## Empirical Asset Pricing: Problem Set 9

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April 17, 2019

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- 1. Implementing a real world portfolio involves execution costs, which contain bid-ask spread, market impact and commissions. Failing to implement a portfolio has opportunity costs, which are the paper profits on securities you decided not to buy. For a particular strategy, if the execution costs are higher than opportunity costs, we may want to trade slower and minimize the price impact and other trading costs. If the opportunity costs are higher than execution costs, we may try to trade faster and being first to the market before the price moves away from you.
- 2. For large institutional traders, their trading costs mainly contain market impact, bid-ask spread and commissions. The costs related to market impact are usually biggest and most important. Market impact costs could be partially managed if they control the size of order, daily trading volumn and trade using limit orders. The size of orders, daily trading volumn, volatility of stocks, liquidity of stocks and speed of execution may influence the size of trasaction costs. The size of orders, volatility of the stock price and value of shares outstanding of the stock affect the market impact costs.
- 3. For managers, they can do the backtest of strategies considering the expected transaction costs and decide which strategy to implement. They may choose strategies with lower paper profits but higher dollar profits and abondon some strategies involve high transaction costs. For traders, they may construct "inaction region" for different stocks and they can make different types of orders, such as market orders and limit orders to minimize the transaction costs.