The Efficiency of Trading Halts; Evidence from Bursa Malaysia

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Abstract

This paper undertakes a comprehensive evaluation of the efficacy of firm-specific trading halts in the Malaysian context. The paper examines a total of 291 trading halts that occurred over the five year period 2000 to 2004. In addition to examining the three variables commonly impacted by trading halts, stock price reaction, volatility of returns and trading volume, we also examine four additional parameters that could have material impact. These are (i) the type of halt whether voluntary or mandatory, (ii) type of news released, (iii) duration of halt and (iv) frequency.

Based on our overall sample, trading halts result in a positive price reaction, increased volume and volatility. We find evidence of information leakage, significant difference between voluntary and mandatory halts and the type of news released during halt to have a huge impact. The duration of halt has isolated impact and is largely inconsequential. The frequency of halts does not seem to matter. While these results broadly conform with previous studies of trading halts in other markets, our refined analysis by subcategory showed some interesting differences. The two key differences were the significantly positive price reaction for the sample of mandatory halts and the lower volatility for voluntary halts. We attribute the positive price reaction of mandatory halts to the peculiarity of regulation and the resulting survivor bias. We argue that the lower volatility for voluntary halts particularly for those in the good news category, imply that these stocks are being repriced. With the exception of some subsets, our overall results appear to be strongly supportive of The Price Efficiency hypothesis of trading halts which argues that trading halts help disseminate information and enhance the price discovery process.

Introduction

The efficacy of trading halts (or trading suspensions) in overcoming informational asymmetries remains a controversy. A trading halt being a temporary suspension of trading in a stock is essentially a signal by the exchange that a disequilibrium exists or is expected to exist. That disequilibrium may be the result of an order imbalance or more likely, due to pending news. The halt therefore is a time-out for the adjustment of prices during real or perceived temporary disequilibriums. Though numerous studies have been undertaken in various markets, there appears to be no consensus on the usefulness of trading halts/suspensions. The objective of a trading halt, whether a voluntary one, initiated by the firm or a mandatory one imposed by regulators, is always to ensure fair access to information and price formation. Whether that objective is indeed achieved is the debate. Supporters of trading halts propose that calling a halt to trading just prior to the voluntary or forced release of critical information enhances price formation/discovery by ensuring equitable dissemination and assimilation. Often denoted the *Price Efficiency Hypothesis of trading halts*,[1] the rationale is that, since a trading suspension gives time for investors to better digest the impact of the news, price dispersions should be smaller, implying lower volatility, and a higher degree of price efficiency on reopening. Opponents of trading halts, using *"learning through trading models",* would argue that since a halt prevents trading during the suspension period, excess volatility is not necessarily being avoided merely postponed. Based on the logic of *learning through trading models therefore,* reopening prices would be noisy. This implies reduced pricing efficiency and increased volatility.

[1] *See Chen H, Chen H & Valerios, N(2003)*

Just as the arguments have been diametric, the empirical evidence have thus far been mixed. Thus, the continuing debate. Most empirical work on firm-specific trading halts have focused on the three key variables most likely to be affected by a halt; excess returns, price/returns volatility and trading volume. While findings of the behaviour of these three variables post-halt provides a mixed picture, studies that have refined the analysis have produced interesting results. Indeed, the mixed evidence begs for refinement. It appears that factors driving the halt may be just as important as the halt itself in explaining post halt behaviour of the three variables. Our examination of existing literature point to at least four parameters associated with a trading halt that could throw additional light on the evidence. First, the reason for the halt/suspension; whether it was voluntary or mandatorily imposed. Second, the type of news or information released during the halt, whether it constitutes good, bad or neutral news. Third, the duration of the halt and finally, the fourth parameter would be frequency; whether for the stock in question, the halt constitutes a first (single) halt or one of several- (multiple) halts. While early studies had focused on the impact of the halt/suspension alone, later studies have brought to bear at least one or more of the above parameters.

1.1: Motivation/Justification

Trading halts are by definition 'disruptive' events, almost always associated with events that have the potential to cause abrupt or extreme moves. While market-wide trading halts are indeed rare and unpredictable events[2], firm specific trading halts are not. Indeed as emerging markets have expanded their market capitalization, firm specific halts have been more frequent. In Malaysia's, Bursa Malaysia there have been more than 300 trading suspensions over the last

[2] *Such as the trading halt on the NYSE following the September 11 attacks.*

5 years. Despite the fact that trading halts appear to be a fairly common occurrance, we are unaware of any systematic study of the phenomenon in Malaysia. This absence provides the motivation and justification for this study.

As is the case with other markets, trading halts or temporary suspensions of listed stocks in Bursa Malaysia may be on a voluntary basis or one imposed mandatorily. The administrative framework for such temporary suspensions are outlined in Chapter 16 of Bursa Malaysia's Listing Guidelines. While voluntary suspensions are initiated by a listed issuer through a request to the exchange, it remains the Exchange's discretion to grant such a suspension. Mandatory suspensions can be initiated either by the Exchange or the Securities Commission (SC). The SC can notify the exchange to suspend a stock from trading if it deems that the issuer has breached or failed to comply with the Securities Industry Act 1983, the Securities Commission Act 1993 or when the Commission feels that *"it is necessary or expedient in the public interest or where necessary for the protection of investors"*. Section 16.02 of the Listing Guideline provides the Exchange the right to suspend at any time the trading of any listed security if the issuing Company is undergoing a substantial corporate exercise, capital restructuring, a stock conversion or exercise in the event of any breach of the listing requirements. Additionally; the exchange may also mandatorily suspend trading of a stock if in its opinion, *"it is necessary or expedient in the interest of maintaining an orderly and fair market in securities traded on the Exchange"*, As is evident, both voluntary and mandatory suspensions can be the result of a wide range of reasons. While authorities obviously have broad powers to halt trading, companies too can request voluntary suspension of their stock for any number of reasons.

In this paper we examine a total of 291 firm-specific trading halts that occurred over the five year period, 2000 to 2004 on Bursa Malaysia. The paper is divided into five sections. Section 2 below, provides a review of the literature. Section 3 lays out our research questions, describes the data, research design and methodology. Section 4, presents the results and our analysis. The final section, Section 5, concludes with our evaluation of the efficacy of trading halts in the Malaysian context and implications for policy.

Section 2: Literature Review

Much of the research interest in Trading halts appears to have originated from the seminal work of Hopewell & Schwartz (1978). In that study of several hundred firm specific halts on the NYSE, they report three key findings. First, that there is a *permanent* price adjustment in response to the new information released. Second, that there is anticipatory price behaviour consistent with insider trading and information leakage. Third, post-suspension price behaviour presents little, if any opportunity for systematic trading profits. Additionally, they also report that suspensions of longer duration typically result in price adjustments of greater magnitude. Most other US based studies on trading halts have also examined their impact on trading volume and volatility. At least three such studies document significant increase in both volume and volatility post-halt. Lee, Ready & Seguin (1994), compare the impact of trading halts versus 'pseudohalts' non halt control periods on volume and volatility. They conclude that trading halts increase rather than reduce both volume and volatility. For the first full day post halt, they find trading volume to be 230% higher and volatility, between 50 – 115% higher compared to pseudohalts. Further, the persistently high

volume for days +2 and +3 does not seem to fit the 'learning through trading model'. These results are consistent with the earlier findings of Ferris, Kumar & Wolfe (1992) who examine the impact of mandatory SEC ordered trading halts. They find volume and volatility to be higher than normal in the pre suspension period with the trend continuing in the immediate post suspension period. They also report a permanent devaluation of the stocks during the suspension with the extent of the devaluation dependent on the announced reason for the halt. Examining trading halts on the NASDAQ, Christie, Corwin & Harris (2002), report significantly higher volatility, volume and bid-ask spreads in the period following halts. Comparing their results with those based on the NYSE and others, they find trading halts to have important effects, independent of market structure and the specific halt mechanism used.

Yet other US studies, while reporting similar findings with regards to price, volatility and volume have examined additional parameters. Howe & Schlarbaum (1986) in addition to arguing that suspensions are almost always 'bad news',[3] show that there is a correlation between the length of suspension (measured in trading days) and cumulative abnormal returns. Longer suspensions coincide with bigger negative residuals. Chen, Chen & Valerios (2003) examine intraday data for 1992 of NYSE stocks. Their findings show that the type and significance of news determines the benefit from the trading halt. They argue that halts can be beneficial if the halt was due to the release of some significant news. But when a halt is called pending news release of little significance, the halt actually injects more noise into prices and undermines price discovery.

[3] *They found 80% of suspended securities to have suffered substantial devaluation.*

A number of papers have examined trading halts in other countries. Kabir (1994), in analyzing stock specific suspensions on the London Stock Exchange, points at anticipatory behaviour pre-halt and argues that the presence of significantly positive abnormal returns up to a month following reinstatement of trading, implies one of two things. Either the complete impact of new information release takes place gradually or that not all relevant information is disclosed during the halt. The issue of information dissemination during halts is also examined by Wu (1998) for the Hong Kong market. He finds that mandatory suspension show more effectiveness in disseminating information than voluntary suspensions. His findings about price reaction, volatility and volume are largely in sync with that of the US studies. Tan & Yeo (2003), study the impact of the type of news on voluntary suspensions in Singapore. Grouping firm initiated suspensions into 'favourable' and 'unfavourable' news, they find that while the first group shows significant positive abnormal returns around the event date, the latter group suffers prolonged decline. They also point out that the much higher post suspension volatility of returns implies that the rationale behind voluntary suspensions is to release price sensitive info rather than to curb existing volatility.

At least one study of the Italian market (Borsa Italiana) and another of the Portugese market produce results in conformity with findings elsewhere. That volume and volatility are higher post halt. Generalizing across the studies conducted in different markets, the broad conformity of results imply that market microstructures do not matter. What appears to matter is the type of information released, duration of the halt and voluntary or mandatorily imposed.

Section 3: Data & Methodology

3.1: Research Frame Work

As the objective of this study is to examine the overall effectiveness of trading halts in ensuring fair and orderly markets, we examine several issues related to the efficacy of halts. In line with the previous work cited in Section 2 above, we begin by examining the variables commonly impacted by trading halts, i.e; Stock price reaction, volatility of returns and trading volume. Since the leakage of information has direct impact on the efficacy of halts, we also explore for evidence of such leakage. In addition to these four factors, as the first study on trading halts in the Malaysian context, we seek to add to the comprehensiveness of the study by including four related dimensions. These being (i) type of halt; whether voluntary or mandatory, (ii) category of news released, whether good, bad or neutral (iii) duration of halt and (iv) frequency; whether the halt constitutes a single halt for the stock or is one of several (multiple). As is evident from Section 2, previous studies have included one or more of these four dimensions when examining price, volume and volatility. Results have shown that these dimensions could have material effect on the overall effectiveness of trading halts. Thus, in this study we seek to examine each of the four standard variables, price reaction, volatility, volume and information leakage within each of the four dimensions. For example, is the price reaction, volatility, volume and extent of information leakage any different for voluntary versus mandatory halts, or when the news released is of different type etc. Given this objective, we frame the following 5 broad research questions. These are (i) what is the overall impact of trading halts on stock returns, volatility and volume? (ii) How different are these results when

the halt is voluntary as opposed to mandatory? (iii) What difference if any, does the type of news released make? (iv) Does the duration of the halt/suspension have any influence? and (v) Are the results of single halts any different from those of multiple halts?

In categorizing the above dimensions, we do the following. Differentiating between voluntary and mandatory halts is straight-forward. Where a halt was requested by the issuing firm, it is the former. Where the halt was imposed by the either Bursa Malaysia or the SC, it is a mandatory halt.

Unlike Ferris et al (1992) or Tan & Yeo (2003) who use the positive / negative daily abnormal returns prior to a halt to classify their sample in the 'good' or 'bad' news category, we examine the news released *during* the halt[4]. A judgment is then made on the category of news. Most were fairly straightforward. Announcements reporting increased earnings, profits, higher dividends, the winning of new contracts etc were categorised as 'good' news. The opposite would constitute 'bad' news. Where the news was deemed to be neither, for example unchanged earnings, etc. or where we were unsure, we classified it in the 'neutral' news category. For duration of the halt, we had three classifications. A halt is classified to be of *'short'* if the halt is for one trading day[5], *medium* if the halt has a duration between 2 to 5 trading days. Halts longer than 5 trading days (one week) was classified *long*. Finally, in determining whether a halt belongs to the single or multiple suspension category, we use a one year cut-off. If a stock was suspended more than once within a one year period, we classify it in the multiple suspension category.

[4] *Or news released just after the announcement of the halt.*
[5] *The shortest duration of halts in Malaysia is one day.*

Our dataset consists of 291 trading halts that occurred on the Bursa Malaysia over the five year period 2000 to 2004. Of the 291 total, 263 halts were voluntarily requested by the issuing firms whereas 28 were mandatory halts imposed by either Bursa Malaysia or the SC. The basis of our analysis is daily closing price data of each sample for a 120 trading day period around the announcement date of the halt. That is 60 days immediately prior to announcement date and 60 days following resumption of trading. All daily price data were sourced from Bloomberg. Others such as information on announcements and firm specific information were from Bursa Malaysia publications and newspapers.

3.2: Methodology

In line with almost all previous work in this area, we use an Event-study framework. Thus, to examine the price reaction to a trading halt announced, we compute the Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) for the two 60 day period windows for each firm. Where necessary, we also examine smaller windows within 60 day windows. Daily CAR is computed as;

$$CAR_{i,t} = \sum_{t=1}^{t} AR_{i,t} \qquad i = I,.....N \quad \text{.....(1)}$$

Where the daily abnormal return on day *t* for stock *i* is determined as :

$$AR_{i,t} = R_{i,t} - \hat{R}_{i,t} \quad \text{..... (2)}$$

The abnormal return $AR_{i,t}$ is the difference of day *t's* actual return $R_{i,t}$ less the expected return $\hat{R}_{i,t}$ where;

$$\hat{R}_{i,t} = \hat{\alpha}_i + \hat{B}_i RM_t \quad \text{.....(3)}$$

RM being the returns of the KLSE CI (Kuala Lumpur Stock Exchange Composite Index). Beta was estimated using daily stock and market returns for the 60 day period; -61 to -120 pre halt announcement.

Next, we compute the daily mean abnormal return which is the average abnormal return across all samples on day *t*.

The daily mean abnormal return (MAR) is;

$$MAR_t = \frac{\sum_{i=t}^{N} AR_{i,t}}{N} \qquad t = 1, \text{..........}T \text{ ....(4)}$$

and Variance, $VAR\ (MAR_t) = \dfrac{\sum_{i=t}^{N} VAR\,(AR_{i,t})}{N^2}$ $\quad t = 1, \text{..........}T$ ……………(5)

In addition to computing daily CAR_s for each of our sample companies, we compute mean overall CAR_s for all sample companies for each window period. The Mean Cummulative Abnormal Return (MCAR) is determined as:

$$MCAR_t = \frac{\sum_{i=t}^{N} CAR_{i,t}}{N} \quad \frac{\sum_{i=1}^{N} (CAR_{i,t})}{N^2} \qquad t = 1, \text{..........}T \text{ …… ..…..(6)}$$

In determining daily returns volatility for each window period, we first determine the volatility of returns across all sample firms by day (t). This is computed as:

$$\text{Re}\ \tau_{i,t} = \left[\left(CP_{i,t} - CP_{i,\,t-1} / CP_{i,t-1}\right)\right]\ x\ \ 100$$

Where $\text{Re}\ \tau_{i,t}$ is % return for firm *i*, on day t. $CP_{i,t}$ is the closing price for stock of firm *i* on day t.

$$Var\ \left(\text{Re}\,t_t\right) = \frac{\sum_{i=t}^{N} Var\ \left(\text{Re}\,t_{i,t}\right)}{N^2} \qquad \text{……………………………….. (7)}$$

For trading volume, we use the absolute number of stocks traded for each sample firm on day t.

$$TV_t = \left(\sum_{i=t}^{N} tv_{i,t} \right) \Big/ N \quad \text{.....(8)}$$

Where TV_t is mean trading volume across all sample firms on day t. $tv_{i,t}$ is trading volume of stock for firm *i* on day *t*.

While CARs and Abnormal returns are used to determine the impact of trading halts on price behaviour, we examine the impact on returns volatility and trading volume by two means. First, the standard means test using the t-statistics and the non-parametric Wilcoxon signed rank test. The latter test assumes the distribution is unknown or non-normal. Additionally, the Wilcoxon test uses the median to avoid test misspecifications that may arise from asymmetry in cross-sectional tabulations and non normal distribution. In comparing volatility pre and post-halt, we compare variance between sample using the F-test instead of t-test. Previous studies have shown that results drawn from event study can be sensitive to sample size and estimation period[6]. To avoid the bias that may arise from selection of a pre and post event period, we examine the results by varying the window periods and by dividing the sample into the 4 additional dimensions mentioned above – categorization by type of halt, type of news, duration etc.

3.3: Testable Hypotheses

A number of testable hypotheses about the impact of halts on price, volatility and volume may be inferred from previous literature.

[6] *Coutts, Mills & Roberts (1994), cited in Wu (1998)*

(i) ***Price Effect*;** a trading halt can either enhance price discovery by providing participants a "time-out" to assimilate impending new information as its proponents argue or interfere with price discovery as its opponents point out. Either way, more important than the halt is the information released during the halt. A company calls for a voluntary trading halt of its shares in order to release new information. In the case of a mandatorily required halt, even if no information is forthcoming immediately following the halt, the mere fact that authorities had stopped trading in the stock is a signal that there is a substantive problem. Thus, in the absence of information leakage, the impact of trading halts on price behaviour would be in one of the following two forms;

i. If information released is insignificant, there should be no abnormal returns on trading resumption.
ii. If the information released is significant, a price reaction should occur. The kind of reaction being dependent on the type of news.

Additionally;

iii. If the market had anticipated the information released during the halt, then we should expect **'price continuation'**; i.e. prices continue to move in the same direction. On the other hand, if the news released was unanticipated, then a **price reversal** could be the case.

Thus, with these three hypotheses, we test (i) whether trading halts are significant events where price behaviour is concerned (ii) whether post halt price behaviour is

dependent on the type of news and (iii) whether information released during halts merely reinforce anticipations or otherwise.

(ii) ***Effect on Returns Volatility;*** if trading halts indeed provide evaluate a time-out for participants to properly evaluate information during real or perceived market disequilibrium, then, one should expect *lower* returns volatility post-halt. Alternatively going by the logic of *learning thru trading models,* the absence of transactions should exacerbate the uncertainty/disequilibrium thereby causing an *increase* in returns volatility post halt.

(iii) ***Effect on Trading Volume;*** there are two reasons why halts can be expected to have an impact on traded volume. First, the release of new information may require market participants to adjust their positions/exposure in the stock. Volume increases post halt as the stock changes hands. Second, if one assumes trading in normal times to be evenly distributed over time, then it can be expected that when trading resumes following a halt, volume ought to be higher in order to compensate for the disruption. This also implies that the longer the trading halt, the greater the impact would be on volume.

Section 4: Results and Analysis

Given the numerous permutations involved in our analysis, for ease of elucidation we present our results by the four variables of interest, Price, Returns Volatility, Volume and Information Leakage. Following an overall examination of the impact of trading halts on each

of these variables, we then present the results of our analysis examining each variable by the four dimensions, type of halt, type of news released, duration of halt and frequency; whether a single or multiple halt. The breakdown of sample size within each of these subcategories is shown in Table 6.

4.1: Effect on Price

Table 1 and Figure 1 show the results of our analysis of daily Cumulative Abnormal Returns (CARs) for the 120 day period surrounding the halt announcement. Table 1 shows the Mean CARs (MCARs) for 3 pairs of Window periods, 60 days pre/post; 30 days pre/post and 5 days pre/post announcement. The results of the paired samples t-test and the non parametric Wilcoxon Signed Ranks test for difference in means and the probability levels are also shown.

Overall, for the full sample of 291 firm-specific halts, MCARs are higher for all 3 windows in the post-halt period. In other words, there is positive price reaction once a halt is lifted. There is a big jump in MCAR for the +5 day window. This is followed by a steady rise in the two subsequent window periods +30 and +60. Thus, prices are much higher 60 days after the resumption of trading relative, to where they were 60 days before the announcement of halt. Both statistical tests (t and Wilcoxon) show post halt MCARs to be significantly higher relative to their pre-halt windows at the 5% level. Interestingly, when observing the MCARs for the 3 pre halt periods, we see a steady increase as we approach announcement date. Pre-halt MCAR is at it's maximum for the -5 day window. This steady buildup in prices is also clearly evident in Figure 1 which plots daily CARs.

4.2: Price Effect by Type of Halt

The subsequent two columns show the results when the overall sample is separated into Voluntary and Mandatory halts. Recall that our sample constituted 263 voluntary and 28 mandatory halts. Looking at the results for the voluntary halts, we see results very similar to the overall. All 3 post halt MCARs are higher and significantly so for the 60 and 30 day windows. We also see the marked increase in MCAR just prior to announcement. The MCAR for the -5 day window is more than 5 times larger than that of the -60 day window. That the results for voluntary halts are very similar to that of the overall sample should not be surprising given that the large majority (almost 90%) of our sample constitute voluntary halts.

Analysis of mandatory halts produced some very interesting results. A first glance at Figure 1, shows two things. First, relative to voluntary halts, daily CARs in the post halt period is much higher. Second, they are also much more volatile in both the pre and post halt period relative to the voluntary sample. Going by MCAR numbers in Table 1, with the exception of the -5 day window, all MCARs are higher for mandatory halts relative to voluntary ones. Paired tests comparing the means across the two samples, shown in Table 2, confirms this. Not only are MCARs higher after the halt, but are higher by several fold relative to pre-halt windows. Daily CARs exceed 30% as at day +60 (Figure 1). These results are contrary to expectations. Mandatory halts, being suspensions imposed by authorities are a negative signal. It implies a breach/wrong doing or some other inadequacy on the part of the issuing firm. From this viewpoint, the huge positive CARs post halt are indeed a contradiction. However, when we consider the regulatory structure of mandatory halts and the survivor bias of our sample, the results are logical.

Malaysian authorities only initiate mandatory halts when there are serious inadequacies. In the post 1998 Asian Financial crisis environment, most of these inadequacies have to do with financial distress. The Securities Commission in having initiated a trading halt would require the company to come up with a restructuring plan. The restructuring plan is usually in the form of asset sales, debt restructuring, recapitalization or some combination thereof. Since, trading in the stock will only be allowed to resume when the firm has come-up with a viable plan, inability to do so will mean continued suspension followed by possible delisting. A restructuring plan to be acceptable must obviously be one that will subsequently put the firm in a better financial position. Thus, our sample of 28 mandatory halts are by definition those that had successfully `restructured' and were allowed to resume trading. This survivor bias and the uniqueness of Malaysian regulatory requirement explains the hugely positive CARs post-halt.

4.3: Price Effect by Type of News

Figure 2, shows the plot of daily CARs for our sample of voluntary halts[7], categorized by type of news. The difference in price reaction is obvious. The good news category shows steady increase in prices all the way to day +60. The bad news category shows a sharp initial decline for about 20 trading days (one month) before stabilizing and reversing course. The neutral news category shows no distinct trend. The statistical tests in Table 1, confirm this price behaviour. For the good news sample, all 3 post-halt windows have significantly higher MCARs. Most of the positive CARs happen in the first 5 days following announcement. For the neutral news category, though MCARs for 60 days are marginally higher, both the t and Wilcoxon tests show price performance in the 5 days following announcement to be no

[7] *Mandatory halts were not categorized by news, duration or frequency of halt since these are irrelevant. Mandatory halts are by definition 'bad' news, are of long duration and are only subjected to a single halt.*

different from the 5 days immediately prior. Thus, the price reaction in the neutral news category, is largely muted. The MCARs for bad news category is already in negative territory for the -60 and -30 day windows. The MCAR however shows a positive build-up just before announcement as seen from the -5 days window. All these positive build-up however is erased following announcement. MCAR is sharply negatively for the +5 and +30 day windows.

The price reaction seen here is line with expectations. What is interesting is the build-up in prices just before announcement. Though Table 1 shows this to be true for all 3 news categories, the build-up is most obvious in Figure 2 for the Good and Neutral news categories.

4.4: Price Effect by Duration of Halt

We next examined whether the duration of halt matters for price reaction. The results in Table 1 confirmed the relevance. For short duration halts, MCARs for all 3 windows are significantly higher post halt. We see two obvious differences for Medium term halts. The MCARs, though higher post-halt are all lower relative to the ones we saw for short duration halts. Second, both tests show MCARs to be no different between the -5 and +5 day windows. Implying, there is no significant initial price reaction when trading resumes. In sharp contrast to short and medium duration halts, long term halts show very different price behaviour. MCARs are already negative for all 3 windows even before the halt. When trading resumes, there is sharp negative reaction initially. The stocks experience a MCAR of -17% within the first week. This decline however abates with time. Though the +5 and +30 day windows have negative MCARs, it is marginally positive for +60 days. Interestingly, these results are similar

to that of Hopewell & Schwartz (1978 who found price adjustments of greater magnitude for halts of longer duration.

The above results, together with those in Table 2 comparing MCARs across categories imply a link between duration of halt and price behaviour post-halt. Generalizing, it appears from our results that shorter duration halts experience positive price reaction post-halt, whereas long duration halts experience the opposite. These results are sensible when we consider the fact that all halts are disruptive and longer term ones more so. Even if the halt was voluntarily requested, issuing companies will only want longer halts if they have more complex issues to solve. Complicated problems that require a longer time-out. The negative MCARs we saw for all three pre-halt windows would imply that may indeed be the case. Companies needing long-duration halts already experience problems and need the time-out to sort these out.

Our final analysis with regards to price effect was to see if the frequency of halts had any different price behaviour. The results in Table 1 show similar price reaction post halt. When the MCARs are compared between the two categories (Table 2) for matched window periods, we see no difference pre-halt but when trading resumes, single halts outperform multiple halts. This out performance is significant at the 5% level by both the parametric and non parametric tests.

4.5: Evidence of Information Leakage

Scrutinizing the MCARs in table 1 shows an interesting feature. For almost all categories of analyse, we see a marked increase in MCARs for the -5 day window. Such a

pattern is also clearly visible from the daily CARs plotted in Figures 1 and 2. This appears to be tentative evidence of information leakage. The presence of such leakage has been documented for several markets in the previous studies cited in Section 2. To seek confirmation of such leakage for Bursa Malaysia we examined the MCAR for significant difference across two different window periods, 20 days before halt. The first is the 10 day pre-halt window (-20 to -11) and the final 10 days (-10 to -1). Essentially we want to see if there is significant price change in the last 2 weeks leading to the halt relative to the 2 weeks prior. The results are shown in Table 3. At the 5% level, both the parametric and non-parametric test show consistent results.

For the overall sample of 291 companies, MCAR for the last 10 days is indeed significantly higher, than the 10 previous days. This initial evidence of leakage is reinforced when we examine the voluntary and mandatory sub-segments. Voluntary halts have MCARs almost 3 time *higher* in the final 10 days than the previous 10 day window. Mandatory halts on the other hand have MCARs more than 3 times *lower* in the last 10 days. The differences are statically significant for both cases.

When the same 10 day windows were examined across the different type of news categories, MCARs for the latter window period was significantly higher in all cases-even for the bad news category. What is interesting is that when we go from good to neutral to bad news categories, the MCAR reduces steadily. Finally, both the single and multiple suspension categories had significantly higher MCARs for the last 10 day window[8].

[8] *We did not evaluate the duration of halt category since duration of halt cannot be known prior to or even at announcement.*

Summarizing the results, with the exception of mandatory halts which saw a marked price decline immediately prior to announcement, all voluntary halts, regardless of subcategory experience significant price build-up just prior to halt. So, what do these results tell us? Is this simply a case of the market anticipating the halt and acting preemptively or is this evidence of trading on privileged inside information? There are two reasons why we believe it is the latter. First, when we consider voluntary halts, even if the market can anticipate the release of good news, it is difficult for outsiders to know when a company will ask for voluntary suspension. Only those with inside information can tell the timing of a trading halt request. This can explain the very significant build-up in MCARs/prices just prior to halt announcements that are then followed by the release of good news. Second, going by the same logic, even if a firm's financial distress is known, the timing of a mandatory halt is difficult to gauge for outsiders. Yet, the fact that MCARs are significantly negatively just before official announcement of halt, appears to be the work of those trading on privileged information. While we believe our analysis thus far provides sufficient evidence of information leakage, it still leaves unexplained the positive price build-up even for the bad news category[9].

4.6: Effect on Trading Volume

Lee et al (1994), Ferris et al (1992) and Christie et al (2002) have all shown similar findings with regards to volume and volatility. All three studies show higher than normal volume and volatility in the pre-suspension period with the trend continuing in the immediate post suspension period. Where volume is concerned, our results appear to be very much line with these US based studies. Figure 3 shows the Mean Daily Volume for our overall sample

[9] *MCARs for the bad news category is negative for the first 10 day window but turns marginally positive for the final 10 days.*

and voluntary/mandatory categories for the 120 day period surrounding halt announcements. There is a clear build-up in daily volume in the period immediately before the halt announcement. The uptrend continues in the period immediately following trading resumption. In all three cases, the rise in traded volume is short lived. It peaks at about 5 days after resumption before sliding steadily back to normal levels. In fact all the action appears concentrated between days -20 and +20. This is identical to Ferris et. al (1992) who report that volume levels return to normal 20 days after suspension.

Results of our statistical tests for volume are shown in Table 4. For the overall sample, mean volumes are higher for all 3 post halt windows, however the significance tests are mixed. For the sample of 263 voluntary halts, volume is significantly higher post-halt in the 5 and 60 day windows. This is in stark contrast to the sample of mandatory halts. Volume, though higher for the +5 day window, is ***lower*** for both +30 and +60 day windows. Both the t-test and Wilcoxon show significantly lower volume for post 60 days relative to 60 days pre halt. When we examine volume patterns by news category, though all three categories show higher volume for the +5 day window, in contrast to good and neutral news, the bad news category shows significantly lower volume for the +60 day window.

When examining volume by duration of halt, short duration halts had no different volume in all 3 post halt windows. Halts of medium duration showed significantly higher volume in the +5 and +30 windows. Both tests confirmed this at the 5% level. This is interesting since it lends support to the argument that halts will lead to pent-up demand and therefore longer duration halts should see a bigger build-up in demand. Indeed this is true

when we go from short to medium duration halts. However, our results for long duration halts are not consistent with this argument. Volume is in fact significantly lower for the +5 and +60 day windows. We believe this could be due to the same argument we had made in explaining the negative CARs for long duration halts. That a long duration halt was needed for a stock, implies more complicated problems, thus the negative CARs and the significantly lower traded volumes.

4.7: Impact on Volatility

Our analysis of the impact of halts on returns volatility showed interesting results. Recall that we measure volatility as the variance of daily returns. Table 5 shows the results of our F-test and the non parametric Wilcoxon test on the variance of daily returns. Figures 4 and 5 show the plot of daily returns over the 120 day period. Turning to Table 5, variance of returns for the overall sample is significantly higher for all 3 post-halt windows. Post halt volatility increase as the window period is lengthened. This overall picture changes drastically when we decompose the sample by category. There is a marked contrast in the post-halt behaviour of returns volatility between mandatory and voluntary halts. The mandatory sample has much higher volatility relative to the voluntary sample even before halts. This volatility increases very substantially after trading resumes for the mandatory sample. As is obvious from the table, post-halt volatility is sharply higher in the +5 day window then abates and is marginally lower for the +30 day window. For the 60 day window post-halt volatility is several times higher. While one would expect higher volatility as sample period is lengthened, the increase in variance is very high for the 60 day windows[10]. In stark contrast to these results, the

[10] *This appears to the one instance where the parametric and non-parametric tests produced inconsistent results.*

sample of voluntary halts showed significantly ***lower*** volatility post-halt. Volatility falls substantially in the +5 day window before rising steadily as window period lengthens. In fact, as opposed to the mandatory sample, volatility is several fold lower for the 5 and 30 day windows post-halt.

Figure 4, which shows a scaled plot of daily returns, captures this vast difference in volatility behaviour between the two samples[11]. When we tried to explore for reasons for the very high volatility of the mandatory sample, we came up with 4 possible explanations. First, stocks of companies subjected to mandatory halts being troubled companies to begin with, had been severely beaten down from their original IPO and par values. Only about half over sample was selling for above one ringgit, a typical par value. Many selling below 50 sen, were essentially penny stocks. So, one key reason for the high volatility is the very low traded price. Small absolute price prices lead to large variance. Second, mandatory halts experienced much longer suspensions. The average length of trading suspension for our mandatory sample was 42 days. Howe & Schlarboum (1986) show longer suspensions to coincide with bigger negative residuals. The third contributory reason is probably the low liquidity of these stocks. Low liquidity tends to go hand in hand with high volatility. The fourth and probably most important reason for the very high post-halt volatility is information released during suspension. As mentioned earlier, companies subjected to mandatory halts have to come up with viable restructuring plans before trading is allowed to be resumed. We believe, the announcement of these plans which are extensive by nature leads to increased uncertainty especially when initially implemented. Thus, the increased post halt volatility.

[11] *Daily returns of the mandatory sample was scaled by 10.*

Our results of higher volatility for mandatory halts in the post suspension period is in-line with findings of Ferris, et al (1992) who examine SEC ordered trading halts. There is also conformity with the results of Wu (1998) who examines mandatory halts in the Hong Kong. Further, as reported in Wu (1998), the largest change in value is typically on the 1st day of resumption of trading. This too was consistent in our case. Price variance on day 1 for our mandatory sample was 180%! In fact price reaction was highest on day 1 for most of our categories. Our findings of significantly lower volatility for voluntary halts are however contradictory to Wu (1998) who finds volatility to be higher post suspension, even though they were lower than that of the mandatory sample.

When the voluntary halts were categorized by type of news, the volatility results were in line with expectations. The good news category showed significantly lower volatility for all 3 windows post-halt. Neutral news showed similar results. The bad news category on the other hand, had volatility that was no different post/pre halt. Both tests showed post-halt volatility to be no different at the 5% level. In fact, variance was marginally higher for the 30 and 60 day windows post-halt. Figure 5 plots changes in daily returns by news category. The bad news category obviously has higher fluctuation relative to the other two categories and higher volatility post halt relative to its pre-halt volatility. A result consistent with the findings of Tan & Yeo (2003).

When volatility was examined by duration of halt, both short and medium duration halts showed lower post-halt volatility. For long duration halts, both tests showed no change in volatility. Single/Multiple suspensions both displayed lower volatility post halt.

Section 5: Conclusion

This paper undertakes a comprehensive evaluation of the efficacy of trading halts in the Malaysian context. At issue are two contending arguments. The Price Efficiency Hypothesis of trading halts which contends that since halts give time for investors to better digest the impact of news, volatility should be lower with a higher degree of price efficiency post halt. The *learning through trading* argument would contend otherwise. Given these contending arguments, we examine the effectiveness of trading halts by way of addressing 5 broad research questions. These are (i) what is the overall impact of trading halts on stock returns, volatility and volume? (ii) How different are these results when the halt is voluntary as opposed to mandatory? (iii) What difference if any, does the type of news released make? (iv) Does the duration of the halt/suspension have any influence? and (v) Are the results of single halts any different from those of multiple halts?

Based on our overall sample, trading halts result in a positive price reaction, increased volume and volatility. There is indeed a significant difference in the results of voluntary as opposed to mandatory halts. The type of news released during the halt has a huge impact on all three variables, price, volume and volatility post-halt. The duration of halt has isolated impact and appears to be largely inconsequential. The frequency of halts; whether single or multiple does not seem to matter.

Comparing our results with that of previous studies, we find that for all three variables examined, price/abnormal returns, volatility and volume, there is broad conformity where our overall sample is concerned. However, when we refined the analysis by examining the sub

categories, we found some interesting differences. The two key differences in our findings worth highlighting are (i) the significantly positive CARs post-halt for our sample of mandatory halts and (ii) the significantly lower volatility post halt for the voluntary sample. As explained earlier, we attribute the positive price response of mandatory halts to the peculiarity of regulatory framework. In explaining the lower volatility for voluntary halts, aside from the fact that our sample of voluntary halts had a preponderance of good and neutral news (240 companies) and less than 10% bad news (23 companies), we believe there may be more to it. Hopewell and Schwartz (1978) find that *"price adjustments associated with temporary suspensions are consistent with substantial and permanent shifts in equilibrium securities prices"*. Our results would lend support to such an argument, particularly the good news category (120 companies) within the voluntary sample. When one considers the fact that the sharp steady increase in CARs goes hand in hand with significantly lower volatility, it appears that at least this category within the voluntary sample is being *repriced.* Given the persistence in CARs, falling volatility implies a re rating of the stocks concerned. That this repricing happens only gradually and not immediately following trading resumption may be due to one of two factors as Kabir (1994) points out. From his study of halts on the London Stock Exchange which finds significant positive abnormal returns for up to a month following trading reinstatement, he argues that the persistence indicates either that the complete impact of new information takes place only gradually or that not all relevant information is disclosed during the halt.

With the exception of the above two results, most of our findings were broadly consistent and logical. With regards to the contentious issues still being debated about trading

halts, there are a number of conclusions we can draw from our results. First, trading halts are indeed significant events, especially from a returns/price effect viewpoint. Second, from a volume and volatility perspective, the type of halt, whether voluntary or mandatory matters a lot. Third, the type of news released during the halt is the critical determinant of how all three variables, price effect, traded volume and volatility would behave post halt. Fourth, duration of halt and frequency; whether single or multiple, appear to be largely inconsequential. Fifth, while differences in market microstructure do not appear to matter, the regulatory framework does. Finally, one could also conclude that anticipatory behaviour/information leakage appears to go hand-in-hand with trading halts.

So, are trading halts effective in handling information imbalances? Taking all three variables (price reaction, volatility and volume) together, with the exception of mandatory halts and the 'bad news' category within the voluntary sample, our results support the price efficiency hypothesis of trading halts. Mandatory halts and the 'bad news' category show increased volatility *and* reduced trading volume, thereby lending support to the learning through trading argument. With the exception of these two subsets our overall results are consistent with the argument that trading halts help disseminate information and enhance the price discovery process.

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Table 1

Cumulative Abnormal Returns by Category

Window Period	Price Effect			By News			By Duration			Frequency	
	Overall	Voluntary	Mandatory	Good	Neutral	Bad	Short	Med	Long	Single	Multiple
(-60 to -1)	1.0770	.9846	1.9456	2.3463	2.6350	-1.12029	2.0517	.3981	-12.4045	.9547	1.1184
(+1 to +60)	8.8800	8.0651	16.5343	14.8738	2.7264	.4066	10.5503	4.2919	2.3364	11.4132	7.2065
(-30 to -1)	2.0115	1.9196	2.8749	3.7162	.6580	-.8714	3.6891	.5252	-15.7090	1.7727	2.2686
(+1 to +30)	7.3775	6.815	12.6598	12.8591	2.7632	-3.5775	9.3678	3.6907	-6.6638	10.5240	5.4042
(-5 to -1)	4.8120	5.143	1.6954	6.1787	4.8091	1.4904	7.6503	2.771	-15.4385	5.7903	4.5031
(+1 to +5)	6.7212	6.253	11.112	10.4326	3.5251	-1.3127	9.1165	3.6264	-17.3855	9.3882	5.7221
T-Stat	-62.680 *(000)*	-50.949 *(.000)*	-16.762 *(.000)*	-81.080 *(.000)*	-9.231 *(.000)*	-2.544 *(.014)*	-43.114 *(.000)*	-13.947 *(.000)*	-7.275 *(.000)*	-50.665 *(.000)*	-42.387 *(.000)*
	-25.200 *(000)*	-18.766 *(.000)*	-15.507 *(.000)*	-54.777 *(.000)*	-4.294 *(.000)*	4.708 *(.000)*	-16.533 *(.000)*	-7.130 *(.000)*	-5.405 *(.000)*	-25.960 *(.000)*	-10.523 *(.000)*
	-4.187 *(014)*	-2.656 *(.057)*	-7.737 *(.002)*	-8.516 *(.001)*	2.626 *(.058)*	6.647 *(.003)*	-4.111 *(.015)*	-1.256 *(.277)*	.667 *(.553)*	-6.308 *(.003)*	-4.940 *(.008)*
Wilcoxon Z-Stat	-6.736 *(.000)*	-6.736 *(.000)*	-6.736 *(.000)*	-6.736 *(.000)*	-5.904 *(.000)*	-2.245 *(.025)*	-6.736 *(.000)*	-6.729 *(.000)*	-5.382 *(.000)*	-6.736 *(.000)*	-6.736 *(.000)*
	-4.782 *(.000)*	-4.782 *(.000)*	-4.782 *(.000)*	-4.782 *(.000)*	-3.466 *(.001)*	-3.651 *(.000)*	-4.782 *(.000)*	-4.391 *(.000)*	-4.184 *(.000)*	-4.782 *(.000)*	-4.782 *(.000)*
	-2.023 *(.043)*	-1.753 *(.080)*	-2.023 *(.043)*	-2.023 *(.043)*	-1.753 *(.080)*	-2.023 *(.043)*	-2.023 *(.043)*	-1.214 *(.225)*	-.730 *(.465)*	-2.023 *(.043)*	-2.023 *(.043)*

The table shows the Mean CARs by window period for the different categories. T-stat values shown are for paired sample test the prob. values are shown below in brackets.

Table 2
Cross Comparison across Sample by Window Period

Category By Type of Halt Voluntary Vs. Mandatory	**Mean**	**T-Stat**	**Wilcoxon Z-Stat**
(-60 to -1)	-.9610	-2.790 *(007)*	-2.665 *(.008)*
(-1 to -30)	-.95533	-1.624 *(.115)*	-1.697 *(.090)*
(-1 to -5)	3.4483	12.128 *(.000)*	-2.023 *(.043)*
(1 +60)	-8.4692	-12.638 *(.000)*	-6.729 *(.000)*
(1 + 30)	-5.8446	-19.558 *(.000)*	-4.782 *(.000)*
(1 to 5)	-4.8587	-5.427 *(.006)*	-2.023 *(.043)*
By News Category Good News vs. Bad News			
(-60 to -1)	3.4666	15.110 *(.000)*	-6.736 *(.000)*
(-1 to -30)	4.5877	15.158 *(.000)*	-4.782 *(.000)*
(-1 to -5)	4.6882	9.025 *(.001)*	-2.023 *(.043)*
(1 +60)	14.4671	29.252 *(.000)*	-6.736 *(.000)*
(1 + 30)	16.4367	35.555 *(.000)*	-4.782 *(.000)*
(1 to 5)	11.7453	23.296 *(.000)*	-2.023 *(.043)*
By Frequency of Halt Single vs Multiple			
(-60 to -1)	-.1636	-.997 *(.323)*	-1.097 *(.273)*
(-1 to -30)	-.4958	-1.826 *(.078)*	-2.005 *(.045)*
(-1 to -5)	1.2871	1.917 *(.128)*	-2.023 *(.043)*
(1 +60)	4.2067	18.022 *(.000)*	-6.736 *(.000)*
(1 + 30)	5.1198	19.793 *(.000)*	-4.782 *(.000)*
(1 to 5)	3.6661	9.908 *(.001)*	-2.023 *(.043)*
By Duration of Halt Short vs Long			
(+1 to +60)	8.6287	6.352 *(.000)*	-5.212 *(.000)*
(+1 to +30)	16.5613	10.575 *(.000)*	-4.782 *(.000)*
(+1 to +5)	27.5355	11.484 *(.000)*	-2.023 *(.043)*

The table shows the Mean CARs by window period for the different categories. T-stat values shown are for paired sample test the prob. values are shown below in brackets.

Table 3

Test for Evidence of Information Leakage

By Category of Halt	**Mean**	**T-Stat**	**Wilcoxon Z-Stat**
Overall – Voluntary & Mandatory			
(-20 to -11)	1.6824	-6.333 *(.000)*	-2.803 *(.005)*
(-10 to -1)	3.8032		
Voluntary –Suspension			
(-20 to -11)	1.4912	-8.446 *(.000)*	-2.803 *(.005)*
(-10 to -1)	4.0933		
Mandatory			
(-20 to -11)	3.477	3.565 *(.006)*	-2.497 *(.013)*
(-10 to -1)	1.0783		
Voluntary By News Category			
Good News			
(-20 to -11)	3.748	-4.179 *(.002)*	-2.803 *(.005)*
(-10 to -1)	5.259		
Neutral			
(-20 to -11)	-.3488	-7.527 *(.000)*	-2.803 *(.005)*
(-10 to -1)	3.410		
Bad			
(-20 to -11)	-.6825	-3.184 *(-.011)*	-2.599 *(.009)*
(-10 to -1)	1.574		
By Frequency of Halt			
Multiple			
(-20 to -11)	2.6763	-4.802 *(.001)*	-2.803 *(.005)*
(-10 to -1)	3.6217		
Single			
(-20 to -11)	.7280	-8.891 *(.000)*	-2.803 *(.005)*
(-10 to -1)	4.636		

The table shows the Mean CARs by window period for the different categories. T-stat values shown are for paired sample test the prob. values are shown below in brackets.

Table 4
Mean Daily Volume

Window Period	Price Effect			By News			By Duration			Frequency	
	Overall	Voluntary	Mandatory	Good	Neutral	Bad	Short	Med	Long	Single	Multiple
(-60 to -1)	1286655.67	1356603.54	629645.35	822111.63	941522.34	1088635.79	854786.59	1023620.43	254520.92	689692.78	1187643.23
(+1 to +60)	2185269.80	2362928.92	516543.12	1997982.33	994148.79	770226.68	1644844.24	1141272.14	328407.22	774849.27	2399114.35
(-30 to -1)	1364379.15	1439878.43	655225.23	955564.17	900850.98	1082193.33	935325.93	985441.69	294677.40	684730.43	1289971.62
(+1 to +30)	2807778.98	3048612.53	545663.86	2685852.84	1115735.89	903458.55	2160076.39	1326152.05	273102.69	900419.21	3162613.77
(-5 to -1)	1492847.28	1557766.61	883069.28	953688.30	1236462.93	1250656.52	1038663.19	1292162.81	350597.77	1005471.20	1244040.27
(+1 to +5)	2141049.20	2232657.49	1280585.71	1376211.82	1770799.50	1219892.17	1376092.77	1966888.47	150451.11	1395489.80	1738650.14
T-Stat	-2.190	-2.216	3.397	-1.609	-.939	4.355	-1.468	-1.938	-3.102	-1.955	-1.453
	(.032)	*(.031)*	*(.001)*	*(.113)*	*(.351)*	*(.000)*	*(.147)*	*(.057)*	*(.003)*	*(.055)*	*(.151)*
	-1.830	-1.843	1.218	-1.257	-3.202	1.758	-1.203	-4.383	.637	-3.222	-1.185
	(.078)	*(.076)*	*(.233)*	*(.219)*	*(.003)*	*(.089)*	*(.239)*	*(.000)*	*(.529)*	*(.003)*	*(.246)*
	-3.741	-4.142	-1.388	-3.440	-3.587	153	-1.823	-5.730	3.392	-5.284	-2.063
	(.020)	*(.014)*	*(.238)*	*(.026)*	*(.023)*	*(.886)*	*(.142)*	*(.005)*	*(.027)*	*(.006)*	*(.108)*
Wilcoxon Z-Stat	-1.708	-1.855	-3.401	-4.667	-.199	-4.086	-1.701	-1.362	-2.739	-2.010	-1.494
	(.088)	*(.064)*	*(.001)*	*(.000)*	*(.842)*	*(.000)*	*(.089)*	*(.173)*	*(.006)*	*(.044)*	*(.135)*
	-2.396	-2.581	-2.252	-3.116	-2.684	-1.944	-2.417	-3.363	-.812	-2.787	-2.910
	(.017)	*(.010)*	*(.024)*	*(.002)*	*(.007)*	*(.052)*	*(.016)*	*(.001)*	*(.417)*	*(.005)*	*(.004)*
	-2.023	-2.023	-1.214	-2.023	-2.023	-.135	-1.214	-2.023	-.2.023	-2.023	-1.753
	(.043)	*(.043)*	*(.225)*	*(.043)*	*(.043)*	*(.813)*	*(.225)*	*(.043)*	*(.043)*	*(.043)*	*(.080)*

The table shows Mean Daily Volume by window period for the different categories. T-stat values shown are for paired sample test the prob. values are shown below in brackets.

Table 5
Volatility of Daily Returns

Window Period	Price Effect			By News			By Duration			Frequency	
	Overall	Voluntary	Mandatory	Good	Neutral	Bad	Short	Med	Long	Single	Multiple
(-60 to -1)	2.554705	0.001254	26.5389	0.001138	0.001404	0.001767	0.00138	0.000976	0.001824	0.001354135	0.001106
(+1 to +60)	88.40587	0.001234	918.7779	0.000976	0.000917	0.001782	0.00102	0.000876	0.001212	0.001099934	0.000793
(-30 to -1)	3.472286	0.001357	36.07422	0.001295	0.00135	0.001897	0.00143	0.00106	0.003081	0.001350367	0.001368
(+1 to +30)	3.142628	0.000842	32.65298	0.000758	0.000844	0.001957	0.000958	0.000693	0.000256	0.00096044	0.000665
(-5 to -1)	4.707086	0.00212	48.90016	0.001632	0.002854	0.001365	0.002922	0.000976	0.000256	0.001648783	0.002818
(+1 to +5)	7.420658	0.00049	77.11724	0.000463	0.000455	0.000797	0.00052	0.000462	0.000243	0.000502735	0.000471
F-Stat	9.08E-05 *(0)*	0.23357 *(0)*	6.34E-05 *(0)*	1.440614 *(0.023763)*	2.844534 *(1.29E-08)*	0.62466 *(0.138705)*	1.713403 *(0.000349)*	2.628701 *(3.2E-06)*	1.849358 *(0.201425)*	1.941295716 *(2.07403E05)*	1.683927 *(0.004039)*
	1.225924 *(0.041689)*	2.938413 *(8.18E-18)*	1.227714 *(0.298876)*	2.258433 *(6.07E-06)*	3.175171 *(4.51E-10)*	0.69845 *(0.203276)*	1.938854 *(1.61E-05)*	11.01392 *(1.77E-25)*	1235.891 *(1.49E-11)*	1.82645162 *(9.64929E-05)*	5.679062 *(2.25E-17)*
	0.34929 *(0)*	169.7847 *(3E-216)*	0.345276 *(0.003712)*	36.14764 *(1.96E-60)*	477.5973 *(7.5E-126)*	2.03542 *(0.051991)*	217.5889 *(2.9E-142)*	5.811334 *(1.29E-15)*	0.92031 *(0.454689)*	35.83203279 *(2.45595E-78)*	377.5843 *(6.1E-106)*
Wilcoxon Z-Stat	-1.558 *(.119)*	-2.307 *(.021)*	-1.070 *(.285)*	-1.563 *(.118)*	-2.092 *(.036)*	-.274 *(.784)*	-3.262 *(.001)*	*-.343* *(.732)*	-.296 *(.767)*	-1.049 *(.294)*	-2.463 *(.014)*
	-3.650 *(.000)*	-3380 *(.001)*	-1.298 *(1.94)*	-2.208 *(.027)*	-2.092 *(.036)*	-.791 *(.429)*	-3.173 *(.002)*	*-.857* *(.392)*	-2.073 *(.038)*	-2.102 *(.036)*	-2.703 *(.007)*
	-5.200 *(.000)*	-5.518 *(.000)*	-.319 *(.750)*	-3.418 *(.001)*	-4.254 *(.000)*	-1.460 *(.144)*	-4.264 *(.000)*	*-3.345* *(.001)*	-1.007 *(.314)*	-4.501 *(.000)*	-3.166 *(.002)*

The tables shows average volatility of daily return by window period for the different categories. T-stat values shown are for paired sample test the prob. values are shown below in brackets.

Table 6
Breakdown of Voluntary Halts Sample by Category

Type of news released		**Duration of halt**		**Frequency of halt**	
● Good news	120	● Short	162	● Single	106
● Neutral news	120	● Medium	92	● Multiple	157
● Bad news	23	● Long	9		
Total	**263**	**Total**	**263**	**Total**	**263**

Note: The total number of Voluntary halts in our sample was 263. The Mandatory halts which had a sample size of 28 firms was not subdivided by category since these are irrelevant. Mandatorily ordered halts are by definition 'bad' news, are of long duration and are only subjected to a single halt.

Figure 1:
Daily CARs for Overall Sample;Voluntary and Mandatory Halts

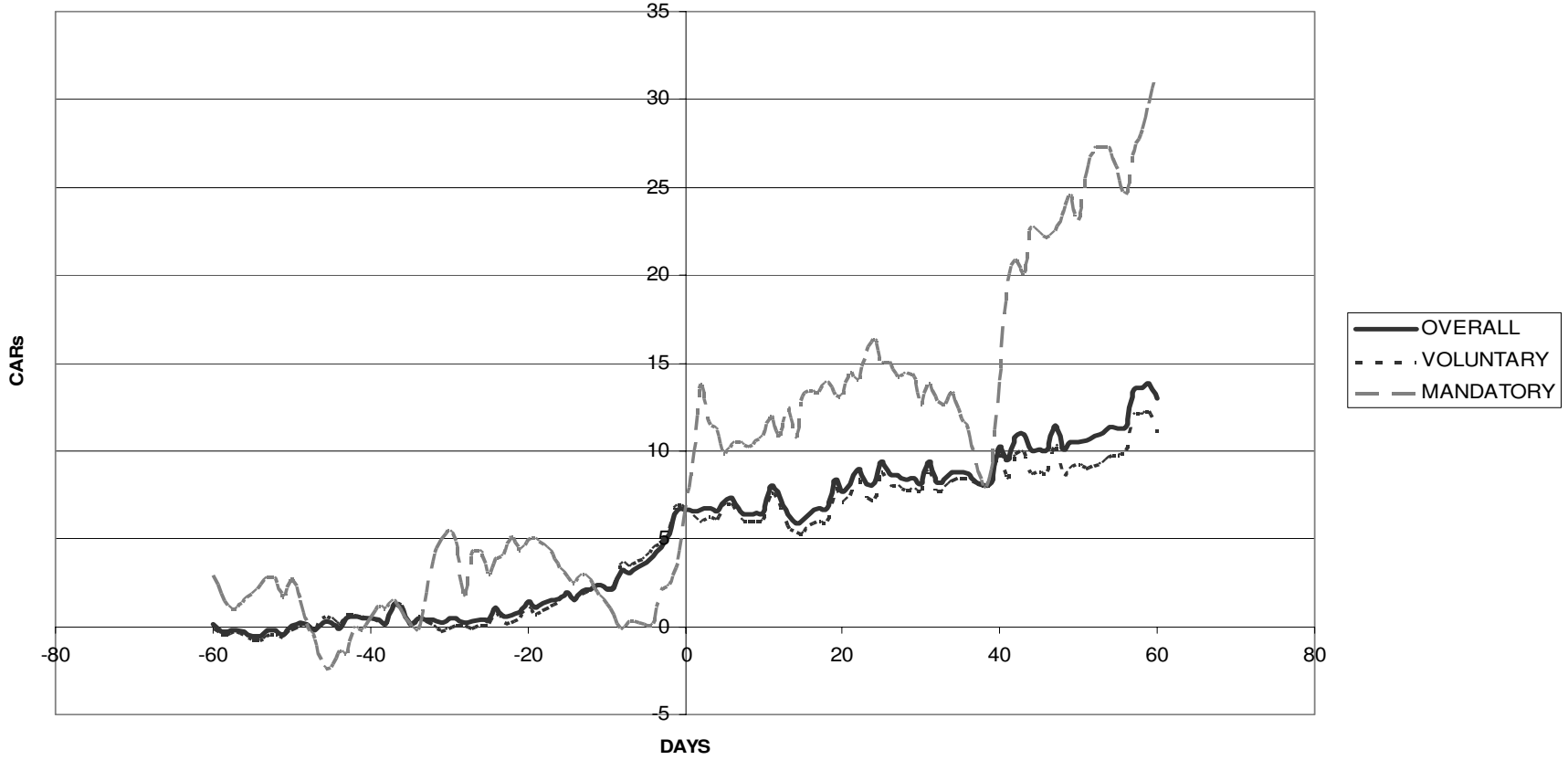

Figure 2
Daily CARs by Type of News

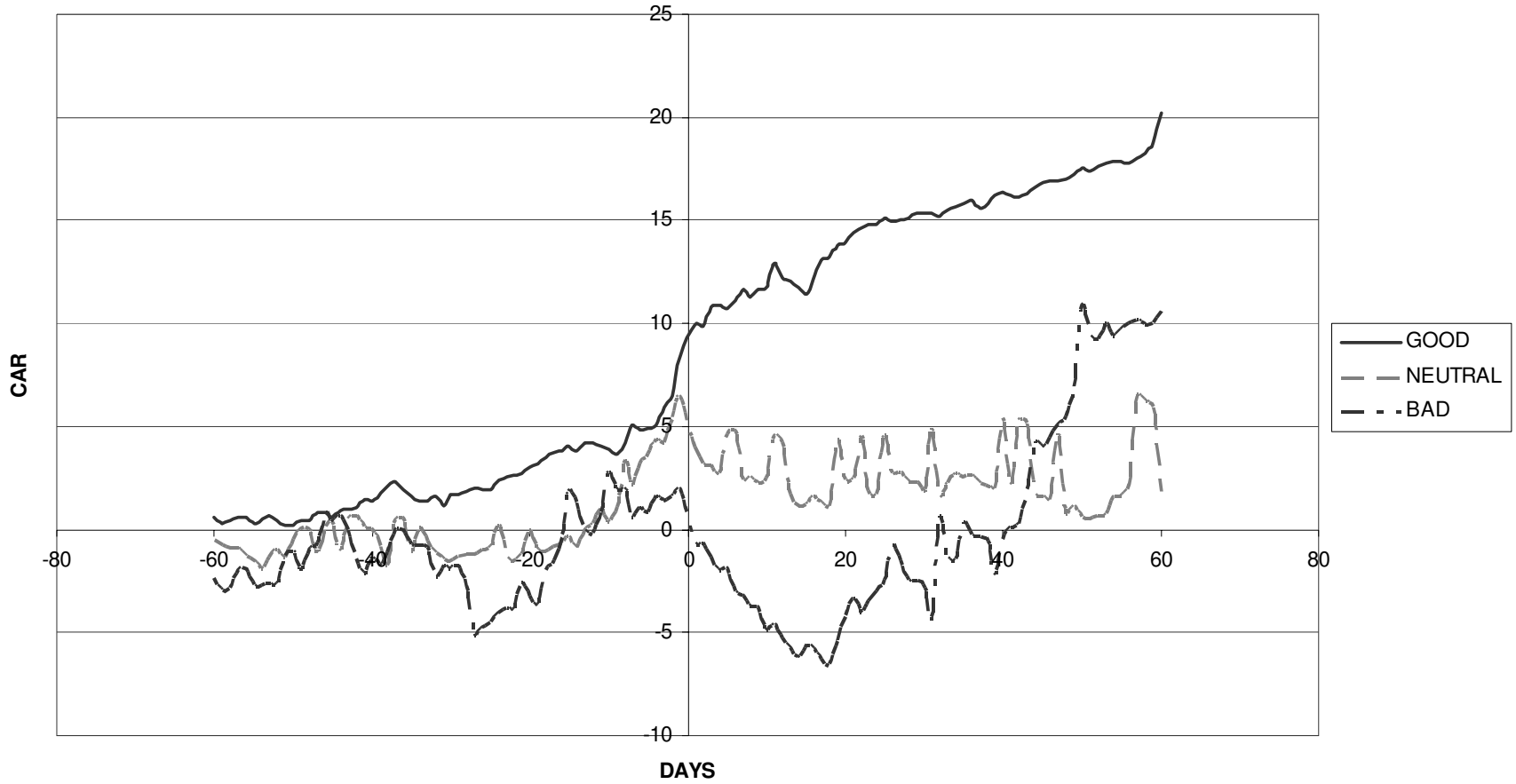

Figure 3:
Mean Daily Volume for Overall,Voluntary and Mandatory Halts

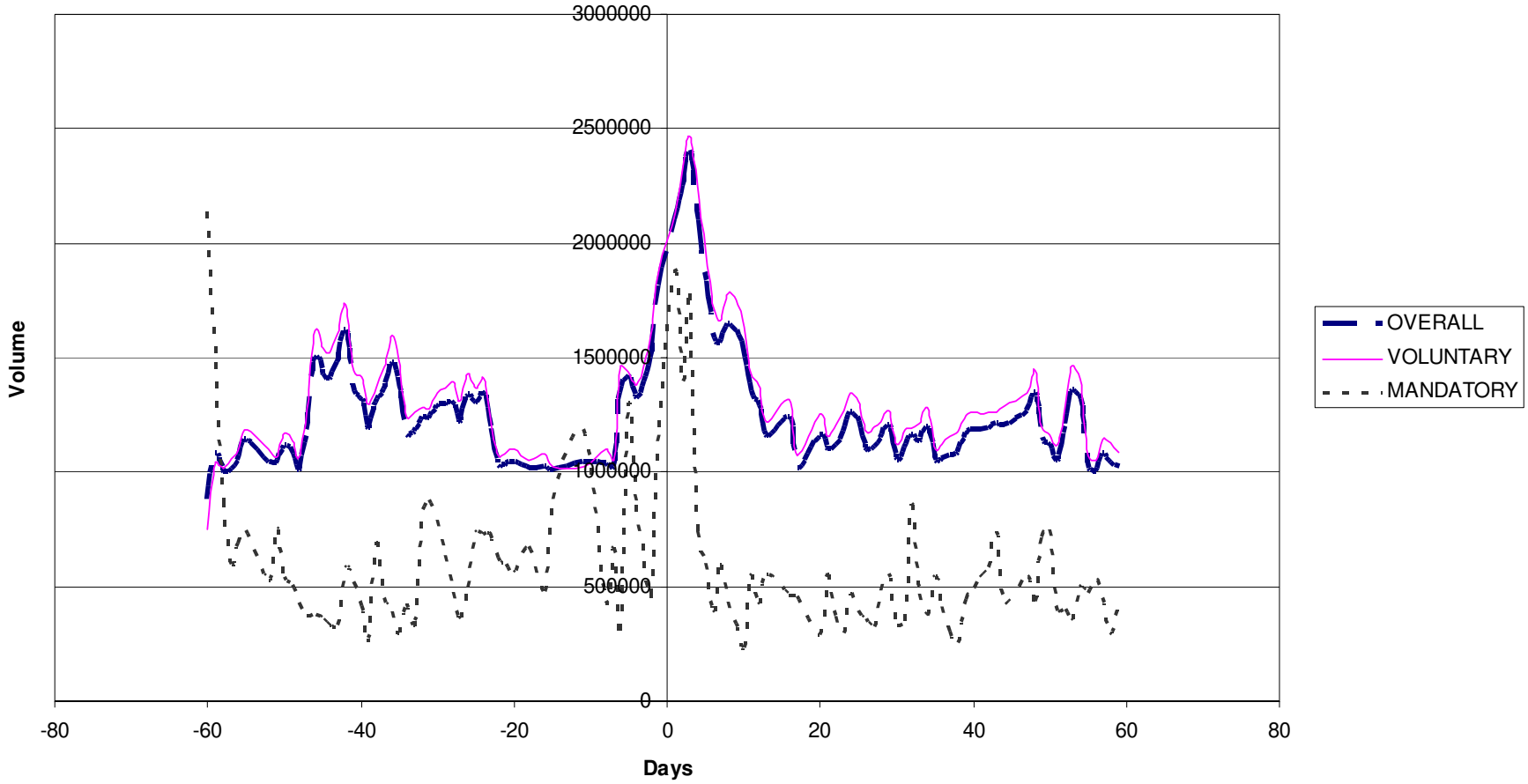

Figure 4:
Volatility of Daily Returns(Scaled),Voluntary vs Mandatory

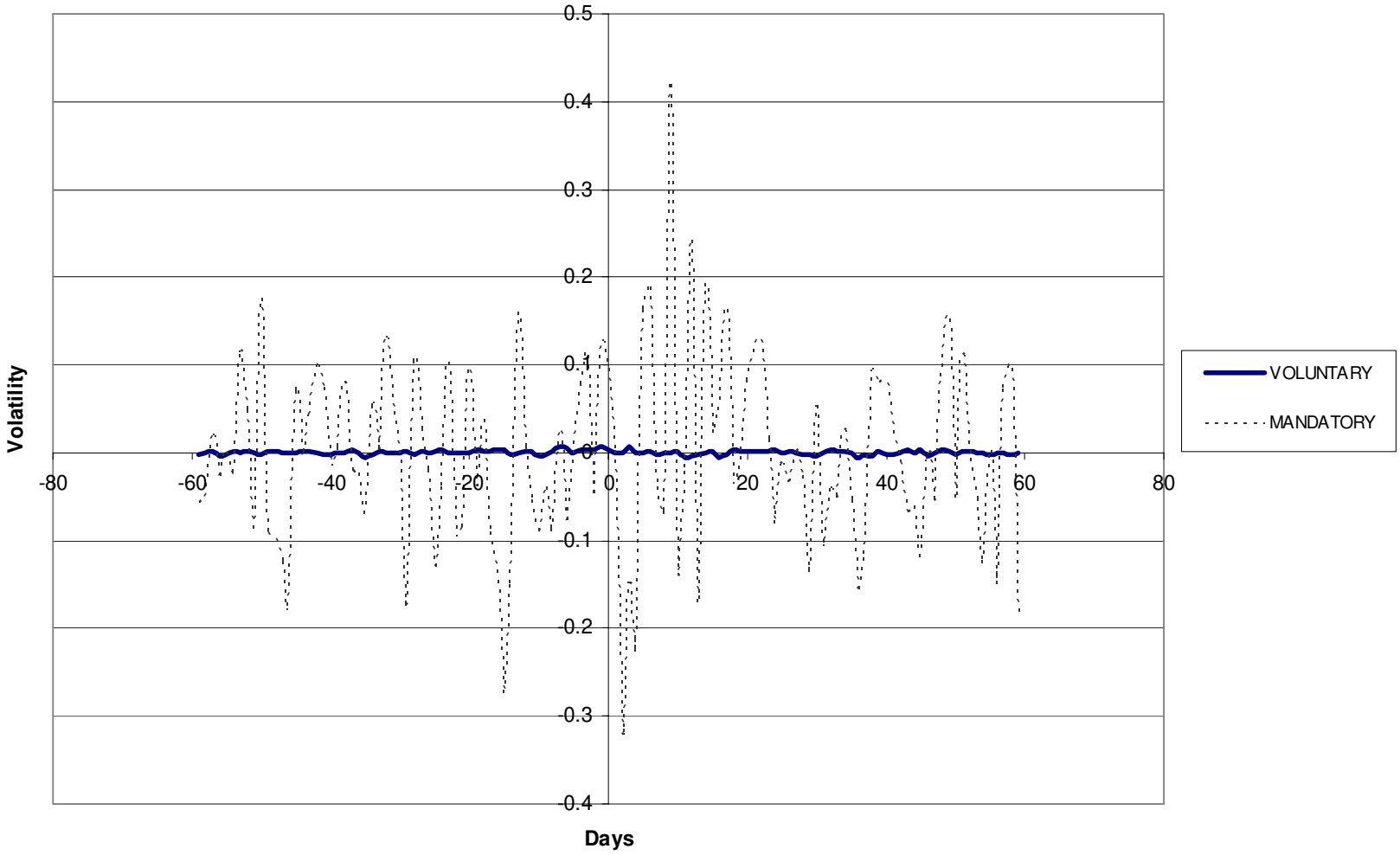

Figure 5:
Volatility of Daily Returns by Type of News