A 1: Respondents' age, gender and affiliation

	Total	No School of Thought	Mainstream	Non-mainstream
Age (average in years)	47	45	45	48
Gender (% of Males)	65.2	61.4	73.1	65.7
Professional Affiliation (in % of total)				
Bank of Portugal	14	6	2	6
University of Lisbon	46	12	2	32
University of Porto	45	11	12	22
University of Coimbra	34	8	3	23
ISCTE	20	7	2	11
University of Minho	18	7	1	10
University of Aveiro	17	8	2	7
University of Évora	14	6	2	6
University NOVA of Lisbon	11	2	4	5
University of Algarve	10	3	0	7
Other public universities	47	19	7	21
Catholic University of Portugal	23	3	4	16
Other private universities	10	3	1	6
Other national organizations	6	1	1	4
Foreign Universities	20	7	4	9
Other foreign organizations	6	4	2	
Polytechnical Institute of Lisboa	17	10		7
Polytechnical Institute of Leiria	16	5	1	10
Other polytechnic institutes	38	8	2	28
Other private professions	5	2	0	3
Total	417			

Table A 2: It is a manifestation of economic decline...

	Total	No School of Thought	Mainstream	Non-mainstream	p value
... the slowdown in growth labor productivity	0,520	0,561	0,385	0,528	0,062
... the slowdown in growth of total productivity of factors	0,585	0,591	0,462	0,609	0,051
... the loss of share in the world export market	0,523	0,561	0,404	0,528	0,106
... the growth in unemployment	0,743	0,765	0,577	0,768	0,005
... the increase of the public debt	0,403	0,379	0,365	0,425	0,432
... the slowing of the rate of growth of per capita income	0,669	0,727	0,519	0,670	0,041
... the increase in poverty	0,815	0,795	0,692	0,854	0,006
... the increase of income inequality	0,659	0,644	0,423	0,721	0,000
... the low return on human capital	0,645	0,583	0,654	0,678	0,736
... the low level of investment in R&D	0,691	0,576	0,712	0,751	0,556
... the economic backwardness compared to European partners	0,520	0,530	0,462	0,528	0,387
... the economic backwardness compared to United States of America	0,365	0,326	0,327	0,395	0,363
... the subdued economic growth compared to new industrialized countries	0,463	0,508	0,346	0,464	0,124

Note: the numbers represent the percentage of individuals whose answer was "strongly agree" or "agree." Grey cells indicate statistically significant differences in means

Table A 3: Answers to the proposition "The results of the Portuguese economy in recent years show a decline in their economic performance"

	Totally Disagree	Partly Disagree	Neither Agree nor Disagree	Agree	Totally Agree	Do Not Answer
Frequency	4	52	18	193	148	2
Percent	1.0	12.5	4.3	46.3	35.5	0.5

Table A 4: "State your level of concern regarding the Portuguese economic situation"

		1	2	3	4	5	Do Not Answer
In the present	Frequency	1	11	46	130	227	2
	Percent	0,2	2,6	11,0	31,2	54,4	0,5
1 year ago	Frequency	1	7	23	127	257	2
	Percent	0,2	1,7	5,5	30,5	61,6	0,5
5 years ago	Frequency	1	31	98	140	144	3
	Percent	0,2	7,4	23,5	33,6	34,5	0,7

1 - Not concerned;...; 5 - very concerned

Table A 5: "Regarding the future of the Portuguese economy you are..."

	Pessimistic	Somewhat Pessimistic	Neither Pessimistic not Optimist	Somewhat Optimistic	Optimistic
Frequency	86	165	71	87	8
Percent	20,6	39,6	17,0	20,9	1,9

Table A 6: Causes of the weak Portuguese economics performance

	Total	No School of Thought	Mainstream	Non-mainstream	p value
The international specialization of Portugal					
The increased international competition in the market for goods and services	0,492	0,530	0,462	0,476	0,846
The increased international competition through dumping and counterfeiting	0,302	0,318	0,115	0,335	0,002
The range and quality of products exported by Portuguese companies	0,329	0,235	0,308	0,386	0,290
The lack of attractiveness of Portugal for Foreign Direct Investment	0,568	0,553	0,519	0,588	0,365
The low propensity for internationalization of Portuguese business	0,590	0,523	0,442	0,661	0,003
The introduction of Euro	0,343	0,265	0,250	0,408	0,034
The choices of economic policy of The European commission	0,525	0,470	0,327	0,601	0,000
The monetary policy of ECB	0,468	0,394	0,250	0,558	0,000
The evolution of input prices	0,201	0,212	0,135	0,210	0,215
The unfavorable international political situation	0,489	0,508	0,442	0,489	0,541
Th international specialization of the Portuguese economy	0,480	0,455	0,404	0,511	0,164
Firms' characteristics					
The small size of the firms since it makes it more difficult to access the credit	0,561	0,561	0,423	0,592	0,026
The small size of the firms, as it makes it more difficult to process internationalization	0,650	0,614	0,673	0,665	0,914
The small size of the firms, since it makes it more difficult to adopt new technologies	0,475	0,477	0,308	0,511	0,008
The ownership structure of Portuguese firms	0,523	0,545	0,519	0,511	0,912
The role of the family in the firm	0,424	0,439	0,385	0,425	0,595
The low risk entrepreneurs	0,585	0,591	0,558	0,588	0,689

(...)

	Total	No School of Thought	Mainstream	Non-mainstream	p value
Economy's structural characteristics					
The dynamics of investments in a ICT era	0,384	0,356	0,288	0,421	0,079
The quantity of physical infrastructure	0,146	0,136	0,058	0,172	0,038
The quality of physical infrastructure	0,149	0,106	0,096	0,185	0,124
The quality of infrastructure assets (bureaucracy, justice, regulators)	0,825	0,826	0,885	0,811	0,209
The level of competition, the existence of other barriers to entry and income positions	0,602	0,561	0,712	0,601	0,138
The high levels of corruption	0,638	0,636	0,596	0,648	0,482
The low level of public investment in education	0,530	0,523	0,308	0,584	0,000
The low level of education / professional formation	0,580	0,644	0,538	0,554	0,842
Labor Market					
The negative effects (in terms of productivity) resulting from the reform of the labor market	0,283	0,288	0,115	0,318	0,003
The low flexibility in the labor market	0,369	0,379	0,538	0,326	0,004
The policy of wage moderation following the consensus phase	0,417	0,386	0,231	0,476	0,001
The demographic dynamic	0,671	0,659	0,635	0,687	0,468
The demand scarcity of human capital	0,578	0,553	0,423	0,627	0,007
The supply scarcity of human capital	0,312	0,356	0,308	0,288	0,773
The increase in emigration	0,427	0,447	0,250	0,455	0,007
The behavior of unions	0,281	0,326	0,365	0,236	0,055
Public sector					
The situation of public deficits	0,547	0,538	0,731	0,511	0,004
The situation of public debt	0,667	0,659	0,808	0,639	0,020
The policies undertaken for reduction of public debt	0,693	0,689	0,423	0,755	0,000
The low efficiency of the public sector	0,628	0,667	0,712	0,588	0,099
The inefficient management of public sector employees	0,626	0,621	0,654	0,622	0,671
The reduction of public employees	0,225	0,220	0,077	0,262	0,004

Note: the numbers represent the percentage of individuals whose answer was "strongly agree" or "agree." Grey cells indicate statistically significant differences in means

Table A 7: Policy proposals for improving the performance of the Portuguese economy (differences in means)

	All respondents	Mainstream	Non-mainstream	No School of Thought	Kruskall Walis Test - p value
... to promote the internationalization of firms	0.868	0.846	0.888	0.841	0.396
... to encourage private research	0.863	0.788	0.906	0.818	0.170
... to proceed with simplifying/increasing the efficiency of the public sector	0.832	0.846	0.833	0.826	0.812
... to encourage academic research	0.827	0.712	0.880	0.780	0.002
... to increase the quality of products	0.741	0.712	0.773	0.697	0.352
... to modify the productive specialization of the economy	0.724	0.519	0.781	0.705	0.000
... to encourage public research	0.722	0.558	0.807	0.636	0.000
... to better connect firms within the territory	0.710	0.615	0.768	0.644	0.230
... to create a consortium of small and medium firms	0.679	0.615	0.734	0.606	0.088
... to reduce precariousness in the labor market	0.602	0.404	0.661	0.576	0.001
... to increase the investment in ICT by firms	0.592	0.404	0.682	0.508	0.000
... to increase public investment in strategic sectors	0.585	0.212	0.695	0.538	0.000
... to incentivize the growth of the firms' dimensions	0.540	0.346	0.575	0.553	0.003
... to promote a more flexible labor market	0.412	0.519	0.361	0.462	0.340
... to increase investment in physical infrastructures	0.252	0.077	0.318	0.205	0.000
... to reduce the power of the unions	0.230	0.385	0.189	0.242	0.002
... to proceed with further privatizations	0.144	0.346	0.107	0.129	0.000

Notes: the numbers represent the proportion of individuals whose answer was "strongly agree" or "agree" with the proposal; grey cells indicate statistical significant differences in means; bold figures indicate the largest values

Table A 8: Correlation Between Mean Opinions on Causes by Schools of Thought

	Eclectic	Evolutionary	Institutionalist/ Neo-Inst	New- Keynesian	Post- Keynesian	Marxist	Neoclassical/ Mainstream	Austrian/Neo- Austrian	Behaviourists	Experimental	Others	Without a specific methodological orientation
Eclectic	1											
Evolutionary	0.900*	1										
Institutionalist/Neo-Inst	0.902*	0.890*	1									
New-Keynesian	0.877*	0.862*	0.838*	1								
Post-Keynesian	0.644*	0.634*	0.575*	0.460*	1							
Marxist/ Sraffian/ Neo-Marxist	0.497*	0.426*	0.478*	0.292	0.659*	1						
Neoclassical/ Mainstream	0.694*	0.668*	0.691*	0.820*	0.072	0.011	1					
Austrian/Neo-Austrian	0.207	0.318*	0.202	0.270	-0.041	-0.135	0.427*	1				
Behaviourists	0.833*	0.781**	0.817*	0.849*	0.524*	0.488*	0.680*	0.218	1			
Experimental	0.795*	0.735*	0.781*	0.846*	0.409*	0.387**	0.681*	0.261	0.883*	1		
Other	0.567*	0.554*	0.437*	0.547*	0.671*	0.423*	0.232	-0.062	0.489*	0.498	1	
Without a specific methodological orientation	0.868*	0.861*	0.856*	0.926*	0.456*	0.389**	0.855*	0.250	0.898*	0.843	0.541*	1

Note: * (**) - Coefficient is significant at 1% (5%). Grey cells indicate values greater than 0.7

Table A 9: Correlation Between Mean Opinions on Policy Proposals by Schools of Thought

	Eclectic	Evolutionary	Institutionalist/ Neo-Inst	New- Keynesian	Post- Keynesian	Marxist	Neoclassical/ Mainstream	Austrian/Neo- Austrian	Behaviourists	Experimental	Others	Without a specific methodological orientation
Eclectic	1											
Evolutionary	0.981*	1										
Institutionalist/Neo-Inst	0.958*	0.960*	1									
New-Keynesian	0.956*	0.936*	0.954*	1								
Post-Keynesian	0.957*	0.937*	0.880*	0.895*	1							
Marxist/ Sraffian/ Neo-Marxist	0.866*	0.861*	0.768*	0.796*	0.911*	1						
Neoclassical/ Mainstream	0.560**	0.579**	0.728*	0.682*	0.364	0.260	1					
Austrian/Neo-Austrian	0.498**	0.437	0.597**	0.610*	0.354	0.199	0.774*	1				
Behaviourists	0.976*	0.976*	0.966*	0.968*	0.906*	0.856*	0.649*	0.521**	1			
Experimental	0.975*	0.973*	0.949*	0.952*	0.922*	0.861*	0.576**	0.490**	0.986*	1		
Other	0.931*	0.921*	0.847*	0.871*	0.952*	0.917*	0.363	0.329	0.911*	0.916*	1	
Without a specific methodological orientation	0.934*	0.940*	0.984*	0.950*	0.839*	0.731*	0.777*	0.670**	0.963*	0.946*	0.818*	1

Note: * (***) - Coefficient is significant at 1% (5%). Grey cells indicate values greater than 0.7