

**THE EFFICIENT MARKET HYPOTHESIS:
THE APPLICABILITY OF AMERICAN MODELS
TO THE SOUTH AFRICAN STOCK MARKET**

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Outline

- Introduction
- Efficient Market Hypothesis
- Research Hypotheses
- Data and Methods
- Results and Conclusions

Introduction

- Old Finance
- Modern Finance
- New Finance

Efficient Market Hypothesis

- Weak-Form EMH
- Semi-Strong Form EMH
- Strong-Form EMH

Research Hypotheses

- Weak-Form
 - Price momentum reversal (PRM)
 - Price momentum yearly (PGY)
 - Price momentum quarterly (PGQ)
 - Price momentum six months (PGH)

Research Hypotheses

- Semi-Strong Form
 - Price to normalized earnings (PEN)
 - Price to book value (PBK)

Data and Methods

- Data sources
- Benchmark index
- Portfolio construction
- Time horizon (5 years)
- Results based on coefficient of variation (CV)
- Turnover and transaction cost

Results (Weak-Form)

SOUTH AFRICAN STOCK MARKET EFFICIENCY: HYPOTHESES RESULTS

Variable	Geometric Total Return	Geometric Std. Deviation	Coefficient of Variation	Annual Turnover
(A) SA Index Benchmark	20.90%	15.93%	0.76	0
(B) Weak-Form Hypotheses				
(I) Price Momentum Reversal				
• Top PRM	37.86%	24.09%	0.64	42%
• Bottom PRM	10.13%	18.07%	1.78	66%
(II) Price Gain Year				
• Top PGY	39.40%	21.50%	0.55	22%
• Bottom PGY	5.30%	19.20%	3.62	23%

Results (Weak-Form)

SOUTH AFRICAN STOCK MARKET EFFICIENCY: HYPOTHESES RESULTS

Variable	Geometric Total Return	Geometric Std. Deviation	Coefficient of Variation	Annual Turnover
(A) SA Index Benchmark	20.90%	15.93%	0.76	0%
(B) Price Momentum Quarter				
• Top PGQ	35.73%	18.59%	0.52	48%
• Bottom PGQ	10.54%	19.58%	1.86	50%
(C) Price Momentum Six Months				
• Top PGH	43.74%	19.14%	0.44	33%
• Bottom PGH	1.35%	19.67%	14.57	34%

Results (Semi-Strong Form)

SOUTH AFRICAN STOCK MARKET EFFICIENCY: HYPOTHESES RESULTS

Variable	Geometric Total Return	Geometric Std. Deviation	Coefficient of Variation	Annual Turnover
(A) SA Index Benchmark	20.90%	15.93%	0.76	0
(I) Price to Normalized Earnings				
• Top PEN	14.40%	16.04%	1.11	13%
• Bottom PEN	22.28%	21.09%	0.95	16%
(II) Price to Book Value				
• Top PBK	19.60%	16.10%	0.82	15%
• Bottom PBK	14.10%	18.10%	1.28	14%

Conclusions

- Weak-Form delivered far superior results than Semi-Strong Form
- South African stock market shows signs of inefficiency
- Inefficiency implies possible misallocation of capital resources
- Pragmatically for investors like you: forget fundamentals and go after six months price momentum to make money

Questions and Discussion

Thank You