

The Case For Emerging Market Funds

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ABSTRACT

This study investigates the performance of open-end actively managed emerging market mutual funds during the time period 1999 to 2005. Our analysis is cross-sectional and time series across a wide range of emerging markets. Previous research includes performance studies of international mutual funds and emerging market funds, but none of the previous studies were as broad nor as specific as the current study. Monthly fund returns are compared to three indices (emerging markets, MSCI, and S&P 500 Index), using annualized returns, Sharpe ratio and Treynor ratio. The results show that the emerging market funds outperform the MSCI Index and the S&P 500 Index, but not the emerging market index. During the study period, an investor would have benefited by either investing in emerging market funds or the emerging market index. There is also a negative relationship between emerging market fund returns and turnover, and a positive relationship between fund returns and size.

Keywords: Emerging Markets, mutual funds, index funds, Sharpe ratio, international funds

INTRODUCTION

In this paper, we examine the benefits of investing in emerging markets mutual funds. Specifically, we investigate whether or not open-end actively managed emerging market mutual funds outperform selected market indices during the time horizon of the study, 1999 to 2005. Our analysis is cross-sectional and time series across a wide range of emerging markets. Previous research includes performance studies of international mutual funds and emerging market funds, but none of the previous studies were as broad nor as specific as the current study.

Several previous studies have investigated the performance and behavior of emerging market funds. According to Tkac (2001), emerging market funds have more heterogeneous volatilities than more developed markets funds that are less volatile. The study looked at the performance of a large sample of open-end international mutual funds during the period 1990-1999 to determine whether there is a significant relationship between international funds and performance. Their results show that emerging markets funds do not outperform developed markets funds and do not earn abnormal returns because of inefficiencies in the foreign capital markets.

Jones and Swanson (1995) analyzed market indices during the years 1980-1989 for both maturing and emerging market funds and found no significant difference between mature and emerging funds, using the Sharpe index. Goetzmann, Ivkovic and Rouwenhorst (2001) studied daily returns of 391 international open-end equity funds from 1990-1998 and found that the S&P 500 Index has outperformed all broad international indices during this period. They conclude that there is a clear positive correlation between international mutual funds and prior-day S&P 500 Index returns, which indicates the S&P 500 Index can serve as a leading signal for international funds.

Fortin and Michelson (2002) examine the benefits of investing in actively managed mutual funds over index funds during the 25-year time period 1976-2000. Their results provide additional evidence that index funds outperform actively managed funds for all fund categories, except for Small Company Equity and International Stock funds.

Movassaghi, Bramhandkar and Shikov (2004) report that in 4 out of 5 years (1998-2002), their sample of 54 emerging market mutual funds outperformed developed market funds. Within emerging markets, no fund investing in a particular region was found to perform superior to others. Abraham, Seyyed and Al-Elg (2001) found that the emerging market mutual funds investing in the Gulf region could provide a valuable hedge because Gulf region equity returns are positively correlated with oil prices. In the period 1993-1998, the S&P 500 Index outperformed the Gulf markets, however, the analysis indicated an allocation of 20-30% of Gulf equities was necessary to achieve an efficient risk reduction.

Borensztein and Gelos (2003) explored the behavior of emerging market mutual funds to determine whether there was a tendency for market participants to disregard fundamental economic conditions in emerging markets, and respond only to what other international investors were doing or were expected to do. Their study covered 80% of dedicated emerging market equity funds worldwide and found statistically significant, even though not dramatic, herding behavior. For a given country, the number of funds moving in the same direction was approximately 8% larger than expected, by chance.

The presence of significant herding behavior is further supported by Aitken’s research (1998), which focused on emerging stock markets. He uses a variance test, operating on the proposition that a stock price that reflects all available information will follow a random path. For the early study period, 1989-91, there was no significance; however, in the later period (1992-95), he found evidence of accelerating and collapsing price behavior associated with speculative bubbles. Aitken concluded that emerging markets as a group experienced a sharp increase in autocorrelation in total returns at times when investors began to expand their holdings into these emerging markets. In addition, he reported that many investors treated emerging markets as an asset class, and shifted their entire portfolio holdings out of emerging markets altogether, rather than shifting the holdings from one emerging market to another.

A study by Patro (2005) analyzes the effects of financial market liberalization on emerging market country fund premiums, share prices, and net asset values. In a framework of market segmentation, an emerging market is not completely accessible by international investors due to restrictions on investments. Using a sample of 34 country funds from 18 countries during 1981-99, the author shows that the listing of new funds had a significant negative impact on existing funds premiums. These findings indicate that the ability to span current funds using new funds has a greater impact on country fund premiums than simply the lifting of foreign investment restrictions. For emerging market funds, the premiums reflect barriers to international investments, which may be overcome by listing new financial instruments in foreign markets.

Bekaert and Harvey (1997) find that volatility is different across emerging markets, especially when considering the timing of capital market reforms. In a follow up article they (Bekaert and Harvey, 2000) show that the “capital market integration process reduces the cost of capital,” while creating an increase in correlation with world market returns. Saunders and Walter (2002) show that while there are still some frictions and barriers to full capital market integration in emerging markets, the growth of funds and ADRs have significantly improved the “integration of financial flows among the world’s capital markets.” Barry, Peavy, and Rodriguez (1998) find that while emerging market investments have provided diversification benefits, they have not produced high levels of returns when compared to US markets over the 1975-1995 period, while still experiencing a high level of volatility.

The following table provides data on net capital flows to emerging market countries during our study period. Observing any of the three variables, the increases from 2000 to 2004 are dramatic, from a 7% increase to a 116% increase. This data emphasizes the increasing importance associated with investments in emerging markets.

Net Capital Flows to Emerging Market Countries (\$ billions)						
	1999	2000	2001	2002	2003	2004
Net equity flows	195.1	178.6	180.9	159.8	176.6	192.3
Net portfolio equity inflows	12.7	12.4	6.0	5.8	24.8	26.8
Total net capital flows	239.1	201.1	205.2	200.9	282.1	323.8

Source: World Bank Debtor Reporting System, IMF Balance of Payments Yearbook, 2005

The small body of research in the area of emerging markets mutual funds, as well as the increasing importance of the emerging market funds category for diversifying investors' portfolios, has made this an important area of research. Emerging markets have been growing at a fast pace and many investors have turned to this segment to increase their returns. However, higher returns always mean higher risks. In order to assess the risk and return, more current and in-depth research needs to be performed.

This study tests the hypothesis that actively managed emerging market mutual funds have significantly outperformed their respective indices during the time period September 1999 through January 2005. We perform our research using a sample of 55 emerging mutual funds and 5 indices; three that are classified as Emerging, one as International, and the most commonly used benchmark; the S&P 500 Index.

DATA

The mutual fund data used in this study came from the MorningStar Principia Pro database for Mutual Funds (last updated 12/31/2004), and the Thompson Financial InvestmentView database. The initial sample included 171 mutual funds with the objective of Diversified Emerging Markets. A number of these funds did not have return series beyond 3 years. In order to increase the study period to five years, the sample was reduced. The final sample includes 55 open-end emerging market mutual funds with a total of 64 monthly return data points. The time frame of the study is from September 1999 through January 2005. To obtain returns we compute annual returns from monthly data, thus 1999-2000 data are used to compute the 2000 returns, 2000-2001 data are used to compute the 2001 returns, etc. Due to the sample size, it was not possible to group the funds into different regions for comparison. The mutual fund return data is computed net of all fees.

Additionally, we compiled annual data on Net Assets, Expense ratio and Turnover for each of the funds to determine the relationship between these independent variables and the funds returns (dependent variable). A multivariate regression was estimated using return as the dependent variable and expense ratio, turnover, and the natural log (LN) Net assets as the independent variables.

The emerging market mutual funds' performance is evaluated with three major index categories: Emerging Markets Index performance (which included three indices: Thomson US: Emerging Market Equity – MF, IFC Emerg Mrks - Comp Global (US\$) and MSCI Emerging Markets Free Index), International Index performance (which included one index - MSCI EASEA Index (EAFE ex Japan)); and the S&P 500 Index. The indices are described in the Appendix. These indices were selected as the best broad range descriptors of the range of emerging markets represented by the emerging market funds in this study. All the indices contained 64 monthly return data points which match the funds' returns data points. When calculating the Sharpe and Treynor ratios, the one year US T-bill is used as a proxy for the risk-free rate.

METHODOLOGY

The methodology used in the study involves computing mean monthly returns, Sharpe ratio, and Treynor ratio for both the mutual funds and the indices. These calculations are performed on a mean monthly basis, as well as on annual monthly basis. Difference of means t-tests are performed to test for a significant difference between the emerging market funds and the indices. A multivariate regression is estimated to establish the relationship between the funds' monthly returns and the three independent variables (net assets, expense ratio and turnover).

We test for a significant difference between emerging market mutual funds returns and the indices returns. Note that a negative significant difference indicates the index has outperformed the funds, while a positive significant difference indicates that the emerging market funds outperformed the index.

EMPIRICAL RESULTS

Table 1 provides summary statistics for all four categories; the 55 emerging market funds and the three groups of indices. The four measures represented in the table are the average monthly return, average monthly standard deviation, average monthly Sharpe ratio, and average monthly Treynor ratio. The highest mean monthly

return of 0.9322 percent was generated by the emerging indices. The S&P 500 Index had the lowest mean monthly return of -0.0189 percent. The emerging market funds average monthly return was 0.9163 percent, which is relatively close to the emerging market return. The MSCI Index average return was 0.4330 percent indicating that it outperformed the S&P 500 Index and underperformed the Emerging Market Indices during the study period. As expected, the S&P 500 Index had the lowest standard deviation of 4.7025, compared to 6.9061 for the emerging market funds. The other two measures in the study are the Sharpe and the Treynor ratios. Again, the S&P 500 Index had negative results of -0.0625 and -0.2939 respectively. The emerging market funds had the highest Sharpe and Treynor ratios indicating the highest reward-to-risk ratio. The summary statistics for the regression independent variables are provided in Table 5. The mean expense ratio is 1.83%, with a minimum of 0.48% and maximum of 3.61%. The mean turnover is 97.98%, with a minimum of 10% and a maximum of 432%.

Table 1: Summary Statistics

	AveMonthly Return	AveMonthly STDEV	AveMonthly Sharpe	AveMonthly Treynor
Emerging Funds	0.9163	6.9061	0.1192	0.7742
Emerging Indices	0.9322	6.1144	0.1077	0.6572
MSCI Index	0.4330	5.0913	0.0310	0.1580
S&P 500 Index	-0.0189	4.7025	-0.0625	-0.2939

Table 2 presents the results of the paired comparison T-test on the difference in average monthly returns between the funds and the emerging indices. The variables shown in the table are the index and the funds mean returns, the *t* statistic and the significance level. The tests are performed over the full sample period for the average monthly return data, and for the average monthly Sharpe ratios, and Treynor ratios. The monthly means are also computed on an annual basis for each of the three measures. A positive *t* statistic indicates that the funds have outperformed the index. The shaded areas in the tables are used to differentiate between the categories being analyzed (monthly return, monthly Sharpe, and monthly Treynor). Overall, the emerging market funds significantly outperformed the emerging market indices based on average return and for the Treynor ratio. The Sharpe ratio was not statistically significant. When analyzed on an annual basis, only six out of fifteen cases were significant, with only the year 2000 returns being significantly positive. These results indicate that the emerging market funds and emerging market indices are highly correlated and an investor would benefit as well by investing in the index.

Table 2: Emerging Indices Difference of Means (t tests) Summary

		Index Mean	Funds Mean	t stat	Sig. (2-tailed)
Emerging Indices	MeanMonReturn	0.9322	1.0662	1.885	0.065
	MeanMonSharpe	0.1077	0.1192	1.449	0.153
	MeanMonTreynor	0.6572	0.7742	1.752	0.085
	MonReturn2000	-2.7978	-2.5307	2.118	0.039
	MonReturn2001	0.1489	0.0445	-0.733	0.467
	MonReturn2002	-0.3756	-0.4995	-0.774	0.442
	MonReturn2003	3.8325	3.9494	1.583	0.119
	MonReturn2004	2.0053	1.9054	-1.226	0.225
	MonSharpe2000	-0.6522	-0.5124	5.387	0.000
	MonSharpe2001	-0.0168	-0.0262	-0.659	0.513
	MonSharpe2002	-0.0999	-0.1006	-0.038	0.970
	MonSharpe2003	0.8832	0.8293	-3.560	0.001
	MonSharpe2004	0.4287	0.3924	-2.016	0.049
	MonTreynor2000	-3.3068	-2.8862	3.685	0.001
	MonTreynor2001	-0.1412	-0.2019	-0.478	0.634
MonTreynor2002	-0.5424	-0.5586	-0.145	0.885	
MonTreynor2003	3.7288	3.6595	-0.735	0.465	
MonTreynor2004	1.8481	1.6903	-2.067	0.044	

Tables 3 & 4 present similar statistics (as Table 2) for the MSCI Index and the S&P 500 Index. In all cases but four (out of 36), the emerging market funds significantly outperformed the indices (using MSCI and S&P 500 Index). This is true for the full five-year period and for each of the annual periods, for return, Treynor ratio and Sharpe ratio. Five cases are significantly negative (four in 2000), indicating the index outperformed the funds. Therefore, using the MSCI Index and the S&P 500 Index, the emerging market mutual funds outperformed the indices overall and for all years, except for 2000. An investor would have benefited by investing in emerging market funds instead of the MSCI Index or the S&P 500 Index during this period.

Table 3: MSCI Index Difference of Means (t tests) Summary

		Index Mean	Funds Mean	t stat	Sig. (2-tailed)
MSCI Index	MeanMonReturn	0.433	1.0662	8.907	0.000
	MeanMonSharpe	0.031	0.1192	11.125	0.000
	MeanMonTreynor	0.158	0.7742	9.227	0.000
	MonReturn2000	-0.675	-2.5307	-14.713	0.000
	MonReturn2001	-1.585	0.0445	11.438	0.000
	MonReturn2002	-1.3617	-0.4995	5.386	0.000
	MonReturn2003	2.945	3.9494	13.598	0.000
	MonReturn2004	1.7258	1.9054	2.204	0.032
	MonSharpe2000	-0.2855	-0.5124	-8.739	0.000
	MonSharpe2001	-0.3406	-0.0262	21.945	0.000
	MonSharpe2002	-0.2436	-0.1006	7.792	0.000
	MonSharpe2003	0.5775	0.8293	16.632	0.000
	MonSharpe2004	0.5253	0.3924	-7.376	0.000
	MonTreynor2000	-1.184	-2.8862	-14.912	0.000
	MonTreynor2001	-1.8751	-0.2019	13.174	0.000
	MonTreynor2002	-1.5285	-0.5586	8.682	0.000
MonTreynor2003	2.8413	3.6595	8.676	0.000	
MonTreynor2004	1.5686	1.6903	1.595	0.117	

Table 4: S&P 500 Index Difference of Means (t test) Summary

		Index Mean	Funds Mean	t stat	Sig. (2-tailed)
S&P 500 Index	MeanMonReturn	-0.0189	1.0662	15.264	0.000
	MeanMonSharpe	-0.0625	0.1192	22.921	0.000
	MeanMonTreynor	-0.2939	0.7742	15.994	0.000
	MonReturn2000	-0.7767	-2.5307	-13.907	0.000
	MonReturn2001	-1.005	0.0445	7.367	0.000
	MonReturn2002	-2.03	-0.4995	9.562	0.000
	MonReturn2003	2.0192	3.9494	26.131	0.000
	MonReturn2004	0.7408	1.9054	14.292	0.000
	MonSharpe2000	-0.2599	-0.5124	-9.725	0.000
	MonSharpe2001	-0.228	-0.0262	14.084	0.000
	MonSharpe2002	-0.3694	-0.1006	14.646	0.000
	MonSharpe2003	0.5829	0.8293	16.275	0.000
	MonSharpe2004	0.2787	0.3924	6.308	0.000
	MonTreynor2000	-1.2857	-2.8862	-14.021	0.000
	MonTreynor2001	-1.2951	-0.2019	8.608	0.000
	MonTreynor2002	-2.1968	-0.5586	14.664	0.000
MonTreynor2003	1.9155	3.6595	18.494	0.000	
MonTreynor2004	0.5856	1.6903	14.472	0.000	

Table 5 presents the results of the multivariate regression of the emerging market mutual funds average monthly return (dependent variable) versus expense ratio, turnover, and LN net assets. Expense ratio is not significant. Net assets are significantly positive, indicating that larger funds tend to have better performance. Turnover is significantly negative, thus the less actively traded funds (lower turnover) tend to have better fund performance.

Table 5: Regression – Monthly Return (dependent) vs LN Net Assets, Turnover, Expense Ratio (independent)

Independent Variables Summary Statistics			
	Net Assets	Expense Ratio	Turnover
Mean	558.99	1.83	97.98
Std Dev	873.38	0.56	81.53
Median	153.86	1.87	80.50
Max.	3770.81	3.61	432.00
Min.	0.87	0.48	10.00

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.478(a)	.228	.183	.46445	1.780

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.433	.335		1.289	.203
	Expense Ratio	.049	.129	.054	.380	.706
	Turnover	-.002	.001	-.380	-2.876	.006
	LN_Net Assets	.058	.033	.243	1.775	.082

CONCLUSION

This study utilizes monthly returns for a sample of 55 emerging market mutual funds for the period September 1999 through January 2005. The fund returns are compared to three indices (emerging markets, MSCI, and S&P 500 Index) using annual returns, Sharpe ratio and Treynor ratio. We find that the emerging market funds outperform the MSCI Index and the S&P 500 Index, but not the emerging market index. During our study period, an investor would have benefited by either investing in emerging market funds or the emerging market index. Investing in the MSCI Index or the S&P 500 Index would not have performed as well. We also find a negative relationship between emerging market fund returns and turnover, and a positive relationship between fund returns and size.

A fair question to ask is why were the results different for 2000 as compared to 2001-2004? One must look at the global economy for an insight. The global financial crisis that erupted in Asia in the mid-1997 is one of the primary causes of the 2000 underperformance of the emerging market funds. The widespread crisis impacted every emerging market, from Asia to Russia, Latin America and Africa. The crisis lasted until late 1999 and only in 2000, the world economy started to recover. This recovery led to sustained growth in many of the emerging markets. The affected countries emerged stronger than before, leading to the emerging market funds significantly outperforming the international and US indices used as benchmarks in this study. In addition, the US economy entered a recession in March 2001. The enormous budget deficit accompanied with a weakening US dollar and record high oil prices has been greatly hurting economy and its growth rate. Therefore, the emerging market funds had outperformed the S&P 500 Index every year since 2001.

The MSCI Index includes international developed nations, primarily in Europe. The European economy has been stagnant during the last 5 years, which also explains why the index outperformed the emerging funds in times of struggling emerging markets and it underperformed the funds in times when the emerging markets were growing.

While our study is limited to a five-year horizon, due to data constraints, the results are still very interesting. An investor diversifying into emerging markets during this period would have earned significant returns overall and during four out of five years. Additionally, low turnover funds and larger funds tended to perform better. These results form a strong case for diversifying a portion of an investor's portfolio in emerging market funds.

AUTHOR INFORMATION

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APPENDIX

Index Description

IFC Emerging Markets Comp Global Index – a U.S. dollar denominated index comprised of stocks of countries classified as either low- or middle-income economies by the World Bank regardless of their particular stage of development. The target coverage of the index is roughly 70-75% of total market capitalization, drawing upon stocks in these markets in order of their liquidity, without reference to the stock's availability to overseas investors.

MSCI Emerging Markets Free Index – a U.S. dollar denominated index comprised of stocks of countries with below average per capita GDP as defined by the World Bank, foreign ownership restrictions, a lax regulatory environment, and greater perceived market risk than in the developed countries. Within this index, MSCI aims to capture an aggregate of 60% of local market capitalization. Prior to 1988, the data represents the IFC Global Emerging Markets Index. The securities represented by this index involve investment risks, which may include the loss of principal invested.

MSCI EAFE Equity ex Japan – a total return index, reported in U.S. dollars, based on share prices and reinvested gross dividends of approximately 800 companies (only those securities deemed sufficiently liquid for trading by investors) from the following 19 countries: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Malaysia, Netherlands, New Zealand, Norway, Singapore, Spain, Sweden, Switzerland and the United Kingdom. The securities represented in this index may experience loss of invested principal and are subject to investment risk. In exchange for greater growth potential, investments in foreign securities can have added risks. These risks include changes in currency rates, economic and monetary policy, differences in auditing standards and risks related to political and economic developments.

Thomson US: Emerging Market Equity – MF – an equal weighted index of mutual funds within the stated investment category. Funds in this category seek long-term capital appreciation by investing primarily in emerging market equity securities; income is usually incidental. The funds represented by this index involve investment risks, which may include the loss of principal invested. This index represents the component funds at closing net asset value and includes all annual-based fees and expenses charged to those funds, including management and 12b-1 fees.

S&P500 Index – represents the market value weighted performance of stocks of 500 U.S. corporations, all of which are large publicly held companies trading on major U.S. stock exchanges. This index is the most widely watched index of large-cap U.S. stocks, and is considered to be a bellwether of the U.S. economy.