Introduction

> He accumulated a vast and various collection of learning and knowledge, which was so arranged in his mind as to be ever in readiness to be brought forth. But his superiority over other learned men consisted chiefly in what may be called the art of thinking, the art of using his mind – a certain continual power of seizing the useful substance of all that he knew, and exhibiting it in a clear and forcible manner; so that knowledge, which we often see to be no better than lumber in men of dull understanding, was in him true, evident and actual wisdom . . . His maxims carry conviction; for they are founded on the basis of common sense, and a very attentive and minute survey of real life . . .
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> (James Boswell's *Life of Samuel Johnson*, p. 511)

Ben Friedman refers in this volume to Charles Goodhart as the Samuel Johnson of Monetary Policy – and how true a statement that is. The extract quoted above was written by James Boswell of Johnson at the end of his life in 1784 but could equally have been written of Charles's academic career in 2002. Like Johnson, Charles Goodhart has written extensively in many styles and has become synonymous with his subjects of monetary economics and central banking. Although I am not aware that Charles has ever produced a dictionary, he has made substantial contributions to the literature in his field and has on many occasions been the influence that has altered its direction at crucial junctures. He has also been a helpful critic and commentator on other authors' work, an encouragement and a source of wisdom to many younger colleagues. He has combined these features with a great deal of wit and amusement, and I am sure Charles would not mind if I continue to quote from Boswell, who states, quite accurately I believe, that 'Though usually grave, and even awful in his deportment, he possessed uncommon and peculiar powers of wit and humour; he frequently indulged himself in colloquial pleasantry; and the heartiest merriment was enjoyed in his company.'

This volume and its companion are a testimony to the high regard and good will that exist among his fellow economists. Not every economist deserves a Festschrift upon retirement from academic life, since a Festschrift is a mark of distinction reserved for the outstanding academics of their generation. It is an indication that they have made a significant contribution to the development and understanding of their subject. The quality of the economist can be judged by the excellence of the contributions, and there is

no doubt that this volume and its companion, that have arisen from a two-day conference held at the Bank of England on 15 and 16 November 2001, have a stellar quality about them. It was a delight to find that the Governor of the Bank of England, Sir Edward George, was able to make time in his diary to open the conference, despite its close proximity to the IMF–World Bank meetings the following weekend. His opening address summed up this point exactly when he said 'I hope the MPC – and the Bank staff who provide us with such wonderful support – will not misunderstand me when I say that I cannot remember ever before having had such a galaxy of academic economist and central banking superstars gathered together under one roof!' As the Governor went on to say 'that is just how it should be as we meet to pay tribute to Charles who has given such a huge amount to his twin professions throughout his working life'.

The comments of the contributors, discussants and members of the audience all confirmed this view. Those who attended the conference were given privileged access to some of the outstanding minds in the vast fields of monetary economics, central banking, financial regulation and exchange rate economics. In view of the outstanding quality of the contributions it was a high priority to make them available to the wider profession. For this reason the original conference papers have been drawn together into two volumes with the help of Edward Elgar, to ensure that they reach a broader group of professional economists, central bankers, academics and students of monetary economics.

It has been difficult to know how to divide up the contributions by the various authors into two volumes. All the chapters refer to subjects that have been major research topics in Charles's wide-ranging portfolio, and all are interconnected. It would have been possible to reorganise the chapters in many other ways, and no doubt there will be some who would wish that chapters on certain subjects had been put in the same volume. Indeed the order of the presentations in the conference was different from the order that the chapters now appear, but the timing of the chapters in the conference was driven by the diaries of many busy people. The printed volume is free from these constraints and we have sought to draw together the chapters that have the most in common with each other. All the chapters highlight the contribution that Charles has made to their field whilst also offering a contribution of their own in terms of a summary of current thinking and insights into the latest controversies. The benefit that this volume offers the reader is a summary of subjects from the full range of modern monetary economics. Hardly a single issue is omitted and all the topics blend the clarity of academic thinking with the practicalities of policy; whether that falls into the realm of central banking, financial regulation or international finance. We encourage the reader to read beyond his

or her own interests and draw the full benefit from this collection of chapters by economists who are eminent in their field. It is to be hoped that the readers will appreciate them as much as those who heard the presentations at first hand.

The first volume contains contributions relating to monetary policy, central banks and financial regulation. The first chapter is by the Governor designate of the Bank of England responsible for Monetary Policy, Mervyn King, with the title 'No money, no inflation – the role of money in the economy'. King begins by showing that the onset of the Great Inflation came about because money was ignored by the economic establishment, and that the reduction of the high inflation was largely attributable to the fact that control of monetary aggregates was put at the centre of monetary policy in the late 1970s and early 1980s. The idea that central banks abandoned monetary aggregates in the mid-1980s is not the truth, however, since as the Governor of the Bank of Canada is quoted as saying 'we didn't abandon the monetary aggregates, they abandoned us'. More recently, King goes on to show the decline in interest in the role money plays in the economy despite the very strong correlation between money and the price level. According to King, the simplistic methodologies employed by some econometricians has not served to shed more light on this paradox. Oversimple models of the relationship between money and inflation can be criticised for their failure to specify the monetary transmission mechanism clearly, if at all. The solution, he argues, to understanding money and inflation does not lie in simplistic reduced forms, rather it lies in opening up a new line of enquiry in which monetary and portfolio theory are integrated. The bridging of the gap between the finance theorist and the monetary economist is a clear area where more work would be illuminating. King conjectures that (a) the fact that transactions costs are important in determining asset prices and (b) that money reduces transactions costs will be two pillars in the new literature that makes the breakthrough between finance and monetary economics. Potentially, this is a new line of research that could reintroduce money into monetary economics of central banking and could reassert that money does matter after all.

The second chapter is by the Deputy Governor of the Bank of Canada, Charles Freedman, who is particularly well placed to discuss the issue of his chapter, namely 'Central bank independence'. Freedman starts by introducing the canonical Kydland/Prescott model of time inconsistency and inflation bias using a social loss function defined as a weighted average of squared deviations of output and inflation from target levels. According to the model, the central bank does not choose a value of inflation equal to the target level because it lacks a precommitment technology in this framework. But Freedman criticises the model on several grounds. First, it

cannot explain how or why we saw high inflation in the 1970s and is essentially 'ahistoric' since it assumes that inflation is endemic even though the experience of the 1950s and 1960s suggests otherwise. Second, the basic assumptions are not applicable in the central banking business and are disconnected from the reality of monetary policy-making. An example includes the assumption that the desired level of output is higher than the full employment level. This is crucial to the model, otherwise we still achieve the first-best solution where inflation is equal to its target even when we do not have a precommitment technology. But this is not the way that central banks operate and Freedman cites a number of prominent senior central bankers who disagree with the basic premises of the time inconsistency model. Helpfully Freedman offers some reasons that support central bank independence without relying on the time inconsistency framework. His arguments are built on three central tenets: that monetary policy involves lags in transmission, that there is considerable uncertainty in the decision-making process, and that monetary policy operates over long horizons – longer, that is, than those of most government horizons. Freedman quotes approvingly two papers by Alex Cukierman presented in recent working papers and conference proceedings that embed these very ideas. It remains to be seen whether these models will begin a shift away from the time inconsistency emphasis towards a more realistic view of the policy-making process in central banking. Ultimately it may offer more secure theoretical foundations for independent central banks.

The final chapter in this group is given by Benjamin M. Friedman of Harvard University entitled 'The use and meaning of words in central banking: inflation targeting, credibility and transparency'. Friedman begins by explaining the reasoning for targeting a nominal variable. Since long-run real outcomes depend on real factors such as preferences and technologies, only nominal values (prices) are dependent on monetary variables. Hence the authorities target nominal rather than real quantities. However, in any discussion on inflation targeting, it is quite possible for the public to conclude that monetary policy-makers have no concern for real outcomes such as output or employment. This is unfortunate since if the monetary authorities only care about inflation, and inflation moves from its target level due to some economic disturbance or policy error, then the authorities will try to bring inflation back to its target immediately, irrespective of the adverse effects such actions will have on real variables. Friedman argues that this is clearly not the case.

Friedman also discusses the related topics of policy transparency and credibility. A commitment to inflation targeting, he argues, achieves credibility 'by keeping out of the discussion those considerations that would reveal that commitment to be qualified', that is, by not even talking about

'real' factors there is little basis for outsiders to doubt the central bank's commitment to achieving its inflation target. In this way he demonstrates that the language of the debate controls first what is said and then what is thought. The use of inflation targeting language draws the central bank fraternity to consider price stability and inflation control, rather than real objectives, as their primary aim. This has certain advantages in defining the purpose of central banks. Friedman concludes by considering the opposing view, questioning whether policy-makers should act in such a way as to disguise their 'real' preferences. Although inflation targeting can achieve credibility and transparency of policy, it hides from the public the policy-makers' 'real' preferences and also fosters the belief that real outcomes are unimportant. This, Friedman argues, is not what monetary policy should be about.

The first discussant of this group of chapters is John S. Flemming, Warden of Wadham College, Oxford. When reviewing King's chapter, he suggests that one can only observe a correlation between money and prices but not (Granger) causality between the two. He argues that while money is driven by nominal income and interest rates, money itself drives nothing at all. The one concession to money, he argues, is that it may be among the choices available as a nominal anchor, which recent history has taught us we need. Flemming's reaction towards the main message of Charles Freedman and Ben Friedman is favorable. The time inconsistency model he regards as highly stylised and unrealistic, and he is prepared to take most of Freedman's reservations on board. Likewise, the verbal theme of Ben Friedman's paper is accepted, although the critique of inflation targeting is stronger than this discussant would be willing to support.

Stanley Fischer, formerly First Deputy Managing Director of the International Monetary Fund and now Vice-Chairman of Citigroup, offers comments on the same group of chapters. Assessing the critique of Charles Freedman, Fischer suggests that the summary of the great inflation tallies with his recollection of events and offers a convincing and rich description of the monetary policy problem. However, he argues that the Barro–Gordon model does what every good model should: it provides the essence of an important problem even if it omits some of the details. With Ben Friedman there is substantial agreement about the problems of conveying concern for inflation and the reality of the output–inflation trade-off in the short-to-medium run. Fischer concludes that it it not clear what should be done about this problem, but the compromises that have been made by prominent central banks seem to be sensible. The main point, he suggests, is that an inflation-targeting framework is the right one for central banks, and precision in this area is worthwhile even at the expense of obscuring the output–inflation trade-off to a degree. Taking Mervyn King's chapter

last of all, Fischer agrees that monetary indicators still have a role to play, although the role of monetary aggregates as guides for policy-makers is receding fast. This, he argues, takes us a long way from the days of 1968 when Milton Friedman lectured the American Economic Association about the importance of monetary magnitudes and the dangers of interest rate rules. The crucial difference these days is that the interest rate is tied to an inflation target as the nominal anchor for monetary policy.

The next three chapters consider monetary policy issues relating to the theory of inflation targeting, the practice of central bank accountability and lastly an overview of monetary policy experience in the United States over the period 1987–2001. The first chapter considers 'The inflation forecast', and is written by Lars E.O. Svensson of Princeton University. He discusses the practical issues surrounding the idea of the monetary authorities targeting the inflation forecast and, in particular, the differences between his views and those of Goodhart. Svensson assumes that the authorities try to minimise some intertemporal loss function, a discounted sum of squared deviations of inflation from target and of the square of the output gap. In this context he argues that central banks behaving with discretion are not prone to 'over-ambitious output targets' exceeding potential output and hence the inflation bias problem arising from the Barro–Gordon framework and the Kydland and Prescott model does not emerge (a point made earlier in the volume by Charles Freedman and Ben Friedman). Svensson argues that the distinction raised by Lawrence Meyer between 'hierarchical' and 'dual' mandates for central bankers is mute in these circumstances and is a misunderstanding of flexible inflation targeting. The sticking point with Charles in the business of inflation forecasting in practice is whether a specific loss function should be specified and whether a constant or a time-varying interest rate forecast should be used. Goodhart has two arguments against a specific loss function based on the problem that it may 'abrogate the right to select its own (short-term) goals' and because he believes it to be difficult for the monetary authorities to agree on the functional form of the loss function, due to changing membership of the MPC over time for example. Svensson believes that the Bank of England Act 1998 is 'completely consistent' with an explicit statement on the loss function, which could be reviewed by the Chancellor in any case, and could be agreed between MPC members in the same way that forecasts and minutes are hammered out before publication. Svensson argues that a quadratic loss function has the great advantage of symmetry and simplicity since it amounts to the choice over a single parameter (the relative weight between inflation and output). Practical implementation of such a policy would involve the MPC staff generating feasible inflation and output gap paths and choosing the one that 'looks best', that is, one that returns inflation to

target and output gap to zero in a 'reasonable' time frame, so minimising the intertemporal loss function. This will then generate an optimal targeting rule. Svensson therefore suggests that a time-varying interest rate path could and should be implemented, as opposed to Goodhart who believes there to be no better alternative to a fixed interest rate rule due to the difficulties of implementing such a time-varying policy.

The second chapter, given by Adam S. Posen of the Institute of International Affairs, Washington, DC, offers 'Six practical views of central bank transparency'. As the title suggests the chapter takes central bank transparency from a practical perspective rather than from a theoretical point of view. Posen argues that transparency has 'gone from being highly controversial to motherhood and apple pie (or knighthood and fish and chips for a British audience)'. But the concept of transparency is varied and what transparency actually means is still a matter open to debate. Like Charles Freedman, Posen argues that the monetary framework based on central bank types, time inconsistency and credibility sheds little light on the practicalities of transparency for 'real world' central banks. Transparency, as this chapter shows, has much to do with real issues such as inflation persistence, financial market responses to central bank announcements, and influence over private sector expectations more generally. To bridge this gap, Posen puts six views on central bank transparency, ranging from the 'reassuring' view where communication of monetary policy can allow a central bank to be more flexible when responding to economic shocks since the public know what the authorities are doing, to the 'irrelevancy' view of transparency, which suggests that talk is cheap and only actions matter. An announcement, rather than actual implementation, of a policy change should have little effect in the latter case. Posen concludes with some bold policy recommendations that are sure to generate interest and comments from the academic, policy framing and central bank communities. These are that two claims can be eliminated from the literature: first, that transparency inhibits central bank independence and second, that transparency provides sufficient accountability for central banks to be justifiable in democratic countries. He argues that accountability and transparency should increase and central banks with control over their goals (goal independence) should not continue to have this privilege.

Marvin Goodfriend, Senior Vice President of the Federal Reserve Bank of Richmond, makes a practical assessment of monetary policy by discussing 'The phases of US monetary policy: 1987–2001'. Goodfriend chronicles US monetary policy into six episodes on the basis of the policy problem facing the Fed in each period. The six periods fall into phase 1: the October 1987 stock market crash to the outbreak of the Gulf War; phase 2: the 1990–91 recession, recovery and fall of inflation; phase 3: the

approach of the Fed to tackle inflation pre-emptively; phase 4: the 'Goldilocks' period of seemingly unending boom; phase 5: the tightening of policy to rein in growth; and phase 6: the recession and post-September 11 slowdown. With the exception of the very beginning, the six phases reflect the Greenspan era, an unprecedented episode of successful monetary management.

Goodfriend has a tough task to document the very varied experiences of the six periods, but the resulting overview is admirable. Of particular note was the period of rising interest rates (1994–95) during the economic expansion, for which the Fed received much criticism. However Goodfriend argues that this was a textbook example of pre-emptive monetary policy. Following 1995 the Fed was learning to cope with having achieved credibility for maintaining low inflation. This slow learning process, together with the high productivity growth at the time, which necessitated high real interest rates, resulted in insufficient monetary tightening and laid the foundation for the boom of the late 1990s. Goodfriend concludes by considering the current economic situation, suggesting two possible scenarios. First, the downturn could last a lot longer (previous unemployment increases have always been accompanied by further rises and there is little leeway for further monetary easing). Second, the recession may not be as deep as some commentators make out, partly because of the pre-emptive action already undertaken and also because this recession, unlike those seen previously, was not caused by the Fed trying to achieve low inflation. On this point the Fed has already achieved credibility.

When discussing Goodfriend's chapter Charles Bean, Chief Economist at the Bank of England, concentrates on the Fed's achievement in obtaining credibility for low inflation. He argued that it is important for monetary policy not to be 'too successful' as that would lead the public to believe monetary policy to have no real effects. (Perfectly stable output associated with changing monetary variables). With respect to Svensson's chapter, Bean argues that the choice of the relative weight of activity to inflation in the central bank's loss function ought to be a matter for the Chancellor of the Exchequer rather than the Monetary Policy Committee, although there are difficulties in framing an algebraic term with the precision required by economists into a legislative document. After rehearsing the arguments against constant interest rate projections Bean agrees with the conclusion offered by Svensson that there should be a time-varying forecast. But he also argues that a simple forecast has value as a teaching aid and an explanatory tool for the public. This may be right but in many respects this returns to the theme of Ben Friedman's chapter that points out that while simplicity avoids confusion, it can also over-simplify, despite repeated caveats and qualifications. The logical conclusion he draws is that both should be pub-

lished and discussed as they are at present. The chapter by Adam Posen picks up on this point, since it considers the extent of disclosure of information. While Bean does not offer unqualified support for any of the six views of central bank transparency he does eliminate some as unconvincing. He also offers a practitioner's view of the pros and cons of each, the value of which is that we are able to see the issues that are relevant among the remaining feasible options.

Edward Nelson of the Monetary Policy Unit of the Bank of England follows up Marvin Goodfriend's analysis of the phases of US monetary policy with a corresponding analysis from the perspective of interest rate rules for the UK. The chapter illustrates that once again Charles Goodhart was a vital contributor to the development of a new research field, which in this case was the literature on policy reaction functions with the short-term nominal interest rate as the instrument. The focus of the chapter is primarily empirical and it splits the sample period 1970–2001 into distinct monetary regimes and then estimates interest rate reaction functions for each regime. These are then compared with the Taylor rule. The approach differs from the usual route which estimates the Taylor rule for the full sample and compares the actual interest rate to the one that would have been in force if a Taylor rule had been used to set monetary policy. Nelson shows that the 'Taylor principle', namely the objective of dealing aggressively with inflation whilst maintaining a concern for output in relation to its capacity, appeared to apply only in the inflation targeting period (1992–97). This finding confirms the evidence reported for other countries, which have also conformed to the 'Taylor principle' during the inflation targeting episode.

The discussion is provided by Paul Mizen of the University of Nottingham, who appreciates the approach that distinguishes policy regimes and estimates reaction functions separately for each sub-sample. It is pointed out that the advantages of regime-specific reaction functions need to be weighed against the disadvantages in that the sample periods are often short, requiring the use of monthly rather than quarterly data. Taylor rules at high frequencies exhibit greater instability in the coefficient estimates. Paul Mizen argues that Taylor rules are good *ex post* summaries of central bank reaction functions but not good *ex ante* guides for monetary policymakers.

Charles Goodhart is probably best known by non-monetary economists for Goodhart's Law. In the chapter by Alec Chrystal of City University Business School and Paul Mizen of the University of Nottingham, an account is given of 'Goodhart's Law: its origins, meaning and implications for monetary policy'. Chrystal and Mizen first summarise what Goodhart's law is and especially dwell on its connection and differences from the Lucas

Critique. They dispel some of the myths that have emerged surrounding the definition and its application to monetary policy by discussing a number of historical applications of Goodhart's Law, starting from its origins in competition and credit control policy, known affectionately as 'the Corset' in the 1970s. They go on to show that it is equally applicable to monetary targeting, and interest rate targeting, or any mechanistic rule based on a 'statistical regularity'. It is its application to monetary economics that is probably the distinguishing feature of Goodhart's Law with respect to the Lucas Critique.

In his discussion Charles Goodhart reminisces about the development of events in the 1970s, when the Bank introduced competition and credit control at the Prime Minister's request. It fell to him to devise a sufficiently complicated form of regulation to contain monetary growth without raising interest rates, and to do this without appearing to reimpose the restrictions on the credit market that had been removed very publicly shortly beforehand. It was in this period that Goodhart's Law emerged as an observation on the practice of monetary policy, at a conference hosted by the Reserve Bank of Australia in 1975, although it was in the later period of monetary targeting that it received greater prominence. Charles notes that the distinctive feature of the Law is that it applies to the public sector as well as to the private sector response to changing economic conditions. The Lucas Critique is essentially an observation about private sector behaviour.

The next chapter shifts into pure monetary theory. Nobuhiro Kiyotaki of the London School of Economics and John Moore of Edinburgh University and the London School of Economics presented 'A cost of unified currency'. At the conference, we were told by Nobu in delightfully humble terms that, in a joint course taught by Kiyotaki and Goodhart at the LSE, the students often asked questions to which Charles seemed to have ready answers but Nobu was left asking 'do I know the answer?' The topic of this chapter arose from just such a question, which cuts to the heart of a current academic debate. The question is: 'Is a unified currency always better than having separate national currencies?' There are many types of goods and people in their model, and money exists to overcome the double coincidence of wants. People meet randomly and trade using money, often accepting it not for its own sake but as an intermediary between selling and buying goods. These same people have a choice over whether to produce a local good or a generic good, which is acceptable internationally. It turns out that this choice generates different conclusions from the previous literature. Kiyotaki and Moore present a theoretical framework showing how a switch from national currencies to a unique currency can lead to a welfare loss. The intuition underlying the analysis is that the introduction of a

single international currency can spur the diffusion of international consumption goods whose utility is lower than that of domestic goods. The authors show that, if the utility of the international good is neither too high nor too low, the unique currency will circulate in equilibrium and the diffusion of the international good will generate a welfare loss.

The discussant, Sudipto Bhattacharya, from Arizona State University and the London School of Economics, praises the clarity of the chapter and the intuition behind it. He points out that models of trading processes with frictions, useful as they are, ought to be subjected to robustness tests in order that the generality of their conclusions can be ascertained. The chapter that is presented by Kiyotaki and Moore offers just such an analysis of these models where there is some *ex ante* heterogeneity in the tastes and endowments of the participating agents. In his discussion of the Kiyotaki–Moore contribution Bhattacharya has some robustness tests of his own. He shows that the argument that a specialised outcome, where each country produces a product for its own market, is not a Nash equilibrium with a single currency, can be subjected to changes in the frequency with which a seller might meet foreigners from the other country. This argument is given 'flavour' by use of an illustration involving Marmite sellers from Britain and goat-cheese spread sellers from Norway! Bhattacharya produces a model in which he can contradict the critical assumptions of the Kiyotaki–Moore model and demonstrate the Pareto dominance of specialised production even under a single currency. In other words there is no welfare loss from a single currency. Last of all, Battacharya suggests three avenues for future research which introduce (i) agents with convex preferences over local and generic goods; (ii) costs of currency exchange due to bid-ask spreads; and (iii) meeting patterns that vary according to the gains from trade.

The final chapter in this volume is provided by Martin Shubik of Yale University. The topic is a general one, and deals with questions that are necessarily hard to answer. Two of the central questions are 'What are the basic distinctions between money, near-money and money substitutes?' and 'What role do information and networks play in monetary theory?' These require a detailed examination of the features and properties of assets along a spectrum and the properties of information networks are considered in detail. In this regard a great deal of statistical information is provided to identify networks and structures in terms of ratios between firms, government, households and the financial sector. From these characteristics Shubik extracts features of a credit economy and offers some models of the networks behind them. It is shown that a perfect world, like Thomas More's Utopia or the Arrow–Debreu model, in which all information is known and shared such that there is perfect trust, eliminates the properties

that create the need for networks and credit. Each individual is observed sufficiently well to be able to issue his or her own money without resorting to any other money-issuing authority, so that everyone becomes their own banker. It is when we have imperfections in information and other frictions that different levels of trust and enforcement against default are necessary.

Anne Sibert of Birkbeck College offers an appraisal of the chapter. Her discussion affirms that much of what is said is interesting and useful providing 'a storehouse of ingredients for concocting theoretical and empirical models of financial networks'. These are useful for the analysis of a number of new developments, such as e-money, that have implications for technological and regulatory control. Where Sibert disagrees with Shubik is over the notion that all money is credit. The argument is made, citing the recent literature extensively, that the ultimate feature of fiat money is that the issuer does not offer to convert it to anything else. In this sense money is special and different from other types of near-money and credit, and the analysis of the phenomenon of networks and information, while useful for the latter, may not be so useful for the former.