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What Does the Taylor Rule Say About a New Zealand–Australia Currency Union?*

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It has been suggested that the New Zealand economy may have similar characteristics and face similar shocks to some Australian states, so lowering the costs of a trans-Tasman currency union. We test this, under the assumption that differences in Taylor rule-implied interest rate paths for different regions give an indication of differences in aggregate shocks that hit different economies. We compare implied Taylor rule interest rates for each of the Australian states to implied Taylor rule rates for New Zealand. We also compare them to realised 90-day rates. We find that the Taylor rule-implied rates in Australian states and in New Zealand are similarly correlated with actual Australian interest rates.

I Introduction

With the introduction of the Euro, writings on optimum currency areas have become prominent. The issue of a trans-Tasman common currency or currency union has been discussed in New Zealand (Grimes *et al*. 2000; Coleman 2002) and also in Australia in an East Asian context (de Brouwer 2001). At the political level, both the Australian Treasurer and the New Zealand Prime Minister have floated the possibility of a joint currency (Brockett 2000; Costello 2003).

In a classical cost–benefit framework, the main argument on the benefit side of a currency union is the reduction in transactions costs (widely defined to include costs of gathering and managing information) that arise from use of a single currency. This argument led Lloyd and Holmes (1991) to favour the Closer Economic Relations (CER) free trade agreement between Australia and New Zealand being extended to encompass all aspects of a single market, including a single currency. The main argument on the cost side of a currency union is the loss of independent monetary policy for at least one member country. This loss of monetary independence raises the possibility that the single monetary policy may not be suitable for each individual country (or region) in the currency union (Bayoumi & Eichengreen 1993).[1]

It has been argued that the New Zealand economy may behave little differently to some Australian states. The latter group already operates (apparently successfully) under a common currency. Hence, if the hypothesis is correct that New Zealand is not an economically atypical Australasian region, a currency union between Australia and New Zealand may not

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[1] Mundell (1961, 1997) and Alesina & Barro (2000) provide frameworks for balancing these benefits and costs; Grubel (1999) and Murray (1999) provide perspectives on the merits of currency union for the case of Canada and the United States.

lead to inappropriate monetary conditions for New Zealand under a single monetary authority (Coleman 2002; Grimes forthcoming). Transitional issues aside, that would leave the transactions benefits of a currency union intact without a material offsetting cost due to loss of monetary independence.

It is not, however, straightforward to measure the appropriateness of common monetary policy settings across different regions, and hence it is not straightforward to measure the costs that would arise from loss of monetary independence with the adoption of a currency union. Researchers have attempted this task by comparing patterns of shocks and looking at correlations of different shocks across regions/countries. Another way of answering this question is to examine implied monetary settings under a benchmark monetary policy rule and then to compare these settings both across regions and against actual policy settings.

In this paper, we address the question at hand by means of a simple Taylor rule (Taylor 1993) using an approach similar to the Euro area analysis of Björksten and Syrjänen (1999). Björksten and Syrjänen argue that one way of testing the appropriateness of a single monetary policy across multiple regions is to look at a benchmark for monetary policy, such as the Taylor rule (TR), which maps regional differences into interest rate space. By doing so, we assume that a simple TR mimics the monetary policy settings on both sides of the Tasman.[2] We also explore the implications for our analysis of an extended TR encompassing the impact of the exchange rate on interest rate settings (Taylor 1999).

The remainder of the paper is structured as follows. Section II describes our data. Section III introduces the model used to translate different TR-implied interest rate settings into inferences regarding asymmetric shocks across countries. This section also discusses our methodology and relevant caveats. Section IV presents the implied TR paths under different assumptions for Australian states and for New Zealand. Section V discusses what the TRs tell us about a currency union between Australia and New Zealand, and concludes.

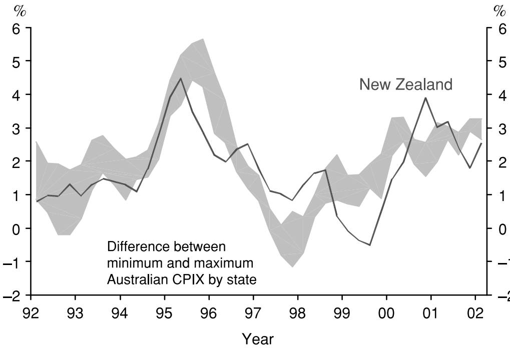
II Data Description

The TR is a simple policy rule, in which the short-term interest rate reacts to inflation deviations from target and output deviations from potential. The TR normally requires data on the output gap, inflation and the neutral real interest rate.

[2] See de Brouwer and O'Regan (1997) and Huang *et al*. (2001).

FIGURE 1

Inflation – NZ & Australian States, 1992–2002



With regard to inflation data, the only state-level Australian CPI series are those for the capital cities of the states. We adjust these series for the introduction of a goods and services tax in Australia, to give the CPIX series for each state. We concentrate on the five largest states (New South Wales, NSW; Victoria, Vic; Queensland, Qld; Western Australia, WA; and South Australia, SA). To be consistent with the measure for the Australian states, we use the CPI excluding GST series for New Zealand (NZ).

Figure 1 plots the annual inflation rate for NZ together with a band showing the range of annual inflation rates for the five Australian states covered in our study.[3] Although the difference in inflation rates between states can at times be as high as 2 per cent, the overall patterns are similar. The mean and standard deviation of inflation rates across states are also similar to each other (Table 1). The means range from a high of 2.12 per cent for NSW to 1.88 per cent for Vic and WA; NZ's mean inflation rate was fractionally lower still at 1.82 per cent (Australia had a slightly higher inflation target during this time period).

With regard to output gap data, we do not have quarterly output data at the Australian state level. Instead, we use seasonally adjusted employment figures for the Australian states. For NZ, we use the output gap based on quarterly real GDP.[4]

[3] Inflation rates for Tasmania and the two territories follow similar patterns.

[4] We confirm that the employment gap is a reasonable proxy for the output gap by HP filtering both the employment and the output series for New Zealand and for Australia as a whole. In each case, we find that the output gap and employment gap series are very similar (results available from the authors on request).

TABLE 1
Descriptive Statistics – Inflation & Employment Gap

	NSW	Vic	Qld	WA	SA	NZ
Annual inflation						
Mean	2.12	1.88	2.04	1.88	1.97	1.82
Minimum	−0.33	−0.41	0.08	−0.67	−1.14	−0.50
Maximum	5.65	4.72	4.72	5.17	4.42	4.48
Standard deviation	1.45	1.23	1.19	1.39	1.25	1.12
Employment gap						
Mean	−0.29	−0.39	−0.16	−0.20	−0.23	−0.14
Minimum	−3.89	−3.32	−2.39	−3.73	−3.28	−4.21
Maximum	2.33	1.67	2.30	2.46	2.32	2.40
Standard deviation	1.41	1.29	1.06	1.30	1.25	1.65

NSW, New South Wales; Vic, Victoria; Qld, Queensland; WA, Western Australia; SA, South Australia.

FIGURE 2
Employment Gap in Australian States and New Zealand, 1992–2002

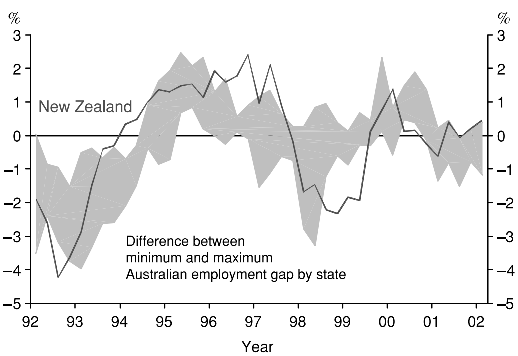
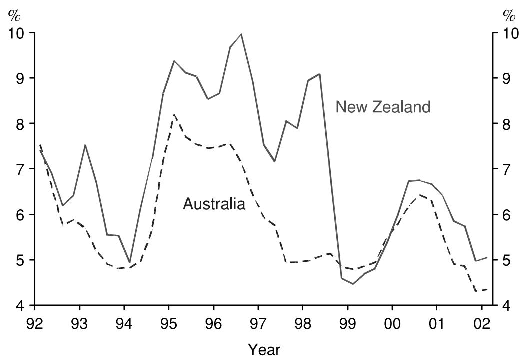


FIGURE 3
90-day Interest Rate in Australia and New Zealand, 1992–2002



(Henceforth, for convenience, we refer to each of the measured gaps as employment gaps.) In each case, we filter the data with a Hodrick-Prescott (HP) filter (Hodrick & Prescott 1997) to obtain our employment gap series. Figure 2 shows the HP-filtered employment gaps in NZ and the band covered by the Australian states. This figure and the descriptive statistics in Table 1 indicate that the employment gaps are closely related across the states and between NZ and the individual states.

Figure 3 shows the realised 90-day rates in Australia and New Zealand. With the exception of the late 1997 to early 1998 period,[5] the respective 90-day rates in both economies co-move closely. For most of the period there is a positive gap between New Zealand and Australian rates, which we assume comes from the constant in the TR, the neutral real interest rate.[6] For this reason, in our calculations below, we assume that the neutral real rate in New Zealand is one percentage point higher than in the Australian states over the sample period (4.5 per cent in New Zealand and 3.5 per cent in the Australian states).

III Model and Methodology

We develop a simple model according to which the differences between TR-implied interest rates can be used to proxy the differences in aggregate shocks between economies. One can think of the movements in the TR-implied rates as a summary measure of the shocks that the different states have been hit by.

The TR is a reaction function in which the interest rate reacts to shocks to inflation (from both the

[5] This episode can, in part, be attributed to the Monetary Conditions Index used by the Reserve Bank of New Zealand at the time.

[6] See Plantier (2003) and Björksten & Karagedikli (2003) for estimates of the neutral real rate in New Zealand and Australia.

supply and demand sides) and to the output gap (from the demand side). The degree of co-movement of TR-implied rates in two different economies indicates how similar are the aggregated shocks relevant to monetary policy that hit the different economies. For monetary-policy purposes, this aggregated measure is more useful than analysis of each individual shock since interest rate setting utilises only one policy instrument, which must be set according to some weighted average of relevant shocks. It is possible that individual shocks might differ across regions at a point in time but the implied monetary policy settings will be similar if the shocks are offsetting. Conversely, the desired interest rate responses to a particular deviation of inflation from target may differ across regions if their output gaps at the time are materially different. Examination of individual shocks across regions would not account for considerations such as these.

Our model is described by the following equations.[7]

$$y_t^j = y_t^{*j} - \alpha^j r_t^j + \varepsilon_t^{d,j}, \tag{1}$$

$$\pi_t^j = \pi_{t+1}^{e,j} + \beta^j (y_t^j - y_t^{*j}) + \varepsilon_t^{s,j}, \tag{2}$$

$$i_t^j = r^{*j} + \pi_{t+1}^{e,j} + \psi_0^j (\pi_t^j - \pi^{*j}) + \psi_1^j (y_t^j - y_t^{*j}) + \varepsilon_t^{m,j}, \tag{3}$$

$$r_t^j = i_t^j - \pi_{t+1}^{e,j}, \tag{4}$$

$$\pi_{t+1}^{e,j} = \pi^{*j}, \tag{5}$$

where y is real output, y^* is potential output, π is the inflation rate, π^e is expected inflation, i is the short-term nominal interest rate, r^* is the neutral real interest rate, π^* is the inflation target, r is the real interest rate, ε^d, ε^s, ε^m are demand, supply and monetary shock terms, respectively, t is the time subscript, j is the superscript indicating regions and α, β, ψ_0, ψ_1 are positive coefficients.

Equation (1) is the output equation. Real output deviates from its supply determined trend, depending on the real interest rate and random demand shocks. Equation (2) is the inflation equation, where inflation is a function of inflation expectations, the output gap and supply side shocks. We also assume, in Equation (5), that under a credible inflation targeting regime, inflation expectations are equal to target inflation. Equation (5) can be supplemented with a term in which expectations are determined (positively) also by the gap between current and target inflation, so embodying an expectation of partial adjustment of inflation towards target. This adjustment process is consistent with flexible inflation targeting regimes (Svensson 2000). Addition of this term yields the same reduced form expression for the short-term interest rate as shown in Equation (9) below and so is consistent with the remaining analysis in the paper.[8] We omit this additional term from the formal model for the sake of clarity.

The third equation is the Taylor Rule, which represents the monetary policy reaction function. Monetary policy reacts to the output gap and to inflation deviations from target, where inflation is affected both by the output gap and by shocks.

Substituting Equations (4) and (5) into (1), and re-arranging, gives:

$$y_t^j - y_t^{*j} = -\alpha^j (i_t^j - \pi^{*j}) + \varepsilon_t^{d,j}. \tag{6}$$

We can do a similar substitution for Equation (2):

$$\pi_t^j - \pi^{*j} = \beta^j (y_t^j - y_t^{*j}) + \varepsilon_t^{s,j}. \tag{7}$$

Now substitute Equations (6) and (7) into (3) and re-write the policy rule as:

$$\begin{aligned} i_t^j = r^{*j} + \pi^* + \psi_0^j \{\beta^j(-\alpha^j(i_t^j - \pi^{*j}) + \varepsilon_t^{d,j}) + \varepsilon_t^{s,j}\} \\ + \psi_1^j \{-\alpha^j (i_t^j - \pi^{*j}) + \varepsilon_t^{d,j}\} + \varepsilon_t^{m,j}. \end{aligned} \tag{8}$$

Solving Equation (8) for the nominal interest rate gives:

$$i_t^j = \Pi_0^j r^{*j} + \Pi_1^j \pi^{*j} + \Pi_2^j \varepsilon_t^{s,j} + \Pi_3^j \varepsilon_t^{d,j} + \Pi_4^j \varepsilon_t^{m,j}. \tag{9}$$

Equation (9) holds for any region j or k; the Π_i^j coefficients are combinations of the parameters in Equations (1–3). In a currency union, $\psi_0^j = \psi_0^k$, $\psi_1^j = \psi_1^k$, $\pi^{*j} = \pi^{*k}$, $\varepsilon_t^{m,j} = \varepsilon_t^{m,k}$ and provided there is a free capital mobility between states, then $r^{*j} = r^{*k}$. Furthermore, it is reasonable to assume that $\alpha^j \approx \alpha^k$ and $\beta^j \approx \beta^k$, implying that $\Pi_i^j = \Pi_i^k = \Pi_i$ $(i = 1, \ldots 4)$.

Hence the difference in Equation (9) between regions j and k will be:

$$i_t^j - i_t^k = \Pi_2(\varepsilon_t^{s,j} - \varepsilon_t^{s,k}) + \Pi_3(\varepsilon_t^{d,j} - \varepsilon_t^{d,k}). \tag{10}$$

Equation (10) indicates that differences in TR-implied interest rates between states arise from differences in shocks to demand and supply. If these differences are small (or offsetting), then the TR-implied interest rate paths will be similar.

In this simple setup the central bank adjusts the short-term interest rate in response to inflation deviations from target and the deviations of output from potential. We calculate the TR path for each

[7] Constant terms are suppressed. For a similar model and analysis of its micro-underpinnings, see Clarida *et al*. (1999).

[8] The composition of the reduced form parameters, which is not central to this paper, differs slightly.

Australian state and for New Zealand with the original weights suggested by Taylor in his 1993 paper. These weights are only a benchmark, however, and one potential criticism of this approach is that the weights used in the TR may not be appropriate. The weight on inflation should be greater than one so that a rise (fall) in the nominal interest rate increases (decreases) the real interest rate in order to have an effect on the real economy; we use Taylor's recommended weight of 1.5. Our weight on the output gap is Taylor's recommended value of 0.5. Unless one changes these coefficients significantly, the interest rate implied by the TR does not change materially. Although it has been suggested that higher weights are needed for a more efficient rule, the original Taylor weights are found to mimic the monetary policy settings well in many economies. Although it is not a fully efficient rule, the TR is robust to different models. This robustness characteristic is desirable if model uncertainty is an issue. For New Zealand, Huang *et al*. (2001) and Drew and Plantier (2000) showed that Taylor's original weights are relevant to the country's average experience in recent years.

Problems associated with the unobserved nature of potential output and the neutral real interest rate are another set of concerns. The unobserved nature of these variables is an issue for most models in macroeconomics. Over the longer term, if a central bank systematically underestimated or overestimated these variables, inflation would overshoot or undershoot (Drew & Plantier 2000). Given that the TR has been estimated to be a reasonable proxy for central bank behaviour in recent years and that we have not observed systematic overshooting of inflation in this period, we consider that the TR provides an adequate basis to model desired monetary policy behaviour for the purposes of this study.

IV Findings

Figure 4 shows the quarter by quarter TR recommendations for short-term interest rates in NZ and for the band covered by the Australian states. In calculating these rates, we assume that $\psi_0^j = 1.5$ and $\psi_1^j = 0.5$ for all j. For the Australian states we assume that $r^{*j} = 3.5$ and $\pi^{*j} = 2.5$; for New Zealand we assume $r^{*j} = 4.5$ and $\pi^{*j} = 2$.[9] One conclusion from this figure is that the TR movements across the Australian states are similar, especially after 1993. With the exception of the late 1990s, New Zealand's implied path also looks similar to that of the Australian states.

FIGURE 4
Taylor Rule-Implied and Actual 90-day Rates, 1992–2002

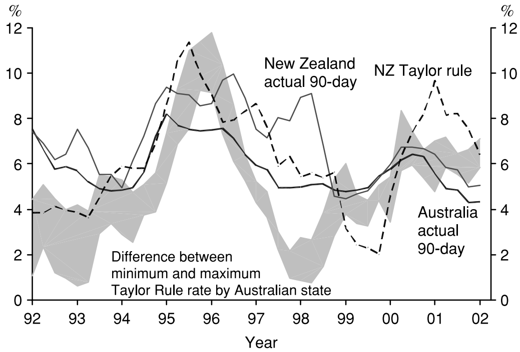


Figure 4 adds the actual Australian (AU) and NZ 90-day rates to see how closely the actual rates correspond to the TR-implied rates (and hence to the desired monetary policy) of individual Australian states and New Zealand. The Australian 90-day rate is not as volatile as the TR implies for different states of Australia. This reflects two factors. First, diversification means that the aggregate Australian inflation rate and output gap are less volatile than those of individual states. Second, most empirically estimated TRs find some degree of interest rate smoothing, contributing to actual rates being less volatile than the raw TR would imply (Lowe & Ellis 1997).

Table 2 presents descriptive statistics of the series in Figure 4. Some interesting patterns emerge. The average short-term interest rate in Australia as a whole is higher than the TR recommendations for each state would recommend. On the other hand, the standard deviation of the actual short rate is much lower than the state-level TRs suggest. In terms of averages, the New Zealand TR suggests higher settings than in any of the Australian states. The New Zealand TR does not differ from those of the Australian states in terms of the variance of the TR recommendations.

Table 3 presents the correlation coefficients between each of the TR and actual series. The correlation between each of the Australian state TR-implied rates lies between 0.79 and 0.94. The highest correlation is that between NSW and Vic, consistent with the findings in Grimes (forthcoming) that these two states represent the core of the Australasian economy. Other states are attached to the core, albeit with some idiosyncracies relative to the core states.

[9] We use the mid-point of the Reserve Bank of New Zealand's target band.

Table 2
Taylor Rule-Implied and Actual 90-day Rates

	Taylor rule-implied						Actual rate	
	NSW	Vic	Qld	WA	SA	New Zealand	Australia	New Zealand
Mean	5.25	4.82	5.15	4.82	5.00	6.30	5.82	6.97
Minimum	1.18	0.62	2.17	0.65	0.77	2.01	4.30	4.46
Maximum	11.76	10.13	10.43	10.99	9.23	11.37	8.19	9.97
Standard Deviation	2.64	2.15	2.10	2.60	2.02	2.32	1.07	1.58

NSW, New South Wales; Vic, Victoria; Qld, Queensland; WA, Western Australia; SA, South Australia.

Table 3
*Correlation Coefficients Between Taylor Rule-Implied and Actual Rates**

	NSW-T	Vic-T	Qld-T	WA-T	SA-T	New Zealand-T	Australia-A	New Zealand-A
NSW-T	1	0.94	0.90	0.87	0.85	0.69	0.60	0.32
Vic-T	–	1	0.89	0.88	0.87	0.69	0.50	0.19
Qld-T	–		1	0.88	0.85	0.78	0.64	0.38
WA-T	–	–	–	1	0.79	0.66	0.44	0.17
SA-T	–	–	–	–	1	0.57	0.58	0.19
New Zealand-T	–	–	–	–	–	1	0.49	0.54
Australia-A	–	–	–	–	–	–	1	0.73
New Zealand-A	–	–	–	–	–	–	–	1

NSW, New South Wales; Vic, Victoria; Qld, Queensland; WA, Western Australia; SA, South Australia; -T refers to Taylor rule-implied rate; -A refers to actual rate.

NZ TR-implied rates are positively correlated with TR-implied rates in each of the states; correlation coefficients range from 0.57 to 0.78. These correlations indicate similarity in aggregate shocks across the Tasman but the correlations are in each case lower than those between the Australian states. This evidence suggests that NZ is further to the periphery than are WA and SA, but its cycles are nevertheless still connected to those of the core states.

The correlation of the NZ TR-implied rate with the actual NZ 90-day rate is 0.54; the correlation of the NZ TR-implied rate with the Australian 90-day rate is 0.49. This suggests that the Australian 90-day rate has been almost as appropriate for NZ conditions as has the NZ 90-day rate over the sample period.[10]

By way of comparison, the correlations of the actual Australian 90-day rate with the TR-implied rates for each of the Australian states range between 0.44 and 0.64. These correlations are similar to the correlation of the NZ TR-implied rate with the Australian 90-day rate. Thus aggregate Australian monetary settings have, in the main, been as appropriate for NZ as they have been for the Australian states. (By contrast, actual NZ monetary settings are not highly correlated with desired monetary conditions of the Australian states.)

Our analysis so far has assumed that Australia and New Zealand have different inflation targets and different neutral real interest rates. We have tested the sensitivity of the results to these assumptions. Under a currency union, countries have the same inflation target and one would expect that the New Zealand neutral real interest rate would adjust to that of Australia (especially if New Zealand's higher neutral real interest rate derives from a currency premium).[11] When we make adjustments to the New Zealand TR-implied rate to make NZ's neutral real rate and inflation target identical to Australia's, the NZ TR-implied rate moves even further into line with the TR-implied rates for the Australian states, although there is a slight lag between the

[10] On the maintained assumption that the TR is a valid proxy for desired monetary conditions.

[11] Drew *et al.* (2001) used the Reserve Bank of New Zealand's FPS model and substituted in Australian interest rates to see the effects of those rates on New Zealand's inflation and output variability. They did not control for the fact that Australia has a higher inflation target; nor did they allow for convergence of New Zealand's neutral real rate to that of Australia.

TR-implied rates for the Australia states and for New Zealand.[12] This lag could arise from a number of channels. Conway (1998) argues that the US economy transmits to the Australian economy first, then to the New Zealand economy with a lag. Another reason could be the direct importance of the Australian economy for New Zealand. A shock within the Australian economy may affect the New Zealand economy with a lag.

Our analysis has not addressed the possibility of variation over the sample period of the neutral real interest rate in the TRs. In the first and second halves of the sample, the average real interest rates in NZ were 5.6 per cent and 4.5 per cent,[13] respectively; in Australia the corresponding average rates were 3.9 per cent and 3.1 per cent. As a result, the reduction in New Zealand's average real rate was greater than the reduction in Australia's real rate, with NZ's rate slowly converging towards that in Australia. Use of a constant neutral real interest rate (as opposed to a time-varying rate) in the TRs is therefore likely to have biased our results slightly against finding similarity between NZ's TR-implied rates and those of the Australian states.

A potential issue with our approach is that we are using *ex post* rather than real time estimates of the employment gap. This is not a major issue here, since our objective is to compare the realised history across NZ and the Australian states. Our analysis is descriptive rather than prescriptive, so it is reasonable to make use of *ex-post* values of the employment gaps.

Analysis so far has not taken into account any open economy considerations, which are important for both New Zealand and Australia. Taylor (1999) discusses the following form of reaction function in an open economy context:[14]

$$i_t = f\pi_t + gy_t + h_0 e_t + h_1 e_{t-1} \tag{11}$$

where i_t is the short-term nominal interest rate, π_t is the inflation rate, y_t is the output gap and e_t is the log of the real exchange rate. If $h_0 = h_1 = 0$, then the rule collapses to the simple TR with no reaction to exchange rate misalignments. We use the Taylor (1999) coefficients of $h_0 = -0.25$ and $h_1 = 0.15$ to see if adding these to the reaction function makes a difference to our findings. These coefficients suggest that a sustained 10 per cent depreciation of the exchange rate from its equilibrium value would lead to a 1 per cent point increase in policy rates. This comprises two components: a 2.5 per cent point rise in the very short run, partly offset in the following period by a 1.5 per cent point fall. In addition, we use the West (2003) coefficients of $h_0 = -0.05$ and $h_1 = 0$ as alternative exchange rate reaction coefficients. We compare these results using Australia (AU) in aggregate rather than the individual states, for clarity, in Figure 5.

FIGURE 5
Taylor Rule-Implied Rates with Alternative Exchange Rate Reactions, 1992–2002

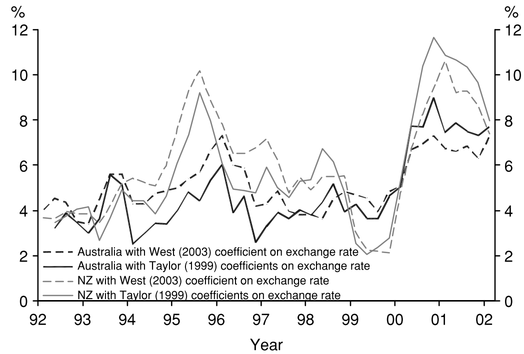


Figure 5 indicates that adding a monetary policy reaction to exchange rate misalignments does not alter the basic conclusions of the paper. The TR recommendations for the interest rate decisions of New Zealand remain similar to those for Australia. In practice, movements of the Australian dollar and the New Zealand dollar against other currencies are highly correlated. For example, the correlation coefficient between the US–Australian dollar and US–New Zealand dollar exchange rate is 0.87 for the 1990–2002 period while the correlation between the nominal trade weighted indexes of the two countries is 0.66.

V Conclusions

The question of whether 'one monetary policy size fits all' is a major concern in establishing a currency union. Coleman (2002) suggests that New Zealand is similar to a state of Australia, and hence might be able to manage quite well under a common monetary authority arrangement. In other words, New Zealand should not be worse off in a currency union with Australia. We attempt to shed further light on this question by examining the implications of a simple Taylor rule for interest rate settings in New Zealand and in the states of Australia. The TR is the

[12] Results available on request.

[13] Calculated using actual 90-day interest rates less realised one year ahead CPI inflation.

[14] Relative to the equilibrium real interest rate, real exchange rate, and inflation target.

central bank's reaction function and reacts to shocks to output and inflation. The movements in the TR-implied interest rates therefore derive from the nature of the aggregate shocks that affect the economy.

The TR evidence suggests that the cost to New Zealand associated with abandoning its independent currency and monetary policy may not be substantially greater than the costs associated with the individual Australian states having identical monetary policies.

This finding abstracts from the roles of other stabilisers to shocks, such as fiscal stabilisers that exist between Australian states. Currently, New Zealand does not share in the Australian fiscal stabilisation mechanisms and so our (historical) analysis is consistent with the existing institutional structures for fiscal policy. If currency union were accompanied by the introduction of a *trans*-Tasman fiscal stabilisation mechanism, the need for independent monetary policy across the two countries would be reduced, so strengthening the case for currency union. A full study of the interaction of fiscal stabilisers with the monetary policy stabiliser in a *trans*-Tasman context is a topic for further research. Our work also has not addressed any of the issues associated with managing a transition from one exchange rate regime to another. Nor does it address benefits from a currency union that may derive from closer economic integration.

Our results are driven both by the similarity in inflation rates between Australian states and New Zealand, and by similarity in employment gap cycles. It is important to stress that our results cover a specific time period (1992–2002) and so are specific to the shocks of this period. It is possible that shocks experienced in other historical periods, or in future, could indicate a greater need for monetary independence of New Zealand and, potentially, also for individual Australian states. Future studies might consider the issue of inflation and employment gap correlations under the different exchange rate regimes that have existed historically for the two countries. Extending the research in this manner would enable consideration of a greater time span, consideration of a greater range of shocks hitting each country and state, and would add to the understanding of the stabilisation role that the exchange rate system performs for each country.

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