

## DOCTORAL THESIS

### A study on the performance of passively-managed hedged ETFs

Cheng, Ming Kit

*Date of Award:*  
2019

[Link to publication](#)

#### **General rights**

Copyright and intellectual property rights for the publications made accessible in HKBU Scholars are retained by the authors and/or other copyright owners. In addition to the restrictions prescribed by the Copyright Ordinance of Hong Kong, all users and readers must also observe the following terms of use:

- Users may download and print one copy of any publication from HKBU Scholars for the purpose of private study or research
- Users cannot further distribute the material or use it for any profit-making activity or commercial gain
- To share publications in HKBU Scholars with others, users are welcome to freely distribute the permanent URL assigned to the publication

## **ABSTRACT**

This study examines the performance of recently introduced passively-managed exchange-traded hedged funds (HETFs). Using data that cover the period 2008 to 2017 of all available HETFs under global macro and long-short classifications with sufficient number of observations, the study provides the most complete and update measure and documentation of the performance of these two fund categories. Little research has been done on HETFs' performance in despite of the rapid growth and expected future expansion of their market sizes, since the introduction of HETFs expands for ordinary investors investment opportunity set that were only available to high net wealth individuals and institutions. Using a simple 3-three factor model including equity, bond and volatility factors, it shows long-short HETFs cannot closely follow the returns of their corresponding indexes as global macro HETFs. By using Fung and Hsieh's (2004) 7-factor model, and Edelman, Fung and Hsieh's (2012) revised 8-factor model, significant negative alphas are found for strategy portfolios. The relatively poor performance of the HETFs can be attributed to their high expense ratio and their failure to closely track the benchmark index.

## TABLE OF CONTENTS

Declaration.....	i
Abstract .....	ii
Acknowledgements .....	iii
Table of contents .....	iv
List of tables .....	vi
1. Introduction .....	1
2. Literature Review .....	4
2.1 Overview of Different Types of Funds .....	4
2.1.1 Hedge Funds.....	4
2.1.2 Alternative Mutual Funds (AMFs) .....	9
2.1.3 Exchange-traded Funds (ETFs).....	10
2.1.4 Hedged Exchange-traded Funds (HETFs) .....	14
2.2 Factor Models for Assets Performance .....	19
2.3 Past Fund Performance .....	23
2.3.1 Hedge Funds.....	23
2.3.2 Comparison of Performance between Hedge Funds, ETFs and HETFs ...	24
2.3.3 Performance of Global Macro Funds and Long-short Funds .....	27
2.4 Price Efficiency .....	28
2.5 Tracking Error .....	29
3. Hypotheses .....	32
4. Data and Methodology .....	34
4.1 Data .....	34
4.2 Methodology .....	38
4.2.1 Estimation of Monthly Returns for HETFs, their NAVs and Benchmarks	38
4.2.2 Price Efficiency (% Premium/Discount to NAV) .....	38
4.2.3 Risk-adjusted Return .....	39
4.2.4 Excess Return of HETFs .....	39
4.2.5 A Three-factor Model .....	40
4.2.6 Fung and Hsieh Factor Models .....	41
5. Empirical Results and Interpretations .....	45
5.1 Descriptive Summary of Sample HETFs .....	45
5.2 Summary Statistics of Sample HETFs and HETF Portfolios .....	49
5.3 Risk-return Relationship of HETFs and Corresponding Benchmark Portfolios	55
5.4 Three-factor Model .....	59
5.5 Fung and Hsieh Factors Models .....	69
5.6 Rolling Regression on Excess Return of HETF Portfolios Using Fung and	75
Hsieh (2004) 7-factor Model and Edelman, Fung and Hsieh (2012) 8-factor	75
Model .....	75
6. Summary of Findings .....	81
7. Implications of Research, Limitations of Study and Suggestions for Further	85
Research.....	85
Appendices .....	89

List of References .....	122
Curriculum Vitae .....	127