

Exploiting the Cointegration between VIX and CDS in a Credit Market Timing Model

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APPENDIX B

B.1. Figures

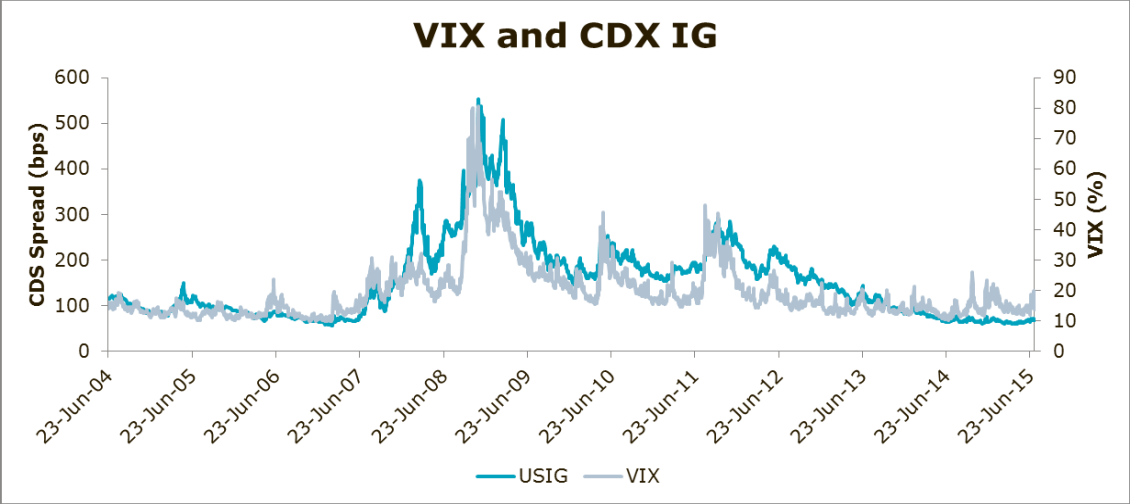


Figure a: USIG spread and VIX over the full sample period.

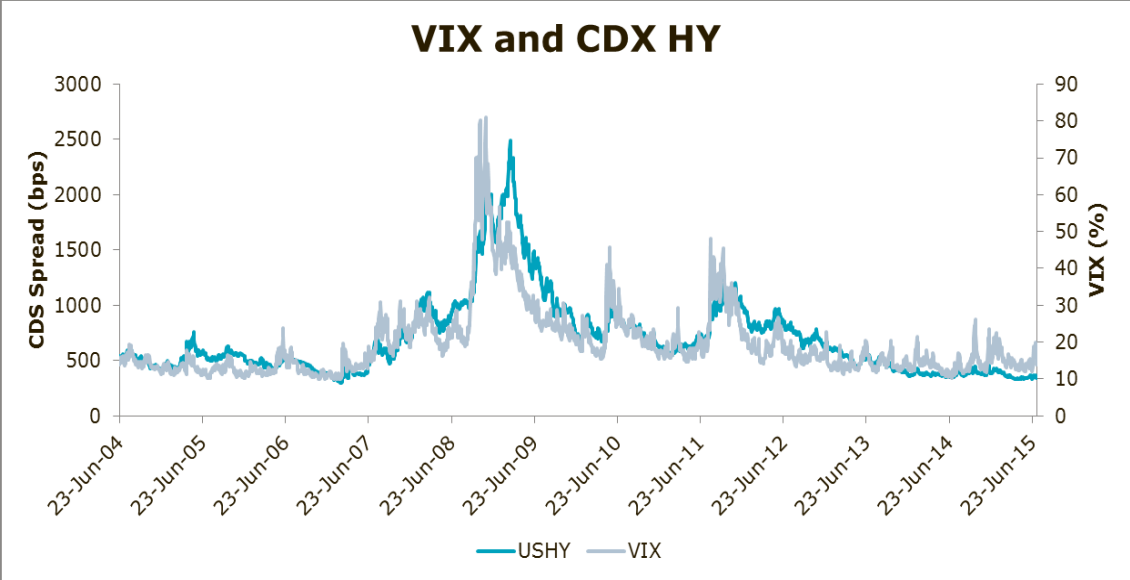


Figure b: USHY spread and VIX over the full sample period.

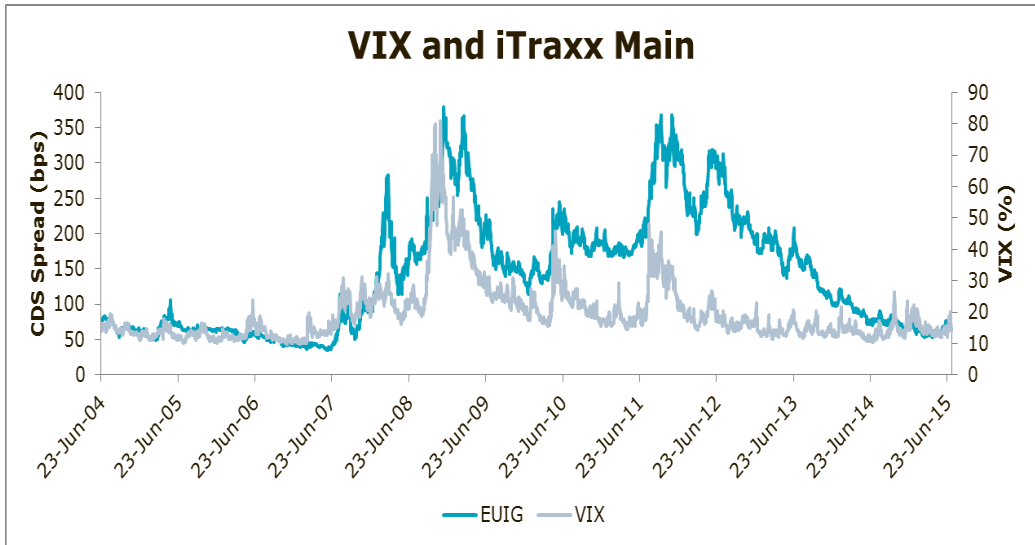


Figure c: EUIG spread and VIX over the full sample period.

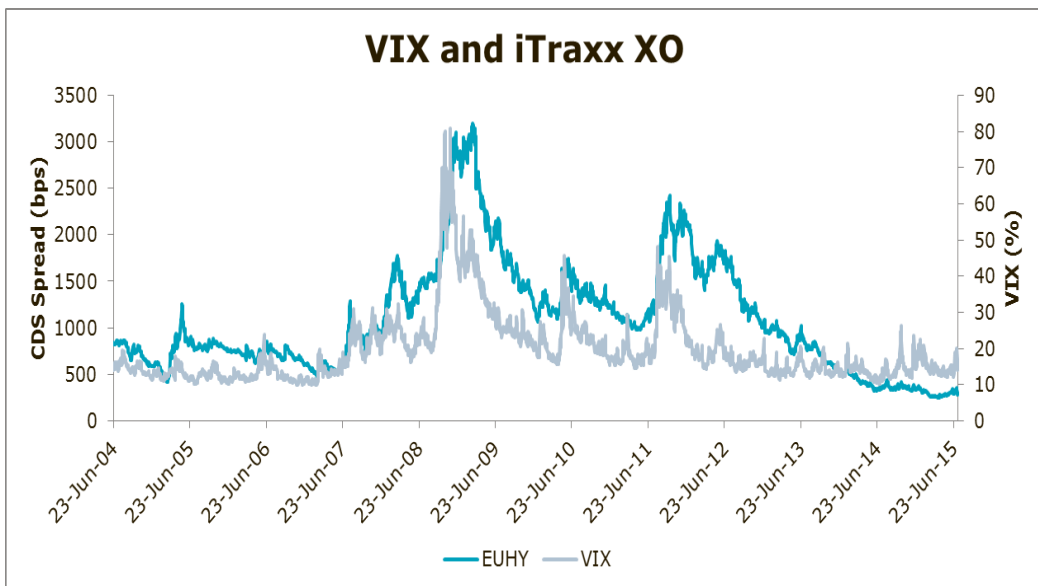


Figure d: EUHY spread and VIX over the full sample period.

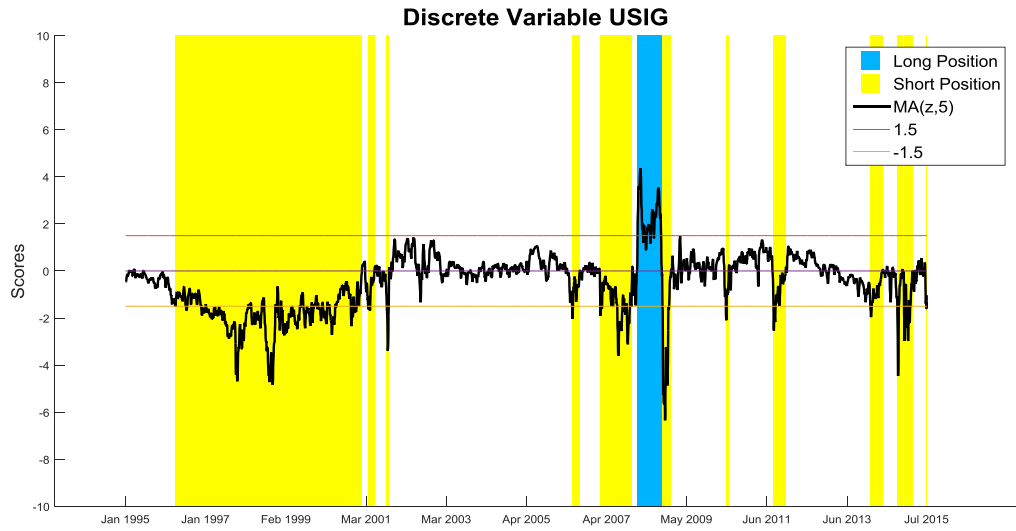


Figure e:  $\tilde{z}$  process underlying the discrete variable for the USIG market. Yellow stripes indicate a short signal, blue stripes a long one.

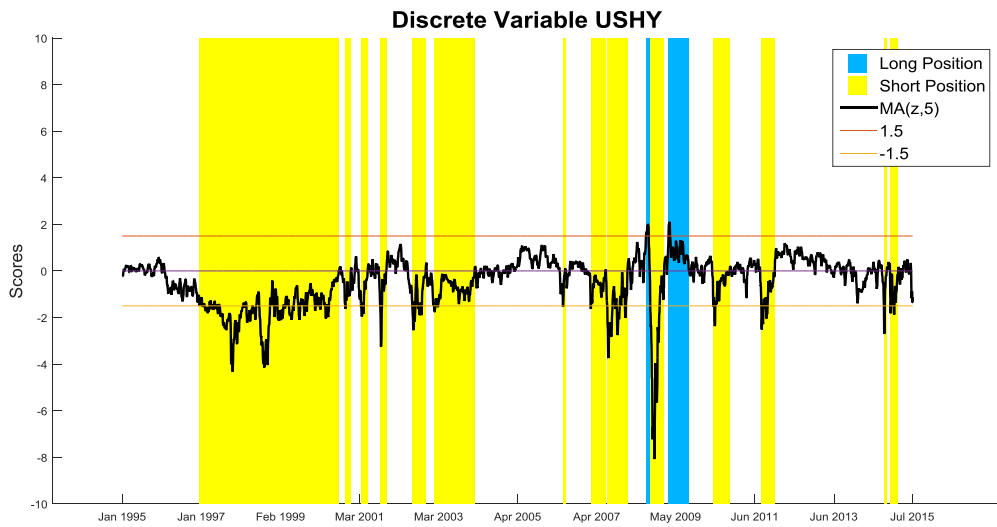


Figure f:  $\tilde{z}$  process underlying the discrete variable for the USHY market. Yellow stripes indicate a short signal, blue stripes a long one.

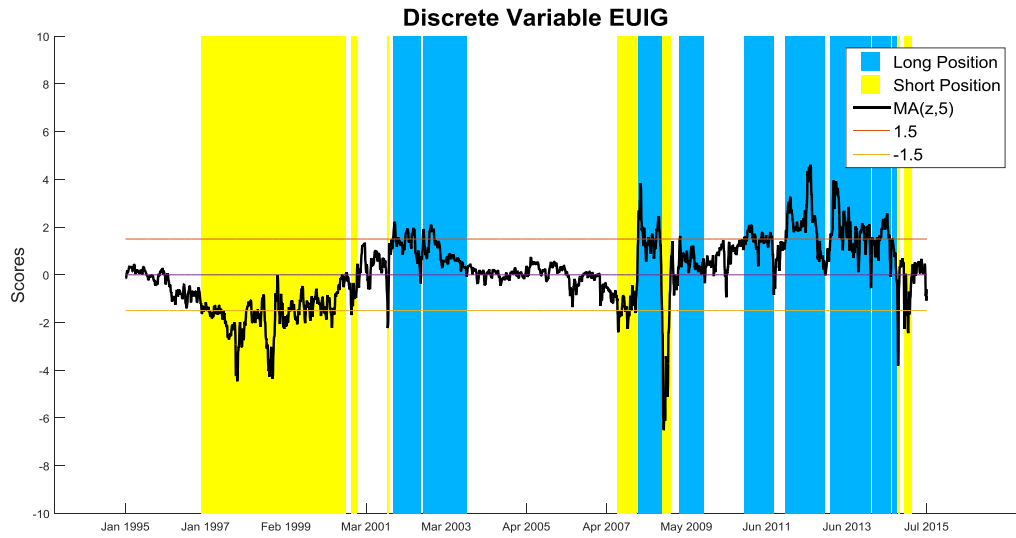


Figure g:  $\tilde{z}$  process underlying the discrete variable for the EUIG market. Yellow stripes indicate a short signal, blue stripes a long one.

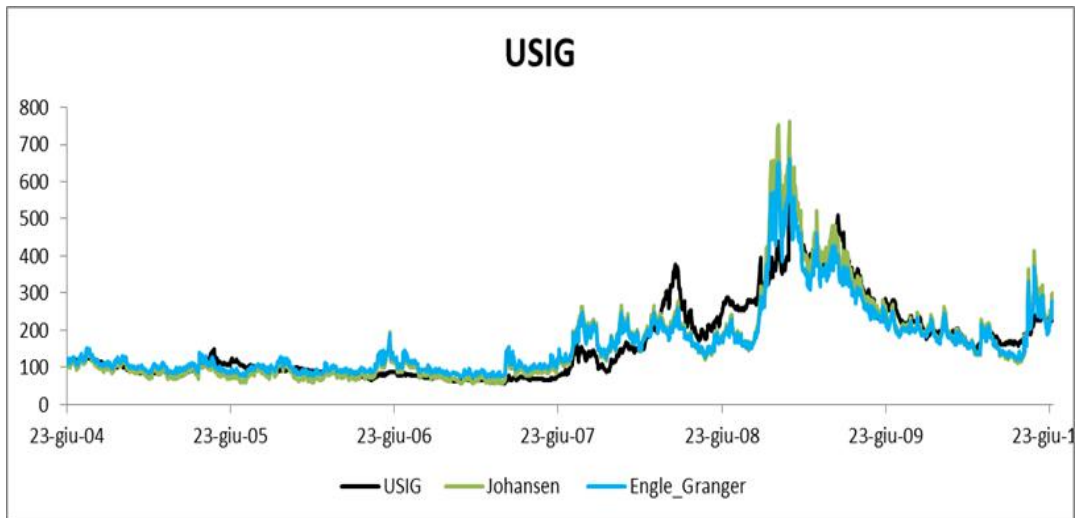


Figure h: In-sample Johansen and Engle-Granger replication graphs for the USIG market.

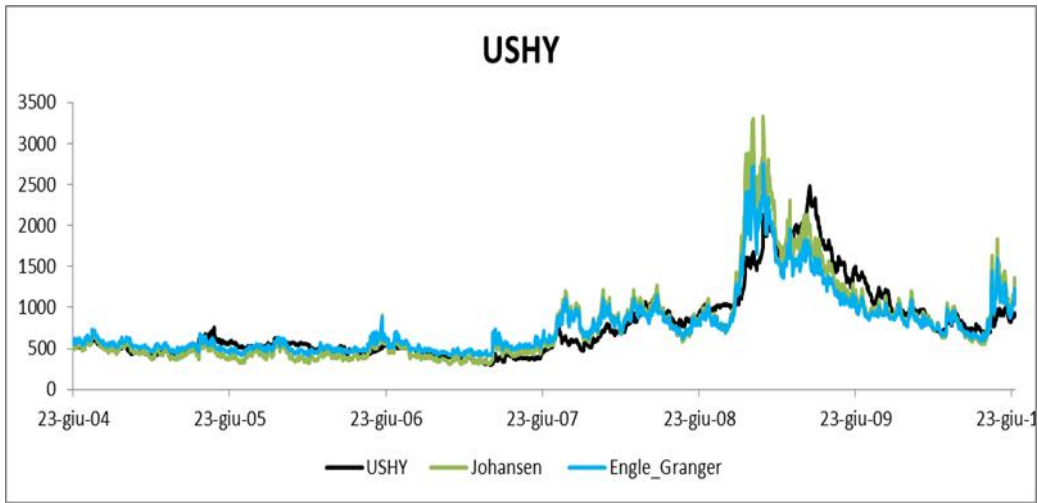


Figure i: In-sample Johansen and Engle-Granger replication graphs for the USHY market.

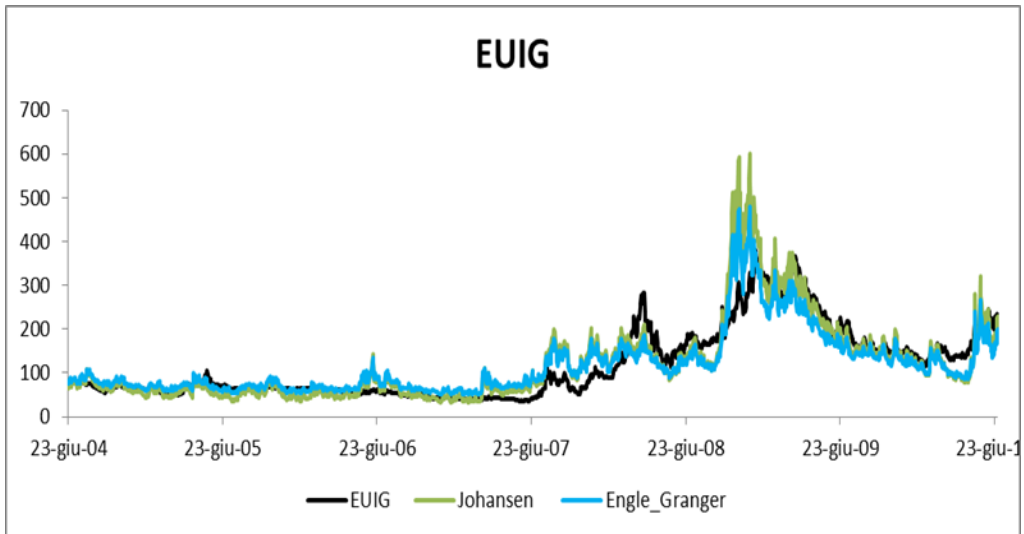


Figure j: In-sample Johansen and Engle-Granger replication graphs for the EUIG market.

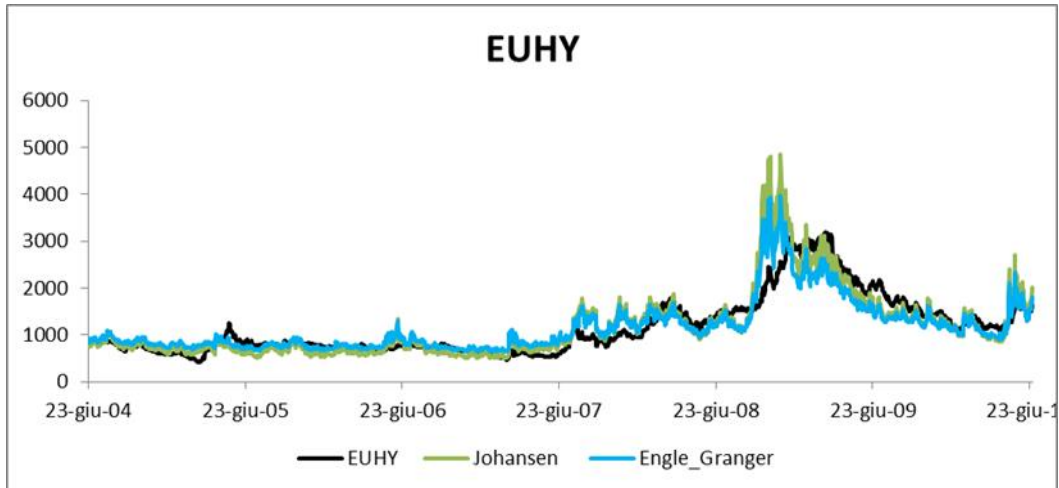


Figure k: In-sample Johansen and Engle-Granger replication graphs for the EUHY market.

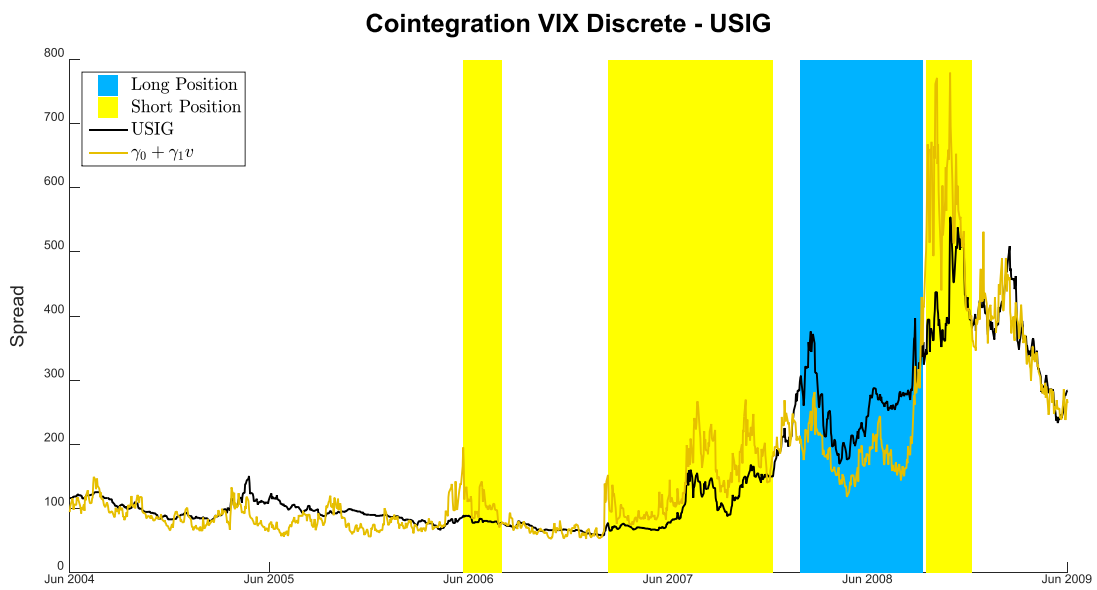


Figure l: Discrete variable signals for the USIG market.

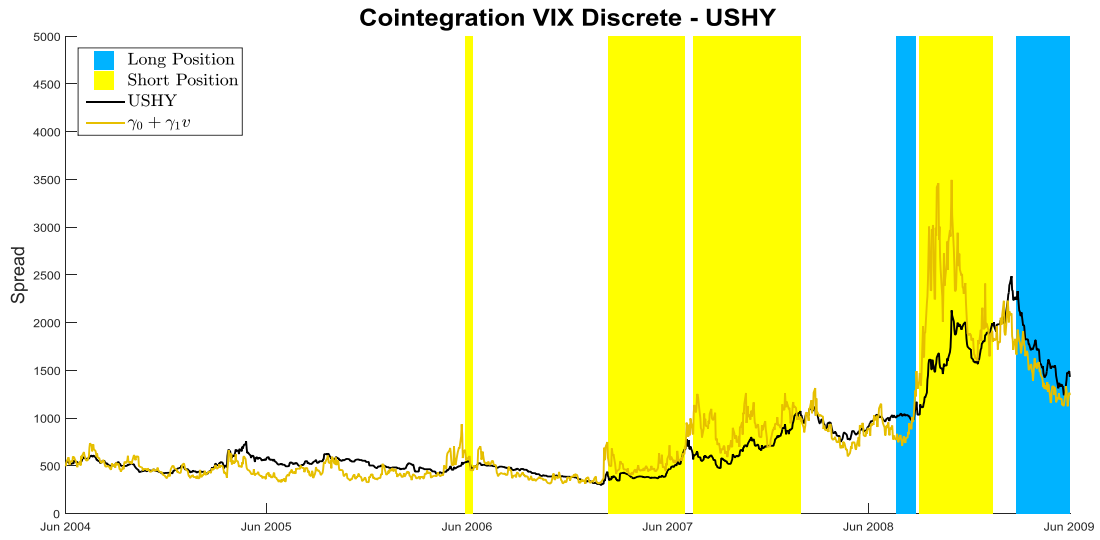


Figure m: Discrete variable signals for the USHY market.

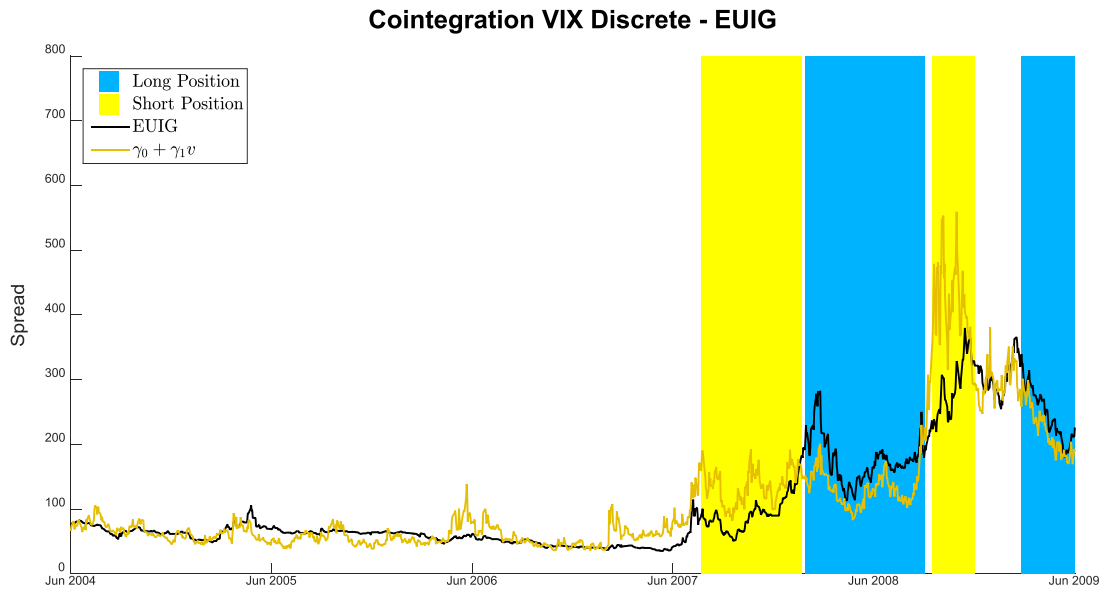


Figure n: Discrete variable signals for the EUIG market.

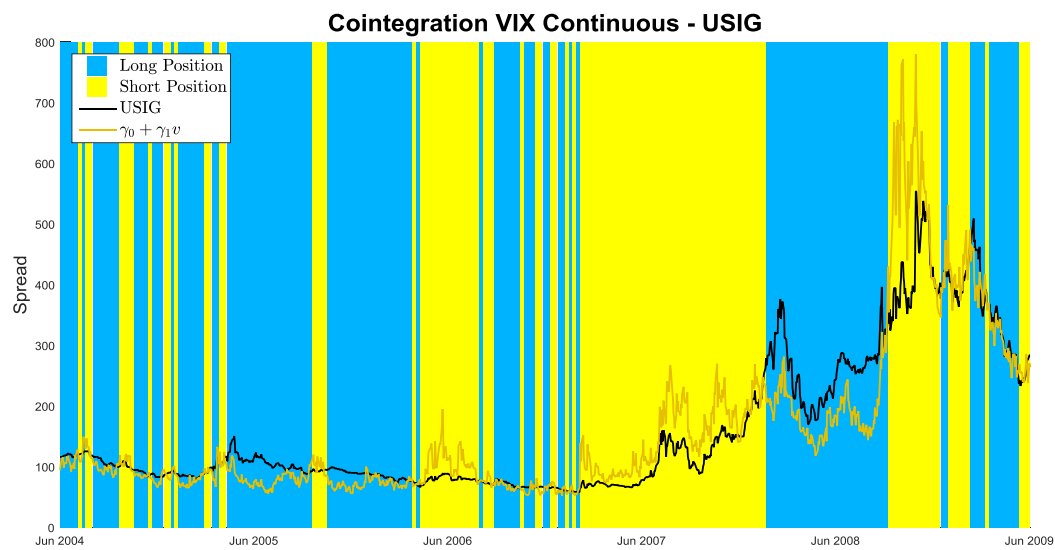


Figure o: Continuous variable signals for the USIG market.

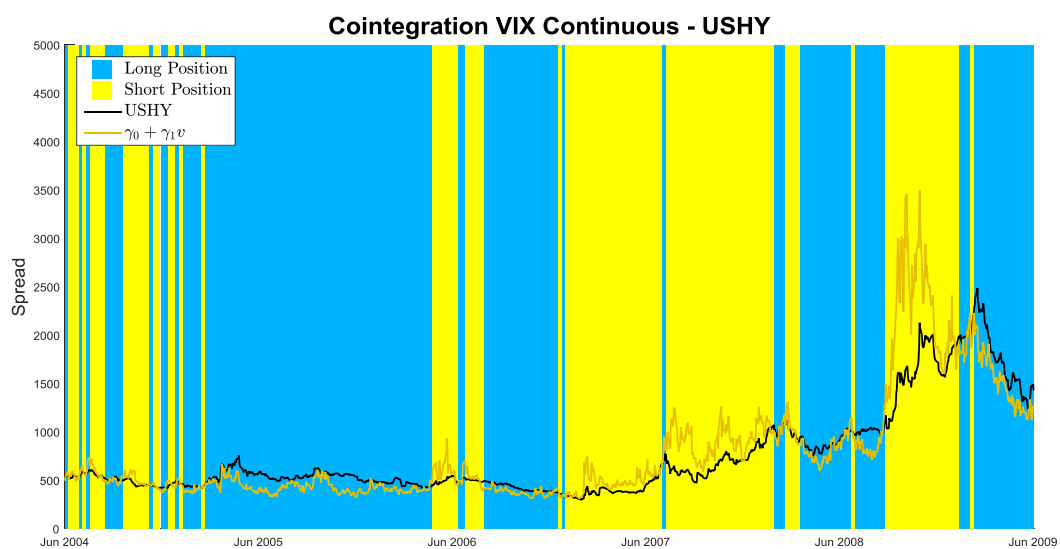


Figure p: Continuous variable signals for the USHY market.

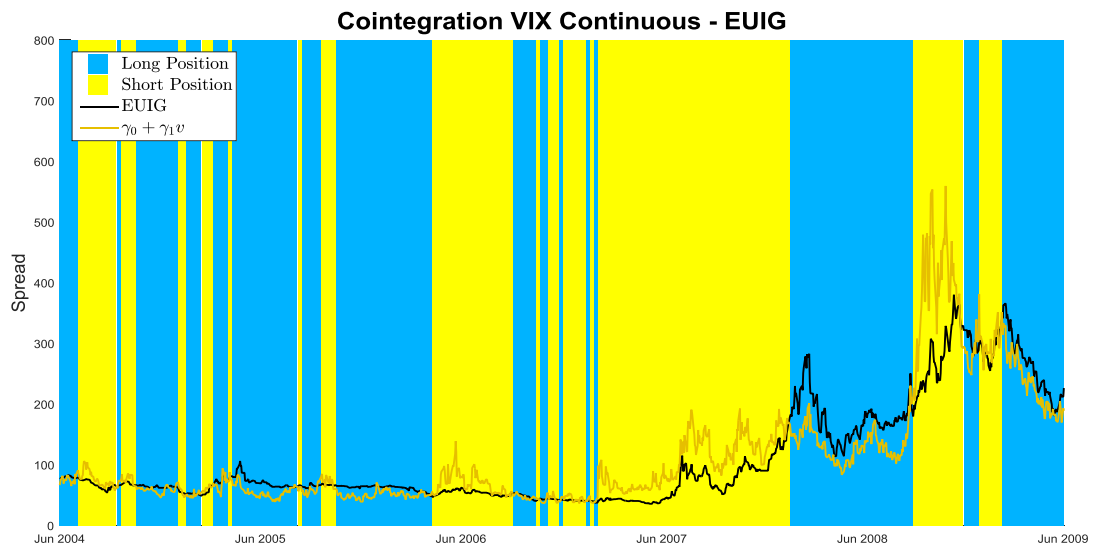


Figure q: Continuous variable signals for the EUIG market.

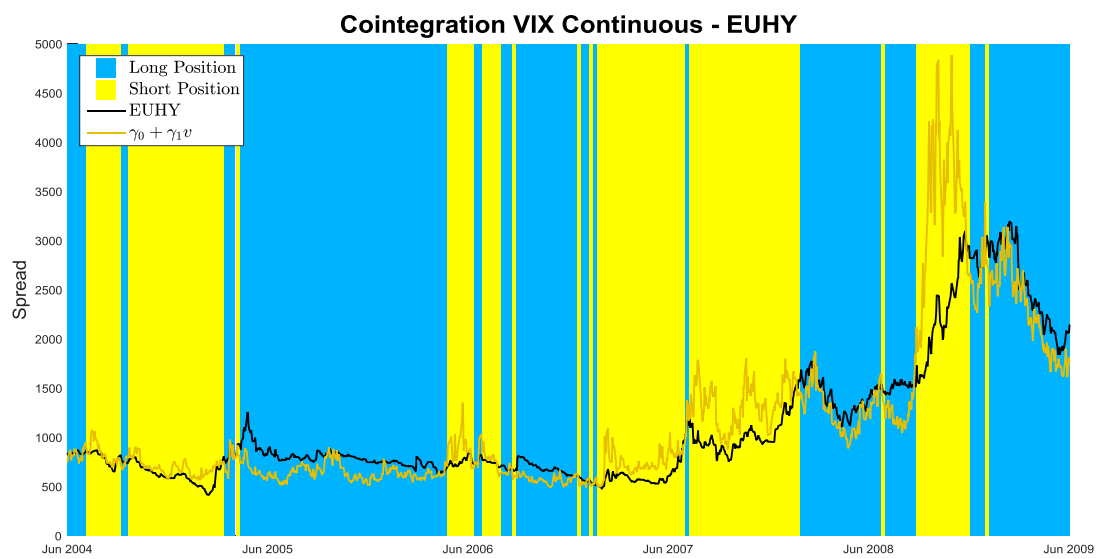


Figure r: Continuous variable signals for the EUHY market.

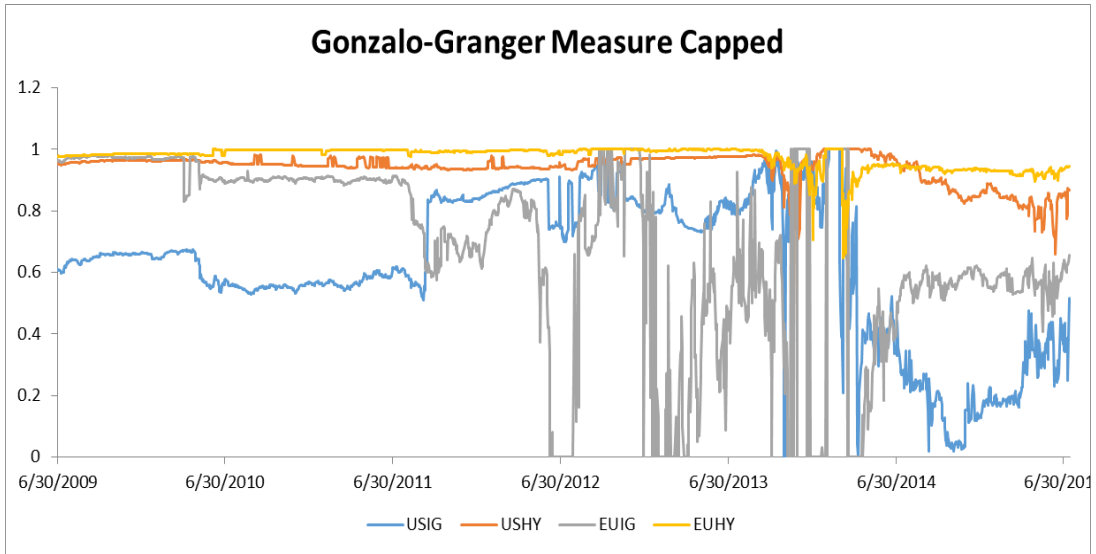


Figure s: Gonzalo-Granger measure capped at  $\pm 1$  for the four markets.

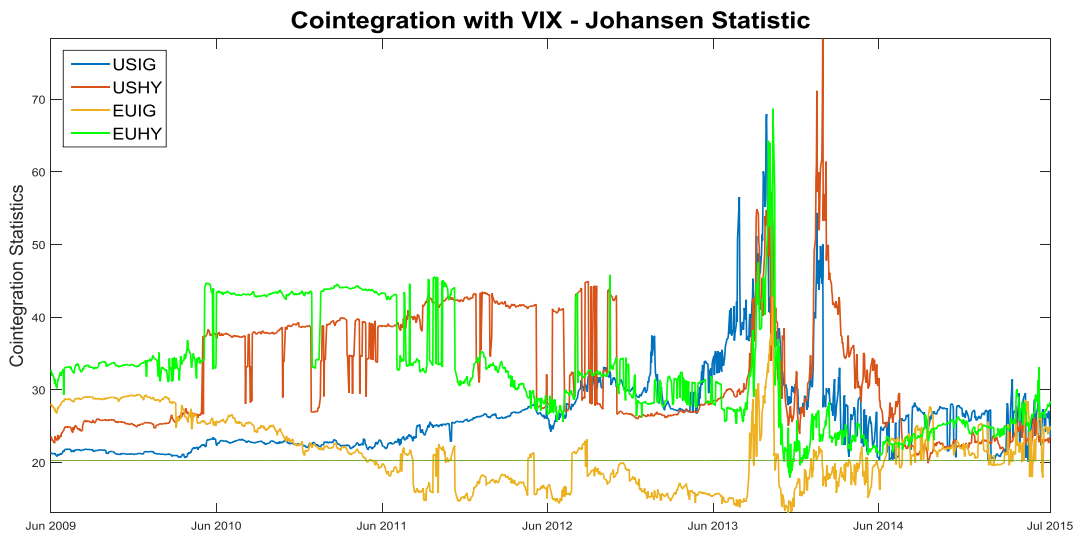


Figure t: Out-of-sample Johansen cointegration statistics. A statistic below the critical value indicates the rejection of the null hypothesis of no cointegration in favor of the alternative of cointegration.

## B.2. Tables

Table a: Full-sample correlation between *VIX Trend* and the cointegration variables.

<b>Full-sample Correlation with VIX Trend</b>				
<b>Variable</b>	<b>USIG</b>	<b>USHY</b>	<b>EUIG</b>	<b>EUHY</b>
Cointegration VIX discrete	0.23	0.30	0.17	0.30
Cointegration VIX continuous	0.39	0.32	0.23	0.43

Table b: iBeta model variables in-sample *z-IR*.

<b>In-sample <i>z-IR</i></b>		
<b>Var</b>	<b>IR IG</b>	<b>IR HY</b>
Var 1	0.41	0.54
Var 2	0.79	0.73
Var 3	0.18	0.17
Var 4	0.4	0.44
Var 5	0.69	0.62
Var 6	0.49	0.76
Var 7	0.48	0.63
CV Discrete	0.43	1.18
CV Continuous	0.82	1.09

### B.3. Cointegration variables scheme

