

House Prices and Credit Cycles - Bayesian Regression Results

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1 REGRESSION RESULTS

Table 1: Parameters description

Description	Parameter
Log-likelihood value	llv
Credit to household	
Credit to household 1st AR parameter	ϕ_y^1
Credit to household 2nd AR parameter	ϕ_y^2
Credit to household 1st cross cycle AR parameter	ϕ_y^{x1}
Credit to household 2nd cross cycle AR parameter	ϕ_y^{x2}
S.D. of permanent shocks to Credit to household	σ_{ny}
S.D. of transitory shocks to Credit to household	σ_{ey}
Housing Price Index	
Housing Price Index 1st AR parameter	ϕ_h^1
Housing Price Index 2nd AR parameter	ϕ_h^2
Housing Price Index 1st cross cycle AR parameter	ϕ_h^{x1}
Housing Price Index 2nd cross cycle AR parameter	ϕ_h^{x2}
S.D. of permanent shocks to Housing Price Index	σ_{nh}
S.D. of transitory shocks to Housing Price Index	σ_{eh}
Cross-series correlations	
Correlation: Permanent credit to household/Permanent Housing Price Index	σ_{nynh}
Correlation: Transitory credit to household/Transitory Housing Price Index	σ_{eyeh}

Table 2: UK Regression Results

Parameters	VAR2		VAR2 1-cross lag		VAR2 2-cross lags	
	Median	SD	Median	SD	Median	SD
ϕ_y^1	1.2969	0.1490	1.2064	0.1547	1.1445	0.1073
ϕ_y^2	-0.3206	0.1486	-0.2231	0.1538	-0.1612	0.1096
ϕ_y^{x1}			0.0425	0.0131	0.0243	0.0357
ϕ_y^{x2}					0.0181	0.0350
ϕ_h^1	1.4649	0.1012	1.0251	0.1059	1.0998	0.0996
ϕ_h^2	-0.5603	0.0996	-0.1424	0.1030	-0.2048	0.0969
ϕ_h^{x1}			-0.0665	0.0514	-0.0635	0.1174
ϕ_h^{x2}					0.0143	0.1455
σ_{ny}	0.6988	0.0817	0.7004	0.0747	0.6779	0.0656
σ_{ey}	0.5408	0.0909	0.3656	0.0596	0.3781	0.0617
σ_{nh}	1.9626	0.1685	1.7006	0.1388	1.6022	0.1721
σ_{eh}	1.2192	0.2113	2.0274	0.0493	1.8858	0.1020
σ_{eyeh}	0.5170	0.1123	0.9319	0.1058	0.8804	0.1605
σ_{nynh}	0.6912	0.2195	0.3550	0.1321	0.3346	0.1521
Log-likelihood value	-340.8600	2.3710	-341.3800	3.3575	-342.9800	5.2785

2 Trend-Cycle Decompositon Graphs

2.1 UK graphs

Table 3: US Regression Results

Parameters	VAR2		VAR2 1-cross lag		VAR2 2-cross lags	
	Median	SD	Median	SD	Median	SD
ϕ_y^1	1.2789	0.1080	0.9073	0.2390	0.7113	0.1598
ϕ_y^2	-0.3040	0.1068	0.0590	0.2402	0.2165	0.1673
ϕ_y^{x1}			0.0321	0.0107	-0.0520	0.0955
ϕ_y^{x2}					0.0827	0.0948
ϕ_h^1	1.8453	0.0436	1.7949	0.0807	1.6974	0.0986
ϕ_h^2	-0.8856	0.0435	-0.8182	0.0823	-0.7316	0.0971
ϕ_h^{x1}			-0.0185	0.0466	0.5458	0.2511
ϕ_h^{x2}					-0.6460	0.2294
σ_{ny}	0.7302	0.0919	0.8486	0.1200	0.9201	0.0778
σ_{ey}	0.6224	0.0899	0.4053	0.0889	0.3969	0.1005
σ_{nh}	0.6597	0.0960	0.8054	0.1375	0.6686	0.0960
σ_{eh}	0.8503	0.0997	0.6341	0.1086	0.6302	0.0931
σ_{eyeh}	0.4576	0.1524	0.4801	0.1300	0.6180	0.1274
σ_{nynh}	0.5154	0.1677	0.6530	0.3094	0.7888	0.1743
Log-likelihood value	-263.1900	2.7973	-265.7200	2.9982	-266.2100	3.3621

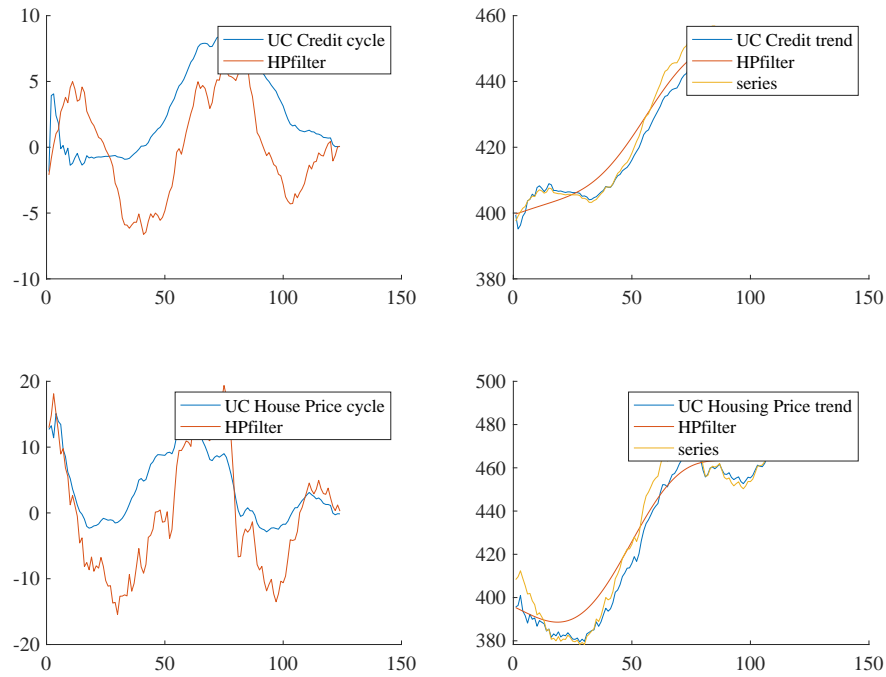


Figure 1: UK VAR(2)

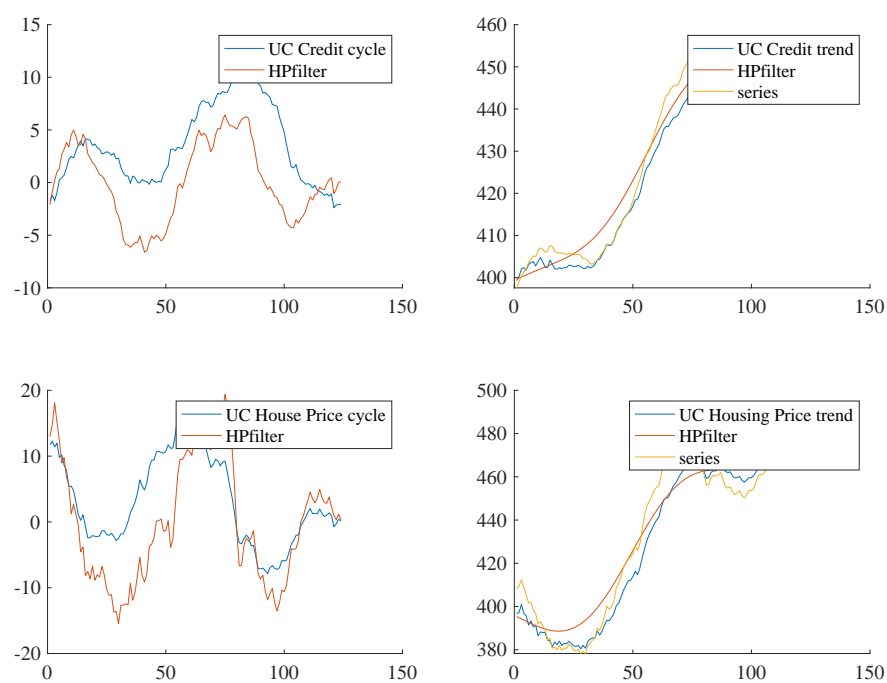


Figure 2: UK VAR(2) 1 cross-lag

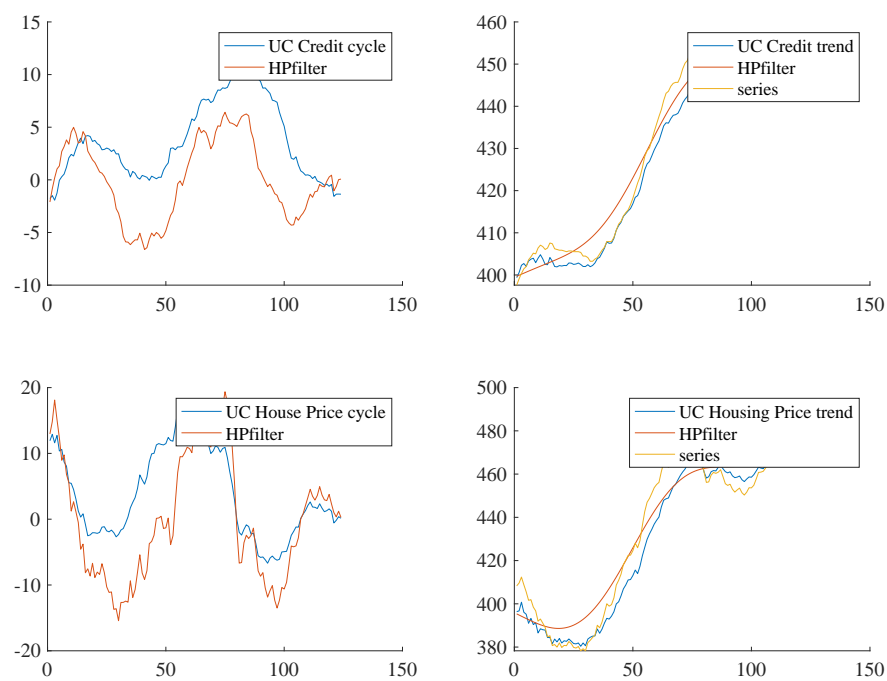


Figure 3: UK VAR(2) 2 cross-lags

2.2 US graphs

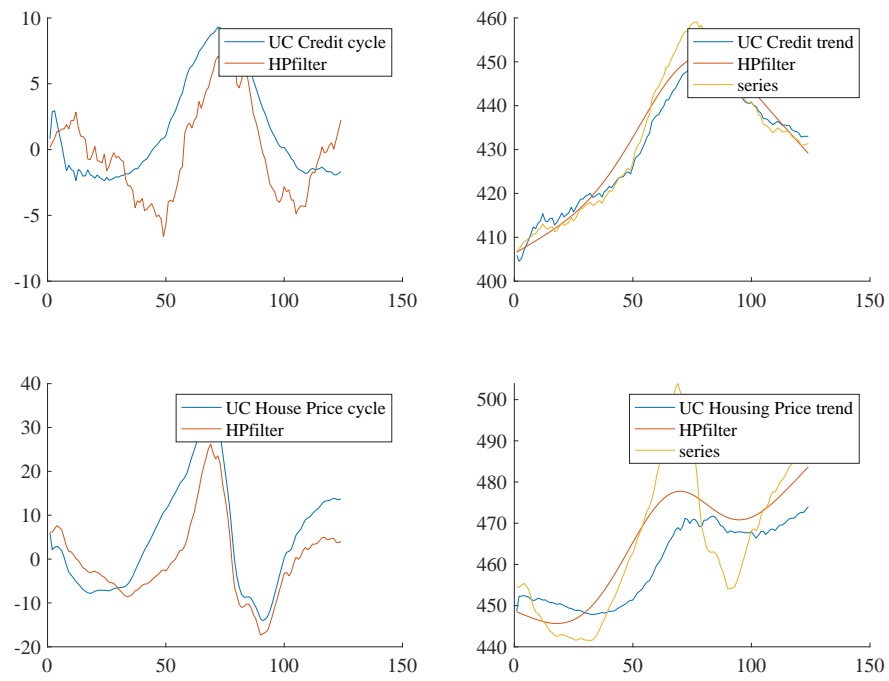


Figure 4: US VAR(2)

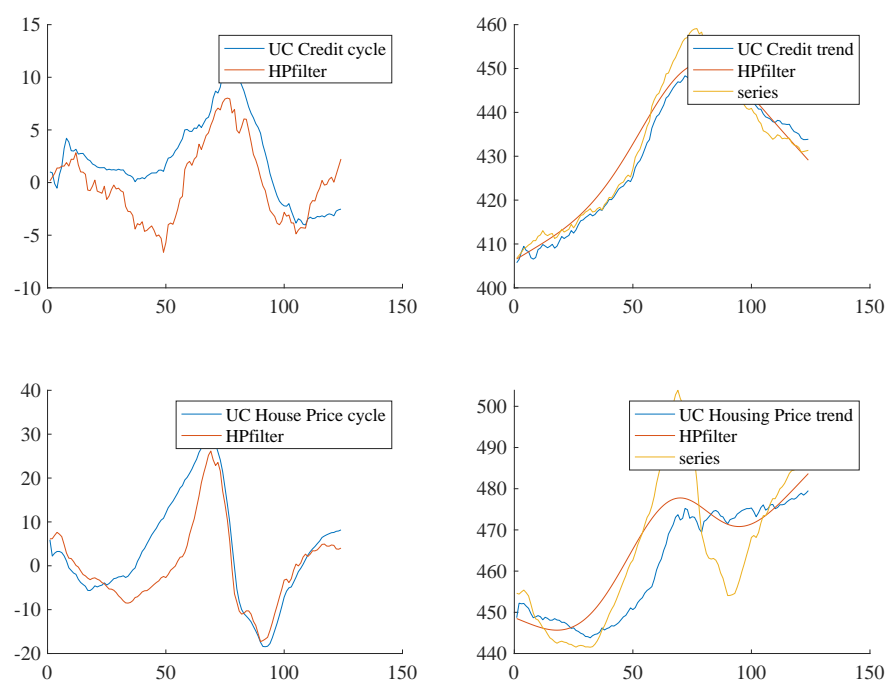


Figure 5: US VAR(2) 1 cross-lag

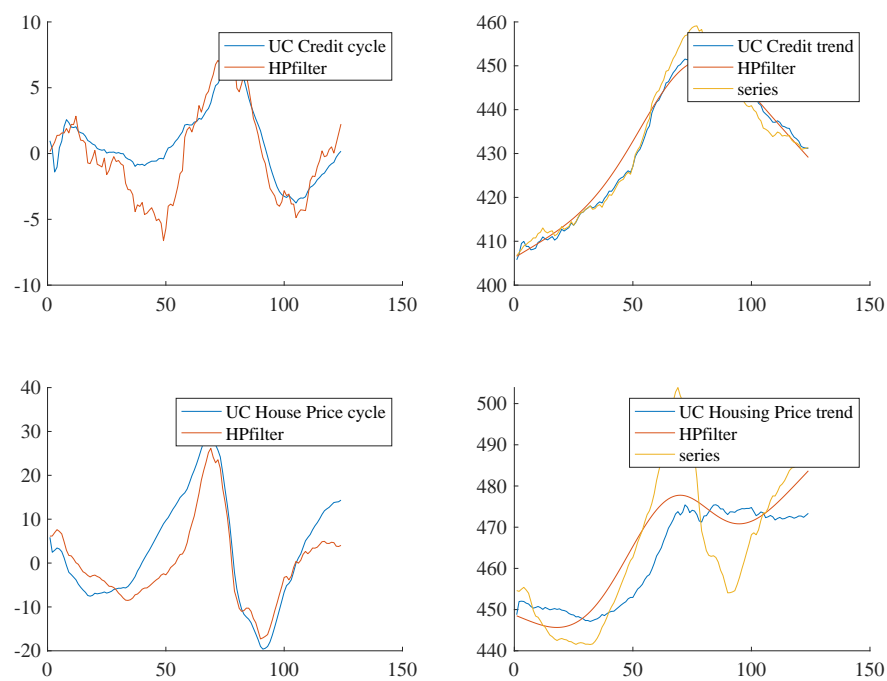


Figure 6: US VAR(2) 2 cross-lags

3 Posterior and Prior Distribution

3.1 UK Posterior and Prior Distribution

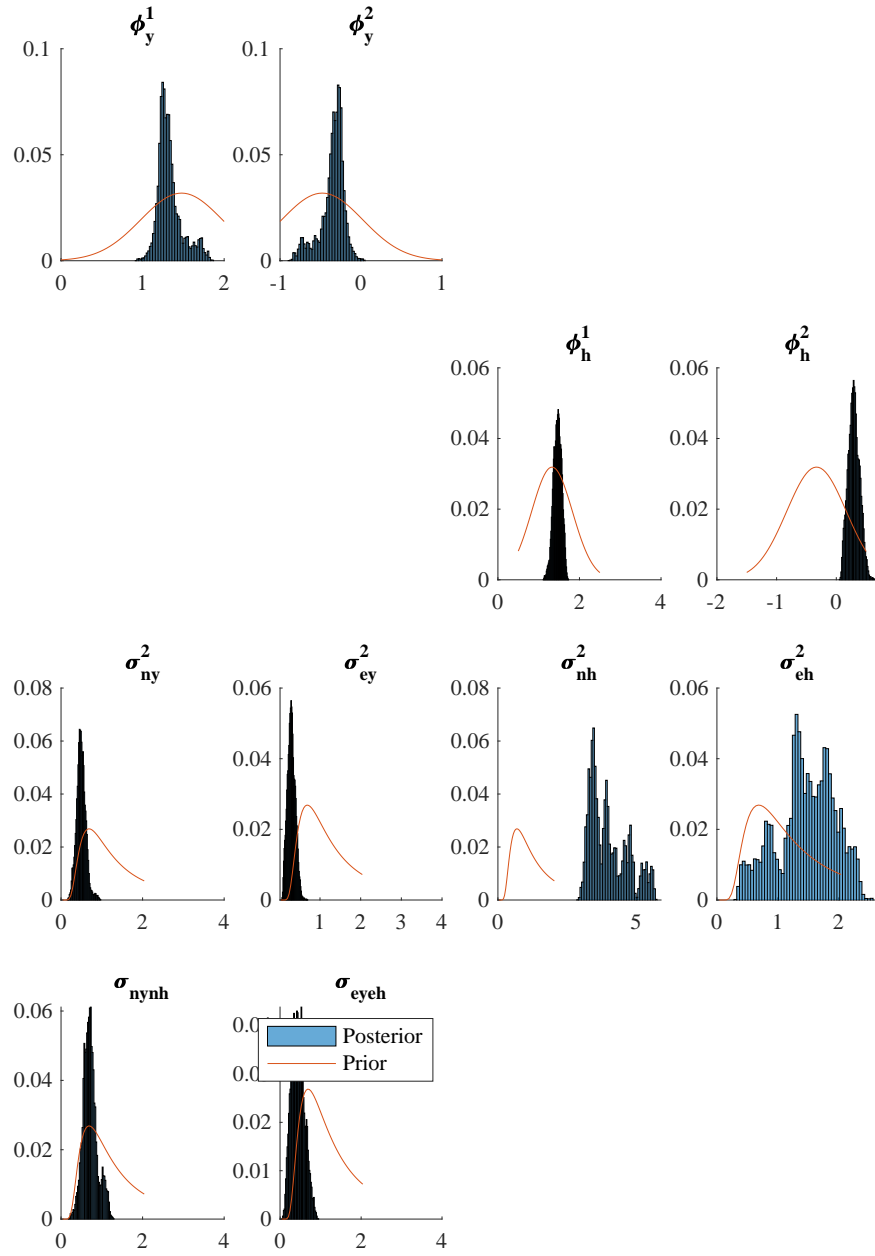


Figure 7: UK VAR(2)

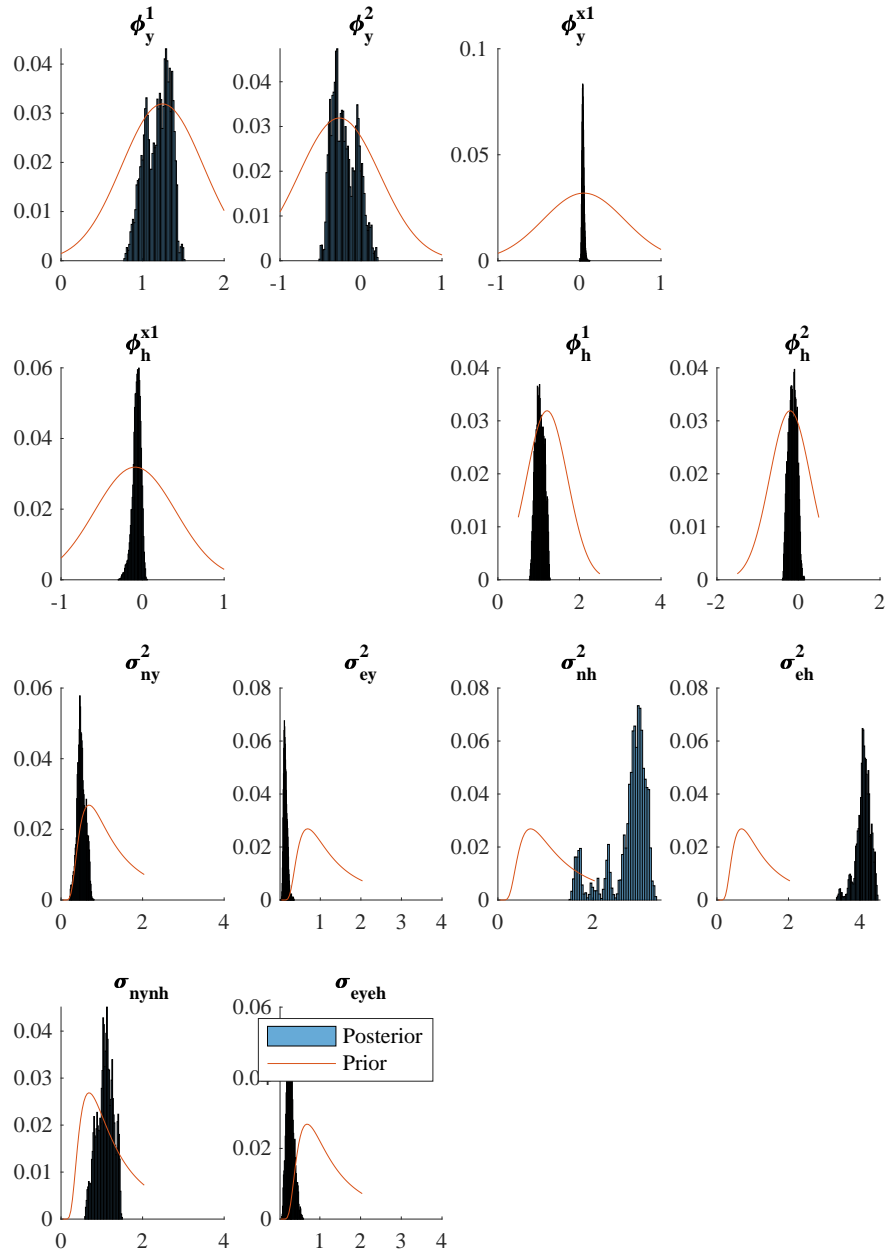


Figure 8: UK VAR(2) 1 cross-lag

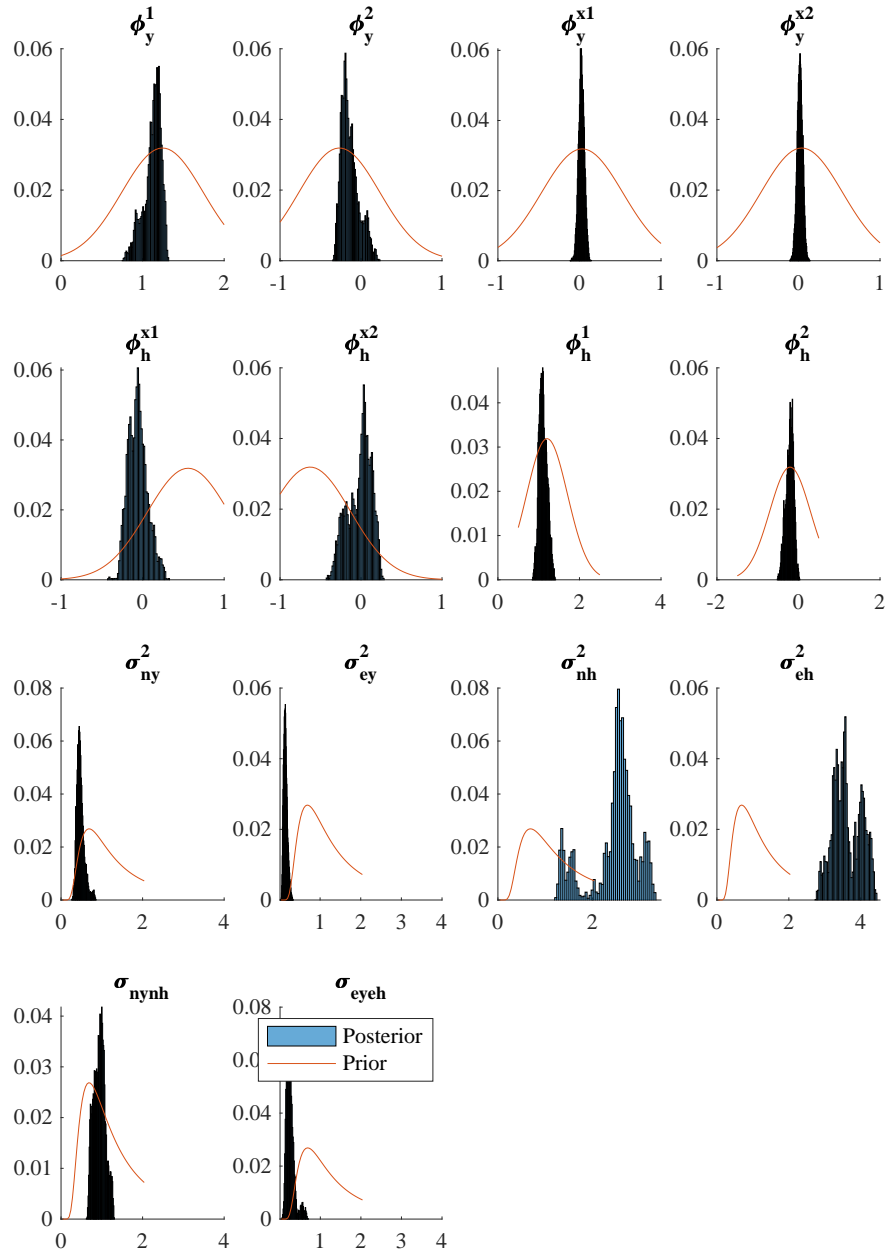


Figure 9: UK VAR(2) 2 cross-lags

3.2 US Posterior and Prior Distribution

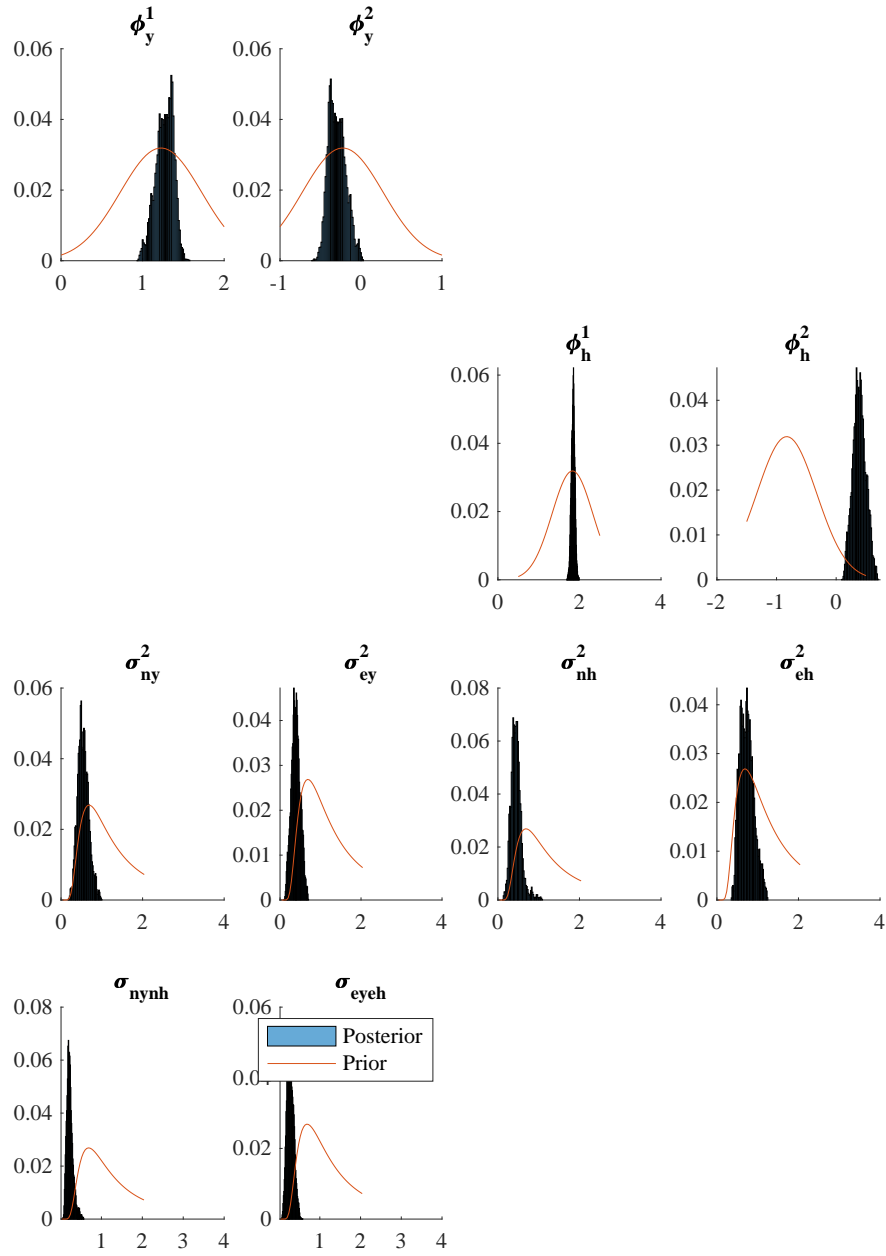


Figure 10: US VAR(2)

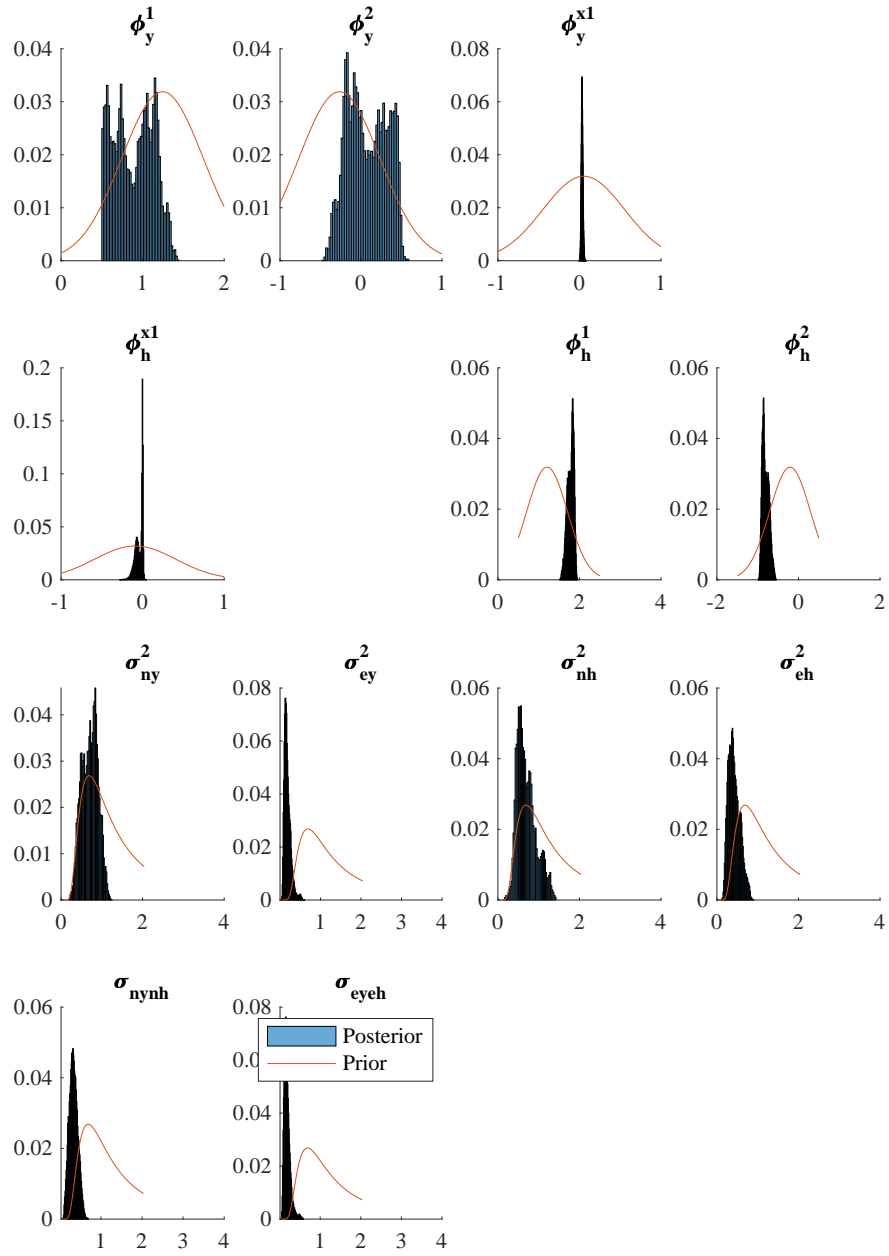


Figure 11: US VAR(2) 1 cross-lag

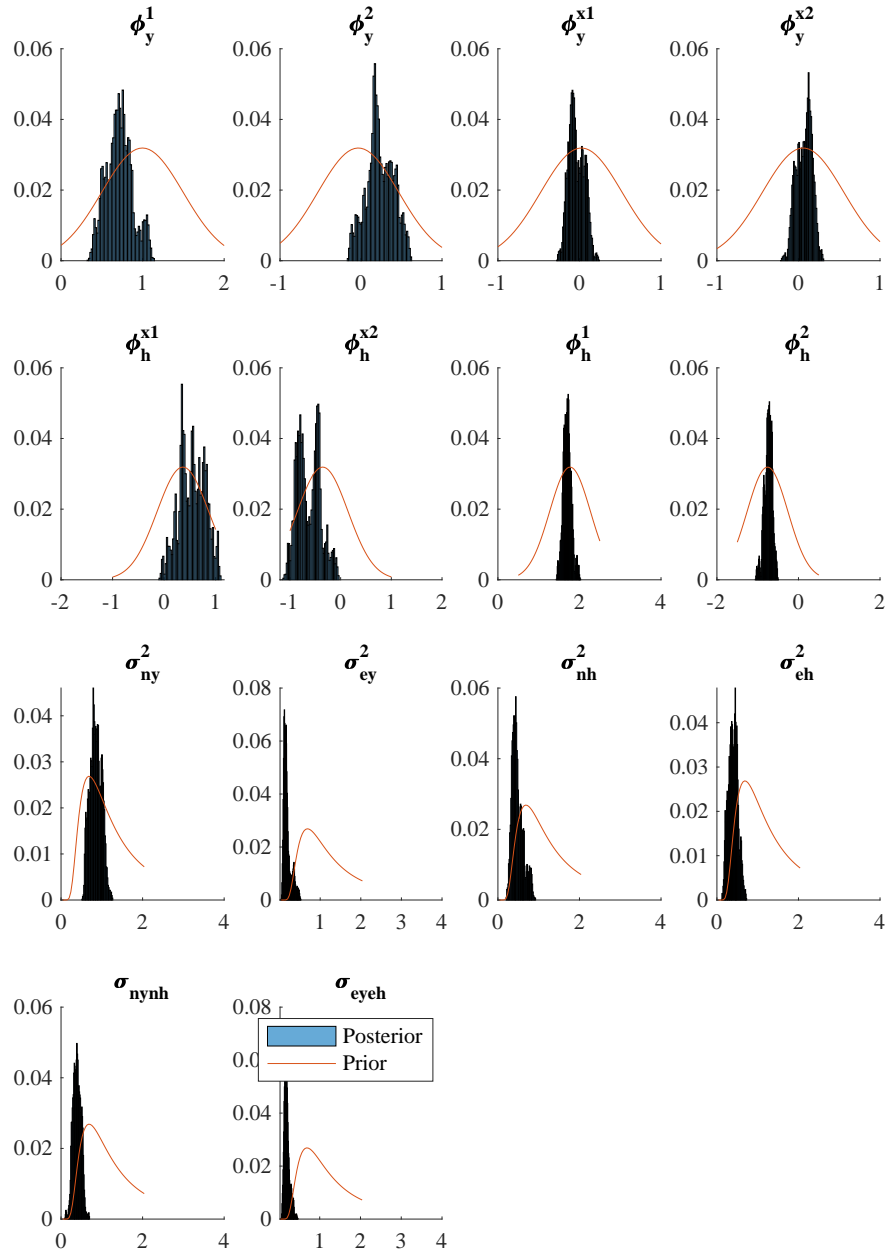


Figure 12: US VAR(2) 2 cross-lags