

## DIFFERENT INTERPRETATION OF INFORMATION AND DIVERGENCE OF OPINION OF FIXED PRICE IPOs

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### ABSTRACT

Divergence of opinion (DOP) is an important phenomenon concerning voluminous movement and large price change in the after-market of IPOs. Traditionally, the divergence of opinion (DOP) was argued to arise from limited information about IPOs past trading history. However, some researchers argued that DOP may also occur because of differences of interpretation of information by investors. Limited information may serve a better justification for book-build IPOs largely found in United States, while different interpretations of information may serve as a better justification for the DOP in the emerging markets that offers large number of fixed-priced IPOs, as such IPOs limits the opportunity for the investors to reveal their interest prior to trading. That said, DOP of fixed price IPOs is likely to arise from the behavioural tendency of the investors in the after-market. Developing from the model set forth in non-IPO settings, our paper investigates, the possible existence of after-market DOP captured by unexplained volume for 289 Malaysian fixed price IPOs' issued from a timespan of 2004 to 2013. Findings show an interesting correlation pattern across the average weekly unexplained volume, and an inverse correlation between existing DOP measure and the unexplained volume for fixed price IPOs. It is inferred that the unexplained volume captures consensus effect rather than DOP in the early trading of fixed price IPOs. Our finding is consistent with the argument that change of diversity of opinion is largest at the opening of trade when information is more diffuse, and subsides within a day. We also find that there is significant link between primary-market factors and the consensus effect in the after-market.

Keywords: Divergence of opinion, limited information, different interpretation, unexplained volume, fixed price IPOs

JEL Classification: G02, G11, G14, G18, G12, L10

### INTRODUCTION

Over a decade, finance literature established that divergence of opinion (DOP) is a phenomenon concerning extreme price and volume movement following an event. DOP according to Wang and Liu (2014), Maysner (1985) and Miller (1977) is a type of investor heterogeneity, in which, investors' belief about future distribution of return diverges. A significant number of past studies maintain that diverse opinion among investors is greater in initial public offerings (IPOs), especially for fixed price IPOs. Traditionally, the DOP was argued to arise from limited information about IPOs past trading history. However, some researcher argued that DOP following an event may also occur because investors' interpret the information relayed to them differently (Karpoff 1986; Harris & Raviv 1993; Kandel & Pearson 1995; Diether, Malloy & Scherbina 2002; Hong & Stein 2007; Garfinkel 2009). Such interpretation can be captured by volume movement in the initial trading. Despite the fact that DOP can provide a better justification of the large volume movement in IPOs settings, the investigation of DOP due to different interpretation in IPOs settings is rather scarce.

DOP due to limited information is potentially true for IPOs that follows book-build method, largely found in United States. It is established that the informed investors of book-build IPOs are offered higher discounts, as means of compensating them for revealing their interest before the final offer price is set. However, Busaba and Chang (2010)

argued that this group of investors may not reveal truthful information during the book-building process, especially if they foresee greater profit potential in the after-market by trading with the less informed investors, namely the individual investors. Hence, DOP of book-build IPOs, if any, from Gouldey (2006) view point is a result of partial revelation of informed investors demand during the price discovery process in the primary market. The limited information revealed by this group of investors could lead the less informed investors to incorrectly infer the primary market demand, thus placing a higher price to acquire the IPOs in the after-market. This possibly justifies the overvaluation of IPOs that occurs on the first trading day (Miller 2000; Houge et al 2001; Chahine 2007; Diether et al 2002; Gao et al. 2006; Jewartowski & Lizinska 2012) or the persistent flipping activity as argued by Krigman et al. (1999), and Aggarwal (2003), Bayley et al (2006) and Ellis (2006).

On the other hand, for fixed price IPOs, investors do not have the opportunity to reveal their interest prior to setting the offer price (Benveniste & Busaba (1997; Chahnie 2007; Low & Yong 2013). Although in the past, offer price were set based on a range of price/earnings ratio set by the authorities that helped investors to assess the issuers' valuation, but such benchmarks no longer exist. Moreover, it is also maintained in the past study that fixed price IPOs are favoured by individual investors (Benveniste & Busaba 1997, Chowdry & Sherman 1996). Such investors according to Benveniste and Busaba (1997) and Chong (2009), Yong (2010) are known to be less knowledgeable. Large participation of individual investors in fixed price IPOs is likely to attract greater behavioural tendency in the after-market. This is clearly observed in France, where Chanine (2007) found that the after-market DOP is stronger for fixed price-like IPOs as oppose to book-build IPOs. According to Busaba and Chang (2010) the elevated after-market uncertainty of fixed price IPOs is due to the price discovery process that occurs in the after-market. We infer that the price discovery process is created by aggregate individual investors' trading activity, which is induced by their opinion about the distribution of future return. Given, the level of high uncertainty, and the lack of knowledge on the part of individual investors, it is possible to infer that the after-market DOP is a result of how the individual investors interpret the vast amount of information available in the after-market for the fixed price IPOs. The after-market investors are faced with a decision to either invest in IPOs or other stocks available in the secondary market, while the original subscribers are faced with a decision to either dispose the shares immediately in the after-market or to hold on to earn form the future growth of the IPOs firm. That said different interpretations about the information relayed to investors' can serve as a justification for the DOP in the after-markets, of fixed price IPOs.

The use of volume as a direct surrogate for DOP in IPOs settings has been accounted for by Miller (1977), Miller and Reilly (1987), Chahine (2007), and Loughran and Westberg (2005). However, from the review of past study it is found that considering price or volume solely as a surrogate for DOP appears to be incomplete (Karpoff 1986; Holthausen and Verrechia (1990); Hong & Stein 2007; Shalen 2007). Hence, in this paper we query on what is the best proxy of after-market DOP for fixed price IPOs? Recently, Garfinkel (2009) and Wang and Liu (2014) suggest that standardized unexplained volume is a good choice for researchers selecting among public-data for proxies of DOP. That said, we also query on whether there is any significant difference between the existing DOP proxy measured by turnover and the unexplained volume in IPO settings? This research focuses on Malaysian IPOs as a large number of new offerings follow fixed price method.

## LITREATURE REVIEW

According to Wang and Liu (2014), Maysher (1985) and Miller (1977) divergence of opinion (DOP) is a type of investor heterogeneity, in which investors' beliefs about future distribution of return diverges. Such heterogeneity according to Goetzmann and Massa (2005) and Boswijk et al. (2007), may arise because investors' tend to hold different sets of information or they infer the information differently. Different information is a situation where there is information asymmetry between investors, where informed investors observe private signal of an assets value while the uninformed ones learn the fundamental value from public information. On the other hand, different interpretation refers to different ways of updating beliefs. DOP expounds for the work of Miller (1977). Miller (1977), argue that the DOP captures the disagreement among investors about the future distribution of return of an investment. Others who have contributed to the development of DOP literature include Varian (1985), who posited that DOP could also occur in a complete market for lower priced stocks, while Mayshar (1983) posited that DOP is essential in an incomplete market. Meanwhile, Barry and Jennings (1992) argue that generation of new information at announcements will bring about

greater DOP, while Shalen (1993) argue that diffuse information at the opening of trade contributes to greater DOP. It is further argued by Holthausen and Verrechia (1990) that only information content with value alters the investors' belief. Hence there is possibility that volume of traded may not change despite variation in price changes following an event or news (Holthausen & Verrechia 1990; Kandel & Pearson 1995).

The theoretical study of volume behaviour expounds from the work of Karpoff (1986;1987); Harris and Raviv (1993), Kim and Verrechia (1991), Kandel and Pearson (1995), Holthausen and Verrechia (1990), and Bamber et al.(1999). According to Karpoff (1986) large volume movement is not only an indication of disagreement to information, but also changes in investor prior expectation, termed as consensus. According to Holthausen and Verrechia (1990) consensus effect refers to the extent of agreement among market participants, and that such agreement results in a decrease in trading volume supported by an increase in price variance, while an increase of volume supported by an increase of variance in price change is referred to as informedness effect (the extend of one becoming knowledgeable, or a reflection of how one alters their beliefs).

Some researchers use the flipping ratio (block trades) or ratio of volume trade to shares offered as indirect measure of DOP in IPOs settings (Krigman et al. 1999; Aggarwal 2003, Bayley et al. 2006; Gounopoulos 2006), while others use turnover as a direct measure of DOP (Loughran & Westberg 2005; Chahine 2007; Low & Yong 2013; Boehme & Colak 2012). These researchers collectively found that opening price performance carry a significant explanatory power of DOP. The debate also surrounds the hot and cold issues, where Krigman et al. (1999), Boehme and Colak (2012), Gounopoulos (2006), Ellis (2006) found that heaviest trading activity takes place in cold and extremely hot issues. It was found that flipping accounts for 45 % of trading volume in cold issues compared to only 22 % in hot issues, while in Greek flipping accounts to only 37.36% of trading volume. Subsequent study by Aggarwal (2003) pointed out a much lower percentage where flipping, only account to 19% of volume traded and 15% of shares offered for the first two days of trading in US, where the high trading volume is partly a result of trading between market markers. In contrary to previous study Aggarwal (2003) emphasize that flipping is greater in hot issue. In contrast, Ellis (2006) found the 50% of volume traded is attributed to investor initiated trade for NASDAQ market, and that cold issues invite more inter-dealer sell trades. Bayley et al. (2006) found that only a small proportion of trading volume is attributed to flipping in Australia, while day trades comprise of more than 50% of the after-market trading.

In another line of IPOs study, Benveniste and Spindt (1989) and Benveniste and Busaba (1997) established that book built IPOs are offered at a discount to compensate informed investors, namely institutional investor for revelation of their interest prior to setting the offer price. For fixed price IPOs, Benvensite and Busba (1997), Ritter (2002), Yong (2007) establish that the price is set prior to the allocation shares. If there is excess demand, shares are rationed on a pro rata basis for fixed price IPOs. Those who are unable to subscribe in the primary market are most likely to buy the IPOs in the after-market despite the higher price placed by original investors to liquidate their position. It is the after-market investors' opinion about the future return of IPOs that motivates them to purchase. Opinion will be altered only if the information content received about the IPOs is of value.

According to Chahine (2007) the after-market DOP is stronger for fixed price-like IPOs compared to book-build IPOs because Low and Yong (2013) and Chahine (2007) argue that the inherent features of fixed price IPOs curbs the opportunity for investors to reveal their valuation before setting the offer price. According to Chahine (2007)'s study the primary-market DOP is significantly stronger for book-build IPOs compared to fixed price-like IPOs in France. However, comparing with the primary-market DOP with after-market DOP of book-built IPOs, the primary market DOP is still weaker for book-build IPOs. This indicates that DOP is greater in the after-market irrespective of type of pricing mechanism compared to the DOP of primary market. Developing from Chahine (2007)'s study, Low and Yong (2013) found that initial price change, hot offering and firm size have significant bearing on after-market DOP of Malaysian IPOs.

According to Gouldey (2006) uncertainty of book-build IPOs value occurs when the price discovery process only partially identifies the investors' aggregate demand, while Busaba and Chang (2010) emphasize that the opportunity to earn greater profit in the after-market can adversely affect the informed investors' bidding process in the primary-market. The informed investors may not be willing to sacrificing their after-market profit potential in exchange of the discounts offered by issuers for surrendering information. Under such circumstances, revelation of partial

aggregate demand by informed investors in the primary-market, will lead the overly optimistic investors to place a higher sell order, while the incorrectly informed investors are grab these IPOs in the after-market. After-market investors buy with the expectation that there will be others who are willing to buy at an even higher price (Harrison & Kreps 1978, Scheinkman & Xiong 2003). Since, such activity is too costly for issuers of book-build IPOs they will undertake action to curb the after-market activity by offering other incentive. Meanwhile, from the view point of Benvensite and Busaba (1997) and Busaba and Chang (2010) fixed price IPOs does not require any excessive cost to solicit truthful information hence, after-market price discovery is less costly for issuers. Hence issuers of fixed price IPOs are less likely to be concerned about the large after-market DOP.

Malaysian Studies on DOP is spear headed by Chong et al. (2009), Chong (2009), Yong (2010) and followed suit by Low and Yong (2013). Chong et al. (2009) emphasize that noise information at opening of trade has significant influence on volume behaviour, while Low and Yong (2013) emphasize that hot offerings and size of offering has significant influence on DOP of Malaysian fixed price IPOs. Collectively these studies and the western studies argue that opening price performance is an important determinant of DOP captured by volume behaviour in early trading. However the investigation is supported by the theory underpinning information asymmetric and information uncertainty, with minimal emphasis on differential interpretation. What needs to be realized for fixed price IPOs is that investors' opinion can diverge as more information is generated at the opening of trade if the information content carries value.

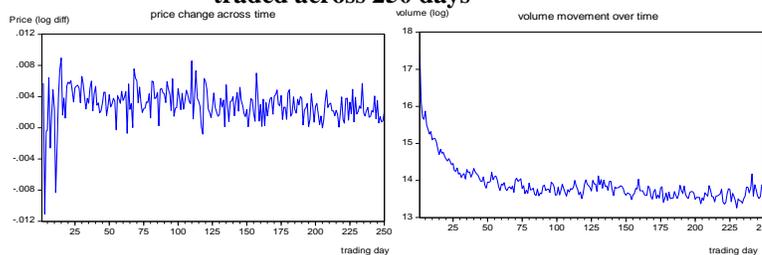
Several DOP proxies have been identified in past study, which includes the bid-ask price spread (Houge et al. 2001), high-low price spread (Yong 2010; Low & Yong 2013), flipping ratio (Houge et al. 2001; Krigman et al. 1999; Aggarwal 2003, Yong 2010), analyst forecast dispersion (Diether et al. 2002), excess volatility of return (Miller 2000; Gao et al. 2006; Jewartowski & Lizińska 2012), and turnover (Chahine 2007; Loughran & Westberg 2005; Low & Yong 2013). Gao et al. (2006) argue that the open day proxies is an unclear proxy, while bid-ask price spread, and analyst forecast, abnormal volume according to Garfinkel (2009) are subject to attenuation bias. Moreover, Gao et al. (2006) emphasize that analyst forecast dispersion is not available for all new issues. As it is argued that interpretation of price and volume solely to determine DOP is incomplete (Karpoff 1986; Hong & Stein 2007; Shalen 1993), there is a need to identify a proxy that considers price and volume simultaneously.

## METHODOLOGY

The current study incorporates a sample of 289 fixed price IPOs listed on Bursa Malaysia for period January 2004 to December 2013, from a total of 345 new issues, after removing REITs, book-build IPOs and over allotment IPOs, and IPOs with missing data, to reduce bias interpretation. The beginning period is set as 2004 as to incorporate the period after the demutualization of the Kuala Lumpur Stock Exchange to Bursa Malaysia. The current study uses raw data from secondary sources obtained from Bloomberg database, Bursa Malaysia Knowledge Centre, Malaysian Issuing House website and Bursa Malaysia website. The data used in current study include, IPOs offer price, size, opening price, and trading volume compiled from a 5-day trading week data.

Figure 1.1 shows that that unexpected price movements observed around 75 days after listing and between 100 to 150 days of listing are unsupported by volume change, indicating that it is less likely to be associated with DOP. Heavy trading activity occurred around the first 20-days of trading and gradually stabilises. Following the observation, the current research uses 20-day trading to derive the unexplained volume.

**Figure 1.1 Average price changes and trading volume of 289 IPOs traded across 250 days**



Two proxies of DOP is used in current research, the first is turnover which is widely used in past IPOs studies to capture DOP, while the second is the standardized unexplained volume obtained from a regression model. Garfinkel (2009) determine the unexplained volume by standardizing the deviation of actual post-announcement volume from the expected volume derived from pre-announcement period, while Wang and Liu (2014) suggest the use of residuals directly from the regression model to obtain the standardized unexplained volume. The unexplained volume is derived from a fixed effect regression as follows:

$$volume_{i,t} = \alpha_i + \beta_i[Ret_{it}]^+ + \gamma_i[Ret_{it}]^- + \varepsilon_{it}$$

Where  $[Ret_{it}]$  is the absolute return of issue  $i$  across  $t$  days,  $\beta_i$  is the correlation coefficient of absolute return that vary across  $t$  days for issue  $i$ ,  $volume_{i,t}$  is the ln of trading volume of issue  $i$  across  $t$  trading days ( $t=20$  days). The regression allows parameter  $\alpha_i$  to vary across  $i = 1, \dots, 290$  issues (IPOs), while the coefficient  $\beta_i$  and  $\gamma_i$  are fixed across time  $t$  for issue  $i$ . The plus and minus superscripts assigned to the absolute returns is to differentiate the positive and negative returns. This treatment is designed to recognize the observed empirical regularity that volume and absolute return are differentially sensitive to each other when returns are positive versus negative. We use Wang and Liu (2014)'s suggestion where the residuals are obtained by regressing the ln (trading volume) with the absolute raw return of each IPOs across 20 trading days. The weekly DOP is obtained from standardizing the average 5 trading day residuals ( $\varepsilon_{it}$ ). The ( $\varepsilon_{it}$ ) is standardized using standard deviation of residuals ( $\sigma_{\varepsilon_{it}}$ ), which is a new proxy of DOP in our study.

## FINDINGS

### *After-market DOP*

This study first finds the characteristic of the 289 fixed price IPO's turnover measured on a weekly and daily basis, and the characteristics of volume traded scaled by shares offered of the first trading day, inferred as flipping by Chong et al. (2009; 2011), and Yong (2010) for Malaysian IPOs. The cumulative average turnover for the first 5 trading days (week1TO) is only 9.18% in our study, while the average turnover for the first trading day (TO D1) is 24.2% (table 1.1). Findings shows that average first-day turnover is significantly greater than the turnover of subsequent trading days, while average first week turnover is significantly more than the turnover of subsequent weeks, and there is a strong correlation among the daily turnover and among the weekly turnover (Table 3.1, 3.2). It is also found there is no significant differences of turnover for week 2 to 4 (Table 2.1) and for day 2 to 5. It is suggested that DOP converges almost immediately by the second day with a turnover of only 7.4% and less on the following days (Table 1.1), possibly indicating the the volume traded in the first week is a sign of consensus effect. Consistent with Karpoff (1986) and Holthausen and Verrechia (1990) that increase of variation of price change and decrease of volume is said to be consensus effect.

On the other hand, the average percentage of volume traded to shares offered (VOS) on the first trading day accounts to 180.7%, extremely higher compared to those reported in US. Among the issuers of the large volume of trade include Aturmaju Resources Berhad issued in year 2004, where the cumulative average turnover of first 5 days of trading was 98.8%, while the heavily traded IPOs on the first day of trading is contributed by Jadi Imaging Holdings Berhad issued in year 2006 (turnover of 201.3%, and 593.93% of shares offered). Its cumulative average turnover of 5 days of trading accounts to 84% of outstanding shares. The largest number of volume traded as a percentage of shares offered on first-day of trading comes from Daya Materials Berhad (1961%). Meanwhile the lowest percentage of volume traded as a percentage of outstanding shares is observed for Sunzen Biotech Berhad (0.03% over the first 5 days of trading, and 0.09% on the first-day of trading), while Uzma Berhad had the lowest percentage of volume traded to shares offered (0.6%).

**Table 1.1 Descriptive statistics of variables**

	Min	Max	Mean	Std. Dev	Skewness	Kurtosis
Panel A VSO (D1)	.01	19.6133	1.8022	2.2843	3.7555	21.1476

Panel B						
TO (D1)	.00096	2.0131	0.2440	0.2724	2.8531	10.9087
TO (D2)	.00033	1.4820	0.0784	0.1613	5.4902	40.2951
TO (D3)	.00005	0.9353	0.0435	0.0899	5.7180	44.4623
TO (D4)	.00000	0.9783	0.0420	0.0880	6.4540	55.6645
TO (D5)	.00001	0.6809	0.0512	0.0781	4.3584	24.1684
Panel C						
week1TO	0.00000	0.9890	0.0918	0.1234	3.9343	20.8129
week2TO	0.00000	0.2670	0.0288	0.0436	3.2068	12.0884
week3TO	0.00000	0.2580	0.0188	0.0307	3.7482	18.8947
week4TO	0.00000	0.2120	0.0150	0.0268	3.8886	19.3401
Panel D						
week1UV	-2.5454	5.2028	1.1050	0.8593	0.5591	3.5288
week2UV	-2.0103	4.7291	0.3406	0.7495	1.3960	6.4086
week3UV	-4.0345	5.7374	-0.6797	0.8815	0.7427	10.5666
week4UV	-7.5979	1.6552	-1.3925	1.3124	-1.2088	3.3040
Panel E						
OfferPrice	.12	3.0000	0.7702	0.4964	1.7391	3.9966
Rtn(Open)	-68.13	288.8890	25.2038	45.4093	2.3132	8.5699
Rtn(close)	-100.00	404.1670	5.5704	62.2771	2.9231	13.3236
Offer size	3.26	2059.0000	47.1595	131.2591	12.8190	192.5758

Note: week 1 to week 5 represents average standardize residual of 5 trading day week of n=290 IPOs across obtained from regressing across 20 trading days

Our second proxy of DOP is captured by unexplained volume (week UV) derived from the residuals of a regression model. The average standardized residuals of 5 trading days referred to as unexplained volume (week UV) is not significantly correlated to the daily or weekly turnover previously used as DOP measure. Our finding is inconsistent with Garfinkel (2009) where both turnover and standardized unexplained volume obtained from regression were found to be correlated and a good proxy for DOP. We suggest that week UV is a better proxy of consensus effect rather than DOP in IPOs settings. Moreover the first week UV is not significantly different from the subsequent week UV (table 2.1). However it does exhibit some interesting correlation pattern (table 3.3).

Descriptive statistics of the average weekly UV for 290 IPOs is presented in table 1.1. The finding show that overall the mean of investors opinion for week 1 (1.099) is greater than the rest of the week, despite the maximum opinion (5.737) falling in week 3. We suggest that the larger the coefficient the greater the consensus effect. Additionally positive opinion is observed in first two weeks, while negative opinion found in week 3 and 4. Our findings suggest that investors alter their beliefs based on the trades of others in the first week, which results in a large consensus effect in first week and subsides than after. Consistent with Holthausen and Verrechia (1990)'s argument. Results of normality test with skewness ( $> 0$ ), Kurtosis ( $> 3$ ) and Jarque Bera ( $> 0$ ) shows that there is departure from normality for the distribution of weekly data for all weekly series. However, to perform further parametric statistical test, we proceed with the use of standardized value of the weekly DOP.

**Table 2.1 Multiple comparison between weekly TO and weekly UV**

		Week	Mean		Week	Mean	
		TO	Difference	Sig.	UV	Difference	Sig.
Scheffe Test	1.	2.	.83860*	.000	2.	.5607*	.000
		3.	.97066*	.000	3.	1.3092*	.000
		4.	1.02199*	.000	4.	1.8321*	.000
	2.	1.	-.83860*	.000	1.	-.5607*	.000
		3.	.132060	.387	3.	.7484*	.000
		4.	.18339	.120	4.	1.2713*	.000
	3.	1.	-.97066*	.000	1.	-1.3092*	.000
		2.	-.13206	.387	2.	-.74845*	.000
		4.	.05133	.928	4.	.52293*	.000
	4.	1.	-1.02199*	.000	1.	-1.8321*	.000
		2.	-.18339	.120	2.	-1.2713*	.000
		3.	-.05133	.928	3.	-.52293*	.000

Note : mean differences is significant at \*0.05level. TO represents turnover and UV represents unexplained volume.

Table 3.3 shows there is significant negative correlation between average first week UV in the third and fourth week, and no correlation with second week while second week is negatively correlated with fourth week. We demonstrate that the average investors' opinion in the first week of trading is revealed by the 3<sup>rd</sup> week. We observe that the opinion converges much faster for Malaysian IPOs, despite the greater DOP of the first trading day. The current study also supports Karpoff (1986) and Holthausen and Verrechia (1990)'s contention that unusually high volume does not necessarily reflect disagreement among traders; it can also reflect consensus. We find that turnover is a better proxy of DOP, while UV is a better proxy of consensus in IPOs setting, where DOP is extremely large on the first trading day and subsides within the 5 trading days. Investors who purchase in the 1 day resort to cutting their losses, by quickly disposing their holdings within a week. Consistent with the findings presented by Aggarwal (2003) and Bayley et al. (2006), there is evidence of reduced volume movement within two days in US, and three days in Australia. On the other hand, Chahine (2007) found greater cumulative volume is observed over 3 days in France. Developing from the findings of these studies it is arguable that after-market players exerts buying pressure which pushes up both the volume and price over first day of trade beyond the number of outstanding shares and new issuance.

We further test the influence of IPOs factors on first week unexplained volume, we find that there is no-significant correlation with the initial premium, offer price and offer size (table 3.3). However, there is significant negative correlation between week 2 opinion and offer price, while in week 3 opinion is inversely correlated to initial premium. The result of week 2 is consistent with Varian (1985), that investors' opinion is more diverse for lower price stock, and become pessimistic about offers that earns greater premium by week 3. Garfinkel (2009) find that there is significantly greater explanatory power of DOP for turnover compared to unexplained volume from regression when conditioned by stock price. Higher stock price attract fewer uninformed investors, may also lower DOP because informed investors seem more likely to cluster their bids and offers around an informed value (Garfinkel 2009). Hence, higher stock prices associated with reduced DOP (through the lower proportion of individual investor trades). We find the three primary market factors do not have significant influence on investors opinion over the first week which is inconsistent with the relationship established in prior studies between early after-market opinion and initial price change of IPOs. As for turnover (TO) there is significant positive correlation between first week and the subsequent four weeks TO, but the magnitude of correlation reduces. As for daily turnover we find there is significant strong positive correlation between first day TO and the subsequent 5 days. The magnitude of correlation shows signs

of consensus, but unclear as to how the opinion changes based on TO measure. The UV provides a better sign of the changes in the opinion as investors reach consensus.

**Table 3.1 Correlation among average weekly TO and IPOs factors**

		Week 1TO	Week 2TO	Week 3TO	Week 4TO	Offer price	Rtn open	Offer size
Week	Pearson Correlation	1	.783**	.557**	.475**	-.152**	.253**	0.08
1TO	Sig.		0	0	0	0.009	0	0.173
Week	Pearson Correlation	.783**	1	.825**	.746**	-.202**	.278**	0.079
2TO	Sig. (2-tailed)	0		0	0	0.001	0	0.181
Week	Pearson Correlation	.557**	.825**	1	.877**	-.228**	.215**	.122*
3TO	Sig. (2-tailed)	0	0		0	0	0	0.038
Week	Pearson Correlation	.475**	.746**	.877**	1	-.219**	.186**	.154**
4TO	Sig. (2-tailed)	0	0	0		0	0.001	0.009

Note: Correlation is significant at \*\*.01 level (2-tailed), and \* 0.05 level (2-tailed). Week TO represents weekly turnover obtained from 5 trading day average

**Table 3.2 Correlation among Daily Turnover (TO) and IPOs factors**

		Offer price	Rtn open	Offer size	Day TO	Day 2TO	Day 3TO	Day 4TO	Day 5TO
Day	Pearson	-.16**	.23**	.13*	1	.80**	.67**	.64**	.69**
TO	Sig.	0.005	0	0.019		0	0	0	0
Day	Pearson	-0.1	.17**	0.01	.80**	1	.72**	.73**	.71**
2TO	Sig. (2-tailed)	0.09	0.002	0.8	0		0	0	0
Day	Pearson Cor	-.12*	.27**	0.07	.67**	.72**	1	.87**	.71**
3TO	Sig. (2-tailed)	0.03	0	0.19	0	0		0	0
Day	Pearson Cor	-.12*	.23**	-0.03	.64**	.73**	.87**	1	.75**
4TO	Sig. (2-tailed)	0.03	0	0.578	0	0	0		0
Day	Pearson Cor	-.13*	.22**	0.07	.69**	.71**	.71**	.75**	1
5TO	Sig. (2-tailed)	0.02	0	0.225	0	0	0	0	

Note: Correlation is significant at \*\*.01 level (2-tailed) and \* 0.05 level (2-tailed). Day TO represents daily turnover obtained from trading volume scaled by outstanding shares

**Table 3.3 Correlation among weekly Unexplained volume and IPO factors**

		week2 UV	week3 UV	week4 UV	Offer price	Return (open)	Offer size
week1	Pearson Correlation	-.064	-.437**	-.330**	-.065	.090	-.004
	Sig. (2-tailed)	.275	.000	.000	.268	.128	.952
week2	Pearson Correlation	1	-.055	-.320**	-.175**	.043	-.012
	Sig. (2-tailed)		.352	.000	.003	.467	.841

week3	Pearson	1	.204**	.053	-.163**	-.021
	Correlation Sig. (2-tailed)		.000	.365	.005	.722
week4	Pearson		1	.033	-.045	-.016
	Correlation Sig. (2-tailed)			.580	.450	.782

Note: Correlation is significant at the \*\*.001 level (2-tailed) and \* 0.05 level (2-tailed). week 1 to week 5 represents average standardize average residual of 5 trading day for n=290 IPOs obtained from 20-day regression that mirrors market model

## CONCLUSION:

DOP due to different interpretation of information of relayed to investors is best capture by volume movement. Previous in IPOs setting found that flipping activity contributes only to a smaller proportion of volume traded, suggesting other factors attribute to the observed phenomenon in early trading. Developing from Loughran and Westberg, Chahine (2007), Garfinkel (2009) and other classical studies we investigate the volume behaviour from the perspective of DOP. We found that on average the % of volume traded to outstanding (TO) shares accounts to 24% and 108% of shares offered (VOS) in Malaysia. From the UV results we suggest that consensus effect is observed with the four weeks of trading where investors who trade in the first week tend to agree with average investors opinion by the third week while those who trade on the second week agree with the average investors opinion by the fourth week. DOP is mainly observed on the first trading day captured by the high turnover (Day TO) as compared to the cumulative average turnover of the 5 trading day (Week1 TO). We support previous argument by Yong (2013) that DOP converges almost immediately in the after-market for Malaysian IPOs. Although DOP is greater in the after-market of fixed price IPOs as argued by Chahine (2007), but investors interpretation of information conveyed through the offerings converges within first weeks for Malaysian IPOs. Our study also highlights the the time taken for investor opinion to mean revert is constant across time. There is evidence that initial premium and offer price has significant influence in updating investors beliefs in the after-market consistent with previous study. Our study recommends that after-market investors will be able to get a better bargain by the third week, as oppose to the first week, and that they should buy IPOs with lower opening performance. The current study also calls for the investigation of other factors such as firm size, operating history, behavioural facets of beliefs that potentially bring earlier consensus in the after-market. We also recommend for further investigation on volume measures to better capture the after-market DOP.

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