

APPENDIX 2

MODEL M1

Dynamic (ex ante) forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-6.97123	0.4319	-6.28884	0.682397	1.580
2001-1	-7.74638	0.5523	-6.85950	0.886875	1.606
2001-2	-8.24344	0.6167	-6.64221	1.60123	2.597
2001-3	-9.29779	0.6542	-5.66939	3.62840	5.546
2001-4	-10.4647	0.6636	-8.13294	2.33172	3.514
2002-1	-11.0837	0.6647	-10.1151	0.968543	1.457
2002-2	-11.7322	0.6647	-10.3060	1.42616	2.145
2002-3	-12.6436	0.6659	-12.4285	0.215043	0.323
mean(Error) =	1.4675	RMSE =	1.7831		
SD(Error) =	1.0129	MAPE =	20.713		

1-step forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-6.97123	0.4319	-6.28884	0.682397	1.580
2001-1	-7.20258	0.4319	-6.85950	0.343074	0.794
2001-2	-7.53669	0.4319	-6.64221	0.894479	2.071
2001-3	-8.02178	0.4319	-5.66939	2.35239	5.446
2001-4	-7.67311	0.4319	-8.13294	-0.459830	-1.065
2002-1	-9.35537	0.4319	-10.1151	-0.759741	-1.759
2002-2	-11.1948	0.4319	-10.3060	0.888777	2.058
2002-3	-12.0383	0.4319	-12.4285	-0.390192	-0.903
mean(Error) =	0.44392	RMSE =	1.0397		
SD(Error) =	0.94018	MAPE =	11.968		

MODEL M2

Dynamic (ex ante) forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-7.41140	0.4184	-6.28884	1.12256	2.683
2001-1	-8.29945	0.5548	-6.85950	1.43994	2.595
2001-2	-8.73681	0.6079	-6.64221	2.09460	3.446
2001-3	-9.60264	0.6303	-5.66939	3.93325	6.241
2001-4	-10.5313	0.6325	-8.13294	2.39839	3.792
2002-1	-10.9979	0.6331	-10.1151	0.882747	1.394
2002-2	-11.8273	0.6364	-10.3060	1.52126	2.390
2002-3	-13.0090	0.6408	-12.4285	0.580516	0.906
mean(Error) =	1.7467	RMSE =	2.0117		
SD(Error) =	0.99797	MAPE =	24.675		

1-step forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-7.41140	0.4184	-6.28884	1.12256	2.683
2001-1	-7.32165	0.4184	-6.85950	0.462150	1.105
2001-2	-7.66777	0.4184	-6.64221	1.02556	2.451
2001-3	-7.98822	0.4184	-5.66939	2.31883	5.543
2001-4	-7.57792	0.4184	-8.13294	-0.555013	-1.327
2002-1	-9.71457	0.4184	-10.1151	-0.400542	-0.957
2002-2	-11.6606	0.4184	-10.3060	1.35452	3.238
2002-3	-12.3396	0.4184	-12.4285	-0.0889737	-0.213
mean(Error) =	0.65489	RMSE =	1.1299		
SD(Error) =	0.92077	MAPE =	13.196		

MODEL M3

Dynamic (ex ante) forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
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2000-4	-7.04528	0.4128	-6.28884	0.756448	1.833
2001-1	-7.59604	0.5095	-6.85950	0.736542	1.446
2001-2	-8.28141	0.5535	-6.64221	1.63920	2.962
2001-3	-9.33022	0.5751	-5.66939	3.66083	6.365
2001-4	-10.0546	0.5862	-8.13294	1.92162	3.278
2002-1	-10.4620	0.5919	-10.1151	0.346904	0.586
2002-2	-11.0078	0.5948	-10.3060	0.701785	1.180
2002-3	-12.5284	0.5964	-12.4285	0.0998768	0.167
mean(Error) =	1.2329	RMSE =	1.6401		
SD(Error) =	1.0816	MAPE =	18.336		

1-step forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-7.04528	0.4128	-6.28884	0.756448	1.833
2001-1	-7.04866	0.4128	-6.85950	0.189153	0.458
2001-2	-7.74842	0.4128	-6.64221	1.10621	2.680
2001-3	-8.14405	0.4128	-5.66939	2.47466	5.995
2001-4	-7.40547	0.4128	-8.13294	-0.727470	-1.762
2002-1	-9.07147	0.4128	-10.1151	-1.04633	-2.528
2002-2	-10.7568	0.4128	-10.3060	0.450754	1.092
2002-3	-12.0206	0.4128	-12.4285	-0.407956	-0.988
mean(Error) =	0.34977	RMSE =	1.1149		
SD(Error) =	1.0586	MAPE =	12.751		

MODEL M4

Dynamic (ex ante) forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-7.31165	0.4014	-6.28884	1.02282	2.548
2001-1	-8.42620	0.5546	-6.85950	1.56670	2.825
2001-2	-8.77699	0.6127	-6.64221	2.13478	3.484
2001-3	-9.18411	0.6306	-5.66939	3.51472	5.573
2001-4	-9.90732	0.6350	-8.13294	1.77438	2.794
2002-1	-9.94956	0.6359	-10.1151	-0.165548	-0.260
2002-2	-10.0161	0.6360	-10.3060	-0.289895	-0.456
2002-3	-10.9471	0.6360	-12.4285	-1.48147	-2.329
mean(Error) =	1.0096	RMSE =	1.7981		
SD(Error) =	1.4880	MAPE =	21.428		

1-step forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-7.31165	0.4014	-6.28884	1.02282	2.548
2001-1	-7.45143	0.4014	-6.85950	0.591926	1.474
2001-2	-7.54896	0.4014	-6.64221	0.906749	2.259
2001-3	-7.55562	0.4014	-5.66939	1.88623	4.699
2001-4	-7.11094	0.4014	-8.13294	-1.02199	-2.546
2002-1	-9.16939	0.4014	-10.1151	-0.945722	-2.356
2002-2	-10.6338	0.4014	-10.3060	0.327719	0.816
2002-3	-11.1804	0.4014	-12.4285	-1.24810	-3.109
mean(Error) =	0.18995	RMSE =	1.0829		
SD(Error) =	1.0661	MAPE =	13.369		

MODEL M5

Dynamic (ex ante) forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-7.40816	0.4432	-6.28884	1.11933	2.525
2001-1	-8.80767	0.5799	-6.85950	1.94816	3.359
2001-2	-9.91041	0.6602	-6.64221	3.26820	4.951
2001-3	-11.1473	0.7118	-5.66939	5.47791	7.696
2001-4	-12.7379	0.7239	-8.13294	4.60494	6.361
2002-1	-13.8253	0.7247	-10.1151	3.71020	5.120
2002-2	-14.4898	0.7257	-10.3060	4.18375	5.765
2002-3	-15.3909	0.7309	-12.4285	2.96235	4.053

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mean(Error) = 3.4094 RMSE = 3.6570  
SD(Error) = 1.3228 MAPE = 43.720

1-step forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-7.40816	0.4432	-6.28884	1.11933	2.525
2001-1	-7.86335	0.4432	-6.85950	1.00384	2.265
2001-2	-8.26684	0.4432	-6.64221	1.62463	3.665
2001-3	-8.39009	0.4432	-5.66939	2.72070	6.138
2001-4	-8.35022	0.4432	-8.13294	0.217280	0.490
2002-1	-10.3472	0.4432	-10.1151	0.232139	0.524
2002-2	-12.0423	0.4432	-10.3060	1.73624	3.917
2002-3	-13.0054	0.4432	-12.4285	0.576862	1.301

mean(Error) = 1.1539 RMSE = 1.4031  
SD(Error) = 0.79837 MAPE = 16.417

MODEL M6

Dynamic (ex ante) forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-7.31165	0.4014	-6.28884	1.02282	2.548
2001-1	-8.42620	0.5546	-6.85950	1.56670	2.825
2001-2	-8.77699	0.6127	-6.64221	2.13478	3.484
2001-3	-9.18411	0.6306	-5.66939	3.51472	5.573
2001-4	-9.90732	0.6350	-8.13294	1.77438	2.794
2002-1	-9.94956	0.6359	-10.1151	-0.165548	-0.260
2002-2	-10.0161	0.6360	-10.3060	-0.289895	-0.456
2002-3	-10.9471	0.6360	-12.4285	-1.48147	-2.329

mean(Error) = 1.0096 RMSE = 1.7981  
SD(Error) = 1.4880 MAPE = 21.428

1-step forecasts for relResInvNEL (SE based on error variance only)

Horizon	Forecast	SE	Actual	Error	t-value
2000-4	-7.31165	0.4014	-6.28884	1.02282	2.548
2001-1	-7.45143	0.4014	-6.85950	0.591926	1.474
2001-2	-7.54896	0.4014	-6.64221	0.906749	2.259
2001-3	-7.55562	0.4014	-5.66939	1.88623	4.699
2001-4	-7.11094	0.4014	-8.13294	-1.02199	-2.546
2002-1	-9.16939	0.4014	-10.1151	-0.945722	-2.356
2002-2	-10.6338	0.4014	-10.3060	0.327719	0.816
2002-3	-11.1804	0.4014	-12.4285	-1.24810	-3.109

mean(Error) = 0.18995 RMSE = 1.0829  
SD(Error) = 1.0661 MAPE = 13.369