Regime shift and fast recovery on the periphery: New Zealand in the 1930s

By DAVID GREASLEY and LES OXLEY

Like most primary producers, New Zealand was hit hard by collapsing export prices at the onset of the Great Depression, but its recovery from the slump was both early and unusually fast. New data show that New Zealand’s real GDP declined by 16.6 per cent between 1929 and 1931. By 1938 the Dominion’s real GDP stood 46.3 per cent above its 1929 level. Over the same period real GDP growth in Australia, Denmark, and the UK ranged between 18 and 22 per cent, and growth was 10 per cent in the Argentine. After adjusting for purchasing power parity, Maddison estimated that in 1938 New Zealand had the world’s highest GDP per caput, with a level 3 to 5 per cent above that of Switzerland and the United States, and 8 to 13 per cent above that of Australia and the UK.

Comparatively little effort has been made to understand why New Zealand’s recovery in the 1930s was distinctively fast. Much of the literature argues that responses to the depression in the Dominion were tardy and orthodox, and highlights wage cuts, new taxes, and the priority given to balancing the budget. Hawke takes a different view, arguing that New Zealand governments responded actively to the depression, for example by choosing devaluation, but with limited success. He discerns little difference between the pace of recovery in New Zealand and that in Australia, both of which depreciated their currency to the same extent against the pound sterling during the 1930s.

Recent analyses of the international disparities in recovery from the...
Great Depression stress the role of monetary policies and regime shifts, given the persistence of fiscal orthodoxy.\(^8\) For Britain and the US a consensus has emerged that expansionary monetary conditions contributed positively to recovery in the 1930s.\(^9\) Less attention has been given to the agricultural economies. Della Paolera and Taylor note that currency depreciations were not always associated with early recovery, citing the cases of Brazil and Mexico.\(^10\) They distinguish forced depreciations from those of choice, such as that in the Argentine, which was linked to a new, inflationary regime, and promoted recovery from the depression.

New Zealand’s idiosyncratic experience has been omitted from recent debates on monetary regime shifts and recovery from the Great Depression, but merits discussion. Fundamental changes in its monetary and banking system occurred in the early 1930s. The Dominion’s old regime, with money supply there regulated by the overseas trade balance, did not survive the Great Depression. The new regime broke the conventional parity between the New Zealand pound and sterling, and involved the creation of the Reserve Bank of New Zealand (RBNZ) in 1934. The Dominion’s banking system also became more distinct from that of Australia. The new regime promoted remarkably fast monetary growth: M1 more than doubled in New Zealand between 1932 and 1938, while consumer prices rose by around 14 per cent over the same period.

The new monetary regime in New Zealand provided three possible escape routes from depression. Two of these, labelled by Temin the ‘Keynes effect’ and the ‘Mundell effect’, are now a familiar part of the wider international historiography of the recovery, while the third, called here the ‘Copland effect’, is distinctive to New Zealand.\(^11\) The ‘Keynes effect’ postulates that monetary expansion might lower interest rates and stimulate spending.\(^12\) The ‘Mundell effect’ is concerned with the destruction of deflationary expectations, and the concomitant encouragement of immediate spending, based on beliefs that prices will no longer fall and that real debt burdens will diminish. Both of these effects operated powerfully in New Zealand from 1934, but the Dominion’s recovery was complicated by its idiosyncratic use of the devaluation of its currency against sterling in January 1933 to redistribute income to the hard-pressed farm sector, a mechanism championed initially by Copland.\(^13\)

The devaluation of the New Zealand pound in 1933 was intended not to improve the competitiveness of the Dominion’s exports, but to spread the costs of the depression more evenly by raising relative farm prices. Thus, when export earnings credited in sterling in London were transferred to the Dominion, their value, after devaluation, was augmented

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\(^8\) Temin and Wigmore, ‘End’.  
\(^9\) Hatton, ‘Recovery’; Dimsdale, ‘British monetary policy’; Romer, ‘What ended?’.  
\(^10\) Della Paolera and Taylor, ‘Economic recovery’.  
\(^11\) Temin, ‘Great depression’.  
\(^12\) Romer, ‘What ended?’, adopts this interpretation to explain recovery in the US, arguing that real interest rates there became negative.  
\(^13\) Copland arrived in New Zealand in August 1931, engaged in debate with the Dominion’s leading economists, and pursued a press campaign promoting devaluation.

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when expressed in New Zealand pounds. Conversely, the price of imported goods, expressed in New Zealand pounds, was increased. Devaluation sharply increased the Dominion’s money supply, measured in New Zealand pounds. However, much of the potential stimulus was offset before the creation of the RBNZ in 1934 by the indemnity given to protect the trading banks from possible exchange losses. The trading banks anticipated that the New Zealand pound would appreciate, since the lower rate of 1933 was chosen by government and did not reflect market sentiment. The indemnity operated to immobilize part of the increased money supply, before the legislation was repealed in 1934 on the formation of the RBNZ. The end of the long deflation was delayed, but consumer prices rose in 1934, the first increase in New Zealand for eight years.

Over the period 1929 to 1938 New Zealand M1 rose by 64.7 per cent. The key purpose of this article lies in assessing the consequences of the new monetary regime for New Zealand’s dramatic recovery during the 1930s. The approach taken considers what would have happened to the Dominion’s real GDP per caput had the old regime persisted. Counterfactual estimates of real GDP are constructed by assessing how New Zealand M1, prices, and velocity would have behaved through the 1930s, had the monetary policies and institutions of the old regime been maintained. Long-standing pre-1930 relationships between New Zealand M1 and overseas trade, between prices in New Zealand and in the UK, and between the velocity of circulation in New Zealand and in Australia, are articulated, and shown to break down in the 1930s. Had these old regime relationships lasted, the Dominion’s monetary growth in the 1930s would have been dramatically slower, chiefly because the sterling value of New Zealand’s exports to Britain was lower in 1938 than it had been in 1929, and, on our accounting, New Zealand’s real GDP per caput would have been around one-third lower than its actual 1938 level.

I

There are alternative annual estimates of New Zealand real GDP before 1939. Those adopted by Maddison are taken from Rankin. For the years of 1932 these data are based upon a measure of trading bank deposits, estimates of velocity, and the implications of the Quantity Theory of Money. Rankin’s estimates incorporate a number of ad hoc modelling assumptions, including interpolation. Greasley and Oxley have revised these estimates using valid statistical methods, a conventional money aggregate, M1, and a broader, consistently constructed measure of prices.

15 Rankin, ‘New Zealand’s GNP’.
16 Greasley and Oxley, ‘Measuring’.

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Several independent benchmark estimates of New Zealand’s GDP are available for years to 1932. Estimates of GDP constructed using monetary data can thus be compared with direct estimates for occasional years. Greasley and Oxley’s monetary-based estimates which use M1 as the monetary aggregate match the benchmarks closely, suggesting that their series effectively captures annual movements in GDP. In contrast, Rankin’s estimation methods lead to constructed series that do not correspond to the benchmarks, except when manipulated by interpolation. In the case of Greasley and Oxley’s approach, estimates based on M1 provide closer matches to the benchmarks than estimates based on M3. The data for M3 include non-trading bank call deposits, for example of Stock and Station agents, and for the years to 1934 it is difficult to measure all the liabilities that should be included in M3. Since M1 is the more trustworthy monetary measure for years to the 1930s, this may explain the more satisfactory replication of the GDP benchmarks obtained with estimates based on M1.

The alternative series are illustrated, in per caput terms, as figure 1. For the years from 1932 both Rankin’s and our series are based upon the nominal data for private income reported in the Official Yearbooks of New Zealand, but they use different deflators. The new data show real GDP per caput falling during the 1920s, with the 1929 level at 10.4 per cent below the 1923 peak, whereas Rankin’s data show an increase of

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17 Merchant firms with a farmer clientele often had partners in England who handled consignments of exported wool and arranged imports. Some such firms developed into Stock and Station agents which provided financial services: see Hawke, Making of New Zealand, p. 60, for examples.

18 Official yearbook of New Zealand, 1940 and 1957.

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around 2 per cent over the same period. Much of the difference occurs in 1928. The new data embody a conventional monetary aggregate, M1, which grew by 5.1 per cent in 1928, whereas Rankin used trading bank call and fixed deposits, which rose by 11.4 per cent. The higher real GDP growth for the 1920s shown by Rankin’s series derives also from his use of relatively fast falling wholesale prices of locally produced commodities, principally dairy and pastoral products, as a deflator. The new real GDP series utilizes instead a broader, official measure of consumer prices.

New Zealand’s official consumer price index for the interwar years includes a wide variety of data. Food prices have a weight of 29.52 per cent, housing 21.93 per cent, clothes and footwear 12.61 per cent, fuel and light 6.17 per cent, and a miscellaneous category, including transport, furniture, personal services, and books and papers, 29.77 per cent. Many of these spending categories, especially fuel and light, transport and other services, and housing, correspond to items of domestic production, and should be included in the GDP deflator, especially as farm prices diverged from those in other parts of the economy. Indeed, much of the debate surrounding the slump in New Zealand focuses on the wedge between sharply falling agricultural prices and prices more generally.

Rankin now agrees that New Zealand’s real GDP fell faster between 1925 and 1929 than his data show, and accepts that Chapple’s upward revision of GDP for 1925/6 probably lies closer to the true figure than his own. The depression in New Zealand’s economy in the 1920s arose in part from its adverse terms of trade, which meant that the value of Britain’s imports from the Dominion was lower in 1929 than it had been in 1925. Rankin notes that ‘this was a period in which there was a big world-wide decline in the terms of trade ... in 1927 New Zealand experienced an outflow of migrants unheard of since the 1880s. Debt-ridden farmers walked off their lands in possibly greater numbers than during the later slump. With farm profits being very low, there must have been a big decline in output in the important rural services sector.’

Low incomes in New Zealand’s farm sector during the later 1920s were exacerbated by debt, much of which had accumulated during the First World War and the postwar boom, when commodity and land prices were high. Government promotion of resettlement and land purchase by returning soldiers reinforced land price inflation, and those enticed into the scheme were left with a heavy real debt burden after commodity prices collapsed in 1921. Additionally, by the later 1920s, New Zealand farmers’ escape from deflation was made more difficult by Australia’s financial crisis, which was transmitted across the Tasman by a common

19 Sheppard et al., ‘Monetary aggregates’ (above, n. 14); Rankin, ‘New Zealand’s GNP’.
21 Chapple, ‘How great?’; Rankin, ‘Comment’.
22 Rankin, ‘Comment’, p. 206.
23 Brooking, ‘Economic transformation’.
banking system and sterling reserves in London. Despite low farm prices, New Zealand had current account surpluses in the later 1920s, which should have augmented money supply and tempered debt-deflation problems. They did not, partly because New Zealand surpluses were offset by Australian deficits, and by the discouragement of capital flows by rumour of default across the Tasman.

New Zealand's economy was depressed before world trade spiralled downwards after 1929. Yet, on either accounting, real GDP recovery in the 1930s was fast in New Zealand relative to most core and periphery economies, and this occurred despite the sterling value of the Dominion's exports to Britain being lower in 1938 than in 1929. Only the nuances of the two series in figure 1, as they relate to the 1930s, differ, and this is caused by the alternative deflators. Commodity prices, used in Rankin's series, rose more quickly than consumer prices after 1933, and this explains the faster real GDP growth shown by the new series. The new estimates date the recovery from 1932, before the major devaluation of the New Zealand pound, and indicate that 1929 levels of real GDP per caput were regained in 1935, one year earlier than shown by Rankin's estimates. Maddison's benchmark, that New Zealand's GDP per caput adjusted for PPP was the highest in the world in 1938, is not affected by the choice of series.

More importantly, the new data blur the origins of the Great Depression in New Zealand. Following the sharp fluctuations after the First World War, New Zealand's real GDP per caput was around 10 per cent above its 1914 level in 1923, with most growth occurring during the commodity price upswing to 1920. The new data show a long depression, with only temporary interruptions in 1925 and 1928-9 to the downward path of real GDP per caput in the 1920s, and a 1931 trough some 27.3 per cent below the 1923 level. Its impact in New Zealand, and the momentum for a monetary regime change, may lie as much in the depression's prolongation between 1923 and 1931, as in its depth. The next section considers how New Zealand's long depression led to the demise of its old monetary regime.

II

Prior to 1930 New Zealand's banking system was tied closely to that of Australia, with four of its six trading banks having their head offices in Australia. The trading banks' sterling reserves in London regulated monetary conditions in New Zealand. By convention, the trading banks managed the New Zealand pound's exchange rate at par with sterling, with any excess demand for sterling being met by a rationing of reserves to maintain parity. Between 1930 and 1934 the banking and monetary

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24 Greasley and Oxley, 'Measuring', p. 366.
25 Both Sutch, Colony or nation?, and Easton, 'Three depressions', argue in favour of a long interwar depression.
26 Hawke, 'New Zealand'.
system of New Zealand changed fundamentally, as the convention of parity between the New Zealand pound and sterling was broken, and the creation of the RBNZ gave governments the power to expand note issue and credit, and to vary the exchange rate. The regime shift was intended to disassociate monetary conditions in New Zealand from those in Australia, and to restore farming prosperity.

The regulation of bank credit in New Zealand and its linkage to overseas trade were well understood in the 1920s following Tocker’s exposition. The old regime was, by convention, a sterling-based standard, with the trading banks’ reserves of sterling held in London determining the Dominion’s money supply. New Zealand trade surpluses increased the sterling reserves in London, which made possible increased advances in the Dominion. Money supply, therefore, was governed by the export surplus. Trading bank notes did circulate, and were backed by gold reserves held in New Zealand, but note issue before 1930 was never limited by the size of the gold reserve. New Zealand’s conventional sterling standard did not survive the Great Depression. Indeed, it was under stress by 1929. In that year New Zealand M1 was 6.4 per cent below its level of 1923, which partly reflected the decline of the trading banks’ London funds as Australia’s balance of payments position worsened.

The initial impetus towards the new regime in New Zealand arose from a desire to disassociate the Dominion’s monetary conditions from those of Australia. At the end of the 1920s Australia’s trading deficits and indebtedness were substantial, and rumours of debt default there impeded capital flows to New Zealand. Primarily as a result of Australia’s financial weakness, the trading banks’ sterling reserves in London collapsed, notably between June 1929 and March 1930. These funds were common to Australia and New Zealand; the trading banks claimed that they were unable to separate those accumulating from the Dominion’s trade. Money supply in both countries was depressed by Australia’s financial position, and deflation was transmitted to New Zealand by their common banking system. New Zealand M1 fell by 18.8 per cent in 1930, despite its overseas trade remaining in surplus.

By 1930 opinion in New Zealand, including that in the Treasury, viewed Australia’s financial problems as damaging to the Dominion. A New Zealand Treasury memorandum, drafted by Ashwin, outlined the monetary problems facing the Dominion. The Treasury’s analysis followed that of Tocker, but highlighted the adverse impact on the Dominion of Australia’s financial problems, and offered two suggestions. The first was that the sterling standard be formalized with the New Zealand pound’s exchange rate with sterling fixed legally, within narrow bands,

27 Tocker, ‘Monetary standards’.
28 Butlin and Boyce, ‘Monetary policy’, p. 197.
29 Economist, 1 Feb. 1930.
30 A near identical draft of this memorandum had been read to the Wellington branch of the Economic Society of Australia and New Zealand in June 1930, and the paper was published subsequently: Ashwin, ‘Banking’.

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rather than by convention. This would de-couple the New Zealand and Australian currencies if the latter depreciated against sterling. Second, a State Note Issue Authority was proposed, and linked to the possible formation of a central bank. In 1931, the Bank of England encouraged the founding of a fully fledged reserve bank in New Zealand, stressing the need to ensure financial independence from Australia. 

The initial debates surrounding the creation of the RBNZ subsequently became entangled with the question of the exchange rate. In 1930 the chief concern of the New Zealand Treasury was to maintain the sterling exchange parity, and by implication to disassociate the Dominion’s currency from that of Australia. As the depression deepened through 1931, the focus shifted to how to promote recovery, especially in New Zealand’s hard-hit and heavily indebted farm export sector, and to debate about the merits of devaluation or ‘raising’ the exchange. Most of the Dominion’s export proceeds were credited in sterling to the trading banks’ London funds, and then transmitted to New Zealand at the prevailing exchange rate. The advantage of devaluation for New Zealand’s farmers, on the assumption that sterling prices would be unaffected, lay in increased earnings measured in New Zealand pounds. Thus New Zealand M1 would be augmented directly by ‘raising’ the exchange.

Between July 1929 and April 1930, the exchange rates of the New Zealand and Australian currencies were ‘raised’ to 105 for £100 sterling, but the trading banks struggled to maintain the new parity of the Australian pound, and the Commonwealth Bank rationed sterling. This encouraged an outside market, and led the Bank of New South Wales to ‘raise’ the rate for Australian pounds, initially in January 1931 to 115, and then to 130. The Commonwealth Bank eventually fixed the rate at 125, while the New Zealand pound was ‘raised’ only to 110, and the sharper devaluation of the Australian pound started to decouple the monetary conditions of the two countries. By the end of 1931 the London market differentiated clearly between the financial positions of New Zealand and Australia. However, the shift to a new inflationary monetary regime in New Zealand was protracted.

Although the decline in New Zealand’s money stock ended in 1931, M1 grew by less than 1 per cent in 1932. Both the trading banks and the New Zealand government remained opposed to a further devaluation of the New Zealand pound in that year, although the continuing fall in sterling denominated commodity prices kept the issue to the fore. Leading New Zealand economists including Tocker and Belshaw had also opposed devaluation, but, in the course of 1932, influenced by Copland, they

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32 The Commonwealth Bank operated in some respects as Australia’s reserve bank.
33 Sinclair, *Open account*.
34 New Zealand government 5% stock which had sold in London for £100 in March 1929 traded at £90 in Dec. 1931, whereas the Commonwealth Bank of Australia’s 5% stock fell from £97.25 to £75.50.
shifted their views.\(^{35}\) Within the new coalition government, Coates, the leader of the Reform Party whose main constituency was the Farmers’ Union, supported further devaluation, initially in January 1932.\(^{36}\) However, the Treasury’s concerns about debt refinancing led to the creation of a sterling pool, administered by the trading banks, which controlled all sterling transactions and pegged the exchange at NZ£110 per £100 sterling. In return the trading banks guaranteed the government up to £1 million sterling per month in 1932 to meet its London obligations. The coalition government did, however, establish an economic committee to advise on the exchange rate.

In 1932 the economic committee adopted the Copland ‘Melbourne’ prescription that exchange rate manipulation was desirable to raise export prices relative to domestic prices to give the farm sector an incentive to produce and invest.\(^{37}\) Fleming argued that Keynes’s ideas, and their acceptance by the leading New Zealand economists, made the case for devaluation respectable.\(^{38}\) The remedy for depression offered by the economic committee in February 1932 followed closely the diagnosis made by Copland in the New Zealand press. It recommended that the exchange be ‘raised’ to NZ£140 for £100 sterling, though it also proposed that the budget should be balanced by 1934-5.\(^{39}\)

At the heart of the economic committee’s analysis was a judgment that the costs of the depression in New Zealand should be spread more evenly, and that increased prosperity in the farm sector would promote recovery generally. Their proposed manipulation of the exchange rate was to redistribute income towards the farmers. Dissent to a further ‘raising’ of the exchange came chiefly from the Treasury and the trading banks, both of which argued that a devaluation of 40 per cent could not be justified by relative price movements after 1929, or by New Zealand’s balance of payments.\(^{40}\) Indeed, through 1932 there was a tendency for New Zealand’s trade surpluses and sterling balances to rise, and the exchange pool was ended.

For Coates and the economic committee, though, the external balance was less important than the need to raise agricultural prices, and they pressed the trading banks to ease the monetary pressure on the heavily

\(^{35}\) Copland, *New Zealand exchange*; idem, *New Zealand in crisis*.

\(^{36}\) Bassett, *Coates of Kaipara*, p. 188, refers to a letter written by Coates on 23 Jan. 1932, when ‘he favoured raising the exchange rate ... hoping for better British prices’. Coates’s view did fluctuate in the course of 1932; for example, he supported the RBNZ bill in Oct. which did not envisage devaluation: Hawke, *Between government and banks*, pp. 36-7.

\(^{37}\) Economic committee, *Report*.

\(^{38}\) Fleming, ‘Keynes, PPP’. Additionally, Endres, ‘Development of policy’, argues that Belshaw’s conversion to the ‘Melbourne’ view was central to the acceptance of Copland’s analysis in New Zealand.

\(^{39}\) Economic committee, *Report*.

\(^{40}\) Data provided by the government statistician indicated that New Zealand prices were 28% and 40% above those in Britain in 1928 and 1933 respectively; for the Treasury this justified the 10% devaluation which had occurred by 1932, but not the proposed 40% devaluation. These data are from National Archive of New Zealand, ref. ABTW 7031/1d, dated 1934, and are appended to correspondence between Treasury secretary Park and Reserve Bank governor Lefaux.
indebted farm sector, but were rebuffed. The trading banks’ opposition to monetary expansion encouraged further discussion on the foundation of a central bank, to lessen their influence on credit provision. Treasury ministers and officials, however, also remained opposed to a further ‘raising’ of the exchange. Nevertheless, the distress among farmers and their influence on the coalition, with the support of Coates and the economists, led the New Zealand government to choose devaluation in January 1933, principally as a mechanism for redistributing income. The trading banks remained sceptical that the exchange could be manipulated to favour a sectional interest, and they were granted indemnity against losses on their sterling balances that would occur if the devaluation did not hold.

III

The exchange rate manipulation of January 1933 heralded the new monetary regime. New Zealand M1 grew by 24.2 per cent and by 17.9 per cent respectively in 1933 and 1934; see table 1. This arose from a combination of two mechanisms. First, the sterling earnings of exporters were credited to New Zealand bank accounts at the prevailing ‘raised’ exchange, which directly augmented money supply measured in New Zealand pounds. Export values, denominated in New Zealand pounds, increased by 17.6 per cent in 1933. Most of this increase arose from the ‘raising’ of the New Zealand pound’s exchange rate to 125 in January, since the sterling value of Britain’s imports from New Zealand rose by less than 1 per cent in that year. The ‘raising’ of the exchange by around 14 per cent at the start of 1933 thus directly augmented New Zealand money supply, and the redistribution of income to farmers via the ‘Copland’ effect contributed to the real GDP recovery which took place then.

Monetary growth in 1933 measured by M1, however, far exceeded that arising directly from the manipulation of the exchange rate. The second force driving the 24.2 per cent rise in M1 in that year was the sharp rise in demand deposits that arose from trading bank lending to government. This lending stemmed from the operation of the Indemnity Act, and facilitated the transfer of the trading banks’ excess sterling reserve to the government. Much of the actual monetary growth in 1933

41 The trading banks, notably the Bank of New Zealand, remained opposed to raising the exchange: P. Colgate and D. K. Sheppard, ‘A history of the Bank of New Zealand, 1862-1982: part I: 1862-1934’ (Money and Finance Association discussion paper no. 7, Victoria Univ., Wellington, 1990), p. 36. Its chairman, Nicholson, in his report for 1932 stated that the devaluation of 10% was enough, and that it was not the bank’s business to adjust exchange rates to meet the variation in product prices. Sinclair and Mandle, *Open account*, highlights the fact that the Bank of New South Wales was the only trading bank in favour of devaluation.

42 These views are attributed to a senior Treasury official: Easton, ‘Bernard Ashwin’.

43 Hawke, *Thoroughbred*. Coates presented the case for devaluation in Cabinet, and subsequently replaced Downie Stewart as finance minister.

44 The money supply was augmented partly by a rise in trading bank fixed deposits, which increased by NZ£4.2 million in 1933, and partly by a rise in call (demand) deposits which went up by NZ£3.5 million in the same year.
Table 1. Indices of actual New Zealand GDP, M1, velocity, and prices, 1923-1939 (1929 = 100)

<table>
<thead>
<tr>
<th>Year</th>
<th>Nominal GDP</th>
<th>Real GDP per caput</th>
<th>Real GDP</th>
<th>M1</th>
<th>Velocity</th>
<th>Prices</th>
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<td>75.445</td>
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% change, 1923-29: 49.96
% change, 1929-39: 24.56


arising from this second source was, in effect, sterilized because the sterling reserves held in London could not be utilized. The Indemnity Act restricted the government’s use of its newly acquired sterling reserve, in effect to the purchase of British Treasury bills. Thus, while trading bank lending to government contributed to the rise in nominal money balances, as measured by M1, the constraints on the use of the sterling reserves meant that velocity fell.

The Banks’ Indemnity Act permitted the trading banks to offload to the Treasury any sterling in excess of that held before the exchange was ‘raised’. The banks believed that the ‘raised’ exchange would not hold, and in anticipation of a revaluation of the New Zealand pound they were strongly averse to holding sterling. Uncertainty was heightened by the economic committee’s suggestion that the new rate would be temporary, and by its members’ expectation of an eventual return to parity. The Treasury calculated that the costs of the Banks’ Indemnity Act would be modest, and set aside NZ£1 million in the 1933/4 budget to meet the cost.66 However, in the space of 18 months the Treasury accumulated a

45 Parity with sterling was restored after the Second World War. This was not simply a reversal of the 1933 policy, but occurred after subsequent debate, in 1948, which focused on issues of income distribution: Hawke, Between government and banks, pp. 122-7.
46 Condliffe, Welfare state, notes that the Treasury assumed that it would buy £4 million, and lose 25% when the exchange returned to parity.

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sterling reserve of £23 million as the trading banks unloaded their excess sterling.\textsuperscript{47}

The banks’ indemnity allowed the transfer of their surplus sterling to the Treasury for New Zealand Treasury bills, which paid interest of 5 per cent. Thus, the trading banks accumulated assets with high returns denominated in a currency that they expected to appreciate. In contrast, the yield on British Treasury bills, in which the New Zealand Treasury deposited its sterling funds, was a little over 1 per cent. The actual growth of M1 in 1933 was thus due, in part, to a rise in demand deposits that resulted from trading banks lending to the government. Because government borrowed to buy the banks’ excess sterling, the money was immobilized since the Indemnity Act imposed legal restrictions on government’s use of the sterling.

The high interest charges resulting from the Indemnity Act made balancing the New Zealand budget more difficult, but more importantly the act presaged a credit squeeze in the Dominion. The New Zealand Treasury was barred from spending the sterling it accumulated. Over the period March 1933 to June 1934 New Zealand’s balance of payments surplus was around NZ£17.7 million, as imports were discouraged, both by higher prices and by the deflationary effects of the Indemnity Act, and exports were stimulated by rising British demand. Under the operation of the Indemnity Act, much of the trading banks’ lending resources in 1933 went to the government and was sterilized; hence M1 velocity fell sharply in that year and consumer prices continued to decline.\textsuperscript{48}

Since part of the increased money supply in 1933 was immobilized by the constraints on the Treasury’s use of the sterling, the full stimulus to recovery resulting from the devaluation was delayed until the RBNZ was established in 1934. Neither lower interest rates (the ‘Keynes effect’) nor the destruction of inflationary expectations (the ‘Mundell effect’) operated powerfully to stimulate spending in 1933.\textsuperscript{49} Income was redistributed immediately to farmers by ‘raising’ the exchange (the ‘Copland effect’) and contributed to recovery, but the collapse of imports points to other parts of the economy remaining depressed. Consequentially, the potential expansionary effects of monetary growth in 1933 were tempered by a fall in M1 velocity of 10.2 per cent, and New Zealand’s nominal GDP increased by only 5.5 per cent.

The devaluation had delayed the establishment of the RBNZ since the earlier legislative proposals presumed parity between the New Zealand currency and sterling, but, paradoxically, the full monetary stimulus from the devaluation awaited the creation of the bank. The costs of the Indemnity Act reaffirmed to government the desirability of ending the

\textsuperscript{47} To set this into context: Tocker, ‘Exchange policy’, p. 86, put the value of New Zealand’s national income at NZ£126.6 million and exports at NZ£56.1 million in the financial year 1928/9.


\textsuperscript{49} Nominal interest rates fell modestly—for example, the TSB’s deposit rate was 4.12% in 1932 and 3.62% in 1934—but consumer prices also continued to fall throughout 1933: see G. R. Hawke and D. K. Sheppard, ‘The Trustee Savings Bank in New Zealand, 1874-1982’ (Dept. of Economics Discussion Paper no. 25, Victoria Univ., Wellington, 1984).
trading banks’ role in the exchange market, and new legislation, which
provided discretion for the RBNZ to fix the exchange rate, was introduced
in October 1933. Most opposition to the new bill came from those
dissatisfied with the existing banking system, notably the Douglas credit
movement, which argued for more radical shifts towards a new inflationary
regime. Roosevelt’s decision that the US leave the gold standard early
in 1933, and his plans to use devaluation to raise internal prices, were
employed in New Zealand to argue that a stronger inflationist regime
was possible and desirable. In response, particularly to the Douglas
movement, the government established a monetary committee to consider
how the RBNZ should operate.

The committee’s deliberations kept monetary issues at the centre of
public debate. They countered the drastic inflationary proposals of the
Douglas credit enthusiasts, but they supported the stabilization of the
New Zealand pound at the rate of 125 to £100 sterling. Keynes’s
review of their report concurred with the committee’s judgment that
there was little or nothing to hope for from more radical inflationary
proposals. Indeed, he added the caveat that ‘New Zealand may have
already gone further than is prudent in trying to restore her earning
power.’ Keynes was writing after the RBNZ had been established, and
the Indemnity Act had been repealed.

The operations of the Reserve Bank commenced in August 1934, and
the monetary implications were substantial and immediate. The Treasury
redeemed its bills arising from the Banks’ Indemnity Act, and in return
the trading banks received deposits at the RBNZ. The Treasury’s accumu-
lated sterling reserve was transferred to the RBNZ, which meant that
government simultaneously relinquished its sterling assets but also elimi-
nated the debt arising through their purchase. In effect, the immobilization
of the sterling reserve was reversed, and the trading banks, bereft of their
high-yield Treasury bills, desperately needed new lending opportunities.
In part, the trading banks used their deposits at the RBNZ to purchase
RBNZ notes, and thus to redeem their own notes. Nevertheless, the
banks now had an abundance of funds for lending, and interest rates fell
to low, possibly negative, real levels. Belatedly, the monetary stimulation
arising from the devaluation took full effect. During 1934 consumer
prices rose for the first time in eight years, and the fall in velocity
was slowed.

The new monetary regime had been established in two stages. The
devaluation led to rapid money supply growth, but did not by itself
create a new regime, since credit remained expensive and inflationary

50 Hawke, *Between government and banks*.
51 Monetary committee, minutes of evidence. AJHR, 1934-5 B3.
52 Keynes, *Report of monetary committee*.
53 The trading banks were required also to deposit their gold holdings with the RBNZ, and were
54 For example, deposit rates at the TSB averaged 4.02% in 1924-9 and 4.18% in 1931-2, but
2.75% in 1934-9. In contrast, consumer prices were constant in 1924-9, fell by 14.8% in 1930-2,
and rose by 23.2% in 1934-9. Thus nominal deposit rates were below the average inflation rate of
4.2% between 1934 and 1939.
expectations were not transformed. In the short term, devaluation essentially redistributed income to agricultural exporters. After the formation of the RBNZ and the end of the Indemnity Act, the partial sterilization of monetary growth apparent in the previous 18 months ended. The redistributive effects of devaluation were thus reinforced, and the fall in velocity arrested as the sterling reserves were freed. After the RBNZ announcement that the ‘raised’ exchange would be maintained, much of the uncertainty surrounding monetary policy dissipated. Crucially, the prospect of a return to deflation became remote. Monetary growth was thus additionally transmitted to spending by a combination of low real interest rates and anticipated inflation. These forces, together with the improved fortunes of the farm sector arising from the redistributive effects of devaluation, led to rapid recovery. In 1935 real GDP per caput was, for the first time, higher than its 1929 level.

A further ratchet to monetary expansion occurred in 1936, when the RBNZ was nationalized by the new Labour administration, and became a less restricted source of government finance. Two key consequences were the drawing of the RBNZ into farm price guarantee schemes, with shortfalls between market and guaranteed prices met by its advances, and into housing finance.55 Advances for the marketing of primary products stood at NZ£6 million by December 1936, and remained around this level at the onset of the Second World War. Other advances stood at NZ£1.8 million in December 1936, and rose sharply towards the end of 1938 to stand at NZ£11.2 million. Consequentially, the sterling reserve that the RBNZ inherited at its creation was depleted, accompanied by a rise in note issue, by around 60 per cent between June 1936 and December 1938, and by increases in its liabilities to the trading banks.56 The lessening of restrictions on RBNZ activities in 1936 completed the shift to the new inflationary regime.

On any accounting New Zealand’s recovery of the 1930s was distinctively rapid. A recovery in the British market and the Dominion’s preferential treatment in that market cannot explain the pace of its recovery, since the sterling value of Britain’s imports from New Zealand was lower in 1938 than in 1929. In contrast, the new monetary regime gave impetus to spending via low real interest rates, the destruction of deflationary expectations, and the redistribution of income towards the heavily indebted farm sector, and offers a more plausible explanation of fast recovery. The next section quantifies the impact of the new regime by demonstrating what would have happened to New Zealand’s real GDP per caput in the 1930s had the old regime survived.

IV

At the heart of the counterfactual presented here is an assessment of how a conventional monetary aggregate, M1, would have behaved had

55 Sinclair, Walter Nash.
56 New Zealand official yearbook, 1940, p. 680.
the old regime persisted through the 1930s. Then the implications for nominal GDP are considered by combining this counterfactual M1 with a counterfactual measure of New Zealand’s M1 velocity based upon projecting a pre-1930 model. Subsequently, counterfactual estimates of New Zealand’s real GDP are constructed by using the UK GDP deflator as a proxy for what would have happened to prices in New Zealand had the old regime been maintained.

Tocker illustrated how, under the old regime, bank credit in New Zealand was linked to the Dominion’s balance of trade via the rise and fall of the trading banks’ sterling reserves in London. He illustrated graphically how the excess of bank advances over deposits in New Zealand moved with the trade balance over the period 1904-24. The long-established linkage between New Zealand’s trade and its money supply collapsed after 1929, initially as Australia’s financial crisis extended to New Zealand, which meant that New Zealand exports supported the Australian currency rather than bank credit expansion in New Zealand, and subsequently by the ending of the conventional parity of the New Zealand pound with sterling.

The analysis linking New Zealand money stock to its trade stands up to modern econometric scrutiny, and the use of a conventional monetary aggregate, M1. Formally, the association between the monetary aggregate, M1, and exports shows a robust cointegrating relationship for the years 1860-1929, which breaks down in the 1930s. Identifying exports as the determinant of M1 under New Zealand’s old regime has advantages for constructing the counterfactual M1, as New Zealand farmers were price takers on the British market and thus the sterling value of New Zealand’s exports is an appropriate measure of M1.

Table 2. Cointegrating relationship: New Zealand’s M1 and exports

<table>
<thead>
<tr>
<th>Year</th>
<th>Specification</th>
<th>VAR</th>
<th>Coefficient</th>
<th>Constant</th>
<th>LR</th>
<th>1% cv</th>
<th>5% cv</th>
<th>Number of CE</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1860-1929</td>
<td>M1 = 7.993 + 0.966 exports</td>
<td>3</td>
<td>1</td>
<td>0.966</td>
<td>7.993</td>
<td>0.966</td>
<td></td>
<td>None**</td>
<td></td>
</tr>
<tr>
<td>1860-1939</td>
<td>M1 = 3.415 + 1.183 exports</td>
<td>3</td>
<td>1</td>
<td>1.183</td>
<td>3.415</td>
<td>1.183</td>
<td></td>
<td>At most 1</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

a Linear deterministic trend refers to the case where the data are assumed to be individually linearly trended, but there is no trend assumed in the cointegrating relationship.
b The VAR was determined by use of the Akaike information criteria (AIC) or Bayesian information criteria (BIC), whichever gave the lower order. The procedure is based upon the recommendation of Pesaran and Pesaran, Working, p. 295.
c Likelihood ratio-based test
d Cointegrating equations

** denotes that the null of no CE is rejected at both the 5% and the 1% level.
exports was essentially unaffected by the new monetary regime. Thus, in conjunction with the parameters from the estimated pre-1930 relationship between exports and money, the actual sterling value of New Zealand’s exports for the years 1930-9 provides a basis for ascertaining how New Zealand M1 would have behaved had the old regime persisted.

The results in table 2 indicate that a cointegrating relationship between M1 and exports cannot be rejected for the period 1860-1929. The closeness of the association can be seen by the near to one-to-one relation between the two series. However, the long-term relationship between New Zealand exports and M1 does not hold for the period to 1939, showing that the old regime broke down.

The coefficients from the cointegrating relationship between M1 and exports for the period 1860-1929 in table 1, and actual export values expressed in sterling, are used to construct the counterfactual M1. Thus, New Zealand’s export revenues measured in New Zealand pounds are deflated by 3.8 per cent for 1930, by 9 per cent for 1931, by 9.1 per cent for 1932, and by 25 per cent for 1933 and later years, to indicate their value, assuming the maintenance of the old regime sterling parity. Figure 2 shows what would have happened to New Zealand M1 had the old regime survived. Whereas between 1932 and 1939 actual New Zealand M1 grew by 189 per cent, counterfactual M1 grew by around 34 per cent. Actual M1 in 1939 was almost twice the level it would have been had the old regime survived.

That actual M1 lies below counterfactual old regime M1 between 1930

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57 For a discussion, which includes the reaction of other producers to New Zealand’s devaluation, see Hawke, Making, p. 132.

58 The hypothesis that the coefficient attached to exports is unity is not rejected at the 1% level.
and 1932 reflects the breakdown of long-standing monetary relationships at the onset of the Great Depression. Had the estimated pre-1930 relationship between money and exports held in 1930, New Zealand’s M1 would, given export values in that year, have been higher by about 17.1 per cent. The transmission of deflation from Australia through their common banking system was, from this result, powerful. Faster monetary growth in New Zealand from 1932 was an escape both from the conventional sterling parity, and from Australia’s financial crisis, which exacerbated the old regime’s deflationary impact during the early years of the Great Depression.

While New Zealand’s actual M1 growth was substantially faster under the new 1930s regime, sharp falls in velocity tempered the growth of actual nominal money income. Next we consider how velocity would have behaved had the old regime persisted. The relationship between the banking systems of Australia and New Zealand meant that there was a close association between the two countries’ velocities of circulation prior to 1930. Hawke and Cashin, for example, used Australian velocity, in conjunction with New Zealand monetary aggregates, to estimate New Zealand’s GDP for periods when direct estimates are not available. However, Rankin shows that the velocities did not correspond exactly, and we, elsewhere, identify a robust statistical model of Australian velocity for the period of the old regime. In this model, predictions of Australian velocity from New Zealand money and price data, in conjunction with New Zealand M1, estimate closely actual New Zealand GDP benchmarks for the years to 1932.

The systemic New Zealand-Australia velocity relationship breaks down with the disassociation of their banking systems in the 1930s. Consequentially, predictions of Australian velocity based upon New Zealand M1 per caput and prices, in conjunction with New Zealand M1, do not, after 1932, closely estimate actual New Zealand GDP. To construct a counterfactual velocity for 1930s New Zealand, assuming no regime shift, use is made of the old regime relationship between Australian velocity and New Zealand monetary conditions. By splicing actual New Zealand M1 for the years 1860-1929, with the counterfactual M1 for 1930-9 derived from the old regime money-export relationship, an extended old regime M1 series is obtained, which can be used in predicting Australian velocity, including counterfactual estimates for the 1930s. Similarly, actual New Zealand price data for the years to 1929 are spliced with the UK GDP deflator for 1930-9, where the latter is used to indicate what would have happened to New Zealand prices had the old regime, including the parity with sterling, been maintained.

The results in table 3 show the old regime cointegrating relationship between Australian velocity and New Zealand money and prices, extended over the period 1863-1939. For the years from 1930 onwards the M1

59 Greasley and Oxley, ‘Measuring’.
60 Using New Zealand data to explain Australian velocity is the methodology adopted by Greasley and Oxley, ‘Measuring’, to revise estimates of New Zealand’s GDP.
Table 3. *Australian velocity and New Zealand money and prices (logs)*

A. Unit root tests, 1861-1939 ADF(4)*

Australian M1 velocity (AV) = \(-1.877\)
New Zealand M1 per caput (NZM1PC) = \(-1.8106\)
New Zealand prices (NZP) = \(-1.510\)

B. Testing for the existence of a significant cointegrating relationship

Linear deterministic trend. VAR = 1*

<table>
<thead>
<tr>
<th>Eigenvalue</th>
<th>LR*</th>
<th>5% cv</th>
<th>Number of CE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.304</td>
<td>27.92</td>
<td>22.04</td>
<td>None**</td>
</tr>
<tr>
<td>0.187</td>
<td>12.97</td>
<td>15.87</td>
<td>At most 1</td>
</tr>
<tr>
<td>0.023</td>
<td>1.80</td>
<td>9.16</td>
<td>At most 2</td>
</tr>
</tbody>
</table>

C. Cointegrating regression, 1863-1939

(Phillips-Hansen, Bartlett weights, trended case, truncation lag = 1*)

\[ AV = -1.4 + 0.461NZP - 0.138NZM1PC \]

Notes:
The New Zealand money and price data for 1930-9 are the counterfactual estimates. ADF is the adjusted Dickey-Fuller statistic.

*a The conclusion is not sensitive to the choice of Augmentation up to and including order 12.
*b See tab. 2, notes a, b, for explanations of terminology and choices made.
*c Likelihood ratio-based test
*d Cointegrating equations
*e See Phillips and Hansen, ‘Statistical inference’ for their method of estimating a cointegrating relationship. The results are not qualitatively sensitive to the truncation lag or the weights chosen. ‘Trended’ refers to trends in the data, but not in the cointegrating relationship.

** denotes that the null of no CE is rejected at the 5% level.

and price data used are the counterfactual measures, constructed by assuming that the old regime survived. Since we show elsewhere that predictions of Australian velocity based upon New Zealand money and prices provide a robust indication of New Zealand velocity for the years from 1865 to 1932, the extension of the model to the 1930s provides plausible estimates of what New Zealand velocity would have been if the old regime had been maintained. Accordingly, predictions of Australian velocity derived from the results in table 3 are used to indicate counterfactual old regime New Zealand velocity during the 1930s.

Figure 3 shows that actual New Zealand velocity was below the counterfactual velocity after 1932. New Zealand’s new monetary regime was associated with lower actual velocity, which stabilized at about 25 per cent below its 1930 level in 1934. To an extent this shows that the rise in money supply in 1933 resulting from the exchange rate manipulation was sterilized, but the falls in velocity abated in 1934/5, to release the powerful real expansionary effects of monetary growth.

Combining the counterfactual predictions of New Zealand’s velocity with counterfactual M1 shows how nominal income would have moved had the old monetary regime persisted through the 1930s. Further, the UK GDP deflator is used to construct a real GDP counterfactual. UK prices rose less sharply than New Zealand prices from 1932, and approximate what would have happened to prices in the Dominion had the sterling parity of the New Zealand pound been maintained. New Zeal-
and’s actual population is included in both real GDP per caput series illustrated in figure 4.

In 1930 New Zealand’s actual real GDP per caput lies below the counterfactual old regime estimate. This arises because the Dominion’s

Figure 4. *New Zealand’s actual and counterfactual GDP per caput, 1930-1939*

*Sources*: actual: as fig. 1; counterfactual: see text

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money stock would have been higher in 1930 had the normal working of the old regime not been undermined by Australia’s financial crisis. The trough of New Zealand’s depression in 1931-3 was ameliorated by the devaluations, with counterfactual real GDP per capit about 5 per cent below actual levels in both years. Decisive recovery, though, awaited the destruction of deflationary expectations and the fall in interest rates associated with the end of the Indemnity Act and the formation of the RBNZ. Had the old regime been sustained through the 1930s, New Zealand’s GDP per capit in 1937 would have been only 4.9 per cent above the 1929 level, and 6.5 per cent below the level of 1923. Within Maddison’s world rankings of GDP per capit, the survival of the old regime would have moved New Zealand from its first position in 1938 to tenth.

V

New Zealand’s economy was depressed for much of the interwar years, with real GDP per capit falling during the years 1923-31. The new monetary regime made possible an escape both from the Great Depression and from New Zealand’s prolonged depression of the 1920s. Real GDP per capit exceeded the 1923 level, for the first time, in 1935, and was around 21 per cent greater in 1939. The pace of New Zealand’s recovery in the 1930s lifted average growth in real GDP per capit for 1923-39 to 1.19 per cent per annum, above the 0.98 per cent per annum attained between 1870 and 1913.

A striking testimony to the force of the new regime and to the importance of the RBNZ was the continued recovery through 1935 in real GDP per capit, most of which occurred before the new Labour government took office in November. New Zealand’s exports fell in 1935, while imports continued to grow. Under the old regime (see figure 4), real GDP per capit would have fallen, but its actual growth accelerated to 7.8 per cent. Strong M1 growth continued through 1935, and the stabilization of velocity in that year highlights the transmission of the money growth to spending. The likely explanation is that, prior to being nationalized and to becoming an instrument of state spending, the RBNZ played an important role in sustaining recovery by reinforcing inflationary expectations, and the concomitant ending of the trading banks’ exchange indemnity allowed interest rates to fall.

From its foundation the RBNZ dispelled the doubts that the ‘raised’ exchange rate, and thus higher prices, would hold. Additionally its discount rate was reduced from 4 per cent in 1934 to average 2.42 per cent in 1936 and 2 per cent in 1937. Thus, the new monetary regime meant, unambiguously, the end of the long deflation. Prices in New Zealand during the long depression of the 1920s had been static, with the guardians of the old regime, the trading banks, limiting bank credit to sustain the sterling parity. In the course of 1933-4 the trading banks lost their singular influence over monetary conditions. Although the technical abilities of the RBNZ to manage the money supply were limited,
in particular by the absence of a bill market, its existence destroyed deflationary sentiment. The trading banks’ influence on the exchange rate was removed by the existence of the RBNZ, as was their role in managing the chosen rate.

The RBNZ’s establishment, coming soon after government had manipulated devaluation, and the deliberations of the monetary committee, marked the end of the old regime. The sterling reserve that the RBNZ inherited with the unwinding of the Indemnity Act provided a direct mechanism of monetary expansion. Before the RBNZ’s establishment, the belief that the New Zealand pound would be revalued, and hence deflationary sentiments, were widespread. These views extended beyond the trading banks, to the Treasury and the public. Since currency revaluation would mean cheaper imports, and hit the earnings of New Zealand’s farmers, its anticipation was a severe disincentive to spending. That deflationary sentiments were dispelled in the course of 1934/5 is shown by the stabilization of velocity and the rise in prices. Consequently, the faster monetary growth of the new regime was translated into higher real GDP per caput.

New Zealand’s accelerating recovery through 1935, in the face of falling exports and the attainment of a balanced budget in that year, demonstrates the new monetary regime’s real expansionary force. Consumers in 1935 were willing to increase their spending, with imports rising by 16 per cent, while exports fell. Such a marked rise in imports would not have happened had consumers anticipated a return to deflation. The new inflationary regime was largely in place before the new Labour government nationalized the RBNZ in 1936, and made it a less restricted source of government finance. Export growth was powerful in 1936-7, and even under the old regime would have led to rapid monetary expansion. Indeed, the excess of actual over the estimated counterfactual real GDP per caput was lower in 1937 at 20.9 per cent, than the 21.3 per cent of 1935. On this accounting, the first two years of the new Labour government made little difference to the pace of recovery, since the key monetary shifts had occurred already in 1933-5.

The decoupling of New Zealand’s monetary conditions from its overseas trade became palpably clear in 1938-9, as did the longer-term implications of the government’s use of the RBNZ as an instrument of credit creation.\(^{61}\) The limitations of monetary expansion were revealed, as the balance of payments became an important constraint on further growth in real GDP per caput. Against the backdrop of downturns elsewhere in the world economy, New Zealand real GDP per caput rose by 5.0 per cent in 1938, to promote the Dominion to first place in Maddison’s ranking for that year. New Zealand’s exports fell in 1938 and 1939, but M1 rose by 26.7 per cent over the two years. Labour’s spending policies were intended to insulate New Zealand from the vagaries of the world economy, and, in a sense they succeeded as growth in real GDP per caput continued through 1939.

\(^{61}\) Singleton, ‘Anglo-New Zealand financial relations’.

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New Zealand’s pace of growth in real GDP per caput through 1938-9 was unsustainable. The RBNZ’s reserves to liabilities ratio, which had been 99 per cent in the second half of 1935, fell to around the minimum 25 per cent by the end of 1938.\textsuperscript{62} Put another way, the sterling reserve was in excess of NZ£22 million in the first half of 1936, and, partly because of capital flight, fell to under NZ£5 million by the end of 1938. The capital flight, in anticipation of the further devaluation of the New Zealand pound, illustrates the completeness of the shift from the deflationary regime of the early 1930s. The Labour government, though, with its constituency of urban consumers, was unable to countenance higher import prices and opted for foreign exchange and import controls. To the extent that New Zealand’s subsequent comparative decline is associated with the insular economic policies originating in the late 1930s, the Dominion eventually paid a high price for excessive monetary growth in 1938/9.\textsuperscript{63}

Nevertheless, the new monetary regime enabled New Zealand to escape the long depression of 1923-31. The Dominion’s recovery was remarkably fast, and based upon the translation of fast monetary growth via low real interest rates, heightened inflationary expectations, and the augmentation of farm incomes, into real spending. That government in 1938/9 went too far in using the RBNZ as an instrument of credit creation does not detract from the way in which the new monetary regime ended the Great Depression in New Zealand.

VI

New Zealand’s recovery from the Great Depression was unusually fast, and was associated with a fundamental shift in monetary regime. The new regime ended the conventional sterling standard, and diminished the influence of the trading banks on monetary conditions in New Zealand. Since the trading banks’ operations spanned to Australia, the new monetary regime also decoupled the Dominion’s monetary conditions from those across the Tasman. Devaluation and the formation of a reserve bank underpinned the new regime. This article shows that monetary growth in New Zealand was dramatically faster in the 1930s than it would have been had the old regime survived the Great Depression. New Zealand’s nominal money stock, measured by M1, fell during the years 1923-9, but almost doubled between 1929 and 1939. The new monetary regime stimulated a recovery from New Zealand’s long depression of the 1920s, as well as from the Great Depression. Had the old regime survived, New Zealand’s GDP per caput in 1938 would have been around one-third lower.

New Zealand’s recovery experience in the 1930s differed sharply from that of other export economies of the periphery, and was based on a new monetary regime that took effect in two stages. In contrast to what

\textsuperscript{62} New Zealand official yearbook, 1940, p. 680.

\textsuperscript{63} Greasley and Oxley, ‘Outside the club’, and ‘Growing apart?’, discuss this issue.
happened in Brazil, Mexico, and Australia, devaluation was chosen rather than forced, and eventually associated with a new inflationary regime. Initially, though, devaluation in New Zealand promoted recovery, in 1933, by redistributing income to the hard-pressed farm sector (the ‘Copland effect’). Subsequently, during 1934-5, New Zealand’s record to some extent mirrors that of the Argentine where the destruction of deflationary sentiments also ameliorated the depression (the ‘Mundell effect’). However, New Zealand went much further, by more than doubling money supply between 1932 and 1937, which led to lower real interest rates (the ‘Keynes effect’).

New Zealand’s experience also differed from that of the US, where monetary growth was initially rapid but was curtailed in 1936 by the Federal Reserve increasing reserve requirements to counter possible inflation. Moreover, the strategy for redistributing income towards farmers in New Zealand did not rest, as it did in the US, on output restrictions, but on monetary manipulation. In concert, the three mutually reinforcing monetary transmission mechanisms, the ‘Copland’, ‘Keynes’, and ‘Mundell’ effects, stimulated powerfully real economic recovery. The growth potential of New Zealand’s economy was strong in the 1920s but constrained by a deflationary regime. The Great Depression destroyed the Dominion’s old monetary regime, and the new regime promoted a remarkable recovery.

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