IMF WORKING PAPER

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WP/87/74
Correction 1

Subject: Financial Deregulation, the Demand for Money, and Monetary Policy in Australia

The attached corrected page 19 of WP/87/74 (10/28/87) is reissued to align all figures in parenthesis in the proper columns.

Att: (1)

Table 1. Australia: Regression Results: The Demand for Money in Australia 1/

(Quarterly Data, 1967:Q1-1984:Q3)

Model	Estimation Technique	Constant	Real GDP	Own Rate	Ten-Year Bond Rate	Price Expectations wj	Price Expectations a_5	Monetary Shock	Lagged-Dependent Variable	Rho
(Ia)	Fixed coefficient	1.38	0.26	0.06	-0.09				0.64	
		(3.2)	(4.5)	(2.0)	(3.8)				(8.7)	
(Ib)	Random coefficient	0.90	0.19	0.05	-0.07				0.74	
		(0.5)	(0.9)	(1.4)	(0.4)				(2.0)	
(IIa)	Fixed coefficient	0.77	0.25	0.10	-0.11	-1.64 2/			0.70	-0.9
		(2.2)	(3.8)	(3.1)	(4.2)	(3.5)			(8.9)	(0.7)
(IIb)	Random coefficient	-0.44	0.39	0.05	-0.12		1.00		0.69	
		(6.2)	(54.5)	(12.6)	(36.8)		(42.0)		(99.6)	
(IIIa)	Fixed coefficient	0.80	0.21	0.10	-0.10	-1.92 2/		0.65	0.73	
		(2.2)	(2.9)	(3.3)	(4.1)	(3.8)		(2.0)	(8.7)	
(IIIb)	Random coefficient	1.57	0.24	0.09	-0.10		0.67	0.87	0.63	
		(2.6)	(3.6)	(3.4)	(5.8)		(6.3)	(4.9)	(7.8)	
(IVa)	Fixed coefficient	0.77	0.22	0.10	-0.10	-1.58 2/		0.13	0.73	
		(2.2)	(3.4)	(3.2)	(4.0)	(3.4)		(3.0)	(9.3)	
(IVb)	Random coefficient	0.67	0.20	0.10	-0.10		1.05	0.15	0.75	
		(3.0)	(6.9)	(6.2)	(7.2)		(11.6)	(5.0)	(19.5)	

Source: Reserve Bank of Australia, Bulletin, various issues; and Department of the Treasury, The Roundup, various issues.

1/ Figures in parentheses are the t-ratios.
2/ Sum of 22 (t-j, j = o through 21) coefficients.

The means of the coefficients on the models estimated on the basis of the random coefficient procedure are close to the values obtained with the fixed coefficient technique. The coefficients on the price expectations variables are -1.64 in Model (IIb), -1.66 in Model (IIIb), and -1.29 in Model (IVb). 1/ However, in interpreting the results of random coefficient estimation, care should be taken not to interpret the t-statistics of the estimates in the conventional manner. In some instances the t-ratios of random coefficient estimation are not significantly different from zero on the usual convention that a t-ratio is less than two in absolute value--for example, in Model (Ib)--while in some other instances they are far more significant than the corresponding fixed coefficient estimates--for example, in Model (IIb). Even if the power of the t-test is very high, the interpretation of this result under random coefficient estimation differs from that of the result applicable to fixed coefficient estimation. The reason why this is so is that a nondegenerate distribution of a random coefficient is not the same as a degenerate distribution of a fixed coefficient at zero even if the mean of the former distribution is zero. 2/ A nondegenerate distribution with mean equal to zero may help to improve the accuracy of a forecast whereas a degenerate distribution at zero may not.

The forecasts of real money balances over the post-sample period, 1984:Q4 through 1985:Q3, and the root mean square errors (RMSE) are presented in Table 2. Table 2 also reports the actual values of real money balances over the forecast period. The conventional partial adjustment model estimated using the fixed coefficient procedure--Model (Ia)--yields a RMSE of 4 percent and the forecasts of real money balances based on Model (1a) are considerably below their corresponding actual values in each period. This result is merely a reflection of what is already known: i.e., forecasts of real money balances in Australia based on the conventional money demand model and using conventional estimation techniques have severely underpredicted real money balances in late 1984 and in 1985. The application of the random coefficient procedure to the partial adjustment specification--Model (Ib)--reduces the RMSE by more than half (to 1.8 percent). It eliminates the underpredictions of the forecasts of real money balances in the first two post-sample quarters, and narrows the underpredictions in 1985:Q2 and 1985:Q3.

1/ Note that the coefficients on price expectations in the random coefficient equations are determined by multiplying their corresponding fixed coefficient weights (Σwj) by a_5. The magnitude of the coefficients found in this study are in line with previous work, which find coefficients in the range from -.5 to -3. See, for example, Kahn and Knight (1982).

2/ A degenerate distribution is a distribution concentrated entirely at one point.