Investor Behaviour towards Initial Public Offers (IPOs) in Kenya: A Re-Modelling of the Harry Markowitz's Risk-Return theory?

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Abstract

The period 2000-2013 witnessed a tremendous rise in investor participation in IPOs in Kenya. During this period a number of IPOs resulted in over-subscription. Outstanding cases include; Kenya-Re (334%), Kengen (236%), Eveready (800%), Safaricom (363%), Mumias Sugar (200%), Access Kenya (300%), Scan Group (520%) and Telkom (300%). Stock market returns are highly unpredictable and volatile, making investment in IPOs a potentially risky affair. The purpose of this paper is to determine whether or not investor behaviour in Kenya is consistent with Harry Markowitz's (the H-M) risk-return theory. The first part of this paper seeks to look at the basic tenets of the H-M theory. In the last part of the paper, the actual behaviour of investors towards IPOs in Kenya is surveyed against the standard practice as

espoused by the H-M model. This paper concluded that the H-M model does not apply in the Kenyan case. Other factors besides risk and return appear to be influencing investor behaviour towards IPOs in Kenya signalling the need for the remodelling of the H-M model to include these additional factors. Findings by this paper may be valuable to investment policy makers in government and other players in Kenya's financial markets. Scholars also will also benefit from this paper's findings by having their knowledge on investment decision-making broadened.

Introduction

Investors commit funds to acquire assets, which may be financial or real. Financial assets include stocks, bonds, mortgage, commercial paper, bank deposits and other securities. Real assets on the other hand include such tangible items as precious metals, diamonds, plant and equipment, real estate, manufacturing, agriculture, etc.

Investors make investment decisions on the basis of the returns that they expect. Investors want to make sure that the expected returns from chosen investments at least equal the returns they require to commit their funds (Shetty, et. al, 1995).

However, in a world of un-predictable events, investors' expectations are rarely fulfilled exactly. An actual return may turn out to be better or worse than what an investor expected at the time of investment - constituting risk. Investment risk forces an investor to evaluate the return and risk characteristics of every opportunity before making an investment decision, although investors may differ in their attitudes towards risk. Generally, prudent investment decision making must take risk into account.

The Risk-Return Relationship

Financial economists have long been interested in the empirical relation between the conditional mean and the conditional volatility of excess stock market returns, often referred to as the risk-return relation. The risk-return relation is an important ingredient in optimal portfolio choice, and is central to the development of theoretical models aimed at explaining observed patterns of stock market predictability and volatility (Syndey& Serena, 2005).

Among those theoretical models that have become standard bearers in finance, a positive risk-return relation is the benchmark prediction, so that times of predictably higher risk coincide with times of predictably higher excess returns and vice-versa. Unfortunately, the body of empirical evidence on the risk-return relation is mixed and inconclusive. Some evidence supports the theoretical prediction of a positive risk-return trade-off, but other evidence suggests a strong negative relation. Yet a third strand of the literature finds that the relation is unstable and varies substantially through time.

The risk-return relationship also known as the risk-return spectrum generally refers to the relationship between the amount of return gained on an investment and the amount of risk undertaken in that investment. The more the return sought the more risk that must be borne.

There are various classes of possible investments, each with their own positions on the overall risk-return spectrum. The general progression is short-term debt, long-term debt, property, high yield debt, and equity. However, there is considerable overlap of the ranges for each investment class. The existence of risk causes the need to incur a number of expenses. For example, the riskier an investment, the more time and effort is usually required to obtain information about

it and monitor its progress. Risk is therefore something that must be compensated for. Normally compensation for risk is referred to as Risk-Premium. A riskier investment will attract a higher risk premium even if the forecast return is the same as upon a less risky investment.

If an investment had a higher return with low risks eventually everyone would want to invest there. That action would drive down the actual rate of return achieved, until it reaches the rate of return the market deems commensurate with the level of risk. Similarly, if an investment had a low return with high risk, all the present investors would want to leave that investment, which would then increase the actual return until again it reaches the rate of return the market deems commensurate with the level of risk. That part of total return which sets this appropriate level of risk is called the risk premium. Thus;

Total Return=Risk free rate + Risk Premium

Fig. 1: The Risk- Return Relationship
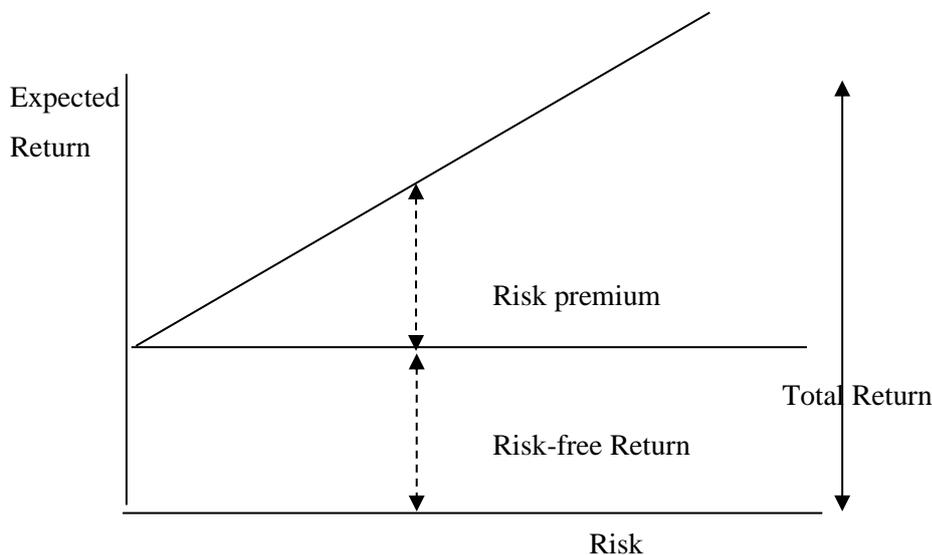
Pandey (2006) considered the risk-free rate as a compensation for timeand risk premium as a compensation for risk in investment. The higher the risk of an investment action, the higher will be the risk premium leading to higher required return from that investment action. A proper balance between return and risk should be maintained to maximize the value of an investment. This balance is called the Risk-Return Trade-off.

Investors' Behaviour towards Risk

Investors' behaviour towards risk can be conveniently categorized in four major ways (Shetty, et. al, 1995). Investors can avoid risk entirely by investing only in risk-free assets, or accept risk, but insist on compensation in the form of risk premium. Other investors, like those who buy lottery tickets exhibit a risk-seeking or risk loving tendency, and yet other investors remain indifferent to risk by failing to take into consideration risk inherent in investments before making an investment decision. The first two categories reflect investor behaviour known as risk-a-version (see fig.1 below).

Fig. 2: Investor Behaviour Towards Risk.
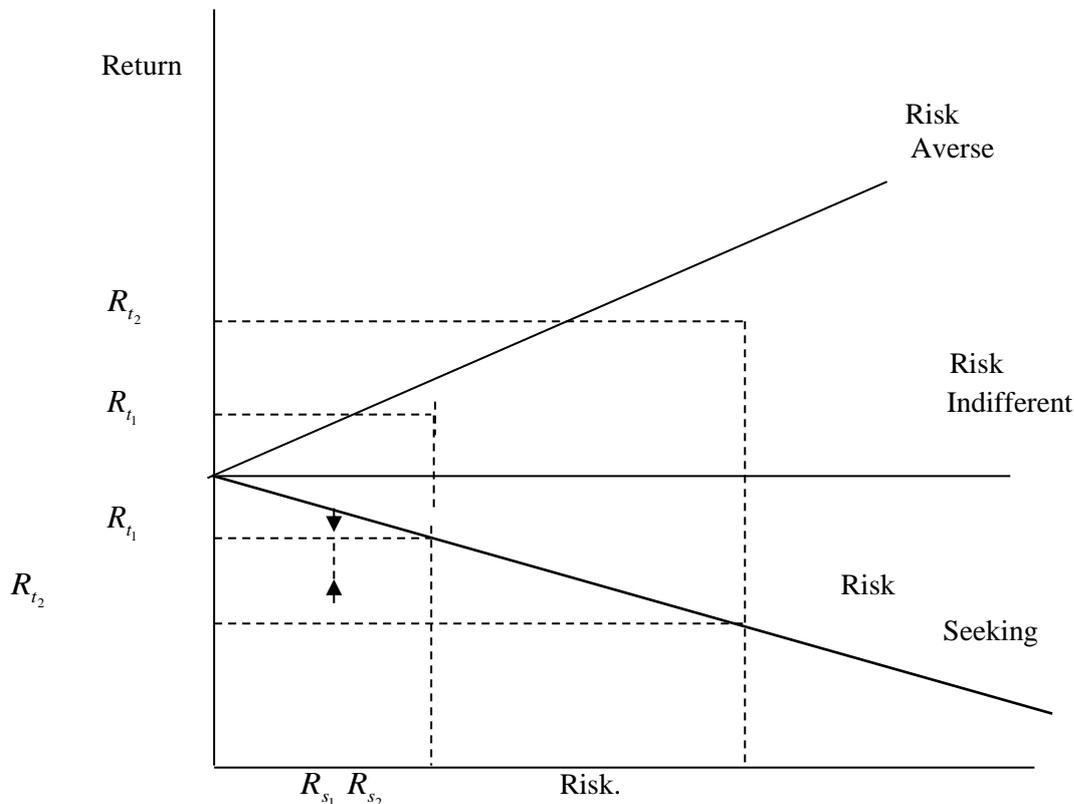
Ample empirical evidence confirms that investors are generally risk averse (Shetty, et. al, 1995).

Risk-aversion simply means that investors require higher returns on investments with higher risk. Given a choice between two assets, with equal returns and different risk levels, a risk-averse investor will select the asset with the lower risk.

Risk-averse behaviour is mainly evident in the pricing of securities in the stock market (Fintrade, 2007). Historical studies of security prices and rates of return have revealed that riskier securities generally sell at lower prices and produce higher returns than less risky ones.

Since risk-averse investors demand higher risk premiums on riskier assets, they must promise higher minimum expected returns to induce investors to commit funds. To determine the risk premium for an investment, investors should know the amount of risk it involves and the price of risk.

Harry Markowitz's Risk-Return Theory

Also known as the Harry Markowitz (HM) model, Harry Markowitz's Risk-Return Theory was put forward in 1952. It is also called the mean-variance model. This theory holds that an

efficient portfolio of assets is one that gives maximum return for a given risk level, or minimum risk for a given return.

Accordingly, investors select their assets in a way consistent with the following:

a) From the portfolios that have the same return, the investor will prefer the portfolio with lowest risk, and

b) From the portfolios that have the same risk level, investors will prefer the portfolio with highest rate of return.

As the investors are rational, they would like to have higher return. Further since the investors are also risk averse, they want to have lower risk.

The figure 2 below shows risk-return profiles of possible portfolios:

Fig. 3: The Efficient Frontier
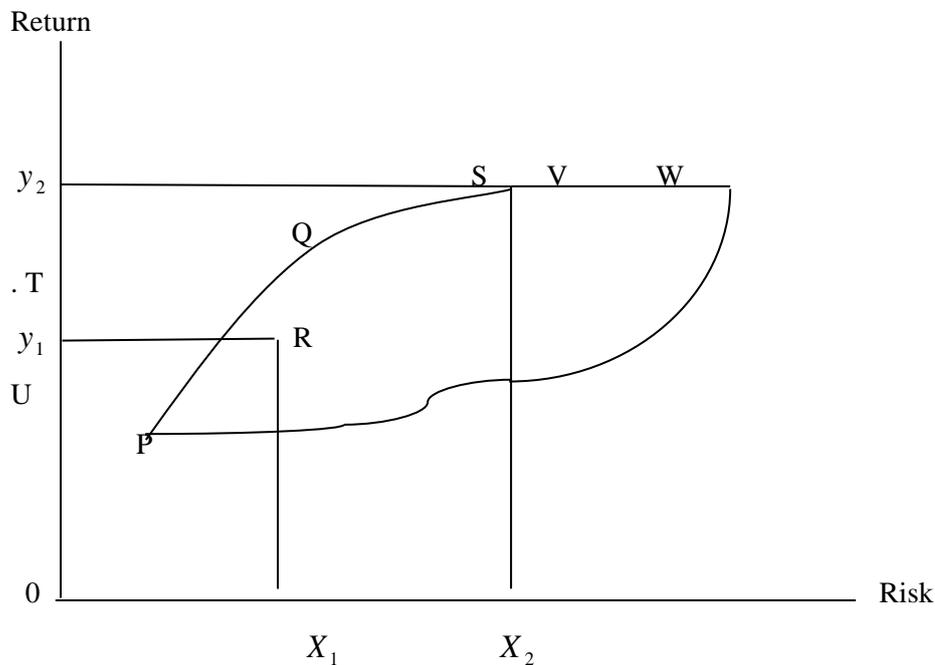
In the above figure, the shaded area PVWP includes all possible securities an investor can invest in. The efficient or optimal portfolios are the ones that lie on the boundary of PQVW.

For example, at risk level X, there are three portfolios S, T, U. But portfolio S is called the efficient portfolio as it has the highest return, Y, compared to T and U. All the portfolios that lie on the boundary of PQVW are efficient portfolios for a given level of risk.

The boundary PQVW is called the Efficient Frontier. All portfolios that lie below the efficient frontier are not good enough because the return would be lower for the given risk. Portfolios that lie to the right of the Efficient Frontier would not be good enough as there is higher risk for a given rate of return.

The efficient frontier is the same for all investors, as all investors want maximum return with the lowest possible risk. This is because all investors are assumed to be risk averse. According to Harry Markowitz's risk-return model, to choose the best portfolio from a number of possible portfolios, each with different return and risk, two separate decisions have to be made:

1) Determination of a set of efficient portfolios,

2) Selection of the best portfolio out of the efficient set.

Markowitz made the following assumptions while developing the HM model:

1) Risk of a portfolio is based on the variability of returns associated with the portfolio

2) An investor is risk averse

3) An investor prefers to increase consumption

4) The investor's utility function is concave and increasing, due to his risk aversion and consumption preference

5) Analysis is based on the single period model of investment

6) An investor maximizes his portfolio return for a given level of risk or minimizes his risk for a given level of return

7) An investor is rational in nature

The Reality of Kenyans' Investor Behaviour

Investment in Kenya's stock markets has registered tremendous growth in the recent past. Although stock market participation by investors through private placements has not generated as much interest, IPOs have attracted the greatest interest among investors (both individual and institutional). This is demonstrated by over-subscriptions realized through the Kengen (337%), Safaricom (532%), Telkom (300%), Eveready (800%), Mumias Sugar (200%), Kenya-Re (334%), Scan Group (520%), Access Kenya (300%) IPOs, among others (see appendix i). In fact, it is reported that Kenya's national stock exchange has failed to make enough issues to satisfy investors' demands.

However, market fundamentals like the NSE (20) share index and collapsing brokerage firms have indicated dwindling prospects at the National Securities Exchange. Although the NSE's contribution to economic growth has been positive, its performance compared to other renowned African Stock Exchanges like the Nigeria Stock Exchange, Gaberon Stock Exchange, and Johannesburg Stock Exchange in terms of contribution to GDP has largely been poor.

Further, returns from investment in stocks of listed companies accruing to investors in terms of earnings per share, dividends, and capital gains, have largely been low and fundamentally erratic.

Investors on the other hand have maintained heightened interest in IPOs in Kenya, raising fundamental questions regarding the rationality of Kenyan investors. Of interest is, why do Kenyan investors show very high and sustained interest in the country's stock markets? How do Kenyan investors perceive investment risk vis-a-vis investment return? Why do Kenyan investors crowd the country's stock markets even when obvious risks face their investments?

This behaviour exhibited by investors towards IPOs in Kenya could be an indicator that other factors other than the traditional Markowitz's risk- return factors could be influencing investor behaviour.

Recommendations

This paper strongly recommends an empirical investigation of the factors thought to be influencing investor behaviour towards IPOs in Kenya other than the traditional risk-return factors and to determine whether or not investor behaviour towards IPOs in Kenya is consistent with Harry Markowitz's risk-return theory.

References

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APPENDIX I

Companies Privatised in Kenya Through IPOS:

COMPANY	YEAR PRIVATIZED	SUBSCRIPTION
TELKOM	JULY 2007	300%
SAFARICOM	MARCH 2008	363%
MUMIAS SUGAR	DEC 2006	200%
EVEREADY	13, NOV. 2006	800%
KENGEN	MARCH, 2006	236%
KENYA-RE	JUNE 2007	334%
ACCESS KENYA	2007	300%
SCAN GROUP	AUGUST 2006	520%