

The Performance of Pairs Trading Strategies on the Swiss Stock Market

Bachelor Thesis
in
Asset Pricing

Department of Banking and Finance



supervised by

Prof. Alexandre Ziegler

Ahmetcan Salepci

26th of August 2011

Executive Summary

The present bachelor thesis intends to present the performance of a trading strategy, referred to as “pairs trading”. The concept of the strategy is very simple. That is to say it entails firstly the identification of pairs of securities whose prices had exhibited similar price behaviors in the past, implying that they were “moving together”. Furthermore, as soon as a considerably high degree of anomaly in their price relationships was detected, the strategy proceeds by purchasing the asset that declined in value and simultaneously short-selling the one that increased, thereby speculating that the inefficiency regarding their price relation will correct itself in the long-run.

According to Fama (1970), however, pairs trading should not generate any positive excess returns since, according to the weak form of the efficient market hypothesis, the actual price of a stock should be reflective of any historical data, including those of the historical prices. As the implementation of pairs trading strategies relies solely on historical price data, generating positive excess returns should, therefore, not be possible. Even though several research papers on pairs trading strategies are widely available, the investigations are primarily confined to the US markets, and there is no evidence of a survey conducted on the Swiss stock market as yet. Thus, the main motivation of this thesis is to empirically research the profitability of pairs trading strategies with regard to the Swiss stock exchange.

As a matter of fact, the empirical part of this thesis is based on the 100 most liquid stocks from the Swiss Performance Index over the timeframe of 1980 through to 2010. Securities are matched into pairs according to a correlation measure, implying that, as long as the closing prices of two securities were exhibiting a high degree of correlation, they were recognized as potential pairs. The results derived in the course of this thesis account for average annual returns of up to 10% for portfolios of pairs. The profits typically exceed the performance of an out-of-skill investor, simulated by either a passive investment strategy in the SPI, or the so-called bootstrap method, which refers to a pairs trading method based on a pure random pair picking approach. The outcome of the results in this thesis is actually in line with the findings of other papers conducted in this field.

Acknowledgements

Everything within this thesis has resulted from the people who have been most supportive of me throughout the entire time of my bachelor thesis, and I wish to acknowledge them. Firstly, I thank my parents, my dad for his constant faith in my determination to succeed, and my mom for her unwavering confidence in my abilities. I also thank my friends Simon, Luke, Dev and Thomas for being so gracious and generous with their support and for sharing in the excitement of the whole experience. I greatly thank Allan for his thoughtful gestures and good cheer during the writing process. It definitely served as a gentle reminder at times when I was lagging behind schedule. Furthermore, I owe a deep debt of gratitude to Lujing not only for her thorough support throughout my entire thesis, but also for inculcating a joy for the learning process. Finally, I would like to denote a special thanks to Prof. Ziegler for giving me the opportunity to write my bachelor thesis under his supervision, which I genuinely perceived as a privilege, one that I deeply enjoyed. I apologize for omissions due to my absentmindedness. Please accept my unspoken thanks.