

Table 1: Comparison of coherent forecasts. “Energy score” and “Variogram score” columns give scores based on the joint forecast distribution of whole hierarchy. “Log score” column gives the log scores of the joint forecast distribution of bottom level. “Skill score” columns give the percentage skill score with reference to the bottom-up method. Entries in these columns show the percentage increase of score for different reconciliation methods relative to the bottom-up method.

Forecasting	Energy score		Variogram score		Log score	
method	Mean score	Skill score %	Mean score	Skill score %	Mean score	Skill score %
MinT(Shrink)	10.03	18.79	8.44	8.46	11.30	6.22
MinT(Sample)	10.01	18.95	8.41	8.79	11.29	6.31
MinT(WLS)	10.53	14.74	9.02	2.17	12.61	−4.65
OLS	10.53	14.74	8.86	3.09	11.54	4.23
Bottom-up	12.35		9.22		12.05	
Incoherent	11.12		9.53			

Table 2: Comparison of incoherent vs coherent forecasts based on the univariate forecast distribution of aggregate series. The “Incoherent” row shows the average scores for incoherent forecasts. Each entry above this row represents the percentage skill score with reference to the incoherent forecasts. These entries show the percentage increase in score for different forecasting methods relative to the incoherent forecasts.

Forecasting	Total		Series - A		Series - B	
method	CRPS	LogS	CRPS	LogS	CRPS	LogS
MinT(Shrink)	0.74	0.00	10.49	3.24	9.16	2.73
MinT(Sample)	0.74	0.00	10.49	3.24	9.16	2.73
MinT(WLS)	−2.96	−2.36	6.10	−4.12	5.66	−3.03
OLS	−9.26	−3.36	7.07	2.06	7.01	1.82
Bottom-up	−91.48	−22.22	−8.05	−2.06	−6.20	−1.82
<i>Incoherent</i>	<i>2.70</i>	<i>2.97</i>	<i>4.10</i>	<i>3.40</i>	<i>3.71</i>	<i>3.30</i>

Table 3: Comparison of incoherent vs coherent forecasts based univariate forecast distribution of bottom-level series. The “Incoherent” row shows the average scores for incoherent forecasts.

Forecasting	Series - AA		Series - AB		Series - BA		Series - BB	
method	CRPS	LogS	CRPS	LogS	CRPS	LogS	CRPS	LogS
MinT(Shrink)	7.61	2.43	10.82	3.02	5.93	1.86	7.76	2.47
MinT(Sample)	7.88	2.43	11.08	3.02	6.20	1.86	8.05	2.47
MinT(WLS)	3.53	0.00	6.33	0.60	2.43	−0.62	4.89	0.62
OLS	2.99	0.91	5.28	1.51	2.90	0.62	4.31	1.23
<i>Incoherent</i>	<i>3.68</i>	<i>3.29</i>	<i>3.79</i>	<i>3.31</i>	<i>3.45</i>	<i>3.22</i>	<i>3.48</i>	<i>3.24</i>