Appendix On Forecast Stability

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Appendix A.

Tables A.1 and A.2 respectively show the MAE and RMSE based accuracy and stability results of vertical stability experiments across the four experimental datasets. The best performing models in each group are italicized and the overall best performing models are highlighted in boldface.

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		MAI	Е			MAG	7		MACJ				
	M4	М3	Favorita	M5	M4	М3	Favorita	M5	M4	М3	Favorita	M5	
NBEA	TS												
Base	394.718	499.275	-	-	194.963	176.017	-	-	267.808	264.625	-	-	
Stable	394.533	497.189	-	-	135.807	127.870	-	-	215.746	218.174	-	-	
PI_0.2	393.223	498.985	-	-	154.345	143.009	-	-	243.425	241.940	-	-	
PI_0.4	395.551	500.783	-	-	125.200	119.618	-	-	222.384	221.859	-	-	
PI_0.5	398.032	502.488	-	-	117.431	113.207	-	-	213.275	212.978	-	-	
PI_0.6	401.337	504.766	-	-	115.009	110.552	-	-	205.179	204.958	-	-	
PI_0.8	410.212	510.865	-	-	122.976	115.426	-	-	192.234	191.643	-	-	
$PI_{-}1$	421.904	518.937	-	-	142.060	129.416	-	-	184.004	182.078	-	-	
FI_0.2	393.083	498.754	-	-	153.933	141.939	-	-	240.123	238.484	-	-	
FI_0.4	395.318	500.083	_	_	117.361	110.515	_	_	206.070	205.272	_	_	
FI_0.5	398.268	501.735	_	_	99.880	95.028	_	_	185.108	184.501	_	_	
FI_0.6	402.942	504.403	-	-	82.455	79.241	-	-	160.437	159.951	-	-	
FI_0.8	420.442	515.446	-	-	45.610	44.596	-	-	95.543	95.204	-	-	
FI_1	457.857	543.402	=	=	0.000	0.000	=	=	0.000	0.000	-	-	
PR													
Base	457.977	563.163	2.426	5.321	140.825	149.688	0.488	1.380	226.883	214.089	0.582	2.313	
PI_0.2	461.139	564.716	2.420	5.307	118.160	122.679	0.385	1.087	206.587	192.797	0.516	2.170	
PI_0.4	465.625	567.470	2.418	5.309	100.483	101.600	0.300	0.886	187.984	173.695	0.457	2.051	
PI_0.5	468.365	569.337	2.418	5.316	94.886	94.595	0.273	0.838	179.441	165.173	0.430	2.002	
PI_0.6	471.423	571.504	2.419	5.327	91.618	90.774	0.258	0.828	171.496	157.492	0.407	1.961	
PI_0.8	478.462	576.747	2.424	5.361	91.057	91.773	0.259	0.916	157.606	144.683	0.371	1.903	
$PI_{-}1$	486.762	583.228	2.433	5.411	97.218	101.305	0.296	1.111	146.788	135.799	0.353	1.882	
FI_0.2	461.411	564.888	2.420	5.306	117.078	121.870	0.385	1.085	203.611	190.000	0.509	2.150	
$FI_{-}0.4$	467.156	568.434	2.416	5.302	93.363	95.116	0.289	0.827	173.984	160.487	0.425	1.949	
FI_0.5	471.254	571.167	2.416	5.305	81.010	81.645	0.243	0.707	155.681	142.773	0.376	1.819	
FI_0.6	476.517	574.778	2.417	5.312	68.023	67.790	0.197	0.588	134.273	122.417	0.321	1.656	
FI_0.8	492.500	585.843	2.426	5.350	38.506	37.389	0.105	0.339	78.967	71.171	0.185	1.138	
FI_{-1}	521.661	605.974	2.450	5.555	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
LightG	BM												
Base	473.849	562.678	2.567	5.161	157.665	166.004	0.404	1.010	236.394	235.818	0.555	1.954	
PI_0.2	476.197	563.759	2.569	5.162	129.560	134.229	0.326	0.816	214.520	213.439	0.498	1.846	
$PI_{-}0.4$	480.547	566.600	2.574	5.173	107.616	110.056	0.264	0.683	194.997	193.827	0.446	1.753	
$PI_{-}0.5$	483.462	568.729	2.577	5.181	100.506	102.519	0.243	0.651	186.180	185.167	0.424	1.712	
PI_0.6	486.851	571.299	2.580	5.191	97.267	99.269	0.231	0.646	178.056	177.283	0.403	1.676	
PI_0.8	494.957	577.710	2.588	5.219	99.323	103.287	0.231	0.698	164.162	164.068	0.368	1.617	
$PI_{-}1$	504.699	585.668	2.598	5.255	109.686	116.230	0.255	0.815	154.010	154.979	0.344	1.582	
FI_0.2	476.490	563.914	2.570	5.162	128.718	133.562	0.325	0.811	211.512	210.449	0.491	1.829	
$FI_{-}0.4$	482.156	567.590	2.576	5.170	101.109	103.556	0.251	0.635	180.597	179.382	0.415	1.667	
FI0.5	486.525	570.662	2.581	5.177	87.103	88.687	0.214	0.550	161.633	160.481	0.370	1.559	
FI_0.6	492.314	574.868	2.587	5.187	72.597	73.527	0.177	0.465	139.485	138.453	0.318	1.421	
FI_0.8	510.365	588.532	2.605	5.224	40.508	40.670	0.097	0.277	82.205	81.592	0.187	0.977	
FI_1	543.550	615.660	2.638	5.384	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

		RMS	Е		RMS	С		RMSCJ				
	M4	М3	Favorita	M5	M4	М3	Favorita	M5	M4	М3	Favorita	M5
NBEA	TS											
Base	468.469	591.192	=	=	207.259	184.008	=	=	303.638	298.414	=	-
Stable	467.117	589.290	-	-	143.592	133.437	=	-	244.804	247.956	-	-
PI_0.2	466.629	590.737	-	-	164.352	150.001	-	-	278.926	276.213	-	-
PI_0.4	468.886	592.655	-	-	134.745	127.173	-	-	258.316	257.125	-	-
PI_0.5	471.446	594.490	-	-	127.210	121.330	-	-	249.871	249.024	-	-
PI_0.6	474.900	596.897	-	-	125.411	119.575	-	-	242.839	242.063	-	-
PI_0.8	484.297	603.362	-	-	137.951	128.198	-	-	233.547	232.081	-	-
PI_1	496.698	611.882	-	-	167.302	150.487	-	-	231.533	227.968	-	-
FI_0.2	466.462	590.494	-	-	163.762	148.708	-	-	275.253	272.360	-	
FI_0.4	468.537	591.908	-	-	125.545	116.670	=.	-	239.726	238.193	-	-
$FI_{-}0.5$	471.542	593.737	-	-	107.348	100.932	=.	-	217.308	216.179	-	-
FI_0.6	476.438	596.740	-	-	89.180	84.803	=.	-	190.302	189.442	-	-
FI_0.8	495.616	609.216	-	-	50.263	48.747	-	-	116.140	115.610	-	-
FI_1	539.491	640.988	-	-	0.000	0.000	-	-	0.000	0.000	-	-
PR												
Base	535.777	660.323	3.125	6.587	142.305	154.168	0.520	1.442	253.578	240.909	0.659	2.603
PI_0.2	538.443	661.296	3.119	6.571	120.240	127.049	0.412	1.145	233.970	219.884	0.590	2.455
PI_0.4	542.645	663.718	3.117	6.572	104.099	106.989	0.325	0.946	216.355	201.406	0.529	2.334
PI_0.5	545.310	665.472	3.117	6.579	99.259	100.812	0.297	0.898	208.467	193.370	0.503	2.285
PI_0.6	548.344	667.587	3.119	6.591	96.820	97.845	0.283	0.888	201.309	186.280	0.481	2.246
PI_0.8	555.508	672.886	3.126	6.626	98.749	101.549	0.289	0.980	189.592	175.280	0.448	2.196
PI_1	564.110	679.595	3.137	6.678	109.335	116.020	0.342	1.196	182.073	169.405	0.438	2.189
FI_0.2	538.635	661.373	3.119	6.569	118.971	126.027	0.411	1.141	230.674	216.738	0.582	2.433
$FI_{-}0.4$	543.872	664.308	3.116	6.564	96.046	99.335	0.310	0.879	200.485	186.234	0.493	2.223
FI_0.5	547.778	666.745	3.117	6.566	84.082	85.886	0.262	0.755	181.188	167.326	0.440	2.086
FI_0.6	552.949	670.092	3.120	6.572	71.355	71.939	0.214	0.632	157.989	145.044	0.379	1.911
FI_0.8	569.466	681.028	3.133	6.609	41.516	40.663	0.115	0.371	95.253	86.439	0.224	1.338
$FI_{-}1$	601.941	702.605	3.167	6.830	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LightG	BM											
Base	551.580	660.952	3.167	6.361	165.394	179.361	0.449	1.119	268.626	270.842	0.642	2.223
PI_0.2	553.317	661.483	3.167	6.359	136.088	144.799	0.362	0.901	246.445	247.839	0.581	2.107
PI_0.4	557.316	664.123	3.170	6.367	114.446	119.745	0.294	0.757	227.108	228.155	0.527	2.010
PI_0.5	560.140	666.218	3.172	6.375	107.868	112.430	0.272	0.723	218.735	219.828	0.503	1.969
PI_0.6	563.491	668.819	3.175	6.386	105.050	109.769	0.260	0.717	211.355	212.661	0.483	1.934
PI_0.8	571.682	675.455	3.183	6.414	110.156	117.674	0.267	0.783	199.997	202.236	0.453	1.883
PI_1	581.709	683.872	3.193	6.453	127.040	138.871	0.308	0.934	194.016	197.775	0.437	1.863
FI_0.2	553.517	661.562	3.167	6.358	135.107	144.064	0.361	0.896	243.116	244.479	0.573	2.088
$FI_{-}0.4$	558.560	664.743	3.171	6.362	106.803	111.996	0.279	0.701	210.703	211.490	0.491	1.914
FI0.5	562.676	667.614	3.175	6.367	92.556	96.287	0.238	0.608	190.304	190.891	0.441	1.799
FI_0.6	568.319	671.696	3.180	6.375	77.782	80.294	0.198	0.514	165.917	166.358	0.382	1.649
FI_0.8	586.933	685.736	3.199	6.406	44.483	45.295	0.109	0.308	100.144	100.401	0.229	1.154
FI_1	624.029	715.230	3.237	6.577	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Tables A.3 and A.4 respectively show the MAE and RMSE based accuracy and stability results of horizontal stability experiments across the four experimental datasets. The best performing models in each group are italicized and the overall best performing models are highlighted in boldface.

		MAI	₹.			MAG	7		MAC_I				
	M4	М3	Favorita	M5	M4	М3	Favorita	M5	M4	М3	Favorita	M5	
NBEA	TS												
Base	394.718	499.275	=	=	134.376	213.987	=	=	227.159	332.556	=	=	
PI_0.2	395.853	502.700	-	-	111.622	174.836	-	-	210.924	307.938	-	-	
PI_0.4	399.912	509.828	-	-	95.540	147.076	-	-	197.034	287.171	-	-	
PI0.5	402.767	514.548	=.	-	91.136	140.087	-	-	190.923	278.401	-	-	
PI_0.6	406.096	519.994	-	-	90.280	138.512	-	-	185.418	270.782	-	-	
PI_0.8	414.004	532.899	-	-	96.200	148.812	-	-	176.432	258.878	-	-	
PI_1	423.414	548.274	-	-	108.536	170.653	-	-	170.406	251.339	-	-	
FI_0.2	395.882	502.870	-	-	110.342	173.540	=	-	207.982	303.648	-	-	
FI0.4	400.712	511.377	=	-	87.452	135.625	=	-	182.623	265.981	-	-	
FI_0.5	404.702	517.840	-	-	75.870	116.670	-	-	166.049	241.683	-	-	
FI_0.6	410.092	526.370	-	-	63.869	97.269	-	-	145.728	212.029	-	-	
FI_0.8	427.619	552.548	-	-	36.841	54.854	-	-	89.058	129.554	-	-	
FI_1	462.590	602.756	-	-	0.000	0.000	-	=	0.000	0.000	=	=	
PR													
Base	457.977	563.163	2.426	5.321	84.115	193.529	0.646	0.806	154.122	334.116	0.838	1.771	
PI_0.2	458.768	564.833	2.427	5.324	71.767	165.378	0.512	0.726	144.034	311.440	0.772	1.728	
PI_0.4	460.127	568.983	2.435	5.334	63.150	145.159	0.414	0.683	135.063	291.628	0.722	1.696	
PI_0.5	461.010	571.941	2.441	5.341	60.707	139.285	0.386	0.677	131.027	282.893	0.703	1.684	
PI_0.6	462.025	575.431	2.448	5.350	59.856	136.964	0.382	0.681	127.305	274.976	0.689	1.675	
PI_0.8	464.442	583.992	2.468	5.373	62.236	141.832	0.432	0.718	120.872	261.742	0.671	1.663	
PI_1	467.373	594.489	2.494	5.402	68.180	155.713	0.521	0.784	115.895	252.152	0.669	1.662	
FI_0.2	458.902	564.866	2.427	5.324	70.655	162.566	0.508	0.699	141.909	306.679	0.761	1.715	
FI0.4	460.859	569.868	2.434	5.336	57.116	130.586	0.382	0.564	124.880	268.988	0.668	1.636	
FI0.5	462.375	574.133	2.440	5.344	49.974	113.574	0.322	0.483	113.567	244.276	0.608	1.583	
FI_0.6	464.405	579.966	2.447	5.355	42.393	95.594	0.262	0.396	99.639	214.076	0.536	1.512	
FI_0.8	471.064	598.962	2.473	5.383	24.778	54.790	0.142	0.211	60.778	130.350	0.331	1.226	
FI_1	485.115	639.090	2.535	5.579	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
LightC	$_{ m BM}$												
Base	473.849	562.678	2.567	5.161	81.285	148.911	0.533	0.720	163.983	264.938	0.787	1.524	
PI_0.2	474.832	564.775	2.567	5.168	69.503	123.632	0.428	0.651	153.472	246.933	0.734	1.485	
PI_0.4	476.351	568.546	2.573	5.183	61.547	106.278	0.353	0.612	143.784	230.916	0.690	1.457	
PI_0.5	477.305	571.004	2.577	5.193	59.497	102.145	0.332	0.606	139.279	223.689	0.671	1.447	
PI_0.6	478.382	573.808	2.582	5.205	58.919	101.544	0.329	0.608	135.025	217.063	0.656	1.439	
PI_0.8	480.906	580.468	2.594	5.233	61.074	107.958	0.364	0.638	127.319	205.641	0.632	1.430	
PI_1	483.912	588.472	2.609	5.267	66.282	121.241	0.428	0.696	120.836	196.892	0.617	1.431	
FI_0.2	474.885	564.993	2.566	5.169	68.576	122.602	0.426	0.629	151.343	243.566	0.723	1.472	
FI0.4	476.620	570.024	2.567	5.186	56.155	97.843	0.328	0.511	133.490	214.309	0.640	1.399	
FI0.5	477.826	573.824	2.566	5.198	49.664	85.309	0.281	0.441	121.519	194.943	0.584	1.351	
FI_0.6	479.377	578.842	2.565	5.212	42.700	72.262	0.232	0.363	106.705	171.117	0.515	1.287	
FI_0.8	484.489	594.154	2.559	5.238	25.734	42.320	0.129	0.194	65.140	104.529	0.318	1.038	
FI_{-1}	496.707	624.674	2.556	5.348	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

		RMS	Е			RMS	С		RMSCJ				
	M4	М3	Favorita	M5	M4	М3	Favorita	M5	M4	М3	Favorita	M5	
NBEA	TS												
Base	468.469	591.192	-	-	163.161	253.761	-	-	258.136	379.605	-	=	
PI_0.2	469.951	595.571	-	-	133.781	206.475	=	-	239.014	350.515	-	-	
PI0.4	475.628	604.764	-	-	112.751	172.320	-	-	224.053	328.056	-	-	
PI0.5	479.624	610.943	-	-	107.632	163.892	-	-	218.625	320.070	-	-	
PI_0.6	484.271	618.069	-	-	107.341	163.392	-	-	214.786	314.602	-	-	
PI_0.8	495.281	634.880	=.	-	120.047	184.098	-	-	211.929	311.318	-	-	
PI_1	508.265	654.678	-	-	144.374	223.235	-	-	214.794	317.112	-	-	
FI_0.2	469.908	595.634	-	-	132.668	205.043	-	-	235.616	345.424	-	-	
FI0.4	475.993	605.894	-	-	103.856	159.324	-	-	206.878	302.342	=	-	
FI0.5	480.859	613.672	-	-	89.499	136.644	-	-	188.454	274.980	=	-	
FI_0.6	487.317	623.752	-	-	74.796	113.533	-	-	165.968	241.804	=	-	
FI_0.8	507.858	654.571	=	-	42.458	63.489	=	-	102.698	149.260	-	-	
FI_{-1}	549.194	713.866	-	-	0.000	0.000	-	-	0.000	0.000	-	-	
PR													
Base	535.777	660.323	3.125	6.587	100.623	229.583	0.789	1.048	173.514	378.959	0.960	2.015	
PI_0.2	536.660	662.632	3.123	6.589	84.858	193.961	0.616	0.926	162.335	353.674	0.874	1.952	
PI_0.4	538.340	667.922	3.130	6.599	73.933	169.189	0.491	0.857	153.402	333.705	0.813	1.914	
PI_0.5	539.475	671.652	3.137	6.608	71.283	163.063	0.461	0.847	149.976	326.183	0.796	1.905	
PI_0.6	540.805	676.080	3.146	6.618	70.996	162.212	0.462	0.855	147.337	320.522	0.788	1.903	
PI_0.8	544.039	686.958	3.170	6.644	77.132	175.591	0.547	0.923	144.509	314.992	0.802	1.919	
PI_1	548.016	700.383	3.203	6.678	89.705	203.558	0.698	1.044	144.801	316.793	0.849	1.960	
FI_0.2	536.797	662.546	3.122	6.589	83.687	190.999	0.614	0.895	159.812	347.928	0.862	1.929	
FI_0.4	539.090	668.280	3.126	6.601	66.900	152.164	0.457	0.714	141.133	306.039	0.749	1.811	
FI_0.5	540.881	672.990	3.130	6.611	58.206	131.919	0.383	0.612	128.779	278.634	0.680	1.734	
FI_0.6	543.276	679.448	3.137	6.622	49.073	110.666	0.310	0.503	113.516	245.055	0.599	1.640	
FI_0.8	551.006	700.973	3.161	6.648	28.268	62.841	0.166	0.272	70.227	150.958	0.372	1.319	
$FI_{-}1$	567.268	747.542	3.225	6.833	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
LightG	BM												
Base	551.580	660.952	3.167	6.361	99.339	179.370	0.644	0.934	183.905	299.995	0.898	1.753	
PI_0.2	552.850	663.372	3.169	6.370	83.861	147.885	0.513	0.824	172.368	279.315	0.829	1.697	
PI_0.4	554.917	667.941	3.177	6.388	73.135	125.572	0.418	0.761	162.820	262.735	0.779	1.663	
PI_0.5	556.242	670.995	3.183	6.400	70.538	120.257	0.395	0.752	158.967	256.407	0.762	1.655	
PI_0.6	557.757	674.538	3.190	6.415	70.264	120.162	0.395	0.759	155.809	251.591	0.753	1.653	
PI_0.8	561.342	683.008	3.208	6.450	76.274	134.105	0.455	0.818	151.682	246.609	0.753	1.668	
PI_1	565.641	693.189	3.232	6.493	88.557	160.268	0.567	0.925	150.396	247.354	0.777	1.707	
FI_0.2	552.898	663.524	3.168	6.371	82.878	146.835	0.511	0.798	169.876	275.358	0.818	1.675	
FI_0.4	555.158	669.106	3.170	6.394	66.816	116.194	0.389	0.639	150.557	242.821	0.719	1.566	
FI_0.5	556.721	673.420	3.171	6.410	58.524	100.777	0.331	0.549	137.640	221.526	0.656	1.496	
FI_0.6	558.698	679.098	3.172	6.427	49.761	84.797	0.273	0.452	121.552	195.288	0.579	1.409	
FI_0.8	565.002	696.824	3.173	6.460	29.285	48.794	0.151	0.244	75.430	120.904	0.361	1.124	
FI_1	579.705	733.031	3.188	6.586	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	