APPENDIX:

ADDITIONAL DETAILS OF THE REPORTED SPECIFICATIONS

(The tables show estimated standard errors in parentheses and probability values in square brackets.)

CONSTANT NATURAL RATE SPECIFICATION

Table A1:

Size and Significance of Coefficient on u_{t-1}						
USA	Canada	Japan	Germany	France	Italy	UK
-0.135 (0.035)	-0.060 (0.186)	-0.120 (0.123)	-0.021 (0.014)	-0.030 (0.013)	-0.051 (0.028)	-0.030 (0.023)

TWO KNOT CUBIC SPLINE NATURAL RATE SPECIFICATION

Table A2:

Size and Significance of Coefficient on u_{t-1}						
USA	Canada	Japan	Germany	France	Italy	UK
-0.364 (0.063)	-0.195 (0.043)	-0.944 (0.444)	-0.242 (0.055)	-0.224 (0.099)	0.024 (0.113)	-0.147 (0.072)
Significance of Spline Regressors						
USA	Canada	Japan	Germany	France	Italy	UK
F(5,109) 4.22 [.002]	F(5,108) 2.22 [.057]	F(5,107) 1.11[.361]	F(5,111) 4.25[.001]	F(5,108) 6.05[.000]	F(5,108) 2.67[.026]	F(5,106) 0.72[.610]

PREFERRED SPECIFICATIONS OF TIME VARYING NATURAL RATES

Table A3:

Significance of Deterministic Functions of Time, P(t)						
USA 2 Knot Cubic Spline	Canada Quadratic Trend	Japan Quadratic Trend	Germany Linear Trend	France Linear Trend	Italy Linear Trend	UK Mean Shift in 1980:2
F(5,109) 4.2[.00]	F(2,111) 4.7[.01]	F(2,110) 2.1[.13]	t-stat. 3.71 [.00]	t-stat. 2.40 [.02]	t-stat. 1.47 [.14]	t-stat 3.07 [.00]
Size and Significance of Coefficient on u_{t-1}						
-0.364 (0.063)	-0.193 (0.039)	-0.588 (0.261)	-0.162 (0.042)	-0.224 (0.055)	-0.161 (0.070)	-0.187 (0.053)
Joint Significance of Δu terms						
F(1,109)17.0[.00]	F(1,110) 5.4[.02]	none	none	none	none	F(1,111)12.4[.00]
Joint Significance of $\Delta^2 p$ terms						
F(5,109) 24.0[.00]	F(5,110) 15.5[.00]	F(5,110) 20.1[.00]	F(4,115) 14.7[.00]	F(2,114) 19.5[.00]	F(5,112) 42.9[.00]	F(5,111) 26.7[.00]
Equation Standard Error and Sample Standard Deviation of $\Delta^2 p$						
0.4610 0.7599	0.4878 0.7289	0.8038 1.4412	0.4325 0.5718	0.6878 0.4809	0.7772 1.3780	0.8656 1.5881

Table A4:

Diagnostic Test Probability Values							
	USA	Canada	Japan	Germany	France	Italy	UK
Normality	0.501	0.618	0.847	0.875	0.193	0.882	0.371
LM1	0.596	0.219	0.632	0.802	0.316	0.324	0.108
LM4	0.547	0.264	0.206	0.975	0.185	0.626	0.301
LM8	0.110	0.267	0.427	0.707	0.295	0.183	0.212
Heteroscedasticity	0.014	0.574	0.889	0.341	0.464	0.794	0.364
ARCH1	0.402	0.353	0.105	0.851	0.029	0.089	0.519
ARCH4	0.589	0.219	0.378	0.778	0.185	0.117	0.001
Ramsey Reset	0.186	0.250	0.944	0.171	0.920	0.063	0.348

Table A5:

TESTS OF PREFERRED SPECIFICATIONS OF TIME VARYING NATURAL RATES AGAINST ALTERNATIVES

USA: Preferred Specification - 2 Knot Cubic Spline		
Rival Specification	Test Statistic	Interpretation
trend	F(4,109)=5.21 [.001]	reduction to trend specification is rejected
quadratic	F(3,109)=4.02 [.009]	reduction to quadratic specification is rejected
cubic	F(2,109)=5.71 [.004]	reduction to cubic specification is rejected
1 knot cubic spline	F(2,108)=3.09 [.050]	raising 1 to 2 knots is not rejected at 5% level
3 knot cubic spline	F(3,106)=1.21 [.309]	extra regressors for 3 knot spline are jointly insignificant
Canada: Preferred Specification - Quadratic Trend		
Rival Specification	Test Statistic	Interpretation
trend	F(1,110)=4.35 [.039]	reduction to trend specification is rejected
cubic	F(1,109)=1.79 [.183]	extra regressor for cubic is insignificant
1 knot cubic spline	F(2,108)=1.36 [.262]	extra regressors for 1 knot spline are jointly insignificant
2 knot cubic spline	F(3,107)=1.18 [.320]	extra regressors for 2 knot spline are jointly insignificant
3 knot cubic spline	F(4,106)=1.43 [.230]	extra regressors for 3 knot spline are jointly insignificant
BZ mean shift	F(3,107)=0.98 [.406]	additional mean shifts are jointly insignificant
Japan: Preferred Specification - Quadratic Trend		
Rival Specification	Test Statistic	Interpretation
trend	F(1,110)=1.99 [.162]	reduction to trend specification cannot be rejected
cubic	F(1,109)= 0.01 [.943]	extra regressor for cubic is insignificant
1 knot cubic spline	F(2,108)=0.00 [.997]	extra regressors for 1 knot spline are jointly insignificant
2 knot cubic spline	F(3,107)=0.48 [.698]	extra regressors for 2 knot spline are jointly insignificant
3 knot cubic spline	F(4,106)=0.77 [.545]	extra regressors for 3 knot spline are jointly insignificant
BZ mean shift	F(4,106)=1.61 [.177]	additional mean shifts are jointly insignificant
Germany: Preferred Specification - Linear Trend		
Rival Specification	Test Statistic	Interpretation
quadratic	t-statistic .208 [.84]	raise to quadratic specification is rejected
cubic	F(2,113)=2.66 [.07]	extra cubic regressor is not rejected at 7% significance level
1 knot cubic spline	F(3,112)=2.00 [.12]	extra regressors for 1 knot cubic spline are jointly insignificant
2 knot cubic spline	F(4,111)=1.79 [.14]	extra regressors for 1 knot cubic spline are jointly insignificant
3 knot cubic spline	F(5,110)=1.76 [.13]	extra regressors for 1 knot cubic spline are jointly insignificant
France: Preferred Specification - Linear Trend		
Rival Specification	Test Statistic	Interpretation
quadratic	t-statistic 0.10 [.92]	raise to quadratic specification is rejected
cubic	F(2,112) =0.50 [.61]	extra regressors for cubic spline are jointly insignificant
1 knot cubic spline	F(3,111) =0.50 [.68]	extra regressors for 1 knot cubic spline are jointly insignificant
2 knot cubic spline	F(4,110) =0.49 [.79]	extra regressors for 1 knot cubic spline are jointly insignificant
3 knot cubic spline	F(5,109) =0.49 [.79]	extra regressors for 1 knot cubic spline are jointly insignificant
UK: Preferred Specification - Mean Shift		
Rival Specification	Test Statistic	Interpretation
trend	t-statistic 0.99 [.32]	addition of a linear trend term is rejected
quadratic	F(2,109) =1.69 [.14]	quadratic terms in T are jointly insignificant
cubic	F(3,108) =2.62 [.05]	cubic terms in T are jointly insignificant at the 5% significance level
1 knot cubic spline	F(4,107) =1.98 [.10]	1 knot cubic spline regressors are jointly insignificant
2 knot cubic spline	F(5,106) =1.69 [.14]	2 knot cubic spline regressors are jointly insignificant
3 knot cubic spline	F(6,105) =1.47 [.20]	3 knot cubic spline regressors are jointly insignificant