DO WE NEED A RESERVE BANK?

Lawrence H. White • Chris Jones • Bryce Wilkinson

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Contents

Editorial Note

This volume records the combined proceedings of CIS Policy Forums held in Sydney on 27 September 1989 and in Wellington on 29 September 1989.

Lawrence H. White gave his paper at both Forums; Chris Jones gave his at the Sydney Forum, and Bryce Wilkinson gave his at the Wellington Forum. A panel discussion took place at each Forum; edited versions of these, along with the responses of the main speakers, appear in this volume after the papers. The Reserve Bank of New Zealand Bill, which was referred to by several speakers, became law in December 1989.

The CIS gratefully acknowledges the assistance of Suzanna Norton in the preparation of the volume.

Michael James

Foreword

Colin Simkin

There is much dissatisfaction with the performance of central banks because they have a poor record in managing monetary conditions so as to promote stability of domestic prices and foreign exchange rates. Before 1914 there were few central banks and they adhered to a full gold standard, which ensured stable exchange rates and kept inflation within bounds that now appear very moderate. But in the 1920s there were massive gold flows to the United States because of service payments on war debt, new protective tariffs that impeded exports to the United States, and then foreign participation in the Wall Street stock exchange boom. In these years the new Federal Reserve System imposed severe deflation on other countries by sterilising the gold inflows and, in the Great Depression, the international gold standard broke down. After World War II an emasculated gold standard was set up under the Bretton Woods Agreements, which required member countries to peg their currencies to the US dollar by fixing a par gold value, and by limiting their power to vary that parity. These arrangements worked fairly well in the 1950s but, in the following decade, the Federal Reserve accommodated huge US budget deficits and so brought about a serious and world-wide inflation. Such has been the record of the world's dominant central bank.

The United States went off gold in 1971, and floating exchange rates replaced fixed rates. Since then the external values of currencies have come to depend on changing agreements made between governments or central banks and upon the unstable expecations of dealers in foreign exchange markets that have greatly expanded with widespread financial deregulation. As John Hicks put it, the world is really managing without money in the sense that there is no longer any international money, i.e. money tied to gold or to anything else that is internationally acceptable. That, of course, is economically damaging because there is added to the inevitable uncertainties of business new or greater uncertainties relating to inflation, exchange rates and interest rates, which central banks try to manipulate for reasons of internal or external policy. Among the adverse consequences have been damage to investment and saving, distorted allocation of productive resources, speculative gains of wealth not matched by productive contributions, and loss by those least able to shield themselves from uncertainty.

Some central banks, of course, have behaved worse than others. There is a close association between the degree of their subservience to government and the rate of inflation. The Bundesbank is very independent and West Germany has had consistently low rates of inflation. The Bank of England and the Reserve Bank of Australia are very much under Treasury control and their countries have had rates of inflation well above the OECD average. It is not surprising that attention is being paid to ways of reducing such dependence, and recently *The Economist* has proposed the Netherlands Bank as a model. This central bank has freedom to follow its own policies which the government can override only if it publishes both the Bank's case for the disputed policy and its own objections to that policy. Public opinion in the Netherlands is sufficiently well informed to have deterred the government from exercising this power of overriding the Bank. New Zealand has taken some steps under a new Act to make its Reserve Bank more independent, but the Australian government has taken an opposite course by translating its Secretary of the Treasury to the Governorship of the Reserve Bank.

It is against this kind of background that the Centre for Independent Studies organised in September 1989 two seminars (in Sydney and Wellington) on banking without central banks. At each seminar Professor Lawrence White, an expert on free banking from the University of Georgia, presented a paper on depoliticising the supply of money.

White argues that the best monetary system would be one in which private banks were free to issue their own currency subject only to a legal requirement of convertibility into 'a standard basic asset'. (This, as commentators pointed out, was the system that prevailed in Australia and New Zealand before they established their central banks.) He is dismissive of proposals for making central banks independent, but without reference to German or Dutch experience. Nor does he favour having central banks bound by a firm rule for limiting the growth of the money supply, as Milton Friedman had proposed. There are, he thinks, too many possibilities of politicians changing partial independence or a monetary rule. But experience, such as that of the free banking system which used to prevail in Scotland, has shown that a contractual obligation of convertibility is practical and effective. Under free banking there would be competition between private banks for acceptability of their notes and deposits with the result that good money would drive out bad in accordance with a reverse Gresham's Law. There would thus be greater stability of money and prices with consequent macroeconomic benefits.

The other two main speakers, Chris Jones and Bryce Wilkinson, are sympathetic towards Professor White's ideas. The two discussion panels, however, are notably different both in their views about free banking and in the range of topics raised. The Australian panel concentrates on exploring

the scope and mechanisms of free banking in both the past and the present. The New Zealand panel is somewhat more critical of the idea; its members are inclined to look for areas where continued central bank activity might be beneficial. Most challenging of all is Jan Whitwell's insistence that the world's recent economic disorders have resulted from the inherent instability of free financial markets rather than from the activities of government agencies.

There are, then, some conflicts of views about reforming the banking system so as to limit the recurrence of its recent results, which all judge to have been quite unsatisfactory. What is important, and makes me commend this book, is that there is informed discussion of these problems and that such discussion is brought to public notice. In a democracy, that is the best prospect for worthwhile reforms being made. I would add that the problems are long overdue for resolution; for they engaged the close attention of Lord Keynes during the 25 years that preceded his death, and still persist 45 years later.

Depoliticising the Supply of Money: Constitution or Competition?

Lawrence H. White is Associate Professor of Economics at the University of Georgia. His publications include *Free Banking in Britain* (1984) and *Competition and Currency: Essays on Free Banking and Money* (1989). He is currently working on a book to be entitled *A Theory of Monetary Institutions*. Professor White spent six weeks during 1989 as a Visiting Fellow at the Faculty of Economics and Commerce, the Australian National University.

Depoliticising the Supply of Money: Constitution or Competition?

Lawrence H. White

I. INTRODUCTION

Economists today generally recognise that high interest rates, high and variable inflation rates, wildly fluctuating exchange rates, and other aspects of contemporary monetary disorder are principally the results of the behaviour of government monetary agencies. This behaviour can only be understood as the result of the basic incentives and constraints facing the monetary decision-makers. Yet the problems associated with government control over the quantity of basic money are often discussed as though they stem merely from the personalities of those in charge, or at worst from minor organisational design flaws, remediable by implementation of a new and improved operating blueprint for government management of the money supply. In particular, economists and political analysts have typically discussed programs for 'depoliticising' the supply of money without challenging government's monopoly control over the business of supplying basic money. These authors evidently believe it possible to take the 'politics' out of money creation without taking money creation out of the province of government. In other words, they believe that a government authority for controlling the quantity of money can be run apolitically.

There is good cause for believing the opposite. However unpleasant the idea may be, it may not be possible to resolve the problem of political influence over money at a shallow level. Undesirable political influence seems rather to be inherent in government supply of money. There are at least three reasons. First, money-printing (or 'seigniorage') is an extremely convenient source of revenue, and one made all the more attractive by the fact

that it extracts resources in a way mysterious to the voting public. Second, government supply of money means bureaucratic supply of money, and no mechanism has yet been devised for compelling bureaucrats to pursue the public interest rather than their own interest where the two conflict. (Businessmen, in contrast, are nicely led by the price system and the profit motive to serve the ends of consumers.) Third, government monetary policy is apt to be turned toward the goal of re-electing the incumbent government. If pre-election stimulation means post-election recession, well, we can worry about that after the election.

The history of government monetary authorities or central banks illustrates these forces quite clearly. I am myself more familiar with the histories of central banking in the US and the UK than in Australia or New Zealand. But George Fane of Australian National University has argued in a recent paper, persuasively I think, that for the Australian government the creation of Australia's central bank 'served a double purpose: it provides the government with an agency for pursuing an active monetary policy and it allowed the government to [gain seigniorage]' (Fane, 1988). If the exercise of official influence over money was the purpose for which central banks were legislated into existence, then completely insulating them from politics would leave central banks without their reason for being. It seems extremely unlikely that monetary machinery erected to manipulate the money supply for reasons of state could be turned into the best apparatus for serving the public's interest simply by issuing the operator a new instruction manual, or even by tightening a few loose joints.

Recognition of the dangers posed by the political incentives of government monetary authorities has prompted a wide array of proposals for partial or full depoliticisation of the money supply process. Programs for partial depoliticisation, through central bank independence or legislated monetary rules, raise the question of whether any government money-creating agency can really be insulated from internal and external political agendas. If not — if an apolitical government monetary authority is chimerical — then a non-governmental monetary system clearly demands consideration. Public-goods and natural-monopoly arguments made against competitive private provision of money are not compelling. If the choice between governmental and market monetary institutions turns on the question of which sort of institution can more credibly be bound by contract to perform as desired, then market institutions have the advantage.

II. AN 'INDEPENDENT' CENTRAL BANK

Perhaps the mildest of proposals for monetary regime change is the suggestion that the central bank should enjoy greater 'independence' from the direct

control of elected officials. Independence is supposed to enable the central bank to resist the partisan demands of the legislative and executive branches of government for inflationary finance and for election year monetary stimulus. If this were true, however, it would also mean that the management of an independent monetary authority is able to resist all other demands, e.g. those of the public (to whatever limited extent it could discover and obey them). Being directly answerable to no one is certainly a comfortable situation. For this reason the officials of any central bank are themselves likely to be found in the forefront of those advocating independence for the agency. As Edward R. Tufte has commented, 'The rhetoric of depoliticisation [in the sense of independence] is itself a political weapon, inspired by agencies seeking to prevent external political control and to permit them quietly to serve the interests of their own constituencies' (Tufte, 1978:139). An independent central bank's private constituency — presumably the large commercial banks — will generally have a private agenda that is not identical with the preferences of the common holder of money. In the US, the supposed influence of commercial banks over the Federal Reserve System, through their nominal ownership of the regional reserve banks, has long been offered as an explanation of the Fed's continual emphasis on current credit-market conditions (e.g. the use of interest rate targets) in the making of short-term policy decisions (see Friedman, 1963:238). It is difficult to separate commercial bank influence from Treasury influence here, however, given that the Treasury is continually concerned with marketing interest-bearing debt. In any event, the prospect of a central bank beholden to the commercial banks is not much cheerier than that of a central bank beholden to the ruling party.

The degree to which a government sponsored central bank in a democracy can ever be independent from the control of the legislative and executive branches of government is, of course, severely limited. Parliament created the Reserve Bank of Australia, and can rewrite its mandate at any time, as it has in the past. Knowing this, the Reserve Bank's management cannot afford to be unresponsive to parliamentary pressures. The same is undoubtedly true of any other legislatively created central bank. The managers of a government monetary agency, particularly when they are political appointees, may well lack even the conception that their own objectives might properly differ from the legislature's or the administration's objectives. Much less have they any strong incentive to resist political pressures (which may simply appear to be helpful suggestions) from these sources.

III. CONSTRAINING THE CENTRAL BANK BY A MONETARY RULE

Numerous reform proposals more far-reaching than 'independence' for the central bank, and more likely to make a perceptible difference, have been made under the rubric of monetary 'rules' or a 'monetary constitution'. These proposals would not eliminate a government monetary role, but would limit the monetary authority to the robot-like administration of a fully specified set of instructions for the creation of base money. The best-known plan of this sort at present is undoubtedly still Milton Friedman's 1959 program for adhering permanently to a pre-specified steady and low growth path in the M1 or M2 measure of the stock of money (Friedman, 1960, especially chapter 4).[1] Other writers have recommended more complex plans whereby the authority would adjust the target path in response to realised shifts in the growth rate of real national income or velocity, so that demand-induced deviations in the purchasing power of money would be counteracted. Still others have variously suggested that some index of purchasing power should be the explicit target on which the authority's sights are trained, with a feedback rule governing weekly base money creation (see Brown, 1982:17-18).[2]

A generic feature of these plans is the notion that the mind of man can design a government bureau which, once off the drawing board and staffed with real self-interested residents of the nation's capital, will function more or less as planned and will generate sufficient political support of its own perpetuation. In other words, each designer must tacitly assume that his plan represents a roughly stable political-economic equilibrium in the face of internal and external pressures for piecemeal modifications. The attempt to design a pressure-proof agency confronts at least three difficulties. First, it must be possible to specify the bureau's routine tightly enough for its mandate to require little interpretation, since extensive interpretation could serve as a means of subverting the rule in the interests of the staff itself, the legislature, the executive branch, or a private constituency. Second, the operation of the rule must leave no interest group wanting and able to revise it through a plausible appeal to a later session of the legislature. And third,

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[1] Recently, Friedman has progressed to the advocacy of zero growth in the stock of base money, abolition of the central bank, and thorough deregulation of banking, as 'the best real cure' for the instability of the current monetary regime. See Friedman, 1984.

[2] The set of rules focusing on purchasing-power index targets includes 'supply-side' proposals for linking open market operations to the price of gold. A recent 'monetarist' proposal for a sophisticated feedback rule is in McCallum, 1987:339-43.

it must be possible to establish a disciplinary mechanism that will effectively prevent departures from the legislated instructions, whether intentional or due merely to innocent error.

The hypothesis that all these conditions can indeed be satisfied by the legislated version of a given rule cannot be empirically falsified, of course, without experiment. (It cannot be decisively falsified even then. It could always be argued that the rule failed only because the effort to implement it wasn't sincere enough.) Perhaps with enough academic input the legislative or constitutional amendment process really can give birth to a single-minded apolitical government agency for controlling something as consequential as the money supply. But the logic of bureaucracy does not offer much encouragement. Nor does history offer a single apparent precedent.[3]

Enforcement of a Monetary Rule as a Public Good

The power of money creation is so extremely tempting for government to exploit that continual public vigilance (involving monitoring and enforcement costs) would be necessary to hold a government agency possessing that power to a prescribed routine. There is a free-rider problem here, which is more pronounced the more costly the rule is to monitor, in that most members of the public will rationally choose to let others bear the burden of keeping well-informed about the conduct of the monetary agency. Keeping well-informed would be all the more difficult in that a monetary agency that naturally wanted to escape tight constraints on its behaviour in order to pursue its own agenda would have an incentive to pollute the available information on its conduct, making public accounting more difficult. So long as an expert agency existed to administer the monetary rule, the public would have to be sufficiently well-informed to see through all of the superficially plausible rationalisations the agency might offer for deviations from the monetary rule, such as that the deviation is really just a measurement error, or due to a distortion in the aggregate being measured, or is really not a deviation from the spirit of the rule, or is justified by events unforeseen by the framers of the rule. To arrive at an informed opinion on each separate case is implausibly costly for many members of the public to undertake.

To be economically monitored and enforced, and hence workable, a monetary rule must be so plain and straightforward that violations are

[3] The principal 'rule of the game' under the international gold standard, i.e. convertibility at a fixed parity, was not the creature of legislative design. Central banks empowered to deviate from that rule were not free from political influence. Conversely, the durability and credibility of the classical gold standard was enhanced, I would hypothesise, by the fact that the Bank of England was privately owned.

transparent. Once in operation, the simpler the rule, the less the public needs to know in order to detect violations. A solid public consensus must hold 'dogmatically' that the rule is never to be violated as a matter of principle. Such a consensus would not be easy to form in any case, but it would be less difficult to form the simpler and more clear-cut the rule. For these reasons a no feedback rule stands a better chance of being effective than a price-level feedback rule or a velocity shift-adjusted money growth rule. A zero money growth rule stands a better chance than a fixed positive growth rule and a rule of freezing the monetary base stands a better chance than one of freezing a wider monetary aggregate.[4]

The Strengths and Weaknesses of a Monetary Base Freeze

Freezing the monetary base would be uniquely easy to enforce because it is the only 'monetary rule' which does not direct government to perform any positive task. It merely proscribes what the federal government shall not do: it shall not expand the stock of monetary instruments issued by itself. Because no positive money-creation power is assigned, no money-creating agency whatsoever is needed. The central bank could readily be eliminated as a branch of government once its open market desk was closed down and its re-discount window shuttered.[5] Its bank-regulatory activities should be terminated, but could be transferred to another federal agency. Its genuine services to the banking industry could be privatised quite practicably. The job of replacing worn currency might be let out to a private producer of security paper, or a plan might be devised to allow currency issued by private banks to displace government currency, so that the stock of high-powered money would come to be held exclusively as bank reserves.

Any monetary rule less strict than freezing the monetary base quite obviously allows open market operations to continue, and therefore allows some government monetary agency to carry on the function of altering the stock of base money. Under any growth rule for a wider monetary aggregate the agency is charged with offsetting changes in the relevant money multiplier; under any positive-money-growth rule it is charged with adding regularly to the stock of base money. The dynamics of government growth give good reason to fear that the very existence of a government money-creation agency, no matter how circumscribed its initial activities, represents

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[4] See Friedman, 1984:48-50, for a base freeze proposal and the argument that 'zero growth has a special appeal on political grounds that is not shared by any other number'.

[5] For such a plan, see Selgin, 1985. Privatisation of the district Federal Reserve banks has long been advocated by Richard H. Timberlake.

the thin edge of a very powerfully propelled wedge. The agency's officials can lend the weight of their expert opinion to the case for giving them greater powers to perform functions which only they, purportedly, truly understand.[6] The modification of an existing agency's operating routine is certainly less likely to encounter pitched public resistance than the creation of an entirely new agency.

This 'thin edge' problem — the worrisome potential for degeneration of any legislated barriers against discretionary behaviour by an existing monetary authority — cannot be dismissed by saying that we need not worry about attempts to erode the barriers until they occur. One fundamental benefit promised by a monetary rule is the assured environment it would provide, by **pre-committing** the monetary authority to a predictable path of behaviour, for private planning based on firmly held inflation-rate expectations (see Barro & Gordon, 1983). The transitional drawbacks of disinflation, for example, are generally understood by economists to be less severe the more credible is the monetary authority's commitment to a disinflationary path, because greater credibility allows prudent agents more promptly to moderate the nominal prices and wages they demand in long-term contracts. If the public widely considers a particular legislatable monetary rule to be fragile and unreliable because they perceive that it may not survive political and bureaucratic pressures, then the adoption of the rule will not provide the benefit of a credible pre-commitment. It may even be worse than no rule. The pursuit of a low inflation policy rule in a setting where the public cynically expects high inflation is a recipe for unnaturally high unemployment and depressed real output.

There is a second respect in which a legislated monetary rule will fail to provide its advertised benefits if its long-term political survival is not sufficiently credible. A common argument for adopting a fiat money regime governed by some designed rule constraining growth in the stock of fiat money, rather than adopting a commodity-based regime (e.g. a gold-coin standard) governed by demand and supply conditions in the market for the money commodity, is that rule-constrained fiat money can provide an equivalent nominal anchor at a lower resource cost.[7] Fiat money provides a

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[6] Timberlake, 1985, provides a case study of this process in action: 'Federal Reserve System officials in their testimony to congressional committees persistently and doggedly advanced one major theme: the Fed had to have more power ... By misdirection and subterfuge, the Fed inveigled an unwary Congress into doing its bidding.'

[7] The best-known estimate of the resource costs of a commodity standard is probably Milton Friedman's figure of 2.5 per cent of annual net national product (1960:5). That estimate assumes mandatory 100 per cent reserves against all of M2.

social windfall, so the argument goes, by freeing the existing stock of monetary gold to be used for industrial and consumptive purposes and by releasing resources devoted to augmenting the stock of monetary gold through mining and prospecting to be used for other industries. These events require, however, that the relative price of gold be lower under the fiat money regime than under the gold coin standard. During our current experiment with fiat money this has not happened. The relative price of gold is higher, apparently due to the demand to hold gold coins and bullion as a hedge against fiat money inflation, implying that industrial and consumptive uses are more restricted and that mining and prospecting activities are greater.[8] Whether the relative price of gold would be lower under a **rule-constrained** fiat money regime depends on whether the political survival of the rule is credible enough to discourage substantial speculative holdings of gold. In view of the 'thin edge' problem, it may unfortunately be the case that no rule whose administration requires the existence of a government monetary agency can achieve the requisite survival credibility.

Taking the logic of the 'thin edge' problem a bit further, it is possible to doubt that even freezing the monetary base removes the power of money creation far enough from the hands of government to constitute a politically stable arrangement. Freezing the base establishes an 'authorised issue' for the central government. At a later date it might plausibly be argued that since the level is arbitrary, there is no reason for not raising it to meet some pressing government expense. As an historical illustration, the second batch of fiat greenbacks issued to finance the US Civil War met with less opposition than the first (which Congress had promised would be the only batch). The first batch was itself justified by reference to the precedent of the money-like Treasury notes issued in the previous decades.[9]

A slightly outlandish analogy may make the point even more clearly.[10] The approach to monetary reform that consists of giving a discretionary

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however. With historically reasonable fractional reserve ratios the figure falls to about one one-hundredth of Friedman's, namely, about 0.02 per cent (depending on assumptions about the secular trend in velocity). See White, 1984:148.

[8] This point is made by Garrison, 1985. As this is being proofed the dollar price of gold is about $US400 per troy ounce. Deflating by the GNP deflator, this is equivalent to about $US120 per ounce at 1967 prices, at which time the official price of gold was $US35 per ounce, and about $US50 per ounce in 1929 terms, at which time gold was $US20.67 per ounce.

[9] For excerpts from the congressional debate over the initial issue of greenbacks, see Krooss, 1977: vol. ii, 1267-321. On Treasury notes as a precedent for greenbacks, see Timberlake, 1978:85-6.

[10] The analogy is due to Garrison, 1983, though he may wish to disclaim the extensions made here.

monetary authority unsolicited advice for better policy is like the approach of a team of Wild West railroad detectives who, confronting a gun-toting gang in the midst of robbing a train, attempt to persuade the gang through reason that they really should be using their guns in a less threatening manner. Success is unlikely given the other side's incentives.[11] Advocacy of a legislated rule for monetary growth is like demanding that the gang holster its guns and promise to leave them holstered. This arrangement is a bit better, but still not nearly as reassuring to the train passengers as the natural solution, familiar from old Westerns, of demanding that the gang drop its guns. Leaving the loaded guns within easy reach makes it all too easy for the train robbers to seize an opportunity to break their promise, so that extremely vigilant attention to their behaviour remains necessary. The strongest form of a monetary rule, freezing the monetary base, might be likened (at the expense of stretching the analogy even further) to a policy of allowing the outlaws to keep their guns provided that they throw down their bullets. That arrangement certainly promises greater stability than the weaker gun-holstering rule, but arguably it may not go far enough toward removing the ultimate threat and reassuring the passengers.

IV. A FREE MARKET MONETARY SYSTEM

The analogue of the drop-your-guns approach in monetary reform is the proposal that government remove itself completely from the business of supplying money. In its place a free-market monetary system would prevail, shaped and disciplined not by a legislated blueprint but by rivalrous competition among money producers for consumer patronage. The money's spendability and purchasing power would be secured by contractually guaranteed redeemability into a standard basic asset, either a commodity money or an equivalently acceptable privately produced asset held by all banks and used as a clearing medium among them.[12] Because it represents depoliticisation of the money supply in the most thorough conceivable form,

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[11] Barro, 1982:109, aptly comments: 'Telling the Federal Reserve to select substantially different values — usually lower values — monetary growth seems similar to urging firms and households to choose different numbers for prices, unemployment, production, and so on. As in the private sector, it is reasonable to view the Fed's monetary decisions as emerging from a given structure of constraints and rewards'. This is the point of the analogy. It is not intended to suggest that central bank officials are personally malicious characters.

[12] For some of my other writings on this topic, see White, 1989. See also Selgin, 1988. For a somewhat different perspective that nonetheless may fit within the institutional pattern predicted here, see Greenfield & Yeager, 1983.

this system merits consideration by anyone who recognises the drawbacks of a political monetary regime. Unless it could be shown (and I do not believe it can) that a free-market monetary system somehow inherently fails to provide money with the generally desired features that a legislatively designed system clearly would provide, competition among private suppliers should be recognised as the best means of meeting the preferences of money users. In fact this conclusion should not be surprising, given that the virtues of competitive markets are widely recognised when the supply of other private goods and services is at issue.

The case for a competitive currency system is akin to the case for competitive market provision of lamb curry or any other commodity. It rests on the fact that a market system has two advantages over government monopoly: a price system for coordination and a profitability test for discipline. By means of an unhampered market-price system a society can best turn the knowledge and initiatives of millions of individuals to the satisfaction of consumer wants. A free market in privately issued currency would mean provision of the most desirable sorts of money from the consumer's perspective. There is every reason to believe that market currency would be the most convenient for transaction purposes, the most trustworthy, and — what makes it especially attractive — the most stable and likely to increase in purchasing power. An irresponsible issuer — one who inflated as much as the Fed has of late — would lose customers to his rivals. The central bank faces no such discipline.

A system of free banking entails free trade in the market for inside money (demand liabilities of banks), including bank notes. No legislative barriers are placed in the way of exchanges of bank notes or demand deposits between potential issuers and money users. Individuals are free to accept or reject the liabilities of particular banks as they see fit. Banks are free to pursue whatever policies they find advantageous in the issuing of liabilities and the holding of asset portfolios, subject only to the general legal prohibition against fraud or breach of contract.

Under free banking individuals may choose among the notes and deposits of a plurality of private issuers. They are not limited to using the notes of a privileged central bank. Today we are accustomed to competitive deposit banking, but to monopoly in notes. Monopolisation of note issue is a defining characteristic of central banking and there is no evidence of a tendency toward natural monopoly in the issue of bank notes. Open competition in issue ensures that banks will provide notes with the characteristics note holders demand: easy redemption, widespread acceptance, trustworthiness and proof against counterfeiting. Competition among issuers of bank notes is in many respects similar to the competition we see today among issuers of credit cards and travellers' cheques, as well as to the

competition among banks for cheque account customers. Respect for efficiency and individual sovereignty requires that government not limit consumers' choices by interfering with competition among potential bank note issuers.

For historical evidence of the stability of a virtually unregulated banking system, it is instructive to turn to Scotland, which had a genuinely free and remarkably stable banking system for more than a century before amalgamation with the English system in 1844.[13] There, due to vigorous competition among widely branched banks, the notes of bankers without sound reputations could not gain currency. A very short period elapsed between the issue of any note and its return to the issuer for redemption. Competition led all issuers to accept one another's notes at par and to join in a single note exchange (clearing-house) system. No individual bank could over-issue without rapidly being disciplined by adverse clearing balances.

Competitive discipline in the supply of money means that macroeconomic performance is likely to be better under free banking than under central banking. A large body of theoretical and historical work in economics identifies errors in money supply as a significant source of business cycle disturbances.[14] The macroeconomic advantage of free banking is that a plurality of macroeconomic issuers minimises the chances for large scale errors in the money supply. One reason is readily apparent: no single issuer controls a large share of the circulation. Equally important, the plurality of issuers brings with it, in the form of an inter-bank clearing-house for bank notes and cheques, an automatic mechanism for preventing major money supply errors by any single bank. The clearing-house gives each issuer both the information to detect, and the incentive to correct promptly, any deviation of the quantity of inside money it supplies from the quantity of its inside money that the public desires to hold. This process of negative feedback is absent from a central banking system, where the supply of bank notes is monopolised and the liabilities of the central bank are held as reserves by commercial banks. Only with free banking is the operation of a commodity monetary standard fully self-regulating.

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[13] See Checkland, 1975; and White, 1984, chs 2, 5. For earlier accounts see Cameron, 1967, chap. 3; and Smith, 1936, chap. 2. The so-called 'free banking' systems in several American states during 1837-1863 were far from meeting these conditions. See Rockoff, 1974; Rolnick & Weber, 1982, 1983, 1984, and 1986; and King, 1983.

[14] On the early 19th-century literature, see White, 1984, chs 3, 4. Classic works in the Austrian monetary theory of the business cycle include von Mises, 1978, and Hayek, 1967. Important works in the Monetarist tradition include Friedman & Schwartz, 1963, and Lucas, 1981.

While the clearing system pins down each bank's issues relative to the others, the value of money in the system as a whole is pinned down by the supply and demand for the basic money for which bank money is redeemable. With the supply of basic money not manipulated by government, the value of money is virtually certain to be more stable. For an indexed or commodity-basket standard, purchasing power instability is virtually ruled out by definition. For a more pedestrian gold or silver standard, there are both theoretical and historical reasons for having confidence in the stability of the monetary unit. Potential changes in the purchasing power of the monetary unit are dampened by the price elasticity of supply and non monetary demand for the money commodity. A fall in the purchasing power (relative price) of gold, for instance, whether due to a fortuitous discovery of gold or a fall in the demand for outside money, is impeded by the reduced quantity of gold that will be mined and the increased quantity that will be demanded for non-monetary purposes at any lower price. An on-going fall in the value of gold due to continually greater cost reductions in gold mining than in other industries is fairly implausible, and so is a non-recurring but sharp fall in the modern world where there is little prospect of a purely fortuitous major gold discovery. For a non-renewable resource whose reserves are known, economic theory suggests that under competitive conditions the relative price of the resource will rise over time at a rate somewhat less than the real rate of interest (the difference depends on the marginal cost of extraction). The gold standard automatically generates an approximation of the 'optimum quantity of money', as holders of gold-denominated money enjoy a mild on-going appreciation in the value of their cash balances. The history of the classical gold standard may contain some noteworthy episodes of variation in the purchasing power of the monetary unit, but the overall picture from 1821 to 1914 is indeed one of mild secular appreciation in the value of money, with deviations from trend strikingly smaller than under subsequent monetary systems.[15]

The redeemability of bank notes and deposits for basic money, on contractually fixed terms, ensures that the value of bank issued money mirrors that of the basic money. Redemption contracts, as appeared on the faces of privately issued bank notes during historical episodes of free banking in such words as 'the ABC Bank will pay to the bearer on demand one pound sterling,' are cheap to write and to enforce. A note holder denied redemption

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[15] For graphical evidence on the historical behaviour of the purchasing power of gold see Bordo, 1984. For elaboration of the depletable resource theory of a gold standard, see Bordo & Ellson, 1985. On both the theory and the history, see Rockoff, 1984:613-49, esp. 619-20.

can simply be granted a lien against the issuing bank.[16] Swift and certain enforcement of redemption ensures that bank notes are high quality money.

V. CONCLUSION

We began by questioning whether any durable and credible rule could be fastened on to a political money supplier. In considering the feasibility of private production of money, we have been led to ask a similar question about private issuers: Can they be effectively contractually bound to good performance? Our conclusion turns out to be one of scepticism toward the potential for enforcing any explicit rule (other than freezing the money base) for properly 'depoliticised' monetary behaviour by the central government. There is, after all, little or no precedent for such a thing, at least under fiat money regimes. (It remains to be understood why some central banks are less mischievous than others today.) On the other hand, we find that there exists at least one effectively enforceable contractual arrangement — convertibility — which makes desirable monetary behaviour quite credible for competitive private issuers of money. The road away from political business cycles and the political economy of high and variable inflation, toward a depoliticised and responsible set of money institutions, therefore points rather clearly in the direction of private contractual arrangements for the supply of money. It is simply too difficult to believe that a government agency, even one 'independent' or 'constitutionally restricted' can be more easily held to its promises than a private firm in a competitive environment.*

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[16] In the Scottish system this was known as the note holder's right of 'summary diligence'. See Checkland, 1975. During the so-called free banking era in the US, state legislatures sometimes legalised suspensions of gold redemption, but that is quite different from inherently costly enforcement.

* Much of this essay is drawn from White, 1989.

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Foreign Exchange Markets in a Deregulated Monetary System

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Foreign Exchange Markets in a Deregulated Monetary System

Chris Jones*

I. INTRODUCTION

The increased international economic integration of recent years has arguably had its greatest impact in financial markets. Overseas financial markets impose a severe discipline on the domestic economy, and this makes it very difficult to implement an independent monetary policy based on fixed or managed exchange rates. This was evident before the Australian dollar was floated in December 1983; attempts by the Reserve Bank of Australia (RBA) to manage the exchange rate by setting it on a daily basis were being thwarted by the large capital flows that were washing in and out of the money supply. In addition, speculators were making large profits at the expense of the RBA (and ultimately Australian taxpayers) by trading against the observed capital flows that would influence the RBA's setting of the exchange rate the following day. Any attempt to set an exchange rate that did not equate demand and supply in the market for Australian dollars would induce speculative flows, not just from domestic investors, but from investors around the world through the international capital markets. This put great pressure on the authorities to set the exchange rate at its market clearing level, but not before these capital flows had affected the domestic money supply. It was this inability simultaneously to set the exchange rate and to control the money supply that eventually led to the floating of the Australian dollar in December 1983.

At that time the Australian Labor government had to make a choice. It could fix the exchange rate, thereby removing the day-to-day speculative flows against its exchange rate management, or it could allow the market to

* This paper has benefited from comments and suggestions by Howard Pender, John Pitchford and Graeme Wells.

determine the exchange rate. Under a fixed exchange rate regime control over the money supply is considerably reduced; and this loss of control increases with the degree of integration between domestic and world capital markets. The major advantage of a floating (or market-determined) exchange rate is that it allows governments to run an independent monetary policy. However, even with a floating exchange rate, the RBA continues to intervene in the foreign exchange market for policy purposes. Most intervention has aimed to minimise changes in the exchange rate; but on a number of occasions monetary policy was eased for electoral reasons (federal and State), and more recently monetary policy has been tightened to raise interest rates and reduce domestic demand in order to reduce the current account deficit. Over this period the money supply (both base and broad) has expanded, leading to a rise in the inflation rate towards double digit figures. (I will consider this policy stance a little later when I discuss recent exchange rate and monetary policy in Australia.)

There is widespread dissatisfaction with the RBA's record on the inflation front. In a recent article in *The Sydney Morning Herald* (14/9/89), Max Walsh argued that the RBA should be independent from political influences, particularly that of the Treasurer. Claiming that 'it is inflation that has to be attacked', he states: 'The key to the attack is the Australian Monetary system — the independence of the Reserve Bank from the pressures of the political cycle and a re-examination of why our system of regulation has failed to deliver the anti-inflation results achieved by other systems.' A move to free banking in its most radical form as advocated by Hayek (1978), Dowd (1988), White (1984) and others, where competing currencies are issued by private banks, would severely restrict the role of governments in financial markets. In fact, the government would have no direct control over the money supply or the exchange rate; this is viewed by many as the strongest point in favour of free banking. Inflation would no longer be a problem because the survival of private competing currencies would depend on their ability to maintain their real values.

This paper considers the arguments for exchange rate and monetary policy, and then speculates on the operations of financial markets which are completely free of any direct government involvement. In Section II, I consider reasons for, and the effects of, intervention in foreign exchange markets. Section III examines recent financial policies pursued by the Australian government through the RBA and evaluates their success in achieving their goals, the most recent being the elimination of the trade deficit. (I do not deal in any great detail with the question whether the goals themselves are the right ones to be pursuing in the first place.)

In Section IV I speculate about the nature of international financial transactions when all countries move to free banking. If competition

between private currencies, and the monitoring of these currencies by private financial institutions themselves and by the public through the media serves to generate stable currencies as a basis for domestic trades, then the same arguments will apply to international financial markets and the international currencies used in those markets. The advantage of this system over the present one is that it removes the temptation on governments to inflate their currencies as a device for raising revenue. This temptation is perhaps the largest single failure of non-redeemable government fiat currency.

In Section V, I briefly consider alternatives to the free banking proposal. One alternative is to freeze the stock of fiat currency issued by the RBA. Another is to enter a currency union with New Zealand, as has been recently suggested by the NZ Prime Minister, Geoffrey Palmer. The surprising success of the EEC currency union has prompted other countries which are geographically close to one another to consider the merits of such unions. An important factor in the EEC union has been the success of the German Bundesbank in achieving a low rate of inflation and a stable exchange rate against which other European currencies fix their rates. In the light of recent changes to the powers of the Reserve Bank of New Zealand, and in particular its legislated objective of a zero inflation rate, a successful union between the two countries' dollars would seem to require a similar legislated commitment for the RBA.

II. EXCHANGE RATE AND MONETARY POLICIES UNDER GOVERNMENT FIAT CURRENCY

A major attraction of a market-determined exchange rate is that it insulates the domestic price level from foreign inflation, and allows governments to pursue independent monetary policies. Both these factors have been important in the worldwide move to flexible exchange rates. Greater integration of capital markets renders monetary policy much less effective under fixed exchange rates because changes in the money supply are offset by foreign capital flows which operate to keep domestic and foreign interest rates equal.

The greater control governments exercise over their money supplies under flexible exchange rates derives from the monopoly power governments have over the issue of their non-redeemable fiat currencies. Discretionary monetary policy is (supposed to be) used to maintain (or achieve) full employment and achieve price stability. In times of recession the central bank can raise the price level by printing additional currency, which in turn raises output if real wages or real interest rates fall. These real effects may be short run because eventually money wages and nominal interest rates adjust to restore real wages and real interest rates to their former levels. It is the short-term rigidity in nominal variables that gives monetary policy its

power. However, this comes at a cost. Holders of the non-redeemable currency are losers because of the reduction in its real value. Furthermore, general rises in the price level affect individuals who are unable to adjust nominal interest rates or wages sufficiently to preserve their real returns because of tax differences between borrowers and lenders and the bracket creep experienced by wage and salary earners. What this suggests is that the twin goals of maintaining full employment and price stability may not be compatible; higher prices can raise output and reduce unemployment, while lower prices can reduce output and raise unemployment, if nominal wages and interest rates are fixed.

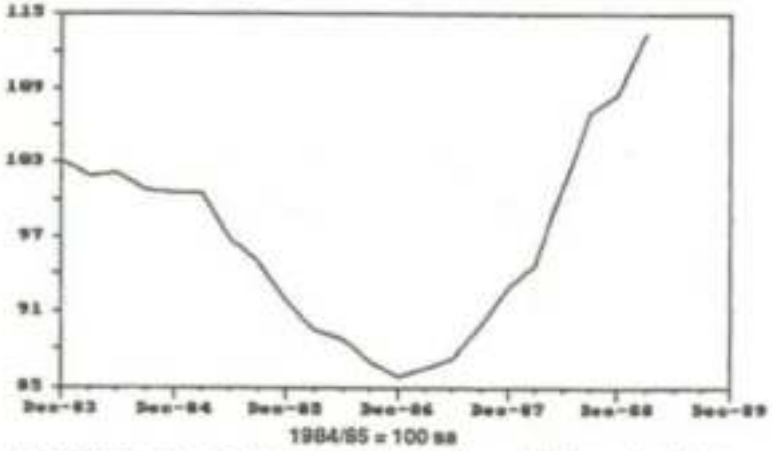
By adopting an inflationary policy of printing currency in excess of that demanded by the public at existing interest rates, central banks generate additional funds. This source of revenue, which results from seigniorage, has been extensively used by many governments over the course of history. It is not just in times of crisis like wartime, or in underdeveloped countries with limited infrastructures for collecting conventional forms of tax revenue, that inflation is used in this way. This tax transfers purchasing power from currency holders to the government. There is a widely held view that it is optimal for governments to raise some of their revenue by using inflation to tax currency-holders when revenue is being raised by a distortionary structure of explicit taxes (distortionary in the sense that they change relative prices in the economy). It is argued on these grounds that there is some optimal positive inflation rate which allows government revenue to be raised in a less costly way to the economy. However, this argument can be rejected on the ground that currency is an intermediate good used to purchase final goods in consumption whereas, in most circumstances, it is more efficient to tax final rather than intermediate goods. An additional argument is that it is difficult to quantify the large number of other effects that inflation has on the economy. As most of us know, the costs of inflating an irredeemable currency are not confined to the holders of currency.

While a flexible exchange rate provides protection from foreign inflation and restores independence to monetary policy, it subjects us to the vagaries of domestically generated inflation, a phenomenon which flows from the fact that our currency is non-redeemable and is not subject to competition from the domestic use of other currencies. Some argue that the problem is exacerbated by the central bank's lack of independence from political influence. A quick glance at the changes in the Australian money supply (both base and broad) and in the consumer price index over the period since the float lends support to this view.

III. EXCHANGE RATE AND MONETARY POLICIES IN AUSTRALIA SINCE 1983

Since the Australian dollar was floated in December 1983, the RBA has shown a clear intention to minimise its changes. Monetary policy has been largely directed to this goal. Figure 1 shows the decline in the terms of trade in the early 1980s. This was largely due to the collapse in export prices through 1984/85.

Figure 1: Terms of Trade

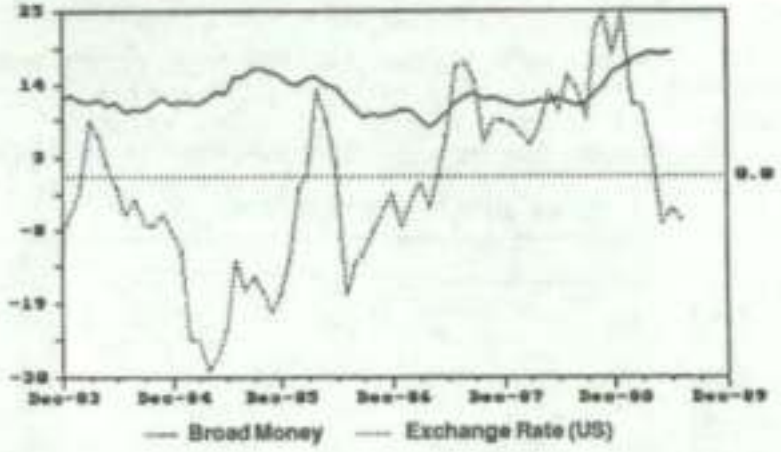


This deterioration in the terms of trade followed the drought which suppressed rural production and domestic income up to 1983, thus driving the current account further into deficit and inducing a further depreciation in the value of the Australian dollar. This is shown in figure 2 below.

In response to this downward pressure on the Australian dollar, the RBA initially intervened in the foreign exchange market to support its value. Figure 3 shows the foreign exchange purchased by the RBA net of funds raised overseas to fund federal government's budget deficits.

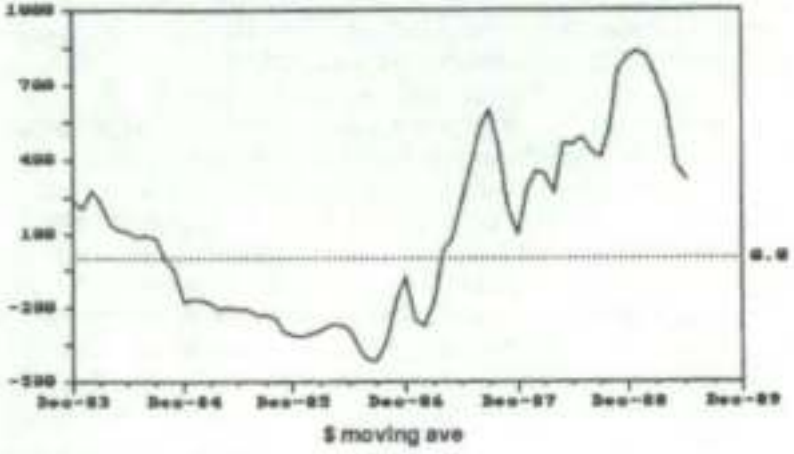
For most of the period the rate of growth in the money supply declined (note the change in broad money in figure 2), consistent with the support that was being given to the dollar, but in the approach to the federal election of December 1984 exchange rate intervention was abandoned and monetary policy was eased. Intervention can be either direct (selling foreign exchange) or indirect (tightening monetary policy). The intervention was initially direct because the RBA bought Australian dollars to maintain its value, while more recently it has intervened indirectly by tightening the money supply, as is evident from the recent decline in the money base. Tighter monetary policy supports the value of the dollar by attracting foreign investment with higher domestic interest rates.

Figure 2: Changes in Broad Money & $US/$A



Two main reasons have been given for the RBA's exchange rate and monetary policy stance. The first is that it wants to minimise the depreciation of the Australian dollar so as to take pressure off the Accord (the government's incomes policy); the second is that it wants to eliminate the current account deficit and to reduce our foreign debt. A fall in the value of the dollar raises the domestic currency value of traded goods prices; this could feed into money wage demands. However, in a small open economy like Australia's, a fall in the terms of trade due to falling export prices signals a decline in our consumption opportunities; and one would expect this particular decline in

Figure 3: Net Foreign Exchange Purchases by the RBA



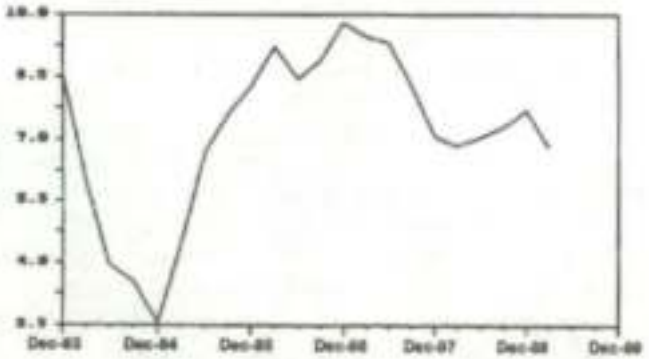
wealth to reduce aggregate consumption demand and the general price level. Consumers shift from non-traded and import-competing goods into exportable goods whose relative prices have fallen. The exchange rate depreciation, if unimpeded, redirects demand away from, and supply toward, traded goods so as to close the current account deficit sufficiently to accommodate the desired level of foreign borrowing.

Once the terms of trade recovered in 1986, the current account deficit began to decline and the RBA responded by buying foreign exchange to restrict the appreciation in the Australian dollar. With rising export prices and an expansion in the money supply which accompanied this exchange rate intervention, domestic demand expanded dramatically in 1988 and eventually spilled over into the current account. This expansion in the money supply also coincided with the federal election of July 1987.

Since then the RBA has reduced the growth in the money supply in order to dampen domestic demand and to close the current account deficit. This tighter monetary policy stance has: (a) limited the extent of depreciation in the exchange rate and delayed any improvement in the current account, and (b) driven up domestic interest rates, which has attracted additional foreign investment.

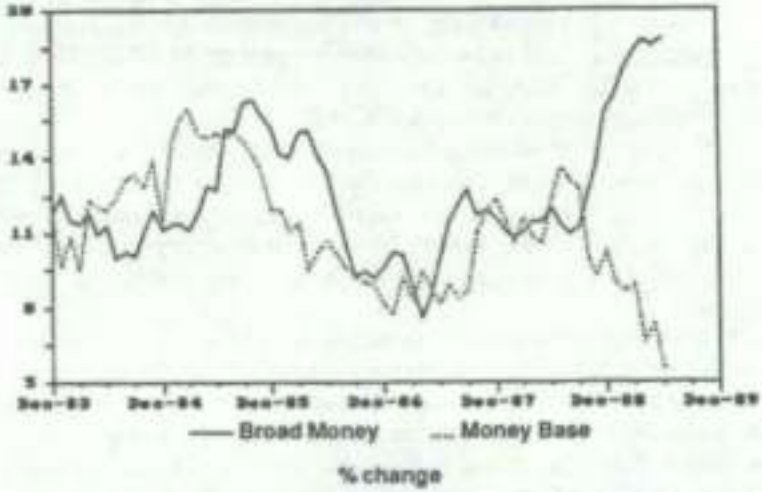
This brief overview of monetary and exchange rate policies in Australia since December 1983 indicates a desire by the RBA to direct the path taken by the exchange rate. Since the float of December 1983, this intervention has, in the main, made the current account deficits and level of foreign indebtedness greater than they otherwise would have been. Over this period the RBA's attention has been diverted from reducing the inflation rate, as is evident from the changes in both base and broad money and in the CPI. Figure 4 indicates that inflation is returning to double digit figures.

Figure 4: Consumer Price Index



The RBA argues that financial market deregulation has made it difficult to understand the exact nature of the relationship between the money base and the money supply, and that any success on the inflation front by reducing the money supply may therefore be at the expense of a credit contraction. However, Figure 5 shows that the relationship between the money base and broad money was fairly predictable between December 1983 and December 1988.

Figure 5: Changes in Base and Broad Money



Since December 1988 the divergence in the growth rates of the monetary base and broad money are largely explained by changes to the required reserve holdings of banks with the RBA. If the RBA was really serious about controlling inflation, there would have been some decline in the rate of growth in the monetary base earlier, when there was a fairly stable relationship between base and broad money. If necessary, the base could have been adjusted to avoid a credit contraction; but its movements are actually more easily explained by exchange rate intervention or the political cycle. The unwillingness of the Treasury and the government to embrace inflation indexation of income tax rates signals a lack of political commitment to a zero or low inflation rate. The temptation to raise extra tax revenue from inflation seems to dominate any rhetoric about price stability.

Perhaps a not entirely uncharitable view is that controlling inflation is a much less glamorous and exciting task than intervening in the foreign exchange and other financial markets; this attracts much more attention and gives the RBA a higher public profile in the market place. In *Good Weekend* (16/9/89) Deirdre Macken writes:

> There's a certain thrill in the way the bank teases markets to the position it wants: drawing a bit of money out of the system one day, failing to make up shortfalls the next and leaving it to dealers to pontificate in the press about whether the bank has misjudged the market or deliberately pushed up rates. Announcing an interest rate increase just wouldn't be as exciting.

It goes without saying that this behaviour can significantly raise the resource costs to private operators in financial markets. Not only will they need to predict what effect the RBA policies will have in financial markets, but they will be forced to spend extra time forecasting the actual policies of the RBA.

This raises the question whether discretionary monetary and exchange rate policies are in fact desirable. Such policies would not be possible under free banking. As with discretionary fiscal policy, discretionary monetary policy is seen as a tool for smoothing the business cycle and maintaining price stability.

Even if these goals can be achieved simultaneously, there remains considerable difficulty in achieving them. For example, there are lags in collecting data and implementing policies. But more problematic is the difficulty in interpreting the nature of problems. Pitchford (1989) argues that there may not really be any need to be concerned about current account deficits and increases in our foreign indebtedness. As with households, or regions within a country's national boundaries, there are times when they borrow and times when they lend. This should be no more surprising, and should attract no more concern, when it happens between countries. We need only consider the costs to our standard of living if household or interregional trades are severely restricted. However, distorted market signals may induce us to borrow more than otherwise.

Again, special interest groups within the economy can capture the attention of policy makers and divert policies to their private gain, even if the policies have net costs to society. This is possible if the costs of these policies are distributed widely over the economy. A move to higher inflation may fall into this category.

Finally, it is difficult to know what the 'equilibrium' exchange rate is, and whether exchange rate changes are temporary or permanent. It is highly unlikely that bureaucrats are in the best position to know. Those most likely to know are the people who deal in these markets; even if their knowledge is uncertain, they are best situated to forecast future exchange rates because by putting their own money and reputations at risk each working day, they face the appropriate incentives to get it right.

IV. MONEY AND FOREIGN EXCHANGE MARKETS UNDER FREE BANKING

Little has been written about the effects of free banking on international trade in financial and real goods. Presumably, the rate of exchange between international currencies would be determined in the same way as rates of exchange between private domestic currencies. The exchange rates between private currencies and any remaining government fiat monies would vary in line with the latters' rates of inflation.

There could well occur a worldwide move towards a standard international unit of account in order to reduce transactions costs. Whether this in fact happened would depend on the extent to which preferences for units of account across different regions converge. If the units of account did converge we could expect to see one country's currencies being used for direct transactions inside other countries. The relevant money supply would be the international one, and in equilibrium it would be equated to aggregate world money demand.

We can see the scope for this in the currency union of the EEC, where moves are under way to create a common currency. This currency union has the effect of removing monetary policy independence from member countries so as to preserve the fixed rate of exchange between their currencies. However, the externality problem in the money market — i.e. the difference between the nominal interest rate and the production cost of printing money — may best be solved by conducting transactions within national boundaries solely with national currencies. This would largely depend on the ability of clearing houses to efficiently monitor private currencies worldwide. Australian experience of deregulation in financial markets has demonstrated how ingenious and resourceful individuals can be in this sector. The volume and range of services provided to consumers has grown considerably. Electronic funds transfer has reduced the need for currency and has greatly improved the payments mechanism. Free banking would most likely stimulate further such developments. The financial industry itself would establish mechanisms to monitor the value of both national and international currencies. We see this kind of behaviour in the options market. Here, traders inform one another of the volume of trades throughout the day to protect themselves from being cornered by individuals about to undertake large share trades (like those in a takeover bid), who can corner the options market by spreading their transactions across traders. However, I am reluctant to describe this monitoring as self-regulation because this suggests that benefits are being enjoyed by the industry at the expense of others, such as consumers, who bear the costs. While these mechanisms protect financial intermediaries and their shareholders, they must ultimately be in the interest of consumers because

private banks compete against one another.

Under free banking, governments would necessarily lose their ability to implement discretionary monetary policy or intervene in foreign exchange markets. Since private currencies are redeemable, government attempts to influence their value would fail; the public would simply return excess currency to the banks. Similarly, banks would simply accommodate any extra government demand for currency.

Competition, or the threat of entry into the currency market, would provide the incentive for suppliers to provide consumers with currencies they most value. A currency is more attractive if it is widely accepted as a medium of exchange, and for this reason we could expect the establishment of private clearing houses through which banks would exchange one anothers' currencies. The adoption of a common currency standard would facilitate interbank settlements and the daily use of currencies by the public. As White (1984) argues, a preference by currency holders might realistically induce competing suppliers to adopt the same monetary standard and media of exchange that would trade at par values in common units of the monetary standard. In other words, currencies would sell at fixed rates of exchange to lower the transactions costs incurred in trade. The regions (or countries) over which currencies would thus converge would be largely determined by the amount of trade between residents in these regions (or countries): the greater the volume of trade between regions, the greater the incentive for currencies to converge on a common standard. There is already evidence for this in the EEC, where member countries have fixed their exchange rates to one another, and where there is talk of a common European currency, the 'ecu'.

We could expect more countries to adopt common currencies as international trade expands. However, an international monetary system under these conditions would have the same characteristics as a fixed exchange rate regime under government fiat currencies. This would have implications for domestic economic activity if nominal variables such as money wages or interest rates did not adjust freely. Consider the effects of a terms-of-trade deterioration caused by falling export prices. If money wages did not fall with the decline in the general price level, we would expect some unemployment to emerge as real wages rose. A move to free banking that encouraged the emergence of a common international monetary standard would therefore need to be accompanied by a well-functioning price mechanism in the domestic economy.

V. ALTERNATIVES TO FREE BANKING

Free banking in Australia may be some way off. But the growing dissatisfaction with the performance of the RBA with regard to inflation and the

exchange rate invites suggestions for more immediate reforms of government intervention in financial markets.

RBA Independence

One such reform would be to give the RBA greater independence from the influence of the Treasurer and the government generally. This would allow the Bank to concentrate on reducing inflation and smoothing fluctuations in activity as they see fit, free from political influence. At the very least this change would divorce monetary policy from the political cycle. The easing in money supply growth before elections (both federal and State) is a common practice. There is evidence to suggest that countries whose central banks enjoy the most independence have the lowest inflation rates. However, it is difficult to measure accurately the degree of independence enjoyed by central banks.

Greater independence for the RBA would not remove the temptation to inflate the currency on issue when it directs its energies to some other target. This seems to have been the case. Furthermore, it does not remove, but rather enhances, the temptation to 'play games' with financial markets. This particular type of return to bank employees could come at a considerable social cost. Perhaps greater independence could be coupled with a requirement that the RBA achieve a zero inflation rate. The appropriate incentives could be established by tying a considerable fraction of the governor's (or the bank board's) salary to this outcome.

Freeze Fiat Currency

Friedman (1985), amongst others, suggests that a superior alternative to greater central bank independence is to freeze the supply of government fiat currency on issue. This suggestion is in the same vein as that of free banking because it removes the scope to devalue the currency on issue. The public would know with certainty the nominal supply of currency.

A major difficulty with this alternative is that over time prices would need to fall so that the real money supply could keep pace with real money demand in a growing economy. If prices were falling but money wages were not, then at least in the short run real wages would rise and so would unemployment. However, workers would presumably be less reluctant to reduce money wages if there was no inflation to worry about.

Currency Union with New Zealand

New Zealand's Prime Minister Geoffrey Palmer has recently suggested a monetary union between our two countries. Under this proposal the two exchange rates would be tied to each other and they would then float against all other overseas currencies. Once this was done, there would be immediate pressure on the two countries to run similar monetary policies, since a relatively loose monetary policy in one country would eventually generate inflation in both of them.

A currency union has the advantage of imposing monetary discipline on the member countries. This is evident from the leading role played by Germany in the EEC. Germany's low inflation rate is the benchmark against which other member countries target their inflation rates. By pegging their exchange rates to the Deutschmark member countries place themselves under pressure to run monetary policies similar to Germany's.

One of the costs of a monetary union is that it transmits adverse real shocks in one country to other member countries. An optimum currency area depends on, among other things, the extent to which the member countries trade with one another, and the similarity of their monetary policies. Some of the gains from a currency union include the elimination of exchange rate fluctuations between the member currencies, and the potential for greater monetary discipline. The New Zealand government has recently changed the charter of its central bank, which is now required to concentrate on controlling inflation in that country. Many of its previous activities, including that of acting as banker for the government, have been removed or changed considerably. A successful trans-Tasman currency union would require the Australian government to adopt a similar anti-inflationary stance: otherwise, New Zealand would be forced to accept a higher rate of inflation. Given the RBA's lack of success on the inflation front, the New Zealand government seems rather rash to consider a currency union. However, from an Australian point of view it may be an opportunity to impose some much needed discipline on the RBA.

Public Access to the RBA

A change that could easily be made in the short term is to provide the public with greater access to RBA documents, and especially documents that detail the basis of financial policy decisions. Like the US Federal Reserve System, the RBA could publicise its board papers after a lag of one month. This would inform the public about the attitudes being adopted by the RBA and would subject its policies to greater public scrutiny. These changes should result in greater input into the decisions taken by the RBA, and would help to reduce

uncertainty about its operations. In addition, the RBA could tender for submissions from interested parties to be delivered at public hearings designed to assist in the formulation of prudential requirements and monetary policies. At present, the RBA operates under a shroud of secrecy, which enables it to deflect criticism of its policies. But the previous governor of the RBA, Mr Bob Johnstone, did have a policy of giving more information to the public in the monthly RBA Bulletin: a policy that could be greatly extended.

It is difficult to imagine the present Australian government relinquishing its power over the money supply, especially in view of its concentration on the current account deficit and the foreign debt. Furthermore, the appointment of a former secretary of the Treasury, Bernie Fraser, as governor to the RBA does not raise our hopes for a more independent central bank in the foreseeable future.

VI. CONCLUSION

By focusing on monetary policy, I have taken much greater liberty in this paper than its title would suggest. However, exchange rate and monetary policy are inextricably linked when international capital markets are closely integrated with the domestic capital market, and any discussion about exchange rate intervention necessarily has money-supply implications.

The current monetary system in Australia gives the RBA control over the price level and the ability to influence real activity through discretionary monetary policy. However, the RBA's record has not been good. Inflation in Australia is returning to double digit figures, and the use of monetary policy to minimise exchange rate changes has, in the main, been unsuccessful. The exchange rate seems to move eventually to its market level, and RBA intervention has only served to delay adjustments in the current account deficit and to increase our indebtedness to foreigners.

Dissatisfaction with the performance of the RBA invites speculation about a world of privately-supplied competing currencies. In this world there would be no role for discretionary monetary policy, and inflation would be eliminated by the competition between currencies. While there are areas of concern with free banking, such as the externality problem in the money market, it is a proposal which merits serious consideration if, at the very least, it makes us realise the potential gains from limiting the powers of the RBA.

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The Future of the Central Bank

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The Future of the Central Bank

Bryce Wilkinson

I am quite satisfied that we would be justified in being very intellectually courageous in thinking about whether we have to have a central bank. We know we can do without a central bank, since we didn't have one until the 1930s. And it was set up very clearly in order to print money. John A. Lee had strong views about high interest rates, and wanted to get New Zealand going with cheap, 1 per cent credit. As under-Secretary of Housing he set up a public sector housing program funded by 1 per cent credit through the Reserve Bank.

Functions of the Reserve Bank of New Zealand

But even if there were no central bank, there are particular functions which governments might want to nationalise. We can go through the functions of the Reserve Bank of New Zealand, as listed in the 1989 Annual Report, and see whether any of them requires a central bank or, indeed, any form of government involvement at all.

Government debt management. The Treasury could clearly play the role of advising a government as to how it should be issuing its debt, and so could any of the major securities firms or banks.

Registry services. This involves running the registry for NZ government stock and local authority stock. This could easily be privatised.

Overseas Investment Commission. This licenses people who want to invest in New Zealand. Its functions could be performed by Trade and Industry.

Overseas representation and liaison. There's no need for an organisation specifically to talk to overseas banks.

Public information. This involves the publication of bulletins of economic research and statistics. The latter could be done by the Department of Statistics, Planning Council, the Economic Development Commission

and other agencies could publish economic analyses, or the universities could be paid to do it.

Coin issue. The Treasury has been responsible for coin issue for many years; it could easily take on note issue as well.

Foreign exchange. The central bank's involvement in foreign exchange has given rise to real dangers and conflicts, which I will come back to. But with a monetary rule, it isn't necessary to have a foreign currency operation in a central bank to achieve price stability. To achieve domestic price stability, what is needed is to stop printing NZ dollars. You don't need a foreign exchange operation to achieve that price stability.

Clearly, it isn't necessary to have a central bank in order to have these functions performed. Is a central bank then necessary at all? Are there any functions we do want it to perform? What functions define a central bank? These are very open questions and should be the subject for a lively debate.

The Reserve Bank's Balance Sheet

As at 31 March 1989, the overseas currency component of the Reserve Bank's balance sheet included $NZ1.9 billion of liabilities and $NZ2 billion of overseas assets which are part of our official overseas reserves. Overseas reserves total about $4.0 billion, so the remainder of it was in the Public Account. All of these reserves could, in principle, be in the Public Account.

Note Issue amounted to $1.1 billion. Reserve Bank Bills outstanding were $3.36 billion, which with the proceeds from note issue and reserves etc. were invested in $3.3 billion of government paper. It's odd that a portfolio of $1.3 billion of Bank Bill liabilities should be needed to meet the monetary policy objective of just not printing too much money. What are the criteria for reaching that amount? Why is it $1.3 and why not $2 million or not half a million? Where is the accountability here? How does one know the extent to which that number is really consistent with the price stability objective?

The Government Deposit side comes from that very important function of being the bankers' banker. This function causes enormous difficulties in accountability. Once you have a publicly-owned organisation with that clearing function, you have an organisation which has taken on itself the responsibility of ensuring the banking system has enough liquidity for day-to-day settlement purposes. This immediately raises the issue of the price at which the Bank supplies liquidity if a liquidity shock occurs. That causes complex problems for financial markets around the world that are trying to guess how the Reserve Bank is going to decide tomorrow.

As Public Account shifts its business activity away from the Reserve Bank, the focus will shift to the Bank's residual role as a bankers' bank. But the Public Account does not have to bank with the Reserve Bank.

The balance sheet presented in the Annual Report is aggregated across all functions. The Reserve Bank would be more accountable if the balance sheet were disaggregated by function. The Reserve Bank could perform the function of managing overseas liabilities and assets for the government, but it could do so as an agency charging an agency fee and leave those assets and liabilities in the Public Account. The Reserve Bank's balance sheet would then be cleaner, and one could focus on how it was actually performing in its main functions. The Note Issue with the balancing assets, which are producing seigniorage income, belongs to the taxpayer and arguably should be taken entirely out of the balance sheet and profit and loss statement so that we could focus more narrowly on what the Bank is actually achieving with the resources it's using.

Functions and Accountability

The Reserve Bank Bill currently before the parliament contains a number of ambiguities and gives the Bank many functions, thereby making it difficult to hold it accountable for its activities.

The multiplicity of functions confuse accountability. The prudential objective can lead a Reserve Bank to want to lower interest rates when some of its constituent commercial banks are experiencing some liquidity pressure; but that could actually undermine the price stability objective. So there are trade-offs involved in giving the one organisation those two functions. Other groups that could influence central banks and politicians are net borrowers (e.g. mortgage borrowers) who have a vested interest in lower interest rates. Exporters could do the same to the extent that there's a link between interest rates and the exchange rate. Employee capture is always a problem, particularly because organisations like to take on more and more objectives, thus making accountability more difficult.

The problem of accountability does not stem from the fact that markets fail; they always do, in terms of the narrow neo-classical clearing model. We won't have perfect outcomes whether or not we have a central bank. But, on the other hand, a central bank brings with it particular risks, as New Zealand's inflationary experience testifies. The Reserve Bank Bill represents a very significant improvement in clarifying objectives and therefore in improving accountability. However, leaving responsibility for the exchange rate with a central bank is a very major flaw in the draft Bill and leaves us very vulnerable to a confusion of objectives.

Panel Discussion
Sydney

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Professor Tom Valentine is Director of the Centre for Applied Finance at the University of Technology Sydney. In 1979 he was appointed senior adviser to the Committee of Inquiry into the Australian Financial System (J. K. Campbell, Chairman) and played an important role in writing the Committee's *Final Report* (1981). He is the author of *Money Formation and Interest Rates in Australia* (1985, 1990) and coauthor of *Introduction to Foreign Exchange Management* (forthcoming).

Panel Discussion: Sydney

Graeme Wells: I would like to comment on two issues raised by the main speakers, both of which relate to New Zealand. The first concerns the proposed changes to the Act under which the Reserve Bank of New Zealand operates, while the second concerns the proposal for a currency union between Australia and New Zealand, an idea raised recently by the New Zealand Prime Minister and today by Dr Jones.

Professor White has raised doubts about whether an independent central bank is feasible or desirable. It is in this context that some commentators have argued that proposed changes to the Act governing the Reserve Bank of New Zealand are of significance for Australia. In fact, the Reserve Bank Bill that has recently been the subject of select committee hearings in New Zealand suggests that the independence of the Bank is to be much more limited than is commonly supposed.

Several reasons can be suggested for this. The tax revenue provided by seigniorage will still accrue to the public account, and the issue of private monies is, as at present, prohibited. So the incentives for government intervention remain. The means of intervention are also explicitly provided for in the bill. Certainly, the primary goal of the Bank is to achieve stability in the general price level. The process by which this is to be achieved is to be published and laid before parliament. Presumably this will include an operational definition of both price stability and policy instruments. The management may, at the discretion of the government, be dismissed if these objectives are not met.

However, the Bill proposes that the government may, through an order of the Executive Council, direct the Bank to formulate and implement policy for any specified objective (including fixing the exchange rate) for a period of six months, after which the instruction may be renewed. At the discretion of the minister, the Bank can also be directed to hold a specific level of foreign exchange reserves. As is presently the case, the Bank will act as lender of last resort, and exercise prudential supervision of the portfolios of registered banks. Since registered banks must pay a licence fee to the Bank, the proposed arrangements amount to an implicit deposit insurance scheme. These and other features of the bill provide for greater transparency in the Bank's relationship with the wider public.

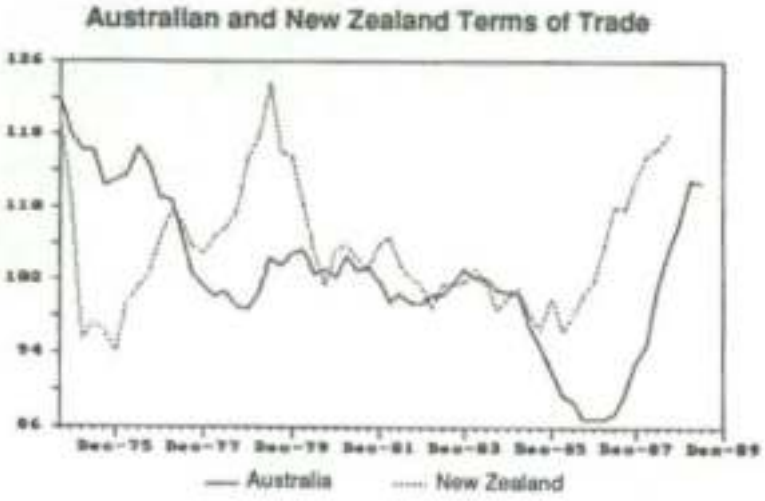
The Bill does not, however, provide for genuine independence. Executive power is highly centralised in New Zealand. There is one house of parliament and no written constitution apart from the Treaty of Waitangi, which has not yet been interpreted as applicable to central banking. This centralised power has recently been used equally effectively by the Muldoon and the Lange governments to impose quickly their (markedly distinct) agendas. There is thus no reason to believe that the independence of the Bank as provided for in any Act of parliament could be credible in the absence of a history of bipartisan commitment to zero inflation.

I turn now to the proposal for a New Zealand-Australian currency union. Under fixed exchange rates, the domestic inflation rates in small countries ultimately converge on the foreign inflation rate. A currency union may promote price stability if it implies a fixed exchange rate against a large economy with a commitment to low inflation. This is the role played by West Germany in the European Monetary System (EMS). Floating exchange rates, on the other hand, tend to insulate the domestic economy from external real disturbances such as changes in the terms of trade. In this context, the terms of trade for intra-European trade are quite stable, and external shocks impinge on the countries in the EMS to much the same extent. Under these circumstances, a floating 'European' rate against the rest of the world reduces the effect of these external real shocks on European real output.

Three points can be made about the idea of a currency union with New Zealand. First, it is not at all clear which of the two countries would provide the low-inflation discipline analogous to Germany's role in the EMS. Neither history nor (as Professor White emphasises) constitutional arrangements allow us to have much confidence in a future commitment to low inflation. Second, trans-Tasman trade flows are quite small relative to intra-European trade flows. Australian merchandise exports to, and imports from, New Zealand comprise less than 5 per cent of the respective totals. Australia bulks larger in New Zealand's trade flows (approximately 20 per cent), but even here trade flows are small compared to those in Europe.

Finally, the two countries do not face common external shocks. The terms of trade variability facing Australia and New Zealand is very much larger than it is for European countries, so that a floating exchange rate regime is appropriate. Surprisingly, given the usual characterisation of the two countries as commodity exporters, terms of trade changes are not highly correlated. This is evident from the Figure below, which plots trends in the two countries' terms of trade.

To summarise: a currency union between Australia and New Zealand has little to commend it.



H. M. Boot: I have confined my comments to Professor White's paper. I have two comments to make.

The first is brief. The essence of Professor White's paper, as the title indicates, is the desire to depoliticise the money supply and thereby to remove one of the major destabilising elements in current economic activity. Whilst I think that he is entirely correct both in his analysis of the causes of that instability and in his prescription — the introduction of free banking — I find it difficult to believe that the supply of money could be depoliticised. Professor White's free banking proposal comes closest to achieving a depoliticised money supply. The power to tax and to influence economic and political events, which is conferred on governments by control of the money supply, is so corrupting an influence, however, that neither the current nor any future government would, I think, be willing to relinquish it.

My second point backs up Professor White's scepticism about orthodox monetarism by attacking it from the standpoint of historical experience. As Professor White points out, a proposal commonly made by orthodox monetarists critical of modern central bank behaviour is that the central authority's power to create base money should be confined to the robot-like administration of a carefully specified set of monetary rules. Usually, the central rule is that the money supply should be restrained to a zero rate of growth, or in a more liberal version, to a long-run rate of growth equal to the long-run rate of growth of the economy. White identifies different criteria required to achieve such robot-like behaviour. Summarised briefly, these are that:

- They should be tamper-proof. That is, the potential for degeneration of the legislative barriers against discretionary behaviour by the monetary authority (what White calls the 'thin-edge' problem) should be minimised.

- They should be supported by an established mechanism to prevent departures from legislated rules.

- Information about their administration should be readily and cheaply available.

- They should be plain and straightforward enough to make violations transparent.

- There should be a public consensus that the rules should never be violated.

White concludes that a zero money growth rule stands a better chance of meeting these criteria than any other monetary rule, if only because it does not require the government to perform any positive task. Nevertheless, and quite rightly, he rejects the use of such a rule because it would be too open to bureaucratic abuse. But lest we still hanker after a zero money growth rule it is well to remember that the British Bank Act of 1844 introduced such a rule in a way that conformed markedly closely to all the criteria Professor White has listed, and that it was the principal legislative control on British money creation for 100 years.

Let me remind you of the salient features of that Act.

It was a short Act of only 26 clauses. It strictly limited the note-issuing powers of the Bank of England and of existing private issuing banks. The Bank of England was limited to a fiduciary issue of 14 million pounds sterling, and other banks to the sum each had issued early in 1844. Any additional notes issued either by the Bank of England or by a private bank had to be fully backed by gold. The penalties for exceeding the allotted note issue were severe. The Bank of England's power to increase its fiduciary issue extended only to reissuing two-thirds of the value of any note issue surrendered by an existing bank; the profits earned from extending its issue, however, were forfeit to the Crown.

To prevent the Bank from using its other banking activities to influence the monetary base, the Bank was divided into two departments. One was solely concerned with issuing notes in exchange for bullion; the other conducted all other affairs of the Bank. In these ways, it was believed, the note issue would fluctuate with robot-like responses to changes in the bullion

stock in the Bank of England. Since changes in the bullion stock were themselves a product of changes in the state of the foreign exchanges, variations in the British note issue would be determined by the foreign exchange position of the British economy. The Act also required weekly publication of the Bank of England's accounts. Its passage through parliament received all-party support. Indeed, as one observer commented, its passage took on all the characteristics of an ovation. In short, the Bank Act of 1844 created a fixed note issue that was at once simple, checkable, mechanical, apolitical, — and a failure.

It may be said to have failed on three important accounts, and to have done positive harm on at least one other.

- It failed utterly, as several historians have documented, to achieve its primary objective of removing monetary variation as a cause of trade-cycle fluctuations.

- On three occasions when the constraints of the Act operated actively to restrict the Bank's power to issue notes, it was suspended and the Bank was left free to issue bank notes to any level it saw fit to, the suspension subsequently being ratified by parliament.

- It failed to prevent extensive use of discretionary powers by the Bank of England. Indeed, the Bank became increasingly skilled in influencing the supply of money and credit within the constraints of the Act, so that its effective features simply faded into the background. At best, it may be said, the Act constrained government power to use money creation as a form of taxation and that overall, price variations, at least up to 1914, were remarkably small. At least as important to achieving these ends, however, was the greater determination of parliament to restrain government expenditure than to find ways of increasing government revenue.

Perhaps the Act's most lasting effect was the harm it did in bringing to an end the free banking system that had existed in Scotland for 100 years. By prohibiting new banks from issuing notes, the Act raised an effective entry barrier into the Scottish system allowing bankers there to achieve something that had eluded them for 100 years: the opportunity to form a closely-knit cartel in which price competition was kept to a minimum. The result was that Scots began to pay more for bank services, banking costs were less restrained and bank profits rose sharply. On the other hand, there is no evidence that the Act of 1844 introduced greater stability to the banking system or into the economy either in Scotland or in Britain as a whole.

It follows from what I have said that, like Professor White, I do not believe that a zero money growth rule, even if it were achieved, would resolve the problem of depoliticising money. Both theory and historical experience tell us so.

Ian Harper: In the 19th century Australia had what passed for a reasonable approximation of free banking. In 1910, the note issues of the private banks were withdrawn and replaced by a national issue under the auspices of the Commonwealth Treasury and, later, the Commonwealth Bank of Australia. Since that time, we have had a single public note issue. The private banks were unconcerned at the nationalisation of their note issues, since they had developed in the late 19th century a very close substitute for currency notes, namely, cheques. The banks made little profit from their note issues and, in any case, expected currency notes eventually to be replaced by an accounting system of exchange — a system of debits and credits — operated by cheques.

In my opinion, evolution towards such a system was retarded for about 50 or 60 years by the central bank's monopolisation of the currency issue, and by the imposition of regulations on banks that prevented them from developing substitutes for currency notes. In particular, there were rules preventing the private banks from paying more interest on current account balances than the government paid on its currency (i.e. zero). Other rules prevented them from expanding their portfolios at a rate faster than the central bank thought appropriate.

The situation has now changed completely. New technical developments have enabled the banks to begin to create substitutes for central bank liabilities, and, in particular, for central bank currency issue. I refer here to electronic funds transfer (EFT) and debit cards. The cheque clearing system has its modern-day equivalent in the form of debit cards that electronically credit and debit accounts held with private banks. These accounts are the equivalent of private currency. The central bank is actively encouraging the private banks to extend the range of their liabilities that are accessible through the accounting system of exchange. It should soon be possible, if it isn't already, to transfer throughout the EFT system liabilities denominated in foreign currencies.

The point of these illustrations is this. Much of the debate about free banking, at least as it relates to competitive note issue, is *passé*. It is irrelevant because the technology of hand-held currency notes is rapidly being replaced by EFT. The development of the EFT substitute is ushering in an era of free banking. The private banks, with the assistance of the central bank, are developing substitutes for the payment function of the central bank. Ultimately, they will develop substitutes for its other functions as well.

Joseph Schumpeter's principle of 'creative destruction' is working its

way through the financial system, as it is elsewhere in market economies. All monopolies are ultimately subject to the forces of substitution. The monopoly of the Reserve Bank and of other central banks is being creatively destroyed by private sector substitutes.

Jeffrey Carmichael: I'd like to focus mainly on Dr Jones's paper. To paraphrase the central part of his paper: In 1985-86 the Reserve Bank tightened monetary policy to stop the exchange rate from falling. That exacerbated the current account deficit. In 1986-87 they loosened monetary policy to stop the exchange rate rising: that too exacerbated the current account deficit. In 1988-89 they again tightened monetary policy to stop the exchange rate falling, and again that exacerbated the current account deficit. So they got it wrong three times. Interestingly, the current account is claimed to have been worsened by both tighter and looser monetary policy. I suggest there is an inconsistency here.

There are two problems with Dr Jones's interpretation. First, he uses a definition of monetary policy that doesn't match anything discussed in the Reserve Bank. In particular, the Reserve Bank does not look at changes in the base money to make judgments about how monetary policy is behaving (I'll come back to that in a moment). Second, the exchange rate has not been the overriding target that Dr Jones seems to think it has. The Reserve Bank does transact in the foreign exchange market, and has done so since early 1985. Transactions take place for the Bank's own account and clients. For example, last financial year the RBA bought $5.5 billion in the foreign exchange market. But it also sold the same amount to the government, its client. Did the Reserve Bank intervene or not? We cannot tell just by looking at its foreign exchange transactions. Dr Jones is quite right to say that we have to look not only at transactions but also at monetary policy itself. However, he seems to identify monetary policy since 1983 as having been directed primarily towards the exchange rate. In fact, the exchange rate does not dominate monetary policy; only in a few cases (as in 1986) has the exchange rate been the overriding concern.

Nor, for that matter, does the current account dominate monetary policy. This year's annual report of the Reserve Bank clearly states that 'The current account balance is not the primary objective of monetary policy. In fact, in the short run the effect may be perverse if increases in interest rates produce an appreciation of the exchange rate' (p.7). Monetary policy is not the most efficient weapon for dealing with a current account imbalance, since its impact on imports via interest rates is offset to some extent by the reaction of the exchange rate to monetary policy. In the short term, monetary policy can nevertheless be used (and has been used) to influence demand while other policies (e.g. fiscal and structural) are put into place.

Coming back now to base money, there is a preoccupation in the academic literature with base money. Base money consists of currency and deposits that the banking system holds with the central bank (SRD deposits). (Incidentally, if central banks cannot be relied on to act efficiently without appropriate incentives, why is it that the Reserve Bank has been reducing the SRD component of base money so drastically?) Base money is a shrinking component of the total money supply; as Ian Harper said, there are substitutes. Further, the demand for base money determines its supply. Nobody controls the amount of base money.

As for the broader concepts of money, the RBA used to be able to influence the amount in circulation because of regulations holding down interest rates. But now that has changed. Nowadays, banks determine interest rates. The central bank works through the price of cash to try to influence interest rates throughout the whole system. One thing the RBA has learned over the last decade is that in a deregulated system the linkages in the system between money and economic activity are very different; and the old idea that all you had to do was to control base money no longer applies.

To sum up, if base money is completely demand-determined, and if there are a lot of substitutes for it, then we are already getting very close to a de facto free banking system.

Tom Valentine: There is very little regulation left in the financial system. Only two problems concern me. One is the very unfair ceiling on housing loans, which for political reasons can't be dispensed with. The second is the absence of independence in the Reserve Bank, which has recently been taken over by the Treasury without any comment from the financial sector.

The Reserve Bank still lacks accountability. There is no area in which the officials of the Reserve Bank can be asked to explain their actions even retrospectively. We should have an arrangement whereby our elected representatives can at least question the senior members of the Bank.

It puzzles me why free market economists are so obsessed by the money supply and its growth. This is an area where they criticise the use of prices and want to use quantities to control the economy. This puts them in the same camp as the Labor Left. I can see no objection to influencing the economy by means of interest rates rather than the supply of money. At a time of severe structural change in the financial sector, there are good technical reasons for using an interest rate target, and here the Reserve Bank has made a sound choice.

In fact, since the dollar was floated in 1983, the Bank has performed better than any other official body in implementing monetary policy. I agree with Professor Carmichael that the Bank has not as a rule been targeting the exchange rate. The trouble is that the Bank is expected to deal with so many

of our economic problems with its one instrument. We don't save enough, invest enough, or work hard enough; but monetary policy can't solve those problems. The best way to start tackling them would be through tax policy. Labour market regulation and restrictive work practices are major causes of our problems, and the Reserve Bank can hardly be expected to offset their effects.

My view is that in a free enterprise economy the onus of proof has to be on the regulator, not the deregulator. Can the Reserve Bank justify its existence? Many of us are disillusioned, for example, by what central banks have done in the area of prudential control recently, particularly in the BIS capital adequacy controls.

I'm not happy with two points raised by Professor White. First, it's not clear to me that it has been proved that the note-issue facility is not a natural monopoly. I suspect that the electronic system that Professor Harper thinks will replace it is a natural monopoly, which could give rise to some social problems in implementing a free banking system. Second, a licensing system is supposed to obtain an economy in the distribution of information. I don't know whether this question has been examined in the context of free banking, but I would like to hear Professor White's comments.

Response

Lawrence White

I disagree with really very little of what's been said. However, I do disagree with some of the remarks made by Professor Valentine. I reject his suggestion that we should think of the interest rate as the price of money. Surely you wouldn't call the interest rate at which you borrow grain the price of grain? The only sensible meaning I can attach to the idea of the price of money is the purchasing power of money. The interest rate, on the other hand, is the price of credit: it's the price of a loan, and has a time dimension. That the interest rate is not the measure of the tightness of monetary policy is clear when you consider the high inflation countries. Argentina, for example, has interest rates of over 200 per cent; but obviously that's not because monetary policy is tight.

I also dispute Professor Valentine's fears that the issue of banknotes is a natural monopoly. In every case I know of where a central bank has monopolised the supply of currency, it has done so through legislation. With regard to electronic funds transfer, there is clearly not a natural monopoly in providing electronically transferable deposits, any more than in providing deposits transferable by paper cheque. There probably are significant economies of scale in operating an electronic clearing system, although, as far as I know, all the studies of this question have found that having a single centralised clearing system in a large nation goes beyond the optimal scale. In any case, the users of clearing services — the banks — will not be exploited by their own clearing house.

Finally, the question of licensing. The benefits of specialising in information-gathering, or economies of scale in information distribution, may well lead the consumers of bank services to want the advice of experts regarding the soundness of banks; so there certainly may be a valid role for the certification of banks. But licensing is different from certification, because it compels banks to operate according to regulations laid down by governments, and absolutely bars banks that would operate differently. Financial services should be allowed to be provided in whatever way people want, so long as fraud and theft are ruled out.

Certification, unlike licensing, is not a barrier to entry, nor does it have to be provided by government. In fact, the first independent bank auditors who were ever sent to look into banks' books were employed not by government but by private clearing houses. These clearing houses were associations of commercial banks, each of whose members wanted to ensure that fellow members were on a sound financial footing. A competitive and private monetary system can be expected to engage in an appropriate degree of self-policing.

Response

Chris Jones

I would like to confine my response to Professor Carmichael's comments.

Professor Carmichael has clarified a problem that I've felt strongly about for some time, which is that we frequently don't know what the Reserve Bank is doing. My view is that the Bank should be made more accountable. As I suggest in my paper, it should publish its board papers, even if only after an interval (as in the US). It could also hold hearings at which individuals are invited to present their views on major pending changes. Above all, there is a need for the Bank to communicate what's going on.

On exchange rate intervention: when the dollar is depreciating and the money supply is following it, it's difficult not to conclude that the Bank is intervening, whether directly or indirectly.

As for my comments about the links between the exchange rate, money supply, and the current account deficit, my point is that, in the absence of any monetary effects, the exchange rate would have appreciated and had the desired effects on the current account for that period and on the level of borrowing that was sought; but, because the money supply expanded in that period, demand increased and spilled over into the current account. This seems to be what has caused the present high interest rate policy.

On the issue of whether we should look at base or broad money, it's hard to deny, first, that the inflation rate is essentially a monetary phenomenon, and second, that the evidence reveals a strong link between changes in the money supply (whether broad or base) and changes in the consumer price index. On that basis I would argue that the Bank has turned a blind eye to the inflation rate.

Panel Discussion
Wellington

Arthur Grimes has been Senior Adviser in the Economic Department of the Reserve Bank of New Zealand since 1986. In 1987 he was a Visitor to the Financial Markets Group, London School of Economics. Since 1988 he has been a part-time Lecturer at the Victoria University of Wellington. In 1988 he won the Sayers Prize for a Distinguished Thesis in Monetary Economics, the University of London. He is the author of numerous published and unpublished papers on monetary economics.

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Panel Discussion: Wellington

Arthur Grimes*: I will confine my comments to the subjects raised in Professor White's paper.

At the start of his paper Professor White sets out three reasons as to why the supply of money may be subject to undesirable political influence. The first of these is that money-printing ('seigniorage') is a source of revenue for governments. But a government does not have to have a central bank in order to benefit from seigniorage. In the past, one source of seigniorage for New Zealand governments was the imposition of ratios on private banks which forced them to hold government paper with a below-market interest rate. This is essentially a tax on the banks. Such a form of seigniorage has been used not only in New Zealand; I understand that in some southern European countries it's a far more important source of seigniorage than money creation. So even under completely free banking system, with no central bank, the government could still raise significant funds through seigniorage.

The second undesirable factor cited by Professor White is that there is no mechanism to compel bureaucrats to pursue the public interest rather than their own interests, where the two conflict. I do not think that this is a pervasive problem. An examination of the historical record, and especially of the inflationary tendencies of recent decades, may suggest that central banks have not acted in the public interest because their actions have been such as to allow the price level to rise continuously. However, the real problem is that most central banks, including the Reserve Bank of New Zealand, have been given a number of often mutually exclusive objectives to achieve. It has not been clear, either to the Reserve Bank or to the public, which objective has been given primacy in the past in New Zealand; I readily admit that monetary policy has done a bad job of controlling inflation, with prices rising steadily from 1934, the year the central bank was established. But the real problem that has allowed this outcome to occur is that the Reserve Bank, given its conflicting objectives, has generally been directed by government to target monetary policy at achieving short-run real sector objectives rather than maintaining an environment of price stability. I am not

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* The views expressed in this comment are my own and in no way purport to represent the views of my employer, the Reserve Bank of New Zealand.

aware of any occasion where government has directed the Bank to achieve price stability, and where the Bank has undermined this direction. In practice, therefore, it is not conflict of interests that has been the problem, but rather it is the conflicting objectives contained in previous Reserve Bank legislation that has undermined a stable non-inflationary monetary policy.

The Reserve Bank of New Zealand Bill, which is currently before Parliament, is intended to remove this source of conflict by stipulating only the one objective of monetary policy: 'achieving and maintaining stability in the general level of prices'. Given a sole, clear objective such as this, I agree with Professor White it is then important that incentives are devised in order to make sure that bureaucrats follow the public interest. Unlike Professor White, I believe this can be achieved. If the public interest is equated with price stability, then one can set up the incentives to achieve that objective, just as one can design incentives for the manager of a firm to pursue the shareholders' interests. For instance, the idea of relating central bankers' remuneration inversely to the price level could be a potent incentive.

Professor White's third undesirable political factor is that monetary policy has been and will be used to enhance the government's prospects of re-election. This has been very true in New Zealand. But I don't think it is inevitable with an independent central bank, as the Reserve Bank of New Zealand Bill has been designed so as to limit political interference in this manner. In future, any such political manipulation will have to be preceded by the public passage of an Order-in-Council which explicitly overrides the price stability objective, so preventing any surreptitious manipulation of monetary policy by governments.

I would now like to comment on the idea of a monetary rule. A monetary rule does give certainty, but only about the money supply. No one is interested in control of the money supply as an end in itself, but only as a potential means to achieve the objective of price stability.

A monetary rule and price stability are quite different. There is a growing theoretical literature showing why monetary rules may not be optimal, since they are vulnerable to shocks both to the money demand function and to any of the variables included in the money demand function. If the US authorities, for example, had been following a stable monetary growth rule over the last five years, they would have had great problems, since the post-war trend increase in velocity has reversed sharply over this period. A simple monetary rule as proposed by Friedman could not have survived this experience. It is, of course, possible that some more complicated monetary rule, such as that proposed by Bennett McCallum, would have performed better. But a complicated monetary rule is not the kind of thing that can be enshrined in legislation. So I prefer the situation where the government says to the Reserve Bank: 'Price stability is the objective, you

implement monetary policy to achieve it, and you will be held accountable for the inflation outcomes'.

I have problems with some of the notions of free banking raised by Professor White, although there are also aspects of these ideas in which I find much to commend. One of the problems is that government is going to have to specify the kind of money that it will accept by way of taxes. That means government will inevitably exercise some regulation over the monetary system. I am also not optimistic that all banks' notes would be trustworthy under a completely free banking regime, any more than bank deposits are trustworthy under either a free or a regulated banking system.

There is also the problem of time inconsistency. The literature on this subject says that it is difficult for a central bank or a government to commit itself to follow a non-inflationary policy. It can tell everyone that it won't allow inflation, but if it is pursuing conflicting objectives, such as price stability and economic growth, then it has an incentive to renege on its commitment and to use inflation to promote short-term growth.

The reaction to this in New Zealand, through the Reserve Bank Bill, has been to separate the objectives and to give the central bank the single objective of price stability. Free banking, in contrast, may not solve the problem. A private bank faces the same conflict as does a government (with both output and inflation objectives) between a long-term desire to maintain a sound currency, in order to increase the demand for its currency, and a short-term desire to inflate the currency in order to increase short-term profits. The bank has the incentive to announce 'I am not going to inflate' in order to enhance the short-term demand for its currency, but having announced this may well inflate and so increase its profits. In each subsequent period, unless it can credibly bind itself not to inflate, it has the incentive to act in the same manner. If all banks have the same incentive, then inflation may become a self-fulfilling prophecy. Since there is nothing to tie down the entire system, all banks might inflate at the same time. That is certainly the case where there is no commodity standard, though it may also be the case even where there is one. A more dependable solution to the time inconsistency problem, then, is to have a central bank implementing monetary policy towards the achievement of the single objective of maintaining price stability, so avoiding the intertemporal conflicts which have given rise to the time inconsistency problem.

However, I agree with Professor White that for the purpose of accountability a central bank should not enjoy a statutory monopoly over currency supply. It may well be the case that if a central bank operates a non-inflationary monetary policy, then it will obtain a natural monopoly over currency since the information costs to the public regarding the quality of its currency are likely to be less than the information costs associated with the

quality of competing private currency supplies. If this is the problem, then central bank provision of currency is a welfare-enhancing institution through its reduction of information costs. However, the presence of potential competition from private suppliers, particularly if they could find some credible mechanism to precommit not to inflate their own currency supply, could help ensure that the central bank kept to its non-inflationary strategy since the public could shift out of holding central bank currency to holding privately-supplied currency if the central bank had decided to inflate. Thus the optimal monetary arrangement may well be to maintain government provision of currency through its central bank, but also to allow free banking in the form of unregulated private currency supply, and to leave it to the market mechanism to determine which is the preferred source of currency.

Analyses which emphasise the likely emergence of a single currency which minimises information costs include: A. Alchian, 'Why Money?', *Journal of Money, Credit and Banking* 9 (1977): 133-40; K. Brunner & A. Meltzer, 'The Uses of Money: Money in the Theory of an Exchange Economy', *American Economic Review* 61 (1971): 784-805; C. Goodhart, *Money, Information and Uncertainty*, Macmillan, London, 1975; and F. Hahn, *Money and Inflation*, Basil Blackwell, Oxford, 1982.

Girol Karacaoglu: The first point I wish to make is that we may need a central bank (in the form of an institution that holds a stock of liquid assets, or has the capability to create liquidity, standing by the financial system on precautionary grounds) even if we are willing to go all the way with Professor White's proposal for the competitive private provision of money.

Professor White writes: 'If the exercise of official influence over money was the purpose for which central banks were legislated into existence, then completely insulating them from politics would leave central banks without their reason for being' (p.4). This does not follow. Whatever the initial cause for the creation of central banks may have been, we may have discovered better uses for these institutions over time, which have little to do with their original purpose. Indeed, I believe this is what actually happened.

It is an historical fact that the first central banks in Europe were founded because of the financial advantages that governments believed that they could obtain from the support of such banks, whether a state bank (as in the case of the Prussian State Bank) or a private bank (e.g. the Bank of England). It is also a fact that, prior to 1900, most economic analysis of the role of central banks concentrated on the issue of whether the note issue should be centralised and, if so, how it should be controlled by the central bank.

Today the perception is very different. This has been well summarised in the submission of the Federal Reserve in the US to the Bush Commission on financial reform in 1983. Part of the submission states:

> A basic continuing responsibility of any central bank — and the principal reason for the founding of the Federal Reserve — is to ensure stable and smoothly functioning financial and payments systems. These are prerequisites for, and complementary to, the central bank's responsibility for conducting monetary policy as it is narrowly conceived. Indeed, conceptions of the appropriate focus for 'monetary policy' have changed historically, variously focusing on control of the money supply, 'defending' a fixed price of gold, or more passively providing a flow of money and credit responsive to the needs of business. What has not changed, and is not likely to change, is the idea that a central bank must, to the extent possible head off and deal with financial disturbances and crises.

Focusing first on the question of money creation, the logic of the argument presented in Professor White's paper (at least implicitly) is as follows:

- high and variable inflation is bad;
- the fundamental cause of high and variable inflation is high and variable growth rates in the stock of money in circulation;
- the level and variability in monetary growth rates are strongly and positively correlated with the degree of political influence on the money-creation process;
- competitive private provision of money is the most efficient and effective way of depoliticising the money creation process, thereby reducing the growth rate and variability of the money supply.

The heart of the matter, it seems to me, is **not** whether or not we should allow private banks to issue their own monies, but whether or not the government (through an agent such as the central bank) should have control over, or be able to influence, the stock of 'base money' — which, in the context of Professor White's paper, is the stuff that these private monies are convertible into on demand. So long as there is a demand for 'base money' and the government exercises control over its supply, the potential for the sort of abuse that Professor White is concerned about is there, although (as I argue below) allowing private banks to compete with the government in the creation of notes will reduce the incentive for the government to over-expand the volume of its own notes.

I fully agree with Professor White's assessment that 'The degree to

which a government sponsored central bank in a democracy can ever be independent from the control of the legislative and executive branches of government is, of course, severely limited' (p.5). The question as to whether such independence is desirable is one on which there will never be agreement. I personally very much favour such independence, but that is a reflection of my biases rather than a belief based on any proposition that I am able to prove.

A closely related issue is the desirability or otherwise of discretionary monetary management. If one believes that there may be circumstances where it is important for an institution to have the capacity to conduct such macroeconomic monetary management, then one presumably needs a central bank to perform this role and this, in itself, would be sufficient justification for the existence of a central bank. Professor White clearly does not see such a role for the central bank. Again I fully share his biases on this issue. Having said all this, at the end of the day choices regarding institutional structures have to be made on the basis of cost-benefit analysis.

Professor White is not seeking to depoliticise the money creation process for its own sake, but rather to achieve better control over the growth rate and the volatility of the money supply. Thus three questions arise:

- Will the regime suggested by Professor White achieve this better than the present one — given all its prospective shortcomings?
- If so, at what cost?
- If not, why not? What are the main potential sources of failure?

The building blocks of Professor White's alternative regime are perfectly unambiguous. He wants the government to remove itself completely from the business of supplying money. His proposal does indeed represent the 'depoliticisation of the money supply in the most thorough conceivable form' (p.11) After outlining his proposal, Professor White goes on to write: 'Unless it could be shown (and I do not believe it can) that a free-market monetary system somehow inherently fails to provide money with the generally desired features that a legislatively designed system clearly would provide, competition among private suppliers should be recognised as the best means of meeting the preferences of money users' (p.12). I personally believe that the shoe is rather on the other foot: since the adoption of the proposed scheme would represent such a major change in the way we manage the nation's monetary affairs, the burden is on Professor White to allay the concerns of those who listen to his proposals with great sympathy.

What are these concerns? My limited reading of the literature on the

topic suggests that they are the following:

- the commodity backing for the currency represents idle resources;
- inflation and deflation can still occur due to changes in the price of the base commodity relative to the other goods;
- supply of money is a natural monopoly;
- money is a public good;
- for over 160 years now, a central question relating to the free banking issue has been the strength of mechanisms constraining banks, both individually and collectively, from over-expanding their note issue.

My reading suggests that there are unresolved questions surrounding all of these issues, particularly the last two. In both cases, it is the fundamental structure that underlies all financial institutions — the problems of asymmetric information and transaction costs — that underpin the concerns about free banking.

Money is indeed a social institution not fully comprehensible from the point of view of a single individual; thus the lamb curry analogy (p.12) is quite misleading. For the individual, money is just the most liquid of assets. For society, money is an institution enabling efficient division of labour and multilateral trade in a world of asymmetric information and transaction costs. Thus one is naturally led to think about monetary problems in terms of externalities.

Similar considerations, especially of asymmetric information, underpin claims that under free banking there will be a temptation to over-issue private notes.

Nevertheless, I am willing to accept Professor White's claim that none of these objections to free banking would stand close scrutiny. Let us accept, in other words, that a free banking system, as envisaged by Professor White, does generate better control over the growth rate and volatility of the money supply.

How about the potential for financial system instability and the implications thereof for the need or otherwise for a central bank? The link between this question and what I have said so far is that if, on such (so-called microeconomic) grounds, there is a need for a central bank, it may not be desirable to fully depoliticise the money-creation process along the lines suggested by Professor White. It is most unfortunate that the debate around the question of the potential for financial system instability often gets bogged

down on the question of whether or not a fully deregulated financial system is inherently unstable. The inherent instability of the financial system is not necessary for the potential for financial system instability to exist — although it is sufficient. An exogenous shock can very well destabilise the financial system.

Any real shock that either leads to a serious loss of confidence or a series of business failures can initiate a credit implosion as the banking system starts calling in loans, reducing credit lines, and readjusting its criteria for lending. This is one version of what happened following the sharemarket crash in 1929, which eventually led to the Great Depression (although in that particular instance the initial shock may well have been a financial one). Here again asymmetric information is at the heart of the problem.

It is generally recognised that the most effective way of averting a financial crisis under these circumstances is to inject liquidity into the system; this is where the 'lender of last resort' function of a central bank becomes so critical. If one acknowledges the potential for such crises and grants the point that an exogenous injection of liquidity may be the most efficient means of averting them, then the question boils down to how to provide that liquidity efficiently — through a government agency (i.e. the central bank) holding stocks of Professor White's 'standard basic asset' and standing ready to provide it to the market or through the injection of government money?

Whatever the case may be, the point is that this establishes the need for a central bank — without relying on either the inherent tendency of a free banking system to overexpand the money supply or the inherent instability of the financial system. Surely, once the potential for such crises is granted, no matter how small the probability, one cannot afford not to take precautionary action. Having a central bank to meet such contingencies corresponds to buying insurance against catastrophes with small probabilities of occurrence.

Even if the relative efficiency of providing liquidity to the market under these circumstances through the creation of central bank money is granted, Professor White may still prefer the option of having the central bank standing ready to provide liquidity by simply holding stocks of the 'standard basic asset' since, once you give the central bank (i.e. the government) the power to create money, then there is always a temptation on the part of the government to abuse that power.

Should we decide to go down the path of allowing the central bank to create its own notes, however, then in the presence of competing private monies there will not be an obvious natural demand for these notes. This demand may, however, be artificially created by introducing some frictions (i.e. inefficiencies) into the system. One such friction, probably the least

distortionary one, would be simply to require all payments to the government (e.g. tax payments) to be made with central bank money. Indeed, to call this a 'friction' may be misleading. Under a fully deregulated financial system I, as an individual, can choose to be paid in any currency I desire, by any other individual who owes me money, without this being considered inefficient. Surely the government, as a corporate entity, has the same right.

My conclusion is that we do indeed need a central bank since we cannot deny the potential for financial system instability and the need for the stabilising role of the lender of last resort function under such circumstances. The performance of this role by the central bank does not, however, require that it has the power to create central bank notes. Whether or not giving the central bank this power is desirable depends on the assessment of relative costs and benefits. I personally agree with Professor White that the potential for abuse, once you give the government the right to create money, is great and that this consideration should be given a great deal of weight on the cost side of the equation.

Finally, and looking at it the other way, is there any merit in allowing private banks to issue their own notes in a world where the central bank continues to issue notes and mechanisms are in place to ensure that there is a demand for them? In other words, is there any merit in basically preserving the monetary system we have in New Zealand today, apart from removing the legal tender provisions that now apply to government notes and coin, and allowing the banks to issue their own notes; or indeed to allow New Zealand citizens to use other foreign currencies, in addition to the NZ dollar, to settle claims against themselves? The answer is 'yes' and indeed this probably represents the best of both worlds. Provided there are no restrictions on convertibility, there is a free market in each currency and each agent within the economy has the freedom to quote his/her prices in any one of the competing currencies (i.e. has the freedom to choose his/her unit of account), the system would constrain the government's incentive to overexpand the money supply. With exchange rates between currencies adjusting to reflect relative excess supplies, the government can no longer use inflation as a hidden tax to shift real resources from the public to itself. For identical reasons, the system also reduces the incentive of private issuers to over-expand their notes individually or collectively. In addition, of course, we have a mechanism in place to deal with potential financial instability in an efficient manner.

This compromise proposal should, I think, be given serious consideration. We do not have to go all the way with Professor White's proposal to get most of the benefits he, rightly I believe, sees in a free banking regime.

Neil Quigley: Most of the comments that I want to make are about the general lessons of financial history, and the extent to which Professor White's paper rests on those lessons. This is important because Professor White has relied quite heavily on the record of free banking in the 19th century in providing legitimisation for his ideas.

My interpretation of free banking would be rather different from that of Professor White. Looking first at stability: I would emphasise that free banking regimes tended to be notoriously unstable, that the extent of bank failures was very large, and that we have instances of systemic failures of banking systems under free banking regimes. You only have to look to Australia, to the problems of New Zealand in the late 1880s and 1890s, and even to Canada. Most American economists think that the Canadian banking system was (and is) extremely stable. But while it was more stable than the American system, there were a good many Canadian bank failures during the free banking period (and this is despite the fact that there were strict reserve requirements on the issue of notes.)

Looking now at competition: what we find is that in countries like Australia, New Zealand and Canada, the banking market was normally characterised by cartels that tended to limit competition over a wide range of different activities. In a free banking environment bankers established cartels in an attempt to stabilise the monetary system because of the negative externalities associated with bank failures. I particularly want to make the point here that the cartels emerged **without** government regulation.

As for convertibility under free banking, I have no special enthusiasm for a return to a gold or a general commodity based standard. There were very many problems with fluctuations of the price of gold caused by discoveries and by a variety of other factors. If there were more than one commodity serving as a base, there would be problems with relative price changes between the different commodities. In addition, many of the examples of free banking systems that are often cited were extremely reliant on foreign exchange for the stability of their domestic monetary systems. For example, New Zealand and Australia had a sterling exchange system; the Swiss banks a franc exchange system; the Canadian banks relied on the New York money market. Those banking systems relied to a very large extent on other countries' money markets even though no central bank existed in those times.

On the origins of reserve banks, I think that it is wrong to assert that central banks emerged so that governments could control the money supply and particularly so that they could inflate it. Governments could control the money supply without a central bank. And where central banks emerged in New Zealand, Australia, and Canada, the emphasis at the time tended to be on the pursuit of stability. The history of banking can be characterised as being about both the politicians and the bankers themselves grappling with

the problems of instability and the externalities associated with that instability. In these countries central banks were the outcome of a process that began with the regulations which established reserves for the issue of notes, and subsequently saw the establishment of formal clearing houses. This was followed by the emergence of formal cartels in the private sector and later the emergence of central banks. In fact the central banks emerged to some quite significant extent to monitor and regulate the activities of the private sector cartels.

Central banks emerged as part of the evolutionary process of the development of monetary and banking systems and in response to the instability of free banking regimes. I would not like to see us throw out the positive aspects of the evolutionary process. And I think, despite all the problems associated with operating them, central banks are one of the positive aspects of that process.

Jan Whitwell: Professor White argues that "The case for a competitive currency system is akin to the case for competitive market provision of lamb curry" (p.12). Now the notion that the markets for currency and for curry could have very similar behavioural characteristics in an unconstrained environment has for me, as a teacher of monetary economics, some superficial attractions. Instead of my having to spend hours trying to initiate students into the mysteries of how complicated modern monetary systems work, I could rely on an implicit knowledge from their study of how a competitive market for curry operates in their microeconomics courses. The substitution of the word 'currency' for 'curry' would then very simply expedite their understanding of how a modern financial system works. But as soon as one starts to think through the implications of this, one realises that the analogy is dangerous and must ultimately break down.

Consider the following conceptual experiment. Suppose a small open economy is subjected to an externally-sourced inflationary shock, that is, one which is generated quite independently of the money supply process; and suppose further that it is a shock which is then promulgated fairly uniformly throughout the economy so that all prices rise at approximately the same rate. Now a curry house isn't really going to experience any significant increase in the demand for its product: with a uniform increase in prices there are no substitution effects. A free banking system, on the other hand, will experience a significant increase in the demand for its product, for the simple reason that its claims are denominated in nominal terms. An increase in the demand for money in a free market system will drive up the price of money (interest rates), and since, to quote Professor White again, 'Businessmen ... are nicely led by the price system and the profit motive to serve the ends of consumers' (p.4), banks will respond to the price rise by increasing (the money) supply.

Now it seems to me that in a free banking system, there's simply no mechanism (at least, no mechanism is specified in Professor White's paper) that will actually prevent banks from pyramiding their claims on the stock of the commodity standard. Would some sort of ratio requirement have to be imposed? And indeed, who would actually control the supply of the commodity standard? A central bank?

The whole notion of free banking rests on the fairy stories that we are all brought up on about how the modern monetary supply process works. Contrary to textbook stories, the money stock is not supply-driven. In an unregulated financial system it is essentially demand-driven. So, in my opinion, Professor White's concerns about the over-issue of base money by a central bank are ill-founded, especially in a New Zealand context. For the Reserve Bank of New Zealand does not attempt to control the stock of base (outside) money. In New Zealand base money is demand-determined and therefore endogenous. This is an implicit recognition of the fact that, in a demand-driven system, an increase in base money is neither a necessary nor a sufficient condition for an increase in the money stock. An increase in the stock of base money increases the money supply, thereby driving down the price of money (interest rates). But an increase in the money supply does not necessarily increase the actual money stock in a demand-driven system unless the demand for money is significantly interest-sensitive. Of course, an increase in base money may well add to existing inflationary pressures but not through the simple quantity theory channels that Professor White envisages. If lower interest rates effect an exchange rate depreciation the consequently higher import prices will add to domestic inflationary pressures, thereby increasing the demand-driven money stock. The increase in the money stock would thus be the cause, not the result, of the increase in prices.

As another conceptual experiment, let me take Professor White's thesis one step further. If we are going to abolish the central bank, why have banks at all? In a completely free market system, why don't borrowers and lenders just transact directly with one another in the market place? The problem is, of course, an informational one. There are informational asymmetries in credit markets. That's why banks prefer to extend loans on a fixed nominal value basis. And, therefore, it's less risky for them to accept deposits on the same basis. Similarly, depositors, who have limited knowledge about the true state of a bank, prefer to hold deposits denominated in nominal terms. But it is precisely the lack of information about a bank's true net worth that gives rise to the potential for runs. Moreover, runs tend to happen under deteriorating economic conditions as borrowers experience difficulties servicing their contractual obligations. Runs that trigger bank failures therefore amplify adverse real sector outcomes. The free banking thesis abstracts from

the possibility of systematic malfunction because of its elemental neglect of the interaction between the real and the financial sectors.

One final point. Professor White opens his paper with the statement that 'Economists today generally recognise that high interest rates, high and variable inflation rates, widely fluctuating exchange rates, and other aspects of contemporary monetary disorder [and by that I presume he means things like stock market crashes, bank failures, Third World debt crises, and so on] are principally the results of the behaviour of government monetary agencies'(p.3). I firmly reject that. After all, financial markets are the best examples we have of markets that operate in accordance with the competitive market paradigm. The market-driven instability that Professor White represents as undesirable is inherent in unregulated financial systems. Government monetary agencies can operate to accentuate or temper this instability. Professor White's case for the abolition of the central bank rests on his unsubstantiated claim that its operations are inevitably destabilising. But international asymmetries are a far more potent source of potential instability. They create the need for a central bank to ensure system stability and to reduce the risk of runs on banks. As Professor C. A. E. Goodhart has noted, a central bank is necessary to 'assure a stable and smooth functioning financial and payments system' (C. A. E. Goodhart, *The Evolution of Central Banks*, MIT Press, Cambridge, Mass., 1988, p.6).

Response

Lawrence White

Jan Whitwell raises the issue of asymmetric information. I appreciate the theory that suggests an informational rationale for having the sort of specialised institutions that we call banks. Information costs explain why depositors typically prefer bank liabilities with fixed payouts rather than equity participation. But I don't think the rest of her story — that information asymmetries create a need for a central bank — follows by any means. Economic history shows that there have been banking systems (Scotland and Canada, for example) in which bank failures have not led to runs, because the identities of the banks were distinct. When banks are adequately diversified, there's no reason for people to infer from one bank's mistakes that all banks are in trouble. Instead, people withdraw their money from an unstable bank and put it into more stable ones. So I don't think that system-wide bank runs or instability generally follow from informational asymmetries such as the costliness to customers of observing a bank's assets.

Ms Whitwell raises the possibility of 'an externally-sourced inflationary shock . . . generated quite independently of the money supply process'. I assume that she is thinking of a small open economy with floating exchange rates, like New Zealand, i.e. an economy that does not 'import money' from the rest of the world. An external event can permanently increase the price level in such an economy insofar as it lowers domestic real money demand (for example, an increase in the world relative price of imported oil might lower money demand by lowering real domestic income). But that does not make the monetary base endogenous. An external event can indirectly lead to an increase in the price level if the central bank chooses to respond to it by expanding the monetary base. But that does not make the monetary base endogenous, either. Under floating exchange rates the New Zealand monetary authorities do control the stock of base money, which after all consists entirely of their liabilities, no matter how unregulated the rest of the financial system. Actions they take, and could refrain from taking, completely determine the base, even if they choose to change it in response to various

events. A literally demand-determined or endogenous base is a feature of a free banking system on a commodity money standard, but it is incomprehensible in a fiat money central banking system with floating exchange rates. To my 'textbook' way of thinking, a nominal base that rose in step with nominal base demand would leave the price level, and the values of all other nominal variables, unanchored and indeterminate.

It's difficult for me to respond adequately in a few words to the rest of Ms Whitwell's comments. Our views of the relationship of money to the rest of the economy are so different that we may never agree. I don't think it's a fairy story to say that the quantity of base money is supply-determined or that the broader money stock is supply-determined. On the contrary, I think that the story that makes it entirely endogenous, including the supply of outside money, is really incomprehensible (assuming that we are talking about a fiat money system with floating exchange rates). It's simply an incoherent thought experiment to suppose a shock that raises the price level and then to see how the money supply responds to it. The price level is the inverse of the purchasing power of money, and the purchasing power of money is determined by the relationship between the nominal supply of money and the real demand for it: these are the exogenous variables, which must change first in any thought experiment. So it's not coherent to say that if the price level rises, then the supply of money will follow it up. Either the supply of money goes up first, and that raises the price level, or money demand has fallen.

Moving on to Neil Quigley's comments: we do indeed interpret the history of free banking systems differently. Looking at a broad range of experience, I find that they were not characteristically unstable or failure-prone, though of course there were occasional and sometimes painful learning experiences. I do not believe that we see effective cartels in the absence of legislated entry restrictions. Central banks emerged from legislation, and represent a derailing rather than an extension of the market evolutionary process.

How much faith would we want to place in examples drawn from the 19th century? If anything, modern technology makes freedom in banking less of a problem. Information is much more available today; the likelihood of issuers performing the sort of confidence games that were sometimes carried on in the US in the 19th century is much lower today. Markets today quickly become very sophisticated at monitoring and disciplining financial institutions when they are allowed to do so.

Arthur Grimes raises the question of what the government would accept in tax payments under a free banking system. In the historical cases of free banking, governments accepted as money what everybody else has accepted and I don't see the demand for that money being greatly affected by its

acceptance in tax payments. Now, clearly, if the government had said it would accept tax payments only in the form of certain coupons, they could create a demand for those coupons. But when government conforms to the monetary standard that has evolved in response to the convenience of traders rather than in response to taxation, then government would not need to insist on a certain type of money in order to generate a demand for it.

Is any part of the free banking program likely to be implemented soon? Some of what Girol Karacaoglu has proposed certainly could be: that is, we could immediately permit competition at the margin, by allowing people to use accounts denominated in foreign currency. The more responsive the demand for any given central bank's currency is to the inflation rate, the more constrained that central bank is not to inflate. The Europeans are talking about eliminating barriers to international banking, so that, for example, French citizens could hold Deutschmarks directly. That may explain why Europe's central bankers are very worried and are now trying to form a cartel. If they allow such competition, and don't form a cartel, there would be a lot more discipline on them.

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Policy Forums 9

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