Correlation Structure of Country Exchange Traded Funds (ETFs)

Minimum Spanning Tree Graph of Country ETFs Nodes: EPU ETF symbol Country USA SPY EWC **EWC** Canada **EWW** Mexico EWU UK Germany EWG EWI Italy Spain **EWP** EPU Peru **EWZ** Brasil Argentina ARGT **ERUS** Russia **EWY** South Korea Japan EWJ China **MCHI EWS** Singapore **EWA** Australia INDA India South Africa EZA

Desctiption

Each node represent a country ETF.

Edges represent the correlation between the ETFs. The stronger the correlation (either negative or positive) the shorter the edge.

Minimum Spanning Tree (MST) is constructed with R package <u>igraph</u> from the entire correlation space. MST algorithm creates a tree with minimum sum of edge weights (maximum absolute correlation) on the subgraphs. This helps visualizing the relationship between the nodes and identifying clusters.

References

- Github page with correlation table and code to produce graph: https://github.com/tamasveress/Graph Stock
 - MST
- R package for creating MST and plotting graph: http://igraph.org/r/doc/mst.html
- Visualizing stock correlations with MST: https://mktstk.com/2015/03/04/stock-market-visualization-minimum-spanning-trees/