1. Appendix

1.1. Data

1.2. Additional Results

1.2.1. Simulation Study

		Test MAE		
Corr	model	g1	g2	g3
0.01	ELN.MAE	**0.034579**	0.036195	**0.035334**
	RF.MAE	0.035459	**0.03542**	0.03554
	NN2.MAE	0.03596	0.036921	0.036305
	NN1.MAE	0.035894	0.036834	0.036335
	NN3.MAE	0.035816	0.036934	0.036471
1	ELN.MSE	**0.034614**	0.036276	**0.035444**
	RF.MAE	0.035916	**0.035643**	0.036053
	NN5.MAE	0.037009	0.03727	0.037413
	NN4.MSE	0.037382	0.036897	0.037354
	NN3.MAE	0.037285	0.037038	0.037193

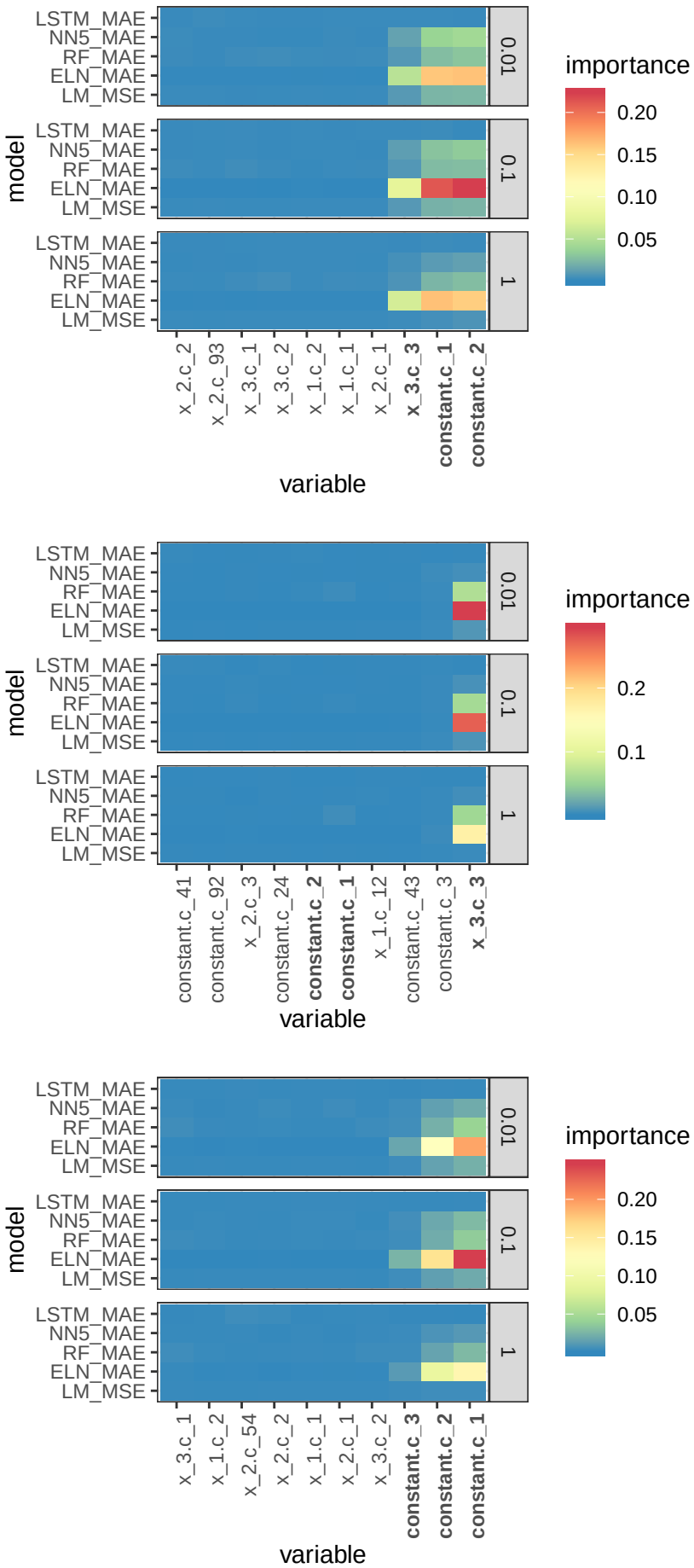
		Test MSE		
Corr	model	g1	g2	g3
0.01	ELN.MAE	**0.002565**	0.002688	**0.002621**
	RF.MAE	0.002643	**0.00263**	0.002645
	NN2.MAE	0.002679	0.002747	0.0027
	NN1.MAE	0.002672	0.00274	0.002703
	NN3.MAE	0.00267	0.002749	0.002718
1	ELN.MSE	**0.002568**	0.002698	**0.00263**
	RF.MAE	0.002675	**0.002644**	0.002679
	NN5.MAE	0.002774	0.002783	0.002792
	NN3.MAE	0.002805	0.002751	0.002797
	NN4.MSE	0.002794	0.002765	0.002775

		g1			g2			g3		
model	Corr	Test MAE	Test MSE	Test R^2	Test MAE	Test MSE	Test R^2	Test MAE	Test MSE	Test R^2
LM.MSE	0.01	0.036678	0.002740	0.008273	0.038255	0.002880	-0.111788	0.037310	0.002795	-0.032068
	0.10	0.036965	0.002765	-0.011020	0.038580	0.002914	-0.142944	0.037569	0.002817	-0.054940
	1.00	0.042949	0.003414	-0.438797	0.045376	0.003717	-0.780953	0.043434	0.003469	-0.488779
LM.MAE	0.01	0.036642	0.002737	0.009050	0.038348	0.002886	-0.116369	0.037324	0.002797	-0.035162
	0.10	0.036811	0.002755	0.002919	0.038745	0.002927	-0.152580	0.037489	0.002810	-0.047675
	1.00	0.042340	0.003344	-0.393044	0.045342	0.003685	-0.769955	0.043535	0.003468	-0.544524
ELN.MSE	0.01	0.034588	0.002566	0.140335	0.036223	0.002690	0.036877	0.035353	0.002623	0.099142
	0.10	0.034563	0.002564	0.144238	0.036183	0.002686	0.037258	0.035292	0.002617	0.100241
	1.00	0.034614	0.002568	0.167184	0.036276	0.002698	0.037839	0.035444	0.002630	0.119875
ELN.MAE	0.01	0.034579	0.002565	0.140982	0.036195	0.002688	0.039169	0.035334	0.002621	0.100442
	0.10	0.034558	0.002564	0.144627	0.036173	0.002688	0.038875	0.035285	0.002617	0.100919
	1.00	0.034599	0.002567	0.167771	0.036305	0.002703	0.036583	0.035465	0.002631	0.118022
RF.MSE	0.01	0.035775	0.002671	0.063426	0.035718	0.002657	0.067615	0.035803	0.002661	0.070298
	0.10	0.035769	0.002665	0.066738	0.035684	0.002652	0.069139	0.035867	0.002670	0.062839
	1.00	0.036233	0.002698	0.068774	0.035989	0.002683	0.057103	0.036213	0.002695	0.069887
RF.MAE	0.01	0.035459	0.002643	0.083338	0.035420	0.002630	0.087653	0.035540	0.002645	0.086529
	0.10	0.035515	0.002649	0.081425	0.035489	0.002634	0.083405	0.035569	0.002644	0.081643
	1.00	0.035916	0.002675	0.087081	0.035643	0.002644	0.080965	0.036053	0.002679	0.075357
NN1.MSE	0.01	0.036452	0.002722	0.016344	0.036768	0.002732	-0.003917	0.036687	0.002738	0.009335
	0.10	0.036462	0.002719	0.020422	0.036776	0.002734	-0.007259	0.036733	0.002737	0.002955
	1.00	0.037545	0.002821	-0.014452	0.037049	0.002764	-0.014697	0.037459	0.002798	-0.012469
NN1.MAE	0.01	0.035960	0.002679	0.055814	0.036921	0.002747	-0.015105	0.036305	0.002700	0.039371
	0.10	0.036082	0.002687	0.050698	0.037010	0.002750	-0.020562	0.036322	0.002702	0.032303
	1.00	0.037889	0.002834	-0.043182	0.037979	0.002845	-0.084075	0.037306	0.002793	0.002178
NN2.MSE	0.01	0.037019	0.002785	-0.021787	0.037320	0.002775	-0.043354	0.037089	0.002774	-0.017304
	0.10	0.036977	0.002765	-0.021276	0.037009	0.002748	-0.027538	0.036990	0.002758	-0.020645
	1.00	0.037536	0.002814	-0.013978	0.036903	0.002752	-0.005866	0.037516	0.002809	-0.016934
NN2.MAE	0.01	0.035894	0.002672	0.057743	0.036834	0.002740	-0.007158	0.036335	0.002703	0.036305
	0.10	0.035890	0.002668	0.060310	0.036937	0.002750	-0.017077	0.036270	0.002696	0.037157
	1.00	0.037480	0.002814	-0.009529	0.037715	0.002823	-0.065390	0.037471	0.002804	-0.010118
NN3.MSE	0.01	0.036783	0.002757	-0.006762	0.036840	0.002738	-0.007525	0.037036	0.002764	-0.020078
	0.10	0.036938	0.002761	-0.015399	0.036852	0.002738	-0.015106	0.036874	0.002757	-0.004406
	1.00	0.037424	0.002808	-0.012964	0.036938	0.002754	-0.006353	0.037420	0.002799	-0.010348
NN3.MAE	0.01	0.035816	0.002670	0.065432	0.036934	0.002749	-0.016398	0.036471	0.002718	0.029948
	0.10	0.035893	0.002677	0.062002	0.036859	0.002741	-0.011850	0.036200	0.002693	0.040611
	1.00	0.037009	0.002774	0.021329	0.037270	0.002783	-0.029644	0.037413	0.002792	-0.008307
NN4.MSE	0.01	0.036881	0.002759	-0.020620	0.036856	0.002742	-0.007715	0.037126	0.002775	-0.026563
	0.10	0.036877	0.002761	-0.014579	0.037221	0.002762	-0.048711	0.036872	0.002748	-0.008894
	1.00	0.037382	0.002805	-0.006481	0.036897	0.002751	-0.005369	0.037354	0.002797	-0.007739
NN4.MAE	0.01	0.035935	0.002678	0.057720	0.036897	0.002749	-0.010917	0.036708	0.002738	0.007046
	0.10	0.035828	0.002665	0.065041	0.036933	0.002749	-0.019112	0.036273	0.002695	0.037704
	1.00	0.037095	0.002779	0.019866	0.037323	0.002795	-0.029377	0.037301	0.002787	-0.001888

		g1			g2			g3		
model	Corr	Test MAE	Test MSE	Test R^2	Test MAE	Test MSE	Test R^2	Test MAE	Test MSE	Test R^2
NN5.MSE	0.01	0.037231	0.002785	-0.049970	0.036931	0.002747	-0.017002	0.037114	0.002772	-0.021895
	0.10	0.037026	0.002767	-0.032190	0.037176	0.002762	-0.039436	0.036909	0.002757	-0.011352
	1.00	0.037364	0.002795	-0.010495	0.036928	0.002755	-0.005376	0.037475	0.002807	-0.014974
NN5.MAE	0.01	0.035888	0.002669	0.058579	0.036835	0.002738	-0.008646	0.036685	0.002737	0.004643
	0.10	0.036038	0.002680	0.050976	0.036745	0.002727	-0.004935	0.036484	0.002710	0.018192
	1.00	0.037285	0.002794	0.002541	0.037038	0.002765	-0.012729	0.037193	0.002775	0.002572
LSTM.MSE	0.01	0.037296	0.002798	-0.043289	0.037227	0.002776	-0.044764	0.037591	0.002818	-0.062516
	0.10	0.037237	0.002795	-0.031955	0.037134	0.002767	-0.038255	0.037198	0.002785	-0.030394
	1.00	0.038128	0.002851	-0.082027	0.037382	0.002792	-0.044243	0.037780	0.002830	-0.044330
LSTM.MAE	0.01	0.037431	0.002805	-0.056406	0.037337	0.002780	-0.051854	0.037627	0.002817	-0.067433
	0.10	0.037446	0.002804	-0.062952	0.037118	0.002768	-0.032544	0.037241	0.002793	-0.033320
	1.00	0.038027	0.002846	-0.061483	0.037415	0.002790	-0.045506	0.037743	0.002825	-0.045884
FFORMA.MSE	0.01	0.038277	0.002882	-0.132672	0.038460	0.002889	-0.147390	0.042466	0.003311	-0.486145
	0.10	0.038358	0.002895	-0.140765	0.038479	0.002891	-0.160062	0.042323	0.003291	-0.473991
	1.00	0.038875	0.002965	-0.131239	0.038808	0.002933	-0.165990	0.043013	0.003371	-0.470954
FFORMA.MAE	0.01	0.038755	0.002939	-0.179748	0.038747	0.002918	-0.174094	0.042989	0.003365	-0.527909
	0.10	0.038936	0.002951	-0.192793	0.038796	0.002946	-0.175994	0.043097	0.003406	-0.586375
	1.00	0.039247	0.002972	-0.163656	0.039387	0.002996	-0.211619	0.043709	0.003448	-0.526081
DeepAR	0.01	0.038299	0.002900	-0.128930	0.038489	0.002912	-0.132518	0.039390	0.003016	-0.204980
	0.10	0.038832	0.002935	-0.181663	0.038435	0.002905	-0.131874	0.039177	0.002993	-0.190558
	1.00	0.040535	0.003159	-0.239142	0.038787	0.002952	-0.144029	0.039692	0.003042	-0.182365

1.2.2. Empirical Study

	Sample 1			Sample 2			Sample 2		
model	Test MAE	Test MSE	Test R^2	Test MAE	Test MSE	Test R^2	Test MAE	Test MSE	Test R^2
LM.MSE	0.125789	0.033978	0.177466	0.192214	0.063759	-0.494794	0.153725	0.052142	-0.152455
LM.MAE	0.131564	0.035982	0.128962	0.195059	0.068043	-0.595218	0.162192	0.055276	-0.221724
ELN.MSE	0.113368	0.030077	0.271905	0.109012	0.028236	0.338017	0.108880	0.028704	0.365584
ELN.MAE	0.112670	0.029925	0.275570	0.108476	0.028110	0.340980	0.108386	0.028540	0.369194
RF.MSE	0.114529	0.030262	0.267418	0.127399	0.034085	0.200911	0.116459	0.031467	0.304521
RF.MAE	0.112992	0.029667	0.281832	0.116508	0.030331	0.288907	0.110902	0.029194	0.354753
NN1.MSE	0.131819	0.037302	0.097002	0.148036	0.043259	-0.014169	0.153932	0.049144	-0.086188
NN1.MAE	0.125764	0.035076	0.150879	0.137917	0.038843	0.089365	0.131550	0.036636	0.190256
NN2.MSE	0.143568	0.040980	0.007970	0.135490	0.037294	0.125664	0.138839	0.040496	0.104959
NN2.MAE	0.122177	0.033544	0.187965	0.149905	0.042581	0.001722	0.129366	0.035951	0.205403
NN3.MSE	0.149127	0.043549	-0.054235	0.170421	0.055281	-0.296023	0.156663	0.052492	-0.160178
NN3.MAE	0.125652	0.034758	0.158588	0.133937	0.036296	0.149068	0.131814	0.037397	0.173441
NN4.MSE	0.131382	0.036754	0.110256	0.150690	0.044790	-0.050066	0.133198	0.040856	0.096985
NN4.MAE	0.124549	0.034394	0.167397	0.129129	0.035406	0.169931	0.127675	0.036107	0.201965
NN5.MSE	0.137242	0.040688	0.015038	0.122725	0.033852	0.206371	0.146881	0.047384	-0.047284
NN5.MAE	0.124490	0.033774	0.182414	0.119715	0.032193	0.245261	0.134711	0.038343	0.152531


model
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NN5_MAE
RF_MAE
ELN_MAE
LM_MSE
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x_3.c_2
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constant.c_2
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0.1
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constant.c_2
constant.c_1

Figure 1. g1 BC VIMP

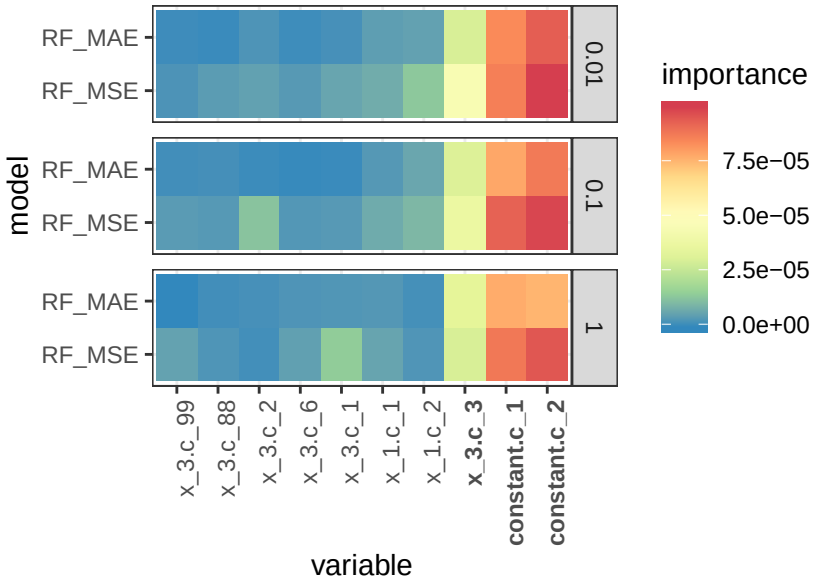


Figure 2. g2 BC VIMP

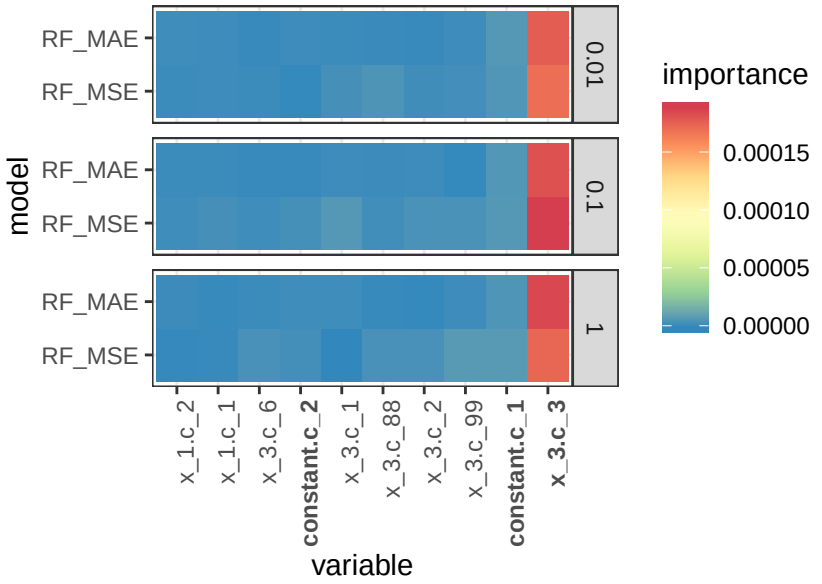


Figure 3. g3 BC VIMP

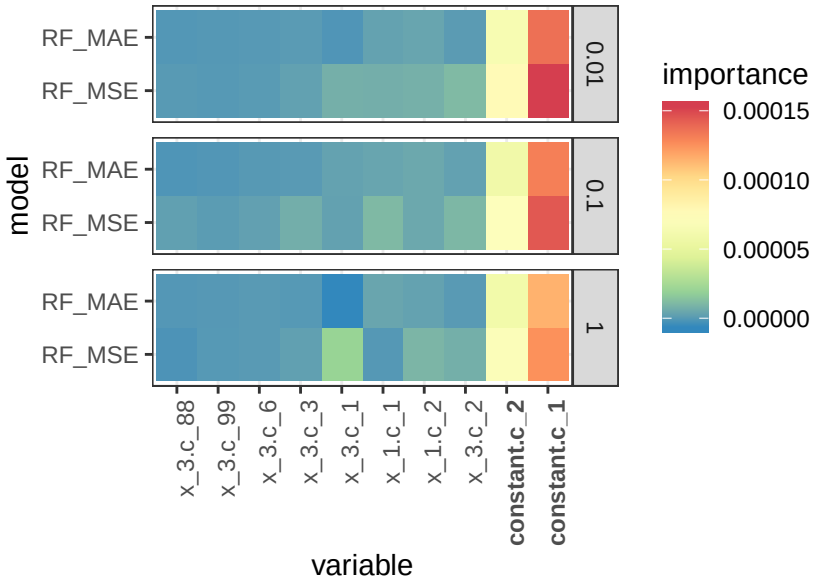


Figure 4. g1 IK VIMP

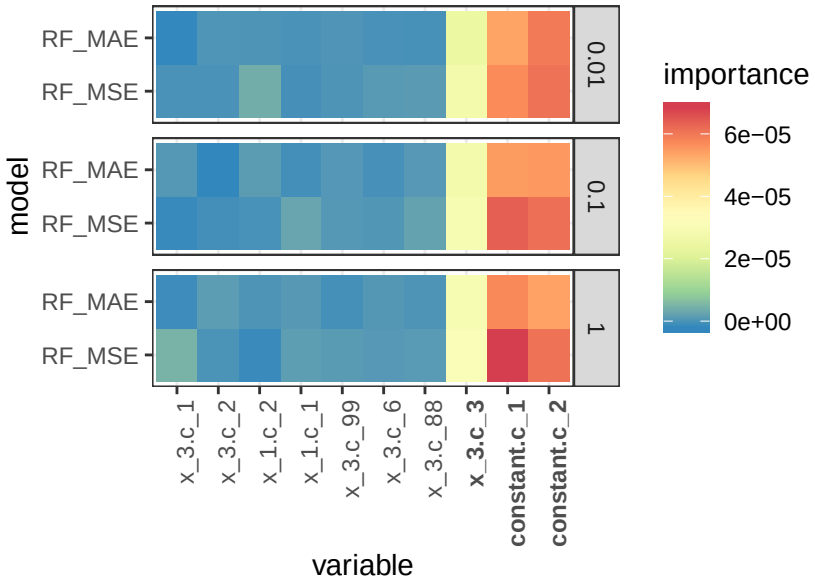


Figure 5. g2 IK VIMP

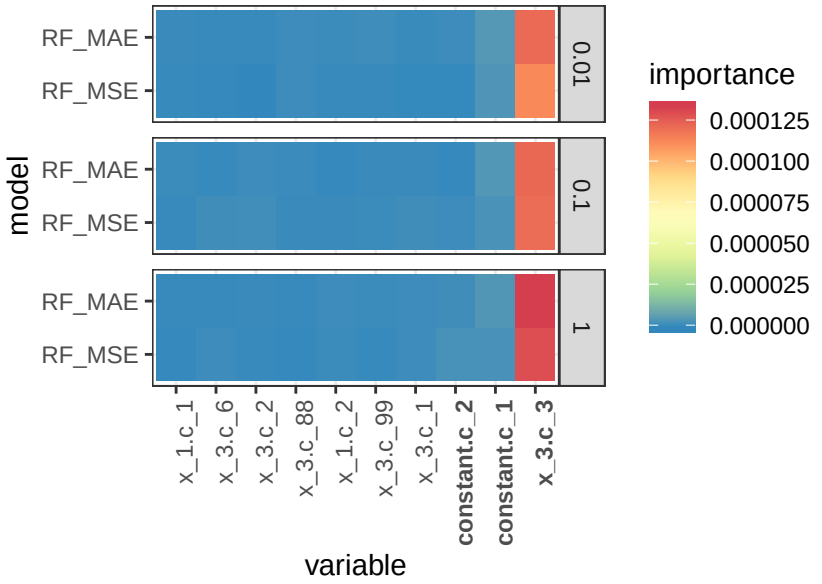
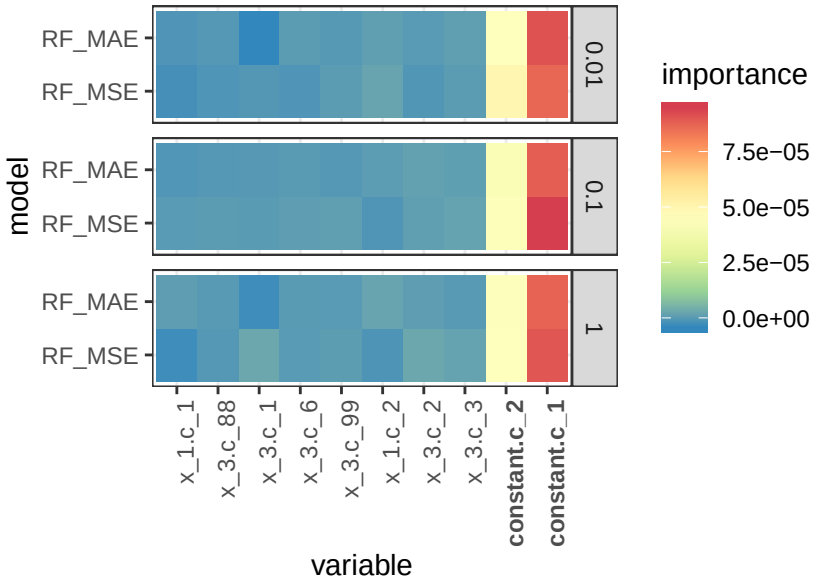


Figure 6. g3 IK VIMP



1.2.3. Empirical Robustness Checks

References