

# Parametric Reconciliation

## Gaussian DGP

```
## Joining, by = c("F.method", "R.method", "Forecast.Horizon")
```

R.method	Log Score(%)			Energy Score(%)			Variogram Score(%)		
	1	2	3	1	2	3	1	2	3
Base	NA	NA	NA	12.32235	15.76412	19.57850	5.001194	6.172704	7.760141
Bottom up	12.59673	13.70563	15.08012	14.07640	17.43469	21.09481	5.259493	6.559331	8.256816
OLS	11.89640	13.91763	16.69925	11.70797	15.09283	18.89254	4.777345	5.927901	7.511890
WLS	11.75824	14.08858	17.46094	11.39373	14.75995	18.58899	4.653399	5.756615	7.297708
MinT.Sam	11.62280	14.06057	17.65379	11.04258	14.40753	18.22491	4.431587	5.526223	6.976425
MinT.Shr	11.62636	14.06579	17.66163	11.05902	14.41382	18.22533	4.436607	5.511178	6.970167
Optimal	11.92805	13.31347	14.43456	12.93906	15.03670	17.90912	6.002345	6.323151	7.714101

## Non Gaussian DGP

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## Joining, by = c("F.method", "R.method", "Forecast.Horizon")
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R.method	Log Score(%)			Energy Score(%)			Variogram Score(%)		
	1	2	3	1	2	3	1	2	3
Base	NA	NA	NA	5.524133	5.727146	5.977885	0.6271626	0.6276617	0.6334380
Bottom up	8.827058	9.043168	9.267914	5.951316	6.182513	6.436886	0.6244397	0.6254909	0.6320369
OLS	7.757864	8.366582	9.417041	5.372220	5.547006	5.781927	0.6213164	0.6222688	0.6265287
WLS	7.079121	8.902229	12.895008	5.284879	5.440421	5.695116	0.6213914	0.6225991	0.6280985
MinT.Sam	6.806104	8.619375	12.643437	5.181487	5.312697	5.572036	0.6133553	0.6119963	0.6189472
MinT.Shr	6.826257	8.642823	12.674350	5.182663	5.308960	5.574846	0.6142515	0.6118864	0.6181152
Optimal	7.136370	8.205556	9.648550	6.148427	5.967599	6.281593	0.7980024	0.7466422	0.7755280

## Comparing univariate predictive accuracy in aggregate levels

For h=1

R.method	Gaussian DGP									
	Total.x	A.x	B.x	AA.x	AB.x	BA.x	BB.x	Total.y	A.y	
Base	2.874618	3.551939	3.290826	3.482041	3.474973	3.458013	3.263980	0.6733040	2.465570	2.600
Bottom up	3.725285	3.658132	3.430267	3.482041	3.474973	3.458013	3.263980	2.4465362	2.483223	2.699
MinT.Sam	2.876516	3.381401	3.273194	3.347527	3.369980	3.340480	3.260714	0.6717199	2.454769	2.463
MinT.Shr	2.876088	3.381581	3.272996	3.348015	3.372314	3.341099	3.260661	0.6714691	2.454465	2.463
OLS	3.055019	3.462861	3.276626	3.412488	3.421360	3.375277	3.282471	1.3806119	2.456295	2.533
Optimal	2.999502	3.503108	3.403869	3.484614	3.518389	3.484289	3.405185	0.8142908	2.598026	2.607
WLS	2.921539	3.413468	3.278217	3.393524	3.414103	3.364357	3.276050	0.6745358	2.473754	2.486

R.method	Gaussian DGP									
	Total.x	A.x	B.x	AA.x	AB.x	BA.x	BB.x	Total.y	A.y	B.y
Base	2.411244	4.767324	3.651962	4.444156	4.432011	4.324994	3.567348	0.2689040	1.593912	1.822011
Bottom up	5.643752	5.291369	4.214981	4.446563	4.438028	4.330519	3.571927	1.5731028	1.616390	1.994011
MinT.Sam	2.415998	4.012274	3.587888	3.889721	3.979671	3.835859	3.557354	0.2682503	1.572544	1.594011
MinT.Shr	2.415919	4.019515	3.593770	3.897540	3.989557	3.838976	3.558929	0.2681921	1.569693	1.582011
OLS	2.881321	4.364252	3.609081	4.144313	4.192124	3.975822	3.633933	0.5412450	1.573259	1.700011
Optimal	2.790191	4.606755	4.205115	4.558508	4.692660	4.540214	4.229448	0.3119676	1.862122	1.882011
WLS	2.522708	4.149288	3.618255	4.070370	4.159683	3.935676	3.611157	0.2693134	1.601013	1.622011

## For h=2

R.method	Gaussian DGP									
	Total.x	A.x	B.x	AA.x	AB.x	BA.x	BB.x	Total.y	A.y	B.y
Base	4.709457	4.041486	3.477736	3.648605	3.642096	3.601957	3.273843	2.400796	2.485289	2.698011
Bottom up	4.244590	4.070577	3.626701	3.648605	3.642096	3.601957	3.273843	2.594158	2.492651	2.782011
MinT.Sam	4.722468	3.934191	3.458031	3.520512	3.536973	3.449366	3.279146	2.401241	2.474522	2.514011
MinT.Shr	4.723090	3.936371	3.458183	3.519186	3.539920	3.448763	3.277752	2.402247	2.474844	2.515011
OLS	4.470412	3.988385	3.460432	3.576162	3.593007	3.493952	3.309015	1.914376	2.480217	2.609011
Optimal	4.111939	3.822631	3.451738	3.537768	3.583178	3.484182	3.350170	1.808089	2.559410	2.579011
WLS	4.650123	3.957990	3.461434	3.554294	3.581415	3.475973	3.300302	2.394540	2.506936	2.546011

R.method	Gaussian DGP									
	Total.x	A.x	B.x	AA.x	AB.x	BA.x	BB.x	Total.y	A.y	B.y
Base	5.581245	6.765598	4.313428	5.132154	5.145290	4.941959	3.605066	0.6332903	1.623434	2.000011
Bottom up	8.115389	7.111432	5.039110	5.130909	5.147650	4.944645	3.609303	1.8071575	1.632239	2.164011
MinT.Sam	5.588636	5.944354	4.221599	4.558082	4.636529	4.241984	3.620240	0.6316537	1.602481	1.664011
MinT.Shr	5.585851	5.951638	4.224945	4.547548	4.658506	4.250815	3.610339	0.6312885	1.600118	1.666011
OLS	5.882334	6.299895	4.242563	4.782149	4.903439	4.442975	3.713187	0.8057668	1.612963	1.834011
Optimal	5.686439	6.036277	4.319064	4.755691	4.989470	4.531028	3.930211	0.6024628	1.767756	1.802011
WLS	5.654845	6.090198	4.246020	4.694871	4.851666	4.368953	3.683728	0.6317406	1.653889	1.720011

## For h=3

R.method	Gaussian DGP									
	Total.x	A.x	B.x	AA.x	AB.x	BA.x	BB.x	Total.y	A.y	B.y
Base	7.453699	4.644402	3.716011	3.880163	3.844478	3.777589	3.289991	6.327629	2.501002	2.796011
Bottom up	4.895638	4.588426	3.863479	3.880163	3.844478	3.777589	3.289991	2.759085	2.504655	2.876011
MinT.Sam	7.483420	4.703099	3.699196	3.791425	3.716904	3.597440	3.300229	6.333452	2.484759	2.634011
MinT.Shr	7.484720	4.705623	3.698821	3.791136	3.720901	3.594953	3.298072	6.338000	2.485152	2.634011
OLS	6.499897	4.676065	3.698036	3.833939	3.787635	3.650758	3.341185	2.912024	2.489219	2.715011
Optimal	4.833735	4.156651	3.597560	3.739409	3.663271	3.574393	3.377192	3.086346	2.567235	2.676011
WLS	7.205385	4.692991	3.697739	3.818277	3.773060	3.627520	3.329409	6.307755	2.516030	2.658011

R.method	Gaussian DGP									
	Total.x	A.x	B.x	AA.x	AB.x	BA.x	BB.x	Total.y	A.y	
Base	8.738500	8.771685	5.099207	6.048969	5.888411	5.614101	3.663773	1.1366041	1.649001	2.16
Bottom up	10.669505	9.080727	5.920322	6.051282	5.893761	5.612808	3.664045	2.0507619	1.654854	2.34
MinT.Sam	8.737144	8.071107	4.986438	5.502641	5.264404	4.756646	3.697592	1.1341843	1.618039	1.84
MinT.Shr	8.741505	8.079754	4.980093	5.499085	5.274447	4.747891	3.689114	1.1348852	1.620213	1.84
OLS	8.904323	8.362292	4.995077	5.739766	5.587087	4.995957	3.830455	1.1910692	1.624961	1.99
Optimal	7.870678	7.621510	5.003562	5.633224	5.317091	4.928410	4.027360	0.9651236	1.792559	1.99
WLS	8.768724	8.181102	4.994356	5.657791	5.518338	4.895696	3.793749	1.1346669	1.668867	1.84