1. Introduction
What goes on within the discipline of economics is obviously relevant for academic economists, but it also has far-reaching consequences beyond the discipline itself and beyond academia. Economics is sometimes described as the queen of the social sciences and it does seem to enjoy a higher academic status than sociology, political science, etc. Whether this is justified or not is a matter for debate. Outside academia, however, there seems to be little doubt that economics has been more influential in policy-making and perhaps other instances than its sister disciplines. In turn, economics itself is influenced by the external reality and it may even be a preferred target in the eyes of those who wish to influence academia from outside.

Historians of economic thought and economic methodologists, for quite some time, as well as economic sociologists more recently, have done research on the workings of economics as an academic discipline. Interest in this matter has increased, both inside and outside academia, with the financial debacle of 2008 in the United States, the ensuing global economic crisis, and the possible role of economics in this process.

Dequech (2014) develops a theoretical institutional approach that applies to economics several ideas that have been developed in different social sciences to study institutions in the economy. In this theoretical approach to the institutions of economics, institutions are conceptualized as socially shared systems of rules of behavior or of thought, including socially shared mental models. The present paper applies this theoretical approach to a specific historical and social context, namely, contemporary mainstream economics. As sociologically defined in Dequech (2007, p. 281), ‘mainstream economics is that which is taught in the most prestigious universities and colleges, gets published in the most prestigious journals, receives funds from the most important research foundations, and wins the most prestigious awards.’ Globally, this implies a focus on the United States (although the concept could be defined at the national level and thus applied to any country). The historical period under scrutiny runs roughly from the late 1970s until at least 2008.

In broad terms, this article aims at making a twofold contribution to our understanding of economics: first, through the application of the theoretical framework mentioned above, it extends and deepens the investigation of the process that leads many contemporary mainstream economists to follow and share some rules of thought and of behavior; second, by pointing out several social mechanisms in this process, it helps reveal the institutional nature of these rules. A more specific contribution consists in providing conceptual and theoretical foundations to the scattered references that various authors have made to conventions or conventional thinking within the discipline of economics. Another specific contribution comes from identifying practices and collecting statements that indicate the presence of social sanctions and thus (together with internalization) of social norms in the discipline.

The paper considers some common elements of contemporary mainstream economics as a whole and also two subdisciplines, namely, macroeconomics and financial economics. Given the
discipline’s vastness and high degree of specialization, it is impossible to cover all of its subdisciplines. Macroeconomics and financial economics are highlighted here because of their strong connections with both the financial and economic crisis that exploded in 2008 and the reactions to it. This will allow the present paper to be used later as part of a larger research project about the two-way relations between institutions in the economy and the institutions of mainstream economics in recent decades. Among other things, this larger project explores additional social mechanisms that, by exerting an influence from outside to inside academia, help explain the institutional character of the mental and behavioral rules discussed here.

The remainder of the paper is organized as follows. Section 2 identifies some institutions of contemporary mainstream economics as a whole, while section 3 does the same with the mainstream subset of macroeconomics and financial economics. Sections 2 and 3 do not explain why these rules are institutions. This is done in section 4, which discusses the sense in which these rules of contemporary mainstream economics, macroeconomics, and financial economics can be said to be, more specifically, social norms and conventions, two types of institutions. Section 5 shows that, despite the powerful influence of the institutions of mainstream economics on academic economists, there are relevant cases in which academics do not conform to these institutional rules. Some of these academics remain confined to the fringes of the discipline, while others have managed to penetrate the mainstream and change its intellectual content. Concluding remarks follow.

2. Some institutions of contemporary mainstream economics as a whole

Until the late 1980s, mainstream economics still consisted mostly of neoclassical economics (centered on the ideas of utility-maximizing rationality and equilibrium). Since then, however, its intellectual content has become more diverse, including not only neoclassical economics, but also a few non-neoclassical approaches, such as behavioral economics, evolutionary game theory, and non-neoclassical parts of new institutional and experimental economics. It is not easy to find intellectual rules common to all subse

Almost unanimous within contemporary mainstream economics is the rule that rigor always requires mathematical formalization, either in theoretical models or in applied ones. This is a methodological rule, regarding economics, as opposed to a theoretical one, regarding the economy. If contemporary mainstream economics is unified around only a single institutional rule, this is it. Its manifestations have changed over the last two decades, with axiomatism (Dequech 2007) losing some ground among theoreticians, and empirical work reaching a higher status than before in comparison to theory (on the latter trend, see Colander 2007, p. 17, Eichengreen 2009 and Fourcade, Ollion and Algan 2015: 92).

This methodological rule has theoretical counterparts. In particular, despite important advances toward strong uncertainty (notably ambiguity), mainstream economics has neglected fundamental uncertainty (the uncertainty resulting from the possibility of creativity and nonpredetermined structural changes), which has not been as amenable to mathematical

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1 While pointing out the plurality within current mainstream economics, Davis (2006, pp. 4-6) also refers to ‘social-institutional practices.’ By this he means ‘two main practices,’ namely instruction and research, whereas the present paper considers specific institutional rules of thought or behavior, in instruction, research, etc.

2 Based on interviews with scholars who served on funding panels that assess grant or fellowship proposals, Lamont (2009) refers to mathematical formalism as the basis for unity in ‘the culture of excellence’ in economics. Yonay and Breslau (2006) discuss ‘the culture of mathematical economics,’ meaning mostly the abstract branch, with only brief references to applied modeling.
formalization as other varieties of uncertainty. Relatedly, the same neglect applies to the introduction of an innovation, as distinct from the diffusion of an already-introduced innovation. To a lesser degree, procedural uncertainty (resulting from the contrast between the situation’s complexity and the agents’ limited capacity) is also often underestimated, although it has gained space with the rise of behavioral economics and a few other approaches (for a detailed discussion of different types of uncertainty and refinements of existing concepts, see Dequech 2011).

Another possibly unifying institution of contemporary mainstream economics, perhaps not so explicit, is the rule of rhetorically defending the individual as the only basic unit of analysis or, in negative terms, the refusal to acknowledge the profound cognitive and motivational influence of institutions, which would mean that individuals are in part explained by institutions. Again, the difficulty in expressing this influence in mathematical terms helps explain its neglect (see also Lawson 2009, p. 765).

While neoclassical economics (as a whole) and other approaches that currently belong to mainstream economics are not defined by their political-ideological content, there was, from the late 1970s at least until 2008, a shift in the dominant views on the role of the State in the economy. The mainstream in this period has been much closer on average to economic liberalism than it was in the previous three decades. The acceptance of rules of thought in favor of supposedly free markets has increased, even among economists labeled as Keynesians. It remains to be seen whether and how far the recent global economic crisis will cause the pendulum to shift back.

Some authors have argued that an ethical code for economists is needed (Colander et al. 2009, DeMartino 2011, Carrick-Hagenbarth and Epstein 2012, Dow 2013). This implies the identification, and a criticism, of prevailing moral norms among economists that are not reduced to the morality of political ideology.

3. Some examples in two subdisciplines: macroeconomics and financial economics
There are also examples concerning the mainstream segment of specific subdisciplines. Macroeconomics and financial economics deserve special attention, as explained above.

3.1. Mainstream macroeconomics
In the 1970s, the previously dominant neoclassical synthesis (now called old Keynesian economics) broke down, and a period of intense and sometimes bitter disagreement ensued within mainstream macroeconomics. It is not easy to identify many mental rules common to mainstream macroeconomics throughout this and the following decades. Nevertheless, mainstream macroeconomics continued being mostly neoclassical (unlike other subdisciplines) and mostly against the idea that wage and price flexibility can worsen unemployment. Furthermore, some changes may be noted amidst the persistent division.

A manifestation, in macroeconomics, of the broader political-ideological shift mentioned above is the rise to predominance of a new view on the budget deficit and public debt. This view

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3 See also Dow (2015, p. 38) on model uncertainty.
4 For the sake of simplicity, the term neoliberalism is avoided here, because it has been used in different ways by different authors. As Amable (2011) and Mirowski (2013) show, not everyone associates neoliberalism with a mere rebirth of old forms of liberalism.
5 Behavioral macroeconomics breaks away from neoclassical rationality, at least descriptively, but so far has had little penetration in the mainstream, despite the participation of Nobel laureates Akerlof and Shiller.
is against fiscal policy activism. A more specific set of mental rules denies or strongly doubts, at least in theory, the ability of expansionary fiscal policy to stimulate production and employment in the long run. A related notion is that of a natural rate of unemployment. This prevalent view also treats government as if it had the same difficulties in financing its debt as a family or a private organization has.

During the 1980s, the rule of adopting the rational expectations hypothesis became widely followed. The same happened with the assumption of intertemporal optimization, and these two hypotheses became associated with the rule of modeling a representative agent. The latter rule helps in terms of analytical tractability and assumes away problems that make it less likely for a unique and stable equilibrium to exist (Kirman 2010).

These rules have often been combined in a type of model of macroeconomic equilibrium in which fluctuations are triggered by exogenous shocks (typically, in policy or technology), as opposed to an endogenous dynamics. DSGE models combine all these features and represent the current standard in macroeconomics, often incorporating wage and/or price stickiness (unlike the earlier new classical models).

All these mental rules have been included in the so-called new synthesis in mainstream macroeconomics, which emerged in the late 1990s (Woodford 2009, Blanchard 2009). Mankiw (2006) argues that, in a less positive view, ‘[p]erhaps what has occurred is not so much a synthesis as a truce between intellectual combatants, followed by a face-saving retreat on both sides [new classics (in a sense that includes real-business-cycles theory) and new Keynesians].’

Many macroeconomists felt very uncomfortable with the previous discord, and complaints about this may have generated social pressures in favor of the truce. As Duarte (2012, p. 219) states, a synthesis ‘is a way of boosting credibility, both in academia and in the policymaking arena.’

Within academia, this is reinforced by a specific conception of science, if Mirowski (2013, p. 200) is right in attributing to many mainstream economists ‘a mistaken impression that, to qualify as a “science,” all bona fide members of a profession must be seen to agree on almost all the propositions characteristic of that field’ (Romer 2015a is a recent example). It can also be argued that references to a new synthesis serve as a rhetorical device to attract new followers to the mental rules forming the proclaimed consensus.

In addition, the compromise was reached not just by persuasion and agreement, but also by exclusion. Duarte (2012, pp. 213-214) argues that ‘the synthesis emerged (…) among economists

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6 Auerbach, Gale and Harris (2010) mention several arguments behind the consensus on this circa 2000. For Arestis (2012, p. 94), the downgrading of the importance of fiscal activism in macroeconomics is ‘based essentially on the usual assumptions of crowding-out of private activity by government deficits and the Ricardian Equivalence Hypothesis.’ Arestis mentions additional arguments, but the acceptance of Ricardian equivalence is not as widespread as it may seem, and, consequently, its weight in the mainstream consensus on fiscal policy is not as large. For example, two influential advanced macroeconomics textbooks in the 1990s and mid-2000s raise arguments both for and against Ricardian equivalence (Blanchard and Fischer 1989 and Romer 2005).

7 Similarly, Roncaglia (2010, p. 51) writes, ‘It is a now a consolidated custom for mainstream theoreticians to focus on the analysis of equilibrium conditions, without taking the trouble to establish whether the economy is attracted to them or, on the contrary, tends to move along other and possibly divergent paths.’

8 Mirowski (2013, p. 278) claims that the representative-agent rule reflects ‘a sociological characteristic of the economics profession,’ including ‘the fear of appearing “unscientific” to outsiders.’

9 Mirowski continues: ‘While this tends to be the lay impression, the history of science reveals that there is often substantial room for dissent in real sciences. … Indeed, the more self-assured the science, the less one finds regularly scheduled expulsion ceremonies for apostates.’

10 This attraction may occur through a variety of social mechanisms discussed below, including one by which insiders believe that a set of rules is well-founded because it is the object of a large consensus.
working in a narrowly defined area. … Questions about the non-neutrality of money (in the long-run), the appropriate type of microfoundations, non-market clearing models, and the limitations of assuming a representative agent, for example,’ are out. There is also a focus on macroeconomics as the study of fluctuations, while Romer (2015a, p. 89), for instance, complains that ‘[f]or the last two decades, growth theory has made no scientific progress toward a consensus.’

3.2. Mainstream financial economics
In another subdiscipline, financial economics, a widespread rule of thought has been the belief that when appropriate new derivatives are created, bringing the economy closer to the ideal of complete markets in the standard general equilibrium model, uncertainty is reduced, thereby improving welfare (see also Colander et al. 2009, p. 252).

The implicit rule of neglecting fundamental and (to a lesser degree) procedural uncertainty, which has largely derived from the norm of mathematical formalization and characterizes mainstream economics in general, has a special significance in financial economics, since the field includes models of risk assessment.

While generating considerable controversy (about both its precise meaning and its consistency with the empirical evidence) and having critics even within the mainstream, the efficient market hypothesis (EMH) has been shared widely enough to deserve mention. According to the EMH, market prices reflect all available information. Different versions of the EMH refer to different types of information: past prices, in the weak version; all publicly available information, in the semi-strong version; or all information (public and private), in the strong version (Findlay and Williams 2000. See Mirowski 2013 on the conceptual ambiguity of the EMH, in relation both to a more complex distinction among types of information and to a distinction between informational efficiency and allocative efficiency).

Associated with these mental rules has been the stance in favor of financial deregulation (both nationally and internationally), a manifestation in financial economics of the wider rise of free-market ideas.

4. Social norms and conventions
These mental rules and the corresponding behavioral rules are not unequivocably dictated by the nature of the economy. Behind their widespread acceptance one can find social factors, i.e., these rules of contemporary mainstream economics are institutions.

4.1. Social norms
Social norms are institutions that imply the possibility of social sanctions and may be internalized by several individuals, who comply regardless of social sanctions. There are different types of norms, associated with different values. Most commonly discussed in the social sciences and humanities are moral/political values. Also relevant within and outside academia are epistemic (or cognitive) values. Examples include compatibility with the empirical evidence, consistency, rigor, and relevance (Dequech 2009. The specific meaning of these values varies across history and communities). One can therefore speak not only of moral/political norms, but also of epistemic norms, among other possibilities. Since people’s genuine thoughts cannot be observed, and lie-detector tests (whatever their efficiency) are not employed in academia, the enforcement of epistemic norms is only indirect, via the enforcement of behavioral rules about the expression of ideas.
Corresponding to different types of values and norms are different types of legitimacy, in the sense of a socially accepted compatibility with some type of socially specific values. In the case of ideas, particularly relevant are epistemic values and epistemic legitimacy (Dequech 2009).

The rules of contemporary mainstream economics identified above can be considered social norms. A sense of what is right has certainly led several individuals to internalize mainstream mental models as epistemic norms. There surely are numerous academic economists who genuinely accept ideas simply because they believe the ideas to be epistemically right (rigorous, true, etc.).11 The very mainstreamness of some rules of thought contributes to many individuals’ perception of their epistemic legitimacy, because of the prestige of the people who defend these ideas and the prestige of the universities with which they are associated. Romer (2015b) even defends as a ‘norm of science’ that ‘we put more weight on the views of people who have more status in the community and are recognized as having more expertise on the topic.’ In addition, moral/political legitimacy has also mattered for internalization.

Together with internalization, the possibility of social sanctions also reveals the social normativity of the rules of contemporary mainstream economics. Those who systematically disobey these rules are often barred from the mainstream club: they are excluded from the most prestigious journals, universities and awards, do not usually get funding from the main research foundations, and suffer reputational sanctions, if they are not simply ignored.

All this happens to non-mainstream economists, by definition, including those who obtained their economics PhDs from very prestigious universities. They are ostracized – and are well aware of this.12

Even economists within the mainstream are aware of the threat of sanctions against dissenters. A few examples show this. Colander (1989) reports having ‘spoken with many young economists who do not feel their research is leading anywhere, but they feel they must continue in order to get tenure. One would think that after they do receive tenure, they would be free to direct their own research, but by that time they are so caught up in the profession that to change their research focus is impossible.’

Writing about behavioral economics in the mid-1980s, Kahneman (2002, p. 16) states that Akerlof, with whom he co-taught a psychology and economics seminar at Berkeley, frequently warned ‘the students that they should not let themselves be seduced by the material we were presenting, lest their careers be permanently damaged. His advice to them was to stick to what he called “meat-and-potatoes economics,” at least until their careers were secure. This opinion was quite common at the time.’13

In an article published in The New York Times not long before the financial crisis exploded, some interviews with eminent economists implied that rules of thought in favor of ‘free markets’

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11 Among these people there are some who did not initially agree with mainstream rules of thought, and among the latter there are some whose conversion to the mainstream was influenced by the existence of social sanctions. This adaptation of ideas to sanctions may be an intellectual version of adaptive preferences. This conversion can also be described as follows: some people in the beginning falsely expressed the adoption of mainstream ideas because of social sanctions and, over time, ended up changing their genuine ideas, thus reducing the dissonance between their genuine ideas and their behavior.

12 Lee (2009) discusses what can be interpreted as evidence of social norms against dissenters in the 1970-2000 period, especially up to 1980 (pp. 67-70), but his analysis equates the mainstream with neoclassical economics and overstates both the association between neoclassical economics and political conservatism and the role of ideology.

13 In a similar example, Bergmann (2005, pp. 64-65) reports that ‘a few years ago I had occasion to ask Truman Bewley whether he was training students at Yale to carry on research like that he did on wages [based on a large number of interviews with actual decision-makers]. His answer …was, “No, that would ruin their careers.”’ This implies the existence of yet another epistemic norm, against this kind of methodological procedure.
had become social norms. Princeton professor Alan Blinder declared that ‘anyone who says anything even obliquely that sounds hostile to free trade is treated as an apostate.’ David Card, a professor at Berkeley, said, ‘You lose your ticket as a certified economist if you don’t say any kind of price regulation is bad and free trade is good’ (Cohen 2007).

On the new institutional economics in the mid-1990s, which they see as composed mainly by the Williamsonian and the Northean branches, Ménard and Shirley (2014, p. 554) say that few of its adherents ‘succeeded in publishing institutional papers in mainstream journals; and many advised their PhD students that dissertations using the NIE analytical frameworks … would probably not be accepted by mainstream economists.’ In addition, Ménard and Shirley (2014, p. 558) identify ‘the dominance of formalism as it exists today’ as an obstacle to the greater dissemination of new institutionalist ideas, because the ‘complexities and nuances of the full NIE paradigm greatly burden the modeling exercise’ and sometimes require fieldwork and case studies (pp. 559-560).

In macroeconomics, the rules of assuming rational expectations and intertemporal optimization have also become social norms. According to Krugman (2010), ‘[b]y the early 1980s it was already common knowledge among people I hung out with that the only way to get non-crazy macroeconomics published was to wrap sensible assumptions about output and employment in something else, something that involved rational expectations and intertemporal stuff and made the paper respectable. And yes, that was conscious knowledge, which shaped the kinds of papers we wrote.’ There are also indications that the representative-agent rule, when not perceived as natural, is seen by some as a social norm.14 Sanctions also appear in Duarte’s (2012, p. 218) argument that the new synthesis implies a narrow definition of macroeconomics, so that ‘dissenters are either not macroeconomists or not scientists to begin with.’

In financial economics, at least for quite some time the rule of adopting the efficient-market hypothesis was a widespread social norm. After referring to the isolation of intellectual nonconformists, Eichengreen (2009) writes: ‘When convention within the discipline is to assume efficient markets, there will be psychic costs if one attempts to buck the trend.’ Mackenzie (2006, p. 246) states that ‘[o]rthodox financial economics was, and is, committed strongly to a view of financial markets as efficient. That commitment has now been challenged forcibly by the rise of “behavioral finance,” which emphasizes investors’ propensity to systematic errors in reasoning. Behavioral finance is, however, a relatively recent development. … [N]ot until the 1990s did behavioral finance become prominent. In the 1960s and 1970s, the commitment to market efficiency faced no serious challenge within financial economics.’ In the mid-1980s, according to Findlay and Williams (2000, p. 190), ‘the editorial boards of the major [American] finance journals were controlled by Chicago “true believers,” and articles critical of the EMH or the Chicago approach were almost always rejected. … The economics journals were a bit more

14 Kirman (2011) tells an interviewer that ‘[t]here was this young economist, I think he was at UCLA, who wrote to me when I wrote this paper called ‘Whom or what does the representative agent represent?’ (…). He said: “Dear professor, I really agree with what you said. I think that it is intellectually absolutely right. Unfortunately, I am a young macroeconomist who is an assistant professor. I build models based on a representative agent. I know how to do that, and I know how to publish that. And I need to get tenure. Once I have got tenure, maybe I will be able to turn around and start to think about the sort of models that do not use the representative agent, but unfortunately, what I think will happen is that by then I will have got into the habit of doing it. I will publish my articles, get a decent reputation, I will get promotion, and I will probably never think about this again. But anyway, thank you very much for the insight!”’ This closely resembles Colander’s (1989, p. 231) description of his talks to young economists, cited above.
tolerant’ (see also Crotty (2011, pp. 134-135). Shiller (2012) implies that even in the early 1990s believing in the existence of bubbles was considered unprofessional.

In a comment that can be said to encompass both financial and macroeconomics, Eichengreen (2009) points out a powerful ‘social pressure to conform’ (with positive and negative sanctions both within and outside academia) when discussing ‘how it was that the vast majority of the economics profession remained so blissfully silent and indeed unaware of the risk of financial disaster.’

In short, sanctions help explain the conformity of some mainstream economists and discourage the voicing of dissent.

4.2. Conventions
There have been countless casual mentions to ‘conventional economics’ in the literature, often describing what is called here mainstream economics. More specific references to conventions (and related phenomena) within the mainstream have also been made. For example, based on a detailed methodological analysis in light of Keynes’s epistemology, Dow (2012, pp. 89-96) discusses ‘the convention of mathematical formalism.’ Caballero (2010, pp. 89-90) states that ‘by some strange herding process the core of macroeconomics seems to transform things that may have been useful modeling short-cuts into a part of a new and artificial “reality,” and now suddenly everyone uses the same language, which in the next iteration gets confused with, and eventually replaces, reality. ... By now, there are a whole set of conventions and magic parameter values resulting in an artificial world that can be analyzed with the rigor of micro-theory but that speaks of no particular real-world issue with any reliability. ... [W]e do not seem to notice as we accept what are increasingly absurd behavioral conventions.’ Blinder (2006) describes the belief that stabilization policy is about monetary policy, not fiscal policy, as the (pre-crisis) mid-2000s ‘conventional wisdom.’ Also pertinent is the admission by Blanchard (2009, p. 210) that there has been ‘herding’ and ‘fashion’ in macroeconomics. DeMartino (2011, p. 171) finds in the profession ‘a herd mentality about the right way to think about financial markets and financial regulation.’ Other references to conventions are cited below.

While these statements are interesting, it is necessary to specify the sense in which one can indeed speak of conventions within contemporary mainstream economics, including in particular the rules identified above. In addition to being socially shared, conventions have two properties. First, when followed consciously, a convention is followed at least in part because other people (are expected to) follow it, and not, or not only, because of social sanctions.

15 Despite this, Blanchard (2009, p. 210) rejoiced that ‘a largely shared vision of both fluctuations and methodology has emerged. … The state of macro is good.’ This was written in August 2008, just before the collapse of Lehmann Brothers and the subsequent calamity. The crisis would reveal how mistaken this positive assessment was, but it has not discredited the herding and fashion part.

16 Mäki (2013) identifies other ‘disciplinary conventions’ in recent decades. One of them is the requirement ‘that models be built in terms of optimizing agents and equilibrium outcomes’ (p. 2). As a feature of neoclassical economics, this is still widespread, but it does not describe all contemporary mainstream approaches. Mäki refers to other conventions, such as: ‘an urge to increase the unification of diverse phenomena in terms of portable model structures or modelling principles,’ because ‘the combination of parsimony and breadth is highly valued in economics’; the preference for analytical derivation over computer simulation; and ‘the relative reluctance to import to economics substantive ideas from other disciplines such as sociology or psychology.’ Mäki does not explain why these and other features should be called ‘conventions,’ but perhaps the arguments I use next could be extended to them.

17 Arthur (1994, p. xix) captured this aspect when referring to the assumptions used by economists: ‘at any time in the profession, a standard set [of assumptions] seems to dominate. These are often originally accepted by economists
Second, a convention is (to some degree) arbitrary, in the sense that an alternative that is not clearly inferior to the prevailing rule exists or is conceivable. These properties may be called *conformity with conformity* – or conformity of one with the (expected) conformity of others – and *arbitrariness*, respectively (Dequech 2013). Let us examine each of them in the contemporary context.

Together with social sanctions, or sometimes instead of them, the fact that many people share these rules of contemporary mainstream economics contributes to leading one to also adhere, characterizing the first property of conventions, conformity with conformity. This can happen through several mechanisms.

One of them is *epistemic legitimacy*. In conjunction with the prestige of the people who defend certain ideas and the prestige of the universities with which they are associated (mentioned above when referring to social norms), another factor that can favorably affect the perception of epistemic legitimacy is the number of people who accept these ideas. Romer (2015b) explicitly proposes provisional acceptance of the consensus as ‘a norm of science’ (combined with his above-mentioned status norm). This numerical factor also contributes to the reproduction and diffusion of ideas that constitute the mainstream. When some rules of thought are perceived by many as epistemically legitimate, this facilitates their acceptance by more people, in a self-reinforcing process. The same is true of moral/political legitimacy. Referring to the ‘conventions of the neoclassical paradigm’ (which is one among other contemporary mainstream approaches), Winter (2014, p. 628) may be thinking of epistemic legitimacy sustained by large numbers when he explains their appeal in terms of their received status, ‘which accounts for their ascribed legitimacy in the foundational role.’

In many cases, alternatives are indeed seen as less legitimate than the prevailing rules of thought. In other cases, an alternative is not perceived at all, because the institutional behavioral rule or mental model has an appearance of *naturality* or *inevitability*. In economics and other social sciences, academics are usually aware of the existence of contending approaches, but some mental rules may be shared across different approaches, without awareness of alternatives outside the mainstream. Indeed, several non-mainstream approaches in economics are probably not known – and thus are not taught or even criticized – outside small circles. Many dissenters do not even submit articles to mainstream journals and conferences, nor apply for jobs at the most prestigious universities and funding from the main foundations. This reduces the exposure of the mainstream to dissenting ideas, thereby facilitating the naturalization of the prevailing rules. In large part, this naturality is due to the power of the dominant approaches and the low degree of pluralism of their proponents. A particularly restrictive practice is that of discarding alternative methodological rules as non-economics, unworthy even of detailed consideration. The still high degree of insularity of a large part of mainstream economics in relation to other social sciences (Fourcade, Ollion and Algan 2015, pp. 92-93) also helps reproduce the unawareness of contending views, in this case held by non-economists. Not even past mainstream economic mainly because they are used and accepted by other economists. Deductions based on different assumptions then look strange and can easily be dismissed as “not economics.” Dow (1991, pp. 159-160) emphasized this first property when referring to conventions: ‘most theorising employs conventions in the sense of methods employed because they are generally accepted within a particular academic community.’

18 For Romer, those who disagree should not be seen as scientists. Indeed, the last ‘norm of science’ in his list is that ‘We shun, or exclude from the community, someone who reveals he or she is not committed to these working principles.’

19 With naturalization, ostracism continues, while other sanctions are dormant, but may be reawakened as soon as alternatives to the norm make themselves visible.
approaches are well known, as the history of economic thought is no longer taught to most students.  

Naturality is related to conformity with conformity because the appearance of naturality depends on relatively large numbers. When the majority of followers is not vast, it is easier to notice the existence of alternatives.

Lawson (2006, p. 488) states that ‘[the mathematizing inclination] is so taken for granted that it goes largely unquestioned’; similarly, Morgan (2012) refers to ‘the naturalization of [mathematical] modeling in economics.’ This indicates a very high degree of institutionalization.  

Regarding the rule of the representative agent in macroeconomics, Colander et al. (2009: 265) write, ‘Today, this convention [of the representative agent] has become so strong that many young economists wouldn’t know of an alternative way to approach macroeconomic issues.’ Here again comes the appearance of naturality, at least in the eyes of the young generations.

It is also possible that some economists have conformed with the rules of contemporary mainstream economics in order to (hopefully) benefit from coordinating with others, because of increasing returns to adoption. Among the possible sources of increasing returns that allow them to also occur in academia is learning by using. The more widely a mental model (including a set of mental rules) is used, the more it can be developed and improved (like a technology, in Arthur’s 1988 original discussion).

For example, when a new approach appears, academic economists may, before embracing it, ponder whether the approach will be accepted by others and attract new supporters in the future, in part because of something like increasing returns to adoption. The following statement by Kahneman (2002, p. 16) on behavioral economics may be seen in this light: ‘Many economists believe that it [behavioral economics] is a passing fad, and some hope that it will be. The future may prove them right. But many bright young economists are now betting their careers on the expectation that the current trend will last. And such expectations have a way of being self-fulfilling.’

Past adoptions of current approaches in mainstream economics are also relevant. Through learning by using, they may have contributed to developing and improving these approaches, thereby representing an additional, less direct way in which the number of supporters enhances epistemic legitimacy. Winter (2014, pp. 637-638) can be used to illustrate this by contrast when he points out the difficulty that an evolutionary alternative to mainstream economics faces in ‘getting to critical mass’ both ‘in a wider range of research areas’ than it currently explores and in economics as a whole, ‘given that the aggregate mass of evolutionary influence is so limited.’ This is also true of other alternatives and can be related in part to past and (expected) future increasing returns to adoption.

In addition to learning by using, other sources of increasing returns to adoption discussed by Arthur (1988) may be relevant in academia, such as informational increasing returns and technological interrelatedness.

These arguments on increasing returns to adoption can also be connected to Hodgson’s (2009, p. 1215) brief mention of ‘strong elements of positive feedback [of which increasing returns to adoption are a specific case] and path dependence’ in the rise of mathematical

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20 See also Krugman (2011, pp. 310-311). Referring to the most influential New Classical and New Keynesian macroeconomic theories, Buiter (2009, p. 2) points to naturalization when he writes that these theories ‘not only did not allow questions about insolvency and illiquidity to be answered. They did not allow such questions to be asked.’

21 Lamont (2009) shows that the evaluation of academic excellence is seen by economists (more than in other disciplines) as objective, reflecting intrinsic characteristics of the objects of assessment.
formalization in economics (a point made by Colander et al. 2009, p. 264 in relation to the
dominant paradigm, more broadly) and to Boettke’s (1996, p. 25) statement that ‘as mathematics
became the standard language of economic science there was a network externality effect on the
entire profession. Due to this externality effect, the profession became “technologically” locked-
in.’

Increasing returns to adoption may thus lead to imitation. Another force that may have
pushed some contemporary mainstream economists to imitate others is uncertainty. Searching
for an alternative to mainstream economics requires time, effort and possibly other resources,
with uncertain results. Even those who had already begun to devise an alternative may have
refrained from pursuing it further. For these economists, the incentives for innovation
presumably were not strong enough to compensate for uncertainty about success in searching for
an innovation, developing it, and convincing others of its advantages. Conformity may have been
chosen as a defensive strategy, in an attempt to preserve one’s relative position in the field. 22

Yet another reason for economists to imitate others is the possibility of informational
differences, which was originally discussed in the case of economic agents, but later examined in
the context of academia itself, including economics in particular (Baddeley 2013).

Finally, there certainly are economists who have conformed to conventional rules of
behavior in their capacity as teachers, committee members or department heads just because they lack the power or the resources to implement an unconventional alternative. This lack has
hindered the development of unconventional rules – making it more difficult for these rules to
attract new followers.

In sum, six different factors may have led to conformity with conformity. It should also be
noted that, over time, the repetition of conformity with conformity creates the habit of
conforming.

The second property of conventions, namely, their arbitrariness, also characterizes the
epistemic rules of contemporary mainstream economics and the discipline more generally. The
superiority of these mental rules (and many others) has not been indisputably demonstrated. 23
Many differences between several schools of thought or approaches have not been settled by the
empirical evidence accumulated in recent decades, even if some schools or approaches have
renewed themselves (see also Mäki 2013, p. 89). Strong theoretical and methodological divisions
within the discipline continue to exist. 24

Moreover, the extension and the depth of the recent crisis have raised doubts about the
superiority of the prevailing views. The crisis has thus created a good opportunity to discuss the
partly arbitrary character of mainstream economic ideas and, to this extent, their conventionality.
Even before the recent crisis, there were a few eminent critics of excessive formalization,
including older Nobel laureates (for some examples, see Lawson 2006, Hodgson 2009, Dow

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22 This objective was not fully achieved, since there have been cases of successful innovation, as discussed below. On the other hand, without conformity the results could have been much worse.

23 Arbitrariness also marks non-mainstream approaches. Regarding methodological rules in particular and applying Kuhn’s work to economics, Dow (2004, p. 278) argues that no claim of ‘being universally valid, conclusively superior to alternatives’ can be made for any one methodology. Dow (2012, pp. 90, 94) maintains that economists employ conventions when facing uncertainty in their theorizing,’ and ‘mathematical formalism is simply one convention among many.’

24 This does not imply supporting the idea that the absence of serious disagreements is required for a discipline to have scientific status.
Other criticisms have also been made. Elsewhere, Blinder had stated that ‘there is much too much ideology,’ and economics is ‘often a triumph of theory over fact’ (in an interview to Cohen, 2007). After the crisis, Rodrik (2013, p. 10) said that ‘contemporary economics in North America has one great weakness, and that is the excessive focus on methods at the expense of breadth in terms of social and historical perspective. PhD programs now train applied mathematicians and statisticians rather than real economists. To become a true economist, you need to do all sorts of reading – from history, sociology, and political science among other disciplines – that you are never required to do as a graduate student.’ Krugman (2009, p. 2) maintained that ‘the economics profession went astray because economists, as a group, mistook beauty, clad in impressive-looking mathematics, for truth.’ In Krugman’s (2011, p. 311) view of post-1970 macroeconomics, it ‘would have been OK if the triumph of anti-Keynesianism was justified by superior empirical success. But it wasn’t.’ Also about macroeconomics in the same period, Buiten (2009, p. 1) affirmed, ‘Research tended to be motivated by the internal logic, intellectual sunk capital and esthetic puzzles of established research programmes rather than by a powerful desire to understand how the economy works – let alone how the economy works during times of stress and financial instability.’ DeLong (2011), after expressing surprise at the scale of the crisis, wrote, ‘what astonishes me even more is the apparent failure of academic economics to take steps to prepare itself for the future. “We need to change our hiring patterns,” I expected to hear economics departments around the world say in the wake of the crisis.’ Possibly getting close to not only the idea of arbitrariness, but also that of conformity, Stiglitz (2014, p. 24) stated, ‘[t]he fads and fashions that dominated in the decades preceding the current crisis have not served us well’ (see also Posner 2009 and Fukuyama and Colby 2009, not to mention dozens of non-mainstream economists).

At the same time, the fact that a convention is arbitrary in the sense discussed here (i.e., non-superior) does not imply that the specific content of the prevailing convention is irrelevant, so that anything could have become (or can continue to be) the prevailing convention. As discussed elsewhere, the perceived interests of economic agents, policymakers and academic economists have played a role in the dominance of some ideas in economics in recent decades. Moreover, the empirical evidence has had some causal powers over the economists’ beliefs. In the subdiscipline of macroeconomics, in particular, the 1970s phenomenon of stagflation (stagnation cum inflation) altered the balance of opinion in the profession. Different schools of macroeconomic thought continue to coexist, but at least one implication of that empirical phenomenon was not very controversial: the lack of an adequate explanation from the neoclassical synthesis contributed to its fall. This gave rise to new macroeconomic theories in the 1970s and 1980s. The epistemic legitimacy of the prevailing convention was questioned, and

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25 Also interesting is an interview with Frydman (2012). He says that he had his first clue that there was something wrong with economics when, after having studied physics and mathematics, he started a Ph.D. in economics at Columbia. Given his lack of previous training in economics and lack of knowledge about economic reality, ‘it should have been much more difficult.’ This was in the mid-1970s. Based on his own 1999 survey of opinions from distinguished economists who had taken part in the AEA’s Commission on Graduate Education in Economics and whose collective work was reported in 1991, Colander (2007, p. 12) states that ‘[i]f anything, mathematical requirements have been raised [since 1991]. ... Moreover, the underlying culture continued to deemphasize reading the literature and studying economic issues outside a formal technical model approach. ... It is still possible to do exceptionally well in the first two years in economics graduate programs without having taken undergraduate economics.’ Colander (2007, pp. 43, 104) also maintains that the students who enter graduate programs in economics are nowadays happier with this choice than twenty years ago, mostly because the selection process has changed, favoring even more than before students with stronger mathematical skills and more compatible with some years of training ‘quite unrelated to the economy.’
alternatives were proposed. In this case, the prevailing convention did not survive the legitimacy test (an expression borrowed from the économie des conventions), and institutional change took place.

5. Nonconformity (deviation)
The power of norms and conventions, as well as other conservative forces, has not completely prevented nonconformity from occurring. Similarly, Katzner (2011, pp. 69-70) observes that ‘the suppression of deviant ideas pursued over the years by the economics establishment was never complete. There have always been dissenters, albeit relegated to the margins of the discipline, challenging the conventional view.’ In the last decades, several non-mainstream approaches have survived or emerged, such as Post Keynesian, neo-Schumpeterian, original institutional, Austrian, Marxist, and Sraffian economics, in addition to the Régulation school and the more recent économie des conventions (the latter two with French origins); contemporary nonconformists also include economists who are not exclusively attached to a single one of these approaches. Moreover, the same period has witnessed cases of deviation that have managed to gain admission into mainstream economics, thus altering its intellectual content and some of its epistemic norms and conventions. Intellectual entrepreneurship has been a factor of endogenous change.

Along with the possible negative sanctions against deviation (and the positive ones for conformity), the promise of special extraordinary social rewards for successful innovators has continued to exist. Kahneman (2002, p. 16) provides a useful example of both: ‘When Matthew Rabin joined the Berkeley economics department as a young assistant professor and chose to immerse himself in psychology, many considered the move professional suicide. Some fifteen years later, Rabin had earned the Clark medal.’ In contrast to what Keynes (1936) suggested about financial markets, succeeding unconventionally is good for one’s reputation, at least in academia – and, in American universities, maybe also for one’s income.

Some scholars have managed to overcome the challenges involved in intellectual entrepreneurship. It helps that innovators are only partly unconventional, breaking with only some social rules, rather than all rules at the same time (Dequech 2003, p. 157). For example, success (in terms of academic prestige and influence) has been easier when deviation is combined with conformity with the norms of using mathematical models and adopting the individual as the sole explicit starting point of analysis (see Dequech 2007, pp. 291-292). Furthermore, even in academia deviation is often a collective enterprise, especially when it is successful: problems are often complex and involve different specialists; and the feedback of others may lead one to improve one’s novel ideas and/or reformulate these ideas in ways that are more acceptable to the establishment. In addition, changes in the intellectual content of mainstream economics in recent decades have been facilitated by the support of fairly open-minded leading economists, who can more easily afford to express tolerance or sympathy for dissenting views (Colander, Holt and Rosser 2004, pp. 488–490 stress this point, mentioning Kenneth Arrow as an example). Also important has been the financial or material support of organizations like the Sage Foundation and the Federal Reserve Bank of Boston (both in the case of behavioral economics), as well as the Santa Fe Institute (in the case of the complexity

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26 On the other hand, Elster (2009, p. 22) writes: ‘If prestigious scholars from within the dominant tradition were to act as whistle-blowers, as the small child in Andersen’s tale [of the emperor with no clothes], they could perhaps make a difference. This might, however, require them to denounce their own past achievements and thereby risk destroying the very basis for their reputation.’
approach, which has partly become mainstream). Last but not least, (flexible) persistence on the part of intellectual innovators has also been required.

6. Concluding remarks

This paper has applied an institutional approach to contemporary mainstream economics, considering the United States in the last decades. It is possible to identify some institutions of mainstream economics as a whole and of the mainstream segment of two important subdisciplines that are closely related to recent crisis, namely macroeconomics and financial economics. These mental and behavioral rules are not objectively dictated by the nature of the economy. There are social reasons behind their sharing. Several arguments presented here support the proposition that these mental and behavioral rules of contemporary mainstream economics are institutions.

More specifically, there are strong indications that academics who do not comply with these institutional rules are subject to various sorts of punishments, while conformists may be rewarded. Individuals are aware of this. At the same time, many supporters of mainstream economics are – or, in response to social sanctions, became – true believers, having internalized these rules as epistemically, morally and/or politically legitimate, in part because of the prestige of their defenders. Social sanctions and internalization characterize the existence of social norms.

These institutions can also be said to be conventions. There have been numerous references to conventions in relation to contemporary mainstream economics, but most of them need more solid conceptual and theoretical grounds. The present paper adopts a concept of convention centered on two properties: conformity with conformity and arbitrariness. It also suggests how these properties are present in contemporary mainstream economics. The fact that other academics have followed some rules probably has, in various ways, led some to also conform. In addition, the prevailing rules are not necessarily superior to existing or conceivable alternatives, as both non-mainstream economists and some mainstream ones point out. The ongoing economic crisis and its relation to economics offer an excellent opportunity to examine the arbitrariness and conventionality of many prevailing rules of mainstream economics.

The social normativity and the conventionality of these rules reinforce one another. Social sanctions increase the number of followers, including false believers. Their conformity, through several mechanisms, leads to increasing conformity by others. In turn, increasing the population of followers reinforces epistemic legitimacy, leading more people to internalize these rules as true believers and to genuinely enforce them (together with those who, because of social sanctions, may falsely enforce them in order to convey the impression that they are true believers). Conformity leading to more conformity and more enforcement works together with sunk costs and inertia (perhaps reinforced by weak animal spirits) to generate path dependence.

The field of economics is strongly hierarchical and tightly controlled. The dominance of a small number of approaches has been much stronger in economics than in other social sciences, but, although mainstream economists ‘tend to see institutionalized hierarchies as emergent, truthful indicators of some underlying worth’ (Fourcade, Ollion and Algan 2015, p. 98), this is not necessarily so. This dominance may to a large extent be the combined result of path dependence and the social normativity and conventionality of the rules of mainstream

27 Colander (2007, p. viii) believes that the core of graduate teaching in economics (whose structure he sees as decided by the economists at the top programs) ‘exists as it currently does, not because that’s the core that the majority of economists want, but rather because of inertia and lack of desire for the political fight that it would take to change it.’
If the superiority of mainstream rules is not corroborated by the nature of the economy, then one can argue not only that these rules are to some degree arbitrary, but also that their internalization and enforcement do not necessarily contribute to the advancement of the discipline. On the contrary, they may hinder the development of possibly good alternatives. If so, we have a case of institutional failure.

The approach adopted here is intended to leave adequate room for deviation (Dequech 2009, 2013). In fact, as is the case when we study institutions outside academia, there have been important cases on non-conformity in economics. The influence of institutions has been strong and in many cases profound, but it does not determine conformity. Not only can individuals resist the pressure to conform, as have most non-mainstream economists, but also there are forces in the environment that stimulate non-conformity. One of them is the promise of social rewards for successful deviation, which coexists with the threat of punishment. In addition, people are exposed to various and sometimes conflicting influences, both within and outside academia. In combination with human creativity, these forces have resulted in intellectual entrepreneurship and (limited) endogenous change in mainstream economics.

The social factors considered here are not the only ones to affect the discipline of economics. External influences are also important. In fact, there is a complex recursive interaction between economics and the external reality. This requires, however, a separate discussion, to which the institutional approach used here can be extended.

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