# Chapter XI – Ideational reflexivity in economic systems

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11.1 Introduction

The present thesis is concerned with the genesis, spread, impact and institutionalisation of economic ideas. **Chapters II-III** examined the genesis of economic ideas. **Chapters IV-VI** provided a theoretical framework through which to view the spread, impact and institutionalisation of economic ideas, while the case study of **chapters VI-IX** confirmed the value of this framework in relation to a specific case study - the genesis of economists’ notion of the economic agent and its spread, impact and institutionalisation within the economics profession.

The present chapter extends this analysis of the spread and impact of economic ideas to a methodological level.

It is not only a common-sense proposition but an everyday reality that new economic ideas are in fact developed, and that at least some of those ideas are spread throughout the economic system, having an impact on policy makers, business leaders, and generations of economics students. If economic ideas are generated, disseminated and have an impact, it stands to reason that they may have an impact on the very systems they are representing and modelling. Following the convention in the wider social sciences, such a potential impact of economic theory on economic reality is here termed a *reflexive* impact. I introduce, therefore, a theoretical framework of *ideational reflexivity* in economic systems as a reflexive relationship between economic thought and economic reality where economic ideas may ‘reflect back on’ and alter economic reality.

I draw on examples from the economics literature to elaborate the notion of ideational reflexivity in relation to particular cases, including Hahn and Solow’s (1995) work on economic ideas influencing the beliefs of actors in the economy and thereby leading to possible indeterminacy in economic equilibria; the Lucas Critique and Goodhart’s Law; and Robert C. Merton’s (1998) comments on the impact of option-pricing theory. I argue below that each of these examples constitutes a special case of ideational reflexivity, and that these previously separate discussions can be brought together under the one widely applicable conceptual framework of ideational reflexivity.

Finally, I explore the implications that ideational reflexivity has for the notion of a positive body of economic knowledge, and for the status of economics as a science. I argue that the reality of ideational reflexivity, even in principle, necessitates a considerable reworking of several foundational tenets of neoclassical or mainstream methodological orthodoxy.

11.1.1 The concept of reflexivity in the social sciences

Reflexivity, in general, refers to the phenomenon of self-reference, as for example when the statement ‘this statement is written in English’ is denoted a ‘reflexive’ statement (Richards 1999: 738).
While cases of paradoxical self-reference have occupied the attention of philosophers and logicians for quite some time (see for example Bartlett and Suber 1987), the term ‘reflexivity’ has also been widely used in the social sciences in a technical sense.

For example, in defining and introducing “reflexivity” for sociologists, Abercrombie, Hill, and Turner (2000) note that

(1) Theories that are reflexive are those that refer to themselves; for example, theories in the sociology of knowledge refer to themselves, since they argue that all knowledge, including sociological knowledge, can be explained socially. (Abercrombie, Hill et al. 2000: 291)

or on an individual level:

(2) The term is used to describe the way in which, particularly in modern societies, people constantly examine their own practices and, in the light of that examination, alter them. (Abercrombie, Hill et al. 2000: 291)

Such reflexive self-examination can be *constitutive* for reflecting individuals:

(2) [particularly in ethnomethodology and symbolic interactionism] the idea that our everyday practical accounts are not only reflexive and self-referring but also socially constitutive of the situations to which they refer . . . It is a feature of reflexive social accounts and theories of all types that these accounts may also act to reproduce or transform those social situations to which they refer. (Jary and Jary 1991: 411)

Reflexivity may occur in a large class of subjects or objects, and has been articulated in relation to reflecting individuals, bodies of theory or entire academic fields, and to social systems as a whole.

Lash (1990: 258-260) for example articulates reflexivity in a general sense, suggesting that “reflexivity assumes (1) a subject, (2) an object, and (3) a medium of reflection” - where, presumably, the subject and the object are either identical or closely related - and suggests that theories of reflexivity differ to the extent that these three parameters vary:

(a) The reflecting subject can be an individual, a social class, an entire society. If an individual it can be *inter alia* an intellectual, an artist, a scientist, a sociologist.
(b) The object can be the norms which structure society, or the norms which structure part of society. The object can be symbolic. It can be aesthetic or ethical. It can be the products of knowledge of, for example, sociology.
(c) The medium of reflection is usually either consciousness or language.

Wacquant (Bourdieu and Wacquant 1992: 36-46) reviewed reflexivity in the discipline of sociology and suggests (1992: 36) that “there are more than a few claims of reflexive
sociology floating about,” where “conceptions of reflexivity range from self-reference to self-awareness to the constitutive circularity of accounts or texts” (1992: 37).

Wacquant suggested that reflexivity may be considered with “three referents”: agents, social systems, and society:

. . . Subjects are said to be reflexive insofar as they are “concept-bearing animals” who possess the capacity to “turn back upon” and monitor their own actions. Social science is reflexive in the sense that the knowledge it generates is “injected” back into the reality it describes. Finally, society can be said to be reflexive as it evolves the capacity to control and program its own development. (Bourdieu and Wacquant 1992: 37-38)

The notion of reflexivity is, of course, of particular relevance to certain social sciences such as psychology and sociology. For example, Richards (1999) suggested that as:

a psychological theory is itself a psychological phenomenon, a comprehensive psychological theory should be able to explain itself . . .

(Richards 1999: 738)

or:

The discipline of sociology is itself a social institution, and sociological theories provide many of the terms in which social phenomena are understood and acted upon. (Richards 1999: 739)

Reflexivity has also been used to describe how the biases of an experimenter may enter into the construction of an experiment, affecting the results.

Reflexivity has become a central methodological issue in the wider social sciences such as psychology, sociology, anthropology. For example, Jenkins (1992) suggests that:

The last 20 years have witnessed an increasingly sophisticated debate within sociology and anthropology about how it is possible to understand the social world and the role and importance of reflexivity in doing so. (Jenkins 1992: 61)

11.1.2 Reflexive prediction

One form of reflexivity taken up in both the wider social sciences (e.g. Merton 1936, 1948, 1949/1957; Popper 1957; Nagel 1961; Henshel 1971; Henshel and Kennedy 1973; Romanos 1973; Henshel 1975, 1976; Vetterling 1976; Henshel 1978, 1982, 1993, 1995) and in economic science (e.g. Morgenstern 1928; Grunberg and Modigliani 1954; Simon 1954; Grunberg 1986; Hands 1990) is reflexivity in the form of reflexive prediction.

Reflexive prediction was introduced in the social science literature by Rober K. Merton in terms of the “self-fulfilling prophecy”: 
The self-fulfilling prophecy is, in the beginning, a false definition of the situation evoking a new behavior which makes the originally false conception come true. (Merton 1957: 477)

Merton defined “suicidal” prophecies analogously.

Buck (1963: 361-362) further articulated this statement of reflexivity, discussing the “truth-value” of a proposition as depending on its “dissemination status” (whether it had been effectively published or not), and introduced the following “criteria” for reflexive prediction:

A prediction is reflexive if and only
(1) Its truth-value would have been different had its dissemination status been different,
(2) The dissemination status it actually had was causally necessary for the social actors involved to hold relevant and causally efficacious beliefs,
(3) The prediction was, or if disseminated, would have been believed and acted upon, and finally
(4) Something about the dissemination status or its causal consequences was abnormal, or at the very least unexpected by the predictor, by whoever calls it reflexive, or by those to whose attention its reflexive character is called.

Grunberg (1986) suggested that

The empirical evidence for the reflexivity of public prediction is essentially anecdotal and unsystematic. Yet, enough of it has accumulated to attract the interest of a small number of social scientists (mainly economists and sociologists) as well as some philosophers of science. (Grunberg 1986: 475)

Grunberg’s observation regarding the state of empirical evidence relating to reflexive prediction (despite its intrinsic interest for the social sciences) must be considered in light of the fact that there is in fact a fundamental methodological difficulty in clearly identifying particular empirical cases in which it can categorically stated that reflexive prediction has, in fact occurred. This methodological difficulty is due to the fact that by definition, for reflexive prediction to occur the prediction had to be a causal factor leading to a different outcome than would have occurred otherwise. In other words, it would be necessary to know precisely what would have happened in the absence of the prediction and compare it with what actually did happen following the prediction - and in a social system of any complexity or with complex subjects such as human beings, this differential may be, in practice, difficult to ascertain.

This issue was clearly signposted by Merton (1949/1957) during his classic paper exploring the concept of self-fulfilling prophecies:
The specious validity of the self-fulfilling prophecy perpetuates a reign of error. For the prophet will cite the actual course of events as proof that he was right from the very beginning. (Merton 1957: 477)

See appendix 2 for a review of the reflexive prediction literature.

### 11.2 The concept of ideational reflexivity

Let us define a particular form of reflexivity, *ideational reflexivity*, as occurring between economic theory and economic reality when:

(i) economists *develop economic ideas* (theories, models, beliefs, knowledge, information, etc) about the economic system

(ii) at least some of those economic ideas are in some form or another *disseminated to actors in the economic system* such as policy makers, business leaders and lay actors through various channels including: consultative advice to policy makers; education of economics students (who may become future policy makers or business leaders); publication of economic ideas in books and journals; and transmission of economic ideas through popular media such as television, newspapers and magazines

(iii) those ideas may *impact on and become implicated into* the continuing evolution of the economic system

(iv) this implication of economic ideas into the evolving economic system may in some significant manner *affect and change the economic system* that those economic ideas pertain to

Ideational reflexivity is therefore to be broadly understood as a relationship between economic ideas and economic reality, whereby ideas about the economy ‘reflect back on’ and affect or shape the evolving economy.

Economic science is therefore to be understood as being (at least potentially) reflexive in the sense articulated by Wacquant: that it is *‘reflexive in the sense that the knowledge it generates is “injected” back into the reality it describes’* (Bourdieu and Wacquant 1992: 37, emphasis added).

Ideational reflexivity is not in itself a novel concept in the general social science literature. Ideational reflexivity as a concept has been around in implicit or explicit form in the social science literature for at least half a century. The notion is inherent, for example, in the comment by philosopher Bertrand Russell (1946/1974) to the effect that:

Philosophers are both effects and causes: effects of their social circumstances and of the politics and institutions of their time; *causes (if they are fortunate) of beliefs which mould the politics and institutions of later ages* (Russell 1946/1974: 7, emphasis added)
The notion of ideational reflexivity (under a variety of names) is also well articulated in the wider social sciences. In Giddens’s (1984) structure/agency theory, for example, ideational reflexivity may be identified in Giddens’s discussion of a “double hermeneutic,” the

intersection of two frames of meaning as a logical and necessary part of social science, the meaningful social world as constituted by lay actors and the metalanguages invented by social sciences; there is constant ‘slippage’ from one to the other involved in the practice of the social sciences. (Giddens 1984: 374)

This ‘slippage’ of ideas from the theory of the social sciences to actual social practices may be constitutive, so that “theories have helped to constitute what they interpret or explicate” (1984: xxxv).

Giddens (1990; 1991) further suggests that while society may have been previously reflexive to some extent, modern societies are becoming increasingly self-aware and reflexive, and may be differentiated from earlier societies by the “presumption of wholesale reflexivity – which of course includes reflection on the nature of reflection itself” (1990: 39).

Indeed, ideational reflexivity as introduced above may be understood as a direct generalisation of Merton’s (1948; 1949/1957) notion of a self-altering prophecy. The contributions due to Buck (1963) and Romanos (1973) may be seen as providing useful analogies and guidelines for understanding exactly when ideational reflexivity, as a form of ‘reflexive prophecy,’ has taken place.

What I would like to suggest however is that ideational reflexivity has not been widely discussed in the economics literature as it has in the wider social sciences. Although special cases have been discussed, such as the Lucas Critique, the various discussions of ideational reflexivity in the economics literature have not been systematically related to each other in a general framework. Furthermore, they have not been pushed and extended as far as they can be for a serious and systematic examination of the methodological issues raised by ideational reflexivity for the nature of a “positive economic science.”

11.3 Ideational reflexivity and the economics literature

Economic ideas may influence economic reality in a variety of manners. I shall propose that ideational reflexivity may be identified in the economics literature in at least three contexts:

(i) Economic ideas become reflexively effective as they shape the agendas and actions of actors in the economy

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1 And, indeed, there may be a diversity of forms of describing of reflexivity in economic systems including, at one extreme, a novel (Galbraith 1990).
(ii) Economic ideas become reflexively effective as they shape the reactions of agents to economic policy

(iii) Economic ideas become reflexively effective as they shape economic policy and institution construction

I shall elaborate each of these cases, with reference to an example of each form of reflexivity in the economics literature.

11.3.1 Economic ideas become reflexively effective as they shape the agendas and actions of actors in the economy

Economic ideas may become reflexively effective as economic beliefs shape the agendas and actions of actors in the economy.

For example, Frank Hahn and Robert Solow (1995) proposed that “the beliefs held by the various participants in the economy” should be added to “formal economic theory,” where “‘beliefs’ include . . . attitudes and even theories about the way the economy works” (1995: 15, emphasis added). As actors alter their actions and agendas according to these beliefs,

The way the economy does work can depend on the way agents believe the economy to work (Hahn and Solow 1995: 15, emphasis added)

Hahn and Solow gave the example of central bank watching:

An obvious example comes from central bank watching. If participants believe that every increase in the money supply will be fully translated into the price level, irrespective of any other characteristic of the situation, then they are likely to behave in ways that will make it happen. (Hahn and Solow 1995: 15, emphasis added)

Hahn and Solow’s observation may be interpreted and cast in two forms: a ‘weak’ form where the new information is taken into account and changes the outcomes, such as for example in Hahn (1987) where the beliefs held by economic actors may lead to multiple possible equilibria and hence indeterminacy (e.g. 1987: 325). In this case the new information being made available changes the beliefs and the equilibria, but it does not fundamentally change the underlying dynamics or structural relationships in the economic system.

On the other hand, economic ideas may be disseminated to actors and become implicated into the way they see and frame the world, and their patterns of relation. That is, the dissemination of ideas may lead changes that become institutionalised into the structural relationships and the internal ‘gestalt’ of the agent and lead to institutional and organisational structural change in the economy.
11.3.2 Economic ideas and economic policy

Ideational reflexivity and the Lucas Critique

The notion that that the economic beliefs of economic actors (taking into account available information) may be reflexively relevant to economic policy has perhaps been articulated most strongly in the economics literature in the Rational Expectations Hypothesis and Lucas Critique literature, where the specific economic information being disseminated is a new policy regime, and actors in the economic system adjust their beliefs and behaviours accordingly.

I intend to briefly review the central ideas of the Lucas Critique and suggest that, although Lucas presented his critique in a specific technical context, the Lucas Critique may be viewed as a particular special case of ideational reflexivity. I would like to identify, make explicit exactly what is reflexive in the Lucas Critique, and generalise the notion of ideational reflexivity implicit in the Lucas Critique thereby locating Lucas’s critique as a specific and localised form of a more general phenomenon, ideational reflexivity.

Lucas (1976: 19) noted a “clear-cut conflict between two rightly respected traditions,” namely macroeconomic theory and econometric forecasting models used for evaluation of policies, and suggested that “it is the econometric tradition, or more precisely, the ‘theory of economic policy’ based on this tradition, which is in need of major revision.” These considerations led Lucas to articulate the “Lucas critique,” specifically that:

\[
\text{\ldots given that the structure of an econometric model consists of optimal decision rules of economic agents, and that optimal decision rules vary systematically with changes in the structure of the series relevant to the decision maker, it follows that any changes in policy will systematically alter the structure of econometric models (Lucas 1976: 41)}
\]

Lucas (1976: 41) argued that “for issues involving policy evaluation \ldots [this critique] is fundamental; for it implies that comparisons of the effects of alternative policy rules using current macroeconometric models are invalid regardless of the performance of these models over the sample period or in ex ante short-term forecasting.” Lucas further suggested that:

\[
\text{The argument is, in part, destructive: the ability to forecast the consequences of \textquoteleft arbitrary\textquoteright, unannounced sequences of policy decisions, currently claimed (at least implicitly) by the theory of economic policy, appears to be beyond the capability not only of current-generation models but of conceivable future models as well. (Lucas 1976: 41-42)}
\]

Hands (1990) restated the Lucas critique as:
... the argument is that if agents are rational, those things which most Keynesian econometric models consider to be structural (consumption functions, investment functions, etc.) are not really structural, but rather change as a result of changes in policy. Lucas and Sargent argue that such “difficulties are fatal: that modern macroeconomic models are of no value in guiding policy” (1979, p. 2). (Hands 1990: 218, emphasis added)

It is precisely this ‘structural change’ that is of interest to the present discussion.

It must be emphasised that by “structure,” Lucas (e.g., 1976: 39) implies a very specific technical function used in econometric modelling. What Lucas, or, indeed economists in general mean by ‘structure’ or ‘structural’ is by and large very different to what is normally understood by ‘structure’ in the wider social sciences, where structure is commonly understood to denote institutional, relational, embedded or network structure (see for example Blau 1975; Porpora 1987; Smelser 1988; Porpora 1989; Knottnerus and Prendergast 1994; Crothers 1996a, 1996b; Knottnerus 1996; Porpora 1996; Lopez and Scott 2000; Jackson 2003).

It is pertinent therefore to distinguish between econometric model structure and the actual structure in economic systems, where the former is understood in the sense Lucas used the term “structure” in his 1976 paper, and the latter is broadly understood as the structure in actual economic systems in the sense of “social structure” as the term is used in the social science literature and is intended to include institutional structure such as the market structure, political and legal institutions, rules and norms of conduct in an organisational context or in market transactions, and so on.

It must also be emphasised that the Lucas critique was (as noted above) presented as a highly technical argument in a specific technical context in the economics literature. It relies on specific technical assumptions, such as the Rational Expectations Hypothesis.

It is unclear, however, exactly how the technical assumptions of the Lucas critique relate to real world economic agents and systems. For example, the Rational Expectations Hypothesis typically relies on onerous assumptions regarding individuals knowing the structure of the economy and only changing their behaviours when new information is revealed. But how we are to understand this hypothesis in relation to actual real world agents?

This has been approached in various ways in the literature. Hoover (1988: 14-15) for example suggested that there are “at least” two interpretations of the rational expectations hypothesis – a “weak” form where it means that “people do the best with the information they have” and a “strong form” where people actually know the structure of the model that truly describes the world and uses it to form their expectations. Hoover suggests that Lucas rejects the first form as “vacuous” and the second form as “silly.” A third possibility may be suggested: that people form their expectations “as if” they had access to the correct structure of the correct model, but there is certainly no reason to suppose that this might be so in practice. Further approaches might be suggested.
It may be noted in passing that Lucas developed his ideas at Carnegie Mellon University in an intellectual environment shared not only by Muth but also by Herbert Simon and Franco Modigliani, who made the pivotal contributions (Grunberg and Modigliani 1954; Simon 1954) in the economics literature to addressing the issue of reflexivity in the form of reflexive prediction. For example, Modigliani comments:

Before Lucas the model [of rational behaviour] was incomplete because expectations were outside the model. Then with the help of my paper with Emile Grunberg (1954) he has formalized the notion of rational expectations . . . Remember that Lucas was originally at Carnegie Mellon University and his work was preceded by two other important contributions which also came out of Carnegie Mellon. First there was the 1961 paper by John Muth, a student of mine . . . Then there was also our even earlier contribution, the Modigliani-Grunberg (1954) proposition, that there is an expectation that maps into itself. (Modigliani quoted in Snowdon and Vane 1999: 248, 253, emphasis added)

There seems to have been a reasonable flow of intellectual exchange at Carnegie Mellon. Grunberg and Modigliani (1954: 465 n1) cite Simon as having “read and painstakingly criticised all drafts” of Grunberg and Modigliani’s paper and made many contributions, including the key suggestion of “the use of Brouwer’s Fixed Point Theorem.” Similarly, Simon (1954: 245 n1) seemed to acknowledge as prior Grunberg and Modigliani’s contribution, and suggested that he had “drawn heavily” on their results.

One might further bear in mind that Grunberg and Modigliani’s (1954) comment to the effect that

The argument of this paper suggests that the agents’ reaction may create difficulties for the formulation and execution of policy. The problems raised by this relationship between public prediction and policy do not belong within the scope of the present paper. (Grunberg 1986: 478 n45)

seemed to flag the later Lucas Critique argument. These themes have been further explored in Klamer’s (1984: 119-120) interview with Modigliani.

One might, therefore, with some justification relate the reflexive nature of the Lucas Critique to the reflexive prediction literature emerging from work undertaken at Carnegie Mellon\(^2\).

It is beyond the scope of the present work to review the literature on the Lucas Critique in any detail, examining for example its critical reception, responses to the critique, empirical studies regarding the extent to which it is relevant in practice, further developments in the literature, exactly how the Rational Expectations Hypothesis has been taken to relate to real-world agents, and so forth.

\(^2\) See also Hands (1990) and Sent (1998: 7-8)
For the present purposes it suffices simply to note that the Lucas Critique has been extremely influential, and to proceed to articulate the view that the Lucas Critique may be generalised from the specific technical context in which it was presented and debated and generalised to a wider principle with a greater range of applicability, namely the notion of ideational reflexivity. The question to be addressed in the present discussion is, therefore, as follows: I propose to ask “does the Lucas critique identify and articulate some kind of reflexivity,” and, if so, “what exactly is it that is reflexive in the Lucas Critique account?”

With structure understood in Lucas’s ‘econometric model structure’ sense, I would like to suggest that the essence of the Lucas Critique (on a philosophical level) is that agents adapt their expectations and therefore behaviours in an appropriate manner in response to changes in the policy regime, thereby changing the structure of the econometric models that were used to model the impact of the proposed policy.

That is, a new policy regime will affect and change the behaviour and dynamics of actors in the system that it is using econometric modelling to develop an optimal policy for, and will therefore reflexively change the validity of the econometric model that should apply under that policy regime. The publication or announcement of the policy developed on the basis of knowledge about the economic system once implemented ‘reflects back on’ and alters that system that was modelled, because the agents change their beliefs and actions. That is:

(i) An optimal policy is chosen based on the existing economic situation
(ii) the economic policy is announced
(iii) as a consequence of the announcement, agents (rationally) adapt their plans, agendas, behaviours, modes of action
(iv) the system is thereby changed in a manner which (structurally) invalidates the original policy choice

It is pertinent, therefore, to now ask: can the reflexivity identified above in the Lucas critique be generalised, or is it dependent on the specific technical assumptions made in Lucas’s (and later) models?

The answer, of course, is that the notion of reflexivity inherent in the Lucas Critique is not dependent on the specific assumptions made, and can be generalised. The essential aspect of the above articulation of reflexivity in the Lucas critique is that a policy (or indeed any announcement or action), based on an understanding of the system it is modelling, once announced or implemented may change the structure of the underlying economic system it is introduced into, as agents change their plans, agendas and behaviours and thereby change the structure.

The above four points may be compared, on a point by point basis, with the definition of ideational reflexivity earlier in this chapter, and as soon as the term “policy” or “optimal policy” is replaced by the term “economic idea,” and the insistence on the “rational” agent dropped, the Lucas critique is successfully generalised to an instance of ideational reflexivity. The same reflexive dynamics remain.
In addition to emphasising that the Lucas Critique is a specific case of the more general notion of ideational reflexivity, it is pertinent to also emphasise a point of difference, namely that The Lucas Critique is articulated in a purely abstract context (with abstract agents modelled using the Rational Expectations Hypothesis) and the structural change that occurs is structural in relation to the econometric model used to suggest the optimal policy. Ideational reflexivity by contrast is a notion that is relevant not only in abstract representations of economic systems (as in the case of the Lucas Critique) but also in real world economic systems, as policy announcements may lead to actions that lead to their fulfilment or denial in a self-fulfilling or self-denying manner.

It may be concluded, therefore, that Rational Expectations is perhaps a *sufficient* criterion for articulating a form of ideational reflexivity; but it is certainly not a *necessary* criterion.

**Ideational reflexivity and Goodhart’s Law**

Another statement of reflexivity in the literature along similar lines to the Lucas Critique is Goodhart’s Law. Goodhart’s Law (Goodhart 1975a, 1975b) is the statement that “*any observed statistical regularity will tend to collapse once pressure is placed on it for control purposes.*”

It is beyond the scope of the present work to review the history of Goodhart’s Law and compare it with the Lucas Critique. Such reviews have been conducted elsewhere in the literature, for example by Chrystal and Mizen (2001), who emphasise (2001: 14) that “Goodhart’s Law . . . arose in the context of a specific monetary control problem,” that Goodhart’s Law “arises from . . . a ‘statistical regularity’, but lays down implications that follow from the application of policy based on these apparent regularities,” and that a distinctive feature of Goodhart’s Law is its institutional context: that “the context is that of policymaking by the monetary authorities e.g. the government or a delegated, and possibly independent, central bank, and the understanding of the channels of the monetary transmission mechanism.”

Chrystal and Mizen note that although “many of these channels operate through accounting identities, which are true by definition,” on the other hand “some are based on statistical relationships, which can and do change.” Goodhart’s Law, therefore, observes that “although a statistical relationship may have the appearance of a ‘regularity’ by dint of its stability over a period of time, it has a tendency to break down when it ceases to be an *ex post* observation of related variables . . . and becomes instead an *ex ante* rule of monetary control purposes.”

The mechanisms underlying the break-down of the statistical relationships are, according to Chrystal and Mizen (2001: 15), primarily twofold: the private sector may accommodate to the new use of the statistical relationship for control purposes, or the government sector may. In the first regard,
Within the context of the monetary transmission mechanism, whenever the authorities attempt to exploit an observed regularity, the pattern of private sector behaviour will change as it observes that the authorities have begun to treat a variable that was previously an indicator of the policy stance (through some statistically defined relationship) as an intermediate target or objective of policy for control purposes. (Chrystal and Mizen 2001: 15)

With regard to the second,

. . . a government that has set itself the constraint of a monetary target may resort to hitting this target by means of changing its own fiscal behaviour. This change in fiscal stance will itself lead to further changes in private sector behaviour which will lead to further changes in private sector relationships. Thus [Goodhart’s Law] is not just about directly induced changes in private sector behaviour. It is also about implications affecting other policy areas within the public sector, which have yet further impacts on the private sector. (Chrystal and Mizen 2001: 15)

It is clear, therefore, that Goodhart’s law is reflexive for precisely the same reasons that the Lucas Critique is: the announcement of a policy position (i.e., new economic information is disseminated to economic actors) impacts on the behaviours of actors in the economy in such a manner as the economic system (more precisely, statistical regularities in the economic system) that were relied on for control purposes are altered. Like the Lucas Critique, Goodhart’s Law presents a case example of ideational reflexivity.

It may be also noted that Rational Expectations theorists including Lucas suggested that exactly this kind of shift took place with regard to the Phillips curve, where an identified statistical regularity became relied on for control purposes and the adaptation of actors and policy makers to this reliance impacted on the economic system in such a way to change the statistical relationship and its suitability for control purposes (see for example Sent 1998 for a brief review).

11.3.3 Economic ideas and the construction of economic institutions and organisations

The implication of economic ideas into the construction of economic organisations and institutions

As noted in chapter III, economic institutions are created and evolved in an ongoing process of social construction. Such social construction was articulated most forcefully in the social sciences using structure/agency theory in which theoretical primacy is granted to neither structure nor agency but both are seen as co-evolving with each shaping and conditioning the other.
It was noted in chapters III and V that economic ideas enter into that process of construction of economic institutions and organisations through the mechanisms of internalisation and externalisation: agents internalise their understanding of and orientation to their institutional environment, and in their interaction with each other and institutional structures, they externalise and objectify norms and patterns of meaning and expectation.

**The impact of economic ideas on economic systems can be reflexively self-altering**

Ferraro, Pfeffer and Sutton (2005) suggest in relation to management theory,

> A theory can become true to the extent that people, acting on its ideas and underlying assumptions, introduce practices, routines, and organizational arrangements that create conditions favoring the predictions made by the theory. (Ferraro, Pfeffer et al. 2005: 12)

Similarly, if economic ideas can enter into the construction of economic systems, they can lead to reflexive alteration of the systems they are ostensibly modelling. For example, Hood (1994) suggests:

> . . . it often happens that we change the world in the very process of observation or explanation. Indeed, such self-fulfilling or self-defeating processes are pervasive in social science, and most of all in economics. Here the argument would be that the 'Chicago' explanation of how regulation worked was (paradoxically) self-defeating because the theory was fed back into policy design. The claims of economics professors about 'welfare losses' caused by regulation and their ideas about regulatory redesign turned out to be more powerful than the supposedly 'iron laws' of self-interest in politics on which their theories were built. (Hood 1994: 28)

Henshel (1975) argues that as institutionalisation of economic ideas occurs, “a discipline’s perspectives [may] become embodied in the social arrangements and cultural assumptions of a given society,” so that a “discipline with sufficient prestige can eventually shape the institutional forms of its subject matter and so far pervade the thinking on the subject that many of its postulates appear obvious a priori” (1975: 93, emphasis added).

In making this argument, Henshel draws on Biderman (1969) who suggested that

> Work in a science is facilitated when institutional arrangements [of the social science’s subject matter] take forms that accord with the postulates and conceptual apparatus of the science. The influences of a science on institutions and social behaviour increase such accord. The process can continue where fine details of the social order have been arranged in
accordance with prescriptive implications derived from the science. (Biderman 1969: 130, emphasis added)

Henshel noted that this “presents at least two possible consequences of interest to us.” Firstly, this “tends to make meaningful data available.” Henshel suggests that “both the abundance and the accuracy of the data should increase when the science becomes only one user among many.” As Biderman put it:

The life of the society produces data that accord directly with the models of economics with regard to the units, processes, and relationships, precisely because these models are the ones used to guide and rationalize so much of social activity. (Biderman 1969: 129)

Henshel’s second consequence of interest is that:

... the criteria by which an event is evaluated in society become, unconsciously, quite close to the mode of thinking of the scientist, so that the predictive validity of his instruments becomes increasingly easy to demonstrate. (Henshel 1975: 93)

This occurs, of course, precisely because the institutional structure becomes constructed in terms of the economic thought which also describes that economic system.

**Ideational reflexivity and Merton’s option-pricing theory**

Let us consider a specific example, namely the comments of Economics Nobel Prize winner Robert C. Merton (the son of sociologist Robert K. Merton, the sociologist who introduced the notion of the self-fulfilling prophecy into the sociological literature as noted above) on the occasion of his December 9th 1997 Nobel speech. Merton commented that:

... in the distant past, applications of mathematical models had only limited and sidestream effects on finance practice. But in the last quarter century since the publication of the Black-Scholes option-pricing theory, such models have become mainstream to practitioners in financial institutions and markets around the world. The option-pricing model has played an active role in that transformation. It is safe to say that mathematical models will play an indispensable role in the functioning of the global financial system (Nobel lecture (Merton 1998: 112, emphasis added)

Merton’s paper walks through the history and influence of financial models in financial marketplaces, noting that:

...the most influential development in terms of impact on finance practice was the Black-Scholes model for option pricing. Yet paradoxically, the mathematical model was developed almost entirely in theory, with essentially
no reference to empirical option pricing data as the motivation for its formulation. (Merton 1998: 86, emphasis added)

The Black-Scholes model did, however, have an early and definite facilitating effect in legitimising options trading, for example on the Chicago Board Options Exchange:

Black-Scholes was really what enabled the exchange to thrive . . . it gave a lot of legitimacy to the whole notion of hedging and efficient pricing, whereas we were faced, in the late 60s - early 70s with the issue of gambling. The issue fell away, and I think Black-Scholes made it fall away. It wasn’t speculation or gambling, it was efficient pricing . . . it’s probably . . . the effects of Black-Scholes. I never heard the word “gambling” again in relation to options. (Rissman quoted in MacKenzie and Millo 2003)

The Black-Scholes model was not initially perfectly accurate by any means: in the early days of trading valuations were out by as much as 30-40% (MacKenzie and Millo 2003: 121-122) and even in the first several years of trading still provided a poor fit to the market (Scholes 1998; MacKenzie and Millo 2003: 122). The situation, however, improved: Rubinstein (1985; 1994) determined that the largest deviation from the Black-Scholes prices implied by the empirically determined volatility for a set of stocks on which options were traded in the period August 1976 – August 1978, and found typical deviations of around 2%, while in 1986 the fit for index options (commenced in 1983) was less than 1%.

Mackenzie and Millo (2003) suggest that:

This empirical success was not due to the model describing a preexisting reality: as noted, the initial fit between reality and the model was fairly poor. Instead . . . the markets gradually altered so that many of the model’s assumptions, wildly unrealistic when published in 1973, became more accurate. (MacKenzie and Millo 2003: 122, emphasis added)

As this occurred, there was an “interrelated process” of “the model’s growing use as a guide to trading.” MacKenzie and Millo (2003: 124) noted that “interlocked economic and cultural processes gradually reduced the various barriers to the use of models,” and emphasised the fact that not all participants in the early days of the exchange had seen a need for the option-pricing model, and of those who did, by no means all accepted that the Black-Scholes-Merton model was correct.

Merton (1998) noted that the models improved as more data (called for by the use of the models) became available:

. . . the creation of large-scale databases for security prices essential for serious empirical work have certainly influenced subsequent finance practice. Still, the speed and adoption and the intensity of that influence was not comparable to the influence of the option model. (Merton 1998: 86)
While initially the financial models were adopted by only a few, eventually, the financial models “became not just private resources for some traders but the public property of the entire floor” (MacKenzie and Millo 2003: 126-127).

Merton noted the mutually reinforcing nature of financial theory and changes in financial markets:

The scientific breakthroughs in financial modelling in this period both shaped and were shaped by the extraordinary flow of financial innovation which coincided with those changes. Thus, the publication of the option-pricing model in 1973 surely helped the development and growth of the listed options and over-the-counter (OTC) derivatives market. But, the extraordinary growth and success of those markets just as surely stimulated further development and research focus on the derivative-security pricing models. (Merton 1998: 87, emphasis added)

It must be emphasised that Merton didn’t suggest that the ideas articulated in economic financial models were the sole cause of change in financial markets: rather, they were a factor in that change. There were also other important factors, such as advances in computer and telecommunications technology (1998: 87) and globalisation of the financial system (1998: 89). As the economic and financial systems were continually changing and evolving, the particular economic ideas of option-pricing became implicated into this evolution of the global financial markets. That is,

New financial product and market designs, improved computer and telecommunications technology and advances in the theory of finance during the past quarter century have led to dramatic changes in the structure of global financial markets and institutions. (Merton 1998: 87, emphasis added)

That is, option-pricing theory entered structurally into the ongoing construction of financial institutions:

Option-pricing technology has played a fundamental role in supporting the creation of new financial products and markets around the globe . . . that role will continue expanding to support the design of entirely new financial institutions, decision making by senior management, and the formation of public policy on the financial system. (Merton 1998: 87, emphasis added)

Ultimately, financial models have become implicated into and play an “indispensable role” in global financial systems.

MacKenzie and Millo summarise the impact of the option-pricing model:

Black, Scholes, and Merton’s model did not describe an already existing world: when first formulated, its assumptions were quite unrealistic, and empirical prices differed systematically from the model. Gradually, though,
the financial markets changed in a way that fitted the model. In part, this was the result of technological improvements to price dissemination and transaction processing. In part, however, it was the effect of option pricing theory itself. Pricing models came to shape the very way participants thought and talked about options, in particular via the key, entirely model-dependent, notion of “implied volatility.” (MacKenzie and Millo 2003: 137)

Taking stock the discussion to this point has noted that:

(i) mathematical financial models were previously not particularly relevant to finance practice
(ii) after their introduction, such models became relevant to mainstream finance practice and constitutively entered into the construction of financial markets and institutions
(iii) mathematical models now play an “indispensable role” and have become a pivotal part of the institutional structure in “the global financial system”

This happened because specific economists developed specific economic ideas (financial models), those ideas were disseminated and had an impact on and became implicated into the ongoing construction of the economic system (specifically, the financial system), thereby contributing to structural change in that system. That is, the spread and impact of financial economic models is a case example of ideational reflexivity between economic theory and economic reality.

11.4 Some consequences of ideational reflexivity

11.4.1 The status of economics as a positive science

The existence of ideational reflexivity in economic systems has a number of significant consequences for economic science.

Firstly, the fact that economic ideas can ‘reflect back on’ the systems they are modelling in a manner that can enter into the ongoing process of construction of those systems and lead to significant structural change in those systems leads, quite evidently, to a breakdown in the notion of economists as detached scientific observers of the economic system and the conclusion that positive economic theory is not detached from and independent of economic reality. Economists, and economic ideas, are active participants in the economic system.

By and large, however, apart from a few notable exceptions such as Weisskopf (1979) this theme and its consequences has not been explored thoroughly in the economics literature.

This breakdown between the observer and the observed has been made explicit in the social science literature, for example by Krishna (1971):
The act of forming a hypothesis or building a model cannot, in such a situation, be indifferent to the possible consequences of the hypothesis or model turning into a reality just because somebody thought of postulating the hypothesis or building the model. The danger may be remote and far-fetched, but if it is possible it has to be taken into account and provided for in some way or other. (Krishna 1971: 1107, emphasis added)

The implications of reflexivity for the scientific status of the social sciences have been widely considered in the wider social sciences. For example, Flanagan (1981) argued that reflexivity between the psychologist and the psychological subject has been “blamed for complicating all three scientific tasks: explanation, prediction, and control” (Flanagan 1981: 375).

Flanagan (1981: 375-376) detailed these problems: with explanation, reflexivity raises the problem of objectivity: for example, “how can a scientific observer neutrally view behaviour in which he actually participates in as a subject?”

With prediction, reflexivity raises the possibility in social systems of self-fulfilling or self-denying prophecies. This possibility does not exist, and therefore is not a problem, for physical scientists:

When scientists predicted Mount Saint Helen would erupt they did not worry that the prediction would affect the volcano’s behaviour by causing it to erupt when it would not have because it preferred to do what geologists said it would do; or by causing it to stop an incipient eruption because it preferred to be disobedient. (Flanagan 1981: 375)

With control, “it is one thing perhaps to treat people as objects for purposes of understanding or explanation but quite another to keep them as objects for purposes of control. To do so is to deny what reflexivity points up in the first place, that humans are in fact subjects, unique in their capacity to inquire into their own predicament” and, indeed to change or adapt their actions and behaviours in response to that predicament (Flanagan 1981: 375-376).

Another implication of the spread of economic ideas and the accompanying ideational reflexivity is that the content of positive economics may have normative consequences for the economic system. For example, Henley (1987), considering contemporary economic theory from a Christian point of view, suggested that

... economics may simply be producing a self-fulfilling prophecy. Since if, for example, economists state that utility maximisation leads to social optimality, then they produce a justification for utility maximisation even if it did not previously exist. From a Christian point of view, it must therefore be a matter of some concern that economists may actually serve to induce self-interested behaviour. (Henley 1987: 64-65)
The present section articulates some of these methodological consequences of ideational reflexivity for the status of economics as a science

**Ideational reflexivity and a ‘positive body of economic knowledge’**

As noted above, ideational reflexivity in economic systems raises a problem with the notion of objective, scientific statements and theories regarding “what is” that are separate and independent of the system they are modelling or describing.

In a system where ideational reflexivity is a possibility, the relationship of economic theory to reality is not simply a relationship where there is some sort of ‘correspondence’ to an objectively existing and independent ‘reality.’ Instead, economic theory and economic reality are connected and inter-related, and various *dynamics* may arise between economic theory and reality.

A first dynamic is that, analogously to reflexive predictions and self-fulfilling prophecies in the reflexive prediction literature (Merton 1936, 1948, 1949/1957; Buck 1963; Romanos 1973), an economic theory may become, to a greater or lesser extent, self-fulfilling or self-denying as economic actors take actions that evolve or construct economic reality to become progressively more congruent with an initially false or irrelevant economic theory or, conversely, take actions to construct economic reality in some fashion that results in the invalidation of what might have been an initially descriptively ‘correct’ economic theory.

There are, however, other possible dynamics than theories simply becoming self-fulfilling or self-denying. The publication of a theory may enter into the ongoing construction of economic reality in such a manner that the economic theory and economic reality mutually reinforce each other. Alternatively, as an economic theory is articulated and disseminated over time, and actors have the opportunity to react and adapt to it over time, a new economic theory may trigger change and adaptation in the economic system, thereby in itself triggering new developments and perspectives in theory, in an ongoing fashion so that economic theory never quite match up and synchronise in either agreement or discord with economic reality. In this case the relationship between economic theory and economic reality might be described as chaotic. Alternatively, economic theory and economic reality may in principle alternatively match up and clash with each other in an oscillating fashion, alternately agreeing and conflicting with each other in a manner analogous to a train of reflexive predictions as described by Henshel (1975).

This gives rise to at least five possible dynamics between economic theory and economic reality:

(i) self-fulfilling,
(ii) self-denying,
(iii) reinforcing,
(iv) chaotic, or
Ideational reflexivity, therefore, raises issues with the proposition that there is a body of valid positive scientific economic knowledge. How the economic world “is” is not independent of how we the economic world is conceptualised, or the economic theories drawn by economic actors.

If the existence of an objectively independent and correct body of positive scientific knowledge is questioned, this leads naturally to further questions regarding the value and generality of the ‘positive/normative distinction’ in economic methodology.

One possibility is, as noted by Henley (above), that positive economic doctrines can become implicated into the ongoing construction of economic institutions and systems, thus impacting on and affecting the system which the positive body of knowledge refers to (potentially invalidating that positive body of knowledge) and also leading to consequences of normative concern – simply as a result of developing the positive theories or doctrines (which are then disseminated and adopted or reacted to by actors in the economic system).

Another possibility is that purely normative beliefs, statements or positions, such as for example that the economic world should be a free market system, may become implicated into the development of positive economic theory and, once disseminated, impact on the choices and actions of participants and decision makers in the economic system, with the normative ideas thus becoming a factor leading to positive outcomes and changes in the economic system.

Even the formulation of positive theory may lead real-world outcomes with moral effects, then economic theorists must shoulder a greater degree of moral responsibility than they might have otherwise have done if the formulation of economic theories and models could be viewed of as more of a purely intellectual exercise.

Additionally, if positive economic ideas may have normative effects, it is incumbent on economists to become aware of what those effects are. That is, it becomes important for economists to understand exactly what effect economic theories have on economic reality by examining more closely the spread and impact of economic ideas on economic reality.

Finally, as has been noted extensively in the wider social sciences, reflexivity also raises significant issues for experimental methodology when conducting experiments involving human subjects or conducting interviews, as the experimenter or interviewer is unavoidably a participant in the situation. Thus for example the psychologist or the sociologist needs to be clearly aware of issues such as the experimenter effect (e.g. Davidoff 1998) and the Hawthorne effect (e.g. Benson 1998), and account for them in experimental designs. Parallels may be made with economic science on a number of levels. The issue translates directly to those situations where economists do experiments, such as in experimental economics. It also, however, may be significant on macroeconomic levels, as the choice and creation of and the publishing of
Macroeconomic measures may influence the agendas of various groups that might base their activities on the data related to those measures. Making a measurement, therefore, may change the dynamics and development of the system compared to if that measurement had not been made.

Reflexivity, therefore, also raises the issue that the attempts to obtain the measurements or data to properly model the economic system may in and of themselves affect and alter the economic system and highlights that the process of trying to obtain positive knowledge may engender change and alteration in the system that is being studied.

It is widely acknowledged in economic methodology that “positive” theory is typically intimately intertwined with a set of accompanying normative dispositions and it is difficult to clearly separate positive economic statements from normative orientations and positions. In a system where ideational reflexivity is a possibility and the evolution of the system as a process over time is considered, the problem is exasperated as statements or theories about “what is” are disseminated and become constitutively implicated into the actions and agendas of actors in the economic system, thereby constitutively shaping “what is.” It is therefore clearly not possible in general to sharply and unequivocally demarcate a positive body of knowledge of “what is” from “what is,” raising significant difficulties for the concept of a positive body of “scientific” economic knowledge.

**Reflexivity and economic prediction**

Central to the variety of conceptions of what exactly constitutes a “positive” economic “science” is the notion of empirically testing theories or hypotheses, and, therefore, constructing hypotheses and models in an empirically meaningful way and, in some sense and in some fashion, separating out the theories and hypotheses that are to a greater or lesser extent congruent with empirical reality from those that are not.

Thus, for example, logical positivism emphasises the importance of verification; Samuelson’s operationalism emphasised that the theories of economic should be operationally meaningful; Popper’s philosophy of science emphasised the falsifiability of scientific theories; and Boland (1992) divides mainstream “positive” economics into fours ‘schools’ of positive economic science, each based around particular forms of and levels of commitment to empirical testing and testability of models, theories and hypotheses.

The eighth edition of Lipsey’s *An Introduction to Positive Economics* (Lipsey and Chrystal 1963/1995) accordingly suggests that

> The claim that economics is scientific stands or falls on the ability of economists to understand and predict events in the real world by stating theories, subjecting the theories to the test of real-world observations, and improving the theories in light of what has been learned. (Lipsey and Chrystal 1963/1995: 26)
Reliably successful prediction in economics is perhaps rather problematic in general at the best of times. The obstacles facing the formulation of universally reliable and successful economic predictions are, of course, significant, and include a wide range of factors such as genuine uncertainty in economic systems in the sense introduced into economic discussion by Knight (1921) and by Keynes; the complexity of and wide range of endogenous and exogenous influences on economic systems; the unpredictability of specific individual psychologically, emotionally and socially complex human beings; and the difficulties in attempting to aggregate the actions of unpredictable individuals to understand and predict how groups of real people might act.

The reflexive prediction literature (see appendix B) raises further difficulties regarding the possibility of successful economic predictions, as economic forecasts may lead to reactions and adjustments by economic actors that invalidate or fulfil the predictions, so that economic predictions may be self-fulfilling or self-denying.

It should be explicitly noted that Grunberg and Modigliani (1954) and Simon (1954) argued that if the possibility of successful “private” (unpublished) predictions is assumed and forecasters are able to anticipate the reactions of actors in the economy to their predictions, then accurate public predictions are possible. While these results might perhaps be useful in theory, Grunberg and Modigliani themselves (e.g. 1954: 478) highlighted the lack of realism in their assumption that perfect private predictions of economic outcomes in general may reliably be made. The conclusions of Grunberg and Modigliani via their “possibility” theorem are, therefore, for practical purposes (if not for theoretical purposes), essentially irrelevant, since their initial conditions are not met.

Furthermore, even if the prediction is ultimately correct, it is not easy to ascertain whether or not the prediction would have been correct if the prediction had not been made: in other words, it is difficult to ascertain whether or not the prediction became a self-fulfilling prophecy, or whether by contrast it reflected some fundamental laws or dynamics of the economic system itself. As Merton (1949/1957) commented in his classic paper:

The specious validity of the self-fulfilling prophecy perpetuates a reign of error. For the prophet will cite the actual course of events as proof that he was right from the very beginning. (Merton 1957: 477)

This, of course, presents a fundamental methodological problem, because in order to determine if ideational reflexivity has occurred, one would need to compare what did happen following publication and dissemination of the theory with what would have happened if the theory was not published and disseminated. Depending on whether or not the theory was published and disseminated, the other result is clearly not available empirically and, therefore, it is difficult to determine empirically whether reflexivity has occurred. An informed qualitative assessment and judgement needs to be made.
Reflexive prediction, therefore, remains a significant practical issue for economic forecasting, and is relevant in assessing the possibility of making, in practice, successful economic predictions.

But the difficulty of prediction is not the only problem that reflexivity presents for the ‘scientific’ status of economics. In systems where ideational reflexivity is possible, a given theory might be quite false, but ‘become true’ as people adapt their actions in a manner that becomes congruent with the theory. If statements may have an impact on and affect the systems they are statements about, they are not simply objective and detached reflections on “what is,” they are also potentially shaping “what is.”

In addition, the process of “subjecting the theories to the test of real-world observations” involves, in effect, making a prediction: namely the expected outcome according to theory. This might be in the form of a computation of a particular outcome (for example the interest rate) or the publication of theories that help the actors form expectations of what that interest rate might be. If a scientific proposition is to be tested by virtue of making definite operationally meaningful predictions, the consequences of publication of the prediction or the theory on which the prediction is based may alter the reality being modelled in such a way as to invalidate or bring about the prediction. If the theory would have been perfectly accurate, the actors in the system may act in a way that invalidates that prediction; if the prediction does come about, there are issues related to being sure that this is what would have still happened if the prediction had not been made or the theory published.

One solution, perhaps, is not to publish the predictions (and theories). However, keeping a theory private may be very well for ‘pure scientific’ purposes, but at some point to be useful, economic theories must be published and disseminated to policy makers and other actors in the economy. Having economic theories that are only ‘scientific,’ ‘useful,’ and ‘true’ when kept private so that no-one acted on them would, it would seem, rather defeat the purpose of having an economic science.

**Reflexivity and economic ‘control’**

One view of the relation of the supposed positive body of scientific economic knowledge to tasks of economic management and economic policy is that, once a positive body of knowledge is developed, it can be applied to economic problems in a manner analogous to applying the theories of physics to solve engineering problems.

Clearly, however, it is inherent in the notion of ideational reflexivity that agents may adapt their plans and actions in response to steps taken by planners or policy makers, in a manner that reflexively brings about or invalidates the policy goals.

That is, reflexivity in economic systems potentially invalidates applying a positive body of economic theory in any straightforward ‘engineering’ fashion to achieve desired policy outcomes, as actors in the system may react to policy initiatives in such a way as to render the policy initiatives ineffective. On the other hand, actors may align with and act
in manners that bring about desired outcomes. Conceivably, reflexivity might bring about both outcomes at the same time, as some groups of actors in the economy react in ways that deny the achievement of the policy goals while others move in ways that bring about its fulfilment.

Ideational reflexivity and reflexive prediction, therefore, complicate the traditional scientific goal of ‘control.’

On the other hand, the possibility arises that perhaps intelligent use of reflexivity might align different groups towards the realisation of policy goals, and provide new opportunities for productive economic management.

Addressing some possible ‘responses’ to the problem of ideational reflexivity

I would like to finish by briefly addressing several possible responses to the issue of reflexivity that might be raised.

A first objection to ideational reflexivity might be to assert that it does not matter. This, of course, is an empirical question, to be answered through further empirical studies. The spread and impact of certain economic ideas such as Keynesianism, Monetarism or more generally the free market philosophy termed ‘neoliberalism’ tend to suggest that certain economic ideas do have a considerable impact, and in certain cases issues of reflexivity need to be taken very seriously. In general, however, I suggest that even if the possibility is only a remote possibility, it raises methodological issues that need to be considered and addressed.

Another approach to the problems of ideational reflexivity might be to try to base economic theory on some deeper fundamental facets of human nature and commerce that are invariant across different times and cultures, and given their supposed universality do not vary with ideational reflexivity. This approach also is problematic, not only because the last couple of hundred years of both economics and psychology have not been successful at producing a simple model of complicated psychological, social and emotional human beings, but also because, as articulated in chapter III, economic systems are socially constructed, and the dynamics and operations of any given particular economic system is to a large extent the outcome of specific historical contingencies. Given that the fundamental ontological elements of economic systems are socialised actors and culturally and historically specific institutions, it is difficult to imagine an approach to conceptualising economic systems in a universally useful manner that does not ‘throw out the baby with the bathtub’ by neglecting the most vital and important elements of actual economic systems.

Alternatively, a defender of the value of “positive economic science” might try to deal with issues of reflexivity by essentially endogenising economists into the economic system, and attempting to develop a theory that includes economists and economic ideas as elements in that economic system. While I suspect that the inherent difficulty of
modelling the transmission of actual economic ideas in actual economic institutions might prove prohibitive to this approach, in any case the insights of this meta-analysis may then be published, and communicated to and affect both economists and other actors in the economic system. The modeller would thus be required to move to a higher level of abstraction taking into account the modeller’s own modelling, the dissemination of the model, and the reactions to it. Arguably, this approach runs the risk of an infinite regress, with increasing complexity at each level.

11.5 Conclusions

The present chapter has introduced a new theoretical framework, ideational reflexivity, through which to understand the relationship between economic ideas and reality. While occasional statements of ideational reflexivity may be identified in the wider social sciences, they tend to remain that: isolated statements made in passing. They are not typically related to a range of case studies, and they are not systematically pursued to arrive at a full understanding of their methodological consequences.

The present chapter has provided such a framework. The notion of ideational reflexivity has been introduced, and it has been shown that extremely disparate yet highly significant contributions in economic science may be united under the theoretical framework of ideational reflexivity.

Furthermore, systematically pursuing the methodological and practical issues raised by ideational reflexivity has raised substantial issues for the status of economic science qua science.

These issues are anything but trivial and, it would seem to me, need to be considered seriously and addressed by the economics of discipline. Ideational reflexivity, for example, raises serious issues with the validity and usefulness of the notion of a detached body of positive economic scientific knowledge detached from the system it is ostensibly modelling: instead, economic theory has the capacity to shape and enter into the very systems it is ostensibly modelling. This, of course, raises issue with the notion of the positive/economic distinction, as positive ideas may have normative consequences and normative ideas may impact on and help reshape the positive structure of the economy.

In the ideational reflexivity framework, the relationship between economic theory and economic reality is to be understood as a dynamical relationship over time, and five possible dynamics (self-fulfilling, self-denying, self-reinforcing, oscillating and chaotic) were identified.

It was noted that ideational reflexivity raises issues for all three of the traditional ‘objectives’ of a classical science, namely understanding, prediction, and control.

The above considerations lead in the direction of conceptualising economics as a science more in the vein of the wider social sciences than in the vein of classical physics. The notion of economics as a positive economic science has been, historically, the principal
means of marginalising heterodox contributions in economics, from old institutionalism onwards. The conclusion of the present chapter is that the scientific status of economics is deeply problematic should, therefore, be of considerable interest to heterodox economists.
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