

# Inflation, Disinflation and the Natural Rate of Unemployment: A Dynamic Framework for Policy Analysis

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## 1. The Importance of Integrating Dynamics into Policy Analysis

Economists are accustomed to conceptualising the macroeconomy as a system (mechanical, electrical or silicon-based) which is affected by impulses, shocks or internal momentum. The science and art of policy-making involves the detailed consideration of the channels by which these impulses impact on the economy. Policy-makers must then form a judgement about the type and strength of policy impulses that need to be injected so as to neutralise or offset the original shock.

Sometimes, the policy response itself can be conceptualised as the original impulse, given the unsatisfactory state of the economy. Thus with unacceptably high levels of unemployment, an increase in government expenditure will initially generate a budget deficit, but will also, via the ‘Keynesian’ multiplier, increase aggregate demand and thus reduce unemployment. Or alternatively, given the same initial state, a ‘classical’ reduction in government expenditure will produce a budget surplus, tending to reduce the demands on the loanable funds market, tending to lower interest rates, thereby stimulating investment and reducing unemployment.

Clearly, these conflicting ideas lead policy-makers in conflicting directions. The same is true with respect to the macroeconomic implications of the underlying microeconomic structure. In the 1930s there was a commonly held view that the macroeconomic performance was unsatisfactory because there was too much competition. The policy response to this perception was that governments should encourage producers to restrict competition. In the 1970s and 1980s a widely held view was that there was too little competition. The optimal policy response was therefore perceived to be deregulation and denationalisation.

Since these different chains of thought lead to conflicting policy conclusions, policy-makers have to follow through the chains and form a judgement about the validity of the idea (the underlying model and the proffered response) as a representation of the actual economy. Thus dynamic analysis involves a calculation of the consequences, through time, of the initial impulse.

To simulate the various impacts on the economy, policy-makers need to know the strength, direction and momentum of the original impulse. Thus the ramifications of

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1. I am grateful to Kathy Apenis, David Gruen, Kristy Smith and Richard Watson for comments and to Meredith Beechey for tracking down innumerable RBA documents.

a slight increase in the price of oil are different from the ramifications of a large increase. Again, the consequences associated with a slight change in the value of a relatively stable currency would be expected to have different domestic implications from the movement in the value of a currency that regularly exhibits a greater volatility. The strength and momentum of the initial impulse have to be specifically incorporated into the analysis.

So it is with policy ideas. As Milton Friedman (1981, p 1) put it during his second evangelical mission to Australia, while it is difficult to speak of a world business cycle ‘there is no difficulty whatsoever in talking about a world climate of opinion and ... a world-wide transmission of ideas’. Friedman (1975a, p 9) explained that his first visit to Australia illustrated the ‘freedom of trade in ideas’ which bound countries together ‘by common ideas’.<sup>2</sup> He appeared to mesmerise his audience, driving from Don Stammer’s (1975, p 18) mind, all his pre-planned questions. Thus when Friedman returned to Australia six years later, Stammer (Friedman 1981, p 21), who had been the Deputy Manager of the Reserve Bank of Australia (RBA) Research Department, ‘carefully prepared’ his questions the night before.

Yet economists tend not to incorporate this transmission mechanism into formal analysis. As a result, the analysis of policy ideas rarely involves an extensive consideration of the impulse or spin imparted to the ideas in dispute. But this information is required in order to gauge the expected longevity of ideas and to form a judgement about which ideas will retain their potency in subsequent time periods. Regrettably, this kind of dynamic analysis is rarely undertaken, and as a result policy is often analysed in a hermetically sealed vacuum. In Flatlandia (a mythical world inhabited by diminutive people who can only perceive two dimensions) a giant’s footprint would appear as a mysterious eruption, an Act of God or an Invisible Foot. So it is with intellectually diminutive policy analysis which neglects the fourth dimension: the dynamics associated with time. This paper argues that we economists have been negligent in our professional responsibilities by inadequately incorporating these dynamics into our policy analysis.

There is a rich oral tradition within the economics profession full of speculation and insights about these dynamics, but so far no substantial body of literature on the topic. We have simply failed to build on Harry Johnson’s (1971) pioneering work. As a consequence we have tended to display the tendencies of a bunch of Dynamically Alliterate Flatlandia Formalists (DAFF-O-DILS).

This paper provides some background dynamics to contemporary policy ideas and decision-making, in particular the Great Inflation of the 1970s and the subsequent disinflation. It is inspired by the Law of the Seminal Text (LOST), the belief that it is highly unlikely that an alert and well-trained economist would be able to adequately read a seminal text without finding something so surprising or insightful as to require at least a footnote if not a separate paper. Thus when seminal texts are referenced without comment we are entitled to suspect that they have not adequately been examined. Indeed, it is a disturbing aspect of too much policy analysis that

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2. Friedman (1975a, p 16) mistakenly described the original Phillips curve as an Australian ‘export’.

references made to the earlier seminal literature often display little more erudition than an uncritical acceptance of the creation mythology associated respectively with Old Keynesian, Monetarist and New Classical perspectives.

An analogy to LOST wisdom is the Law of Inadequately Examined Statistics (LIES) or the Law of Inadequately Examined Data (LIED): the belief that the value of a piece of statistical analysis is proportionally related to the extent to which the underlying raw data has been adequately examined. The prejudice underpinning this paper is the belief that data and the dynamics of our profession (sometimes mistakenly dismissed as mere history) are one of our primary sources of empirical knowledge and should be interrogated as thoroughly as possible.

A general dynamic framework is proposed in Sections 2–5. Section 2 provides some preparatory remarks about policy ideas and their stages of development. Sections 3, 4 and 5 examine the three key markets that impact on policy in an intersecting way: the academic market place (Section 3), the political market place (Section 4) and the policy market place (Section 5). Within the academic market place, three types of scholars are identified: scholars (Section 3.1), campaigning scholars (Section 3.2) and revolutionary scholars (Section 3.3). The policy market place is illustrated by the dynamics behind the decline and fall of Bretton Woods.

Sections 6 and 7 focus on two dysfunctional episodes in our professional (and world) history. Section 6 examines the intellectual origins of the Great Inflation. Section 7 provides a dynamic analysis of the impact of the natural rate and monetarist disinflation proposals on Australia from the early 1970s. Section 8 argues that there is a clear continuity from Keynes' *reflationary* 'Phillips curve' through Phillips' low (below 3 per cent) inflation trade-off to the present day target of 2–3 per cent inflation over the course of the business cycle. Concluding comments are provided in Section 9.

Two clarifications. First, this paper attaches a low degree of reliability to conventional perspectives regarding the evolution of economics. Thus this paper does not pretend to provide a comprehensive summary of macroeconomic policy issues. Indeed, the thesis of the paper is that such shallow summaries are only obtainable by economising in a hazardous way with the analysis of the underlying dynamics. The paper summarises a decade's research and suffers from all the defects of a summary. Its conclusions are based on an in-depth and detailed interaction with the evidence and are presented in the spirit of Strong Opinions Weakly Held (SOWH) in the hope that some worthwhile conclusions and insights may be reaped.

Secondly, this paper is predicated on the assumption that macroeconomics does not really have a history, in the pejorative sense in which the term is used by many economists. Macroeconomic ideas are always resurfacing in a fresh disguise. Thus a supposedly 'past' policy idea should be treated as a current idea, with a latent energy. This paper therefore provides an account of internal professional dynamics or *contemporary* history: the subtle interaction between the present, the future and the immediate past. It concentrates on these 'internal' dynamics and only marginally addresses the 'external' forces that impact on policy-making.

## **2. Policy Ideas: A Systems Approach**

Policy ideas are obviously endogenously determined within some system. As they proceed through the academic and policy nexus they can also mutate and develop. However, for the purposes of this paper, policy ideas will be primarily perceived as an injection into the policy system.

As a framework, an idea will be taken to have three stages of potential development. The first is the stage of genesis (real or imagined). Some ideas are the product of spontaneous combustion, others the social process of interaction and dispute. The most successful producers of post-war economic knowledge, the Chicago School, have, in the past, summoned to their conferences their most talented opponents to be enlisted in the production of ‘pearls’. Thus the first written exposition of the natural rate model came in Milton Friedman’s (1966) reply to Robert Solow (1966) at a Chicago conference, making Solow the midwife of monetarism. Likewise, Friedman’s (1968a) natural rate American Economic Association (AEA) Presidential Address may have been the midwife of an increased Keynesian tolerance of inflation.

The first stage in the process by which an idea impacts on the economy relates to this ‘irritant in the oyster’ phenomenon. The second stage relates to the ‘pearl’ that results. Some pearls sink to the bottom of the policy ocean and await rediscovery or oblivion. Others make it to the third stage: the market for policy ideas.

There are many reasons why a policy idea has an impact on the economy. The initial force contained ‘within’ an idea can be affected by three components. First its Mythological Potency (MYOP), second its Publication Potential (PP) and third its Ideological Content (IC). The first and third relate to group identity; the second primarily relates to the private self-interest of the individual researcher. This essay is predicated upon the assumption that it is myopic (MYOPPIC) to ignore the force of such initial factors.

## **3. The Academic Market Place**

Academic economists are taken in this essay to be historical agents who can be roughly divided into three groups: scholars, campaigning scholars and revolutionary scholars. Alternatively, these agents can be seen as displaying elements of these three characteristics in varying proportions at various times. All three groups (or characteristic holders) seek to persuade, but in markedly different ways. Within each group, there is a further division relating to optimism or cynicism.

The academic market place appears (especially in the United States) to be characterised by an ‘authority’ hierarchy. At the risk of appearing flippant (which I am not), the English Football League provides a potentially fruitful analogy. Highly influential economists who usually hold chairs in high-status universities inhabit the Premier Division. The First Division consists of economists with significant national and sometimes international status. The Second Division consists of relatively high-ranking economists with limited influence. Below these Divisions are economists who exert almost no perceptible impact on policy-making. There is some promotion and relegation between Divisions, but status appears to be largely allocated by early

institutional affiliation. There appear to be both deference and condescension between the Divisions. Hovering over all Divisions are the Gods of Nobel status.

### 3.1 Scholars

Scholars are those for whom the final envisaged consumer of their output is a journal or publishing house. Often their research projects are disconnected and have no recurrent theme. The persuasion content of their work consists primarily of the effort to persuade editors and referees to accept their output for publication. This market can be described as exhibiting consumer sovereignty. In other words the producers (the scholars) are content to see the consumers (the journals or publishing houses) consume their output and have little or no expectation that their output will become a major part of other production activities (as intermediate consumption). Some cynical scholars actively discourage others from too close an inspection of their work. Other scholars, such as most econometricians, appear to be unaware that they are followers of a revolution: the Formalist revolution that has swept through the economics profession from the 1930s.

### 3.2 Campaigning scholars

Campaigning scholars organise their produce in ‘bundles’ and seek to persuade identified communities of the merits of their ‘case’. Sometimes, their intended consumers are academic, sometimes they are policy-makers, sometimes a mixture of both. In this market the producer seeks to engage the envisaged consumer in an ongoing dialogue. Cynical campaigning scholars have little faith that their efforts will achieve their desired objective. AC Pigou, the author of the modern ‘market failure’ approach to economics, falls into this category. So too does the author of the original Phillips curve. Both had a low opinion of politicians and the political process, but nevertheless felt obliged to pursue their ‘mission’. In contrast, the campaign to de-couple monetary policy from current-account targeting appeared to display a more optimistic tendency.

### 3.3 Revolutionary scholars

Revolutionary scholars seek to enlist policy-makers in their endeavour to alter the course of ‘world history’. They also enlist the work of scholars and campaigning scholars for their own purposes. These producers seek to eliminate rivals, to dominate the market and to adapt their marketing techniques so as to bend the consumer to their will. Intentionally or otherwise, revolutionary scholars sometimes appear to be motivated by Lenin’s reputed dictum that ‘morality is pursued in the pursuit of the revolution’. For example, referring to the ‘classical’ caricature Joan Robinson (1962, 1964) reflected on the *tactics* employed in ‘the hard-fought victory of the theory of effective demand’ and concluded that ‘Keynes himself lacked the scruple of a scholar’.

A common perception underpinning the advocacy of Keynesism, Monetarism, New Classicalism, in addition to those who administrated the Bretton Woods

system, was the faith that they and they alone were ‘The Chosen Few’ elected to save civilisation. The Bretton Woods administrators believed that they and they alone could prevent the slide back to the protectionist darkness of the 1930s by outlawing competitive devaluation and by preserving the system of fixed exchange rates. The Keynesians believed they would prevent a return to the Great Depression through expanding government activities so as to correct for the imperfections of capitalism. The Monetarists believed that they would prevent the slide down *The Road to Serfdom* and that this would be achieved by finding stable money demand functions and thereby thwart the demand for wage and price controls. New Classicalists believed they would achieve the same desired end-state through the policy ineffectiveness proposition. It is unwise to consider policy options backed up by scientific evidence (chains of thought plus statistical associations) and ignore the fact that often these options are presented by Defenders of Civilisation (DOCTORS) or *The Economist as Preacher* (Stigler 1982).

In the prolific five-year period after returning to Chicago, Friedman imposed several specific restrictions on the discretionary policy implications derived from the Keynesian national income framework. Friedman argued that floating exchange rates would equilibrate the external sector (the fourth and fifth terms). The concept of permanent income was introduced to counter the Keynesian assertion that counter-cyclical manipulation of disposable income would set the multiplier in motion by influencing consumer expenditure (the first term). Of primary concern for libertarians was the potential for governments to direct civilisation down *The Road to Serfdom*. Thus government expenditure (‘G’), which is for Keynesians the third right-hand side term in their national income identity framework, was for libertarians a potentially malevolent force which must be restrained for inflation to be avoided and for civilisation to survive. Libertarians saw an inherent asymmetry with respect to ‘G’. It is easy to increase ‘G’ but difficult to reduce it, thus the share of ‘G’ was likely to creep towards totalitarian levels. In 1948 Friedman proposed to outlaw this creep by proposing a cycle-invariant rule for determining fiscal expenditures, thus fixing ‘G’ independently of the state of the business cycle. With tax revenues moving pro-cyclically, any government budget deficit would be met by counter-cyclical monetary expansion. Fiscal expenditures were to be determined by community preferences for public services relative to private consumption (the fiscal equivalent to his ‘x%’ money growth rule), but required monetary policy to be highly counter-cyclical. Thus with a real ‘x%’ fiscal rule ‘money expenditures would vary directly with prices’ while the supply of money would vary inversely (Friedman 1953, pp 204–234). In some important respects this ‘Framework’ appears to be inconsistent with the Quantity Theory which Friedman believed he had been taught in the 1930s.

Friedman’s version of the Quantity Theory becomes detectable in his writings in the year 1951. Part of Friedman’s philosophy is that ‘you can’t beat a candidate without a candidate’ (Leeson 1998a). Prior to the temporary victory of monetarism, he and AWH Phillips were the pre-eminent critics of simple Keynesian stabilisation optimism. Until he embedded his highly perceptive criticisms in the Quantity Theory ‘candidate’, his libertarian counter-revolution made little headway. His

criticism of the Old Keynesian tolerance of inflation was influential because it was embedded in the natural rate ‘candidate’ and appeared to be a vindication of his own methodology of positive economics. Friedman the methodologist conquered the profession long before Friedman the monetarist. The victory of Friedman the floater occupies an intermediate position.

In retrospect, revolutionary scholars such as Richard Kahn<sup>3</sup> were often shocked at how deluded their revolutionary perceptions and memories were. For example, Friedman (Kitch 1983, p 178) was ‘astounded’ when he re-read Henry Simons’ *Positive Program for Laissez Faire*, ‘To think that I thought at the time that it was strongly pro free market in its orientation!’. In his *Memoirs*, Friedman has also reversed his judgement about his own personal immunity from Keynesianism. He was ‘shocked’ to re-read his wartime essays with their unmistakably Keynesian taint. In a statement in 1942 before the House Ways and Means Committee, Friedman declared that ‘inflation ... must be neutralised by measures that restrict consumer spending. Taxation is the most important of those measures’. Looking back Friedman was shocked, ‘The most striking feature of this statement is how thoroughly Keynesian it is. I did not even mention “money” or “monetary policy”! The only “methods of avoiding inflation” I mentioned in addition to taxation were “price control and rationing, control of consumers’ credit, reduction in government and war bond campaigns”. Until I reread my statement to Congress in preparing this account, I had completely forgotten how thoroughly Keynesian I was then... I was apparently cured, some would say corrupted shortly after the end of the war’ (Friedman and Friedman 1998). Thus with documentary evidence contradicting his memory, Friedman has reversed his position about ‘remaining largely unaffected and if anything somewhat hostile [to] ... the Keynesian revolution’ (Friedman 1974, p 162).

The New Classicalists have also reflected on the fruits of their counter-revolution. Robert Lucas recently reflected that ‘I write down a bunch of equations and I say this equation has to do with people’s preferences and this equation is a description of the technology. But this doesn’t make it so. Maybe I’m right, maybe I’m wrong. That has to be a matter of evidence’. With respect to a central policy implication of new classical macroeconomics, Lucas confessed that ‘Monetary shocks just aren’t that important. That’s the view I have been driven to. There’s no question that’s a retreat in my views’ (Cassidy 1996). Also, Sargent’s (1993) essays on *Bounded Rationality in Macroeconomics* involved a self-conscious ‘retreat from rational expectations’.

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3. Kahn encouraged Keynes to attack Pigou, yet later reflected ‘to me it was a shock when, in the course of preparing this paper, I discovered the term “involuntary unemployment” was already in use in 1914, and that of all possible people it was used by Pigou [*Unemployment*, 1913], whom in 1936 Keynes was rightly going to denounce for publishing a book (in 1933) which was exclusively concerned with unemployment which was not involuntary. I suffered another shock when I reread the first few pages of Pigou’s 1933 book. Although Keynes was right in maintaining that the subject of Pigou’s book was “voluntary unemployment”, in these opening pages Pigou implicitly denies this’ (Kahn 1976, p 20).

With respect to the New Classical creation myth, Lucas (1976, 1980, 1981, 1984) explained that ‘one cannot find good, under-forty economists who identified themselves or their work as Keynesian ... I, along with many others, was in on the kill in an intellectual sense’. According to Lucas, the quarry subjected to the ‘kill’ was the proposition that ‘permanent inflation will ... induce a permanent economic high ... [the] shift of the “trade-off” relationship to centre stage in policy discussions appears primarily due to Phillips (1958) and Samuelson and Solow (1960)’; ‘We got the high-inflation decade, and with it as clear-cut an experimental discrimination as macroeconomics is ever likely to see, and Friedman and Phelps were right. It really is as simple as that’; ‘They went way out on a limb in the late ‘60s, saying that high inflation wasn’t going to give us anything by way of lower unemployment’.

Sargent and Wallace (1976) outlined their version of the ‘invariance’ critique (expressed in formal language) using Samuelson’s advocacy of ‘look at everything’ policy discretion as a whipping post. Thus Sargent and Wallace explained that it was common to find reduced-form equations which contained parameters ‘that depend partly on the way unobservable expectations of the public are correlated with the [other] variables on the right [hand] side of the equation, which in turn depends on the public’s perception of how policy-makers are behaving. If the public’s perceptions are accurate, then the way in which its expectations are formed will change whenever policy changes, which will lead to changes in the parameters ... of the reduced-form equation. It is consequently improper to manipulate that reduced form as if its parameters were invariant with respect to changes in [the parameters of the feedback rule]’. A specific reason ‘for employing the hypothesis of rational expectations is that in estimating econometric models it is a source of identifying restrictions’. With the ‘usual method of modelling expectations in macroeconomic models ... the coefficients on expectations are generally underidentified econometrically’.

Yet Robin Court (2000) and Peter Phillips (2000) have noted something that if noted earlier would have severely undermined the mythological potency of the New Classical counter-revolution. Years before Lucas and Sargent, AWH Phillips ([1968], p 473; [1972], chapter 52)<sup>4</sup> highlighted ‘an important possibility, that when control is being applied ... the sub-system may no longer be identified. By this we mean that new observations generated by the operation of the complete system may give no further information by which to improve the estimates of the parameters of the sub-system’. Phillips then identified a ‘fundamental defect’, ‘The possibility that operation of the control may prevent re-estimation of the system should lead us to ask whether the decision analysis we have been considering does not have some fundamental deficiency. And indeed it has. The basic defect is simply that in deriving the decision rules no account was taken of the fact that the parameters of the system are not known exactly, and no consideration was given to ways in which we can improve our knowledge of the system while we are controlling it. In my view it

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4. These, and all other references to Phillips relate to his *Collected Works* (Phillips and Leeson 2000). Dates in square brackets refer to the year of publication of the original work; page numbers and chapters refer to the Phillips and Leeson *Collected Works* volume.



cannot be too strongly stated that in attempting to control economic fluctuations we do not have the two separate problems of estimating the system and of controlling it, we have a single problem of jointly controlling and learning about the system, that is, a problem of learning control or adaptive control’.

These cautionary perceptions were not unique to Phillips. Samuelson and Solow’s (1960) famous Phillips curve paper came with a ‘caution. All of our discussion has been phrased in short-run terms ... What we do in a policy way during the next few years might cause [the curve] to shift in a definite way’. Specifically, picking a low inflation point on the Phillips curve might ‘so act upon wage and other expectations as to shift the curve downwards in the longer run’. Thus Samuelson and Solow identified the importance of what became known as the Lucas critique.

At various times what became known as the Lucas critique could have been fully integrated into the Keynesian Neoclassical Synthesis, and thus could have tempered Keynesian counter-cyclical optimism (Darity, Leeson and Young, forthcoming). The New Classical counter-revolutionaries would have been deprived of their Mythological Potency had they recognised that their whipping boys – Phillips and Samuelson – had developed these ideas years before.

#### 4. The Political Market Place

The ideas that emerge in the popular market place are an intriguing interaction between advocates, journalists, politicians and that somewhat nebulous concept of the ‘spirit of the times’. Certain prominent individuals exert a significant impact here, including, of course, the press (Parsons 1989). Keynes, Friedman and Galbraith are the most prominent examples of producers and disseminators of economic policy ideas in the twentieth century political market place.

One direct channel by which ideas impact on the economy via this market is through politicians. The impact of ideas on the political process can be assessed by a subjective evaluation of the respective Zealot/Hotelling (Z/H) ratio. The denominator, named after Harold Hotelling, indicates the principle that the optimal political ‘location’ (in a two-party game) is the same as the optimal location for a duopolist who benefits from some degree of brand loyalty. Thus an ice cream vendor should set up shop close to the mid point of the sandy section of the beach alongside his rival.

The numerator reflects the influence of Zealots (Goodhart 1992).<sup>5</sup> Zealots strike a posture at locations on the beach which have been suggested to them by public intellectuals. Politicians appear to be attracted by simple and energising ideas. Friedman (1974, p 16), for example, highlighted the potency of the Keynesian analytical system which ‘once mastered, appeared highly mechanical and capable of yielding far-reaching and important conclusions with a minimum of input’, especially when those conclusions were ‘highly congenial to opponents of the market system’.

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5. Goodhart (1992) referred to Nigel Lawson and the British Treasury as ‘initial zealots’ with respect to monetary targeting.

Friedman was impressed with Mrs Thatcher's economic literacy, 'She recognised very clearly the relationship between monetary policy on the one hand and inflation on the other' (Smith 1987, p 74).<sup>6</sup> Harold Wilson noted that 'I should imagine she [Mrs Thatcher] knows her Friedman very well' (Murray 1980, p 98). But Mrs Thatcher (1995) appeared to have learnt how to 'control the money supply through interest rates', and then proceeded to undertake a major social and economic experiment underpinned by monetary targeting. This was, in part, because monetarism yielded far-reaching and important conclusions with a minimum of input and its conclusions were highly congenial to supporters of the market system.

A high Z/H ratio can indicate the presence of a political bubble. After monetary targeting lost credibility, Mrs Thatcher appeared to run for cover: monetarism was 'not a doctrine to which I've subscribed. It's one that came in with Milton Friedman. I used to look at it, I used to look at it and not adopt it. It's a theory to which I've never subscribed. At the moment in spite of three and a quarter million unemployed, we have a current-account surplus – we've had a current-account surplus for five years in a row' (Smith 1987, p 122).

Ronald Reagan (1990) also had 'faith – faith in those tax cuts and faith in the American people'. His supply-side policies were based on his own homespun attitude ('you say "I'm not gonna work for six cents on the dollar"') with a lineage descending from 'that philosopher, Khaldoon' a fourteenth century Muslim writer on taxation. Reagan may have been a devoted scholar of fourteenth century Muslim philosophy or maybe he had consumed some contemporary libertarian popular literature and then wished to see this philosophy translated into policy. The latter seems more likely, and thus to assess the impact on policy of the ideas that we associate with Reagan requires an examination of the process by which these ideas came to be produced and consumed.

Sometimes the political tides erode the sandy area of the beach and shift the 'location' of the electorate and thereby shift the optimal political location. Ineptitude (or zealotry) on the part of the opposition also has an impact. Hence the overwhelming defeat of Barry Goldwater in 1964 and the overwhelming victory of Reagan in 1980, two Zealots with similar attitudes. Something similar was happening in Australia around the time of Friedman's two visits.

## **5. The Policy Market Place**

The major DOCTRINAL conflict of the post-war period revolved around the competing claims of Full Employment, Free Trade and Fixed Exchange Rates (Leeson 2000a). The bankers who administered the Bretton Woods system held fast to Fixed Exchange Rates as the vehicle which would preserve civilisation. The primary Keynesian objective was the pursuit of Full Employment whereas Friedman etc elevated Free Trade to premier status. The Chicago view was that Free Trade was

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6. Mrs Thatcher is one of the few politicians to have an econometric diagnostic statistic named after her (Leeson 1998e).

required to permanently shift the Phillips curve downwards (Shultz and Aliber 1966, pp 3–4, 13).

Friedman's advocacy of floating exchange rates first converted the academic community and then assaulted the policy market place. His opponents, the Bretton Woods 'founding fathers' were, like the Keynesians, revolutionaries. These 'zealots' had given institutional expression to the 'revolutionary ideas' of banishing the 'twin devils' of the 1930s: depression and beggar-thy-neighbour trade policy, involving competitive currency devaluation (Reisman 1996; de Vries 1996; Campos 1996). The public servants who policed the international economy believed that before 'us' lay the deluge of competitive devaluations. They also assumed that after 'us' lay a similar fate, 'a path leading into unknown darkness' (Caves 1963). In this sense, they came to display some of the characteristics of an *Ancien Régime*.

Fixed exchange rates and a fixed price of gold were the Newtonian certainties upon which the Bretton Woods system rested (Volcker and Gyohten 1992, p 7). The League of Nations (1944) outlined the 'proved disadvantages of freely fluctuating exchanges ... If there is anything that inter-war experience has clearly demonstrated, it is that paper currency exchanges cannot be left free to fluctuate'. This system 'would almost certainly result in chaos'. The actual system adopted in the thirties ('The Devaluation Cycle') was believed to be 'associated with disturbances not very different from those associated with freely fluctuating exchanges'. In addition to the 1930s analogy, apocryphal Swiss bankers were often conjured up to demonstrate the compelling nature of the case against floating rates. Galbraith's (1964, p 117) banker informed him that the Swiss response to a devaluation of the US dollar might be a competitive devaluation 'late the same afternoon'.

The 'art' of central banking was regarded as 'one of the keystones in the arch of our civilisation' (McChesney Martin 1970, p 11). This civilisation had been challenged in the 1930s by the 'economic barbarism' associated with floating exchange rates (Coombs 1976). The history of the IMF was 'the record of one of the ways in which that challenge was met' (Horsefield 1969). But the IMF historians who chronicled the response to that challenge barely mentioned the intellectual forces that would help to destroy the Bretton Woods system. Fixed exchange rates were the 'central core of the new international cooperation' and the IMF 'opposed all suggestions' which resembled the system that prevailed after 1973 (de Vries 1969). This was both 'the critical fact' and the critical weakness of the position taken by the international policemen (de Vries 1987). Those who supported par values were perceived to have been 'trapped in channels that were far too conventional' (Volcker and Gyohten 1992, p 115). Senator Paul Douglas, in 1963, complained that attempts to discuss flexible exchange rates with American IMF representatives or officials of the US Treasury elicited only a 'tropismatic response' (Yeager 1976, p 651). Numerous observers detected in the official world a 'theological aversion to exchange rate flexibility' (Williamson 1978).

The Bretton Woods policemen regarded themselves as pugilists going into combat against any undisciplined or self-interested national economic policy which might deliver a price of foreign currency different from that which the policemen had

decreed. They took their responsibilities very seriously and somberly. Nixon (1987) recalled that Arthur Burns launched a ‘titanic’ rearguard action to preserve the par value system. As their system entered the ‘iceberg years’, the official IMF historian recounts that they literally rearranged their chairs so as to pretend that it was not the Executive Directors who were discussing ‘limited’ flexibility of exchange rates. Moreover, ‘there was stress on the word “limited” ... Pointedly, they did not discuss regimes which were inconsistent with the par value system’. These ‘fourth floor’ deliberations reinforced their view that they should maintain their course (de Vries 1976; McChesney Martin 1970). Within the first two months of the Second Nixon Administration these prizefighters were forced to ‘throw in the towel’ (Emminger 1978). They ‘seemed to be more buffeted than in control of events’ (de Vries 1985). Within a remarkably short period of time, speculation about a return to a par value system was regarded as a ‘consolation for traditionalists sick with nostalgia’ (Machlup 1976). As the IMF Deputy Managing Director reflected ‘A policeman’s lot is not a happy one’ (Southard 1979).

Friedman made a concerted effort to engage his Bretton Woods opponents in debate. Robert Roosa, the 1967 President of the American Finance Association, was regarded as ‘the foremost American expert on international monetary affairs’ (Volcker and Gyohten 1992, p 21). Roosa was a partner of a leading Wall Street bank and had recently been Vice President of the Federal Reserve Bank of New York and Under Secretary of the Treasury of Monetary Affairs.<sup>7</sup> He possessed a PhD, had been a Rhodes scholar and was highly regarded by Samuelson and Dillon. Jacobsson ranked Roosa second only to McChesney Martin ‘in quality of judgement’. Jacobsson also repeatedly stated that those who advocated altering either the value of the dollar or the dollar price of gold ‘knew nothing about exchange markets’ (Jacobsson 1979, pp 320, 324).

Friedman, the current President of the AEA, continued to demonstrate to the satisfaction of increasing numbers of academic observers that his solution to the US balance of payments problem could achieve what all the king’s men could not. A synopsis of their debate is provided in Appendix A. In summary, Friedman (Friedman and Roosa 1967, p 95) deferred to Roosa’s superior knowledge about the day-to-day operations of the foreign exchange market but was incredulous when Roosa denied that a market in foreign exchange would actually exist without fixed rates, ‘because there isn’t a real going and lasting market, the relationships that will begin to develop will be the kinds which will lead to the creation of the bloc system ... fixed rates within each bloc, and barter among them’ (Friedman and Roosa 1967, p 185).<sup>8</sup> Roosa (Friedman and Roosa 1967, p 53) predicted that foreign exchange traders would not wish to be ‘crushed between the pressures generated by central

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7. Thomas Mayer (1999, p 111) formed the impression that until the mid 1960s, thinking at the upper levels of the Fed was ‘often rigid, defensive and out of touch with developments in economics’.

8. *Friedman*: Do you deny that the market will set a price?  
*Roosa*: I deny that an actual market will exist.  
*Friedman*: You deny that a market will exist in exchange?  
*Roosa*: I do, yes (Friedman and Roosa 1967, p 185).

bank giants in a free-for-all ... I am not trying to confront Professor Friedman with an organised strike of my fellow traders in the foreign exchange markets of the world ... [but] there would surely ... be no little recruiting problem in getting the trading desks capably manned for the launching of his system'.

Thus the central bankers appeared to be incapable of considering that anything other than competitive devaluation and autarchy was the alternative to their system. One of the lessons of Bretton Woods is that economists are influenced by the institutional market in which they operate. Pierre-Paul Schweitzer (1976) asserted that the IMF possessed 'intellectually, the best possible staff you could find ... they give their whole loyalty to the institution they are serving'. The Executive Directors had 'all evolved a kind of feeling of solidarity for the Fund'. He appeared to be especially impressed with the fact that the British contingent were a 'collection of lords and past and future knights!'.<sup>9</sup> These trappings of institutional loyalty appeared to be a constraint on the ability of economists in the central banking sector to even comprehend how a system of floating exchange rates would work.

George Shultz, Friedman's Chicago colleague, acquired an important role within Nixon's White House. He also reflected about the 'self-deception' of some key players (Shultz and Dam 1977, p 130). Shultz was regarded as 'the creative synthesiser' (Safire 1975); but his post-Bretton Woods 'synthesis' was more conducive to floating rates than the fixed rate advocates would have wished. Between 1–9 February 1973, the Bundesbank spent almost US\$6 billion defending the Smithsonian re-alignment. But between the Treasury and the Fed there was a 'clear split' on the issue (Volcker and Gyohten 1992, p 130). The Federal Reserve sold \$320 million worth of marks, but the day after the defence began, newspapers reported that Shultz was sympathetic to the float of the mark, thus rendering the defence an expensive but pointless exercise (Friedman 1975b, p 181). On 12 February, Shultz announced a 10 per cent devaluation of the dollar, noting that the US had 'undertaken no obligation' to intervene in foreign exchange markets.

Of great symbolic importance was the fact that Shultz, the US Treasury Secretary, sent Volcker to Europe and Japan to discuss the impending changes, rather than negotiate via the IMF who, he believed, had a vested institutional interest in maintaining a par value system (Shultz and Dam 1977, p 121). When the agreement had been reached, the IMF were given a copy of Shultz's press statement, 'Perhaps for the first time in the Fund's history, the Executive Board did not have a paper prepared by the staff. In these circumstances there was little that the Executive Board could do ... Such a situation was far from welcome'. The IMF had been deliberately excluded from decision-making about the issue that they believed defined their existence (de Vries 1985).

The year before, Haldeman informed the President that the pound was floating, but Nixon replied 'I don't care about it'. Haldeman pressed him to take an interest

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9. On these grounds, the RBA would have pleased him too: one-third of the Board members recorded by Schedvin (1992, pp 553–554) were knights.

in the international monetary crisis telling him that Arthur Burns, the Fed Chairman, was ‘concerned about speculation against the lira’. But Nixon retorted, ‘Well, I don’t give a [expletive deleted] about the lira’ (Williamson 1977, p 175).

With respect to the defenders of fixed exchange rates, Johnson (1969, 1970) complained that the obsession with the 1930s was based on a misconception about the realities of the world economy: they were ‘guarding the gates of hell rather than guarding legitimate business’. The ‘old central bank devil’ tended to ‘believe that they know better than the market does’. Academic economists, therefore, had to provide an ‘educational process’ for the bankers.

By March 1973, it must have been clear to the banking community that Friedman and his followers had won the debate over exchange rates at both an intellectual and a political level. Friedman (1968b) did not appear to have a high regard for central bankers. His view was it would be ‘politically intolerable’ to have independent central banks because ‘Money is too important to be left to central bankers’. Friedman approvingly noted that central bankers ‘tended to oppose many of the proposals for extending the scope of government’ which he regarded as a ‘requisite for a free society’. Yet when he read the memoirs of prominent central bankers he realised how ‘thoroughly dictatorial and totalitarian’ some of them tended to be. Yet, after 1973 central banks all over the world attempted to lead intellectual developments having so unsuccessfully lagged behind in their futile efforts to prop up the system of fixed exchange rates.

## **6. The Intellectual Origins of the Great Inflation**

Like most economists in the 1930s, Keynes favoured the expansion of aggregate demand through government expenditure not financed through taxation. This is as true for Chicago economists as it was for the high priest of so-called ‘classical’ school supposedly located around Pigou, his Cambridge colleague (Leeson 1998b, 2000b).<sup>10</sup> But contrary to Keynes’ caricature, Pigou calculated that increasing the plasticity of wages might reduce the amplitude of industrial fluctuations by about one-eighth.<sup>11</sup> For what appears to be tactical reasons Keynes set up a bogus but mythologically potent controversy between himself and the ‘Classics’ (or ‘Klassics’, with a ‘K’ after Keynes).

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10. According to a dissenter (the co-author of the inter-war Treasury View) the idea that ‘public works themselves give additional employment is radically fallacious ... public works are merely a piece of ritual’. The case in favour of public works was ‘largely due to [Pigou’s] high authority’ (see Hawtrey (1925)).

11. The only modifications of existing wage-setting arrangements that were ‘practically worthwhile to study are modifications on a comparatively small scale’ (Pigou 1913, p 243; 1927, p 285; 1931, p 31). Pigou explained that ‘if we can bring ourselves to tolerate the conception of negative wages, it is possible to imagine a wage policy that would ensure full employment in all industries continuously, whatever changes [demand] might undergo. Even in pure theory, however, this state of affairs can only be admitted on the assumption that wage-earners possess stores of goods, out of which they can make payments to employers (negative wages) for the privilege of being allowed to work; and that assumption is inconsistent with the facts’ (Pigou 1927, pp 244, 284; 1930, p 49).

Multipliers play an important role in model evaluation (see, for example, Taylor (1979)). The so-called Kahnian or Keynesian fiscal policy multiplier (which had been derived unconsciously from Pigou or built on Pigouvian foundations<sup>12</sup>) played a pivotal role in the Keynesian revolution. Fear of inflation was part of the baggage of the ‘classical’ enemy. Kahn (1933), in his American multiplier article on ‘Public Works and Inflation’, noted that fear of inflation had to be overcome, ‘as soon as recourse to the banking system is alluded to, the cry of “inflation” is raised and fears are expressed as to the “safety of the currency”; and the policy is probably doomed’. Some Keynesians were determined not to be deflected from their social revolution. For example, Kalecki (1946) argued that it was pointless to worry about inflation since ‘this would depend on the institutional setup of full employment. It is no good to conjecture too much about all aspects of the future functioning of such a regime. Let us have it and try it out’. Tobin (1966, p viii) made a similar complaint about attempts to restrain the Keynesian Full Employment project.<sup>13</sup>

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12. In the version of *Can Lloyd George Do It?* that appeared in *Essays in Persuasion*, Keynes deleted the two paragraphs that referred to the multiplier. The deleted paragraphs included the statement the multiplier ‘has been carefully debated by economists in recent years. The result has been to establish the conclusion of this chapter as sound and orthodox and the Treasury’s dogma as fallacious. For example ... our preceding argument has closely followed Professor Pigou’s reasoning in his recent volume *Industrial Fluctuations* (part II, chapter X), where he quotes a statement of the Treasury dogma and expressly declares it to be fallacious’ (Keynes 1972, pp 120–121; Dimand 1988). Part II, chapter X, referred to by Keynes in the deleted paragraphs, is entitled ‘Attacks on Industrial Fluctuations’. It contains one of the clearest statements of the employment multiplier: ‘In this way secondary influences are set to work that further enlarge the aggregate real demand for labour. This is a very important matter’ (Pigou 1927, p 294). In Pigou’s analysis, ‘our artificially stimulated demand will also carry with it secondary effects of the same character as those carried by the primary part of the contraction’. Pigou neglected to expand on the relationship between  $x$  and the desired counter-cyclical target, simply saying that ‘unfortunately, we do not know at all how large  $x$  is’. But he concluded that ‘the presumption in favour of *some* creation or transfer [of demand] beyond what comes about “naturally” is very strong’ [emphasis in text] (1927, pp 294–296); ‘a small injection of money into the income-expenditure circuit ... *might* lead to a progressive and far reaching improvement in the employment situation’; ‘The process I have been describing is cumulative and progressive in character ... a spiral upwards movement ... Plainly, this cumulative process is of great importance’ [emphasis in text] (Pigou 1933, pp 242–243). In *Can Lloyd George Do It?* Keynes concluded his discussion of the (Pigouvian?) employment multiplier with the caution that ‘It is not possible to measure effects of this character with any sort of precision’ (Keynes 1972, p 107); a Pigouvian caution that few economists would now dissent from. Keynes (1936, pp 113, 121) attributed to Kahn the sole paternity of this ‘definite ratio ... a precise relationship’ which in a ‘typical modern community ... would not be much less than 5’. Keynes’ popular essay, ‘The Multiplier’ (the first use of the term) was published in *The New Statesmen and Nation* on April Fool’s Day, 1933.
13. Tobin argued that ‘It is amazing how many reasons can be found to justify ... waste: fears of inflation, balance-of-payments deficits, unbalanced budgets, excessive national debt, loss of confidence in the dollar, etc., etc. This catalogue of financial shibboleths and taboos scares the confused layman out of a commonsense, pragmatic approach to economic policy ... Perhaps price stability, fixed exchange rates, balanced budgets, and the like can be justified as means to achieving and sustaining high employment, production, and consumption. Too often the means are accorded precedence over the end, and I am led to take up my pen to defend the basic objective of economic policy against its spurious rivals’.

The typical Keynesian response was either to tolerate inflation or to suppress it through prices and incomes policies. Since the choice for many Keynesians lay between Full Employment plus some form of incomes policy (which displaced the economy in a downwards vertical direction away from a Phillips curve), or abandoning Full Employment (disinflation which shifted the economy downwards and outwards along a Phillips curve), the first alternative was regarded as a 'bargain' (Solow 1970). But it was essential to quantify precisely (if bogusly) the inflationary outcomes that would be associated with the pursuit of Full Employment and to reassure themselves and policy-makers that inflation was both containable and easily reversible. Hence the extraordinary enthusiasm with which the high-inflation misinterpretation of the Phillips curve was received (Leeson 1997a).

Keynes (1936, p 383) noted that 'At the present moment people are unusually expectant of a more fundamental diagnosis; more particularly ready to receive it; eager to try it out, if it should be even plausible'. This fundamentalist aspect of the Keynesian revolution tended to harden into dogma, hierarchy and contempt for opponents (Leeson 1998c). Those at the apex of the Keynesians' hierarchy continued the search for 'fundamental', that is epistemologically privileged, relationships. Thus in 'Full Employment after the War', Samuelson (1966) noted that with respect to the early budget studies, 'The consistency of the results is impressive, suggesting that we have a fairly stable and fundamental relationship'. Later, Samuelson and Solow (1960) introduced '*The Fundamental Phillips Schedule Relating Unemployment and Wage Changes*' [emphasis in original].

In 'The Threat of Inflation', Samuelson (1958, pp 63–64) thought it 'almost a play on words' to discuss that type of inflation in the same breath as other types of inflation. Samuelson acknowledged natural rate forces, 'after the inflation has been going on so long as to be obvious to everyone, many of its possibly beneficial effects – expansionary pressure on physical output and employment etc. – tend to disappear as people make adjustments to it'. He also highlighted what he regarded as the paradox of contemporary policy choice, 'to increase the now-negligible probability that American adults will within their lifetime experience hyper-inflation, you would have to preach extreme fiscal and economic orthodoxy – whose future consequences might then set the stage for a breakdown of American society and for an ensuing galloping inflation ... I fear inflation. And I fear the fear of inflation'.

Immediately after Friedman's AEA natural rate Presidential Address, a group of leading Keynesians reaffirmed their commitment to the idea that inflation would be associated with a reduction of unemployment. In the process they introduced the terminology of 'rational expectations' in the context of the natural rate model. Tobin (1968) noted that the natural rate proposition was 'an implication of simple rationality, absence of money illusion'. Solow (1968) was stimulated by Friedman to consider (but then dismiss) this idea of 'rational' expectations, 'It really doesn't matter from the practical point of view whether or not price expectations are ultimately rational. If the period of catch-up is very long, we still have the whole intervening period during which some sort of trade-off dilemma exists'. Johnson (1969, p ix) also dismissed the 'assumption of rational adjustment of



expectations to experience ... the empirical evidence is that lags in adjustment of expectations are sufficiently long for contemporary policy-makers safely to disregard them’.

Solow (1975) reflected that ‘inflation is a *substantial, sustained increase in the general level of prices* [emphasis in text]. The intrinsic vagueness of “substantial” is harmless. One would not want to use a heavyweight word to describe a trivial rise in the price level; granted, it will never be perfectly clear where to draw the line, but neither can it be important *since only a word is at stake* [emphasis added]’. The ‘trade-off school’ had a reply to the ‘monetary school ... Is there something qualitatively different about “double digit” inflation? By any algebraic standards, of course, the difference between nine and 10 is no larger than the difference between eight and nine ... There is no abyss, just potholes ... Inflation is their [the mixed capitalist economies] way of adapting to change. The unusually rapid rise in prices during the past year and a half may simply reflect the fact that the world has been called upon to absorb some unusually large changes. In that case, it will burn itself out’. Solow (1970) concluded that ‘the current inflation has been inflated as a social problem’. The momentum associated with the Keynesian creation myth contributed to ‘The Great Inflation’, the monetarist counter-revolution and the demise of Old Keynesian economics.

This Old Keynesian complacency prepared the way for monetarist solutions. The title of one of Friedman’s (1975a) Australian talks was ‘Can Inflation be Cured ... Before it Ends Free Society?’ In contrast, for Tobin it was a question of ‘Living with Inflation’ (Tobin and Ross 1971). As late as August 1972, Peter Jonson’s (1972) RBA paper reported a ‘growing consensus that the coefficient [on the price expectations term] is less than unity which implies some degree of money illusion in the wage market’. Thus the Australian Phillips curve was ‘just more complicated’. With respect to policy ‘the implication seems to be that we may have to live with a higher rate of inflation in the short run although to the extent that this generates expectations of further rises it is likely to be de-stabilising ... In any case, increased unemployment has high social costs, costs that may well be higher than those of a higher rate of inflation’.

Less than three years later, Stammer (1975, pp 18–19) noted that ‘we seem to have gone very quickly from the old Phillips curve to the new Phillips curve’. Jonson’s (1972, p 4) earlier paper displayed elements of this transitional thinking with the presentation of evidence that ‘price expectations are reduced by increased unemployment, although the important determinants are past price changes and the rate of growth of the money supply’. Thus these years are of great significance in terms of the evolution of Australian monetary policy.

The fifty-two year old Keynes (1936, p 384) implicitly instructed his followers not to trust economists over ‘twenty-five or thirty years of age’. This ‘year zero’ mentality imparted by the Keynesian creation myth generated a contempt for past wisdom. Hence, in part its appeal. For a young economist aspiring to a ‘front line’ position all that was required was a mastery of the post-1936 literature. The Chicago counter-revolution was designed and propagated by George Stigler and Friedman, whose understanding of the dynamics of the economics profession far exceeded that

of their opponents (Leeson 2000c). Friedman's AEA Presidential Address (he was fifty-five years old at the time) was rhetorically as potent as Keynes' *General Theory* had been. Keynes' opponents were ridiculed for supposedly believing in a crude version of Say's Law; Friedman's (1976, pp 217–219) opponents were ridiculed for believing in the 'utterly fallacious' and 'simple minded' Phillips curve. During 1973, the thirty-three year old Michael Parkin was a Visiting Research Economist at the RBA and provided a stimulus both to monetary research and to natural rate perceptions. His arrival corresponded with a pivotal moment in world history: 'The Transition from Fixed Exchange Rates to Money Supply Targets' (Parkin 1977).

## **7. Disinflation and the Natural Rate**

### **7.1 Monetarism: A beguiling mixture of caution, optimism and high-tech econometrics**

Monetarists were identifiable in seeing monetary discipline as the only method of reducing inflation and also in their opposition to prices and incomes policies. They offered a beguiling mixture of optimism and caution. For example, Friedman (1972, pp 34, 36) acknowledged that 'There is no way of stopping an inflation without a recession'; but the precise short-run consequences for output and employment of a monetary shock (and how long that monetary shock would last) still needed to be investigated, 'I have myself tended in the past few years to stress that one shouldn't overstate the case for monetarism'. Shortly before the start of the 'monetarist decade', Friedman (1974) presented his reformulation of the quantity theory as an empirical research agenda, appealing for a 'more subtle examination of the record' to illuminate the all-important question of what would happen to the economy following 'monetary disturbances'.

Perhaps there is something inherently optimistic at the heart of successful revolutions, but Friedman's natural rate (disinflation) prediction to the House of Commons Select Committee on Monetary Policy was less accurate than his natural rate (inflationary) prediction to the AEA. Unlike the inflationary prediction that elevated the natural rate model to centre stage, the disinflation prediction described the lower half of the \$ (the 'S' with a 'natural' spike): the *reduction* in unemployment that would (after a brief interval) follow from monetary targeting. From 'the best evidence', Friedman (1980, pp 56, 61) predicted that '(a) only a modest reduction in output and employment will be a side effect of reducing inflation to single figures by 1982 and (b) the effect on investment and the potential for future growth will be highly favourable'. Unemployment was 'an unfortunate side effect of reducing inflation'; only rigidities stood in the way of a rapid return to the natural rate of unemployment, 'The mechanism causing the contraction in output is the slowing of nominal spending in response to the slowing of monetary growth and the inevitable lags in the absorption of slower spending by wages and prices'. However, subsequent British unemployment experience was much worse than he predicted, 'a temporary retardation in economic growth'.

During Friedman's visit to Australia, Michael Porter (1981) noted the evidence suggested that with respect to increases in money and prices there was an 'elasticity of about one' and that 'persons in positions of power' within the RBA and the Treasury had been persuaded by Friedman's arguments. In a paper written in 1981, two RBA economists concluded that 'the evidence from the time-series data on the relation between demand and prices suggests that: the main link is from demand to prices; there is a lag of a year or two between a rise (decline) in the growth of money and an increase (fall) in the growth of prices; and that the relation from money to prices was stronger in the 1970s than in the previous decade' (Norton and McDonald 1983).

Porter (1981) also noted that there was not 'much evidence' relating to the relationship in the disinflationary direction. P. McGuinness (1975, p 29), Economics Editor of the *Australian Financial Review*, hinted to Friedman about this asymmetry. He accepted the relationship between monetary growth and inflation but concluded that the high interest rates and unemployment that would result from monetarist disinflation had been 'pretty clearly shown to be politically unacceptable'. Another solution was called for. Friedman (1975a, pp 29, 62–63) replied that McGuinness was looking for a way to make water 'run up hill. There is no other solution to the problem of inflation'. Two thousand years of history revealed that wage and price controls made inflation worse, because 'They are imposed whenever a Government wants to inflate ... I can assure you if you look at the record you will find that what I have said characterises essentially every period of imposition on price and wage controls'. Businessmen who agreed to price and wage controls had 'a suicidal impulse' and were 'asking for their own elimination and the socialisation of society.'

David Hendry (1980) had just demonstrated that cumulative rainfall outperformed the money stock in price equations, with  $R^2$  approaching unity and Charles Goodhart (1982) noted that 'modern econometricians may well look askance at some of [Friedman's and Schwartz's] econometric methodology'. This was followed by an explosive report for the Bank of England by Hendry and Ericsson (1983, 1991) entitled 'Assertion Without Empirical Basis', in which it was claimed that the monetarism had been constructed through a process of 'measurement without measurement'. In December 1983, the *Guardian* reported the Bank of England study under the title 'Monetarism's guru 'distorts his evidence'' (Hammond 1996). In October 1985 the target for M3 was suspended, and this was reported in the *Financial Times* under the heading 'Monetarism is Dead – Official' (Smith 1987, p 125).

In 'Monetary Economic Myth and Econometric Reality', Hendry (1985) stressed the need to 'highlight unsubstantiated claims and poor models prior to their policy implementation'. But what about the econometric enthusiasm which underpinned the monetarist-Keynesian regression races? Friedman launched the monetarist counter-revolution by tacking to the prevailing Formalist wind. But Friedman was a leading opponent of that Formalist revolution. All a paradigmatic challenger requires is to earn a draw in order to undermine the hegemony of the dominant school. Econometrics was the perfect vehicle for such a challenge.

Friedman was heir of a long Chicago tradition of opposition to Formalism. Jacob Viner (1958) was a counter-revolutionary with respect to the 'quantitative' revolution

in economics. He expressed an aversion to a world of ‘nonsense correlations’ inhabited by ‘a plague of graduate students’ who correlate ‘furiously and indiscriminately and with an inverse correlation between zeal and discretion which seems closely to have approached, if not quite to have attained perfection’. Specifically, Viner (1962) opposed the method by which Friedman was conducting the Chicago counter-revolution. He objected to Friedman’s ‘faith’ in the statistical relationship between money and prices ‘on the basis of another article of faith which I hold, but which I concede is not fashionable today in the profession. I believe that the nature of the economic universe is such, and the degree of mutual interdependence of the money supply and the price level is so substantial as far as logic by itself can determine, that any empirical constancy of relations that is discovered must be suspected of being either fortuitous or the consequence of the particular selection of series, from among those available, subjected to comparison, and that routine extrapolation into the future of such constancy of relations is consequently a highly hazardous basis for prediction’.<sup>14</sup>

This aspect of the Chicago tradition managed to unite Viner, Simons and Frank Knight (1960, p 166; Stigler 1982, p 23). Simons (1938) warned that ‘one wisely may avoid promiscuous, casuistic tinkering with original data and then carefully explain the inevitable limitations of the statistical results’. Knight (1940) was outraged by ‘misleading and pernicious’ quantification, ‘To call averaging estimates, or guesses, measurement seems to be merely embezzling a word for its prestige value’. Forecasting was little better than ‘random guesses ... the correlation of and extrapolation from composite magnitudes or series never can be very reliable’.

As McGuinness (1975, p 36) noted to Friedman ‘the econometricians are winning at the universities’. But Friedman, with Keynes, was the co-author of a perceptive criticism of Formalism, ‘Tinbergen’s results are simple tautological reformulations of *selected* economic data ... The methods used by Tinbergen do not and cannot provide an empirically tested explanation of business cycle movements. As WC Mitchell put it some years ago “a competent statistician with sufficient clerical assistance and time at his command, can take almost any pair of time series for a given period and work them into a form which will yield coefficients of correlation exceeding  $\pm .9$ ” [emphasis in text] (Friedman 1940). High *t* statistics and correlation coefficients are ‘a test primarily of the skill and patience of the analyst’ (Friedman 1951). Statistical evidence could be ‘extremely misleading’ (Friedman 1962, p 170), and was only available to confirm ‘general reasoning’ and to offer a guide to what is ‘reasonable’ (Friedman 1953, p 231, 312).

In 1946–48, Friedman was a frequent participator at the Cowles Commission seminars. His relentless criticism prompted Koopmans to ask ‘But what if the

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14. Viner’s (1949, p 35) suspicions were reinforced by his experiences in Washington: ‘I have never seen, in what experience I have had in government service, any economic analysis having immediate and direct bearing on controversial policy that went out to the public as honest matter ... I have a profound skepticism of almost everything connected with the role of economic statistics in our modern society. Whenever I have had occasion to look under the covers of almost any important, major statistical series, I have seen horrors of promiscuity there’.

investigator is honest?' (Epstein 1987). Friedman predicted that the Cowles Commission macroeconomic models would be revealed to be unsuccessful, 'the construction of a model for the economy as a whole is bound to be almost a complete groping in the dark. The probability that such a process will yield a meaningful result seems to be almost negligible'. Structural estimation was a 'blind alley for empirical research'; 'Despairing of their abilities to reach quantitative answers by a direct analysis of these complex interrelationships, most investigators have sought refuge in empiricism and have based their estimations on historical relationships that have appeared fairly stable'. He argued that prejudices or the 'psychological needs of particular investigators' would tend to predetermine the outcome; 'the background of the scientist is not irrelevant to the judgements they reach'. Friedman drew an analogy with Heisenberg's indeterminacy principle and 'the interaction between the observer and the process observed that is so prominent a feature of the social sciences ... both have a counterpart in pure logic in Godel's theorem, asserting the impossibility of a comprehensive self-contained logic' (Friedman 1943, p 114; 1951, p 113; 1953).

Friedman concluded that 'I've been very sceptical of the economic forecasts that people like myself and others make by using multiple regression analysis' (Friedman 1988a); 'I have long been sceptical of placing major emphasis on purely statistical tests, whether  $t$  values, Durbin-Watson statistics, or any others. They are no doubt useful in guiding research, but they cannot be the major basis for judging the economic significance or reliability of the results and cannot be a substitute for a thorough examination of the quality of the data used' (1988b); 'low standard errors of estimates, high  $t$  values and the like are often attributes to the ingenuity and tenacity of the statistician rather than reliable evidence of the ability of the regression to predict data not used in constructing it ... In the course of decades [my] scepticism has been justified time and time again' (Friedman and Schwartz 1991).

## 7.2 The natural rate model

In the dominant version of the natural rate model, measured unemployment ( $U$ ) can differ from its natural level ( $U^N$ ) only because of expectational disequilibrium, (i.e. inflationary expectations,  $\Delta P^e$ , are not equal to actual inflation  $\Delta P$ ). Thus, any unnatural ( $U^{UN}$ ) divergence of  $U$  from  $U^N$  is a function of the speed of adjustment ( $\alpha$ ) of incorrect inflationary expectations.

Thus:

$$U = U^N + U^{UN} \quad (1)$$

$$U^{UN} = f[\alpha(\Delta P^e - \Delta P)] \quad (2)$$

Whilst  $U^N$  can be reduced by microeconomic manipulation (improving labour market flexibility etc), macroeconomic policy can effect disinflation only by temporarily increasing  $U$  above  $U^N$ ; the speed of reduction of  $\Delta P$  and therefore  $U^{UN}$  depends on  $\alpha$  – the delusion variable. But macroeconomic policy cannot sustainably reduce  $U$  below  $U^N$ , without incurring the cost of increasing inflation. Thus  $U^N$  can

also be described as the Non Increasing Inflation Rate of Unemployment (NIIRU) or the Non Accelerating Price Level Rate of Unemployment (NAPLRU) or for those who don't think it is important to distinguish between a first and a second derivative, the Non Accelerating Inflation Rate of Unemployment (NAIRU).

Friedman (1968a) stated that the natural rate of output and unemployment was determined by Walrasian equations which reflect the 'actual structural characteristics of the labor and commodity markets'. But there is a circularity in these conventional natural rate models. All points in Phillips curve space can be explained by the natural rate model: if inflation is stable at an unemployment rate different from the rate at which it was previously stable then by definition the natural rate has changed. A model that can superficially explain everything can also be accused of adequately explaining nothing. It is therefore important to identify the four possible relationships between this Walrasian World (WW) and the Actual World (AW). It is possible that WW exerts such an important influence on AW that as soon as delusion is recognised AW rapidly falls into line with WW. Alternatively, the state of AW might well rearrange those WW equations.

*New Classical:  $AW = WW$  (so that with credible policy, disinflation can be costless).*

*Monetarist:  $AW \Rightarrow WW$  (AW is strongly gravitationally attracted to WW).*

*New Keynesian:  $AW \rightarrow WW$  (AW is weakly gravitationally attracted to WW).*

*Hysteresis Keynesian:  $WW \Rightarrow AW$  (WW is gravitationally attracted to AW).*

The natural rate only has significance in so far as it affects the actual economy and any measure must be accompanied by some indication of which Phillips curve (the long-run or the-short run) is doing the pulling. With two Phillips curves in disequilibrium the crucial question is which moves first and fastest? This question must be addressed before any series graced with the epistemologically privileged title of 'natural' can be taken seriously.

Friedman (1968a, 1996) clearly stated that he was introducing an unobservable, almost metaphysical concept that was not designed to be measured at all because 'the monetary authorities ... cannot know what the "natural" rate is'. Thus natural rate estimates derived from unsubstantiated assertions that it has 'been recognised for at least two decades' that 'the economy will return to its natural unemployment rate which is determined by more fundamental factors than expectational errors' have an Aristotelian flavour.<sup>15</sup> The earth-centred view of the universe was perfectly consistent; the alternative was logically unsatisfactory because it implied irrationality or illusion on the part of God. But measures of the Aristotelian Natural Rate of Unemployment (ANRU) have only an accidental relevance to macroeconomic policy debates.

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15. The quote is from Ooi and Groenewold (1992, p 88) although others could have been used to illustrate the same tendency.

Friedman's (1968a) initial estimate was that full adjustment back to the natural rate of unemployment would take 'a couple of decades', thus potentially placing him in the New Keynesian camp. Indeed, Friedman was adding the equivalent of 'one wrinkle' to 'the celebrated Phillips Curve' which became virtually horizontal at higher levels of unemployment (Phillips and Leeson (2000) [1958], p 248; Lipsey 1960). Taking the slope of the short-run Phillips curve as an indication of wage change stickiness, this would imply a lengthy adjustment process because the divergence between actual wage inflation and expected wage inflation is very slight. Friedman (1976, p 218) visually defined the natural rate of unemployment in his representation of the original unaugmented Phillips curve as that rate at which wage inflation was zero. In Lipsey's post-1923 curve this does not correspond to any point since the curve becomes a horizontal line at about 4 per cent unemployment. Phillips' curve crosses the horizontal axis at about 6 per cent unemployment, but to the right of this 'natural rate' increasing unemployment to 11 per cent generates a rate of wage deflation of less than 1 per cent, revealing very little downward aggregate wage flexibility. Thus there is clear evidence of an 'Expectations Trap' which would tend to thwart the equilibrating mechanism of the natural rate model (Leeson 1997b). But in Friedman's (1976, p 218) version of the original Phillips curve there is a very pronounced degree of downward wage flexibility since beyond the natural rate (in the disinflationary direction) his 'original' curve becomes a 45 degree downward-sloping line.

During his visit to Australia, Friedman also indicated the likelihood of path dependency. In response to a question from Stammer (1975, p 22), Friedman (1975a, p 24) indicated that inflation adversely affected these Walrasian equations: 'Dr. Stammer has quite properly noted that ... in the modern day the effect of inflation particularly in Australia, has been to raise wages relative to prices, thus to destroy the sources of capital, to reduce the amount of capital investment and to hinder economic progress'.

In his Nobel Lecture, Friedman (1977) indicated that larger doses of inflation tended to increase the natural rate of unemployment. This could be interpreted either as a positively sloped long-run Phillips curve or a long-run Phillips curve that shifts adversely as inflation rises. There is no reason why the long-run Phillips curve should not also shift adversely as unemployment rises too. The destruction of human and physical capital that are associated with policy-induced increases in unemployment will also presumably reduce the productive capacity of the economy in the short and medium run. The evidence from Britain in the 1970s and 1980s and Australia in the 1990s suggests that it also had an impact in a longer period as well. Thus the long-run Phillips curve becomes positively sloped when inflation becomes non-trivial and becomes negatively sloped as increased unemployment becomes prolonged.

### **7.3 The monetarist experiment in Australia**

In February 1975, the Liberal Party apparently embraced monetary targeting (Hughes 1980). In April 1975, stockbrokers Constable and Bain brought Friedman

to Australia, at the invitation of one of the partners, fellow Mont Pelerin libertarian, Maurice Newman (Friedman and Friedman 1998). According to the Preface to *Milton Friedman in Australia 1975*, the purpose of the Friedman visit was to ‘heighten public awareness of the dangers of inflation and to point to possible cures consistent with the maintenance of individual liberty and free enterprise ... By any standard, Professor Friedman’s visit captured the imagination of the Australian people, achieving beyond expectations the aims of the sponsors’.

Friedman lobbied all three intersecting markets discussed in this paper. At the time Australia was experiencing an inflation rate of 16 per cent (Friedman 1975a, p 35). Friedman visited the RBA (Schedvin 1992) and met all kinds of libertarians, economists, officials and journalists, but did not form a high impression of Australian politicians.<sup>16</sup> David Love (1975, p 31), the publisher of *Syntec*, doubted that the RBA had the ‘political ability, the independence, or the guts’ to introduce a monetary target of 10 per cent per annum. Yet in March 1976, the newly elected Government announced an 11–13 per cent expected target for M3 growth. Thus began a decade of monetary targeting in Australia, which culminated in M3 growing at 17.5 per cent in the year to June 1985, almost double its target range. However, by early 1985, the targeting of M3 was abandoned (Argy, Brennan and Stevens 1990).<sup>17</sup>

Monetarism in Australia rose and fell in a remarkably short period. If the essays in the volume edited by Nevile and Stammer (1972) are an indication of prevailing attitudes of the very early 1970s, then monetarism had made little headway in Australia. Stephanie Edge (1972) concluded that Friedman and Meiselman were leading the profession into ‘an economic *cul-de-sac*’. The RBA may have felt that they were lagging behind other countries: there was ‘no published work on the demand for money in Australia’ (Cohen and Norton 1969). Two international visitors to the RBA sought to integrate Australia into the ‘Great Monetary-Fiscal Policy Debate’. But this research concluded that monetary policy mattered less than fiscal policy and that the Federal Reserve Bank of St Louis monetarist model was ‘strikingly disconfirmed’ (Dewald and Kennedy 1972). Donald Sanders (head of the Securities Markets Department (1970–72), Banking and Finance Department (1972–75) and then Deputy RBA Governor from July 1975) was according to Schedvin (1992) ‘the epitome of the new-style Australian central banker’ with a distinct preference for greater reliance on market mechanisms. In an essay with a postscript written in January 1971, Sanders (1972, pp 166–168) explained that monetarist ‘voices’ had been heard amid ‘theological contentions’. But despite a

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16. Apparently, Gough Whitlam got wind that Friedman was a monetarist after he arrived in Australia (rather late one would have thought) and cancelled the planned meeting. In 1981, Friedman met Malcolm Fraser but did not form a high opinion of his intellect, ‘He was very cold, arrogant, quite uninterested in hearing anything other than an echo of what he himself had said’. Over dinner with some Labor opposition members, Bill Hayden hardly said a word, but Bob Hawke delivered ‘a long and involved statement out of which I could I could make neither hide nor hair’ (Friedman and Friedman 1998, pp 427–433).

17. According to Argy *et al* (1990, p 58), several facts suggested that monetary targeting was ‘at least from the practitioners’ point of view, an appropriate tactical response to a set of circumstances, and not a complete revolution in the execution in monetary policy’.



greater concentration on examining trends in money supply growth ‘we have not opted for steady growth in money supply as a wholly sufficient target’. Sanders added, ‘We are by no means complacent about our philosophy or our practice. We do not conform wholly to any one of the fashionable theologies although we do recognise elements in our own experience supporting particular dogmas. Perhaps this is the worst of all worlds. By refusing to be saved by cleaving to the tenets of one theology, we may go to perdition according to the tenets of them all!’.

Schedvin (1992) records an intellectual revolution within the RBA in the 1960s. The old-style distrust of markets and faith in direct intervention was being challenged. Harry Johnson, then at the University of Chicago and the LSE, played an important role in this process, exercised through his voluminous publications and correspondence, personal visits and through his influence on Austin Holmes, the Head of the Research Department (1966–73 and 1978–81).<sup>18</sup> Holmes and his two successors, Bill Norton (1973–78) and Peter Jonson (1981–87), contributed towards this ‘unmistakable’ and ‘irreversible ... shift towards liberalism’. Stammer, Deputy Chief Manager of the Research Department until 1980, was presumably another contributor. These influences were reflected in the RBA macroeconomic models of the period: Norton led the team which constructed RBA 1, and Jonson and co-workers constructed RBA 76 (Gruen 1979).<sup>19</sup>

Yet liberalism did not initially imply monetarism. The quarterly model of the Australian economy that Norton was responsible for included some price equations. In a progress report on ‘Price Equations for Australia’, money was not mentioned and prices were ‘largely explained by unit labour costs and replacement costs, measures of the pressure of demand upon capacity and where relevant, indirect tax rates’ (Schott and Sweeny 1970).

In ‘The Strategy and Tactics of Stabilisation Policy: A Point of View’. Jonson (1973) made an implicit comparison between high-status econometric models and ‘less objective historical analyses’. Apparently this was a departure from existing RBA practice, as Jonson explained that this research strategy was ‘rather different than is generally proposed’. Methodologically, Jonson was advocating that the RBA follow a world-wide trend (Leeson 1996a, 1996b, 1996c). Robin Marris (1954) described the pre-econometric mode of discourse in the British bureaucracy as ‘making liberal use of one’s pre-conceived ideas, one writes one’s opinion in a few well-chosen words, illustrated by one or two well-chosen tables’. Attempts were made to produce a civil service where everyone was economically literate: ‘*Amateurs on the Retreat*’ as Samuel Brittan (1964, pp 28–30) described it. The economic ‘irregulars’, who steamed into Whitehall in the 1960s, brought with them both a faith in quantitative techniques, plus (what appears to have been) a thinly veiled contempt for public servants who were not as statistically literate – ‘a limited “absorptive

18. According to Charles Kindleberger (1976, p 29), flexible exchange rates were synonymous for Chicago economists with ‘God’, and Johnson, a Canadian, was the Archbishop of Canterbury.

19. Jonson and Trevor (1979) reported that ‘controlling the growth of money in RBA 79 substantially reduces the level and variability of inflation in the medium and long run’.

capacity” (Seers 1968; Opie 1968; Balogh 1959). This can only have profoundly changed the nature of discourse amongst policy-makers.

Michael Stewart (1967, pp 168, 198), described how econometric models were used to support various arguments, ‘a series of complicated econometric models was shoved under the noses of ministers and civil servants who, perhaps because they were unable to understand them, were visibly impressed’. In consequence, ‘statistical theology’ acquired the ability to out-trump other modes of persuasion (Brittan 1964). This multiplication of data, combined with the tendency to seek consensus, became part of the new tone of economic policy. According to Brittan (1964, p 46), ‘The differing “schools of thought”, which were such an exciting feature of the Treasury in the 1950s, are now strongly discouraged. Those sharp contrasts of opinion, top Treasury men now say, reflected mainly a lack of hard information’.

Under ‘Strategy: What we do know’, Jonson (1973) stated that Friedman and Schwartz (1963) had ‘clearly established’ that causality ran primarily from money to prices and that a constant monetary growth rule would have prevented the rise in the US money policy in the 1960s and would have prevented policy from exacerbating the Great Depression. The ‘major point’ that emerged from ‘our positive knowledge of the workings of the economic system’ was that to control inflation, it would be necessary to expand the rate of growth of the money stock at a rate ‘determined by the growth of “full employment” demand’ for money ‘at current inflation rates’.

Jonson’s reference to ‘positive knowledge’ presumably reflects, directly or indirectly, the hegemony of Friedman’s (1953, pp 157–203) methodology of positive economics. Later, in his *JPE* ‘standard monetarist model’ of British ‘Money and Economic Activity’, Jonson (1976) specifically invoked Friedman’s ‘*as if*’ methodology. Presumably impressed by the methodology reflected in the empirical evidence that he had been reviewing, Jonson called for the RBA to emulate this methodology, ‘What is required is more thorough and sophisticated studies of economic fluctuations, preferably in the relatively objective framework provided by a well specified econometric model’.

Keynes (1936) introduced some non-Euclidean arithmetic to explain the magic of the multiplier ( $5.2 + 0.1 = 6.4$ ).<sup>20</sup> RBA economists added up the sum of the coefficients on their two price terms ( $0.674 + 0.280 = 0.954$ )<sup>21</sup> to derive the conclusion that there was ‘no long run trade-off between the rate of inflation and the state of the labour market in Australia’ (Jonson, Mahar and Thompson 1974). Parkin was thanked for providing this conclusion which they regarded as ‘the most impressive feature of these results’, which, judging by the pre-Parkin draft, they had previously failed to derive (Gruen, Pagan and Thompson 1999). A contemporary paper on ‘Inflation: Prices and Earnings in Australia’ (which had been ‘originated’ by Parkin during his visit) also used the same adding-up technique to conclude that

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20. Keynes argued that with employment at 5.2 million, if the government employed an additional 100 000 on public works, total employment would rise to 6.4 million.

21. That is, close to unity.

‘Australia does not have a long run trade-off between inflation and unemployment’ (Boxall and Carmichael 1974).

Jonson (1973, p 2) noted that ‘as recently as 1968, Friedman was still thinking in terms of relatively slow adaption of expectations, although recent work suggests that price expectations adjust much more rapidly’. Citing Parkin, Jonson concluded that there was ‘really striking empirical evidence’ which demonstrated that there was ‘no trade-off between wage inflation and unemployment in the relatively short run’. This influence was captured in RBA 76 in which ‘adjustment speeds, are in general faster than those usually obtained in the RBA 1 model ... These results imply that economic agents adjust more quickly than often believed ... the results indicate a larger short-run impact for monetary policy, and in particular the supply of money relative to demand, than is usually believed. While this result may be somewhat controversial, the various lags involved appear likely to give a time profile of price and output response to monetary disequilibrium consistent with that obtained by Friedman and others using more informal methods’ (Jonson, Moses and Wymer 1976).

Parkin provided the ‘first serious attempt to deal with the trade-off question in an Australian context’ (Challen and Hagger 1975; McDonald 1975). Parkin’s (1973) point estimates gave rise to a ‘meaningless value’ for the natural rate. Nevertheless, Parkin concluded that ‘the regression results tell us that it [the natural rate] could be as low as 1.5 per cent’. It also seemed ‘inconceivable that the natural unemployment rate could be as high as two per cent’. Thus the most precise estimate was that it lay between 1.5 per cent and 2 per cent.

Challen and Hagger (1975) noted that because of Parkin’s ‘distinguished’ status they thought it likely that his conclusions were ‘likely to be accepted somewhat uncritically’. However, although his study was ‘far in advance of all previous contributions’, Parkin had neglected to provide information about either his method of estimation or his method of correcting for first order autocorrelation. The results offered ‘no real support’ for Parkin’s argument about the absence of a long-run trade-off (see also Hagger (1978)). McDonald (1975) concluded that none of Parkin’s estimation procedures were valid.

In reply, Parkin (1976) felt that his no trade-off conclusion had emerged in a ‘strengthened’ position from the exchange. Parkin offered a ‘feel’ for the upper limit of the natural rate at 3.4 per cent for the 1973–75 period, with a more likely guess at around 2.5 per cent. The implication of Parkin’s analysis and his Phillips curve diagram was that between 1974:Q1–1975:Q3 the Australian economy was successfully undergoing disinflation at which point it had reached ‘a peak (?) unemployment rate’ at just below 5 per cent. Since 1973:Q3–1975:Q3 constituted ‘roughly an upper semi-circle ... half a cycle of post-1973 sample experience’ this implies another two years for a full cycle. Thus if disinflation were continued a rapid return to 2.5 per cent unemployment could, presumably, be expected by 1977.

As it turned out unemployment more than doubled over the following eight years (Borland and Kennedy 1998). During a second visit to the RBA in 1977, Parkin contributed to the ‘Unemployment: an Econometric Dissection’ project which was designed to be fed into RBA 76. The authors noted that the ‘deterioration in the

labour market since the middle of 1974 has been severe in comparison with previous post-war experience'. The 'main conclusion' was that 'the large wage rises of the 1970s have been a major cause of the present levels of unemployment .... The most notable of these changes was the explosion in average earnings in 1973 and 1974' (Jonson, Battellino and Campbell 1978). Parkin (1976) had noted these developments earlier and this led him to conclude (amid 'the most serious 'stagflation' in Australian history and one of the worst in the contemporary world') that the natural rate had increased.

Parkin (1976) emphasised that the 'lack of robustness' in his results 'will only be overcome when someone develops a model which explicitly handles *variability* in the natural rate' [emphasis in text]. Many such econometric exercises followed. One research project found that the natural rate averaged 0.62 per cent between 1968:Q1–1973:Q4, jumping almost tenfold to 5.68 per cent between 1974:Q1–1980:Q4. At that rate of increase the natural rate would have exceeded 100 per cent by the end of the 1980s. Fortunately, it only doubled (almost) to 9.52 per cent between 1981:Q1–1986:Q4, before rising to 12.5 per cent in December 1993 (Ooi and Groenewold 1992; Groenewold and Hagger 1998).

In the process, what was revealed was that econometrics offer innumerable methods of estimating a wide variety of labour market series and that attaching the term 'natural' is privately optimal for the researchers but potentially hazardous for policy-makers. The natural rate framework is an econometric gold-diggers' paradise, and some of these series appear to illustrate Hendry's (1980) reference to 'econometric fools-gold'. Some natural rate series also appear to illustrate Keynes' objections to econometrics: one of 'those puzzles for children where you write down your age, multiply, add this and that, subtract something else, and eventually end up with the number of the Beast in Revelation' (Keynes 1973, p 310). It was these kind of fears that led Keynes to oppose Formalism (Leeson 1998d).

One possible conclusion is that renewed econometric fundamentalism is required. Asymptotically, the truth will be reached by greater econometric sophistication. Alternatively, econometrics can be seen as *one method* of providing insights – along with many others, including the dynamic analysis suggested by this essay.

It may be that stable economic relationships are cursed by Goodhart's Law or that financial deregulation was largely responsible for the failure of monetary targeting (Jonson and Rankin 1986).<sup>22</sup> An alternative conclusion is that faith in monetary

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22. Jonson and Rankin (1986) concluded that 'monetary models based on simple aggregative relationships are not well-equipped to analyse issues of structural change. Monetary policy has been forced to rely more on "judgement" and less on the application of these models and their suggested policy rules. One obvious example of this is the demise, or at least downgrading, of monetary targets in major western economies'. They also argued 'that much of the policy prescription of monetary economics – especially reliance on monetary targeting – depends on simple "stylised facts" about the behaviour of regulated economies. These prescriptions cannot therefore be applied directly to economies where the regulatory structure is changing. Policy approaches such as Australia's current use of a "check list" of indicators are discretionary to the extent that they involve judgements about the relative importance of different indicators. But it is argued that this discretionary approach develops, rather than overthrows, the previous approach'.

targeting was derived from an unwarranted faith in the underlying statistical evidence. Laidler (1986), analysing the ‘popular disenchantment with “Monetarism”’, noted that ‘too many people forgot about the error term’ and that ‘economists overlooked the role played by institutional change in generating’ their results. Laidler also identified an econometrics-induced fundamental error in the ‘myopia’ associated with ‘going from the econometrics of the demand for money to its policy application’. It seems likely that there were other MYOPPPIC forces at work as well.

#### 7.4 Monetarism dynamically analysed

According to Argy *et al* (1990) ‘The conceptual case for monetary targeting has its roots in the call for a monetary rule – low, stable growth of the money stock – made by Friedman (1960)’. Dynamic analysis reveals that this case was made in the 1930s by Friedman’s Columbia teacher, James Angell (1936, 1941). Angell (1936, pp 144–145) plotted ‘National Income and the Stock of Circulating Money, Annually: 1909–1932’, concluding that his chart ‘forcefully demonstrates the actual closeness of the statistical relation, on an annual basis, between national money income and the stock of circulating money’.<sup>23</sup>

Before Friedman (1975a, pp 55–56) left Chicago for Sydney, he ‘rather hastily’ plotted the Australian CPI against M3 for June divided by GDP for the succeeding fiscal year, adding that he was sure that the RBA had better data and ‘will improve on the chart’. The purpose of the chart was ‘simply to drive home the point that the proximate cause of continued inflation is always, and everywhere, a more rapid increase in the quantity of money than in output’. Likewise, the clinching chart in Friedman and Schwartz’s (1963, p 678) *Monetary History* plotted ‘Money Stock, Income, Prices and Velocity 1867–1960’, which showed that ‘of relationships revealed by our evidence, the closest are between, on the one hand, secular and cyclical movements in the stock of money and, on the other hand, corresponding movements in money income and prices’. The essence of Friedman and Schwartz’s (1963) message was that ‘the velocity of money, which reflects the money-holding propensities of the community, offers another example of the stability of the basic monetary relation ... In response to cyclical fluctuations, velocity has shown a systematic and stable movement about its trend’.

In his contribution to *Taxing to Prevent Inflation*, Friedman (1943) began with the statement that inflation was not always and everywhere a monetary phenomena but that “‘Inflation’ has its genesis in an increased volume of spending by consumers, business, and government’. No attempt was made to ‘distinguish among different types of price rises’. Friedman discussed four approaches concluding that ‘none of the theoretical structures that implicitly or explicitly underlie these alternative approaches is entirely satisfactory or generally acceptable’. The first of these four approaches (to which Friedman devoted eleven pages) was based on the Quantity Theory. Friedman (1943) complained that Angell had plotted national income

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23. I am grateful to David Laidler for alerting me to Friedman’s discussion of Angell’s work.

against the stock of money. This ‘seriously misrepresented the relationship between year-to-year changes in the two variables ... The long-time upward trend of both national income and the stock of money is bound to give a close correlation between the two totals, no matter how loose the relation between year-to-year changes in them’. Friedman (1943) also complained that Angell had made the basic assumption that ‘the marginal circular velocity of money may be considered as fairly stable’. Friedman complained that in reality the year-to-year changes between national income and the stock of money was ‘extremely unstable’.

An RBA empirical analysis of the weakness of the relationship between money and income referred to the ‘pedigree’ of such theories, ‘One of the most enduring analytical devices in macroeconomics has been the aggregate money demand function’ (de Brouwer, Ng and Subbaraman 1993). Friedman (1956) launched the monetarist counter-revolution accompanied by the assertion that ‘Chicago was one of the few academic centres at which the quantity theory continued to be a central and vigorous part of the oral tradition throughout the 1930’s and 1940’s’. Friedman sought to ‘nurture’ the revival of the quantity theory of money by linking it to this Chicago ‘oral tradition’. According to Friedman, the ‘flavor’ of this oral tradition was captured in a model in which the quantity theory was ‘in the first instance a theory of the demand for money’. Friedman added that to ‘the best of my knowledge no systematic statement of this theory as developed at Chicago exists, though much of it can be read between the lines of Simons’ and [Lloyd] Mints’s writings’. Knight and Viner were also commandeered ‘at one remove’ in support of Friedman’s Chicago lineage.

Don Patinkin (1969) and Stanley Fischer spent the best part of the year following Friedman’s AEA Presidential Address examining the assertion and revealed (to their own satisfaction) that it lacked factual foundation (Leeson 2000d). For example, Simons (1948, p 340) stated that ‘empirical evidence as to secular increases in the demand for money or liquidity is, however, a precarious basis for long term policy’. Knight (1964) explained that he specifically objected to the ‘whole project of making monetary theory the centre and starting point of systematic economics’. Knight’s chief grounds for disagreeing with the Keynesian theory of money was that ‘supply and demand curves for “liquidity” have no solid foundation and are not a solid basis for action but are “theoretical” in the bad and misleading sense’ (Knight 1964, p xlv). Knight (1941) objected ‘that a monetary theory of interest should be defended by economists of repute is especially mysterious in view of the facts, which are directly contrary to what the theory calls for’. Knight (1941) explained that ‘the monetary system can never be made automatic. An approximate constancy in general prices, or in the relation between product prices and wages, can in the nature of the case be achieved only by deliberate action, based on constant attention, correcting or offsetting incipient tendencies to expansion or contraction’.

Simons also argued that ‘the objective of monetary policy should now be conceived, we insist, in terms of the volume of employment’ (Phillips 1995, p 52). Simons (1948, p 117) maintained this position, ‘the main objective in national (and supranational) policy, of course, must be adequate and stable employment’. In contrast, the defining characteristic of Friedman’s (1968a) monetarism was that such

an objective was ‘like a space vehicle that has taken a fix on the wrong star’. Friedman also stated that attempts to ‘control directly the price level’ were ‘likely to make monetary policy itself a source of economic disturbance’. In contrast, Simons (1948) suggested that a ‘rule calling for stabilisation of some inclusive commodity-price index – and, I should urge, at its present level – offers the only possible escape from present chaos and the only promising basis for a real monetary system in the now significant future’. Friedman (1967, pp 3–4) ‘disagree[d] so completely with [Simons’] proposals for reform’ based as they were on a price-index rule.

In his contribution to the rules versus discretion debate Viner (1962) concluded that it was impractical to conduct monetary management ‘in conformity with a “rule”’, in part, because in the US ‘the degree of decentralisation of direct and indirect control over the quantity and velocity of money, as well as of official powers to influence the supply of near-moneys and their velocities, is nothing short of fantastic’. Viner followed Simons in preferring the ‘flexible rule’ and ‘judgement’ associated with a price-level goal, brought about by variations in the money supply. Indeed, the bulk of Viner’s paper was a highly critical commentary on Friedman’s  $x\%$  money growth rule. Viner could not ‘exorcise’ from his mind Friedman’s ‘faith’ and ‘claims’. In Friedman’s analysis ‘an improbable constancy is being projected into the future ... Staking our future on present prophesising seems a high price to pay for escaping from the bondage of a discretionary authority’.

George Tavlas (1998a) believes that he has located decisive evidence in favour of Friedman’s position regarding the ‘immun[ity] from the Keynesian revolution’ which was provided by the ‘policy framework’ embodied in ‘a unique Chicago quantity-theory tradition in the early 1930s’. Thus according to Tavlas (1998b) ‘at a minimum, the Chicago faculty seemed to believe that these elements added up to a cohesive and unique oral tradition’. One of the elements of this ‘unique oral tradition’ was ‘support for 100 per cent reserve requirements for banks ... that was known as “The “Chicago Plan” of Banking Reform (Hart 1934–35)’.

Frederick Soddy was a Nobel laureate (in Chemistry) and the modern author of what became known as ‘The ‘Chicago Plan’ of Banking Reform’ (Leeson 2000e). An asymmetrical hysteresis explanation underpinned part of Soddy’s (1933, p 175) objection to the quantity theory which ‘works beautifully *one way* [emphasis in original]’. Increasing the quantity of money would in the short-run increase wealth but in the long-run increase prices alone. Reducing the quantity of money would permanently reduce ‘virtual wealth’. Thus Soddy (1934, p 100) explained that ‘it is not necessary to consider this old “quantity theory” of money farther than this, because enough has been said to show that it really is a fraud’. But regrettably, when contemporary economists place the Quantity Theory in an historical context, this typically involved a compulsory reference to David Hume, with Irving Fisher and Keynes’ *Treatise on Money* tacked on for the appearance of greater erudition.

Old Keynesians found that estimated Phillips curves were not as reversible as they had hoped. A profound asymmetry undermined the attractiveness of the high inflation Phillips curve trade-off: it is easy to travel a long way up the curve, it is not

so easy to travel down the same curve. A similar asymmetry undermines monetary targeting. The strength of the statistical relationship between increases in the money supply and increases in the price level reveals little or nothing about the strength of the relationship in reverse. Likewise, there is a major difference between monetary expansions, which can be met in the short run by firms increasing their capacity utilisation, and large reductions in the rate of growth of the money supply, which cause some firms to close down. Had policy-makers examined the dynamics of the literature on the Quantity Theory they would have found many references to this asymmetry. But typically they did not.

## **7.5 Why was monetarism always and everywhere controversial?**

The MYOPPPIC content of Monetarism was enormous. For decades macroeconomists and econometricians made statistical comparisons between Keynesian and monetarist models without apparently being aware that Friedman had predicted that such regression races could only end inconclusively. As a paradigmatic challenger, all Friedman had to achieve was an honourable draw – this was sufficient to undermine faith in the existing hegemony. The perception that estimating money demand functions was keeping alive the interwar Chicago flame of liberty must have added enormous momentum to the post-war Chicago cause.<sup>24</sup>

Although monetarists were not a completely homogenous group,<sup>25</sup> they typically sought the same objectives as most economists: low inflation, high productivity and low unemployment. However, they were perceived as pursuing a far wider agenda, which accounts in part for the animosity generated towards them. Since this agenda is unfinished it is worth examining the MYOPPPIC content of monetarism which still lurks behind current policy discussions and still generates, for some, a high Z/H ratio.

Faith in socially productive government expenditure, financed in part by taxes to eliminate privately frivolous expenditure, was an integral component of Keynesian paradigm. Thus Alvin Hansen (1960), the American Keynes, noted in ‘The Soviet Economic Challenge’ that ‘it must become clearer day by day to any reasonable observer of the American scene that the marginal tax dollar has currently a much

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24. For example, Sargent and Wallace (1976) referred to the ‘monism of monetarists’ and Robert Barro (1998, p 6) explained that Friedman was transformed from ‘pariah to priest’. So potent was this tradition that many others ‘picked up the Chicago business by osmosis’ (comment by Robert H Bork (Kitch 1983, p 196)).

25. During his visit to Australia Friedman (1975a, p 32) reiterated that he was ‘strongly opposed to independent central banks’. In contrast, Parkin was strongly in favour (Leeson and Parkin 1993). Johnson was an international monetarist and when outside Chicago tended to be a domestic monetarist as well. Yet he was highly cynical about Friedman’s counter-revolution. Laidler and Johnson strongly dissented from Friedman’s assertions about the Chicago oral tradition; Parkin supported Friedman in this regard (Leeson 2000c). But those who opposed monetarism behaved like opponents and thus made Friedman and his followers more attractive to politicians such as Thatcher and Reagan.



higher social utility than the marginal pay-envelope dollar. The former goes into schools; the latter into tail fins'. DOCTOR Hansen wished to integrate trade unions into the decision-making process and this led some dominant American Keynesians to display a tolerance of inflation that was in direct contrast to their stated views of a few years previously (Leeson 1997c).

In contrast, monetarists typically sought also to undermine the monopoly power of producers and trade unions. Indeed, the abolition of trade unions was also implicitly required (Friedman 1951).<sup>26</sup> DOCTOR Simons (1948) was alarmed about the 'corruption and dishonesty' of 'bandit armies' led by labour leaders, 'Communists are out to destroy capitalism; unions are out to destroy competition in labor markets'. His primary concern was to seek to prevent 'other organisations from threatening or usurping [the state's] monopoly of violence ... Trade-unionism may be attacked as a threat to order under any system'. This was because they enjoyed 'an access to violence which is unparalleled in other monopolies'. This violence would culminate in 'the total reconstruction of the political system'. Unions rested 'basically on rejection of free pricing in labor markets'.

Thus we have an ongoing MYOPPPIC dispute pitting trade unions against central bankers: cloth caps versus top hats and tail fins. The RBA has been associated with the conclusion that the 'real wage gap' (a measure of the growth of real labour costs relative to product per employee) is inversely related to the profits ratio. Moreover, 'low (high) levels of profitability – whether measured by the profits ratio or the real wage gap – tends to be associated with slow (fast) increases in production'. Thus employment prospects were dependent on maintaining profitability. Equally, 'policies for major shifts in factor shares' were hazardous for employment. Mentioned in this context was the June 1975 boast made by Clyde Cameron, the Minister for Labour, about the 'massive redistribution of income in favour of labour' that had just been accomplished through government support for wage rises, equal pay for women, new benefits for employees, maternity leave and annual leave payments and the operation of the Prices Justification Tribunal (Norton and McDonald 1983). This litany of 'permissiveness' also figured in Jonson and Taylor's (1977) analysis and in their conclusion that 'it could be argued that considerable responsibility for increased inflation and economic instability be attributed to the failure of Australia's economic policy to sufficiently emphasise monetary growth rates as crucial indicators of the stance of policy'.

Three members of the RBA Research Department also concluded that the Arbitration Commission was largely passing on past or expected price changes and thus was not useful with respect to an incomes policy (Jonson, Mahar and Thompson 1974). In a critique McDonald (1976) detected Parkin's influence and complained that the research strategy followed 'tends to induce bias in favour of

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26. In a conference on trade unions Haberler (1951, p 239) appeared to get to the heart of Friedman's paper by stating: 'if you say the union is not worth while because wages would rise anyway to the same level, then I say "Let's abolish them"'. To which Friedman (1951) replied: 'I don't disagree with that'.

prior beliefs ... Indeed, there is a danger that the method may merely reduce to a highly sophisticated procedure for 'confirming' our preconceived notions'.

When Friedman (1975a, pp 17, 34, 37) came to Australia he clearly outlined the fears which underpinned his objection to inflation, 'the more fundamental source of inflation in all our countries and of our economic difficulties has been the change in philosophy that occurred some time in the 1930's and earlier away from the belief in an individualistic society and toward a belief in the welfare state'. The electoral unpopularity associated with raising taxes made the 'hidden tax of inflation an ever more attractive strategy'. The subsequent attempts to repress inflation by price fixing 'produces a distortion in the price system' and destroys democracy: 'what really destroys the democracies ... are the controls and repressions that are introduced in the face of those high [above 25 per cent annual] inflation rates'. Increasing the share of 'G' in national income was 'what is really doing the harm. The inflation is only compounding the harm'.

According to a survey article co-written with two RBA economists, there was 'more than a hint of an implicit discipline on fiscal policy' involved in at least some countries (Argy *et al* 1990). There is also more than a hint of this in Friedman's work. During his second visit to Australia, Friedman (1981) explained that the counter-revolution which propelled monetary targeting into policy-making was 'fundamentally about the role of government and that has been reflected in turn in the extent of taxation and the emergence of inflation. The whole question has been: What is the appropriate role of government?'. Friedman favourably cited Colin Clark's estimate that when taxes exceeded 25 per cent of national income the process would tend inevitably to produce inflation. Thus inflation, unemployment and slow growth were the inevitable consequences of the expansion of government.

Friedman (1975a, pp 33, 60–61, 64, 79) quite properly described the social costs of anti-inflation as part of the social cost of the initial inflation. Trade unions, he argued, did 'a great deal of harm', but they could not cause inflation. The potency of the message was that 'The cure for inflation is very simple ... The problem is not how to stop inflation, the problem is to have the political will to stop inflation'. The origins of inflation lay in government attempts to spend their way to full employment. Continuing with the welfare state would push Australia further down the path to an Argentinian outcome. The choice lay between accepting inflation which would destroy democracy as it had in Chile and was 'on the verge' of doing in Britain. Either way unemployment would result: today or tomorrow. The sooner anti-inflation was initiated the smaller would be the associated unemployment. The unemployment cost would be temporary until delusion was dissipated, 'until people accept the fact that the rate of price rise has come down and adjust their expectations'. Underpinning his analysis was the belief that velocity was 'a reasonably stable magnitude'.

Thus a technical econometric debate about the relationship between money and prices became inextricably tangled up with a debate about the desirability of equal pay for women, the welfare state and the survival of democracy and civilisation. Opponents of monetarism saw Chicago influences at work in the Chilean dictatorship that had overthrown democracy and imprisoned and tortured trade unionists and

dissidents. They looked through the ‘veil of money’ and saw a determination to reduce wages, destroy trade unions and create a more unequal distribution of income. It was believed that a Reserve Army of unemployed was being created by a Reserve Bank.

One of the lessons of Bretton Woods is that the critical faculties of central bankers can become captive to their institutional affiliation. In the 1960s, if one wanted to guess the views about exchange rate systems held by identical twins (identically talented, identically trained as economists), one employed by the IMF, the other in the academic sector, the best predictor would be a dummy reflecting institutional employment.

From at least 1973, there has been a tradition of trade union involvement in RBA deliberations via membership of the Board. Bob Hawke (1994, p 81) found the experience most educational. One lesson that emerges from contemporary macroeconomics is that MYOPPPIC forces can gather momentum and that dissenting voices object to being excluded from the decision-making process. No institution has a monopoly of economic wisdom and no group of economists have an unblemished forecasting record. It would be unfortunate for macroeconomic stability if the end result of the experiment with RBA independence were undermined by a perversion of Friedman’s perception that monetary policy was ‘too important to be left to central bankers’ and that monetary policy should be governed by the dictates of the political business cycle.<sup>27</sup>

## 8. Macroeconomic Continuity

It is possible to represent the model underlying the *General Theory* as a horizontal or very flat Phillips curve (in price level-unemployment space) up until the point of full employment (‘true inflation’) at which point the curve becomes vertical and the Quantity Theory of Money becomes valid (Keynes 1936, p 303). Keynes’ objective was to manipulate aggregate demand so as to reach the point of full employment through *reflation*. By definition there would be no benefit to be derived from traversing the vertical section of the curve since only *inflation* would result. In this sense there is a Phillips curve lurking in the *General Theory* but not the view that ongoing inflation or high levels of unemployment should be tolerated (Leeson 1999a).

In May 1952, Phillips provided Friedman with the adaptive inflationary expectations formula which was later used to undermine the theoretical validity of the high inflation Phillips Curve (Leeson 1997d, 1999b; Cagan 2000). In outlining the theoretical expectations-augmented Phillips Curve, Phillips ([1954], pp 153–156; see footnote 4 for an explanation of this notation) stated that flexible prices were integral-type forces and he demonstrated the alarming consequences of

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27. One institutional solution to this potential MYOPPPIC dispute is for the RBA to play a role similar to that played by the Industrial Relations Commission. At regular intervals the RBA could invite submissions from interested parties (business sector economists, trade unions and the government) and solicit inputs from economists in the academic and financial sectors.

integral-type policies generating a ‘dynamically unstable’ system. The final and most crucial sub-sections of Phillips’ stabilisation model were ‘Inherent Regulations of the System’ and ‘Stabilisation of the System’ which began with, ‘some examples will be given below to illustrate the stability of this system under different conditions of price flexibility *and with different expectations concerning future price changes*’ [emphasis added]. The theoretical Phillips curve was then tested against a variety of scenarios: inflationary expectations being a crucial factor in determining whether the system has satisfactory outcomes or not, ‘demand is also likely to be influenced by the rate at which prices are changing, or have been changing in the recent past, as distinct from the amount by which they have changed, this influence on demand being greater, the greater the rate of change of prices ... The direction of this change in demand will depend on expectations about future price changes. If changing prices induce expectations of further changes in the same direction, as will probably be the case after fairly rapid and prolonged movements, demand will change in the same direction as the changing prices ... there will be a positive feed-back tending to intensify the error, the response of demand to changing prices thus acting as a perverse or destabilising mechanism of the proportional type’.

The conventional view is that Phillips offered the prospect of a permanent trade-off anywhere along his curve. But for this one-zone interpretation to hold, Phillips must have concluded that *any* configuration along his British curve (from 32 per cent wage inflation to 22 per cent unemployment) represented a permanent and stable trade-off. Since no economist would suggest that exchange rate fixity combined with an inflation rate twenty times higher than one’s trading partners would produce a stable policy environment or extraordinarily low rates of unemployment, this conclusion would have placed Phillips in a professional minority of one. By a continuity argument, if it is accepted that Phillips did not suggest that 32 per cent wage inflation was sustainable, there must be some limit to the amount of inflation that he did think was sustainable. According to his writings, that limit was about 2–3 per cent price inflation.

Phillips ([1962], pp 207–208) accompanied his analysis with the warning that post-war employment had been ‘extremely high’, with price inflation averaging 3.7 per cent.; ‘there would be fairly *general agreement* that this rate of inflation is undesirable. It has undoubtedly been a major cause of the general weakness of the balance of payments and the foreign reserves, and if continued it *would almost certainly make the present rate of exchange untenable* [emphases added]’.

Phillips ([1961], p201; [1962], pp 218, 220–221; [1958], pp 258–259) divided his curve into three zones and stated that he was only ‘interested’ in the low to zero inflation range: the ‘compromise solution’. In addition to the trade-off or ‘compromise’ (C) zone, which Phillips suggested was available to policy-makers, there were, in Phillips’ RI-C-CU curve, two other dysfunctional zones of runaway inflation (RI) and ‘catastrophic’ unemployment (CU), neither of which were on the contemporary policy agenda. Phillips ([1962], p 220; [1968], p 468) wrote almost nothing about ‘catastrophic’ unemployment, but it is implausible to suggest that he regarded 22 per cent unemployment as a sustainable equilibrium position. The same logic applies to the inflation-devaluation zone, described by James Meade as the ‘runaway

inflation' zone: 'I am quite certain that Bill was very conscious of the limitations to which you could reduce the level of unemployment without incurring a runaway inflation' (Leeson 1994).

Thus the section of his curve which was available for a policy trade-off was almost identical to the section of the Phillips curve that is now targeted in Australia: 2–3 per cent over the course of the business cycle. It is inconceivable that economists could have taken Phillips seriously if he had been advocating permanent non-trivial inflation differentials under a fixed exchange rate regime which allowed for very occasional adjustments. But Phillips' advice was taken seriously. In 1959, Phillips was a visiting adviser to (what became known as) the RBA (Schedvin 1992, p 206). His personal influence was regarded by the Governor of the Bank as 'especially important' (Coombs 1981, p 138). HC Coombs' commentary on economic policy was consistent with Phillips' stated position. The year before Phillips' visit, Coombs (1958) reflected that 'the task facing monetary policy was to determine at what point the rising levels of activity were becoming inflationary and to prevent inflationary conditions emerging'. Coombs defined those 'inflationary conditions' as 'a fall in industrial efficiency' plus 'the steady attrition of our international reserves'. Suggesting that 'we might borrow from the engineers the "feed-back" principle', Coombs indicated that one of the objectives was to 'guard against the slow depreciation of the value of the currency which comes from a persistent upward trend in prices'. In the year of Phillips' visit, Coombs devoted his ANZAAS Presidential Address to 'A Matter of Prices' (Coombs 1971). Coombs reminded his audience of his legal requirement to aim for stability in the value of the currency, 'if prices continue to rise – the trend is a serious and growing threat to the health of our economy'. He rejected the 'specious' argument that prices could steadily rise by about 3 per cent per year, 'the view that rising prices do not matter tends to ignore the international aspects of our economy'. In 'extreme cases of instability ... a variation of exchange rates themselves may occur'. The proposed remedies of 'this cumulative inflationary process ... by themselves will intensify the internal pressure and render internal instability more improbable'; 'a rise in domestic prices and costs ... could nullify to a large extent the advantages derived from the devaluation. The effects of devaluation on the inflow of capital are also uncertain, but they could be serious' (Coombs 1971, p 133).

The only solution lay in bringing 'under control a lack of balance in internal expenditure' (Coombs 1971, p 105). Coombs (1971, p 155) outlined the (accelerationist) expectations critique of inflation, 'to this process there seems no logical end short of complete destruction of the value of the currency'. But according to the one-zone interpretation of his curve, if the RBA Governor had asked how to achieve (under the Bretton Woods system) a permanent rate of unemployment of about 0.5 per cent, then, Phillips would have glanced down at his curve and replied that one of the primary responsibilities of the monetary authorities must be to guarantee a permanent rate of wage and price inflation of 10 per cent per year.

The post-war (left-of-centre) macroeconomic 'consensus' bears a familial resemblance to current (right-of-centre) inflation targeting regimes. The turmoil of the inflationary 1960s and 1970s and disinflationary 1980s impacted more on the

welfare state and the mixture of the mixed economy than on the role allocated to the low inflation Phillips curve. Economists now generally accept that if the inflationary cobra rears and spits then increased unemployment will result. Some, following Friedman, see the increase in unemployment as a temporary disequilibrium phenomenon. Others, following Phillips, have stronger objections to inflation and see the consequences as not so cosy, but as unleashing unpredictable forces. Either way, the current objective of macroeconomic policy is to 'charm' the Phillips curve towards 'full' employment while keeping the 'head' of the inflationary snake in a safe and deferential position. Thus in the 1990s policy-makers have returned to the low-inflation Phillips curve trade-off that Phillips described in the 1950s (see also Gruen *et al* (1999)).

## 9. Concluding Remarks

Four conclusions appear to be warranted. First, the more often an assertion is repeated about the evolution of macroeconomics the more likely it is to reflect conventional (i.e. unexamined) 'wisdom'. Given the sparse and meagre nature of the existing literature about the structure of dynamics in the economics profession, it is hardly surprising that the stories that circulate reflect the foundation myths of those who were responsible for forging the dynamics. When repeating these myths we are of course 'standing on the shoulders of giants'; but in this context most of our giants are DOCTORS.

Secondly, when central bankers and other policy-makers are confronted by apparently novel ideas, they should thoroughly examine the MYOPPPIC momentum that comes attached. The apparent force of the idea and the compelling nature of the evidence provided is often a testament to hidden momentum rather than the suitability of the ideas themselves.

By combining the Quantity Theory relationship between money and prices with the process of shifting a short-run Phillips curve downwards as job seekers became 'less choosy', Friedman found the framework that would undermine the macroeconomics that he feared would be so destructive of *Capitalism and Freedom*. Monetarism had an unparalleled impact, but prior to its era of influence its dynamics were far from adequately examined.

There is no reason to suspect conscious deception in Friedman's counter-revolution. But there was a hint about self-deception in his discussion about William Stanley Jevons' discovery (after a spell in Sydney) of the time lag between money and prices, 'I had thought that I was the discoverer' (Friedman 1975a, p 53). On the frontispiece of *Monetary History* is Alfred Marshall's almost Bayesian instruction that 'Experience in controversies ... brings out the impossibility of learning anything from facts till they are examined and interpreted by reason; and teaches that the most reckless and treacherous of all theorists is he who professes to let facts and figures speak for themselves, who keeps in the background the part he has played, perhaps unconsciously, in selecting and grouping them, and in suggesting the argument *post hoc ergo propter hoc*'. A similar caution may be called for with respect to the selection of theories as well.

Thirdly, econometrics and mathematical analysis as a subset of economics can be insightful; but Formalism can lead to arrogance and naivety. Intellectual high-status economics can be as deluding as the institutional high-status economics was for the Bretton Woods DOCTORS. An exclusive emphasis on model building can distract economists from examining chains of economic reasoning from first principles. Certainly, Tinbergen (1969) in receiving his Nobel Prize wondered whether he ‘should not repeat the famous words by Goethe’s Zauberlehrling ... “the ghosts I called I can’t get rid of now”’. Sometimes indeed some of our followers *overdo* model building’ [emphasis in original].

Finally, this essay has been inspired by Lionel Robbins’ (1976, p 39) reference to ‘the extraordinary provincialism in time of much contemporary professional literature’. This provincialism has not merely impoverished economic thought but has contributed to policy disasters. To avoid future policy disasters we must pay more attention to the dynamics of our own subject and the points of tangency with the policy process.

## **Appendix A: The 1967 Friedman–Roosa Debate**

In the mid 1960s only the traditional solutions were canvassed in official circles; there was almost no discussion of the ‘distasteful’ subject of changing exchange rates (Williamson 1987, p 84). There was an awareness of the existence of a potential shortage of liquidity, ‘a crack in the structure that could require its abandonment’. But Roosa (Friedman and Roosa 1967, p 32) believed that the crack could be patched over not by Friedman’s solution of flexible exchange rates but by an international version of his domestic proposal to expand the supply of money by  $x\%$  per year. IMF credit facilities had (in quantity theory terms) “‘added to the M and the V’ of the world’s monetary system’ (Roosa 1967, p 189). Thus the search for a stable volume of international liquidity was viewed as a desirable international form of the monetarism that Friedman was preaching at a domestic level. Roosa recalled that there was little sympathy for ‘supposed shortcuts to “balance of payments independence”’ (Roosa 1967, pp 26, 28–29; Friedman and Roosa 1967, pp 28, 46). The received view was that any suggestion of US willingness to ‘scrap important pieces of the existing system ... would have brought a deluge of new problems’ (Roosa 1967, p 8).

The central bankers and officials responsible for patching up the Bretton Woods system assumed, with their banker’s mentality, that confidence in the system would be best maintained through stability: that is, if changes in exchange rates were viewed as the ‘last resort’. They believed that they had considered the proposals of even the ‘most extreme critics’ of their evolutionary approach. But until just before the system collapsed they apparently excluded from serious discussion any detailed consideration of the system that ‘they’ would be replaced by, namely, flexible exchange rates (Roosa 1967, pp 4, 29, 261, 268; Friedman and Roosa 1967, pp 87, 90, 98). There was no reference to Friedman and only brief dismissive references to the case for flexible exchange rates in Roosa’s *The Dollar and World Liquidity*. Instead, Roosa wrote of his preference for the ‘secrecy and aloofness’ of the central banker and he disclosed that the White House bureaucrats sought to ‘establish a very tight control over matters that were being considered’.

According to Roosa (Friedman and Roosa 1967, pp 82, 85), if the Bretton Woods system was abandoned, the world would slide down into the abyss of bartering trading blocks. The high-employment domestic ‘truce’ required anti-inflationary guidelines for wages and prices; without the international guidelines of fixed exchange rates ‘the whole system ... would break down into a sequence of competitive devaluations which would create the conditions of bilateralism’. If the exchange rate was free to fall, this would increase import prices and ‘an all-round sequence of other internal cost and wage increases, and the initiation of internal inflationary pressures’ (Friedman and Roosa 1967, p 61). Roosa (Friedman and Roosa 1967, pp 83, 85–86) saw the conflict as a choice between stable or unstable exchange rates and feared that governments, if let loose, would not follow a consistent policy of internal stability.

Friedman had carefully considered both the strengths and weaknesses of his opponents’ arguments and the likely persuasiveness of his assault on orthodoxy. As



always, Friedman's analysis was mixed with perceptive sociological observations about the nature of knowledge construction and destruction in the market place for economic ideas and policy advice. Friedman (1953) noted that the case for flexible exchange rates had been dismissed 'partly because of a questionable interpretation of limited historical evidence'. Flexible exchange rates had been ruled out as a result of an intellectual agreement between 'a curious coalition of the most unreconstructed believers in the price system, in all its other roles, and its most extreme opponents': the 'traditionalists' for whom internal policy was determined by the discipline of the gold standard and 'the dominant strain of reformers, who distrusted the price mechanism in all its manifestations'. The 'political reluctance to use changes in exchange rates ... reflects a cultural lag ... it is a consequence of tradition and lack of understanding'.

Friedman jangled the nerves of those involved in patching up the Bretton Woods system at a time when the patching up was as unglamorous and as unsuccessful as attempts to control domestic wage and price increases. The orthodox pursuit of greater international liquidity was 'the standard answer of the man who cannot manage his affairs' (Friedman 1969, p 4). Friedman (Friedman and Roosa 1967 pp 14–16, 79) mocked the Bretton Woods 'veterans' who undertook the 'herculean' labour of restraining market forces, and sarcastically referred to the 'grave problems' and 'frantic scurrying of high government officials from capital to capital ... one of the major sources of the opposition to floating exchange rates [is that] the people engaged in these activities are important people and they are all persuaded that they are engaged in important activities'. With flexible exchange rates, the international jetsetters who 'man the emergency phones ... could be released to do some truly productive work'. Friedman (1967, p 22) taunted these jetsetters with the jibe that it was simply the 'tyranny of the status quo' and their emotional attachment to the Bretton Woods system which were the real reasons that it was 'very likely' that floating rates would be eschewed. Friedman (1967, pp 72–74) found in his opponents only 'bland faith' and a determination to avoid reality by discussing 'a glittering gold man with only an occasional side glance at reality it conceals ... I rubbed my eyes as I read all of this'. His opponents were setting up 'a straw man, a scarecrow of shreds and patches to frighten children with'.

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