# AN EMPIRICAL INVESTIGATION OF THE EFFECT OF BLACK ECONOMIC EMPOWERMENT TRANSACTIONS ON SHARE PRICES: 1996 TO 2006

## Barry Strydom[1]
## *University of Kwazulu-Natal, South Africa*
strydomb@ukzn.ac.za

## Andrew Christison[2]
## *University of Kwazulu-Natal, South Africa*
christisona@ukzn.ac.za

## Joao Matias[3]
## *Barnard Jacobs Mellet Wealth (Pty) Ltd, South Africa*
joaom@bjm.co.za

## ABSTRACT
Black Economic Empowerment (BEE) remains one of the most important drivers for corporate restructuring in South Africa and, given the strategic significance of BEE transactions, successfully implementing such transactions poses a critical challenge for corporate South Africa. This paper argues that, in line with standard financial theory, if BEE transactions are perceived by the market to represent an increase in the future earnings potential of the firm or a reduction in the riskiness of future earnings then the announcement of a BEE transaction should result in an increase in a firm's share price. An event study approach is employed to test this hypothesis for 254 BEE transactions between 1996 and 2006. BEE transactions are not found to be associated with negative abnormal returns and in a limited number of cases they are associated with positive abnormal returns suggesting that the reaction may be related to firm specific and/or transaction specific characteristics.

---

[1] Barry Strydom is Senior Lecturer in the School of Economics & Finance, University of Kwazulu-Natal, South Africa.

[2] Andrew Christison is a part-time lecturer in the School of Economics & Finance, University of Kwazulu-Natal, South Africa.

[3] Joao Matias is a Junior Wealth Manager at Barnard Jacobs Mellet Wealth (Pty) Ltd.

# I.   INTRODUCTION

South Africa's first democratic elections in 1994 saw the transfer of political power to the country's previously disenfranchised, but economic power remained in the hands of its white minority.  Black Economic Empowerment (BEE) emerged as a central policy imperative for the newly elected government as it aimed to redress the imbalances of the past by substantially and fairly transferring the ownership, management and control of South Africa's financial and economic resources to the majority of its citizens.  As a result, listed companies on the Johannesburg Stock Exchange (JSE) have had to undertake major corporate restructuring in order to facilitate the transfer of sizable ownership proportions from existing shareholders to new black shareholders.  In addition, especially in the initial wave of BEE transactions, firms had to adopt innovative financing arrangements to enable the purchase of shares by BEE role-players with little or no capital of their own often having to provide BEE partners with the capital to finance the purchase of their own shares  Ross, Westerfield, Jordan and Firer (2001: 649).

Financial theory holds that the goal of a firm is to maximize the wealth of the owners for whom it is being operated Gitman (2009: 15). It follows, therefore, that the only financial justification for corporate restructuring is if it results in a higher share value Ross, Westerfield and Jaffe  (2002: 815).  However, Fisher's Separation Theorem shows that the value of a firm is solely a product of its investment opportunities, how a firm is financed and who owns it should, therefore, have no impact on the value of the firm Copeland, Weston and Shastri (2005: 18-19).  An exception to this principle arises when the ownership change is aimed at increasing the profit participation of management and/or other employees. The creation of positive incentives through a change in ownership structure would be expected to increase the value of the firm Jensen and Meckling (1976); Morck, Shleifer and Vishny (1988).

In general, though, theory suggests that changing the ownership of a firm should have no impact on its value and as a result one should find that share prices do not respond to the announcement of BEE transactions.  Further, it is conceivable, that given the great expense involved in such corporate restructuring, if the financial benefits of BEE transactions (in the form of increased cash flows or lower risk) do not exceed the costs of these expensive restructurings, then the announcement of such a transaction should lead to a decrease in share price at least equal to the net cost of the transaction. If such a transaction is interpreted by the market as a signal that management are not pursuing wealth maximizing strategies then the decrease in the share price could be even greater.

This paper empirically tests the effect of the announcement of BEE transactions on the share prices of companies listed on the JSE between 1996 and 2006 in order to ascertain whether or not the market is indifferent to such transactions or views them as wealth creating or wealth reducing for existing shareholders. The paper is organized as follows.  Section 2 contains a review of the concept of Black Economic Empowerment.

Section 3 contains the research problem and hypotheses section 4 contains the research methodology. Section 5 presents the empirical results and section 6 concludes.

## II    LITERATURE REVIEW

### A.    Defining BEE

The Black Empowerment Commission defines BEE as "An integrated and coherent socio-economic process within the context of the national transformation programme, which is aimed at redressing the imbalances of the past by substantially and fairly transferring the ownership, management and control of South Africa's financial and economic resources to the majority of its citizens" (BEECom; 2002: 4). Similarly, the South African government defines BEE as an integrated and coherent socio-economic process that directly contributes to the economic transformation of South Africa and brings about significant increases in the numbers of black people that manage, own and control the country's economy, as well as significant decreases in income inequalities (DTI; 2003: 12).  It is evident from the above definitions that the concept of BEE is broad and refers to any economic activity that leads to the empowerment of black South Africans.  For the purpose of this study, therefore, we will focus on a narrower definition of BEE transactions which the government defines as:

- All transactions for the acquisition, by black people, of direct ownership in an existing or new entity (other than a SME) in the financial or any other sectors of the economy; and
- Joint ventures with debt financing or, or any other form of credit extension to, and equity investments in BEE companies (other than SMEs) (Republic of South Africa; 2007: 5).

### B.    Benefits of BEE Transactions

As with any other form of corporate restructuring, a BEE transaction should only result in an increase in share value if it is perceived by the market to be a positive NPV undertaking; in other words it must either result in increased future cashflows to the firm (whose present value is greater than the cost of the BEE transaction) or a lower cost of capital.  In the case of joint ventures and strategic alliances the normal synergistic benefits normally associated with such an undertaking would potentially be on offer. In the case of a BEE transaction a specific potential benefit on offer is that of *revenue enhancement*. Ross *et al* (2001: 653) indicate that corporate combinations may result in strategic benefits that allow the combined firm to generate greater revenues.  In the case of BEE legislation, being BEE complaint can result in preferential procurement, concessions, licenses and financial support from state owned enterprises Marais and Coetzee (2006a: 121).  BEE scorecards, critical in obtaining lucrative government contracts, reward firms for contracting with BEE firms and so there is also a direct financial incentive for firms not dealing directly with government to be BEE compliant if they want to do business with firms seeking government tenders.  For this reason, any

firms wanting to do business in South Africa should consider becoming BEE compliant Araujo, Denenga and Milovanovic, (2007: 41).

## III    DATA AND METHODOLOGY

### A.    Research Problem and Hypotheses

Financial theory indicates that the value of a firm is determined solely by the present value of its investment opportunities and that the goal of management should be to maximize shareholder wealth.  This implies that if BEE transactions simply involve a change in ownership it should not have any impact on firm value and given the cost of such transactions they would not be in line with the objective of maximising shareholder wealth unless real benefits accrue.  The question that this study seeks to address, therefore, is whether or not BEE transactions lead to positive returns to shareholders.

A common approach to studying the impacts of events on share values is that of an event study which tests for the presence of 'abnormal' returns around key events in order to see if they elicit a reaction in share price. The technique involves measuring the difference between the actual returns on a share during a relevant time period (known as the 'event window' period), and the "normal" returns expected based on some pricing model, Campbell, Lo and MacKinlay (1997: 149-152). The presence of significant cumulative average abnormal returns (CAAR) across all firms in the sample would then signify that the event studied has a significant impact on share price, while significant cumulative abnormal returns (CAR) in respect of a particular firm in the sample, would indicate that the event studied had a significant impact on that firm's share price. It is also possible to test for the abnormality of returns in respect of a particular day in the event window, either in respect of the sample as a whole (one-day average abnormal return (AAR)) or a particular firm (one-day abnormal return (AR)). In this study, we examine both cumulative abnormal returns over the event window and abnormal returns on the announcement date, in respect of individual transactions and the sample as a whole.

The following hypotheses will therefore be tested using the event study methodology:

*Hypothesis 1: Announcements of BEE transactions have no effect on cumulative shareholder returns over the event window, across the sample.*

$$H_0: CAAR = 0$$
$$H_1: CAAR \neq 0$$

*Hypothesis $2_i$: Announcements of BEE transactions have no effect on cumulative shareholder returns over the event window, for some transaction i in the sample.*

$$H_0: CAR_i = 0$$

$H_1$: $CAR_i \neq 0$

*Hypothesis 3: Announcements of BEE transactions have no effect on announcement day shareholder returns, across the sample.*

$H_0$:  $AAR = 0$
$H_1$: $AAR \neq 0$

*Hypothesis 4$_i$: Announcements of BEE transactions have no effect on announcement day shareholder returns, for some transactions in the sample.*

$H_0$:  $AR_i = 0$
$H_1$: $AR_i \neq 0$

### B.    Methodology

**Event Window**

In this study, abnormal returns are measured using an event window that covers the period from 5 days prior to the announcement to 5 days after the announcement – a total of 11 days.

**Return Estimation**

The study employs the market model to estimate the expected returns for each share.  Event studies using the market model have been found to be both well-specified and relatively powerful under various conditions (Brown and Warner; 1980: 205).  The market model was preferred to other economic models such as the Capital Asset Pricing Model and Arbitrage Pricing Model because of their reliance on assumptions which may influence the results of the event study (Mackinlay; 1997: 19). The market model assumes a stable linear relationship between the market return and the security return (Dasgupta, Laplante & Mamingi; 1997: 12):

$$R_{it}^* = \alpha_{1i} + \alpha_{2i}R_{mt} + e_{it}^* \tag{1}$$

Here, $R_{it}^*$ is the return on security *i* during period *t*; $\alpha_{1i}$ is the intercept; $\alpha_{2i}$ is the slope coefficient; $R_{mt}$ is the return on the market portfolio proxy (JSE All Share Index) during period t and $e_{it}^*$ is the error term for security *i*, representing the random component of $R_{it}$ not explained by movements in $R_{mt}$. By assumption, $E(e_{it}^*) = 0$ and Var $(e_{it}^*) = \sigma^2_{ei*}$. However, this assumption applies only to normal trading of the security, i.e. in the absence of any identified events to which its price is expected to be sensitive. Therefore, we estimate the model $R_{it}^*(\square , \square )$ over an estimation window of 205 days that precedes an 11 day event window.

The abnormal return is the actual return ($R_{it}$) of the security for some day t in the event window minus the predicted normal return ($R_{it}^*$), as estimated using the market model and relying on the assumption that $E(e_{it}^*) = 0$  (Mackinlay; 1997: 15).

$$AR_{it} = R_{it} - E(R_{it}^* \,|\, t) = R_{it} - \hat{a}_{1i} - \hat{a}_{2i}\, R_{mt} \tag{2}$$

The average abnormal return for some day t ($AAR_t$) is the average of all the abnormal returns of the securities in the sample for that day:

$$AAR_t = \square^\square \, AR_{it} \, / \, N \qquad (3)$$

The cumulative abnormal return is the sum of the abnormal returns of a security over the course of the event window, which as stated above, lasts 11 days – that is, defining t = T as the announcement date, from t = T-5 to t = T+5:

$$CAR_i = \square_t \, AR_{it} \text{ for } t = T\text{-}5, \dots, T\text{+}5 \qquad (4)$$

The cumulative average abnormal return is the sum of the average abnormal returns of all securities in the sample:

$$CAAR = \square_t \, AAR_t \ \text{ for } t = T\text{-}5, \dots, T\text{+}5$$

## Constructing test statistics

In order to test each of the four hypotheses presented above, it is necessary to construct test statistics. These approximately follow the standard normal distribution (in the sense that they follow a t-distribution which such a large number of degrees of freedom that it can be treated to all intents and purposes as the standard normal distribution), and given that the various null hypotheses state that the ARs, CARs, AARs and CAARs equal zero, takes the general form (for some estimated form of abnormal return, r):

$$z = r \, / \, s(r), \qquad \text{where } s(r) \text{ is the sample standard deviation of r} \qquad (5)$$

In respect of the abnormal return of a security in respect of a particular BEE transaction on some day, t, in the event window, the test statistic is defined as:

$$z_{AR} = AR_{it} \, / \, s(AR_i) \qquad (6)$$

Here, $s(AR_{it})$ is calculated with reference to the estimated abnormal returns and the mean thereof for an individual security for the estimation window of 205 days (see Weston, Mitchell and Mulherin; 2004: 166):

$$s(AR_i) = [(1/204)\square_t \, (AR_{it} - E(AR_i))^2]^{1/2},$$
$$E(AR_i) = (1/205)\square_t \, AR_{it},$$
$$t = 1, \dots, 205 \qquad (7)$$

In respect of the average abnormal return across the sample for some day, t, in the event window, the test statistic is defined as:

$$z_{AAR} = AAR_t \, / \, s(AAR) \qquad (8)$$

In this case, $s(AAR_t)$ requires the estimation of average abnormal returns for each day in the estimation window, to give a sense of the level of non-systematic variation in the sample's average returns under normal trading conditions:

$$s(AAR) = [(1/204)\square_t \, (AAR_t - E(AAR))^2]^{1/2},$$
$$E(AAR) = (1/205)\square_t \, AAR_t,$$
$$t = 1, \dots, 205 \qquad (9)$$

In respect of the cumulative abnormal return of a security in respect of a particular transaction over the event window, the test statistic is defined as:

$$z_{CAR} = CAR_i \ / \ s(CAR_i) \tag{10}$$

The standard deviation of the cumulative abnormal return is simply the standard deviation of a security's one-day abnormal return, scaled up for the length of the event window, which in this study is 11 days (Weston, Mitchell and Mulherin; 2004: 167):

$$s(CAR_i) = s(AR_i)(11^{1/2}) \tag{11}$$

Similarly, the test statistic for the cumulative average abnormal return for the sample is:

$$z_{CAAR} = CAAR \ / \ s(CAAR) \tag{12}$$

where

$$s(CAAR) = s(AAR)(11^{1/2}) \tag{13}$$

In an event study the key issues are the magnitude (size) and direction (signs) of the abnormal returns and whether or not they are significantly different from zero Soongswang (2007: 94). To test hypotheses, the test statistics are compared against the 5% level of significance, two-tailed critical value from the standard normal distribution, which is ± 1.96.

**Data & Sample Selection**

The data concerning BEE transactions for this study were obtained from the BusinessMap Foundation and the Ernst & Young annual reviews of Merger and Acquisition Activity. The data included all the BEE transactions for the period 1996 to 2006, as well as the details for each transaction including the parties involved, the announcement date, and payment terms. Daily share price data was obtained from the McGregors BFA database. The initial data set contained information on 1,195 BEE transactions. The following restrictions were then applied:

- Firms must be publically traded on the JSE;
- The firms must have been traded on the JSE for at least 210 working days prior to the announcement date comprising 205 days required for the estimation window and the event window of five days preceding the announcement.
- To avoid to inaccurate or distorted abnormal returns being calculated (Meznar, Nigh and Kwok; 1998: 718), firms that had other events occurring within the event study estimation and event windows were excluded.

After applying these restrictions a final sample of 254 BEE transactions was left.

## IV.   EMPIRICAL RESULTS

The estimated CAAR for the sample was 0.0159 (or 1.59%). At face value, this implies that on average, announcements of BEE deals led to positive abnormal returns for shareholders. However, when the estimated CAAR was divided by the standard deviation of 0.01384, the resultant z-statistic of 1.1496 was smaller than the 5% level of

significance critical value of 1.96. Therefore, the null hypothesis that the true CAAR is 0 cannot be rejected based on the evidence in the sample.

The estimated announcement day AAR for the sample was 0.00836 (or 0.836%). This implies that on average, the shareholders of a firm involved in a BEE deal enjoyed positive abnormal returns the day the deal was announced. Moreover, when the AAR estimate is standardized by its standard deviation of 0.004174, the resultant z-statistic is 2.0036, which is greater than the 5% critical value. Therefore, the null hypothesis that the true AAR is 0 can be rejected. Based on the evidence in the sample, it can be inferred that on average, announcements of BEE deals lead to positive same-day abnormal returns for shareholders in the firms concerned.

Insofar as individual transactions are concerned, of the 254 transactions in the sample, only 25 led to statistically significant cumulative abnormal returns for the securities concerned, which were positive in 15 cases and negative in 10. However, 33 transactions resulted in firms experiencing statistically significant abnormal returns on the announcement day, with these abnormal returns being positive in 22 cases and negative in 11. Only 9 transactions resulted in both statistically significant CARs and announcement day ARs, with 16 transactions leading to statistically significant CARs only and 24 resulting in statistically significant announcement day ARs only.

Thus, while these results offer some indication that the announcement of a BEE transaction leads to abnormal returns and that these abnormal returns tend to be positive, they are far from conclusive. In particular, the statistically insignificant estimate for the sample's CAAR casts doubt on the proposition that BEE deals have the potential to create or destroy value.

## V. CONCLUSION

The need to redistribute financial ownership of South Africa's economic resources has been a major pillar of government policy since 1994. While compelling social arguments may exist for the importance of achieving greater representivity in the ownership of corporate assets, as reflected in the shareholding of publicly listed firms, financial theory indicates that the ownership should not affect the value of a firm. This would suggest that in the absence of real financial benefits arising out of the change in ownership, expensive BEE transactions would represent wealth reducing activities on the part of firm management and should be negatively received by financial markets.

The event study of 254 BEE transactions between 1996 and 2006 carried out in this paper examined market reaction to the announcement of BEE transactions. While a positive reaction to BEE transactions over the event window was observed, it was not statistically significant and therefore it is not possible to reach a general conclusion about market response to BEE transactions. It is important to note, however, that there was no evidence of a negative market reaction to BEE transactions indicating at the very least that they are not perceived as being wealth reducing. A statistically significant positive AAR on the announcement date was observed, however. In addition, it was observed for individual firms that only a relatively small number of firms in the overall sample exhibit positive responses to BEE transactions.

*Barry Strydom, Andrew Christison & Joao Matias*

Whilst not conclusive, the empirical evidence appears to indicate that BEE transactions are not perceived by investors as wealth destroying and in certain instances they are associated with positive abnormal returns. The positive reaction to announcements of BEE transactions, however, is not universal and appears to be restricted to a relatively small portion of the overall sample. In addition, some of the individual firms exhibited negative reactions to BEE transactions. It therefore appears that the nature of the market reaction to BEE transactions may be related to firm specific and/or transaction specific characteristics and further study is necessary in order to examine the link between these and the market response.

## REFERENCES

Araujo, J.; Denenga, M. and Milovanovic, A. (2007). Section 6: Broad-based Black Economic Empowerment, *Investing in South Africa,* 40-44.

BEECom. (2002). Executive Summary Report of the BEECom 2001. [Online] Available: http://www.bmfonline.co.za/bee_rep.html.

Brown, S.J. and Warner, J.B. (1980) Measuring security price performance. *Journal of Financial Economics.* 8(1): 205-258.

Campbell, J., Lo, A. and MacKinlay, A.C. (1997). The Econometrics of Financial Markets. Princeton, NJ: Princeton University Press.

Copeland, T., Weston, J.F., and Shastri, K. (2005). Financial Theory and Corporate Policy. 4 ed. Boston, MA: Addison-Wesley.

Dasgupta, S., Laplante, B. & Mamingi, N. (1997). Capital Market Responses to Environmental Performance in Developing Countries. The World Bank Development Research Group; October.

DTI. (2003). *Department of Trade and Industry*. Strategy for Broad-Based Black Economic Empowerment. [Online] Available: http://www.dti.gov.za/bee/bee.html.

Engdahl, C. and Hauki, H. (2001). Black Economic Empowerment: An Introduction for Non-South African Businesses. Unpublished Masters Thesis; Gothenburg University, Sweden.

Gitman, L.J. (2009). Principles of Managerial Finance. 12th Ed.; Englewood Cliffs: Prentice Hall.

Jensen, M. and Meckling, W. (1976). Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure. *Journal of Financial Economics*. 3: 305-360.

Mackinlay, C. (1997). *Event Studies in Economics and Finance*. *Journal of Economic Literature.* XXXV; March; 13-39.

Morck, R., Shleifer, A. and Vishny, R. (1988). *Management Ownership and Market Valuation*. Journal of Financial Economics. No. 20 (1/2); 293-315.

Peterson, P. (1989). *Event Studies: A Review of Issues and Methodology*. *Quarterly Journal of Business and Economics*. No. 28; 36-66.

Ross, S., Westerfield, R.W. and Jaffe, J. (2002). Corporate Finance. 6th Ed.; New York: McGraw-Hill.

Ross, S., Westerfield, R.W., Jordan, B.D. and Firer, C. (2001). Fundamentals of Corporate Finance. 2nd South African Ed.; Roseville: Irwin/McGraw-Hill.

Soongswang, A. (2007). *An investigation of tender offer effects on Thai target firms during the bid period. International Research Journal of Finance and Economics.* Issue 9; 87-104.

Taplin, R. and Snyman, M. (2003). Doing business in South Africa's new mining environment: A legal perspective. McCarthy Tetrault; 1-19.

Weston, J.F., Mitchell, M. and Mulherin, J.H. (2004). Takeovers, Restructuring and Corporate Governance. 4 ed. Upper Saddle River, NJ: Prentice-Hall.