

# **Management Practices and the Performance of Mutual Funds in the Caribbean**

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# Overview

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- ▶ The mutual fund industry in the Caribbean is one of the fastest growing segments of the financial system.
- ▶ Management practices are still largely unknown
- ▶ Fund managers' decisions can have an impact on investor returns as well as systematic risk



# Overview (cont'd)

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- ▶ Largely under-researched area
- ▶ Most recent study is by Alleyne and Moore (2006)
  - ▶ Demand for mutual funds in Barbados
  - ▶ Not significantly affected by economic fundamentals and tax incentive structure
    - ▶ National income
    - ▶ Previous levels of investment



# Overview (cont'd)

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- ▶ The study contributes to the literature by:
  - ▶ Evaluating the extent to which excess returns are due to management abilities
    - ▶ Stock market timing
    - ▶ Stock-picking ability
  - ▶ Advice for potential investors in mutual funds



# Previous Literature

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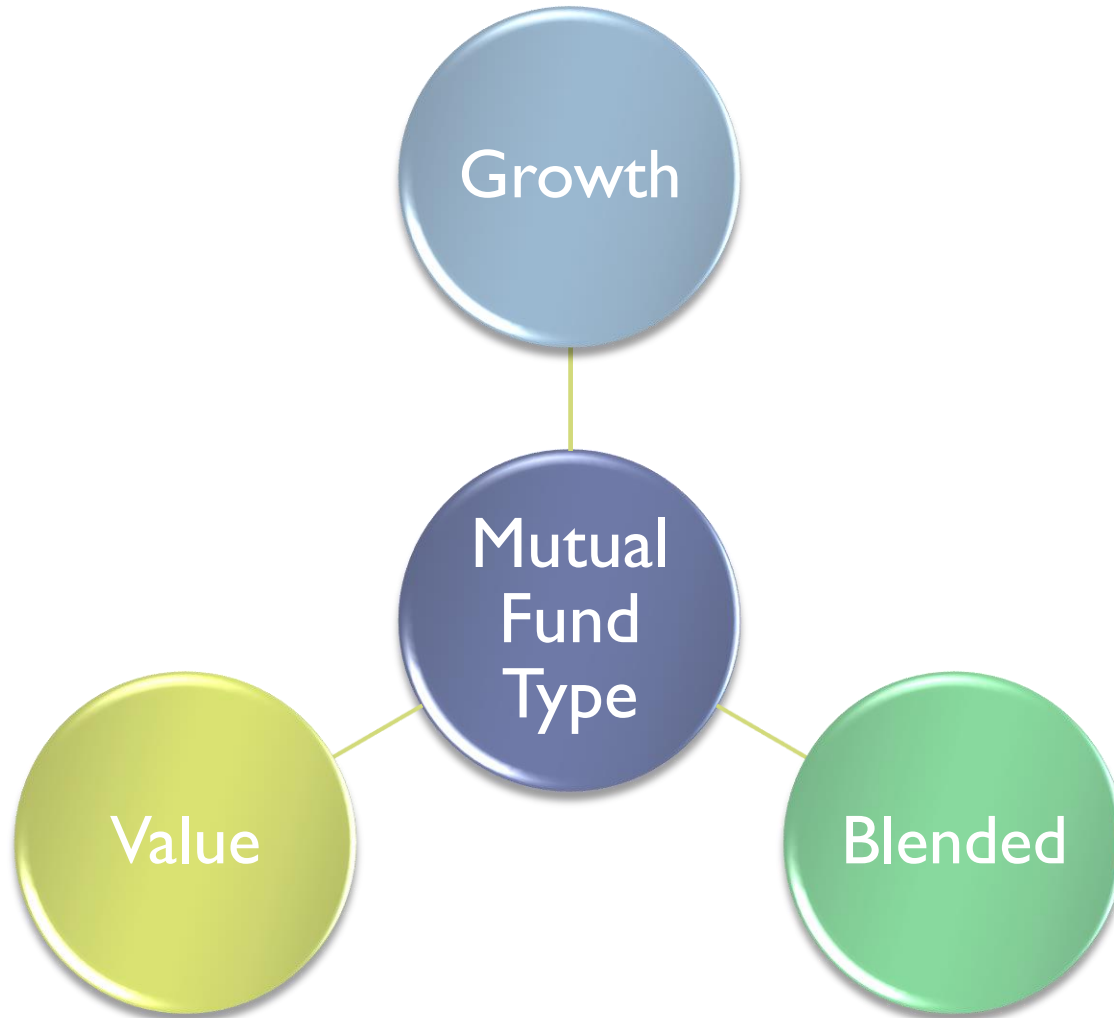
## ▶ Classification

- ▶ Mutual funds tend to be grouped together based on the type of financial assets they hold or the styles of their manager
- ▶ Financial asset classification - money market, bond, equity, dividend, real estate and balanced funds
- ▶ Mutual funds can also be classified based on the investment style of managers



# Previous Literature (cont'd)

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## Previous Literature (cont'd)

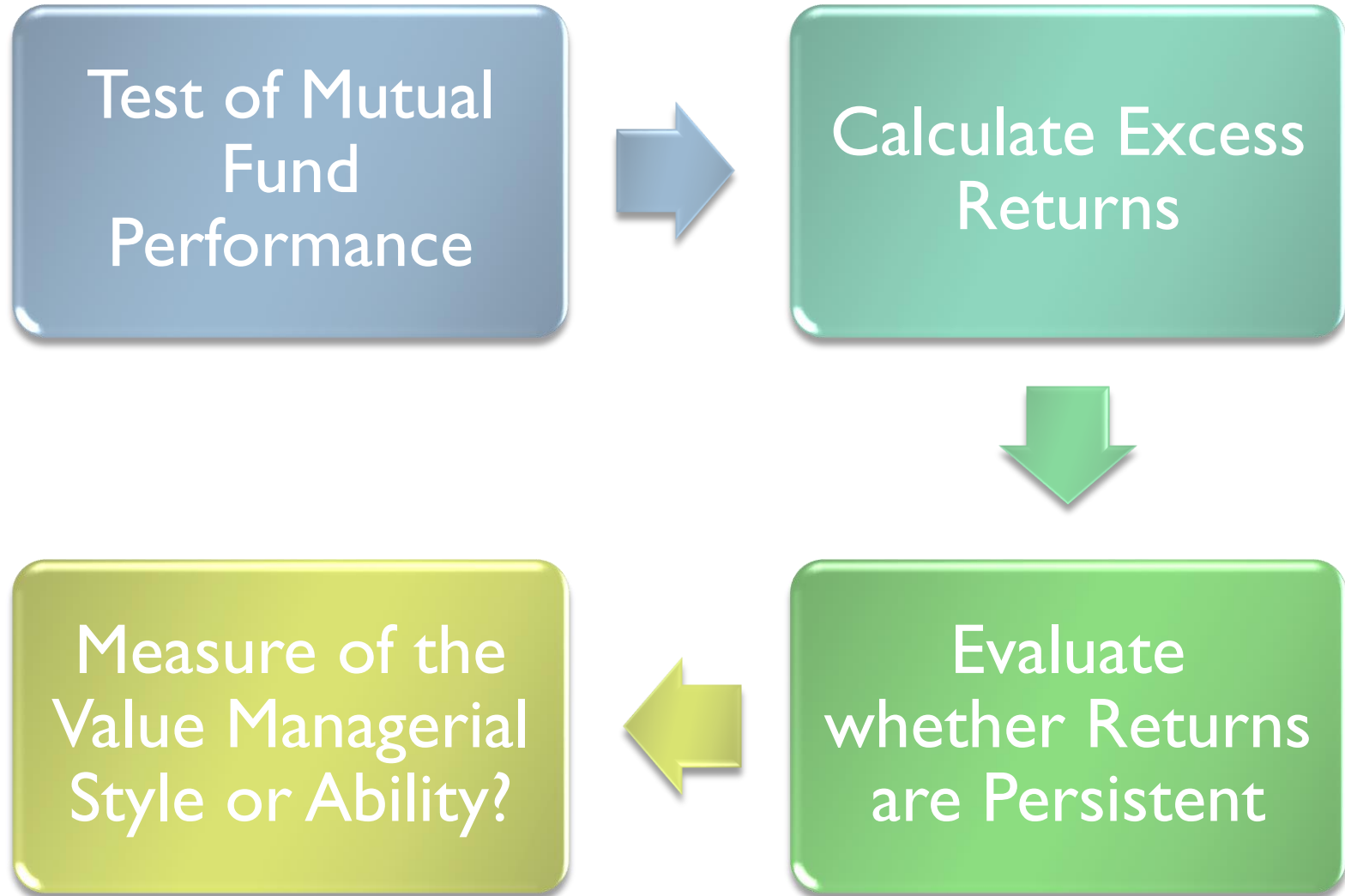
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- ▶ ***Does Management Style Impact on Mutual Fund Performance?***
  - ▶ According to the efficient market hypothesis, it should be impossible to beat the market.
  - ▶ Mutual fund returns above that of the market should therefore be transitory.



## Previous Literature (cont'd)

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## Previous Literature (cont'd)

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- ▶ **Grinblatt and Titman (1992) provides one of the earliest assessments of mutual fund performance**
  - ▶ Database of 279 mutual funds
  - ▶ Find that there is positive persistence in mutual fund performance which cannot be explained by: firm size, dividend yields, past returns, skewness, interest sensitivity and CAPM Beta
  - ▶ Main shortcoming – survivorship bias.
- ▶ **Brown and Goetzmann (1995) attempt to account for survivorship bias.**
  - ▶ Still report evidence of persistence, particularly across funds that followed a similar strategy or “hot hands”/momentum.



## Previous Literature (cont'd)

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- ▶ **Chevalier and Ellison (1999) assess the extent these dissimilarities are due to variations in ability, knowledge or effort of managers**
  - ▶ Their results suggest that there are direct benefits in terms of returns from 'better educated' managers.



## Previous Literature (cont'd)

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- ▶ **Elton et al. (2003) argue that incentive fees influence superior performance from fund managers.**
- ▶ Investors in funds with incentive fees attract managers with better stock selection abilities.



## Previous Literature (cont'd)

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- ▶ **Individual vs. Team Management (Prather and Middleton, 2002)**
  - ▶ No substantial difference
  
- ▶ **Male vs. Female managers (Atkinson et al. 2003)**
  - ▶ No substantial difference



# Mutual Fund Returns in Barbados

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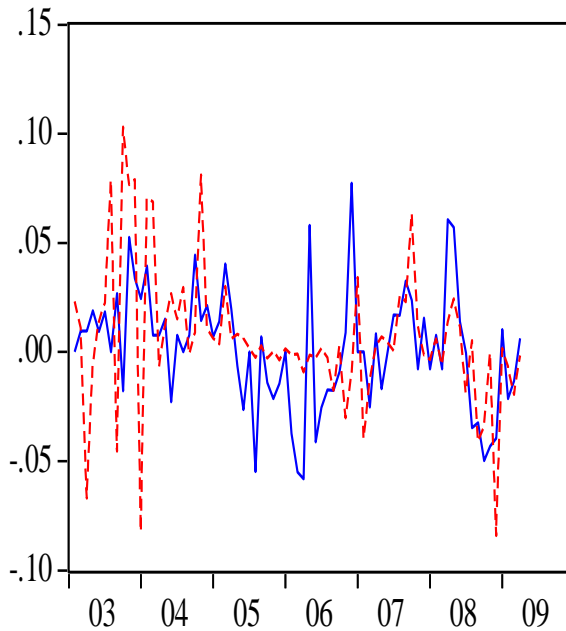
- ▶ The study employs monthly observations on Barbadian mutual funds over the period January 2003 to April 2009.
- ▶ The data is free from survivor bias, since none of the mutual funds exited over this period.
- ▶ Observations on net asset values for the mutual funds are obtained from the Daily Trading Reports published by the Barbados Stock Exchange and available at [www.bse.com.bb](http://www.bse.com.bb).



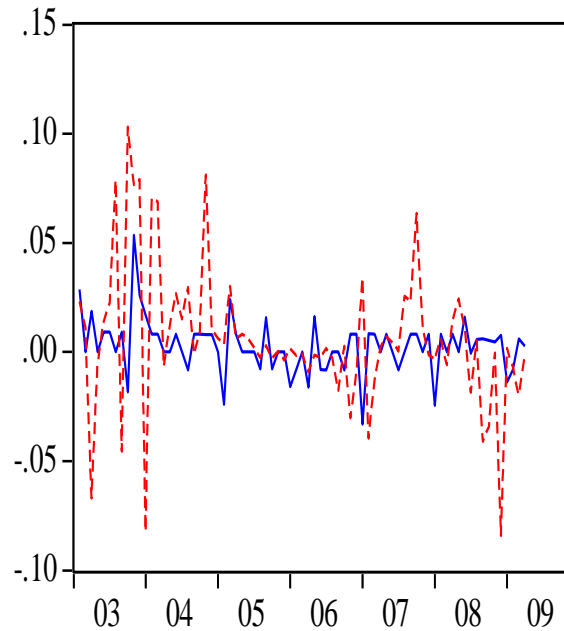
# Mutual Fund Returns in Barbados (cont'd)

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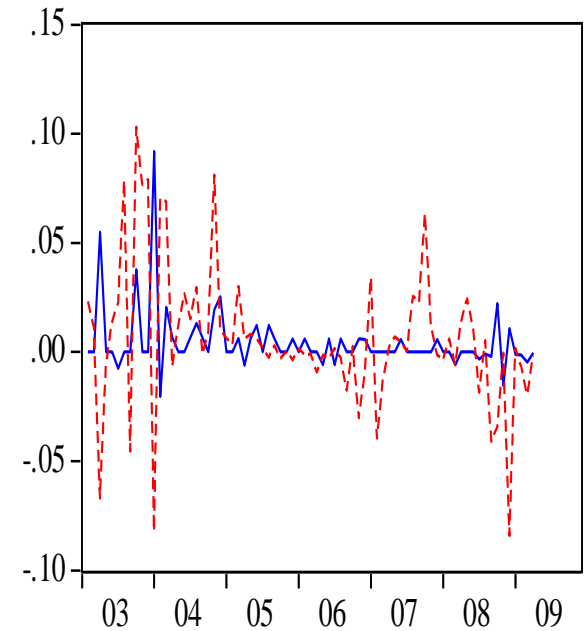
BNB Capital Growth



BNB Income



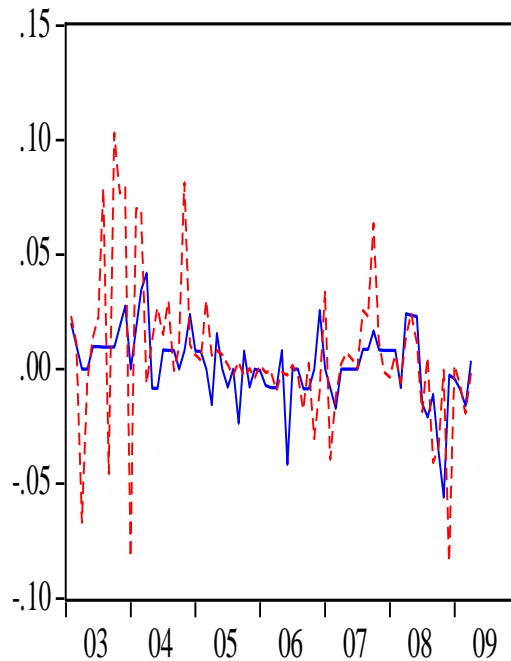
BNB Property



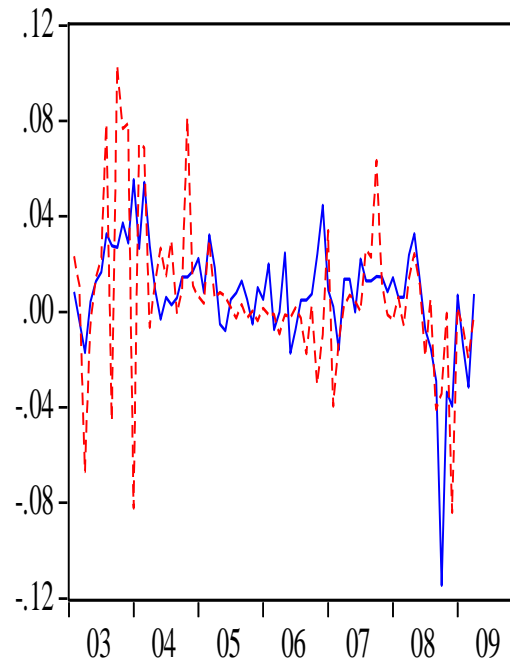
# Mutual Fund Returns in Barbados (cont'd)

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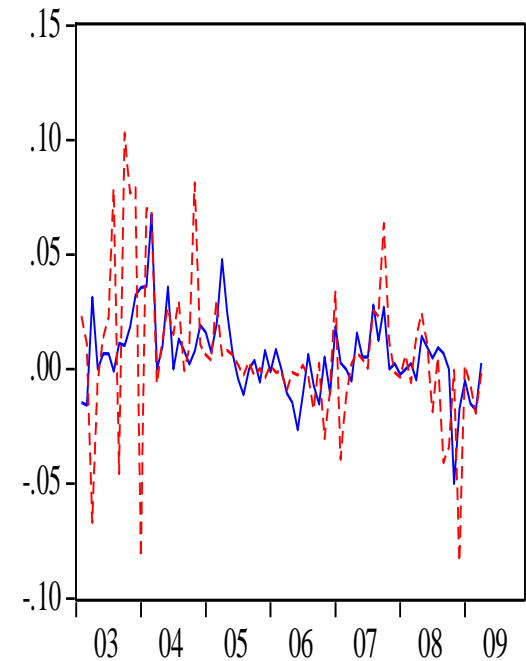
Clico Balanced



Fortress Caribbean Growth



Royal Fidelity Select Balanced



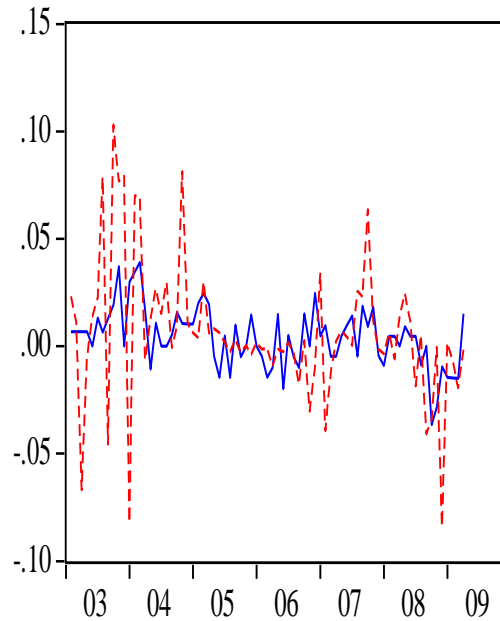
— RNAV    - - - RMKT



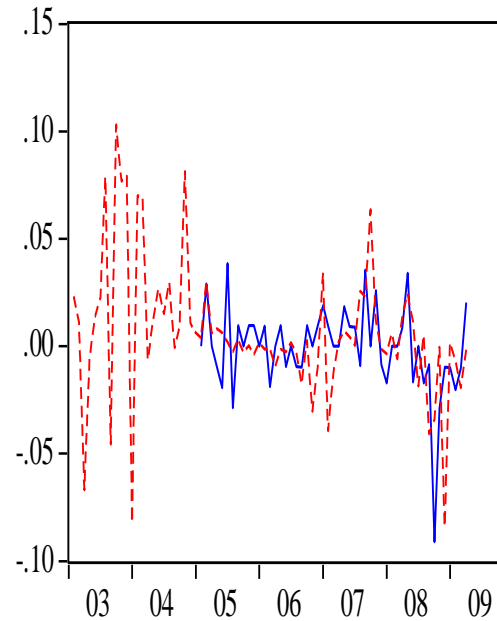
# Mutual Fund Returns in Barbados (cont'd)

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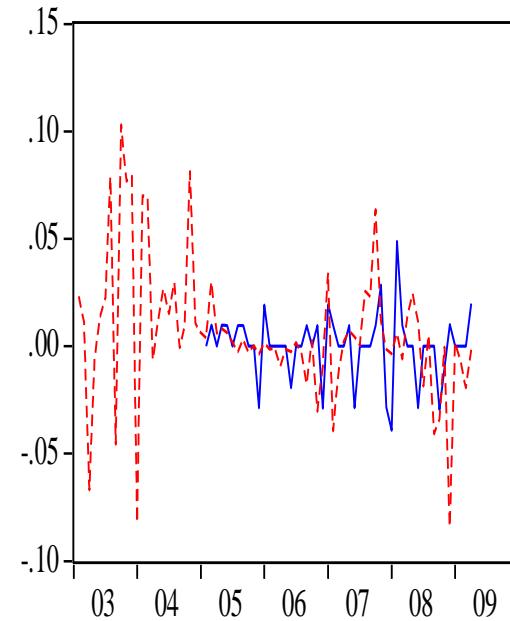
Sagcor Global Balanced



Sagcor Select Growth



Sagcor Preferred Income

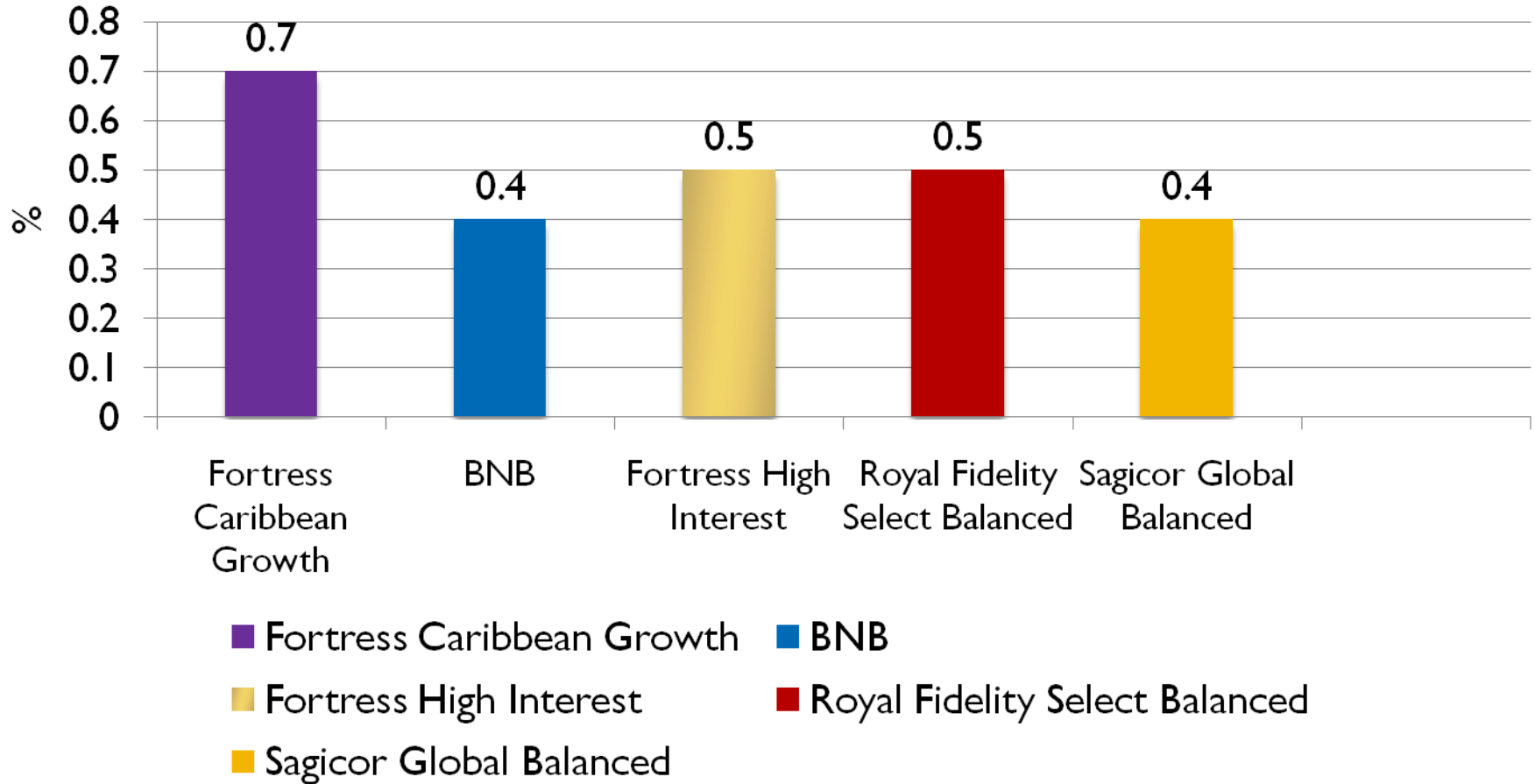




# Mutual Fund Returns in Barbados (cont'd)

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## Average Monthly Changes



# Are Mutual Fund Returns in Barbados Persistent?

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- ▶ **Persistence in the context of this study means:**
  - ▶ the tendency of mutual funds reporting abnormal returns in year  $t-1$  to also report abnormal returns in year  $t$ .
  - ▶ panel autoregression of mutual fund returns is estimated.



# Are Mutual Fund Returns in Barbados Persistent? (cont'd)

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**Table 3.2: Descriptive Statistics**

Dependent Variable = $r_t$	Returns
constant	<b>0.003</b> <b>(14.258)**</b>
$r_{t-1}$	<b>0.121</b> <b>(1.962)**</b>
R-squared	<b>0.336</b>
s.e. of regression	<b>0.015</b>
F-statistic	<b>4.726</b> <b>[0.000]</b>

Notes: (1) t-statistics are provided in parentheses below coefficients.  
(2) p-values are given in square brackets.

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# Are Mutual Fund Returns in Barbados Persistent (cont'd)

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- ▶ There are two main drawbacks of the autoregression approach used above:
  1. The equation evaluates the persistence in returns rather than abnormal returns.
  2. The t-statistic reported in the Table 3.2 does not have a true t-distribution.



# Are Mutual Fund Returns in Barbados Persistent (cont'd)

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- ▶ Persistence can alternatively be evaluated using a three-step procedure.
  - ▶ **Step 1:** Split sample into two three-year sub-periods (2003-2005 and 2006-2008.)
  - ▶ **Step 2:** Compute the abnormal returns for each fund
  - ▶ **Step 3:** Estimate the multiple r-squared of the abnormal returns in the first three-years and the second three-years is calculated.



# Are Mutual Fund Returns in Barbados Persistent? (cont'd)

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- ▶ **Positive correlation between the two sample periods:**
  - ▶ mutual funds that performed well in the 2003-2005 period also tended to perform above par in the 2006-2008 period.



# Determinants of Excess Returns

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- ▶ One potential source of persistent abnormal returns is *stock selection ability*.
- ▶ To evaluate whether or not a particular fund's return is due to stock selection ability the following four-factor model is employed:

$$r_{pt} = \alpha_p + \sum_{k=1}^4 \beta_{pk} r_{kt} + \varepsilon_{pt}$$

- ▶ where  $r_p$  is the excess return of the mutual fund and  $r_k$  are the returns of four factors. These four factors are the excess return of the market portfolio, size, book-to-market and momentum factors.



# Determinants of Excess Returns (cont'd)

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- ▶ Another potential source of persistent abnormal returns is market timing - correctly forecasting the relative returns of broad asset classes.
- ▶ Market timing can be identified using the following equation:

$$r_{pt} = \alpha_p + \beta_p r_{mt} + \gamma_p r_{mt}^2 + \varepsilon_{pt}$$

- ▶ where ***rp*** is the excess return of the mutual fund and ***rm*** are the returns of the market.





# Determinants of Excess Returns (cont'd)

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**Table 4.2: Estimated Models of Stock Picking**

	Industry	Firm-Specific
$\alpha_p$	-0.025 (-17.365)**	-
$\beta_{p,market}$	0.409 (19.951)**	0.172 (4.496)**
$\beta_{p,size}$	-0.009 (-0.226)	0.098 (2.529)**
$\beta_{p,book-to-market}$	-0.042 (-0.949)	-0.142 (-3.360)**
$\beta_{p,momentum}$	0.065 (2.361)**	0.040 (1.711)*



# Determinants of Excess Returns (cont'd)

**Table 4.3: Estimated Aggregate Models of Market Timing**

	Treynor and Mazuy (1966) Model	Henriksson and Merton (1981)
$\alpha_p$	-0.024 (-19.063)**	-0.022 (-4.983)**
$\beta_p$	0.436 (20.615)**	0.420 (3.819)**
$\gamma_p$	0.937 (2.838)**	-0.016 (-0.085)
R-squared	0.382	0.375
S.e regression	0.023	0.023
F-Statistic	225.886 [0.000]	219.477 [0.000]

Notes: (1) t-statistics are provided in parentheses below coefficients.

(2) p-values are given in square brackets.

(3) \*\* and \* indicates statistical significance at the 5 and 10 percent levels of testing, respectively.

# Conclusion

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- ▶ Most of the variation in mutual fund returns can be explained by investing in “hot” stocks, large cap shares and firms with relatively high book-to-market equity valuations.
- ▶ Some evidence of market timing both at an aggregate industry level and for individual mutual funds.
  - ▶ 6 out of the 11 funds considered tended to shift their portfolios to hold more equity when there were large upswings in the market



## Conclusions (cont'd)

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- ▶ The study therefore provide some basic rules-of-thumb that should be of use to individuals interested in investing in mutual funds in Barbados:
  1. funds with relatively high returns are more likely to report higher-than-average returns the following year;
  2. avoid funds with persistently low returns, and;
  3. do not expect abnormal returns to last forever.

