Figure 11: Visualizations of N-beats and Drift2Matrix on ETTm1
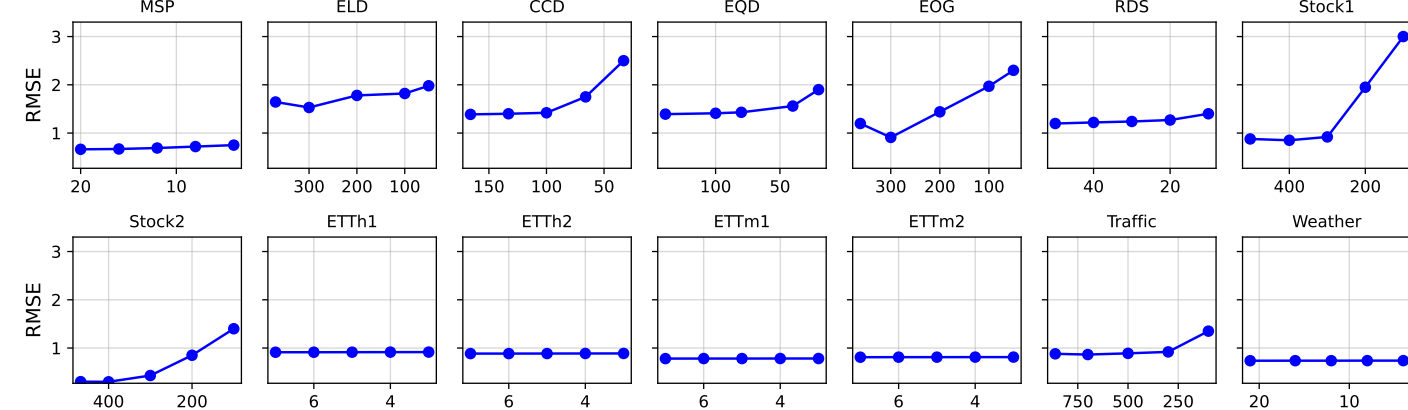

Figure 16: The impact of number of series
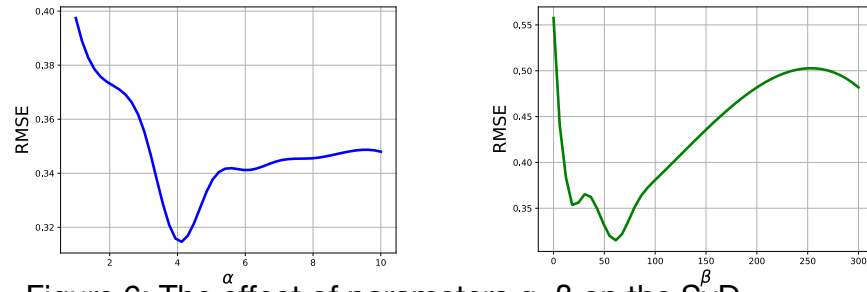

Figure 6: The effect of parameters α, β on the SyD

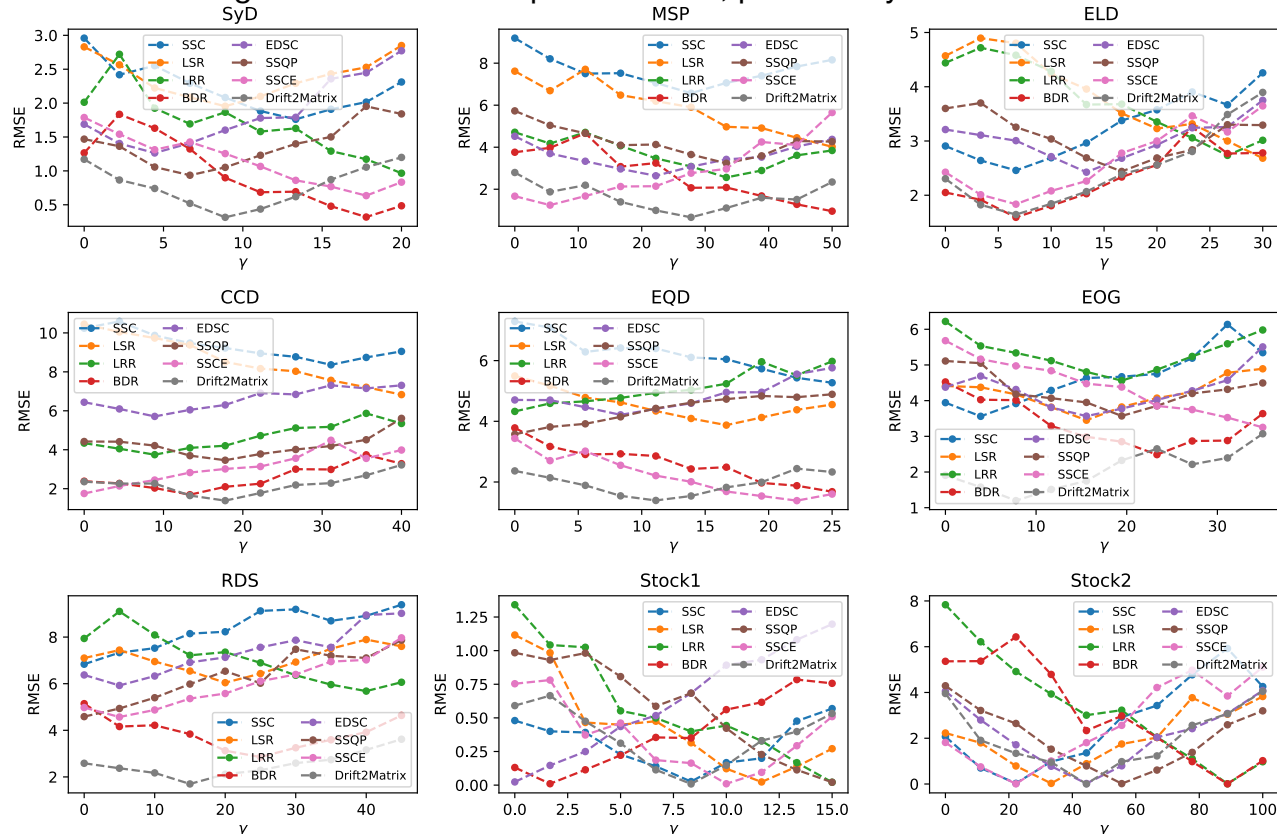Figure 17: RMSE across datasets for different regularizations at varying γ
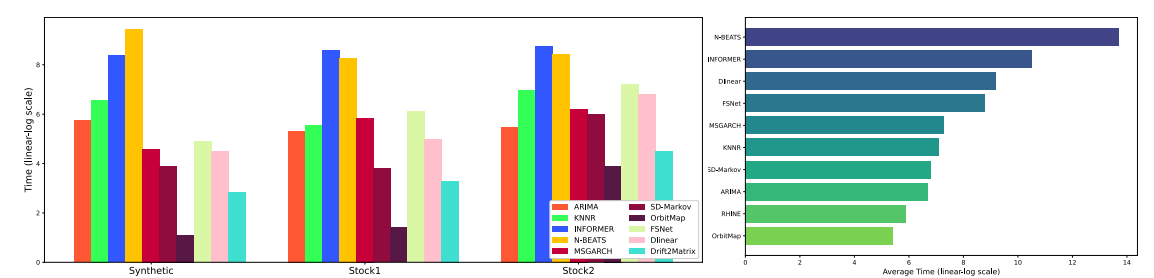
(a) small-scale dataset (b) large-scale dataset
Figure 15: Computation time on small/large scale series datasets

Table 5: Models' forecasting performance, in terms of RMSE

Datasets	Horizon	Forecasting models									
		ARIMA	KNNR	Informer	N-Beats	CARD	ETSformer	TimesNet	SparseTSF	FITS	Dlinear
SyD	78	1.761	1.954	0.966	0.319	0.796	1.009	0.811	0.773	0.753	0.752
MSP	31	6.571	4.021	2.562	0.956	2.112	2.677	2.151	1.495	1.475	1.466
ELD	227	2.458	2.683	2.735	1.593	2.255	2.858	2.297	2.841	2.629	2.589
CCD	583	8.361	6.831	3.746	1.692	3.089	3.914	3.146	2.178	2.153	2.086
EQD	50	5.271	3.874	4.326	1.681	3.567	4.520	3.633	2.508	2.459	2.347
EOG	183	3.561	3.452	4.562	2.487	3.761	4.767	3.831	3.207	3.048	2.829
RDS	69	6.836	6.043	5.682	2.854	4.685	5.937	4.772	3.886	3.649	3.504
Stock1 (×10⁻²)	17	2.635	2.348	2.127	1.035	1.754	2.224	1.786	1.323	1.291	1.228
Stock2 (×10⁻²)	11	2.918	2.761	1.064	0.607	0.877	1.117	0.894	0.765	0.704	0.702
ETTh1	96	1.209	0.997	0.966	0.933	0.939	0.974	0.949	0.932	0.920	0.917
	192	1.267	1.034	1.005	1.023	1.082	1.037	1.087	1.123	1.071	1.069
	336	1.297	1.057	1.035	1.048	1.101	1.087	1.103	1.107	1.086	1.076
	720	1.347	1.108	1.088	1.115	1.147	1.103	1.148	1.176	1.168	1.152
ETTh2	96	1.216	0.944	0.943	0.892	0.933	1.001	0.942	0.945	0.952	0.946
	192	1.250	1.027	1.015	0.979	0.995	1.102	1.004	1.090	1.062	1.053
	336	1.335	1.111	1.088	1.040	1.072	1.134	1.076	1.143	1.127	1.190
	720	1.410	1.210	1.146	1.101	1.131	1.182	1.139	1.121	1.109	1.141
ETTm1	96	0.997	0.841	0.853	0.806	0.810	0.895	0.821	0.856	0.837	0.829
	192	1.088	0.898	0.898	0.827	0.846	0.902	0.859	0.879	0.862	0.949
	336	1.025	0.886	0.885	0.852	0.885	0.905	0.896	0.904	0.905	0.916
	720	1.070	0.921	0.910	0.903	0.963	0.932	0.975	0.986	0.969	0.957
ETTm2	96	0.999	0.820	0.852	**0.804**	0.825	0.885	0.830	0.854	0.851	0.848
	192	1.072	0.874	0.902	0.829	0.849	0.902	0.861	0.897	0.874	0.861
	336	1.117	0.905	0.892	0.852	0.863	0.959	0.867	0.955	0.943	0.938
	720	1.176	0.963	0.965	0.897	0.928	1.006	0.928	0.973	0.967	0.960
Traffic	96	1.243	1.006	0.895	0.893	0.919	0.921	0.920	0.958	0.939	0.930
	192	1.253	1.021	0.910	0.920	0.956	0.957	0.953	0.987	0.971	0.964
	336	1.260	1.028	0.916	**0.895**	0.902	0.996	0.929	0.957	0.941	0.937
	720	1.285	1.060	0.968	0.949	0.986	1.056	0.998	0.995	0.985	0.984
Weather	96	1.013	0.814	0.800	0.752	0.760	0.841	0.790	0.766	0.754	0.741
	192	1.021	0.867	0.861	0.798	0.832	0.908	0.854	0.913	0.903	0.899
	336	1.043	0.872	0.865	0.828	0.857	0.905	0.884	0.901	0.918	0.903
	720	1.096	0.917	0.938	0.867	0.895	0.956	0.918	0.942	0.940	0.939

Datasets	Horizon	Concept-aware models								
		MSGARCH	SD-Markov	OrbitMap	Cogra	FEDformer	OneNet	FSNet	**Drift2Matrix**	Auto-D2M
SyD	78	1.264	0.936	0.635	1.251	1.260	0.317	0.433	**0.315**	0.313
MSP	31	2.641	3.234	1.244	2.898	2.849	0.751	1.148	**0.663**	0.659
ELD	227	2.425	2.439	1.835	2.587	2.635	**1.101**	1.425	1.644	1.669
CCD	583	5.712	3.462	1.753	3.604	3.616	**1.298**	1.678	1.387	1.392
EQD	50	4.213	3.573	1.386	3.949	3.944	**1.386**	1.938	1.392	1.388
EOG	183	3.566	3.571	3.251	4.067	4.013	1.337	2.044	**1.198**	1.191
RDS	69	5.924	4.587	4.571	5.135	5.779	1.865	2.546	**1.198**	1.689
Stock1 (×10⁻²)	17	2.366	2.146	1.003	2.137	2.258	0.923	0.953	**0.878**	0.902
Stock2 (×10⁻²)	11	2.129	1.669	0.747	1.367	1.352	0.312	0.477	**0.303**	0.317
ETTh1	96	1.073	1.025	**0.909**	**0.909**	0.928	0.916	0.928	0.913	0.907
	192	1.092	1.037	0.991	0.996	1.034	**0.975**	0.995	0.979	0.977
	336	1.123	1.094	1.039	1.041	1.102	1.028	1.045	**1.018**	1.015
	720	1.146	1.108	1.083	1.095	1.122	1.082	1.102	**1.073**	1.085
ETTh2	96	0.974	0.956	0.894	0.901	0.997	0.889	0.909	**0.885**	0.879
	192	0.952	0.935	0.976	0.987	0.993	**0.968**	0.971	0.977	0.970
	336	1.094	1.009	1.052	1.065	1.072	1.039	**1.019**	1.044	1.037
	720	1.148	1.131	1.120	1.131	1.147	1.119	1.135	1.115	1.121
ETTm1	96	0.832	0.803	0.778	0.796	0.796	**0.777**	0.788	0.781	0.777
	192	0.854	0.814	0.810	0.819	0.827	0.813	0.842	**0.805**	0.801
	336	0.895	0.857	0.820	0.838	0.857	**0.819**	0.898	0.822	0.819
	720	0.919	0.895	0.868	0.890	0.899	0.868	0.964	**0.864**	0.854
ETTm2	96	0.958	0.864	0.821	0.824	0.830	0.812	0.832	**0.810**	0.802
	192	0.982	0.885	0.832	0.849	0.858	0.830	0.854	**0.825**	0.824
	336	1.003	0.977	0.842	0.854	0.870	**0.841**	0.864	0.847	0.839
	720	1.134	1.021	0.906	0.921	0.935	0.896	0.901	**0.886**	0.876
Traffic	96	1.224	1.058	0.883	0.898	0.906	0.884	0.895	**0.880**	0.874
	192	1.242	1.083	0.895	0.908	0.925	**0.883**	0.905	0.888	0.880
	336	1.341	1.189	0.908	0.922	0.924	0.901	0.929	0.937	0.926
	720	1.337	1.201	0.946	0.964	0.969	0.940	0.946	**0.932**	0.923
Weather	96	0.974	0.951	0.744	0.759	0.785	0.745	0.775	**0.737**	0.737
	192	0.999	0.982	0.775	0.793	0.802	0.776	0.794	**0.771**	0.769
	336	1.028	1.009	0.806	0.825	0.869	0.801	0.804	**0.791**	0.786
	720	1.093	1.027	0.841	0.863	0.871	**0.833**	0.864	0.840	0.832

While forecasting series task is not our main focus, we provide a comparison of Drift2Matrix with other models.
Results for the extended Auto-D2M, are included but not part of the comparison.