Notes from Skype meeting with Rob Viglione (advisor) on September 15, 2017

Title: Exploration of the construction methodologies of cryptocurrency market indices.

Problem: Cryptocurrency has no index that sufficiently spans the dimensions of the marketplace that can be used by investors and money managers to evaluate performance.

Goal: Survey indices to find one that best fits the cryptocurrency marketplace. This would be measured by regression testing historical values and seeing how well the index fits the market.

Key Questions: What makes an index valuable or good? The purpose of an index is to span dimensions of space. What defines the space? How do we know the space is correct?

Introduction: Institutions that want to track and offer financial cryptocurrency products. The market needs a rational, performance benchmark for a growing industry of funds. There is an explosion of money managers in the financial industry. It is more important than ever to have a benchmark for this emerging market. There is no current benchmark in this marketplace besides market capitalization.

Approach: Create a variety of indices with membership criteria to apply to the cryptocurrency marketplace. The membership will be evaluated for goodness that the index best spans the space of the marketplace. Indices that will be evaluated are the following:

* value weighted,
* equal weighted,
* liquidity, and
* combination of the former.

Liquidity index should be considered to guard against gaming young markets. Weights will be determined likely with machine learning using a moving average window.

All currencies should be evaluated against filter criteria for membership. Qualifications of index should be relative and not fixed. Additional criteria may need to be added. How did the rules perform?

Challenge: How do we know the membership of cryptocurrencies selected is good or bad? Is it intuitive? Can we visualize it? Can we cluster it? Is there a correlation?

Special Sauce: The approach to include/exclude a cryptocurrency, and the task should not jump the index. See the S&P 500 document.

Data: Cryptocurrency market data may be obtained from <https://coinmarketcap.com/api/>.

Bonus: Once we establish our preferred index, how does it compare against just picking a cryptocurrency and investing it both with the same strategy?

Interesting area: All markets are heavily correlated where momentum plays an important part in trends. How do you best buy and sell considering momentum? What factors classify momentum? Can you classify it by levels? How does momentum play into investing or building a portfolio?

Possible Journals: SMU Data Science, Ledger Journal,

Skype Handles: brandondehill (Brandon Hill), paul.widhalm (Paul Widhalm), robviglione (Rob Viglione)

Action Items:

* Type up meeting notes and disperse for redlines.
* Revise paper for problem approval.
* Revise paper for Wednesday, September 20 deadline.
* Add Rob to Slack channel and GitHub repo.
* Setup next Skype meeting with Rob.
* Send Rob Matteo’s paper and information.
* Setup meeting Matteo next Tuesday. Provide revised paper for review/feedback.