



AUT

School of Economics

Working Paper Series

The Economists and Monetary Thought in Interwar New Zealand: The Gradual Emergence of Monetary Policy Activism

Geoffrey Brooke, Anthony Endres and Alan Rogers

2018/09

The Economists and Monetary Thought in Interwar New Zealand: The Gradual Emergence of Monetary Policy Activism

Abstract

In spite of the existence of several monetary and central bank histories, the emergence of monetary thought in New Zealand after 1914 has not been subject to extensive analysis. This paper remedies this deficit for the interwar period. The focus is upon the propagation of monetary ideas in New Zealand and their intellectual sources. We apply a heuristic in which different monetary doctrines are situated along a continuum between extreme monetary policy ‘activism’ and extreme ‘minimalism’. In the 1920s, New Zealand economists betrayed a minimalist bias across several dimensions: money supply regulation, the role of money and the international monetary transmission process in the business cycle, and the operation of bank-credit allocation mechanisms. Incipient activism in the work of Condliffe and Belshaw was countered by Niemeyer’s case for a minimalist central bank. Fisher adopted an anti-reflationist, forced savings approach to the 1930s crisis; he underscored the deleterious monetary and real consequences of Government exchange rate management after 1933. Copland, Tocker, Belshaw and Hight downplayed these consequences. Extended debate over the original Reserve Bank legislation and perennial amendments thereafter, generated new meanings for the phrase ‘monetary policy independence’; it also turned most economists against extreme activism (or the policy of monetary nationalism) that prevailed from 1938. Throughout the interwar period, New Zealand entertained a vigorous contest of monetary ideas; most of those ideas were inherited from the work of Keynes (as early as 1923), Hawtrey, Cannan, Robbins, and Hayek, though adapted to local conditions.

Keywords: New Zealand, monetary policy, central bank, history of thought

G. T. F. Brooke^a, A. M. Endres^{b*}, A. J. Rogers^b

^aSchool of Economics, Auckland University of Technology

^bDepartment of Economics, University of Auckland

*Corresponding author: a.endres@auckland.ac.nz.

Monetary systems and monetary policies, like most other features of social life [in New Zealand], have changed considerably between the two wars. Banks and money markets no longer function along the semi-automatic lines of adherence to time-honoured rules, but have become ...enmeshed in state controls and in the operation of public finance...To some extent these changes reflect the growing recognition that monetary policy is both less simple and less powerful than it seemed to economists of the early 'twenties. (Simkin 1950, 250, bracketed insert added).

1. Introduction

Considerable research attention has been devoted to the study of many aspects of monetary history in New Zealand. Bedford (1915) set the scene with his pioneering work on the history of banking in New Zealand. The first authoritative economic histories of New Zealand dabbled in the subject (e.g. Condliffe 1930, 151-3, 275-63, 319-27; Simkin 1951, 68-81). Histories of banks (Sinclair and Mandle 1961; Hawke 1997) and banking organisation, banking practices, financial systems and financial markets have been popular (Reserve Bank of New Zealand 1955, 1982; Simkin 1952; Harper and Karacaoglu 1987; Whitwell 1987; Quigley 1992). There are now two histories of the Reserve Bank of New Zealand (Hawke 1973 and Singleton *et al* 2006). It is notable that these two central bank histories have largely focused on the personalities, events, organisational, legislative and administrative aspects of the central bank since its inception in 1934.

In a review of Hawke's first central bank history up to 1972, Blyth (1976, 86) averred that the book was 'largely about the development of an administrative institution'; it did not offer many insights in to 'how the bank's officers thought'. Readers would be disappointed if they expected to find out 'what the bank's views were on the relation of money supply and inflation. Was the bank a monetarist?' This problem is partially addressed in the latest central bank history from 1973-2002. Singleton *et al* (2006, 70-98) include a chapter entitled 'Intellectual Developments in the Bank to 1984'. While it makes a start

in considering the underlying monetary thought prevailing in the New Zealand central bank over a rather short period of time, the coverage is limited. It does not seriously consider what theoretic insights were incorporated in to the monetary policy framework; the source of monetary ideas within the central bank; why those ideas are implicitly presumed to have ‘developed’ in a favourable manner and why they prevailed over alternative, competing ideas circulating outside and so forth. Answers to these kinds of questions are of interest to historians of economic thought.

Similarly, for the interwar period, the intellectual history of money and monetary policy in New Zealand has appeared, if at all, on the margins and in the footnotes of work conducted by economic historians. This paper is an attempt to remedy the glaring imbalance in the historical literature in the case of New Zealand by building on scarce histories of economic thought in this field (Endres and Fleming 1995; Fleming 1997). Taking our point of departure from Endres and Fleming (1995) which investigated the state of monetary thought in New Zealand up to 1914, we propose to examine the main themes in the work of economists who made major contributions to monetary thinking and policy debate in the interwar period. The first post-war cyclical upheavals in the New Zealand economy together with the economic crisis in the early 1930s were a significant stimulus to the development of monetary thought. Ideas on the underlying causes of cycles including the role of monetary factors, empirical research estimating the role of money and credit in cycles, and consideration of possible monetary policy responses, all flourished in the local context.¹ By the early 1930s, arguments concerning the need for a New Zealand central bank began to emerge and economists dwelt extensively upon the scope, functions and objectives of such a bank. The clash of ideas on this important subject has not been fully documented.

In terms of the scope of the present paper, we use the term ‘economists’ advisedly to indicate our focus on the ideas expounded by academic economists and economists who were prominent policy advisors and who sometimes popularized their work in more widely accessible publications. Monetary ideas during the interwar period were often propounded by many so-called ‘monetary cranks’ (Clark 1987). The notorious social credit thinkers, under the sway of Major Douglas, are a case in point. Much of this social credit pamphlet literature in the Antipodes has been comprehensively surveyed and appraised by Pullen and Smith (1997). Internationally, monetary theories of the business cycle developed rapidly in

¹ In Australia there was a similar surge of interest in monetary economics during the interwar period, in part, as we shall have occasion to note below, influenced by research work undertaken by New Zealand economists. Cain (1980) offers an exacting account of Australian monetary thought in this period. See also Millmow (2010, 38-55).

the interwar years (Bridel 2008). In the New Zealand case, we will be concerned with how economists oftentimes betrayed the imprint of monetary thought and associated business cycle empirical research methods transmitted from international sources. One of our more general results is worth foreshadowing here: for New Zealand we confirm Laidler's (1999, 277) observation on trends in monetary thought in the international realm during the period under review. That is, the New Zealand economists contributed to what Laidler described as 'a vital, diverse, changing body of literature dealing with what we nowadays call macroeconomics'. Specifically, the literature was concerned variously to understand the nature, objectives and consequences of the monetary policy (including private-bank policy) transmission mechanism both before and after the creation of the central bank in New Zealand in 1934. We will find no single monetary theory or approach to the business cycle and no uniform view of monetary reform or policy amongst the economists whose work we will survey here. That work was driven by local economic events, circumstances, domestic and international money market arrangements and banking institutions. The research methods and policy conclusions were also shaped by the intellectual background and training of the economists concerned. In keeping with Laidler's observation, there was almost as much doctrinal diversity in New Zealand during the interwar period as he noticed elsewhere. Our objective is fully to exposit that diversity.

Our framework of assessment will be structured by a simple heuristic in which monetary policy 'activism' and 'minimalism' stand at opposite ends of a continuum. 'Policy' will encompass not only central bank actions; it will include the actions of private banks under a gold standard or an exchange standard based indirectly on gold. The extreme ends of the continuum possess the following general characteristics (here we briefly synthesise Smith 1936; Craine *et al* 1978; Goodhart 2008, 2010; Costabile and Epstein 2007):

Pure Minimalism

1. Either no requirement for a central bank or if there is a central bank it must not act to influence the actions of private banks except to ensure uniformity of the note issue.
2. Fixed rules for central bank policy do not require specific knowledge of the structure of the economy or short run information on exogenous events.
3. Monetary policy rules are given *ex ante*.
4. Monetary policy rules have no explicit employment or growth objectives.
5. Monetary policy rules have quite limited stability objectives.

Pure Activism

1. A central bank is essential (not merely for note issuance and convertibility, centralization of reserves etc)

2. Monetary policy is not based on fixed rules; policies must be adjusted to make selective use of information as it becomes available.
3. Monetary policies are modified during any specified period (they are *ex durante*).
4. Monetary policy has a wide array of functions and objectives relating to financing government, price stability, employment, economic development and growth.
5. Monetary policy must have extensive financial stability functions and objectives (including management of macro-level monetary conditions, micro-level level prudential supervision, lender of last resort etc).

Our paper is structured as follows. Section 2 surveys the work on the economists on monetary questions in the 1920s in the light of the very small, open trade oriented economy, the land boom and subsequent slump. It is in this period that the first signs of the emerging battle lines between minimalists and activists became evident. Section 3 considers monetary thought and related policy prescriptions during the Great Depression including the international monetary effects and implications for New Zealand that subsequently turned on exchange rate management. This latter event marked the first major success for monetary activists. However, in this period the minimalist viewpoint was still prevalent. Section 4 delves more deeply in to the monetary theory and policy issues underlying the controversy among economists concerning establishment of the Reserve Bank. In this controversy, the minimalist-activist divide was recast in debate on the appropriate objectives and operations of a central bank. In the late 1930s a consensus emerged around a mild form of activism though the monetary regime in this period in fact resembled activism in its most extreme form. Section 5 provides a summary and conclusion.

2. Nascent Signs of Minimalism vs Activism: Monetary Thought in the 'Twenties

The Australasians first dealt with aspects of monetary economics indirectly by way of reflection on local circumstances. Though hidden by the locally applied nature of their contributions, aspects of monetary thought are evident in the first issue of the *Economic Record*. Two articles, written by Douglas Copland (1925) an expatriate New Zealander, and Albert Tocker (1925a) at the University of Canterbury, addressed monetary questions.² Tocker's earlier empirical research significantly influenced the content of those two articles as acknowledged by Copland (1925, 19).³ The essence of this research was that

² Singleton (2007) provides biographical details of Tocker.

³ In terms of the specific insight attributable to Tocker, Neville Cain (1980, 13 note 49) explains: 'Only after Tocker's contribution...did Copland realise that Australia had long been on a form of the gold-exchange standard'.

omnipresent international monetary forces affected monetary conditions in Australasia though not monetary flows attributable to a pure gold standard regime. In the case of New Zealand (hereafter: NZ) from 1904, Tocker (1924b, 565) demonstrated that monetary conditions were dependent on the net balance of external payments under an approximately fixed exchange rate regime. NZ did not have a central bank exercising power over the money supply or the exchange rate. Gold flows to and from NZ were minimal and there was legal restriction on the note issue.⁴ Instead, a sterling-exchange standard was in operation, where sterling's value was fixed in terms gold. The NZ currency was fixed (by bank convention) within fairly narrow limits against sterling. Private banks held reserves of sterling exchange in London. Those reserves were augmented by export receipts and diminished by import payments; conversely for bank balances of domestic currency in NZ. Thus 'the payments made by importers in New Zealand are actually used for disbursement to exporters' and vice versa as regards bank reserves in London. For example in the case of export receipts, these are financed by bills drawn on London bank balances, are discounted by the relevant bank and remitted to London for collection. In short 'money does not cross the sea' (Tocker 1925b, 2). In NZ's small, open economy, Tocker demonstrated how banks were neither self-contained nor independent of international monetary receipts and payments; their function as providers of trade finance was of 'fundamental importance' (Tocker 1924b, 665) to the domestic monetary process. Banking returns in NZ indicated that:

a marked increase in advances regularly follows an unfavourable trade balance, when, importers' bills being depleted, the banks continue to meet importer's bills in London...As recovery occurs, deposits regularly increase and advances diminish again, but, in inducing a contraction of advances, bankers may resort to means of pressure other than manipulation of the overdraft rate. There is, therefore, little, if any, of that regular correspondence in the movement of deposits and advances such as is expected to occur under self-contained banking systems. (Tocker 1924b, 565).

This passage raises three major questions: (i) What regulated the money supply? (ii) What conjectures and insights were derived concerning the monetary transmission mechanism and business cycle impact of the sterling exchange standard? (iii) What was the economic rationale for the banking system's credit allocation policy that did not seem to rely predominantly on interest rate changes? And what did the

⁴ Private banks in NZ always held gold reserves well in excess of legal restrictions on the domestic note issue. This gave them 'practical freedom of note issue' in the 1920s (Tocker 1924b, 567). Gold movements depended on banks requirements for coin rather than on exchange rates. See Tocker (1924b, 559, 564-5; 1925b, 1) and Quigley (1992, 211).

economists think about the consequences of this policy? We shall deal with each of these three matters in turn.

Money supply regulation

The money supply within NZ was predominantly controlled by external receipts and payments (given the fixed exchange rate regime and abstracting from organic growth of the NZ economy requiring additional monetary means to finance a rise in transactions). Thus, for example, excess export receipts over import payments led to an expansion of deposits and notes in circulation equal to the increase of bank balances in London. Consequently, bank advances expand, domestic expenditure increases and this in turn increases imports and eventually diminishes London reserves. For Tocker, NZ's exchange standard produced long run macroeconomic outcomes consistent with both (i) the 'Quantity Theory' in that the money supply determines the absolute level of prices; and that money supply normally varies directly with the net balance of payments on current account, and with large capital account transactions such as foreign borrowing, and (ii) the 'theory of purchasing power parity' as regards the exchange rate with sterling (Tocker 1924b, 566). Overall, in Tocker's (1925b, 2) view, 'provided it is not interfered with', the money supply 'adjusts itself automatically to our needs and purchasing power with a maximum of elasticity and convenience'. There is no suggestion that the local money supply has any impact on real variables such as the terms of international trade. This is entirely consistent with what was later called a 'monetary approach to the balance of payments' that has its historical origins in Ricardo and Mill, and was propounded in the twentieth century by Cassel and Hawtrey (Frenkel and Johnson 1976). According to this approach all balance of payments disequilibria (under fixed exchange rates) can be reduced to monetary phenomena. Bank credit policies must be a conduit for London reserves of the banking system and certain policies can directly affect the balance of payments (in the NZ case for the 1920s the state of this 'balance' was indicated by the London reserves). As we shall see below, the monetary approach focuses upon the determinants of the excess demand or supply of domestic money.

Business cycle propagation

Business cycles in NZ are transmitted through the net balance of external payments. In short, cycle propagation in an upswing is located in 'increasing export values'; these rising values 'increase the public's net claims on the banks, and therefore increase public purchasing power' (Tocker 1925a, 56). Bank advances merely serve and assist variations in export values (p. 51). This view highlighted the role played by a specific type of monetary aggregate beyond the direct control of the banking system: the external (London) bank balances. The credit-creating practices of that system were not the

fundamental source of cycles.⁵ There were two supporting factors that made cycles in bank lending self-regulating over the long run i.e. through the various cycles: a high propensity to import and what he calls ‘business psychology’ and ‘business confidence’ all of which vary (oftentimes with lags) in the same direction as changes in purchasing power (Tocker 1924b, 558; 1925a, 51).

Standard international approaches to business cycle measurement in the 1920s focused on internally generated price level fluctuations in the nation under examination (Cain 1980; Bridel 2008). By contrast, in NZ the “small residue” of internally generated price level fluctuations were not significant in the long run (Tocker 1925a, 49-50). The NZ cycle was a trade-based phenomenon that impacted the purchasing power of farmers in the first instance and was accommodated by the monetary system (Tocker 1924a).⁶ As well, Tocker brought government spending into the analysis. The monetary system was a principal transmitter of locally induced inflation when government borrowing on the London capital market was ‘excessive’. In the mid-1920s, a surge in Government foreign borrowing led to an accumulation of bank reserves in London.⁷ Such ‘an accumulation...can be “transferred” to New Zealand only by an expansion of money here, and an expansion thus induced, being in no way the result of ordinary elastic adjustment of money to trade needs, is undeniably inflation’ (Tocker 1925b, 2). Instead of using internal monetary control such as nominal interest rates, the NZ banks in these conditions used an external instrument. That is, they acted to ‘spread the inflation over a longer period’ thereby reducing its deleterious effects, by ratcheting-up the value of the NZ currency against sterling.⁸ This ‘resort to vexatious exchange rate movements’ amounted to a concerted monetary ‘policy’ reaction by the private banks; those banks acted as a check on fiscal profligacy in order to avoid unanticipated inflation that in turn could distort bank borrowing decisions. Naturally, NZ exporters at the time popularized this event as New Zealand’s ‘exchange problem’ because it reduced exporters’ returns in local currency, when in fact it was a government expenditure problem (Tocker 1925b, 3). Neither in the

⁵ This conclusion is appropriately qualified: ‘deposits in New Zealand may be created not only by an excess of exports over imports, but also by an increase of bank advances. Hence it is the excess of deposits over gross advances, rather than deposits alone, that must be considered’ (p.52)

⁶ Tocker’s contributions to the measurement of the NZ business cycle in the 1920s confirm Hawtrey’s (1927, 471) remark that ‘experience first showed periodical fluctuations to occur in the state of trade, and then economists set themselves the task of finding a deductive explanation of the phenomenon’.

⁷ As well, the tendency for Australian government borrowing to affect bank exchange rate policy reactions in NZ was also important in the 1920s given the trans-Tasman operations of most of those banks. On this matter see Tocker (1924b, 1925b, 3) and Fleming (1997, 5). Here we shall only consider the case of bank responses to NZ government borrowing.

⁸ This policy reaction followed Tocker’s (1924a, 572) rule: ‘If the internal monetary control be rigid, the necessary elasticity must be found in fluctuating exchanges; if exchange rates are to be kept constant, then elasticity must be provided within monetary system itself’.

popular view nor in Tocker's estimation, was the 'exchange problem' a result of monetary arrangements and monetary institutions.

In retrospect, it is clear that the banks in NZ used exchange rate adjustment in a manner that is consistent with Tocker's monetary approach to the balance of payments. That is, in the 1925 case discussed above, there was an excess demand for domestic money. Banking policy turned to currency appreciation as a substitute for domestic credit largesse; it operated to increase the sterling value of NZ's money supply. Conversely, the small devaluation of 1922 was partly a substitute for credit contraction. As Johnson (1977, 227) pointed out, one of the implications of the monetary approach is that 'the case for preferring exchange rate change to monetary policy change must rest on price and wage rigidity and money illusion of some kind'. Indeed, NZ in the 1920s satisfied all these conditions. Thus Tocker (1925a, 50) argued that not only does 'lack of really keen competition make local prices inert'; wage stickiness in NZ was widespread because of the centralized wage setting system based on compulsory arbitration between employers and unions (Tocker 1924a, 132). Moreover, money illusion is implied by his remark that 'the average of public opinion' lagged changes in real variables 'for many months' (Tocker 1925a, 58).

Altogether, Tocker must be classified as a monetary policy 'minimalist' in the 1920s in that he did not propose that the banking system adopt some sort of counter-cyclical policy.⁹ The banking channel of monetary transmission from international sources to the real economy worked well; it did not cause economic disorder. Major inter-temporal substitution problems arising from fiscal policy-induced inflation (or some other problem) may be managed by slight exchange rate variations.¹⁰ In this latter respect he departs from the pure minimalist position stated in Section I of this paper. Without a central bank, private banks in NZ operated with an implicit short run stability objective; they acted sparingly to ensure financial stability by using their last-resort control over the otherwise 'fixed' exchange rate.

⁹ As we noted earlier Tocker (1924b) listed psychological forces as having a major role in cycle amplitude. However, he saw no place for monetary policy in correcting what he calls 'errors' of 'over-optimism and over-pessimism'. He made recommendations for significant changes in official statistics on trade, banking, national income and expenditure. With more reliable statistical data, market participants would more accurately gauge the long run contours of the economy, adjust their expectations accordingly and reduce such psychological errors (1925a, 61-2).

¹⁰ Thus the exchange rate was always only 'approximately fixed' by the banks. It was temporarily devalued by 3% in 1921 in response to a precipitous decline in London bank reserves (Tocker, 1924a, 131-2). We find no evidence that the exchange rate was allowed to 'float' in this period Cf. Quigley (1992, 218-9).

Credit allocation mechanisms and consequences

In the long passage cited earlier, Tocker alluded to the tendency for banks not to rely on the nominal interest rate instrument (the ‘overdraft rate’). In his study of the NZ business cycle he noticed that interest ‘rates are fixed by agreement amongst the six Associated Banks, and remain unaltered for long periods’ (Tocker 1925a, 51). NZ capital markets were ‘not highly competitive’ in the 1920s; they were so underdeveloped that fine-tuning credit allocation using marginal interest rate adjustments was not considered prudent.¹¹ Tocker simply took for granted that informal bank ‘pressure’, murky credit rationing rules employed by banks, and even forced asset liquidation in crises such as occurred in 1921-2, were optimal in these circumstances. He faced the opposing views of J. B. Condliffe and Horace Belshaw who saw the existing money market imperfections as warranting government intervention.

The essence of the Condliffe-Belshaw position may be summarized as follows.¹² They drew attention to a monetary transmission process in which credit supply is complicated by credit rationing practices in the early 1920s land boom and subsequent slump. Financial intermediaries thrived in the 1920s and affected the credit supply channel. Those intermediaries included stock and station agents, land real estate agencies and finance companies. Joint stock banks offered no interest on current deposits whereas the intermediaries offered positive interest rates. Farmers and others were attracted to the latter and the intermediaries developed land mortgage products founded on the basis of those deposits supplemented by short-term borrowing from the major banks. Condliffe and Belshaw (1925) estimated that 80% of long-term farm finance came from this source; they recognized that banks were reluctant to lend long on mortgages to farmers in a credit rationing environment given the risks presented by high levels of asymmetric information in the agricultural sector (Fleming 1993, 97). On the other hand, the intermediaries were not so constrained. Accordingly, they accumulated land mortgage books in which relatively high rates of interest predominated and, crucially, allowed those mortgages to be transferable. The land boom in the early 1920s, only partly fuelled by government assistance to returning soldiers, was ‘an orgy of inflation and gambling’ (Condliffe and Belshaw 1925, 345). Land speculation occasionally led to farms being ‘sold two or three times in one day...aided by the readiness of sellers to accept mortgages in part payment’ (Tocker 1924a, 130). One consequence observed by Condliffe (1925, 230) was that in speculative land booms there always appeared a ‘tendency to less efficient farming’ thereby placing NZ’s ‘long term economic development’ in jeopardy.

¹¹ There was one exception: in 1921 the overdraft rate was increased expeditiously and significantly to 7% in order to dampen a speculative land boom (Tocker 1924a, 132).

¹² Here we draw upon earlier work on the ‘Canterbury tradition’ in economics in (Endres 1991, 182-6) and unpublished sections of Grant Fleming’s PhD thesis concerning agricultural finance in the NZ economy during the interwar years (Fleming 1993, 90-102).

In his Cambridge PhD research Belshaw (1926a) found that the trade cycle in agriculture was generally a profit cycle (and rarely an output cycle in the long run). The profit cycle paralleled fluctuations in land values but the latter could be accentuated, as in the NZ boom, from too much credit ‘advanced in the wrong ways and on inadequate security’ (Belshaw 1926b, 76). In the ensuing slump from 1924, financial intermediaries attempted to fund rising liabilities ‘by issuing ten-year debentures at from 7 -1/2 to 10 per cent’ (Condliffe and Belshaw 1925, 344). This tended to reinforce the high interest rate structure on farm mortgages that prospectively crimped farm profits and investment for long periods.¹³ Keynes (1936, 241) remarked that ‘high interest rates from mortgages on land, often exceeding the probable net yield from cultivating land, have been a feature of many agricultural economies’. Condliffe’s and Belshaw’s research in the 1920s demonstrates that NZ agricultural credit was no exception. They insisted that the major banks had a strategic position and a social responsibility to pursue ‘sound banking policy’ by pre-empting farm land-price booms and applying a ‘substantial rise in the rate of interest charged on overdraft’ to the financial intermediaries in particular (p.345). Instead, the monetary policy prosecuted by the banking system was pro-cyclical; it was so egregiously permissive that it damaged long-term investment in agriculture. All this meant that ‘the real development of the Dominion has...been retarded’ (Condliffe and Belshaw 1925, 343).¹⁴

Altogether, Belshaw (1927, 7-8) insisted that bankers need to ‘be courageous enough and wise enough’ to vary overdraft rates more often so as to ‘check over-optimism and over-pessimism’ in a manner similar to the US ‘Federal Reserve System’. The monetary-related policy prescriptions ensuing from the Condliffe-Belshaw perspective were far reaching (for the 1920s) but they did not go so far as to recommend establishment of a central bank. Certainly they saw a need to overcome monetary rigidities, correct money market imperfections and engineer monetary reforms to counter speculative forces in agriculture that led to major land price fluctuations. Such fluctuations could threaten the stability of the overall national price level. A ‘safe system of agricultural banking’ was required (Belshaw 1926b, 83) though designing such a system must be based on extensive background research of international experience in this field—research of the kind that Belshaw (1931a) later undertook. A government-sponsored, and perhaps farmer-cooperative rural credit bank was suggested early in the 1920s (Condliffe 1924). Given the government’s power to appoint directors and a chair of the Bank of NZ, it might use

¹³ Later Belshaw (1928, 56) complained that during the 1920s the rentier class came to take an increasing share of ‘our basic industries’.

¹⁴ These lessons from land price booms fuelled by unchecked bank credit creation had been taught before in NZ, i.e. in the late nineteenth century. However, ‘the public memory is short and the economic history of the Dominion little known’ (p.346).

this power to force that bank to develop a more favourable policy toward agriculture. Specifically, the Bank of NZ should establish a farm mortgage division that could ramp-up competition with financial intermediaries and other banks for long term finance (Condliffe and Belshaw 1925, 351). Moreover, Belshaw and Williams (1930, 15-16) offered a prudential lending rule— ‘larger deposits and smaller mortgages’— but did not suggest how it could be implemented and enforced. Lastly, Belshaw (1931a, 178) proposed legislation that would deepen the local money market for farm credit in particular, namely legislation permitting the formation of farm mortgage investment companies similar to the joint-stock land banks in the USA.

In terms of our heuristic in Section 1, the foregoing Condliffe–Belshaw monetary reform suggestions are located within the ‘monetary activist’ spectrum though without insisting on the need for macro-level control and oversight by a central bank. The articulation of a short run activist objective—to obtain a modicum of internal monetary autonomy for the purpose of pursuing the stable financing and growth of agriculture—was beginning to emerge. This objective was underwritten by the Cambridge view originating in Keynes (1923) turning on the prime importance of avoiding domestic price level fluctuations and on stabilizing in the short run, and later growing, the level of production (Endres 1991, 182, 186; see also Eshag 1963, 130-33). Credit creation and especially the various institutions responsible for the provision of credit to agriculture were a focal point. Implicit in the NZ approach is an idea made plain in Keynes (1923, 184):

Thus the tendency of to-day—rightly I think—is to watch and control the creation of credit and to let the creation of currency follow suit, rather than, as formerly, to watch and control the creation of currency and to let the creation of credit follow suit (p.184, emphasis added).

Before the return to gold in 1925, Keynes’s (wishful) preference for this asserted ‘tendency’ lived on in NZ beyond 1925 and it challenged the corresponding NZ banking convention to, above all else, control ‘creation of currency’. The NZ currency was not directly gold-convertible. Persistent indirect convertibility via sterling exchange kept Keynes’s preferred ‘tendency’ alive in NZ after Britain’s return to gold. Locally, the insistence on absolute stability of the foreign exchange rate, of external stability, and on flexible domestic prices and costs in the long run were relegated to a second order of importance largely on empirical grounds as the events demanded. Yet those (and here we include most NZ economists) who followed Keynes on this matter ‘did not abandon the desirability of stable exchange rates or of external equilibrium altogether’ (Wakatabe 2018, 242). As we noted earlier in this section,

Tocker took a small step in the direction of challenging the priority of external stability in the short-run. The writings of Condliffe and Belshaw in the 1920s and early 1930s went further; they raised questions about short-run issues of income shares (e.g. rentiers and bank shareholders vs farmers), instability of both prices (particularly land prices) and agricultural output, and long-term economic development. NZ's development was threatened by what they saw as distortions in the creation of credit and in the subsequent misallocation of real resources commanded by credit. Their position runs parallel with that of Keynes (1923) who proposed securing domestic price stability in the short-run ahead of external currency stability. The key difference was that the New Zealanders were mainly concerned with land price stability.

For the 1920s, Tocker was a limited stabilisationist in terms of the position he held on the practice of banking policy (small exchange rate changes) designed to counteract the dangers of inflationary government finance. He was otherwise an adherent of external stability, the gold standard, and he supported liquidationism.¹⁵ The Condliffe-Belshaw position was based on additional and more fundamental reasons for active monetary stabilisation: damaging asset price booms and subsequent slumps were accentuated by the extant monetary system and therefore major micro-institutional reforms in that system, including the prudential regulatory structure, were considered necessary.

3. Monetary Activism I: State Control of the Currency Standard

First reactions to the crisis

The preoccupation of NZ economists with pressing, immediate issues of economic policy in the early 1930s to some extent masked their underlying monetary ideas. It is easy to infer that their thinking on matters relating to the monetary regime, if they could be identified at all, changed rapidly with the changing economic circumstances and could not be rigorously deduced from an identifiable monetary theory. Thus economic historians would have it that NZ economists offered *ad hoc*, short-run recommendations aimed to satisfy policymakers intent on responding in a pragmatic manner to highly unusual economic conditions (e.g. Hawke 1988; Greasley and Oxley 2002). In recommending policy responses to the crisis in the 1930s the economists simply accommodated a local 'tradition of a willing recourse to government intervention where it could be expected to be useful' (Hawke 1985, 156). This view has been corrected and qualified by more nuanced treatments of the crisis focussing on the

¹⁵ By 'liquidationism' we mean, following Barry Eichengreen (cited in White 2008, 75), a doctrine 'according to which business cycle downturns served the Darwinian function of weeding out weak enterprises least well adapted to a dynamic economy'.

intellectual-history background to the policy advice of selected economists (Endres 1990; Fleming 1997).

In NZ there were no major monetary reforms proposed by economists in the early 1930s. One of the first economic analyses of the crisis in 1929-31 made no mention of the monetary regime (Lawn 1931). Reminiscent of Tocker (1924b) and Ashwin (1930), Lawn repeated a standard complaint that bankers inappropriately considered NZ to be in some form of monetary (and currency) union with Australia. As a result they ‘failed to separate completely Australian and New Zealand funds held in London by banks doing business in both countries’. In his view, the paramount objective of monetary policy was external stabilisation of the ‘monetary standard at the appropriate rate’. In 1931 the monetary standard was not stabilised correctly; it was set on the basis of some average of economic conditions in both countries. In 1931 sterling was set at a 10% premium to the NZ currency when NZ’s strong current account position relative to Australia’s meant that the price of sterling should be at approximately a 2% premium. The net outcome in NZ was both higher production and import costs, and thus living standards were lower than would otherwise have been the case (Lawn 1931, 27). Lawn’s solution was more careful assessment (by the bankers) of economic data and moral suasion: banking policy should be amended by bankers who should take account of the unique macroeconomic conditions in NZ as signalled by the favourable state of London balances which ought to be more closely aligned to the domestic monetary base. In short, in terms of the modern terminology we used in Section 2, the open economy, monetary approach to the balance of payments ought to be more faithfully followed by NZ banks. The currency would then be revalued and internal prices and production costs would move lower, precisely as the situation demanded.¹⁶

Monetary thought in NZ was not initially stimulated by the extraordinary events in the 1929-31 period not because the economists were preoccupied with day-to-day aspects of economic policy. Other than urging more international monetary cooperation even the more liberal Horace Belshaw (1931b, 4-5) who at times promoted more prudential controls over the provision of credit at the micro-level, failed to suggest any major macro-monetary responses. Prevailing monetary ideas in the 1920s had left a ‘Depression legacy’ in Australasia (Cain 1980; Fleming 1997, 6-7). That ideational legacy had a

¹⁶ Here we ignore the ‘outside market’ in foreign exchange (beyond the major banks) that also operated at the time with the involvement of financial intermediaries such as stock and station agents. This market constituted approximately 15% of all foreign exchange dealings; it was closed by the introduction of exchange controls in 1932. This gave the banks a monopoly of exchange dealings thereafter in return for meeting all future central and local government foreign exchange requirements for foreign interest and debt redemption (see Belshaw 1932a, 2; Hawke 1973, 23).

powerful influence on the monetary views held by most economists in NZ; it assumed that the British price level would be kept stable, so that money in NZ could be managed by the banks with a long-run macro-focus upon steady exchange with sterling. In effect this doctrine turned on keeping NZ in a currency union with Britain: by fixing on sterling Australia and NZ could ‘share vicariously the stability of British prices’ (Cain 1980, 15). As before, there was no need for a strong central bank to pursue a monetary policy independently of the private banks.

A macroeconomic response: reflation and monetary consequences

The harsh realities of pursuing a policy of generalised deflation encouraged the government to establish an Economic Committee (1932) to recommend policy responses to the crisis.¹⁷ It is notable that the Committee did not recommend significant monetary reforms. However, the Committee proposed taking the exchange rate out of the control of the banking system and devaluing the currency by 25%.

Surprisingly, the monetary implications of the government assuming control of the exchange rate were not immediately considered and perhaps not understood. A dissenting addendum by the Treasury Secretary suggested that the private banks could be encouraged instead to ‘maintain internal purchasing power’ presumably by cutting borrowing rates and expanding credit. Subsequently the exchange rate with sterling would move on the margin ‘to reflect the the relative position of internal and external purchasing power’, in line with the long-run forces of purchasing power parity (PPP) (Economic Committee 1932, 40). As Fleming (1997, 10-11) demonstrates, most NZ economists had (by 1934) abandoned the idea that PPP should be taken seriously because they probably became familiar with the refutation of PPP in Keynes’s *Treatise on Money* (1930). Recent discovery of a second unpublished report by three of the original Committee members and submitted to the Prime Minister ‘under extreme urgency’ given the rapid deterioration in the NZ economy, reinforces Fleming’s conclusion.¹⁸ In underscoring the need for a devaluation and reiterating a recommendation made a year earlier by the Economic Committee, Belshaw, Hight and Tocker (1933, 25-9) revealed a belief in the open economy equivalent of the short-run non neutrality of money. Departures from PPP do indeed impact real variables. A devaluation would increase farm output prices relative to farm input costs, boost farm production and reduce imports. Rising export receipts (and reduced imports) would be passed through

¹⁷ There has been is extensive commentary and analysis of this report elsewhere. See Hawke (1985, 144-62) and Endres (1990).

¹⁸ The ‘Second Report of the Economic Committee’ dated Jan 11th 1933 commissioned Belshaw, Hight and Tocker (1933) to update the Economic Committee report and recommendations of February 1932. It devoted considerable attention to ‘the restoration of the farming industry’. Letter to PM Forbes, 11/01/33, attached to the report. Tocker (1935, 86) refers to the fact that a ‘nucleus of the former economists’ committee was again called together but ‘no report....has been published’.

the banking system as before, and increase the monetary base. They made a strong assumption that domestic prices and production costs including wages would not increase at the same rate as export prices in the short-run, if at all. By comparison with the first published report of the Economic Committee, in the second report the economists seemed more confident that this process could last for a protracted length of time in the existing crisis conditions. To be sure, as the quantity theory predicts, they were well aware that unless the terms of trade change permanently, short-run non neutrality gives way to long-run neutrality at some point.¹⁹ An equilibrium exchange rate is achieved in any scenario: via their preferred reflationary method using the exchange rate, by way of government deficit finance and mandatory credit expansion or through a pure deflationary policy of ‘non interference’ that relied upon the ‘free interplay of economic forces alone’ (Belshaw, Hight and Tocker 1933, 16-17, 34-6).

The reflationary approach to the crisis utilising government-led exchange rate control and adjustment was originally labelled a ‘middle course’ by Copland (1932a, 142) who exhibited the influence of Cambridge monetary thinking in the 1920s and early 1930s (Cain 1980). As well, he kept in close touch with Keynes in the early 1930s; Keynes helped him defend that middle course (Millmow 2015). Copland brought his ideas to NZ as a member of the Economic Committee (1932).²⁰ Belshaw, Hight and Tocker were soon persuaded by his approach (Endres 1990). The New Zealand economists later made clear their interpretation of the ‘middle course’ which, in our terms, constituted the strongest version of monetary activism articulated in NZ up to that point in the twentieth century (though without presuming the existence of a central bank). Their approach was ultimately designed to pursue a very broad objective:

the economic welfare of the people is infinitely more important than their currency standard. If it becomes necessary to sacrifice the currency standard in some degree to arrest the disastrous decline in economic welfare, then the monetary standard should be modified accordingly (Belshaw, Hight and Tocker 1933, 33).

When the government implemented the devaluation, unintended monetary consequences ensued. In taking control of the exchange rate the government indemnified the banks from potential exchange losses on their London reserves (if the rate was later revalued by government decree); a controversial

¹⁹ As they suggested, it was quite possible that the ‘the old parity’ with sterling could eventually be ‘restored’ (p. 36).

²⁰ He also popularized his ‘middle course’ ideas in NZ with what he called less technical “pamphlets” (Copland 1931, 1932d).

Banks' Indemnity Act enabled the government to take full control of those bank reserves and the banks received high interest yielding Treasury bills in return.²¹ There were two deleterious results (Maguire 1988): (i) exchange reserves were immobilised in London under government control thereby restricting bank credit in NZ and (ii) the high interest rates paid on the aforementioned Treasury bills kept a floor under domestic interest rates. As Tocker (1934 a, b) complained a year later, the international monetary transmission process that NZ had become accustomed to from at least the beginning of the century had been irrevocably broken (though in his initial commentary on the Indemnity Act he did not foresee this outcome, Tocker 1933). He made the point clear in oral evidence to the Monetary Committee: Under the Bank's Indemnity Act...any expansion of overseas funds is automatically taken up in Treasury bills. The banks, therefore, have a buyer at a fixed and profitable rate for each additional 1 [NZ pound] of resources they have available in New Zealand. I consider this arrangement has restricted advances to the public and maintained the rate of overdraft at a level higher than would otherwise be the case. (Tocker, Monetary Committee, 1934a, 134).²²

Minimalism: the anti-reflationist perspective

Strong opposition emerged to the Cambridge UK-linked line of monetary thinking in NZ evident in the work of Copland, Belshaw, Tocker and Hight. Barney Murphy at Victoria University presented the case for a gold-based monetary system and parity with sterling. He railed against the 'exchange debacle led by the inflationists' (Murphy 1933, 243).²³ Once Britain left the gold standard he did not believe that this event would constitute a 'permanent settlement of the currency question'; he maintained a die-hard position, believing that the gold standard would have to be restored in some form eventually to place sterling (and the NZ currency) on an 'objective monetary standard' (Murphy 1935, 534). In retrospect, a more realistic anti-reflationist position, informed by developments in economic theory, was expounded by Allan G. B. Fisher. His extensive publications in several major journals betrayed the influence of his

²¹ In the second economists' report this matter was put as follows: once the currency was devalued 'the banks fear that they would have to buy sterling credits at a high rate, the whole of which they might be unable to sell at that rate'. Nonetheless, the report maintained that it 'is probable that the emphasis placed on the banks' risk of loss is much too great'. This report therefore played down the need to offer the banks any form of indemnity (Belshaw, Hight and Tocker 1933, 34). In their letter to the Prime Minister they gave an assurance that their recommendations were made 'without respect to mere sectional interests' doubtless including the banking community.

²² Economic historians have confirmed Tocker's understanding; they have estimated that the monetary consequences of the Indemnity Act retarded economic recovery from the crisis during 1933-4 by reducing the income effects of the exchange rate depreciation (e.g. Maguire 1988, Greasley and Oxley 2002, 708-10).

²³ His popular journalistic work regularly appeared in the *NZ Financial Times* often under the pseudonym 'Scrutator'. See especially Murphy (1931a, 1931b, 1934).

London connections specifically through the work of Edwin Cannan and later Hayek and Robbins. Indeed, on monetary economics Fisher (1934b, 260) lamented that the ‘general level of understanding of monetary questions would be much higher today if in recent years less attention had been paid to the work of Hawtrey and more to the work of Cannan’. Fisher identified the theoretical foundations of reflationist economic policy with the monetary theory of the business cycle of which Hawtrey was a leading proponent in the 1920s. By contrast, as we shall see below, Fisher came close to aligning his work with over-investment theories of cyclical movements.

The focus of the NZ reflationists on price disparities between export prices and farm input prices was expressed by Fisher (1932, 79) as follows: ‘the natural movement of prices is one in which the index numbers of selected groups of commodities moved up and down together ... If the prices of Group A falls x% while the prices of Group B rises y%, that fact indicates a “disparity” which ought to be reversed’. The main lever of ‘monetary’ policy used by the NZ reflationists was the exchange rate. Exchange rate manipulation was to be guided by specific price indices— the domestic prices received for farm outputs and farm input costs. Fisher understood the Economic Committee’s exchange rate devaluation proposal as a form of price level stabilisation. In other work during the inter war period Fisher chided Copland, Keynes and others for promoting the idea that monetary policy must stabilise the ‘general level of prices’ (e.g Fisher 1935a, 49).²⁴ This approach to monetary stabilisation blocks necessary variation in the relative prices of various individual groups of commodities—variation required for smooth transference of resources between different types of production. Quoting Lionel Robbins’s celebrated study of the Depression not long after its publication in 1934, Fisher (1935a, 53) asks: ‘Why should the mere amalgamation of particular prices into a statistical average in any way affect the position?’ The fall in world agricultural output prices relative to other prices in the inter war period followed both ‘revolutionary improvements in productive efficiency’ and economic nationalism centred on food self-sufficiency that led to ‘relative over-production’ compared with manufactures and services (Fisher 1932, 79-80; 1935a, 63).²⁵ Here he was suggesting that the 1930s crisis in NZ agriculture was caused by a real business cycle-type shock. Furthermore, monetary means could not alter or compensate for those real factors. Yet the NZ policy of farm output-price level stabilisation pandered to ‘deeply

²⁴ Fisher (1935a, 49) points to a ‘profound error’ in Keynes’s position that the price index or indices chosen for stabilisation ‘do not make a very great deal of practical difference’. If it is the ‘general level of prices’ then monetary policy ‘must inevitably fail’. In a ‘progressive economy’—one that is experiencing ongoing innovation—prices must be ‘allowed to fall at the same rate as the efficiency of production’. See also Fisher (1935b, 205).

²⁵ Cf. also Haberler (1932, 54): ‘the period preceding the present depression was characterized by the fact that many technological improvements, especially in the production of raw materials and agricultural products, took place on a larger scale’.

rooted...public opinion' which held that the only way to remedy the Depression was 'to increase the number of farmers' (Fisher 1932, 79-81).²⁶

There was a more fundamental doctrinal issue raised in Fisher's critique. He was ambivalent about the general deflation and decline in output and employment experienced in the early 1930s because there were real factors and structural rigidities exacerbating the crisis. In addition, he could have cited his teacher Edwin Cannan (1924, 168-9): 'Depression of prices is consistent with prosperity'. Price level instability was a symptom of an underlying process that served to alter incentives for resource reallocation between industries. When one industry such as agriculture is encouraged artificially by inflating a price index of its outputs, capital formation in that industry is incentivised. Furthermore, with an exchange rate devaluation of the order of 25% as proposed in NZ, import prices would increase and upward wage pressures would be ignited. The theory of forced savings and its adverse long-term implications were definitely in his mind here.²⁷ Though there are many variations, the basic doctrine is briefly expressed as follows: assuming unchanged decisions of income recipients to consume (and save), investment can only increase if income disbursers voluntarily increase saving out of constant money income. Savings (autonomous) and investment (which adjusts for the level of saving) tend to equality (Hansson 1987). If an increase in money income is somehow staged by a monetary authority, for example through a monetary impulse that creates and disburses new money, investment is no longer restricted to the earlier savings decisions. Machlup (1943, 27) described the consequences in a manner that would have appealed to Fisher: 'investment can now exceed intended saving; that is to say, capital formation can be in excess of what people saved out of their previous income; the extra capital is "forced", so to speak, upon the community through monetary witchcraft'. In the NZ case, Fisher noticed that Economic Committee had asserted that money wages and other incomes would either stay the same or increase only with a long lag following the boost to farmers' money incomes after a staged exchange rate devaluation. The devaluation was purportedly aimed at increasing, and then stabilising at a higher level, some index number of farm output prices. In addition, it would scarcely be surprising that some increase in real capital in agriculture should occur and which was due to the 'forced saving' of

²⁶ James P. Belshaw (1934, 159-79) documents in great detail the widespread interest group clamour for and against farm sector assistance in this period. Horace Belshaw (1933, 764) identifies farmer lobby groups pressuring politicians in Wellington in early 1933 as having a pivotal influence on the decision to take control of the monetary transmission process, beginning with exchange rate control and devaluation.

²⁷ The doctrine of forced saving was widely debated in the 1930s partly because Keynes criticised aspects of that doctrine in the *Treatise*. Notable contributions to the debate included Hayek (1932) and Sraffa (1932). Fisher (1935a) appeared to be well aware of the contours of this debate.

non-farmer income recipients.²⁸ The vertical structure of production becomes distorted. The NZ economists who supported devaluation did not seem to be aware of this likelihood. They did not consider the relationship between significant changes in the monetary system occasioned by the devaluation including permanent government control of the exchange rate, and processes of saving and investment.

This process of ‘forced saving’ could not continue indefinitely. A generalised inflation was heralded by the 25% devaluation. Eventually in these conditions ‘savings will be inadequate to supply the additional working capital which is necessary. Rising prices stimulate an over supply of capital equipment which later must either be left derelict or run at a loss’. (Fisher 1935a, 51). He concluded ‘that any attempt to stabilise...a price-index number inevitably generates forces which must destroy stability’. Investment-led growth would not distort the economic structure and then create major structural dislocations later (in Depressions) if it was financed by voluntary savings rather than ‘forced savings.’ (Fisher, 1935b, 210).²⁹

The predicted dislocations in the intertemporal allocation of resources, specifically in terms of investment in agriculture, was anathema to Fisher because it led correspondingly to the relative decline in the production of consumers’ goods and services—goods and services required in a ‘progressive economy’ (Fisher 1934a). The concentration of industry in NZ producing staples, the preference given to farmers, farm credit and farm capital formation, was patently obvious to any observer of NZ economic policy in the 1930s (Fisher 1933, 386). That policy kept wages and other incomes down when precisely the opposite was required. Consumers are ‘forced’ to forego consumption so as to give farmers command over capital goods destined for staples production. Fisher was concerned with the inappropriate composition of the supply of output in NZ rather than the level of aggregate demand. More investment in staples production destined the bulk of NZ’s workforce to low paying occupations. Instead investment expansion was required in education and a wide array of service industries ‘upon which real civilisation depends’ (Fisher 1935d, 9).

²⁸ By contrast Belshaw (1932b, 11) asserted that ‘the problem at the present time is not to encourage capital accumulation but to encourage the more active use of resources’. Fisher would have taken strong exception to this view because it neglects the consequences of forced saving.

²⁹ In Fisher’s (1935e, 200-02) book length study *The Clash of Progress and Security*, he expands on the forced savings doctrine and appeals to the authority of Hayek and Robbins who held similar views.

Overall, Fisher (1935a, 1935b, 199-200) rejected a monetary rule based on some version of price-level stabilisation. He demonstrated that the choice of any price index for that method of stabilisation was fraught with difficulty. First, most price indices do not adequately incorporate productivity changes in particular firms and industries. Second, the choice of what index to stabilise inevitably has consequences for income distribution, amply illustrated by the NZ devaluation which was aimed at stabilising the prices of farm outputs.³⁰ He refrained from offering a definite operational rule for monetary management. Nonetheless his work in the mid-1930s had a striking resemblance in principle to Dennis Robertson's position in his 1928 essay 'The Case for a Price Level Varying Inversely with Productive Power' (Robertson 1928, Chapter VI). Fisher's minimalist guidelines for monetary policy seem to suggest an optimum policy on money supply which, if it could be operationalised, would serve to reduce major monetary disturbances. This view was stated at a very high level of generality and based on a long-term 'productivity norm' turning on some estimates of real unit costs of production, and not general price stability (Selgin 1995, 721-25; also Selgin 1990). Fisher (1935 a, b) offered several (mostly negative) guidelines: continuous price level stability (however measured) was not an appropriate target of monetary policy; major sectoral productivity changes do not cancel out over time; an increase in the volume of production does not automatically warrant an increase in money supply—'only changes in the velocity of money warranted offsetting changes in its nominal quantity, so as to preserve a constant level of aggregate demand' (Selgin 1995, 725); the price level should legitimately fall with general improvements in productivity and monetary policy counteraction of that trend would lead to economic crisis. Macroeconomic stability would be enhanced and distributional considerations transparently addressed if these guidelines were followed.³¹

Finally, we have it from Hawke (1985, 144), a leading NZ economic historian, that Fisher's work on NZ's economic problems in the 1930s including his research on monetary questions, 'exaggerated the speed with which fundamental research could be brought to bear on immediate issues'. This of course neglects the fact that 'fundamental research' also underwrote the work of the economists (Copland, Belshaw, Hight, Tocker) who were influential in advising government on immediate problems created by the crisis. As we have seen, they did not lack an intellectual framework for understanding the events and policy responses they considered necessary. To be sure, Fisher's framework focussed on what he

³⁰ The more familiar case is redistribution of income between debtors and creditors occasioned by following a general price level target for monetary policy, which is fully explained by Robertson (1926). See Fisher (1935a, 54-5).

³¹ Warburton ([1946] 1951, 308 note 27) agreed with Fisher that the argument against automatic monetary expansion in the face of 'improved techniques of production' was 'that the benefits of technological progress are more quickly and fairly distributed among entire population by a falling price level in line with productivity'.

explicitly called ‘long-period’ problems. Copland (1932c, 91) stated that he ‘agreed’ with Fisher’s longer-term view but this has to be set against his remark in the very next paragraph that he could not ‘follow Professor Fisher’s preference for...mumbo-jumbo ... economic theory’ concerning the subject of exchange rate devaluation. The doctrinal differences ran deeper than Copland could grasp.³²

4. Monetary Activism II: Central Banking and Subsequent Debate

The economists on Niemeyer’s report

The events leading up to the establishment of the Reserve Bank of NZ (hereafter: RBNZ) in late 1934 have been thoroughly studied by many historians (e.g. Hawke 1973; Wright 2006; Graham and Smith 2012). The main impetus came from a perceived need to differentiate NZ’s financial affairs from Australia’s. Otto Niemeyer’s (1931) report to the NZ government set the scene; it relied on a key idea that found clear expression in Cannan (1924, 161), referring to a small open economy:

For the advantage of exchange stabilisation we ought to be prepared to sacrifice a good deal of the other kind of stability— stability of domestic prices ...Particularly should we be ready to do so if we happen to belong to a small country with a foreign trade and extensive financial interests outside itself.

Cannan was responding to Keynes (1923) and his insistence (quoted above in Section 2) that the priority for monetary policy was management of credit creation, leaving ‘currency’ to follow automatically. Niemeyer (1931, 5) recommended that a NZ central bank do the opposite of what Keynes suggested. Naturally Niemeyer’s main recommendation caused controversy among NZ economists: that ‘an independent Reserve Bank should be set up charged with responsibility for the stability of the New Zealand currency’.³³ First, currency was synonymous with the 1920’s term ‘monetary standard’ as used by Tocker and others.³⁴ Niemeyer gave primacy to the long-run classical preoccupation with a stable

³² We note Hawke’s (1973, 36) focus on the ‘long political debate’ over devaluation in 1932-3 without referring to the debate among the economists. Hawke continues: ‘It would now generally be agreed that Treasury [and presumably the economists opposed to devaluation] was wrong in opposing the alteration of the exchange rate’ (bracketed insert added). Making counterfactual estimates, Greasley and Oxley (2002) have extolled the virtues of the 25% devaluation in 1933 though again without appreciating the underlying doctrinal debate and without assessing the merits of different positions in that debate.

³³ Capie *et al* (1994, 203) incorrectly maintain that the ‘Niemeyer report had emphasised price stability as the Bank’s primary objective’. This was not a minor detail.

³⁴ Cannan (1931) aimed to clarify some semantic confusion that had crept in to the contemporary use of terms such as money, currency and monetary standard. A national ‘currency’ is defined in terms of its relative value in exchange, for example with gold or some

currency in terms of its function as a medium of international exchange. Second, ‘independence’ for Niemeyer (1931, 4) meant that the central bank should operate independently of both the commercial banking and political systems (Hawke 1973, 36-40). His notion of political independence was fanciful.³⁵ Niemeyer’s recommendations were also predicated on the maintenance of an effective gold standard (and Britain did not abandon that standard until after Niemeyer had reported). NZ currency notes would be convertible (within narrow limits close to parity) into sterling. The NZ economists also reacted unfavourably to the fixed proportionate reserve system in Niemeyer’s report (for reasons we shall discuss below). The least controversial recommendations were concerned with centralisation of bank reserves at the RBNZ and RBNZ monopoly of the note issue. It was to become a ‘reserve’ bank and not an active, price-level targetting bank. There was no explicit recognition of the questions that Condliffe and Belshaw raised in the 1920s concerning shocks to the economy caused by an asset price boom and the corresponding need for active regulation of credit. The RBNZ would not directly be charged with stabilising internal prices so would not be involved in heading off such booms. Moreover, stable macroeconomic outcomes and financial stability (excepting the exchange rate) were not mentioned in Niemeyer’s report. Again, in setting out the key objectives of a central bank Niemeyer subordinated these national macroeconomic considerations to protecting the NZ currency as a medium of external exchange. In our terms he therefore offered a brief for strong monetary policy minimalism.

In addressing various interest groups including farmer’s organisations (before the pivotal devaluation in 1933) Belshaw (1932b, 14-16) disagreed with Niemeyer’s report on some ‘vital points’. The NZ central bank should be ‘a single responsible authority to control currency and credit in the general interests of the community’ (emphasis added). In keeping with Keynes, the ‘preservation of internal price stability’ was preferred over rigidly tying the NZ currency to sterling and sterling parity. Furthermore, the strong sterling link meant that ‘the policy of a central bank in New Zealand would be largely dominated by the Bank of England’ and that would ‘reinforce existing dispositions towards a return to parity with sterling’. Exchange rate policy should be formulated and controlled by the NZ central bank as circumstances required though no suggestion is made that the bank should be dictated to by an

other national currency. Later, as Eshag (1963, 132-3) explains, bank deposits were elevated to the status of currency and added to notes and coins and called ‘money’. The ‘classical problem of the control of currency’ was later broadened to regulation of the supply of money and credit (which included banking instruments).

³⁵ The RBNZ Act 1933 provided for 7 directors in addition to Governor and Deputy Governor: 3 appointed by the government and 4 by private shareholders. The government’s sole representative (the Treasury Secretary) had no voting rights on the governing board. The Act constrained the government’s ‘formal control’ of the Bank (Graham and Smith 2012, 29). However, ‘formal’ monetary control presumably on operational matters may easily be overridden at short notice by the legislative power of government (see Coleman 2001).

incumbent government in this regard. For Belshaw, central bank policy independence meant independence from London. In keeping with his work in the 1920s on rural credit, he also proposed that the bank adopt an activist approach to controlling credit and related banking instruments; this would be enhanced by allowing for greater flexibility in fixing and varying reserve ratios (citing Keynes's recommended approach in the *Treatise*). Underpinning this approach is a desire to address the problem of domestic financial and macroeconomic stability. The term 'stability' was beginning to take on a broader, profound meaning in NZ during the depths of the Depression. Contrary to Hawke (1973, 31) there was nothing particularly 'loose' about the way the term was used either by Niemeyer or Belshaw; their doctrinal lenses meant that they were viewing the main stabilisation duties of a central bank quite differently. Lastly, Belshaw urged the government to consult Keynes—'the world's outstanding authority on monetary problems'—on drafting the bank legislation, rather than seek further advice from Niemeyer or T. E. Gregory (Niemeyer's erstwhile advisor at LSE).³⁶

The economists and the 1934 Monetary Committee

Historical and political forces delayed early completion of RBNZ legislation. The NZ economy continued to deteriorate. There was resort to a major exchange rate devaluation and banks were taking the blame for the depression especially from the rising Douglas social credit movement. A Monetary Committee was established ostensibly to clarify and advise on issues arising from RBNZ legislation in 1933. The work of the Monetary Committee (1934a, 1934b) 'contributed nothing of significance to the legislation' (Hawke 1973, 41). Nonetheless, the Committee's publications offer historians of economic thought a snapshot of contemporary monetary thinking in a phase of transition toward full blown monetary policy activism. The Committee engaged economist W. B. Sutch as a member of its research secretariat, and entertained verbal submissions from three prominent NZ economists: Belshaw, Tocker and Williams (an agricultural economist). The Committee's Report and Minutes of Evidence were reviewed by Fisher (1934b) and Keynes (1935). Our review of citations to monetary texts in Monetary Committee's Report (1934b) finds that Keynes's *Treatise* was the most cited source (pp. 17, 41, 56,) followed by Keynes's *Tract* (pp. 48,49). There were definite undercurrents of monetary activism discernible in the final Report. Notable substantive points that reflect the thinking of most NZ economists at the time were as follows:

³⁶ In the event, the government did not heed Belshaw's plea; it sought Niemeyer's comments on various iterations of drafted legislation. Moreover, as Boyce (2005, 84) explains, NZ politicians continued the 'ritual of seeking imperial approval' i.e. Bank of England agreement on RBNZ legislation.

- (i) Private banks do ‘not have a conscious monetary policy designed..to promote economic stability and the general welfare of the people’ (p. 19).
- (ii) Banking policy and non bank lending activities require greater coordination independently of banking interests. In addition, citing the evidence of Williams (and reminscent of the views Belshaw and Condliffe in the 1920s), the lending of financial intermediaries such as stock and station agents ‘has greatly accelerated boom conditions and facilitated over-capitalization of farming’ (p.23).
- (iii) The ‘paramount authority of the State’ in monetary policy ‘must be active and positive’ (p. 26).
- (iv) NZ ‘must choose’ between ‘internal stability of price-levels and external stability of exchange rates’ (p.40).
- (v) The RBNZ is appropriately ‘directed to maintain the economic welfare of New Zealand’, and not ‘to watch some general level of prices’. The latter would be ‘unwise and almost meaningless’ (p. 44). Stabilising the general level of prices does not ensure the ‘neutrality of money’ (p.54).
- (vi) As a guide to monetary policy, ‘the concept of the “quantity of money”...is vague and uncertain’ (p.46).
- (vii) Monetary policy and monetary conditions in NZ should not be based on any type of so-called ‘managed’ gold standard (p.56-7).
- (viii) Fixed exchange rates are preferable to variable rates. Purchasing power parity ‘tends to operate in the very long run’ (p.60). The NZ currency, devalued by 25% against sterling in 1933, was the correct rate that the RBNZ should maintain (p. 104).

Keynes (1935, 193, 195) had no objections to any of these general points in the Report. More importantly, he declared that there was nothing more NZ could do ‘by monetary methods’ to ‘remedy the economic crisis’. Indeed, he praised the NZ economists, Belshaw, Tocker and Williams for having assisted in bringing New Zealand ‘a considerable distance in the direction of accepting modern policies’. Fisher (1934b, 263) wanted more detail on precisely how money could be managed in the ‘national interests’ and for ‘the general welfare of the people’ (under (i) above). His commentary on the early operations of the RBNZ was sceptical that a central bank could be ‘an infallible solution to monetary disorders’ as many of its proponents had suggested. In NZ, the central banking tasks, however precisely stated in the statutes of the RBNZ Act of parliament, were made extremely limited and difficult in practice because NZ capital markets were illiquid, so that open market operations could not be used (Fisher 1935c, 160-1). Contrary to Niemeyer, the RBNZ could use a flexible reserve ratio rule (just as Belshaw had advised after reading Keynes’s *Treatise*) to affect interest rates in the short-term

money market.³⁷ As well, consistent with his earlier work on structural economic reform, Fisher was concerned that the RBNZ would be overly focused on aggregates of money and credit and management of the exchange rate. Such an approach (which he labelled ‘quantitative control’) no matter how ‘cunningly devised’, would fail the grand hope placed in the Bank by the legislators i.e. to promote ‘the general welfare’.³⁸ To achieve that goal the central bank must design a ‘policy of qualitative control’ which in modern terms meant detailed prudential controls and sectoral monetary targeting i.e. specially planned credit restrictions and directives on credit aimed at specific industries as the circumstances required (pp.163-4). By the mid-1930s Fisher was turning toward a more guarded activist position on monetary management than he exhibited in the first half of that decade (Endres 1988, 40-43).³⁹

Tocker’s (1931, 291) review of Niemeyer’s report raised doubts about the bank’s prospective influence over credit conditions since Niemeyer had assumed that NZ short-term money markets were sufficiently deep when ‘they hardly exist at all’. He was confident however, that the Bank would be able to act as a lender of last resort to the banking system i.e. by ‘extending credit in a crisis’ (Tocker 1934a, 91). Once the Bank began operating he repeated the point about thin money markets and wondered what a central bank could really do (citing T. E Gregory 1925) in these conditions without any powerful instruments. He was also alarmed that the official position was still in favour of restoring sterling parity. The RBNZ Act had not removed that implication (Tocker 1934b, 229). He expected that foreign exchange flows from NZ’s external trading activities would continue to have a prime influence over domestic monetary conditions with or without the RBNZ)—just as he had described the monetary transmission process in the 1920s. The advent of the RBNZ had changed nothing on that score. He appeared to be well aware of Gregory’s (1925, 59) fundamental point that central bankers should not have too much confidence that ‘the price structure is directly dependent on the volume of bank loans’ (emphasis added). *Mutatis mutandis*, while the RBNZ may control bank loans it had little control over the terms of international trade.

When the RBNZ was fully nationalised and the RBNZ Act amended in 1936 to allow governments to borrow from the central bank and monetise fiscal deficits ‘practically without limit’, Tocker (1936, 91)

³⁷ Fisher too cites the *Treatise*. It was not until 1936 that such a rule was included in the RBNZ Amendment Act. See Hawke (1973, 153-4).

³⁸ The RBNZ Act 1933 Clause 12 stated that the Bank must control ‘monetary circulation and credit’ in order that ‘the economic welfare of the Dominion may be promoted and maintained’.

³⁹ Writing from his new position at the University of Western Australia, he observed that it ‘has been the most serious error of popular thinking on economic problems in our time to exaggerate the extent to which reforms in the field of banking can remove our economic difficulties’ (Fisher 1937, 167).

accepted all this as a *fiat accompli*. Tocker had transitioned from articulating a minimalist position on monetary intervention to grudgingly accepting weak monetary activism. By comparison, Murphy (1935, 534-5) was the only NZ economist making a strong minimalist case; he continued to insist that the RBNZ (and the currency it was managing) would need to be disciplined by the return of sterling to a gold standard. For Murphy a gold standard was a long-run panacea for all forms of monetary instability.

Extreme activism: supporters and sceptics

NZ monetary policy changed radically following the RBNZ Amendment Act in 1936 which nationalised the Bank. The Bank lost any semblance of political independence that it possessed from 1934 (Reserve Bank of New Zealand 1955, 8-9; Graham and Smith 2012, 30-31). Among NZ economists only W. B. Sutch fully embraced this change. He played an influential role as a senior policy advisor and acted as a populariser of the changes that took place in NZ's monetary regime in the late 1930s. In an article with the sarcastic title 'Knock for Niemeyer', Sutch (1936a, 5-6) celebrated the move toward full 'political control' of the RBNZ; the decision to make bank reserve ratio requirements subject to complete flexibility at the discretion of the RBNZ; the unlimited power of the Minister of Finance both to borrow from the RBNZ and direct the policies of the RBNZ. In sum 'these powers are probably the widest that have ever been taken in a capitalist country'. He declared that these changes 'would make Keynes breathless with excitement'. This was not the first time he had bastardized Keynes (also Sutch 1936d). However, his description of the new RBNZ powers was closer to the mark.

Belshaw (1939, 243-4) was alarmed that the government was able 'to use the Reserve Bank for financing virtually any object it desires'. He warned of the significant inflationary consequences and was doubtful that a government should be allowed 'to control the Reserve Bank completely'. Tocker (1939, 57) suggested that the new monetary regime was yet another State-driven 'experiment' of the kind NZ had undergone frequently since the late nineteenth century (as described by W. Pember Reeves [1902] 2011). Upon reviewing the empirical evidence he condemned the inflationary consequences (Tocker 1950, 262-3). To be sure, in the second half of the 1930s Belshaw and Tocker were sympathetic to the basic idea that monetary instruments were efficacious tools of economic policy that could be used to influence short-term volatility in employment and production. Yet they were reluctant to agree that full employment should be the primary objective of monetary policy (e.g. Belshaw 1936, 44, 52-4, on the limits of internal credit expansion in a small open economy). They understood

monetary policy as being effective only in influencing general economic stability. The level of output and employment was mostly a fiscal policy issue (cf. also Keynes 1936).⁴⁰

Following further amendments to the RBNZ Act in 1938 to sanction comprehensive foreign exchange controls, Tocker (1939, 56-7) was sceptical:

The present Government has long supported a policy of insulating New Zealand from the effects of economic fluctuations overseas, and has advocated the use of the Bank to give effect to this policy. But ...there is much doubt whether insulation is either practicable or desirable for New Zealand.

Sutch championed exchange controls as a new RBNZ instrument aimed to stop the flight of capital in a crisis. As well, a private capital strike in NZ could be countered by Reserve Bank largesse in lending to government. One notable aspect of monetary insulationism in NZ was innovative use of the long-standing central bank lender of last resort function. As Sutch (1936b, 560) described it, the RBNZ was empowered to grant overdrafts to authorities holding statutory control ‘over the marketing of any New Zealand produce’. He explains that this provision was ‘to meet the Government’s policy of guaranteeing prices to farmers and undertaking the purchase and marketing of farm produce’. Prices would be decided by the government. In other words the RBNZ would become a lender of last resort to farmers, specifically in the first instance, dairy farmers. Belshaw (1937; 1939, 245) could not contain his dislike for this extension of the lender of last resort function, suspecting that it could extend to all pastoral producers depending on the whims of the politicians. Belshaw appreciated the rent-seeking excesses that could arise from this change in policy. In the first experiment, a dairy industry account was created at the RBNZ and as he explained:

*From this are paid moneys payable by the Crown in respect of guaranteed prices and costs of marketing and administration, while receipts for the sale of produce are paid into it. In short, deficits, whether seasonal or for longer periods, are to be met by an overdraft with the Reserve Bank, without limit and without conditions of repayment (1937, 172 *emphasis added*).*

⁴⁰ According to Wakatabe (2018, 281) once the gold standard was abandoned and following the 1933 World Economic Conference Keynes ‘did not advocate further reflation by monetary measures’ (*emphasis added*).

While acting as guarantor for the real incomes of certain producer groups the RBNZ was also becoming another means for prosecuting the government's agenda of widespread industrial protection which was also assisted by exchange controls (Brooke *et al* 2016, 287-9).

Meanwhile Sutch (1936b, 561-62) ignored the inflationary effects of new RBNZ functions to lend freely to Government and guarantee producer incomes. He was sure that the RBNZ would be able to 'prevent any inflationary action by the trading banks' by using the flexible reserve ratio instrument. As for the Government's impact on inflation given its new-found ability to 'borrow without limitations' he remained silent. He did not consider that these new RBNZ powers 'will be unwisely used'. Moreover, the new government borrowing powers would satisfy those interest groups who 'have been advocating interest free money...since any interest paid to the Reserve Bank is returned to the State...in the shape of profits from the Reserve Bank's operations' (Sutch 1936c, 35). The essence of his doctrine was that the central bank's main objective was NZ's social and economic development—development that would be rendered independent of foreign financial forces.⁴¹ This outlook gave new meaning to the idea of central bank 'independence', thereby demonstrating that it is not an absolute concept (Cf. also Capie *et al* 2016, 198).⁴² Sutch's doctrine on the role of the central bank and the main purpose of monetary policy reaches the most extreme end of the monetary activist spectrum.

5. Conclusion: Toward Monetary Nationalism

The monetary ideas informing the creation and early evolution of the RBNZ were taking shape in the 1920s mostly under the influence of Keynes (1923). Later, Keynes (1930) also had a local impact in this regard. Condliffe and Belshaw argued that some government intervention at the micro-level in the monetary system seemed justified in light of a local institutional reality: the inherent instability of agricultural credit. Credit cycles could be stabilised by regulatory and prudential measures affecting the provision of credit. They identified chinks in the bastion of the monetary transmission process operating through NZ's London-linked net balance of payments. As Simkin (1950) notes in the epigraph to this

⁴¹ Cf. Forder (2003) where two notions of independence are analysed: independence from banking interests (operating in the domestic banking system) and independence from government. Most NZ economists, barring Sutch, accepted either that the RBNZ should be 'non-political' (e.g. Williams 1935, 273) or not fully controlled by government (Belshaw 1939, 243).

⁴² On Sutch's idea of independence later elaborated though not altered from the 1930s, see his *Colony or Nation?* (1966, 46-50). On the RBNZ he argues that it 'is a key factor in maintaining the fullest employment of resources consistent with the avoidance of inflation'. As well, the Bank 'is in charge of New Zealand's pool of foreign exchange. Without that, New Zealand simply could not operate its present economic and social policy' (p. 66).

paper, the monetary system and money supply regulation in the 1920s ran on ‘semi-automatic lines’ and private banking adhered to ‘time-honoured rules’—rules that some economists thought should be modified ultimately in the interests of internal price level and financial stability as opposed external exchange stability. Nonetheless, NZ economists harboured quite limited stability objectives for monetary policy before 1930. There was no fundamental break in NZ monetary thought in the early 1930s. During the 1930s, for different reasons, some economists transitioned from minimalism to mild and guarded activism though only Sutch endorsed extreme monetary policy activism. For the NZ case we confirm Laidler’s (1999, 277) general view that there was no ‘intellectual vacuum’ in monetary thought and an ‘atrophied orthodoxy detached from economic reality’ before Keynes’s *General Theory* appeared.

Practical arguments were presented on the need to separate NZ monetary conditions from Australia and anchor NZ currency separately to sterling and thence to gold. Niemeyer concurred. More perceptive economists (e.g. Belshaw) with intellectual links to Keynes and Cambridge, understood the deep doctrinal issues and monetary implications attending that argument. By contrast, the influence of the London monetary tradition (Cannan, Robbins, Hayek) is evinced in the writings of Allan Fisher. He introduced the theory of forced savings into the debate over the monetary consequences of reflation through exchange rate devaluation in the 1930s. He highlighted the ineffectiveness of, and distortions arising from, monetary actions designed to forestall or compensate for real shocks. His NZ contemporaries seemed unable to understand his position. However, all economists understood the fundamental rupture that occurred in the semi-automatic, international, bank-facilitated monetary transmission process that accompanied government control of the exchange rate and the Banks’ Indemnity Act.

In some countries central banks in the 1930s emerged almost exclusively due to political forces and because ‘foreign governments and international organizations were urging nations...to facilitate international monetary cooperation’ (Bordo and Redish 1987, 417). The NZ case was somewhat different. Firstly, there were economic grounds for establishing a NZ central bank with minimalist powers as Niemeyer stated, and these grounds were generally accepted by NZ economists. The main discussion among economists concerned the scope and objectives of RBNZ policy but that discussion did not have much impact on RBNZ legislation. As that legislation was occasionally amended from 1934, contemporary economists were beginning to understand that as an institution chosen to manage NZ’s money, it seemed not to diverge from the main characteristics of political outcomes in general. Monetary reform and political reform were dovetailed; economic doctrines and the debates among

economists concerning monetary questions were muted by comparison with home spun monetary discussion and debate among wider political interest groups.⁴³ For example, for all the economic expertise recruited to render credibility to the 1934 Monetary Committee, its subsequent Report had little or no influence over monetary policy in the 1930s. The RBNZ became a political institution and its operations assumed a definite public choice character; its function were designed to serve a range of interest groups (not unlike what occurred at several junctures in developments at the Federal Reserve, as demonstrated by Timberlake, 1993).

Secondly, by the end of the period under review, arguments in favour of extending the powers of the RBNZ to encompass full-fledged monetary policy activism were orthogonal to anything remotely connected with international monetary cooperation. In the last half of the 1930s the policies of the RBNZ were gradually transformed into extreme activist monetary policy. That policy was (and has been since) erroneously attributed to the ideas and influence of Keynes. Very few NZ economists accepted the extreme activist approach. At the time, Hayek ([1937]1991, 86) called this extreme trend in monetary thought and policy ‘monetary nationalism’. Among other things, he maintained that monetary nationalism was based on a belief that is ‘largely illusory’: it presumed that ‘separate regulation of the quantity of money in a national area’—an area dependent on international trade and payments—could be undertaken in the belief that a central bank can ‘insulate’ that area ‘against financial shocks originating abroad’. Hayek also took for granted that monetary policy was impotent in the face of real shocks.

We are now in a position to comment on our epigraph. Simkin (1950) was right to opine that ‘monetary policy became less simple and less powerful’ during the 1930s ‘than it seemed to the economists of the early ‘twenties’. It was precisely because of deep political commitments to monetary activism in all its dimensions, that monetary policy became ‘less simple’ for economists. Again in the estimation of the economists, monetary activism became ‘less powerful’ relative to the burdens placed upon it by the end of the 1930s. Limited central bank monetary instruments were expected to do the impossible in a fixed exchange rate world: not only were they to help achieve full employment and suppress inflation; they were also meant to perpetuate the grand illusion that those objectives could be achieved while monetary

⁴³ When reviewing the Monetary Committee (1934a, b), Keynes (1935, 193) seemed to be aware of the power of the debate among non economists in NZ on matters of monetary reform; he noted that one of the Committee’s unintended but useful functions was ‘bringing economic education in New Zealand into closer touch with the economic facts of the country’.

policy lastingly insulated a small open economy from the international transmission of financial and real shocks. Most NZ economists in the inter war period laboured under no such illusion.

References

- Ashwin, B. C. 1930. Banking and Currency in New Zealand. *Economic Record* 6, no. 3: 188-204.
- Bedford, H. D. 1915. The History and Practice of Banking in New Zealand. 2 vols. PhD thesis, Auckland University College.
- Belshaw, H. 1926a. The Profit Cycle in Agriculture. *Economic Journal* 36, no. 141: 29-49.
- Belshaw, H. 1926b. Agricultural Credit and the Control of Land Values. *New Zealand Journal of Science and Technology* 8: 76-83.
- Belshaw, H. 1927. The Present Industrial Depression in New Zealand. Address given before the Onehunga Chamber of Commerce, July 13th. Belshaw Archives. Miscellaneous Papers on Technical Questions 5D, University of Auckland.
- Belshaw, H. 1928. The Economic Position of the Farmer in New Zealand. *National Industrial Conference, Report of Proceedings*: 46-56. Wellington: Government Printer.
- Belshaw, H. 1931a. *The Provision of Credit with Special Reference to Agriculture*. Cambridge: W. Heffer & Sons.
- Belshaw, H. 1931b. Economic Depression and Falling Prices. Belshaw Archives: Miscellaneous Papers on Technical Questions 29D. University of Auckland.
- Belshaw, H. 1932a. Reconstruction in New Zealand. Belshaw Archives: Miscellaneous Papers on Technical Questions 32D. University of Auckland.
- Belshaw, H. 1932b. Currency and Credit Policy. Belshaw Archives: Miscellaneous Papers on Technical Questions 42D. University of Auckland.
- Belshaw, H. 1933. Crisis and Readjustment in New Zealand. *Journal of Political Economy* 41, no. 6: 750-75.
- Belshaw, H. 1936. Recovery Measures in New Zealand: a Comparison with the New Deal in the United States. Wellington: NZ Institute of Pacific Relations.
- Belshaw, H. 1937. Guaranteed Prices for New Zealand Exports. *Economic Record* 13, no. 1-2: 168-88.
- Belshaw, H. 1939. [Note] Reserve Bank Amendment Act. *Economic Record*, 15, no. 2: 241-5.
- Belshaw, H. and D.O. Williams. 1930. The Financing of Land Utilisation in New Zealand. Belshaw Archives: Miscellaneous Papers on Technical Questions 27D, University of Auckland.
- Belshaw, H., J. Hight and A. H. Tocker. 1933. *Second Report of the Economic Committee*. December 1932 – January 1933. (In possession of the authors.)
- Belshaw, J. P. 1934. The Crisis in New Zealand 1930-1934. Master's thesis, Auckland University College.

- Blyth, C. A. 1976. Between Governments and Banks: a History of the Reserve Bank of New Zealand, by G. R. Hawke, *New Zealand Journal of History* 10, no.1: 85-6.
- Boyce, S. A. 2005. In Spite of Tooley Street, Montagu Norman, and the Reserve Bank's Governor: Recolonization or the Eclipse of Colonial Financial Ties with Britain in the 1930s? *New Zealand Journal of History* 39, no. 1: 75-92.
- Bordo, M. D. and A. Redish. 1987. Why did the Bank of Canada emerge in 1935? *Journal of Economic History* 47, no. 2: 405-17.
- Bridel, P. 2008. Credit cycle. In *New Palgrave Dictionary of Economics Online*. 2nd ed. Ed. D.N. Durlauf and L.E. Blume.
- Brooke, G., A. Endres and A. Rogers. 2016. Does New Zealand Economics have a Useful Past? The Example of Trade Policy and Economic Development, *New Zealand Economic Papers* 50, no. 3: 281-302.
- Cain, N. 1980. Monetary Thought in the Twenties and its Depression Legacy. *Australian Economic History Review* 20, no. 1: 1-27.
- Cannan, E. 1924. Annual Meeting of the Royal Economic Society: Discussion on Monetary Reform. *The Economic Journal*, 34, no. 134: 155-162.
- Cannan, E. 1931. *Modern Currency and the Regulation of its Value*. London: P. S. King.
- Capie, F., C. Goodhart and N. Schnadt. 1994. The Development of Central Banking. In *The Future of Central Banking: the Tercentenary Symposium of the Bank of England*, 1-261. Ed. F. Capie, C. Goodhart, S. Fischer and N. Schnadt. Cambridge: Cambridge University Press.
- Capie, F., G. Wood and J. Castañeda. 2016. Central Bank Independence in small open economies. In *Central Banks at Crossroads: What Can We Learn from History?*, 195-230. Ed. M. D. Bordo, Ø. Eitrheim, M. Flandreau and J. F. Qvigstad. Cambridge: Cambridge University Press.
- Clark, D. 1987. Monetary cranks. In *The New Palgrave Dictionary of Economics*, vol. 3, 502-4. Ed. J. Eatwell, M. Milgate and P. Newman. UK: Palgrave Macmillan.
- Coleman, W. 2001. Is it Possible that an Independent Central Bank is Impossible? The Case of the Australian Note Issue Board, 1920-1924. *Journal of Money, Credit and Banking* 33, no. 3: 729-748.
- Condliffe, J.B. 1924. Experiments in State Control in New Zealand. *International Labour Review* 9, no. 3: 1-29.
- Condliffe, J.B. 1925. Changing price levels: their effects on the economic development of New Zealand, Part III. *Accountant's Journal* January 20th: 229-232.
- Condliffe, J.B. 1930. *New Zealand in the Making*. London: Allen and Unwin.
- Condliffe, J. B. and H. Belshaw. 1925. A Brief Survey of Rural Credit. *The New Zealand Journal of Science and Technology* 7, no. 6: 334-52.
- Copland, D. B. 1925. Australian Banking and Exchange. *Economic Record* 1, no. 1: 17-28.
- Copland, D. B. 1931. *New Zealand Exchange and the Economic Crisis*. Auckland: Whitcombe and Tombs.
- Copland, D. B. 1932a. *Credit and Currency Control: with Special Reference to Australia*. Melbourne: Melbourne University Press/Macmillan & Co.
- Copland, D. B. 1932b. New Zealand's Economic Difficulties and Expert Opinion. *Economic Journal* 42, no. 167: 371-79.

- Copland, D. B. 1932c. The New Zealand Economic Problem—a Comment. *Economic Record* 8, no. 1: 88-91.
- Copland, D. B. 1932d. *New Zealand in the Crisis*. Auckland: Whitcombe and Tombs.
- Costabile, L. and G. Epstein. 2017. The Activist Revival in Central Banking? Minimalism vs. Activism in Central Banking: Lessons from the History of Economic Thought. *European Journal of the History of Economic Thought* 24, no. 6: 1416-39.
- Craine, R., A. Havenner and J. Berry. 1978. Fixed Rules versus Activism in the Conduct of Monetary Policy. *American Economic Review* 68, no. 5: 769-83.
- Economic Committee. 1932. *Report of the Economic Committee*. Appendices to the Journals of the House of Representatives B3. Wellington.
- Endres, A. M. 1988. Structural Economic Thought in New Zealand: the Interwar Contribution of A. G. B. Fisher. *New Zealand Economic Papers* 22, no. 1: 35-50.
- Endres, A. M. 1990. The Development of Economists' Policy Advice in New Zealand, 1930-1934. *Australian Economic History Review* 30, no. 1: 64-78.
- Endres, A.M. 1991. J. B. Condliffe and the Early Canterbury Tradition in Economics. *New Zealand Economic Papers* 25, no. 2: 171-197.
- Endres, A. M. and G. A. Fleming. 1995. Monetary Thought and the Analysis of Price Stability in Early Twentieth Century New Zealand. *New Zealand Economic Papers* 29, no. 2: 173-94.
- Epstein, G. 2007. Central Banks as Agents of Economic Development. In *Institutional Change and Economic Development*, 95-114. Ed. C. Ha-Joon. Helsinki: United Nations University and Anthem Press.
- Eshag, E. 1963. *From Marshall to Keynes: An Essay on the Monetary Thought of the Cambridge School*. Oxford: Blackwell.
- Fisher, A. G. B. 1932. The New Zealand Economic Problem—a Review. *Economic Record* 8, no. 1: 74-87.
- Fisher, A. G. B. 1933. Capital and the Growth of Knowledge. *Economic Journal* 43, no. 171: 379-89.
- Fisher, A. G. B. 1934a. Investment Policy in a Progressive Economy. *Economic Record* 10, no. 1: 149-66.
- Fisher, A. G. B. 1934b. Report of Monetary Committee, 1934, New Zealand. *Economic Record*, 10, no. 1: 260-5
- Fisher, A. G. B. 1935a. The Significance of Stable Prices in a Progressive Economy. *Economic Record* 10, no. 2: 49-64.
- Fisher, A. G. B. 1935b. Does an Increase in Volume of Production Call for a Corresponding Increase in Volume of Money? *American Economic Review* 25, no. 2: 197-211.
- Fisher, A. G. B. 1935c. A Policy for a New Zealand Reserve Bank. *Economic Record* 11, no. 1-2: 157-166.
- Fisher, A. G. B. 1935d. Economic Implications of Material Progress. *International Labour Review*. 32, no. 1: 5-18.
- Fisher, A. G. B. 1935e. *The Clash of Progress and Security*. London: Macmillan.
- Fisher, A. G. B. 1937. Twentieth century banking in Australia. *Economic Record* 13, no. 1-2: 159-67.

- Fleming, G.A. 1993. Economic Thought and Policy Advice in New Zealand: Economists and the Agricultural Sector c. 1918-1939. PhD thesis, University of Auckland.
- Fleming, G. A. 1997. Keynes, Purchasing Power Parity and Exchange Rate Policy in New Zealand during the 1930s Depression. *New Zealand Economic Papers*, 31, no. 1: 1-14.
- Forder, J. 2003. 'Independence' and the Founding of the Federal Reserve. *Scottish Journal of Political Economy* 50, no. 3: 297-310.
- Frenkel, J. A., and H. G. Johnson. 1976. The Monetary Approach to the Balance of Payments: Essential Concepts and Historical Origins. In *The Monetary Approach to the Balance of Payments*, 21-45. Ed. J. A. Frenkel and H. G. Johnson. London: George Allen and Unwin.
- Goodhart C.A.E. 1988. *The Evolution of Central Banks*. Cambridge, Mass.: MIT Press.
- Graham, J. and C. Smith. 2012. A Brief History of Monetary Policy Objectives and Independence in New Zealand. *Reserve Bank of New Zealand Bulletin* 75, no. 1: 28-37.
- Greasley, D., and L. Oxley. 2002. Regime Shift and Recovery on the Periphery: New Zealand in the 1930s. *The Economic History Review* 55, no. 4: 697-720.
- Gregory, T.E. 1925. What Can Central Banks Do? *American Economic Review* 15, no. 1: 53-59.
- Haberler, A. 1932. Money and the business Cycle. In *Gold and Money Stabilization: Lectures on the Harris Foundation*, 43-74. Ed. Q. Wright. Chicago: University of Chicago Press.
- Hansson, B. 1987. Forced Saving. In *New Palgrave Dictionary of Economics*, vol. 2, 398-400. Ed. J. Eatwell, J. S. Chipman and M. Milgate. London: Macmillan.
- Harper, D. and G. Karacaoglu. 1987. Financial Reform in New Zealand. In *Economic Liberalisation in New Zealand*, 206-35. Ed. A. Bollard and R. Buckle. Wellington: Allen and Unwin/Port Nicholson Press.
- Hawke, G. 1973. *Between Governments and Banks: a History of the Reserve Bank of New Zealand*. Wellington: Government Printer.
- Hawke, G. R. 1985. *The Making of New Zealand: An Economic History*. Cambridge: Cambridge University Press.
- Hawke, G. 1988. Depression and Recovery in New Zealand. In *Recovery from the Depression: Australia and the World Economy in the 1930's*. Ed. R. G. Gregory and N. G. Butlin. Cambridge: Cambridge University Press.
- Hawke G. R. 1997. *The Thoroughbred Among Banks in New Zealand 1872-1947: The Early Years*, Vol. 1. Wellington: National Bank of New Zealand.
- Hawtrey, R.G. 1927. The Monetary Theory of the Trade Cycle and its Statistical Test. *Quarterly Journal of Economics* 41, no. 3: 471-86.
- Hayek, F. A. 1932. A Note on the Development of the Doctrine of Forced Saving. *Quarterly Journal of Economics* 47, no. 1: 123-133.
- Hayek, F. A. [1937] 1991. *Monetary Nationalism and International Stability*. Reprinted in Good Money, Part II: The Standard. In *The Collected Works of F.A. Hayek*. Ed. S. Kresge. Chicago: University of Chicago Press.

- Johnson, H. G. 1977. The Monetary Approach to the Balance of Payments: Explanation and Policy Implications. *Economica* 44, no. 175: 217-29.
- Keynes, J.M. 1923. *A Tract on Monetary Reform*. London: Macmillan.
- Keynes, J.M. 1930. *A Treatise on Money*. 2 vols. London: Macmillan.
- Keynes, J. M. 1935. Report of Monetary Committee, 1934, New Zealand. *Economic Journal*, 45, no. 177: 192-196.
- Keynes, J. M. 1936. *The General Theory of Employment, Interest and Money*. London: MacMillan
- Laidler, D. E. W. 1999. *Fabricating the Keynesian Revolution: Studies of the Interwar Literature on Money, the Cycle, and Unemployment*. Cambridge: Cambridge University Press.
- Lawn, G. 1931. The Depression in New Zealand. *Economic Record* 7, no. 1: 18-32.
- Machlup, F. 1943. Forced or Induced Saving: an Exploration into its Synonyms and Homonyms. *Review of Economics and Statistics* 25, no. 1: 26-39.
- Maguire, D. A. 1988. Exchange Policy and the Indemnity Act during New Zealand's Depression Years. Master's Thesis. University of Auckland: Department of Economics.
- Millmow, A. 2010. *The Power of Economic Ideology: the Origins of Keynesian Macroeconomic Management in Interwar Australia, 1929-39*. Canberra: ANU E Press.
- Millmow, A. 2015. John Maynard Keynes and the Keynes of the Commonwealth, Douglas Copland. *Australian Economic History Review* 55, no. 1: 1-19.
- Monetary Committee 1934a. *Minutes of Evidence, Presented to both Houses of the General Assembly of New Zealand by Leave*. Wellington: Government Printer.
- Monetary Committee 1934b. *Report of the Monetary Committee*. Wellington: Government Printer.
- Murphy, B. E. 1931a. Some Currency and Exchange Problems. *New Zealand Financial Times* July: 5, 7.
- Murphy B.E. 1931b. The Exchange Situation. *New Zealand Financial Times* July: 1-2.
- Murphy, B. E. 1933. The Currency Position and the Central Bank. *New Zealand Financial Times* 11 September: 243-234.
- Murphy B.E. 1934. The Reserve Bank and the Exchange. *New Zealand Financial Times* August: 485, 487.
- Murphy, B. E. 1935. *Outlines of Economics*. Auckland: Whitcombe & Tombs.
- Niemeyer, O. 1931. *Banking and Currency in New Zealand*. Wellington: Government Printer.
- Pullen, J. M. and G.O. Smith. 1997. Major Douglas and Social Credit: A Reappraisal. *History of Political Economy* 29, no. 2: 219-273.
- Quigley, N. 1992. Monetary policy and the New Zealand financial system: an historical perspective. In *Monetary Policy and the New Zealand Financial System*. 3rd ed., 205-31. Wellington: Reserve Bank of New Zealand.
- Reserve Bank of New Zealand. 1955. *The Monetary and Banking System of New Zealand: Prepared for the Royal Commission on Monetary,*

- Banking and Credit Systems*. Wellington: Reserve Bank of New Zealand.
- Reserve Bank of New Zealand. 1982. *Monetary Policy and the New Zealand Financial System*. 2nd ed. Wellington, Reserve Bank of New Zealand.
- Reeves, W.P. [1902] 2011. *State Experiments in Australia and New Zealand*. 2 vols. Cambridge: Cambridge University Press.
- Robertson, D. H. 1926. *Banking Policy and the Price Level*. London: P.S. King.
- Robertson, D. H. 1928. *Money*. 3rd ed. London: Nisbet & Co.
- Selgin, G. 1990. Monetary Equilibrium and the Productivity Norm of Price Level Policy. *Cato Journal* 10, no. 1: 265-87.
- Selgin G. 1995. The "Productivity Norm" versus Zero Inflation in the History of Thought. *History of Political Economy* 27, no. 4: 705-735.
- Simkin C. G. F. 1950. New Zealand's Monetary and Exchange Policy. In *Liberty and Learning: Essays in Honour of Sir James Hight*. Ed. R.S. Allan. Christchurch: Whitcombe and Tombs.
- Simkin C. G. F. 1951. *The Instability of a Small Open Economy: Economic Fluctuations in New Zealand, 1840-1914*. London: Oxford University Press.
- Simkin, C. G. F. 1952. Banking in New Zealand. In *Banking in the British Commonwealth*, 320-352. Ed. R. S. Sayers. London: Oxford Clarendon Press.
- Singleton, J. 2007. Albert Hamilton Tocker (1884-1964). In *A Biographical Dictionary of Australian and New Zealand Economists*, 280-1. Ed. J. E. King. Cheltenham, U.K.: Edward Elgar.
- Singleton, J., A. Grimes, G. Hawke and F. Holmes. 2006. *Innovation and Independence: The Reserve Bank of New Zealand, 1973-2002*. Auckland: Auckland University Press.
- Sinclair, K. and W.F. Mandle. 1961. *A History of the Bank of New South Wales in New Zealand, 1861-1961*. Wellington: Whitcombe and Tombs.
- Smith, V. C. [1936] 1990. *The Rationale of Central Banking and the Free Banking Alternative*. Indianapolis: Liberty Press.
- Sutch, W. B. 1936a. A Knock for Niemeyer. *Tomorrow*, 2(15 April): 5-7.
- Sutch, W. B. 1936b. The Reserve Bank of New Zealand Amendment Act. *Economic Journal* 46, no. 103: 554-62.
- Sutch W. B. 1936c. *Recent Economic Changes in New Zealand*. Institute of Pacific Relations. Wellington: Whitcombe & Tombs Ltd.
- Sutch, W.B. 1936d. Classical Economics and Keynes. *Tomorrow* 2(August): 15-17.
- Sutch, W. B. 1966. *Colony or Nation?* Sydney: Sydney University Press.
- Sraffa, P. 1932. Dr. Hayek on Money and Capital. *Economic Journal* 42, no. 165: 42-53.
- Timberlake, R.H. 1993. *Monetary Policy in the United States: An Intellectual and Institutional History*. Chicago: University of Chicago Press.
- Tocker, A. H. 1924a. The Effects of the Trade Cycle in New Zealand. *Economic Journal* 34, no. 133: 128-34.
- Tocker, A. H. 1924b. The Monetary Standards of New Zealand and Australia. *The Economic Journal* 34, no. 136: 556-575.
- Tocker, A. H. 1925a. The Measurement of Business Conditions in New Zealand. *Economic Record* 1, no. 1: 47-62.

- Tocker, A. H. 1925b. New Zealand's exchange problem. *Canterbury Chamber of Commerce Economic Bulletin* 1, January 1-3.
- Tocker, A. H. (1931). New Zealand Banking and Currency. *Economic Record* 7, no. 2: 289-292.
- Tocker, A. H. 1933. New Zealand Banks' Indemnity Act. *Economic Record* 9, no. 1: 124-125.
- Tocker, A. H. 1934a. The Reserve Bank of New Zealand. *Economic Record* 10, no. 1: 88-91.
- Tocker, A. H. 1934b. The establishment of central banking in New Zealand. *Economic Record* 10, no. 1, 222-229.
- Tocker, A. H. 1935. Recovery measures in New Zealand. *Economic Record* 11, Supplement: 78-96.
- Tocker, A. H. 1936. Exchange policy and economic recovery in New Zealand. *Economic Record* 12, no. 1-2: 86-91.
- Tocker, A. H. 1939. The Development of Central Banking. *Economic Record* 15, Supplement: 45-57.
- Tocker, A. H. 1950. Monetary expansion in New Zealand, 1938-47. In *Essays in Honour of Sir James Hight*, 261-88. Ed. R.S. Allan. Christchurch: Whitcombe and Tombs.
- Wakatabe, M. 2018. The Great Depression and Macroeconomics Reconsidered: the Impact of Policy and Real-World Events on Economic Doctrines. *Research in the History of Economic Thought and Methodology* 35-B: 237-302.
- Warburton C. [1946] 1951. The Misplaced Emphasis in Contemporary Business Fluctuation Theory. In *AEA Readings in Monetary Theory*, 284-319. Ed. F. A. Lutz and L. W. Mints. Homewood Illinois: Irwin.
- Williams, D. O. 1935. Reserve Bank of New Zealand [Note]. *Economic Record* 11, no. 1-2: 272-276.
- White, L.H. 2008. Did Hayek and Robbins Deepen the Great Depression? *Journal of Money Credit and Banking* 40, no. 4: 751-68.
- Whitwell, J. L. 1987. Monetary policy with a deregulated financial sector. In *Economic Liberalisation in New Zealand*, 261-282. Ed. A. Bollard and R. Buckle. Wellington: Allen & Unwin/Port Nicholson Press.
- Wright, M. 2006. The Policy Origins of the Reserve Bank of New Zealand. *Reserve Bank of New Zealand Bulletin* 69, no. 3, 5-22.