

Candlestick Patterns

Analysis of their predictive power on intraday stock market data

Wout NOTERMANS

Supervisor: Prof. Dr. P. Leoni

Affiliation (optional)

Co-supervisor:

Prof. Dr. W. Schoutens

Affiliation (optional)

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Foreword

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Popularising Summary

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Summary

List of Abbreviations

List of Symbols

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Chapter 1

Introduction and literature study

Some ideas:

- taxes?
- trend definition: (exponential) moving average → which period?
- Stop loss?
- Comparison with reference index performance?
- volume?
- real body: divide by open or close? volume or no normalization also a valid option to explore
- ATR as additional filter
- make use of slope (E)MA, count + and - to define trend
- Bollinger band → widening
- make use of machine learning to classify trends? quite advanced. manual training set creation?

Measuring performance:

- set/variable holding period? → transaction costs?
- buy at opening, sell at closing?
- buy and hold not a useful benchmark on intraday trading (Fock, Klein, Zwergel)
- compare against randomized buy signals (Fock, Klein, Zwergel) (hold for 30 minutes)

Introduction:

- explanation of candlesticks
- developed in the late 18th century in Japan by Munehisa Honma, a rice trader. Unknown in the west until Nison published Japanese Candlestick Charting Techniques in 1991. as such, quite a bit of literature is from the east.
- current literature mainly about daily candles, but they can encapsulate any period of time
- believed to possess some predictive power
- known to almost every investor in Taiwan (Goo, Chen, Chang)
- some papers find evidence of predictive power (Goo, Chen, Chang), (Lu, Shiu, Liu), others find none (Fock, Klein, Zwergel)
- results not easily comparable because of different datasets, trading rules, definitions, statistical tests, transaction costs, time periods, . . .
- Historical data may produce upward bias (Ball, Kothari, Wasley 2005)
- technical analysis is futile under weak efficient market hypothesis

Statistical tests:

- Z-test
- t-test
- bootstrap
- GLM
- F
- Duncan's multiple range test

Definitions:

- interesting definition of small, medium, long length in (Goo, Chen, Chang) and (Fock, Klein, Zwergel)

Chapter 2

Baseline predictive power of candlestick patterns

Chapter 3

Improving predictive power through additional filters

Chapter 4

Machine learning

Chapter 5

Conclusion

Chapter 6

References

Appendix A

Candlestick pattern definitions

here

Faculty of Science
Celestijnen 200H - box 2100
3001 Leuven (Heverlee), BELGIUM
Tel. + 32 16 32 14 01
www.kuleuven.be

