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Significant changes in dividend policy and insider trading activity on the Johannesburg Stock Exchange

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The objective with this article was to determine whether insider trading related to unannounced dividend policy changes provided abnormal returns for shares listed on the Johannesburg Stock Exchange (JSE). The results indicate that insiders as a group seem to exhibit 'remarkable timing ability'. Significant changes in insider trading activity were detected during the six-month period prior to the resumption (omission) announcement. Company insiders trading prior to dividend changes announcements earned consistently large positive abnormal returns (avoid large negative abnormal returns). It is recommended that company insiders be required to make public the market positions they take in their company's shares. This can be expected to reduce the abnormal returns derived from insider trading and will also contribute towards improving the efficiency of the JSE.

Die doel met hierdie artikel was om te bepaal of binnekring-handelstransaksies, wat betrekking het op onaangekondigde veranderinge in dividendbeleid, gelei het tot abnormale opbrengste vir aandele wat op die Johannesburgse Effektebeurs (JE) genoteer word. Die bevindings het daarop gedui dat lede van die binnekring, as 'n groep, 'n merkwaardige tydsberekenningsvermoë geopenbaar het. Betekenisvolle veranderinge in binnekring-handelstransaksies is ontdek gedurende die ses maande tydperk wat die aankondiging van hervatting (weglating) voorafgegaan het. Handelstransaksies van lede van die maatskappy se binnekring het voor die aankondiging van dividendveranderings deurgaans groot positiewe opbrengste getoon (groot negatiewe abnormale opbrengste vermy). Daar word aanbeveel dat daar van die binnekringe van maatskappye verwag moet word om die markposisie wat hulle in die aandele van hul maatskappy inneem, bekend te maak. Daar kan verwag word dat dit sal lei tot 'n afname in abnormale opbrengste wat spruit uit binnekring-handelstransaksies en dat dit ook sal bydra tot 'n verbetering in die doeltreffendheid van die JE.

Introduction

Section 44OF(1) of the Companies Second Amendment Act (No. 69) of 1990 prohibits the exploitation of inside information by company directors, officers and other persons, usually referred to as insiders. Corporate insiders are explicitly prohibited from trading on non-public information. From a public policy perspective the clear intent of this Act is to provide security markets that are 'fair game' for all; that is, to allow excess returns only from superior analysis of public information and not from access to price-sensitive non-public information. Research into insider trading of company officials has been relatively neglected in South Africa. However, research in more developed countries such as the United States of America and the United Kingdom suggests that insiders do trade profitably on non-public information despite strict legal sanctions against such activities.

Numerous studies of insider trading have appeared in the academic literature. Nearly all prior research has documented two claims: First, corporate insiders earn abnormal returns from their share dealings. Second, outsiders can also earn abnormal returns by using publicly available information concerning insider trading appearing in official publications. The theoretical framework that has been used to interpret these findings is the efficient market hypothesis (EMH) developed by Fama (1970). The existence of insider profits has been deemed evidence inconsistent with the strong form of the EMH which states that all information — public and private — is fully reflected in share prices. However, profitable insider trading has not been viewed as a surprising phenomenon because of the widespread belief that corporate insiders have monopolistic information and are capable of trading on it profitably. On the other hand, profits to outsiders who merely mimic insider trades are a

serious exception to the EMH because they violate the semistrong form of market efficiency, which states that all publicly available information is fully reflected in security prices.

The objective of this investigation is to determine whether insider trading related to unannounced dividend policy changes has provided abnormal returns. Much prior work has focused on general insider trading activity dealing with 'intensive trading' samples. In contrast, the focus of this investigation is on event-specific insider activity. The actions and profits of insiders in relation to two specific information releases are considered: the announcement of dividend resumption after at least two years of non-payment and the announcement of dividend omission after at least two years of steady payment.

Empirical research on insider trading

That company insiders possessing confidential information can and do make above-average returns by trading in shares of their own companies has been demonstrated and corroborated by several investigators. Rogoff (1964), for example, examined 45 companies in which, within a single month, three or more insiders buy the company's shares and no insiders sell the shares. It was found that the returns to the insiders of these companies in the following six months, were, on average 9,5% higher than the return for the stock market as a whole. Lorie and Niederhoffer (1968) found that intensive buying seems to indicate that the share is likely to outperform the market during the following six months. Pratt and Devere (1978) found that during the six-year period 1960-1966, insiders not only outperformed the market but produced greater excess returns on purchases than on sales. Zweig (1976) showed that shares that exhibited heavy insider buying activity increased faster than the

market average during market upswings and declined slower in market downswings.

Jaffe (1974) established that a trading strategy based on intensive trading by registered insiders was able to outperform the market. It was found that registered insiders do in fact possess special (non-public) information that allows them to outperform the market in the eight months following an intensive trading event. Jaffe (1974: 428) concluded that the occurrence of profitable insider trading transactions implies that 'trading on inside information is widespread' and that 'insiders do violate security regulations'. In a study designed to show the rate of return for the 'average' insider, Finnerty (1976) found that the bulk of the excess returns was earned in the six months immediately following the intensive trading event. These results imply that insiders are able to predict, to some degree, the price performance of their company's shares relative to the market.

The regulatory authorities in the United States of America subscribe to a policy of public disclosure of insider trading in an effort to curb such activity. When a corporate insider trades in his company's securities, he must file a report with the Securities and Exchange Commission (SEC) by the end of the month in which the transaction occurs (Kerr, 1980). The particulars of the transaction are then published in a publication entitled 'Official Summary of Security Transactions and Holdings' popularly known as the 'Insider Report'. Acting on such information, outsiders can mimic insider investment behaviour by trading in the same securities. This process enables insider information to be shared by the entire investment community, resulting in increased market efficiency.

Studies by Jaffe (1974), Finnerty (1976), and Givoly and Palmon (1985) showed that outsiders operating on the basis of public information about insider trading were able to derive excess returns. Jaffe and Finnerty reported that excess returns persisted for several months after insider trades became public information. A possible explanation for the apparent market inefficiency could be the 'leading indicator effect' — investors perceive insider trading as a signal conveying information about future events — investors' reassessment of the company's affairs (Givoly and Palmon, 1985). They have shown that a mere occurrence of insider trading may generate abnormal returns. It is suggested that since insider trading is closely watched by many outsiders, it may trigger a wave of transactions in the same direction by outsiders, thereby generating abnormal returns to insiders in the period following their trades.

These findings are not necessarily incompatible with efficient security markets. If markets are efficient it is because opportunities for excess returns attract investors who, in an attempt to take advantage of these opportunities, actually eliminate them. Sharpe (1981) noted that in the late 1970s investment advisory services in the United States of America began to provide an 'index of insider decisions'. Sharpe (1981: 338) predicted that the increasingly public nature of such information may make it less valuable as more and more investors attempt to profit from it.

Rozeff and Zaman (1988) and Seyhun (1988) have tested the Sharpe (1981) prediction that the extensive research into insider trading by various investment advisory services

would reduce abnormal returns associated with such transactions. By acting on public disclosure of insider transactions, outsiders are able to mimic insider investment behaviour by trading in the same securities. The trading strategy used was to buy securities in which intensive insider buying occurred and selling short all securities in which insider selling had occurred. Both studies observed that outsiders are unable to earn abnormal returns by mimicking the actions of insiders. Rozeff and Zaman (1988: 43) reported that after allowing for transaction costs, the abnormal returns to insiders averaged about 3.5% per year. This is a magnitude that is approaching a point of economic insignificance and might even be considered essentially nil if opportunity cost of time is considered. These results suggest that knowledgeable outsiders have largely eliminated the substantial abnormal returns reported by Jaffe (1974) and Finnerty (1976).

Several researchers have evaluated insider trading in relation to company-specific announcements. Penman (1982) and Elliot, Morse and Richardson (1984) measured the performance of insider trading transactions initiated before the release of company-specific earnings announcements. Penman (1982: 503) concluded that insiders do time their trades in relation to the announcement of company earnings prospects and earn substantial excess returns from such transactions. Keown and Pinkerton (1981) have shown that impending take-over announcements are poorly held secrets and trading on this non-public information is widespread. In particular, it was shown that abuse of insider information occurred at a significant level up to 12 trading days prior to the first announcement of the proposed take-over.

Bhana (1987) investigated the abnormal return behaviour of a sample of 50 companies involved in take-overs on the JSE during the period 1976–1985. It was shown that insiders appear to take market positions on prospective take-overs 40 trading days before the announcement, and there appears to be uncontrolled abuse of insider trading rules in the 15 trading days immediately prior to the take-over announcement date. Legally-defined insiders were not responsible for the abuse of inside information relating to proposed take-overs. It would seem that substantial insider trading is carried out through third parties in order to escape detection from the authorities. Bhana (1987: 207) concluded that the JSE appears to be inefficient in reacting to the public announcement of the take-over proposals: significant market reaction occurs in the five trading days immediately following the announcement date.

Bhana (1990) examined the market response to four groups of securities that represented major shifts in dividend policy. Major dividend shifts represented either an omission, a resumption, or a large increase/decrease in the yearly dividend rate of at least 40%. For each of the four groups, statistically significant abnormal returns were observed in the 19 trading days preceding the dividend announcement. The results suggest that substantial information may have reached the market prior to the actual dividend announcement as a result of active trading by insiders. A shortcoming of the Bhana (1990) study is that the methodology used was not able to identify insiders actually involved in transactions related to changes in dividend policy. The purpose of this article is to use a

methodology developed to detect changes in insider trading activity and also to measure the excess returns associated with such activity.

Regulation of Insider trading in South Africa

In the past, insider trading was regulated by Section 233 of the Companies Act of 1973, as amended. While insider trading was treated as a criminal offence, Section 233 was very narrow in scope and had serious limitations (Kilalea, 1985: 495). As a result of deficiencies in the Act, enforcement was virtually impossible, and to date there has been no insider trading prosecutions in South Africa. As a result of recommendations of the Standing Advisory Committee on Company Law, insider trading legislation in South Africa has been substantially amended. Insider trading is now regulated by the Companies Second Amendment Act, (No. 69) of 1990. Section 44OF(1) of this Act regulates insider trading as follows:

'Any person who, whether directly or indirectly, knowingly deals in a security on the basis of unpublished price-sensitive information in respect of that security, shall be guilty of an offence if such person knows that such information has been obtained —

- (a) by virtue of a relationship of trust or any other contractual relationship, whether or not the person concerned is a party to that relationship; or
- (b) through espionage, theft, bribery, fraud, misrepresentation or any other wrongful method, irrespective of the nature thereof.

(2) For the purposes of this section —

- (a) 'unpublished price-sensitive information', in respect of a security, means information which —
 - (i) relates to matters in respect of the internal affairs of a company or its operations, assets, earnings power or involvement as offeror or offeree company in an affected transaction or proposed affected transaction;
 - (ii) is not generally available to a reasonable investor in the relevant markets for that security; and
 - (iii) would reasonably be expected to affect materially the price of such security if it were generally available.'

A major advance in insider trading legislation is that Section 44OF of the current Act deals with two specific types of insider transactions. 'Primary' insider trading relates to a director or company officer who trades on undisclosed information obtained from his fiduciary capacity. 'Secondary' insider trading relates to an outsider who trades on undisclosed information received from an insider having a fiduciary capacity. The inclusion of recipients of a tip (the tippee) within the ambit of insider trading legislation is of great importance. Past experience has shown that substantial insider trading activity is carried out through tippees. In addition, in overseas countries, most prosecutions under insider trading legislation have not involved company insiders but tippees. Tippees may also acquire a fiduciary duty as a result of receiving unpublished price-sensitive information from company insiders. If there is a breach of fiduciary duty by a company insider then a tippee inherits the duty of disclosure and an obligation to abstain from insider trading.

Section 44OF(2) of the Companies Amendment Act (No. 78) of 1989 made provision for a 'digestion period' of 24 hours for the price-sensitive information to reach the public. This precludes company insiders from dealing in a particular security for a period of 24 hours after information likely to affect its prices has been publicly announced in the news media. However, the provisions of Section 44OF(2) of the 1989 Companies Amendment Act have been repealed in terms of the Companies Amendment Act of 1990. The 1990 Act makes no provision for a digestion period and also does not require publication of price-sensitive information in a particular manner. It is submitted that these shortcomings in the current Act will create uncertainty and may well undermine the effectiveness in curbing insider trading activity.

There is a need to provide for effective dissemination of inside information and to afford outsiders an opportunity to digest this information. In the absence of a digestion period, company insiders have no way of knowing that the price-sensitive information has reached the general public and the taint of insider trading has been removed. Furthermore, insiders can arrange share transactions to be executed shortly after, or immediately with, the publication of price-sensitive information. There is a tendency for investors on the JSE to react slowly to company-specific public announcements. In the absence of a digestion period it is possible for insiders to deal in securities after the price-sensitive information has been published but before the security prices reflecting such information. The control of insider trading would have been more effective if a specific digestion period had been prescribed. For instance, in the United States a digestion period of 48 hours has been laid down before insiders may legally trade on publicly announced information.

Section 44OF of the new Act does not require the publication of price-sensitive information in any prescribed manner (as required by Section 233 of the Companies Act). It requires that the information be 'generally available to the reasonable investor in the relevant market for that security'. It would seem that the new Act has increased the range of acceptable public announcements of price-sensitive information. The more flexible approach is likely to cause uncertainty in the minds of company insiders with regard to acceptable public disclosure of information. For instance, is the release of annual financial statements in which price-sensitive information is disclosed to shareholders to be regarded as public disclosure? It could be argued that disclosure is confined to a narrow group, i.e. shareholders, and that information is not 'generally available' to the public at large. A similar problem could arise when price-sensitive information is published in a financial journal that is available only to subscribers and not sold to the general public. It would have been more satisfactory if the legislation had been specific about acceptable methods of public disclosure of price-sensitive information.

Financial institutions such as stockbrokers and merchant banks are multi-function firms which provide diverse services such as corporate finance, portfolio management, share broking and investment advisory services to clients. In providing a particular service (corporate finance), the stockbroking firm may well acquire inside information which could be used by a division providing another service

to clients (portfolio management). In terms of the Companies Amendment Act of 1989 relating to insider trading, such exchange of non-public information between different divisions of a multi-function firm is illegal (Greenblo, 1989). Under the new regime, 'Chinese Walls' must be maintained between the different divisions. However, the existence of a 'Chinese Wall' between different divisions is not sufficient. Financial institutions such as stockbroking firms are obliged to create procedures to ensure that price-sensitive information does not flow from one division to another. In addition, a daily record of share transactions of members of staff should be scrutinised by a senior director to ensure that insider trading has not taken place.

Section 440B of the Companies Second Amendment Act of 1990 has provided for the establishment of a body corporate to be known as the Securities Regulations Panel. The panel will consist of 15 members, representing commerce, industry, the financial sector, as well as representatives from the Registrar of Companies and the Competition Board. The panel will be empowered to investigate and regulate take-overs and mergers in South Africa. The panel will also exercise control over insider trading. In this regard, the panel will be the proper forum where complaints regarding insider trading can be lodged. The panel has the right to summons and cross-examine any person and call for books and other documents monthly. Individuals in a position to conduct insider trading may be required to furnish details of their share dealings monthly for scrutiny by the panel. Persons obliged to make disclosure to the panel are directors and officers of the company and any other person who is a beneficial owner of more than 10% of the company's equity securities.

The panel will make its own rules and provide guidelines on insider trading. The panel will have the power to investigate cases of suspected insider trading, and will sit in judgement on individuals charged with such activities. If a *prima facie* case is established, documents will be handed to the Attorney-General for prosecution. Convictions will carry a fine of R500 000 and/or imprisonment for up to 10 years. The severe penalties have been prescribed to serve as a deterrent, recognising that profits from dealing in insider information can be exceptionally high. Both company insiders as well as tippees will be liable to these penalties.

Sampling procedure

The purpose of sampling was to obtain samples of companies resuming (omitting) dividends after a period of stable non-payment (payment) of at least two years. The two subsamples were chosen using the following criteria:

1. Each company must have been listed on the JSE during the years 1970-1988.
2. Each company must have had a significant shift in dividend policy (between 1970-1988) after at least two years of a stable dividend pattern. A company's dividend policy is considered 'stable' only if its cash dividend stream, adjusted for any capitalization changes, was unchanged for at least two years. 'Significant shift' refers to either an omission or resumption of dividend payments. Information related to dividend changes was

obtained from the Bureau of Financial Analysis of the University of Pretoria.

3. Random samples of 40 companies were selected for each of the two groups that represented 'substantial shift' in dividend policy.
4. Insider trading data for the companies in the resumption sample and in the omission sample were gathered for a period of five years prior to announcement of dividend change and one year subsequent to announcement.

No further restrictions related to other company-specific announcements during the immediate period of dividend change announcement were utilized in sampling. Given the magnitude of market response to resumptions and omissions announcements, trading on knowledge of dividend resumption or omission is more likely than trading on other company announcements (Givoli and Palmon, 1985).

Research methodology

For each company in the two samples a revision of the Hilmer and Yu (1979) cumulative sum analysis (CUSUM) technique, which allows examination of time series data for changes in any 'market behaviour variable' was utilized. The market behaviour variable for this study is the change in the insider trading pattern. Company officers can be expected to trade in their company's shares on a regular basis. The CUSUM technique enables the detection of a change in the share trading pattern that is linked to an expected change in the company's dividend policy.

For each company, the first two years of insider transaction data were used to establish base level estimates of the mean and variance of the net number of shares purchased per month by insiders. The base level was then subtracted from all subsequent monthly observations. Beginning twelve months prior to dividend change announcement, the differences were cumulated until either the cumulative sum exhibited enough drift to indicate a change in the trading pattern (change in mean) or until the announcement date had been passed with no significant change observed.

The CUSUM methodology was first developed by Hilmer and Yu (1979) to detect such parameter changes. They extended this technique to provide an unbiased estimator of the time when the parameter change occurs. For this investigation, the critical values used and the basic procedure followed are identical to the procedure developed by Hilmer and Yu.

Analysis of excess returns associated with insider trading was accomplished by use of the Random Coefficient Regression (RCR) model developed by Swamy (1970). Its advantages over the simpler residual analysis model and examples of its successful use in financial applications are highlighted by Dielman, Nantell and Wright (1980). The RCR model provides several features which are particularly useful for the current investigation: more efficient estimates of excess returns, more efficient estimates of shifts in company risk, tests of homogeneous effects for companies within the same group, and ability to incorporate relevant company variables (such as dividend payment stability) directly into the analysis.

The following modified RCR model is used:

$$R_{it} - R_{ft} = a_i + b_i(R_{mt} - R_{ft}) + d_i D_{mt} + m_i M_{it} + \sum_{k=1}^6 S_{k;i} S_{k;it} + e_{it}$$

where

- R_{it} = the period t rate of return for company i ;
 R_{mt} = the period t rate of return on the market portfolio represented by JSE Overall Actuaries Index;
 R_{ft} = the monthly rate on 90-day Treasury Bills;
 M_{it} = equal to one if change in insider trading activity is detected (with CUSUM analysis) in company i during month t , and is equal to zero otherwise;
 $S_{k;it}$ = equal to one if a change in insider trading activity is detected in month $t+k$, and is equal to zero for all other months;
 D_{mt} = equal to $R_{mt} - R_{ft}$ for month of company announcement of dividend change and subsequent months, and equal to zero prior to announcement of change in dividend policy; and
 e_{it} = disturbance term or residual.

The coefficient m_i of M_{it} measures the abnormal return during the month of change detected from CUSUM analysis. It is important in that it allows one to determine if change in activity corresponds to a month of unusual company return. The variables $S_{k;it}$ are dummy variables which indicate the six months subsequent to CUSUM change. If these coefficients (or their sum) are equal to zero one would conclude that insiders do not achieve excess returns from their change in trading activity. The variable D_{mt} allows one to determine if systematic risk changes as a result of an economic event (change in dividend policy). In general, the RCR model would assume that the regression coefficients of the equation have been independently drawn from a multivariate normal distribution with expected values of a , b , d , S_1 through S_6 , and with an unknown variance-covariance matrix V .

The competing hypotheses tested in this study can be stated as:

- H_0 : Insiders are unable to predict a substantial change in the company's dividend policy. Therefore, they do not possess information which could enable them to earn abnormal returns.
 H_1 : Insiders are able to predict a substantial change in a company's dividend policy. Therefore, insiders engage in extensive net-purchase (selling) activity prior to the resumption (omission) announcement. Furthermore, insiders who purchase (sell) share prior to the resumption (omission) announcement achieve positive (avoid negative) abnormal returns.

Empirical results

Section 230 of the Companies Act makes it mandatory for every company to keep a register of material interests of its directors and officers in the shares of the company. Furthermore, Section 232 of the Act makes it a duty for all directors and officers to provide particulars regarding the dealing in shares of the company within 14 days of the transaction. Section 113 of the Act makes provision for the inspection

Table 1 Summary of insider trading activity during 18 months surrounding dividend omission (month of announcement = 0)

Month	Number of purchase decisions	Number of sale decisions	Average size of purchase	Average size of sale	Net number of shares purchased
-12	18	9	1210	241	8734
-11	15	7	1390	426	7783
-10	16	10	626	453	1046
-9	10	12	534	1242	-1535
-8	8	14	2762	1362	-3157
-7	8	16	547	1075	-12932
-6	6	18	783	848	-10719
-5	7	14	120	2456	-33601
-4	5	15	235	4327	-63758
-3	6	13	420	3194	-38743
-2	5	10	318	1276	-11260
-1	4	8	122	2215	-17452
0 pre-announ.	5	9	236	721	-5637
0 post announ.	8	3	443	562	1869
1	10	8	337	693	-2184
2	15	7	925	629	9491
3	13	10	549	1440	-7283
4	14	6	861	522	8945
5	9	7	452	863	-1980
6	11	5	354	627	758

Table 2 Summary of insider trading activity during 18 months surrounding dividend resumptions (month of announcement = 0)

Month	Number of purchase decisions	Number of sale decisions	Average size of purchase	Average size of sale	Net number of shares purchased
-12	8	11	863	2352	-18952
-11	6	10	750	2841	-23923
-10	5	9	542	1026	-6515
-9	8	10	631	893	-3891
-8	8	8	626	742	-118
-7	14	6	1085	527	12034
-6	13	6	973	414	10187
-5	12	5	1464	260	16249
-4	13	5	2786	315	24751
-3	9	3	2912	378	25083
-2	9	4	1978	269	16745
-1	8	3	1421	226	10722
0 pre-announ.	9	4	830	440	5718
0 post-announ.	7	3	512	389	2413
1	6	10	405	631	-3884
2	5	8	473	582	-2297
3	9	6	624	398	3236
4	6	8	507	715	-2681
5	4	7	499	673	-2719
6	8	4	538	414	2652

of the register of interest of directors and officers in the shares of the company by members and other persons. The

register of interests of directors and officers of all companies included in the omissions and the resumptions samples was inspected. In Tables 1 and 2 a summary is given of insider trading activities for the omissions and resumptions samples respectively, during the period from 12 months prior to announcement of dividend change to six months subsequent to announcement.

The total number of purchase and sale decisions, the average size of each type of decision and the net number of shares purchased during each month are provided for in each sample in Tables 1 and 2. The net number of shares purchased is simply the total number of shares purchased less the number of shares sold. It may be considered a rough measure of aggregate insider sentiment during a particular month.

In Table 1, the pattern of trading by company insiders is striking. Company insiders were relatively heavy net sellers during the nine months prior to dividend omission announcement. The results in Table 2 show that company insiders were relatively heavy purchasers during the seven months prior to the dividend resumption announcement. Both the duration and size of the transactions are lower for the resumption sample. Dividend omissions are easier to predict because they usually follow a prolonged period of poor company performance. In contrast, it is far more difficult to predict dividend resumptions, and this may well be the reason for the relatively lower duration and size of the transactions. On balance, insiders of both sample groups appear to have transacted in a manner consistent with the hypothesis that insiders purchase prior to resumption announcements and sell prior to omission announcements.

The CUSUM technique described earlier was used for disaggregation of the two samples according to increase or decrease in net purchase activity. For each sample, RCR analysis was performed with individual companies weighted according to the net number of shares traded by insiders during the month of activity change. These mean excess returns are represented in Panel A of Table 3 (omission sample) and Panel A of Table 4 (resumption sample). The cumulative average residual (CAR) column in these Tables is for months t+1 through t+6. It excludes month t=0.

The results in Table 3 indicate that insiders selling shares of companies that later omit a dividend, sold during a month of unusually good company performance. However, the cumulative excess returns over the subsequent six-month period was -37,1%. This represents an opportunity gain for sellers i.e. a loss they avoided by selling. Each of the months t+1 through t+6 produced statistically significant negative abnormal returns. The pattern of insiders selling prior to dividend omission reveals that whatever positive return they sacrificed by selling in month zero, a month of good company performance, is overshadowed by a relatively large six-month opportunity gain. Company insiders are exploiting their long-term knowledge of company prospects. The results are consistent with the hypothesis that insiders are able to predict with remarkable degree of accuracy the price performance of their company's shares by predicting an omission in dividend payment.

In Table 4 is revealed that insiders purchasing shares of those companies which later resumed dividends, purchased during a month of relatively poor performance. However,

the cumulative excess returns over the subsequent six-month period was 26,41%. Whatever negative returns they incurred by purchasing in month zero, is compensated by the relatively large six-month excess returns. Statistically significant positive abnormal returns are observed for each of the months t+1 through t+6. However, the magnitudes of the monthly excess returns and the total cumulative average residual are lower than those for the dividend omission sample. This confirms the observation that dividend resumptions are more difficult to predict than dividend omissions (Dielman and Oppenheimer, 1984). As in the case of omissions, insiders are able to predict dividend resumptions and this enables them to earn large abnormal returns.

From the companies in the two samples without significant change in insider trading activity, a control sample of equal size to the sample with CUSUM change was randomly selected. Each company in this control sample was assigned a random 'month of activity change'. The distribution of these months was identical to that of the sample with activity change. Excess returns of this control sample

Table 3 Excess returns earned by insiders by selling prior to omission of dividends

Time	Excess returns	t-value	CAR
Panel A: Excess returns around CUSUM month			
0	0.1024	8.96*	—
1	-0.0472	-4.20*	-0.0472
2	-0.0498	-4.39*	-0.0970
3	-0.0537	-4.97*	-0.1506
4	-0.0682	-6.04*	-0.2189
5	-0.0716	-6.62*	-0.2905
6	-0.0805	-7.03*	-0.3710
Panel B: Excess returns of the control sample			
0	0.0092	0.48	—
1	-0.0081	-0.39	-0.0081
2	-0.0125	-0.57	-0.0206
3	-0.0369	-0.95	-0.0575
4	-0.0254	-0.71	-0.0829
5	-0.0419	-1.49	-0.1248
6	-0.0447	-1.60	-0.1695
Panel C: Excess returns of CUSUM companies over the control sample			
0	0.0932	2.90	—
1	-0.0391	-1.17	-0.0391
2	-0.0373	-1.12	-0.0764
3	-0.0168	-0.64	-0.0932
4	-0.0428	-1.33	-0.1360
5	-0.0297	-0.95	-0.1657
6	-0.0358	-1.27	-0.2015

Note: * significant at the minimum of the 0.10 level

Table 4 Excess returns earned by insiders by purchasing prior to resumption of dividends

Time	Excess returns	t-value	CAR
Panel A: Excess returns around CUSUM month			
0	-0.0127	-3.25*	—
1	0.0264	4.42*	0.0264
2	0.0293	4.60*	0.0557
3	0.0335	5.31*	0.0892
4	0.0371	5.64*	0.1263
5	0.0502	7.13*	0.1765
6	0.0876	9.29*	0.2641
Panel B: Excess returns of the control sample			
0	-0.0174	-0.70	—
1	0.0076	0.35	0.0076
2	0.0098	0.47	0.0174
3	0.0145	0.54	0.0319
4	0.0193	0.61	0.0512
5	0.0251	0.92	0.0763
6	0.0310	1.29	0.1073
Panel C: Excess returns of CUSUM companies over the control sample			
0	0.0047	0.21	—
1	0.0188	0.90	0.0188
2	0.0195	0.74	0.0383
3	0.0190	0.68	0.0573
4	0.0178	0.59	0.0751
5	0.0251	0.94	0.1002
6	0.0566	1.72	0.1568

Note: * significant at the minimum of the 0.10 level

were then obtained. These are presented in Panel B of Tables 3 and 4. These excess returns were then subtracted from those of the CUSUM sample (i.e. those presented in Panel A). These results are presented in Panel C. The results in Panel C represent any advantages (or disadvantages) insiders in the sample which had significant changes in trading activity obtained over and above a random purchase/sale strategy of companies in these samples.

Several interesting patterns emerge from Panels A, B, and C of Tables 3 and 4. First, unlike in Panel A, in each Panel B there are no statistically significant monthly excess returns. Thus it appears likely that the companies in the two samples (those with and without detected CUSUM changes) are from different populations. It seems reasonable to conclude that insiders in the CUSUM samples were attempting to use non-public information for their personal gain. Second, cumulative average residuals in Panels A and B conform with naive expectations — they are all positive for the resumptions samples and negative for the omissions samples. Third, for both the resumptions and omissions samples, the excess returns (or opportunity gain) of the

CUSUM group is far superior to that of the control group. These results clearly indicate that insiders as a group are able to utilize non-public information about their companies to achieve large abnormal returns.

Conclusion

A review of the literature in overseas countries as well as South Africa has revealed that insider trading is widespread and highly profitable. In particular, insider trading related to unannounced company-specific information has provided exceptionally large abnormal gains. This article has examined insider trading patterns and returns during the period prior to significant changes in dividend policy — omissions and resumptions of dividends. The results indicate that insiders as a group seem to exhibit remarkable timing ability. Insiders purchase prior to resumption announcement and sell prior to omission announcement. Significant changes in insider trading patterns were detected during the 6 month period prior to resumption (omission) announcements. Company insiders trading prior to dividend change announcements earned consistently large positive abnormal returns (avoided large negative abnormal returns). It can be concluded that insiders do time their trades in anticipation of significant changes in company dividend policy and earn substantial excess returns from such transactions.

The existence of large insider profits represents evidence inconsistent with the strong form of the EMH, which states that all information — public and private — is fully reflected in share prices. The existence of statistically significant abnormal returns for a period of six months prior to dividend announcement suggests that outsiders who merely mimic insider trades are also likely to earn large profits. The empirical evidence confirms the popular belief that insider trading regulations in South Africa are ineffective. The potential for gain from insider trading is so great that strict legislation does not serve as an effective deterrent. Furthermore, the secrecy surrounding insider trading makes detection and prosecution very difficult. Even in countries which have stringent insider trading legislation there are relatively few prosecutions. It is contended that the recently amended insider trading legislation is unlikely to prevent the widespread abuse of insider information in South Africa.

It is therefore recommended that the regulatory authorities institute a policy of public disclosure of insider trading transactions as required by the SEC in the United States. Directors and officers and those who exercise control over the affairs of the company are currently required by Section 44OG of the Companies Second Amendment Act to lodge a statement of their shareholding within 10 days after the close of each month to the Securities Regulation Panel. It is recommended that shareholding particulars supplied to the panel are then published in a periodical widely read by investors such as the 'Johannesburg Stock Exchange Monthly Bulletin'. Such public disclosure enables outsiders to learn of insider trading patterns. Acting on such information, outsiders can mimic insider trading behaviour by trading in the same shares. The informational content of insider trading

activity can be expected to be rapidly reflected in the price of the securities concerned.

A policy of public disclosure of insider trading activities has several advantages. First, outsiders and tippees are unlikely to earn large abnormal returns as the market can be expected to discount the revised company prospects very soon after the publication of the insider trading transactions. Second, the abnormal profits accruing to the company insiders can be expected to be substantially reduced. The period of up to six months available to insiders (revealed by this article) to generate abnormal returns will be reduced to a few weeks. Third, the sharing of insider information by the entire investment community will increase the efficiency of the JSE. The public policy perspective of providing a securities' market that is a 'fair game' for all can be realized. Excess returns will accrue only from superior analysis of public information and not from access to price-sensitive non-public information.

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