Appendix To

Circumventing the Zero Lower Bound with Monetary Policy Rules Based on Money

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Abstract: This appendix collects results illustrating the robustness of the benchmarks presented in the paper to alternative choices for measuring money, prices, and the output gap.

Table A1. Correlations Between The Cyclical Components of the PCE Price Index and Lagged Money

A. Full Sample: 1967:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RMB	-0.18	-0.13	-0.05	0.03	0.11	0.17	0.21	0.23	0.23	0.22	0.19	0.15	0.10	0.03	-0.06	-0.14	-0.21
MZM	0.37	0.43	0.47	0.49	0.49	0.46	0.40	0.31	0.18	0.04	-0.11	-0.25	-0.37	-0.46	-0.53	-0.56	-0.55
B. Pre-1980 Subsample: 1967:1 – 1979:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RMB	-0.71	-0.56	-0.37	-0.18	-0.02	0.11	0.22	0.32	0.43	0.53	0.60	0.62	0.60	0.54	0.43	0.28	0.10
MZM	-0.18	0.11	0.38	0.59	0.72	0.77	0.74	0.63	0.47	0.27	0.05	-0.17	-0.36	-0.52	-0.64	-0.70	-0.70
C. Post-1980 Subsample: 1980:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RMB	-0.09	-0.05	0.00	0.08	0.15	0.21	0.24	0.23	0.19	0.14	0.08	0.01	-0.06	-0.15	-0.24	-0.33	-0.38
MZM	0.34	0.36	0.35	0.34	0.31	0.25	0.17	0.05	-0.09	-0.23	-0.33	-0.41	-0.46	-0.49	-0.51	-0.53	-0.51
D. Post-1990 Subsample: 1990:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RMB	-0.21	-0.12	-0.01	0.12	0.23	0.31	0.33	0.31	0.27	0.21	0.15	0.08	-0.02	-0.15	-0.29	-0.40	-0.44
MZM	0.37	0.44	0.48	0.49	0.46	0.38	0.25	0.09	-0.08	-0.24	-0.36	-0.43	-0.46	-0.47	-0.46	-0.42	-0.34
E. Post-2000 Subsample: 2000:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RMB	-0.04	0.01	0.10	0.22	0.35	0.43	0.44	0.36	0.25	0.14	0.06	0.00	-0.08	-0.21	-0.37	-0.51	-0.57
MZM	0.56	0.57	0.56	0.54	0.49	0.39	0.22	0.01	-0.20	-0.39	-0.53	-0.59	-0.61	-0.59	-0.54	-0.46	-0.33

Note: Each entry shows the correlation between the cyclical component of the PCE price index in quarter *t* and the cyclical component of either the revised monetary base (RMB) or the Divisia MZM monetary aggregate (MZM) in quarter *t-k*.

Table A2. Correlations Between The Cyclical Components of the Core PCE Price Index and Lagged Money

A. Full Sample: 1967:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RMB	-0.06	0.01	0.08	0.14	0.19	0.22	0.23	0.22	0.19	0.15	0.11	0.06	0.01	-0.04	-0.10	-0.15	-0.20
MZM	0.44	0.46	0.45	0.44	0.40	0.34	0.25	0.14	0.02	-0.11	-0.24	-0.35	-0.43	-0.48	-0.50	-0.48	-0.43
B. Pre-1980 Subsample: 1967:1 – 1979:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RMB	-0.35	-0.09	0.10	0.22	0.29	0.35	0.41	0.48	0.53	0.54	0.50	0.42	0.32	0.21	0.09	-0.06	-0.23
MZM	0.25	0.49	0.66	0.75	0.77	0.71	0.59	0.41	0.20	-0.03	-0.25	-0.43	-0.57	-0.66	-0.68	-0.63	-0.52
C. Post-1980 Subsample: 1980:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RMB	-0.01	0.02	0.08	0.15	0.20	0.22	0.20	0.15	0.09	0.02	-0.04	-0.09	-0.13	-0.18	-0.24	-0.28	-0.31
MZM	0.29	0.27	0.24	0.20	0.14	0.06	-0.03	-0.13	-0.22	-0.30	-0.37	-0.41	-0.43	-0.44	-0.44	-0.43	-0.40
D. Post-1990 Subsample: 1990:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RMB	-0.05	0.05	0.18	0.30	0.39	0.42	0.37	0.26	0.13	0.02	-0.05	-0.09	-0.12	-0.17	-0.23	-0.28	-0.30
MZM	0.47	0.48	0.45	0.39	0.30	0.16	0.00	-0.18	-0.32	-0.41	-0.44	-0.41	-0.35	-0.29	-0.23	-0.17	-0.10
E. Post-2000 Subsample: 2000:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
RMB	0.27	0.33	0.43	0.54	0.62	0.62	0.50	0.30	0.07	-0.12	-0.23	-0.27	-0.27	-0.30	-0.37	-0.45	-0.51
MZM	0.75	0.66	0.56	0.46	0.33	0.13	-0.13	-0.38	-0.59	-0.71	-0.74	-0.66	-0.53	-0.38	-0.25	-0.14	-0.03

Note: Each entry shows the correlation between the cyclical component of the core PCE price index in quarter *t* and the cyclical component of either the revised monetary base (RMB) or the Divisia MZM monetary aggregate (MZM) in quarter *t-k*.

Table A3. Correlations Between The Cyclical Components of Nominal GDP and Lagged Divisia Money

A. Full Sample: 1967:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	-0.18	-0.12	-0.05	0.04	0.13	0.22	0.30	0.36	0.40	0.41	0.40	0.36	0.30	0.22	0.12	0.00	-0.11
M2	-0.08	-0.01	0.07	0.15	0.22	0.28	0.32	0.35	0.35	0.34	0.32	0.28	0.22	0.14	0.04	-0.06	-0.16
M4	-0.07	-0.04	0.00	0.04	0.07	0.09	0.09	0.09	0.07	0.05	0.03	0.00	-0.03	-0.05	-0.06	-0.05	0.11
B. Pre-1980 Subsample: 1967:1 – 1979:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	-0.27	-0.46	-0.60	-0.68	-0.74	-0.76	-0.73	-0.61	-0.42	-0.20	0.03	0.26	0.47	0.65	0.79	0.87	0.86
M2	-0.40	-0.45	-0.46	-0.42	-0.35	-0.23	-0.05	0.17	0.38	0.56	0.70	0.79	0.85	0.86	0.83	0.75	0.59
M4	-0.25	-0.33	-0.35	-0.35	-0.31	-0.22	-0.08	0.12	0.32	0.50	0.64	0.73	0.80	0.83	0.83	0.76	0.53
C. Post-1980 Subsample: 1980:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	-0.15	-0.06	0.03	0.13	0.23	0.32	0.39	0.44	0.46	0.46	0.43	0.37	0.29	0.18	0.05	-0.10	-0.22
M2	-0.03	0.05	0.13	0.21	0.28	0.33	0.35	0.35	0.33	0.28	0.21	0.13	0.02	-0.11	-0.25	-0.38	-0.46
M4	-0.06	-0.03	0.00	0.03	0.04	0.04	0.02	-0.01	-0.05	-0.10	-0.16	-0.22	-0.27	-0.31	-0.33	-0.30	-0.10
D. Post-1990 Subsample: 1990:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	-0.12	-0.03	0.07	0.17	0.28	0.37	0.44	0.48	0.49	0.49	0.46	0.42	0.34	0.23	0.09	-0.05	-0.17
M2	0.13	0.20	0.27	0.34	0.39	0.42	0.41	0.37	0.30	0.23	0.16	0.07	-0.03	-0.15	-0.28	-0.39	-0.44
M4	0.09	0.07	0.06	0.04	0.01	-0.04	-0.10	-0.17	-0.24	-0.30	-0.36	-0.39	-0.42	-0.42	-0.37	-0.27	0.00
E. Post-2000 Subsample: 2000:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	-0.01	0.15	0.31	0.46	0.60	0.71	0.77	0.77	0.75	0.69	0.62	0.51	0.37	0.19	0.00	-0.17	-0.29
M2	0.49	0.58	0.65	0.71	0.75	0.75	0.68	0.57	0.43	0.29	0.15	0.01	-0.15	-0.31	-0.46	-0.57	-0.59
M4	0.27	0.21	0.18	0.15	0.11	0.04	-0.06	-0.17	-0.28	-0.38	-0.46	-0.52	-0.55	-0.55	-0.48	-0.35	-0.12

Note: Each entry shows the correlation between the cyclical component of nominal GDP in quarter *t* and the cyclical component of the indicated Divisia aggregate in quarter *t-k*.

Table A4. Correlations Between The Cyclical Components of the GDP Deflator and Lagged Divisia Money

A. Full Sample: 1967:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.07	0.16	0.24	0.31	0.35	0.38	0.38	0.36	0.31	0.24	0.14	0.03	-0.09	-0.20	-0.30	-0.36	-0.40
M2	0.50	0.59	0.65	0.67	0.66	0.62	0.53	0.42	0.27	0.09	-0.09	-0.28	-0.44	-0.56	-0.63	-0.65	-0.61
M4	0.38	0.43	0.47	0.48	0.47	0.43	0.36	0.26	0.14	0.00	-0.14	-0.27	-0.37	-0.43	-0.45	-0.43	0.07
B. Pre-1980 Subsample: 1967:1 – 1979:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	-0.41	-0.13	0.12	0.34	0.52	0.69	0.82	0.90	0.89	0.79	0.61	0.37	0.11	-0.14	-0.37	-0.55	-0.69
M2	-0.09	0.23	0.50	0.69	0.81	0.84	0.79	0.67	0.48	0.24	-0.01	-0.25	-0.45	-0.60	-0.69	-0.71	-0.67
M4	-0.22	0.11	0.39	0.61	0.75	0.81	0.79	0.69	0.53	0.32	0.08	-0.16	-0.36	-0.52	-0.62	-0.66	-0.02
C. Post-1980 Subsample: 1980:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.17	0.26	0.34	0.40	0.43	0.42	0.38	0.32	0.23	0.14	0.04	-0.06	-0.17	-0.26	-0.34	-0.39	-0.41
M2	0.47	0.51	0.52	0.50	0.46	0.38	0.27	0.16	0.03	-0.09	-0.21	-0.33	-0.44	-0.52	-0.57	-0.59	-0.56
M4	0.34	0.30	0.26	0.21	0.15	0.06	-0.04	-0.13	-0.22	-0.30	-0.36	-0.40	-0.42	-0.41	-0.38	-0.31	-0.45
D. Post-1990 Subsample: 1990:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.01	0.17	0.31	0.43	0.51	0.55	0.53	0.47	0.39	0.28	0.14	0.00	-0.16	-0.29	-0.39	-0.44	-0.43
M2	0.52	0.62	0.69	0.71	0.69	0.63	0.52	0.37	0.22	0.06	-0.10	-0.25	-0.39	-0.48	-0.51	-0.47	-0.36
M4	0.33	0.31	0.28	0.24	0.16	0.06	-0.06	-0.17	-0.27	-0.35	-0.41	-0.42	-0.39	-0.31	-0.19	-0.02	-0.26
E. Post-2000 Subsample: 2000:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.31	0.46	0.59	0.71	0.79	0.82	0.79	0.71	0.60	0.48	0.33	0.15	-0.04	-0.21	-0.34	-0.41	-0.40
M2	0.77	0.82	0.83	0.80	0.75	0.64	0.49	0.32	0.14	-0.03	-0.21	-0.38	-0.53	-0.63	-0.64	-0.56	-0.41
M4	0.34	0.28	0.22	0.15	0.05	-0.07	-0.20	-0.32	-0.42	-0.50	-0.54	-0.53	-0.47	-0.35	-0.16	0.06	0.17

Note: Each entry shows the correlation between the cyclical component of the GDP deflator in quarter *t* and the cyclical component of the indicated Divisia aggregate in quarter *t-k*.

Table A5. Correlations Between The Cyclical Components of the PCE Price Index and Lagged Divisia Money

A. Full Sample: 1967:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.03	0.12	0.19	0.26	0.31	0.35	0.36	0.34	0.29	0.21	0.12	0.03	-0.07	-0.17	-0.26	-0.33	-0.38
M2	0.41	0.51	0.59	0.64	0.67	0.65	0.59	0.48	0.34	0.17	-0.01	-0.18	-0.34	-0.48	-0.58	-0.63	-0.63
M4	0.32	0.39	0.45	0.50	0.52	0.50	0.44	0.34	0.22	0.08	-0.05	-0.18	-0.29	-0.38	-0.43	-0.45	0.11
B. Pre-1980 Subsample: 1967:1 – 1979:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	-0.53	-0.26	0.02	0.26	0.47	0.63	0.77	0.87	0.90	0.84	0.71	0.50	0.24	-0.02	-0.27	-0.49	-0.66
M2	-0.22	0.07	0.36	0.59	0.74	0.81	0.80	0.70	0.54	0.34	0.10	-0.14	-0.36	-0.54	-0.67	-0.74	-0.74
M4	-0.36	-0.06	0.24	0.49	0.66	0.76	0.78	0.72	0.59	0.40	0.18	-0.05	-0.27	-0.45	-0.59	-0.68	-0.04
C. Post-1980 Subsample: 1980:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.18	0.26	0.32	0.37	0.40	0.40	0.37	0.29	0.18	0.07	-0.04	-0.13	-0.20	-0.27	-0.33	-0.38	-0.41
M2	0.40	0.42	0.44	0.45	0.43	0.38	0.29	0.16	0.01	-0.13	-0.24	-0.33	-0.40	-0.45	-0.51	-0.54	-0.54
M4	0.35	0.33	0.31	0.29	0.24	0.15	0.04	-0.10	-0.22	-0.32	-0.38	-0.40	-0.40	-0.39	-0.37	-0.34	-0.45
D. Post-1990 Subsample: 1990:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.01	0.16	0.28	0.38	0.45	0.47	0.42	0.33	0.21	0.08	-0.04	-0.15	-0.24	-0.32	-0.40	-0.45	-0.45
M2	0.35	0.44	0.51	0.56	0.57	0.51	0.39	0.23	0.06	-0.08	-0.20	-0.28	-0.35	-0.40	-0.44	-0.43	-0.36
M4	0.32	0.33	0.33	0.31	0.25	0.14	0.00	-0.17	-0.31	-0.40	-0.44	-0.42	-0.37	-0.30	-0.22	-0.11	-0.25
E. Post-2000 Subsample: 2000:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.19	0.30	0.40	0.50	0.59	0.64	0.60	0.49	0.34	0.19	0.06	-0.04	-0.14	-0.25	-0.36	-0.45	-0.46
M2	0.43	0.48	0.53	0.58	0.59	0.53	0.38	0.18	-0.02	-0.19	-0.31	-0.39	-0.46	-0.51	-0.54	-0.52	-0.42
M4	0.32	0.31	0.31	0.29	0.22	0.08	-0.10	-0.29	-0.44	-0.54	-0.56	-0.52	-0.44	-0.34	-0.22	-0.06	0.16

Note: Each entry shows the correlation between the cyclical component of the PCE price index in quarter *t* and the cyclical component of the indicated Divisia aggregate in quarter *t-k*.

Table A6. Correlations Between The Cyclical Components of the Core PCE Price Index and Lagged Divisia Money

A. Full Sample: 1967:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.13	0.20	0.25	0.29	0.31	0.32	0.30	0.25	0.19	0.11	0.02	-0.07	-0.15	-0.22	-0.28	-0.32	-0.34
M2	0.56	0.61	0.64	0.64	0.60	0.53	0.43	0.29	0.13	-0.04	-0.21	-0.36	-0.48	-0.56	-0.59	-0.58	-0.52
M4	0.44	0.46	0.48	0.48	0.46	0.40	0.31	0.21	0.09	-0.04	-0.16	-0.27	-0.36	-0.41	-0.43	-0.41	0.11
B. Pre-1980 Subsample: 1967:1 – 1979:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	-0.04	0.24	0.44	0.58	0.68	0.75	0.80	0.79	0.71	0.53	0.29	0.01	-0.26	-0.49	-0.67	-0.78	-0.84
M2	0.22	0.48	0.67	0.78	0.82	0.78	0.66	0.48	0.26	0.01	-0.23	-0.44	-0.61	-0.71	-0.74	-0.70	-0.59
M4	0.11	0.40	0.61	0.75	0.81	0.80	0.71	0.55	0.34	0.10	-0.14	-0.36	-0.54	-0.66	-0.71	-0.69	-0.07
C. Post-1980 Subsample: 1980:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.24	0.29	0.33	0.35	0.35	0.31	0.24	0.16	0.06	-0.03	-0.10	-0.16	-0.21	-0.25	-0.28	-0.30	-0.31
M2	0.43	0.43	0.41	0.38	0.32	0.23	0.11	-0.01	-0.12	-0.22	-0.30	-0.36	-0.40	-0.43	-0.45	-0.46	-0.45
M4	0.25	0.19	0.14	0.08	0.00	-0.08	-0.16	-0.23	-0.29	-0.32	-0.33	-0.32	-0.31	-0.29	-0.27	-0.24	-0.56
D. Post-1990 Subsample: 1990:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.18	0.30	0.39	0.44	0.45	0.40	0.29	0.13	-0.02	-0.14	-0.22	-0.26	-0.27	-0.28	-0.30	-0.31	-0.30
M2	0.59	0.63	0.64	0.62	0.55	0.41	0.21	0.01	-0.16	-0.27	-0.31	-0.31	-0.28	-0.25	-0.23	-0.20	-0.15
M4	0.27	0.21	0.15	0.08	-0.02	-0.15	-0.28	-0.39	-0.44	-0.42	-0.34	-0.23	-0.12	-0.02	0.06	0.13	-0.54
E. Post-2000 Subsample: 2000:1 – 2015:4																	
k	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
M1	0.55	0.65	0.74	0.82	0.86	0.81	0.65	0.41	0.17	-0.03	-0.16	-0.22	-0.25	-0.27	-0.32	-0.39	-0.44
M2	0.72	0.71	0.69	0.67	0.58	0.40	0.14	-0.15	-0.38	-0.53	-0.58	-0.55	-0.47	-0.39	-0.32	-0.26	-0.18
M4	0.22	0.14	0.08	0.00	-0.13	-0.30	-0.46	-0.59	-0.63	-0.58	-0.44	-0.25	-0.05	0.12	0.26	0.39	0.19

Note: Each entry shows the correlation between the cyclical component of the core PCE price index in quarter *t* and the cyclical component of the indicated Divisia aggregate in quarter *t-k*.

Table A7. Estimated Forecasting Equations for Changes in Nominal GDP Growth

Dependent variable: Change in nominal GDP growth ($\Delta^2 x_t$)
Independent variables: Constant, four quarterly lags of changes in nominal GDP growth, lagged nominal GDP gap ($x^*_{t-1} - x_{t-1}$) constructed with the indicated measure of money

A. Full Sample: 1967:1 – 2015:4

	Coefficient on $x^*_{t-1} - x_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.112	4.326 (0.00)
Divisia M1	0.089	4.138 (0.00)
Divisia M2	0.097	4.343 (0.00)
Divisia MZM	0.065	3.703 (0.00)
Divisia M4	0.076	2.839 (0.01)

B. Pre-1980 Subsample: 1967:1 – 1979:4

	Coefficient on $x^*_{t-1} - x_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.313	2.202 (0.03)
Divisia M1	0.608	3.412 (0.00)
Divisia M2	0.223	3.015 (0.00)
Divisia MZM	0.228	3.072 (0.00)
Divisia M4	0.240	2.889 (0.01)

C. Post-1980 Subsample: 1980:1 – 2015:4

	Coefficient on $x^*_{t-1} - x_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.098	4.020 (0.00)
Divisia M1	0.078	3.850 (0.00)
Divisia M2	0.083	3.740 (0.00)
Divisia MZM	0.053	3.148 (0.00)
Divisia M4	0.058	2.164 (0.03)

D. Post-1990 Subsample: 1990:1 – 2015:4

	Coefficient on $x^*_{t-1} - x_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.067	3.068 (0.00)
Divisia M1	0.057	3.055 (0.00)
Divisia M2	0.066	2.718 (0.01)
Divisia MZM	0.033	1.868 (0.06)
Divisia M4	0.005	0.159 (0.87)

E. Post-2000 Subsample: 2000:1 – 2015:4

	Coefficient on $x^*_{t-1} - x_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.091	3.120 (0.00)
Divisia M1	0.083	3.246 (0.00)
Divisia M2	0.070	2.350 (0.02)
Divisia MZM	0.044	1.781 (0.08)
Divisia M4	-0.006	-0.129 (0.90)

Table A8. Estimated Forecasting Equations for Changes in GDP Price Inflation

Dependent variable: Change in GDP price inflation ($\Delta^2 p_t$)
Independent variables: Constant, four quarterly lags of changes in GDP price inflation, and lagged GDP price gap ($p^*_{t-1} - p_{t-1}$) constructed with the indicated measure of money

A. Full Sample: 1967:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.027	3.249 (0.00)
Divisia M1	0.024	3.210 (0.00)
Divisia M2	0.015	2.433 (0.02)
Divisia MZM	0.010	1.944 (0.05)
Divisia M4	0.011	1.944 (0.05)

B. Pre-1980 Subsample: 1967:1 – 1979:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.062	2.560 (0.01)
Divisia M1	0.061	2.668 (0.01)
Divisia M2	0.044	2.160 (0.04)
Divisia MZM	0.046	2.142 (0.04)
Divisia M4	0.049	2.470 (0.02)

C. Post-1980 Subsample: 1980:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.013	1.662 (0.10)
Divisia M1	0.012	1.673 (0.10)
Divisia M2	0.007	1.134 (0.26)
Divisia MZM	0.004	0.821 (0.41)
Divisia M4	0.002	0.338 (0.74)

D. Post-1990 Subsample: 1990:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.001	0.145 (0.89)
Divisia M1	-0.000	-0.058 (0.95)
Divisia M2	-0.005	-0.746 (0.46)
Divisia MZM	-0.007	-1.233 (0.22)
Divisia M4	-0.007	-1.282 (0.20)

E. Post-2000 Subsample: 2000:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.001	0.066 (0.95)
Divisia M1	-0.003	-0.173 (0.86)
Divisia M2	-0.011	-1.024 (0.31)
Divisia MZM	-0.013	-1.518 (0.13)
Divisia M4	-0.012	-1.535 (0.13)

Table A9. Estimated Forecasting Equations for Changes in GDP Price Inflation

Dependent variable: Change in GDP price inflation ($\Delta^2 p_t$)
Independent variables: Constant, four quarterly lags of changes in GDP price inflation, and lagged GDP price gap ($p^*_{t-1} - p_{t-1}$) constructed with one-sided HP trend real GDP and the indicated measure of money

A. Full Sample: 1967:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.021	2.303 (0.02)
Divisia M1	0.013	1.921 (0.06)
Divisia M2	0.012	1.753 (0.08)
Divisia MZM	0.007	1.301 (0.19)
Divisia M4	0.010	1.446 (0.15)

B. Pre-1980 Subsample: 1967:1 – 1979:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.147	3.248 (0.00)
Divisia M1	0.080	2.464 (0.02)
Divisia M2	0.036	1.517 (0.14)
Divisia MZM	0.036	1.461 (0.15)
Divisia M4	0.046	1.926 (0.06)

C. Post-1980 Subsample: 1980:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.011	1.472 (0.14)
Divisia M1	0.008	1.276 (0.20)
Divisia M2	0.007	1.123 (0.26)
Divisia MZM	0.004	0.765 (0.45)
Divisia M4	0.002	0.302 (0.76)

D. Post-1990 Subsample: 1990:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.006	0.732 (0.47)
Divisia M1	0.003	0.401 (0.69)
Divisia M2	-0.004	-0.347 (0.73)
Divisia MZM	-0.007	-1.035 (0.30)
Divisia M4	-0.011	-1.309 (0.19)

E. Post-2000 Subsample: 2000:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.011	0.857 (0.39)
Divisia M1	0.006	0.540 (0.59)
Divisia M2	-0.007	-0.479 (0.63)
Divisia MZM	-0.013	-1.220 (0.23)
Divisia M4	-0.023	-1.711 (0.09)

Table A10. Estimated Forecasting Equations for Changes in PCE Price Inflation

Dependent variable: Change in PCE price inflation ($\Delta^2 p_t$)
Independent variables: Constant, four quarterly lags of changes in PCE price inflation, and the difference between the lagged price target p^*_{t-1} constructed using nominal GDP, the CBO estimate of potential output, and the indicated measure of money and the lagged PCE price index p_{t-1}

A. Full Sample: 1967:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.030	3.492 (0.00)
Divisia M1	0.032	3.730 (0.00)
Divisia M2	0.024	3.191 (0.00)
Divisia MZM	0.018	2.709 (0.01)
Divisia M4	0.017	2.446 (0.02)

B. Pre-1980 Subsample: 1967:1 – 1979:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.071	2.745 (0.01)
Divisia M1	0.080	3.334 (0.00)
Divisia M2	0.046	2.350 (0.02)
Divisia MZM	0.047	2.292 (0.03)
Divisia M4	0.049	2.598 (0.01)

C. Post-1980 Subsample: 1980:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.022	1.769 (0.08)
Divisia M1	0.021	1.782 (0.08)
Divisia M2	0.017	1.704 (0.09)
Divisia MZM	0.010	1.300 (0.20)
Divisia M4	0.006	0.667 (0.51)

D. Post-1990 Subsample: 1990:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.020	1.264 (0.21)
Divisia M1	0.015	0.943 (0.35)
Divisia M2	0.008	0.535 (0.59)
Divisia MZM	-0.000	-0.017 (0.99)
Divisia M4	-0.004	-0.396 (0.69)

E. Post-2000 Subsample: 2000:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.030	1.010 (0.28)
Divisia M1	0.032	1.033 (0.31)
Divisia M2	0.002	0.075 (0.94)
Divisia MZM	-0.006	-0.358 (0.72)
Divisia M4	-0.012	-0.765 (0.45)

Table A11. Estimated Forecasting Equations for Changes in Core PCE Price Inflation

Dependent variable: Change in Core PCE price inflation ($\Delta^2 p_t$)
Independent variables: Constant, four quarterly lags of changes in core PCE price inflation, and lagged GDP price gap ($p^*_{t-1} - p_{t-1}$) constructed with the indicated the difference between the lagged price target p^*_{t-1} constructed using nominal GDP, the CBO estimate of potential output, and the indicated measure of money and the lagged core PCE price index p_{t-1}

A. Full Sample: 1967:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.013	2.280 (0.02)
M1	0.014	2.245 (0.02)
M2	0.011	2.057 (0.04)
MZM	0.007	1.494 (0.14)
M4	0.009	1.829 (0.07)

B. Pre-1980 Subsample: 1967:1 – 1979:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.094	3.916 (0.00)
M1	0.069	3.320 (0.00)
M2	0.050	2.386 (0.02)
MZM	0.052	2.365 (0.02)
M4	0.054	2.771 (0.01)

C. Post-1980 Subsample: 1980:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.001	0.205 (0.84)
M1	0.001	0.271 (0.79)
M2	0.002	0.375 (0.71)
MZM	0.000	0.117 (0.91)
M4	-0.000	-0.057 (0.95)

D. Post-1990 Subsample: 1990:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.003	0.613 (0.54)
M1	0.002	0.325 (0.75)
M2	0.000	0.023 (0.98)
MZM	-0.003	-0.654 (0.51)
M4	-0.001	-0.268 (0.79)

E. Post-2000 Subsample: 2000:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.000	0.043 (0.97)
M1	0.000	0.031 (0.98)
M2	-0.011	-1.178 (0.24)
MZM	-0.008	-1.219 (0.23)
M4	-0.005	-0.932 (0.35)

Table A12. Estimated Forecasting Equations for Changes in PCE Price Inflation

Dependent variable: Change in PCE price inflation ($\Delta^2 p_t$)
Independent variables: Constant, four quarterly lags of changes in PCE price inflation, and lagged PCE price gap ($p^*_{t-1} - p_{t-1}$) constructed with one-sided HP trend PCE velocity and real PCE, and the indicated measure of money

A. Full Sample: 1967:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.036	2.857 (0.00)
Divisia M1	0.022	2.322 (0.02)
Divisia M2	0.023	2.393 (0.02)
Divisia MZM	0.014	1.839 (0.07)
Divisia M4	0.017	1.798 (0.07)

B. Pre-1980 Subsample: 1967:1 – 1979:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.111	2.782 (0.01)
Divisia M1	0.076	2.655 (0.01)
Divisia M2	0.035	1.683 (0.10)
Divisia MZM	0.034	1.587 (0.12)
Divisia M4	0.043	2.016 (0.05)

C. Post-1980 Subsample: 1980:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.028	2.104 (0.04)
Divisia M1	0.017	1.665 (0.10)
Divisia M2	0.021	1.990 (0.05)
Divisia MZM	0.012	1.458 (0.15)
Divisia M4	0.010	0.966 (0.34)

D. Post-1990 Subsample: 1990:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.022	1.400 (0.16)
Divisia M1	0.010	0.829 (0.41)
Divisia M2	0.017	0.893 (0.37)
Divisia MZM	0.001	0.111 (0.91)
Divisia M4	-0.006	-0.382 (0.70)

E. Post-2000 Subsample: 2000:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.033	1.413 (0.16)
Divisia M1	0.020	1.026 (0.31)
Divisia M2	0.019	0.065 (0.52)
Divisia MZM	-0.001	-0.040 (0.97)
Divisia M4	-0.018	-0.730 (0.47)

Table A13. Estimated Forecasting Equations for Changes in Core PCE Price Inflation

Dependent variable: Change in Core PCE price inflation ($\Delta^2 p_t$)
Independent variables: Constant, four quarterly lags of changes in core PCE price inflation, and lagged PCE price gap ($p^*_{t-1} - p_{t-1}$) constructed with one-sided HP trend trend core PCE velocity and real core PCE, and the indicated measure of money

A. Full Sample: 1967:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.017	2.055 (0.04)
Divisia M1	0.010	1.677 (0.10)
Divisia M2	0.009	1.385 (0.17)
Divisia MZM	0.004	0.877 (0.38)
Divisia M4	0.008	1.378 (0.17)

B. Pre-1980 Subsample: 1967:1 – 1979:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.070	2.215 (0.03)
Divisia M1	0.048	1.917 (0.06)
Divisia M2	0.016	0.853 (0.40)
Divisia MZM	0.016	0.795 (0.43)
Divisia M4	0.023	1.244 (0.22)

C. Post-1980 Subsample: 1980:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.011	1.590 (0.11)
Divisia M1	0.006	1.215 (0.23)
Divisia M2	0.008	1.420 (0.16)
Divisia MZM	0.004	0.887 (0.38)
Divisia M4	0.005	0.888 (0.38)

D. Post-1990 Subsample: 1990:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.004	0.602 (0.55)
Divisia M1	0.001	0.219 (0.83)
Divisia M2	-0.000	-0.058 (0.95)
Divisia MZM	-0.004	-0.840 (0.40)
Divisia M4	-0.002	-0.415 (0.67)

E. Post-2000 Subsample: 2000:1 – 2015:4

	Coefficient on $p^*_{t-1} - p_{t-1}$	*t* stat (*p* value)
Revised Monetary Base	0.010	1.205 (0.23)
Divisia M1	0.007	0.964 (0.34)
Divisia M2	0.001	0.084 (0.93)
Divisia MZM	-0.003	-0.406 (0.69)
Divisia M4	-0.002	-0.250 (0.80)