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## Contrarian Strategies in Developing Asian Countries: Dogs of the Dow Theory (DoD) versus Puppies of the Dow Theory (PoD)

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### ABSTRACT

This paper tries to test the ability of Dogs of the Dow Theory (DoD) and Puppies of the Dow Theory (PoD) to outperform the market returns of the four developing Asian countries from 2000 until 2014. Although empirical findings indicate that these two strategies appear to outperform the individual markets respectively however the results of the t-test do not show them to be statistically significant. This paper further tests the capability of these trading strategies in beating the market return during economic crisis of 2002, 2008 and 2011. Empirical results across these developing Asian countries revealed that in long run, both DoD and PoD portfolios are still applicable despite of mixed performance throughout the economic crisis period. DoD and PoD trading strategies are able to beat the market returns in Malaysia and Thailand during those crises but not in the Chinese share market. In the case of the Indonesian share market, these two strategies outperform the market only during the year 2002 and 2008 crises. Results of the t-test between the abnormal returns of the two strategies appear to be insignificant. This implies that the effectiveness of two strategies remain inconclusive.

**Keywords:** Contrarian strategies, developing Asian countries, Dogs of the Dow Theory, Puppies of the Dow Theory, abnormal returns

## INTRODUCTION

Despite Efficient Market Hypothesis (EMH) argument against investors' ability to make abnormal return since in an efficient market, shares are traded at fair value, yet there are other scholars who believed otherwise due to the existence of market anomalies. Maheshwari and Dhankar (2014) pointed out there are abundant of unanticipated events that caused the market to react unexpectedly. This leads to the development of trading strategies that work on basis of market anomalies, that is strategy that follows market norm (or momentum strategy) or against it (contrarian strategy).

DoD and PoD trading strategies are classified as contrarian strategies since the strategies are said to work against the norm of investing. In short, the strategies required traders to long undervalue shares and short the past winners through the selection of shares with the highest dividend yield (DY) in their prospective portfolios. Both strategies deal with market index (blue chip shares) as part of their portfolio constituents and O'Higgins and Downes (2000) stated that these strategies could indirectly protect investors from downside risks as they act as a hedge against inflation.

Since its introduction of these trading strategies (particularly the DoD) over the past two decades, US traders have been testing them and researchers have found varying results (O'Higgins and Downes, 2000). Other researchers like, and also seek to apply this trading strategy in countries like Taiwan (Yan et al., 2015), US (Cai, 2014), and Japan (Qiu, 2014). Their findings indicated the DoD trading strategy is superior and statistically significant. Of late, DoD trading strategy (although not PoD) has slowly but not extensively gaining attention among the researchers from the less developing such as India (Pandey, 2017), Bulgaria (Milinov and Pavlov, 2016), China (Huang et al., 2014) and Thailand (Tissayakorn et al., 2013). In contrast, DoD trading strategy is insignificant in Sweden (Friso, 2016 and Necander and Olsson, 2016), Hong Kong (Qiu et al., 2012), and Turkey (Prather et al., 2011).

One of the reasons for the interest in the trading strategy is a vast improvement in dividend payment. Cook (2014) in his study found dividend payment among companies in Asian countries has increased by 75 per cent from 2009 to 2013. He added that Malaysia appeared to be one of the biggest contributors to DY for the year 2013 and 2014. In the year 2015, Malaysia was ranked amongst the top three largest dividend contributors in ASEAN region (Annual Report of Bursa Malaysia, 2015).

As for the PoD trading strategy, it is a new version of DoD trading strategy that focus only on five shares in each portfolio. Research on the applicability of the PoD trading strategy is still at its infancy stage. This is an extended version of DoD trading strategy, where the portfolio is based on five lowest priced blue chip shares with the highest dividend yield. O'Higgins and Downes (2000) found return from the PoD trading strategy outperformed the US market and similar results are reported in India (Pandey, 2017), Bulgaria (Milinov and Pavlov, 2016) and Indonesia (Ekaputra and Sukarno, 2012). Furthermore, it is ascertained that PoD trading strategy is preferred in Indonesian share market since its return is more than the return of DoD trading strategy (Ekaputra and Sukarno, 2012). As for

Heidmann (2011), his study revealed that the PoD trading strategy is superior relative to the share markets in Europe before the financial crisis of 2008 and 2010.

Thus the intention of this study is to test the applicability and effectiveness of the DoD and PoD trading strategies in the developing Asian countries. The study differs from previous studies in which both DoD and PoD trading strategies are tested and then compared to see whether DoD and/or PoD trading strategies are more applicable to the developing Asian countries. It also attempt to examine whether these trading strategies are affected by the financial crises of 2002, 2008 and 2011.

This study is organised into several sections covering methods, results and discussion and conclusion.

## METHODS

Four developing Asian countries are selected for the purpose of this study. The countries are China (CN), Indonesia (ID), Malaysia (MY) and Thailand (TH). The selection of these countries is based on the availability of data and it covers 15 years, from 2000 until 2014. The source of the data is gathered from *Thomson One Banker* and are statistically analysed using Ordinary Least Square (OLS) method. The construction of portfolios of DoD and PoD created on each individual countries share markets are created as follows:

- Ten (Five) shares with the highest dividend yield from the components of the respective countries share market are identified.
- This portfolio is held for a year and then being rebalanced where those shares that do not meet the criteria are being replaced. This process will be repeated each year.

The methods of calculating the return of each share of DoD and PoD portfolios are as formulated in Eq. (1) where  $R_{i,t}$  is the return of each share for country  $i$  at time  $t$  and it is implemented by Broberg and Lindh (2012).  $P_{i,t}$  is the current market price for company share,  $P_{i,t-1}$  is the previous year of market price for company share and  $D_{i,t}$  is the current dividend issued for company share.

$$R_{i,t} = [(P_{i,t} - P_{i,t-1}) + D_{i,t}] / P_{i,t-1} \times 100 \quad (1)$$

Then, return of yearly DoD portfolio return ( $R_{DoD,it}$ ) is calculated by adding the annual return of ten shares as below, where  $W_i$  is the equal weighted assigned to each return. In conjunction, Eq. (3) represents the calculation of yearly return of PoD portfolio ( $R_{PoD,it}$ ) involving five shares (selected from the Dogs shares) with lowest price.

$$R_{DoD,it} = \sum_{i=1}^{10} W_i R_{i,t} \quad (2)$$

$$R_{PoD,it} = \sum_{i=1}^5 W_i R_{i,t} \quad (3)$$

Once the portfolio returns are derived for DoD ( $R_{DoD,it}$ ) and PoD ( $R_{PoD,it}$ ) trading strategies respectively, the abnormal return ( $ABR_{i,t}$ ) is then computed to examine if the portfolio returns of

the DoD and PoD trading strategies respectively exceeded the market return ( $R_m$ ). The  $ABR_{i,t}$  of the DoD and PoD portfolios are calculated in Eq. (4) and Eq. (5) respectively.

$$(4) \quad ABR_{i,t} = R_{DoD,it} - R_{m,i,t}$$

$$(5) \quad ABR_{i,t} = R_{PoD,it} - R_{m,i,t}$$

A t-test is executed to determine if the abnormal return between the two trading strategies are statistically significant.

## RESULTS AND DISCUSSION

In this section, results are segregated into three parts, representing the test of both trading strategies throughout the 15 years studied, the test of both trading strategies during economic crisis of 2002, 2008 and 2011 and the t-test on the differences between the abnormal returns of DoD and PoD portfolios.

### 1. Test of Abnormal Returns throughout the Years Studied (T-Test)

T-Test is performed as this study aims to thoroughly test the ability of DoD and PoD theory to generate ABR by beating the market performance. Applied to both strategies, ABR is calculated using Eq. (4) and Eq. (5) respectively in which a significant level of 1% and 5% is emphasized.

Results in Table 1 indicate that DoD portfolios outperformed the market return in all countries studied and this is aligned with studies conducted in China (Huang et al., 2014), Indonesia (Ekaputra and Sukarno, 2012) and Thailand (Tissayakorn et al., 2013). Similarly, PoD portfolios also outperformed the market return in these developing Asian countries where these results are supported by Ekaputra and Sukarno (2012), who tested this trading strategy in Indonesia.

The abnormal portfolio returns of the respective DoD and PoD trading strategies are insignificant based on the t-test conducted. One of the reasons could be due to the absence of anomalies as investors are aware of the existence of this strategy (McQueen et al., 1997). Specifically these inconsistent results are attributed to great improvement in economic freedom and market capitalization among developing countries that indirectly reduces the holes of generating ABR in share market as observed by Kim et al., (2014).

TABLE 1. ABR of DoD and PoD portfolios in Developing Asian Countries throughout the years studied

Country	CN		ID		MY		TH	
	DoD	PoD	DoD	PoD	DoD	PoD	DoD	PoD
Portfolio Mean	5.5906	7.5804	5.7406	6.1811	2.6356	2.7635	3.9803	3.8044
Market Mean	3.2948	3.2948	3.1498	3.1498	1.1005	1.1005	2.1610	2.1610
ABR	2.2959	4.2856	2.5908	3.0312	1.5352	1.6630	1.8193	1.6434
Outperformed (O)/ Underperformed (U)	O	O	O	O	O	O	O	O
T-Test	0.5716	0.3665	0.3475	0.2956	0.1547	0.1575	0.3975	0.4476

**Notes:** This table provides a result of T-Test applied to DoD and PoD portfolios with market portfolios of developing Asian countries. Comparisons are made between the portfolios of DoD and PoD with market return whereby both trading strategies are deemed appropriate if the difference is significant. Positive (negative) difference indicates that return of DoD and PoD portfolios are higher (lower) than market return.

## 2. Test of Abnormal Returns during the Economic Crisis of 2002, 2008 and 2011 (T-Test)

Table 2 demonstrates in details about the ability of DoD and PoD trading strategy to statistically outperform the market performance during economic crisis. Apparently, DoD and PoD portfolios outperformed the market returns in Malaysia and Thailand due to positive ABR in these three years of crisis period. This implies that DoD and PoD trading strategies manage to protect investors from downside risks. Safari (2009) argued that high-yielding shares in general will boost up the share returns in Malaysian share market.

As in Indonesia, the strategies were able to beat the market returns in the 2002 and 2008 but not in 2011. It is reported that in 2011, Indonesia was under the terrorist attacks that targeted domestic institutions such as church, mosque and school (Country Reports on Terrorism 2011, 2012). This elevated the fear among investors to actively involved in the share market.

The portfolio returns of the DoD and PoD portfolios in China throughout the three crises periods are below the market returns. A plausible reason could be due to the selection of shares from Shenzhen Stock Exchange. This stock exchange possesses a share market with a smaller capitalization as compared to Shanghai Stock Exchange where its market returns are more volatile. It is also previously found that share market with high market capitalization will perform well during economic uncertainty (Shi et al., 2013).



TABLE 2: ABR of DoD and PoD portfolios in Developing Asian Countries during the Economic Crisis Period

Year		CN		ID		MY		TH	
		DoD	PoD	DoD	PoD	DoD	PoD	DoD	PoD
2002	Portfolio Mean	-0.1883	-0.2036	0.2029	0.1029	0.0840	0.0847	0.4427	0.5029
	Market Mean	-0.1832	-0.1832	0.0839	0.0839	-0.0715	-0.0715	0.1732	0.1732
	ABR/ Losses	<i>-0.0051</i>	<i>-0.0204</i>	<b>0.1190</b>	<b>0.0190</b>	<b>0.1555</b>	<b>0.1562</b>	<b>0.2695</b>	<b>0.3297</b>
2008	Portfolio Mean	-0.6405	-0.7073	-0.4482	-0.4564	-0.1271	-0.1351	-0.4677	-0.4386
	Market Mean	-0.6176	-0.6176	-0.5064	-0.5064	-0.3933	-0.3933	-0.4756	-0.4756
	ABR/ Losses	<i>-0.0229</i>	<i>-0.0897</i>	<b>0.0582</b>	<b>0.0500</b>	<b>0.2662</b>	<b>0.2582</b>	<b>0.0079</b>	<b>0.0370</b>
2011	Portfolio Mean	-0.3365	-0.3327	-0.0872	-0.1633	0.1330	0.1820	0.3235	0.2867
	Market Mean	-0.3286	-0.3286	0.0320	0.0320	0.0078	0.0078	-0.0072	-0.0072
	ABR/ Losses	<i>-0.0079</i>	<i>-0.0041</i>	<i>-0.1192</i>	<i>-0.1953</i>	<b>0.1252</b>	<b>0.1742</b>	<b>0.3307</b>	<b>0.2939</b>

**Notes:**

This table provides a result of T-Test applied to DoD and PoD portfolios with market portfolios of developing Asian countries during the economic crisis period of 2002, 2008 and 2011. Bold figure (italic figure) represents ABR (losses) and it indicates that return of DoD and PoD portfolios are higher (lower) than the market return.

**3. Test on the Differences between the Abnormal Returns of DoD and PoD Portfolios (T-Test)**

A comparison between the abnormal returns of DoD and PoD portfolios demonstrates that PoD trading strategy has higher abnormal return relative to the DoD trading strategy for Malaysia, Thailand and China share markets. O'Higgins and Downes (2000) explained that lack of diversification in PoD portfolios could lead to a better return. However, Hoh et al. (2011) opined that by having more shares into a portfolio would be beneficial due to the market inefficiency possessed by Malaysia.

Thailand is the only country with DoD portfolio that produced higher abnormal return than the PoD portfolio. Wang et al. (2011) argued that having more shares in a portfolio led to high diversification which could enhance the returns of DoD strategy. However, the t-tests were run, it was found that none of the differences are significant, which implies neither DoD trading strategy

nor PoD trading strategy is superior. This means that to certain extent those share markets being studied are efficient.

TABLE 3: Test of Significant between the DoD and PoD Abnormal Returns

Country	CN		ID		MY		TH	
Portfolio	DoD	PoD	DoD	PoD	DoD	PoD	DoD	PoD
ABR	2.2959	4.2856	2.5908	3.0312	1.5352	1.6630	1.8193	1.6434
Difference	-1.9897		-0.4402		-0.1278		0.1759	
T-Test	0.5021		0.7961		0.8587		0.9007	

**Notes:**

This table provides a result of T-Test applied to DoD and PoD portfolios with market portfolios of developing Asian countries. Comparisons are made between the portfolios of DoD and PoD with market return whereby both trading strategies are deemed appropriate if the difference is significant. Positive (negative) difference indicates that return of DoD and PoD portfolios are higher (lower) than market return.

**CONCLUSION**

This paper examines the ability of DoD and PoD trading strategies to outperform the market returns in China, Indonesia, Malaysia and Thailand share markets. Findings reveal that even though the portfolio returns of the DoD and PoD trading strategies are higher than the respective market returns, however the t-tests indicate the abnormal returns to be statistically insignificant. Diminishing in market anomalies and the pattern of portfolios' returns that move in conjunction with market returns in these countries could be the reasons for these insignificant results. The two trading strategies also appeared to work well for the Malaysian and Thailand share markets during the 2002, 2008 and 2011 crises. In most cases, PoD trading strategy appeared to generate higher abnormal returns relative to the DoD trading strategy. But once again the results of t-tests showed the differences to be statistically insignificant. In sum, it can be concluded that the effectiveness of these two strategies are still inconclusive.

Avenue for future research could look into the effectiveness of DoD and PoD strategies across Asian countries with different structure of return, perhaps by using return that has been adjusted for risk, transaction costs and taxes. Further research could also focus on applying the strategies with other developing countries from other.

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