

SUMMARY

Phyllis Kit Yee Sun, Class of 2008

During the SRO program, I assisted Professor Petajisto on multiple related research projects, of which the overall aim was to examine the portfolios of mutual funds and other large financial institutions and to measure their performances. We evaluated the performances by various measures, such as the notion of “active shares”, which compares the portfolio weights of these funds to the weights employed in benchmark indexes. We also used the Fama-French Four-Factor model to analyze benchmark index returns, in order to determine whether there is any departure from the overall market return, which, if exists, would give rise to opportunities for arbitrage.

My major duty was to collect and analyze financial data from the Wharton Research Data System (WRDS) via the UNIX interface. The major databases I used were from the Center for Research in Security Prices (CRSP), Dow Jones, and Thomson Financial News (TFN), of which the key data were monthly and/or daily prices, returns, and share volumes of stocks, indexes, mutual funds, and exchange-traded funds (ETFs). I examined the validity of data, diagnosed and reduced data errors. During the analyses, I merged large datasets, and from which I performed various computations, generated sample statistics and ran regressions. All the analytical and computational tasks were done by the program SAS, which I learned specifically for this research project.

Specifically, much of the analysis was focused on the Wilshire 5000 Total Market Index, which was obtained directly from Dow Jones. Unfortunately, the data obtained from them, (which was already the best possible source,) contained a number of inconsistencies, which initially created difficulties in doing any meaningful analysis. However, after putting in a lot of effort in diagnosing the problems and testing repeatedly, the professor and I managed to determine the major sources of errors, and eliminated most of them. Using the improved data, we identified certain characteristics of the stocks chosen by the Index. Based on these findings, combined with the criteria listed in the official description, we successfully constructed our own “artificial Wilshire” index from CRSP (a more reliable source of data), which demonstrated high consistency with the official Wilshire Index by the Active Share measure. This suggested that our artificial index might be a reasonable substitute for the official data.

I consider my experience with SRO to be very enriching and fruitful, which can be summarized in three aspects. First, it offered me an invaluable real experience in engaging in economic research, through which I learned useful skills and methodologies in research, developed an analytical mindset, and understood some actual obstacles faced by researchers. I also gained abundantly under the guidance of the professor, with whom I met every week to discuss the findings, and analyze the data together. Second, it reaffirmed my interest in the economics, particularly finance. Having dealt with massive amount of data, and having read papers relevant to the topic, I gained a far deeper understanding in the subject matter and also became much more interested. Lastly, owing to the specific kind of data used in the research, throughout the program I had

accumulated valuable programming skills and become familiar with some most commonly used financial databases. I believe these would be conducive to my future endeavors in research. In short, I am grateful for having the privilege to work closely with and learn directly from a faculty member. SRO definitely confirmed my interest in doing research in economics.