# 財務工程與程式交易

# 程式交易的架構邏輯與文獻

# 謝長杰

Adjunct Assistant Professor

Dept. of Financial Engineering and Actuarial Mathematics

Soochow University, Taiwan

# 如何踏出第一步

- ◆ 標的選擇
- ◆ 程式的模仿與學習(Easy Language)
- ◆ 邏輯撰寫
  - ◆ Momentum Trading Strategies vs Trend Following Strategies
  - ♦ How to switch those strategies???
  - ♦ How to control your risk???
  - ◆ How to optimize your portfolio????

# 如何踏出第一步

- ◆ 策略建構的學術方法
  - ◆ 統計套利(Statistical Arbitrage)
  - ◆ 計量模型(OLS, GARCH Group....)
  - ◆ 類神經相關...
  - ◆ 財務工程(涉及衍生性商品時, Volatility Trading)

- ◆ But,以上許多方法的建構皆無法在Multichart, TradeStationg實現。
- ◆ 程式交易的重點在策略開發而非寫出高深的程式

# 期刊的搜尋

- ◆ The Journal of Finance
- ◆ Intelligent Systems in Accounting, Finance and Management
- ◆ Journal of Futures Markets
- ◆ International Journal of Finance & Economics
- ◆ The Journal of Portfolio Management
- ◆ Asia-Pacific Journal of Financial Studies
- Journal of Forecasting
- ◆ Journal of Financial Research



### Momentum Trading Strategies

### 學術搜尋

約有 123,000 項結果 (0.08 秒)

### 文章

我的周書館

### 不限時間

2015 以後

2014 以後

2011 以後 自訂範圍...

### 按照關聯件排序

按日期排序

### 搜尋所有網站

搜尋所有中文網頁 搜尋繁體中文網頁

包含專利

✓ 只包含書目/引用資料

≥ 建立快訊

提示: 如只要搜尋中文(繁體)的結果,可使用學術搜尋設定.指定搜尋語言。

### A unified theory of underreaction, momentum trading, and overreaction in asset markets

H Hong, JC Stein - The Journal of Finance, 1999 - Wiley Online Library

... Ignoring the dynamic nature of newswatcher strategies is more sig- nificant when we add momentum traders to the model, so we discuss this issue further in Section II.B. ... Underreaction. Momentum Trading, and Overreaction 2153 Page 12. trader order flow. ...

被引用 2663 次 相關文章 全部共 47 個版本 引用 儲存

### An anatomy of trading strategies

J Conrad, G Kaul - Review of Financial Studies, 1998 - Soc Financial Studies

... Third, once we condition on the return horizon and/or the time period, how- ever, the similarities between contrarian and momentum trading strategies disappear. Specifically, there is a systematic relation between the horizon ...

被引用 829 次 相關文章 全部共 14 個版本 引用 儲存

### Profitability of momentum strategies: An evaluation of alternative explanations

N Jegadeesh, S Titman - The Journal of Finance, 2001 - Wiley Online Library

... strategies have become more popular among insti- tutional investors, perhaps because of the dissemination of information re- lating to the performance of these strategies. One might expect that the trading activities of these institutions would eliminate the momentum ef- fect, at ...

被引用 1836 次 相關文章 全部共 31 個版本 引用 儲存

### Momentum investment strategies, portfolio performance, and herding: A study of mutual fund behavior

M Grinblatt, S Titman, R Wermers - The American economic review, 1995 - JSTOR

... could potentially exacerbate stock- price volatility. Momentum trading strategies and herding behavior are also used by academics to mo-tivate models of seemingly irrational mar- kets. Fischer Black (1986) and Brett Trueman ...

被引用 1761 次 相關文章 全部共 13 個版本 引用 儲存

### Combining mean reversion and momentum trading strategies in foreign exchange markets

AF Serban - Journal of Banking & Finance, 2010 - Elsevier

The literature on equity markets documents the existence of mean reversion and momentum phenomena. Researchers in foreign exchange markets find that foreign exchange rates also display behaviors akin to momentum and mean reversion. This paper implements a ... 被引用 31 次 相關文章 全部共 12 個版本 引用 儲存

### Momentum trading by institutions

SG Badrinath, S Wahal - The Journal of Finance, 2002 - Wiley Online Library

... Finer data confirm that institutions are frequently the marginal trader and are often on both sides of a trade.2 We ... over six- month or one-year intervals, respectively, permitting us to examine portfolio revisions involving trading strategies that take ... Momentum Trading by Institutions ... 被引用 296 次 相關文章 全部共 14 個版本 引用 儲存

sdu.edu.cn 提供的 [PDF]

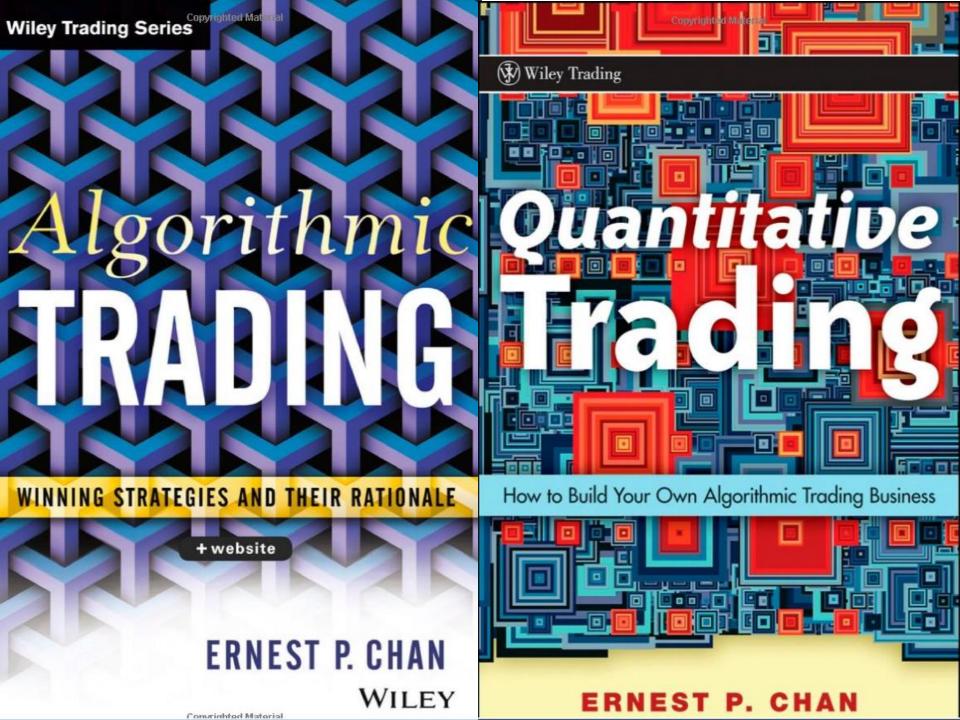
andreisimonov.com 提供的 [PDF]

psu.edu 提供的 [PDF]

technicalanalysis.org.uk 提供的 [PDF]

wvu.edu 提供的 [PDF]

ust.hk 提供的 [PDF]





# CUANTITATIVE TRADING How to Build Your Own Algorithmic Trading Business

**ERNEST P. CHAN** 

# 量化交易

如何建立自己的算法交易事业

(加)欧内斯特・陈 著

商诺奇 谢彦 译

黄嵩 校



**WILEY** Trading

# TRADE LIKE A CASINO

Find Your Edge, Manage Risk, and Win Like the House



RICHARD WEISSMAN

Author of Mechanical Trading Systems



# MECHANICAL

**Pairing Trader Psychology** 

# TRADING

with Technical Analysis

# SYSTEMS

- RICHARD L. WEISSMAN -

## MATLAB as an Automated Execution System

By Ernest P. Chan, Ph.D.

Many traders are familiar with MATLAB as a powerful software platform for backtesting trading strategies. This is especially true for those who would like to analyze and trade a large number (maybe thousands) of stocks simultaneously. MATLAB is a language that is built around matrix manipulation and processing, so many calculations involving multiple stocks are just as easy as calculations involving a single stock.

In my book *Quantitative Trading* (Wiley 2008), I have described a number of examples of how backtesting is usually done in MATLAB. However, it was also true that MATLAB suffered from a major deficiency relative to more familiar trading platforms such as TradeStation – after a strategy has been backtested, it wasn't easy to immediately turn it into an execution system and submit orders to your brokerage account. Brokerages that support Application Program Interfaces (API) to various other languages such as Visual Basic, Java, C# or C++ often does not support MATLAB. Therefore, building an automated execution engine involves re-programming the strategy in one of those



Contents lists available at ScienceDirect

### International Review of Economics and Finance

journal homepage: www.elsevier.com/locate/iref



# The profitability of momentum trading strategies: Empirical evidence from Hong Kong

Joseph W. Cheng <sup>a,\*</sup>, Hiu-fung Wu <sup>b</sup>

- a Department of Finance, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong
- b Asia Pacific Product Control, Citigroup Global Markets Asia Limited, Citibank Tower, Citibank Plaza, 3 Garden Road, Central, Hong Kong

### ARTICLE INFO

Article history:
Received 6 May 2004
Received in revised form 31 January 2006
Accepted 7 February 2006
Available online 25 March 2010

JEL classification: G15

Keywords: Momentum trading Stock-specific return strategy Factor-related return strategy Risk-adjusted return Hong Kong stock market

#### ABSTRACT

This paper investigates whether momentum trading strategies are profitable in the Hong Kong stock market, and examines the sources of such profitability. Momentum portfolios are significantly profitable in the intermediate term in Hong Kong, but the profits become insignificant after risk adjustment by the Chordia and Shivakumar (2001) model. The stock-specific return strategy and factor-related return strategy are analyzed to examine which portion of the total return causes stocks to enter extreme portfolios. The Chordia and Shivakumar factor-related return strategy obtains profits with a magnitude that is close to that which is attained by the total return momentum strategy. Additional evidence further supports the view that the Chordia and Shivakumar model captures momentum profits.

© 2010 Elsevier Inc. All rights reserved.

## A momentum trading strategy based on the low frequency component of the exchange rate

Richard D.F. Harris a,\*, Fatih Yilmaz b

# Combining mean reversion and momentum trading strategies in foreign exchange markets

Alina F. Serban\*

West Virginia University, College of Business and Economics, Morgantown, WV 26506, United States Lynchburg College, School of Business and Economics, Lynchburg, VA 24501, United States

# Momentum and mean reversion across national equity markets

Ronald J. Balvers a,\*, Yangru Wu b,c,d,1

<sup>a</sup> Division of Economics and Finance, College of Business, West Virginia University, Morgantown, WV 26506-6025, USA
<sup>b</sup> Department of Finance and Economics, Rutgers Business School-Newark and New Brunswick,
Rutgers University, Newark, NJ 07102-3027, USA

<sup>c</sup> Hong Kong Institute for Monetary Research, Hong Kong <sup>d</sup> Singapore Management University, Singapore

> Accepted 17 May 2005 Available online 19 December 2005

<sup>&</sup>lt;sup>a</sup> Xfi Centre for Finance and Investment, University of Exeter, Streatham Court, Rennes Drive, Exeter EX44PU, UK

b Portfolio and Risk Strategy, Bank of America, London, UK

## Momentum strategies and stock returns: Chinese evidence

Tony Naughton a,1, Cameron Truong b,2, Madhu Veeraraghavan c,\*

<sup>a</sup> School of Economics, Finance and Marketing, RMIT, GPO Box 2476 V, Melbourne, Victoria 3001 Australia
 <sup>b</sup> Department of Accounting and Finance, University of Auckland, Private Bag 92019, Auckland, New Zealand
 <sup>c</sup> Department of Accounting and Finance, Monash University and Centre Associate,
 Melbourne Centre for Financial Studies, Clayton Vic 3800, Australia

Received 17 October 2006; accepted 2 October 2007 Available online 13 October 2007

The profitability of momentum trading strategies: Empirical evidence from Hong Kong

Joseph W. Cheng a,\*, Hiu-fung Wu b

a Department of Finance, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong

b Asia Pacific Product Control, Citigroup Global Markets Asia Limited, Citibank Tower, Citibank Plaza, 3 Garden Road, Central, Hong Kong

## Development of Algorithmic Volatility Trading Strategies for Equity Options

MS&E 448 Project Report

Gilad Ashpis

Gino Rooney

Ian Schultz

Zach Skokan

Department of Management Science & Engineering, Stanford University

June 9, 2014

## High-Frequency Trading, Stock Volatility, and Price Discovery

X. Frank Zhang Yale University School of Management (203) 432-7938 frank.zhang@yale.edu December 2010



# Optimization of Intraday Trading Strategy Based on ACD Rules and Pivot Point System in Chinese Market

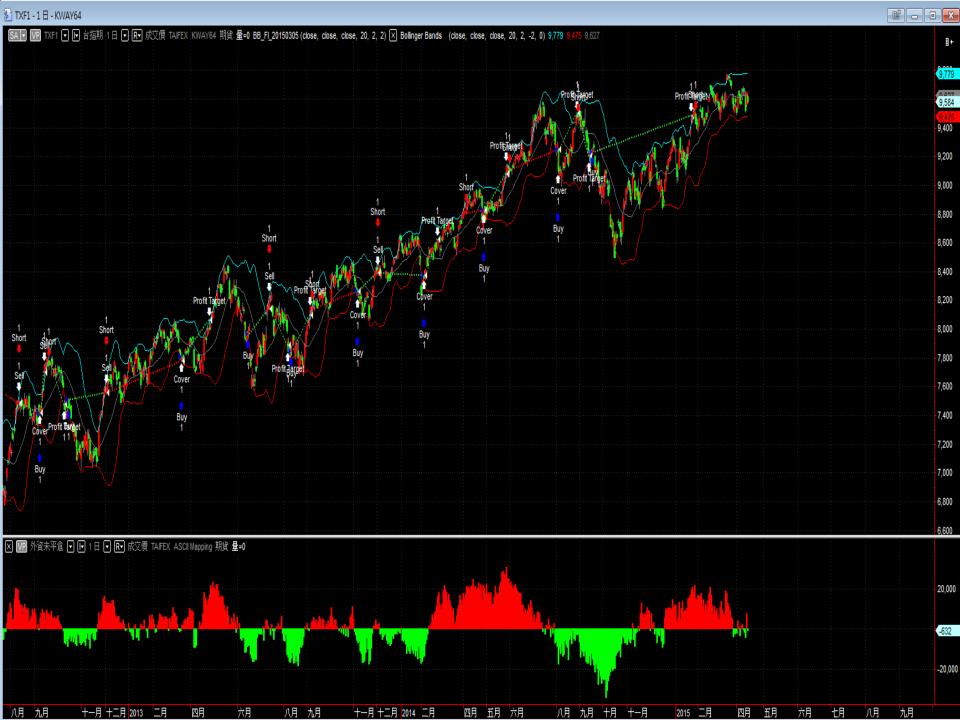
Xue Tian<sup>1</sup>, Cong Quan<sup>2</sup>, Jun Zhang<sup>3</sup>, H. J. Cai<sup>3</sup>

<sup>1</sup>School of Economics and Management, Wuhan University, Wuhan, China; <sup>2</sup>College of Software Technology, South China Agricultural University, Guangdong, China; <sup>3</sup>International School of Software, Wuhan University, Wuhan, China. Email: quancong121@hotmail.com, jim.zoumo@foxmail.com, hydra6@gmail.com

Received May 15<sup>th</sup>, 2012; revised July 3<sup>rd</sup>, 2012; accepted July 10<sup>th</sup>, 2012

World Academy of Science, Engineering and Technology Vol:6 2012-08-24

# The Use of Dynamically Optimised High Frequency Moving Average Strategies for Intraday Trading



```
inputs:
          BollingerPrice (Close),
2
          TestPriceLBand( close ),
4
          TestPriceUBand( close ),
5
6
          Length (20).
7
          NumDevsDn(2),
8
          NumDevsUp(2);
9 variables:
          var0(0), var1(0), FI(0);
11
12 var0 = BollingerBand( BollingerPrice, Length, -NumDevsDn );
var1 = BollingerBand( Close, Length, NumDevsUp );
14
15 FI=Close of data2:
16
   condition1 = CurrentBar > 1 and TestPriceLBand crosses over var0 ;
18 condition2 = CurrentBar > 1 and LOW< var1 ;</pre>
20 if marketposition<0 and condition1 then begin
21
          buytocover all shares next bar at OPEN;
22
          //if FI>FI[1] then Buy this bar at close;
23 end:
24
//if marketposition=0 and condition1 and FI>FI[1] then Buy next bar at var0 stop;
26 if condition1 then Buy next bar at var0 stop;
//if condition1 and FI>FI[1] AND FI>FI[2] AND FI>O AND ADX(5)<50 then Buy next bar at var0 stop;
29 condition1 = CurrentBar > 1 and TestPriceUBand crosses under var1 :
30 condition2 = CurrentBar > 1 and HIGH> var1 ;
32 if marketposition>0 and condition1 then begin
          sell all shares next bar at OPEN ;
34
          //if FI<FI[1] then sellshort this bar at close;
35 end:
36
37 //if marketposition=0 and condition1 and FI<FI[1] then sellshort next bar at var1 stop;</pre>
38 if condition1 then sellshort next bar at var1 stop ;
39 //if condition1 and FI<FI[1] AND FI<FI[2] AND FI<0 AND ADX(5)<50 then sellshort next bar at var1 stop;</p>
10
41
42 setstopcontract;
43 setprofittarget(50000);
44 //setpercenttrailing(10000,50);
45 //setstoploss(5000);
```

□ 策略分析	か mg /手 かり /中 田			
囲 策略績效總結果	<b>大略績效總結果</b>			
囲 績效比率		所有交易	多單	空單
囲 時間分析				
❷ 詳細權益曲線	淨利	¤790000	¤602600	¤187400
図 多單詳細權益曲線	毛利	¤1599800	¤1026600	¤573200
図 空單詳細權益曲線	毛損	(¤809800)	(¤424000)	(¤385800)
図 詳細權益曲線及績效 図 權益増加 & 拉回	調整後淨利	¤282830.61	¤143742.59	(¤102195.04)
❷ 權益增加 & 拉回(%)	調整後毛利	¤1336794.5	¤812539.1	¤420005.86
	調整後毛損	(¤1053963.89)	(¤668796.51)	(¤522200.9)
■ 図 平倉權益曲線及績效	   特定淨利	¤1209400	¤915000	¤294400
❷ 買進持有績效	特定毛利	¤1479600	¤1026600	¤453000
❷ 月增值指數	特定毛損	(¤270200)	(¤111600)	(¤158600)
— 交易分析	帳戶所需金額	¤490800	¤312400	¤227200
囲 交易明細	帳戶報酬	160.96%	192.89%	82.48%
田 總交易分析	初始資本報酬	790%	602.6%	187.4%
田 極端交易		(¤687400)		
囲 最大獲利/最大虧損 囲 交易序列分析	最大策略虧損		(¤476800)	(¤425600)
田 交易序列分析 田 交易序列統計量	最大策略虧損 (%)	(604.04%)	(418.98%)	(258.88%)
図 總交易	最大平倉交易虧損	(¤490800)	(¤312400)	(¤227200)
❷ 獲利交易	最大平倉交易虧損 (%)	(490.8%)	(312.4%)	(152.69%)
図 虧損交易	最大的策略虧損報酬	1.15	1.26	0.44
❷ 最大可能虧損	獲利因子	1.98	2.42	1.49
≥ 虧損的損益	調整獲利因子	1.27	1.21	(0.8)
❷ 最大虧損幅度	特定獲利因子	5.48	9.2	2.86
図 最大虧損幅度 (%)	最大持有契約數量	1	1	1
図 最大可能獲利	<b>湯價支付</b>	¤81600	¤40800	¤40800
図 獲利的損益 図 最大獲利幅度	佣金支付	¤0	¤0	¤0
図 最大獲利幅度	   未平倉部位損益	(¤18600)	n/a	(¤18600)
田·週期性分析	年報酬率	119.63%	91.25%	28.38%
■設定	月報酬率	9.97%	7.6%	2.36%
	買進持有績效	¤56601.31	¤56601.31	¤109715.54
	平均月報酬	¤9642.5		1,203, 20.01
	一つつも間	¤62726.59		
	/ THX R/II R Y T T T T T T T T T T T T T T T T T T	×02720.33		

14-3 10 1 d						
總交易分析						
	所有交易	多單	空單			
交易總次數	48	26	22			
未平倉交易總數量	1	0	1			
獲利交易次數	37	23	14			
虧損交易次數	11	3	8			
勝率	77.08%	88.46%	63.64%			
平均交易(獲利 虧損)	¤16458.33	¤23176.92	¤8518.18			
平均獲利交易	¤43237.84	¤44634.78	¤40942.86			
平均虧損交易	(¤73618.18)	(¤141333.33)	(¤48225)			
平均獲利/平均虧損 比率	(0.59)	(0.32)	(0.85)			
最大的交易獲利	¤61600	¤53000	¤61600			
最大的交易虧損	(¤312400)	(¤312400)	(¤227200)			
平倉交易的平均K棒數	24.1	22.5	26			
獲利平倉交易的平均K棒數	17.2	17.6	16.6			
虧損平倉交易的平均K棒數	47.3	60.3	42.4			
平倉交易間的平均K棒數	n/a	n/a	n/a			
獲利平倉交易間的平均K棒數	82.8	143.3	247.9			
虧損平倉交易間的平均K棒數	289.3	1173.7	420.4			

極端交易						
	全部	正	負			
1平均交易金額的標準差	¤69471.7	¤15196.7	¤101359.38			
平均交易金額 +1標準差	¤85930.03	¤58434.54	¤27741.2			
平均交易金額 -1標準差	(¤53013.36)	¤28041.14	(¤174977.56)			
極端交易次數	4	2	2			
極端交易損益比	(¤419400)	¤120200	(¤539600)			