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Statement from the Managing Editor

Welcome to our second issue of this year. This issue, like previous others, comprises research papers which address contemporary business problems and simultaneously provide novel managerial and/or theoretical insights in the broad areas of business management.

In our first article, Kongtoranin discusses the set of determinants in different regimes related to credit cycles. His findings show that macroeconomic and liquidity factors are more sensitive in a high volatile rather than a low volatile regime. Important implications are provided for both investors and policy makers.

In our second article, Teepapal examines subordinates' perception of leadership style in SME's in Thailand. The findings indicate that the democratic leadership style was perceived as offering several advantages for success and growth of SMEs in Thailand.

In our third article, Vongsaroj measures the awareness and performance of Tour Operators' ethical behavior. The results of his study reveal that there is a gap between awareness and performance; the author has offered several recommendations for the tourism industry.

Kusolpalalert, in our fourth article, examines how financial assets performed during two periods; financial crisis and financial recovery. The author uses data from the Thai financial market from 2001-2010. Her findings also provide beneficial lessons for investors and analysts.

In our fifth article, Akkalatham explores the effects of personality, socio-demographic and Body Image factors on Thai women's acceptance of cosmetic surgery. Her findings show that narcissism, appearance-orientation and body image satisfaction were significantly related to the respondents' acceptance of cosmetic surgery.

Finally, Thanathawee examines the effect of firm characteristics and corporate governance factors on dividend payment by firms in Thailand. His findings reveal that leverage, size of firm, growth opportunities and largest ownership can explain variations in the payment of dividend by firms.

I express my sincere thanks to all the contributors and reviewers; we welcome both empirical and theoretical papers that that will make long-lasting and significant contributions to scholarly research on the practice of management. I urge those of you who previously have submitted manuscripts to the Au Journal of Management to continue to do so. I also invite new contributors to send the Journal your very best.

Patricia Arttachariya, Ph.D.
Managing Editor

Contents

THE DETERMINANTS OF CREDIT SPREAD CHANGES OF INVESTMENT GRADE CORPORATE BONDS IN THAILAND BETWEEN JUNE 2006 AND FEBRUARY 2012: AN APPLICATION OF THE REGIME SWITCHING MODEL

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Abstract

This study proposes the two-state regime-switching model to explain the change of credit spread for investment grade corporate bonds in Thailand. The regimes of low and high volatility are extracted by Markov switching model. The results suggest that the model can improve explanatory power. The sensitivities of the risk factors including interest rate, macroeconomic, and liquidity factors increase in the high volatility regime rather than in the low regime. However, the liquidity factors are not significant for low credit rating corporate bonds.

Keyword: Credit Spread, Switching Regime Model, Internet Rate Risk, Macroeconomic Risk, Liquidity Risk

บทคัดย่อ

การศึกษานี้นำเสนอแบบจำลองการเปลี่ยนแปลงตามภาวะเพื่ออธิบายการเปลี่ยนแปลงของส่วนชดเชย ความเสี่ยงด้านเครดิตสำหรับหุ้นกู้เอกชนในประเทศไทยที่มีอันดับความน่าเชื่อถือที่สามารถลงทุนได้ ภาวะความผันผวน ต่ำและสูงถูกค้นหาโดยแบบจำลอง Markov-switching ซึ่งผลการศึกษาพบว่าแบบจำลองการเปลี่ยนแปลงตามภาวะ สามารถช่วยปรับปรุงการอธิบายการเปลี่ยนแปลงของส่วนชดเชยความเสี่ยงด้านเครดิตได้ ในภาวะที่มีความผันผวนสูง ความอ่อนไหวของปัจจัยเสี่ยงด้านอัตราดอกเบี้ย สภาวะเศรษฐกิจมหภาค และสภาพคล่องจะอ่อนไหวมากกว่า ภาวะที่มีความผันผวนต่ำ อย่างไรก็ตามปัจจัยด้านสภาพคล่องของตราสารไม่สามารถอธิบายการเปลี่ยนแปลงของ ส่วนชดเชยความเสี่ยงด้านเครดิตสำหรับหุ้นกู้เอกชนที่มีอันดับความน่าเชื่อถือต่ำได้

คำสำคัญ: ส่วนชดเชยความเสี่ยงด้านเครดิต,แบบจำลองการเปลี่ยนแปลงตามภาวะ,ความเสี่ยงด้านอัตราดอกเบี้ย, ความเสี่ยงด้านภาวะเศรษฐกิจมหภาค, ความเสี่ยงด้านสภาพคล่อง

INTRODUCTION

In Thailand, the corporate bond market is growing dramatically due to the need for diversification in portfolio risk and is facing challenging tasks as well in the global debt capital markets. Though the market is small and new, the regulator provides sufficient information about the securities, as well as transparent rules and regulations to encourage efficiency.

However, the empirical studies which focused on the determinants of corporate bond yield spread in Thailand are limited. For example the study on the effect of volatility of firm on the credit spread *level* found that 80% in low credit rating corporate bonds can be explained (Mongkonkiattichai & Pattarathammas, 2010). However, the model included specific month dummy variables and used the individual-level corporate bond data such as traditional bond characteristics as explanatory variables. This model cannot explain the dynamics of the credit spread. Other studies on the credit spread change were conducted, however, the results were limited to few corporate bonds which might not

represent the majority of the corporate bond market (Tittayanurak, 2002; Tirawannarat, 2004).

From the observations, the credit spread in Thailand fluctuates in a cyclical pattern as does credit spread in other economies. It is conjectured that the Thai corporate bond market is a credit spread puzzle. This problem can be seen, when the systematic risk factors fail to explain the variation of credit spread. However, the cyclical pattern of the credit spread contains information on the recovery rate of the firm. It can be used to improve the explanatory power of the model with systematic risk factors.

The objective of this study is to show that the credit spread puzzle exists in Thailand since systematic risk factors can explain credit spread partially. Thus, the model is modified with the interaction terms incorporated with the credit cycle. The credit cycle can be different from the business cycle. The explanatory power of the modified model is compared with the original model. The improvement in explanatory power and also the sets of determinants in different regimes are discussed as to whether their signs and values are changed when the regime switches.

LITERATURE REVIEW

In this section the definition of the credit spread is discussed. To understand the dynamic of credit spread, there are many theories related with credit risk.

The interesting features of credit spread are the nonzero level, term-structure and credit cycle. Firstly, even the highest credit rating corporate bond has a credit spread, which means that the yield is higher than the government bond. Credit spread also increases when the credit quality is lower and depends on the industry of corporate issuers. Secondly, the term-structure, the relationship between credit spreads with the same credit rating and their time-to-maturity, can be either upward, humped, or downward shape. However, in Thailand, the lognormal function can fit most of the credit spread curve in the increasing function (Siwamogsatham, 2010). Lastly, the credit spread dynamic has a cyclical pattern, which is the fluctuation of yield spread during different business conditions. It is believed that the credit cycle can induce the business cycle (Maalaoui, Dionne & François, 2008). It has a persistent effect in that the spread remains high during the recession and continues to be high when the economy recovers (Collin-Dufresne, Goldstein & Martin, 2001). Therefore, the credit cycle and business cycle are dissimilar.

Corporate bond is subject to the credit risk, which is defined as the distribution of financial losses owing to unexpected changes in the credit quality of the counterparty in a financial agreement. This distribution is complex; however, the main key to explaining it is by *default probability* (Backshall, Giesecke & Goldberg, 2005). The credit risk has two components, *credit default risk* and *credit spread risk*. The former risk is the risk that a firm cannot pay back cash flow to the investors as promised when the firm defaults. The latter risk is the risk from the credit spread change, which affects the financial loss or the performance in the portfolio (Fabozzi, Mann & Wilson, 2005). The related theories and credit risk components are discussed as follows.

1. Default Risk

One of the main differences between government bonds and corporate bonds is the possibility of issuer default. Government bonds are issued by the government; therefore these securities are guaranteed by the government. However, corporate bonds are issued by either private or public companies, which are subject to default during the bond holding period. Default risk is a matter of concern for investors and therefore the yields of corporate bonds are higher than the yields of government bonds with the same time-to-maturity. The option pricing theory can explain the default risk related to the credit spread.

The structural model, developed from option pricing theory of Black and Scholes (1973) can be used to value the credit spread as a function of firm default probability, the volatility of firm value, and interest rate factors. It was modified by relaxing many assumptions to improve the pricing performance by allowing a stochastic process of independent variables, e.g. risk free rate and default

boundary, and allowing the jump process of the firm value, allowing tax and liquidity premium (Merton, 1973; Black & Cox, 1976; Longstaff & Schwartz, 1995; Collin-Dufresne & Goldstein, 2001; Duffie & Lando, 2001; Zhou, 2001; Jarrow & Protter, 2004; Giesecke, 2006; Christensen, 2008; Chen & Kou, 2009). The model explains the relationship between credit spread and the default probability, such that the increase in firm default probability increases the credit spread. When the firm value increases, the default probability is low. The firm value is proxied by firm equity return (Kwan, 1996; Campbell & Taksler, 2003; Anramov, Jostova & Philipov, 2007; Chen & Kou, 2009; Mongkonkiattichai & Pattarathammas, 2010) or inversely measured through the leverage ratio (Collin-Dufresne et al., 2001b).

2. Interest Risk

Firm value is related to the interest rate, either positively or negatively. If the firm and interest rate have a positive sensitivity, the firm value increases with the rise of interest rate and therefore the firm value is higher than the debt value, and the credit spread narrows. On the other hand, firm value can be negatively related to the interest rate. The credit spread widens when the interest rate increases. This relationship can be explained by option pricing theory. Additionally, the volatility of firm can be affected by the volatility of the interest rate, when the firm value and interest rate are correlated.

While in the structural model, the risk free rate were assumed to be constant, the reduced-form model allowed the factors to have a stochastic process. The model can fit the empirical data better than the structural model, but still cannot explain the determinants of credit spread variation (Jarrow & Turnbull, 1995; Lesseig & Stock, 1998; Elton, Gruber, Agrawal & Mann, 2004; Longstaff, Mithal & Neis, 2005). The negative relationship between the change of interest rate level and credit spread is expected, due to the fact that the increase in risk free rate increases the drift of the risk-neutral process of firm value, and therefore the probability of default decreases and the credit spread narrows (Longstaff & Schwartz, 1995).

Moreover, if the firm values are correlated with the interest rate, the firm value volatility is related with both equity volatility and interest rate volatility. Increasing interest rate volatility increases the firm volatility and therefore the credit spread increases (Huang & Kong, 2003).

Pure expectation theory explains that the relationship between the forward rate and the future rate are equal (Cox, Ingersoll & Ross, 1981). Therefore the slope of the term-structure can imply the future interest rate. The steeper the slope of the term-structure, the higher the future interest rate. The future probability of default decreases, when the expectation of future interest rate increases; therefore the credit spread narrows (Collin-Dufresne et al., 2001b).

3. Macroeconomic Risk

Since the structural model cannot explain credit spread change effectively, the systematic risk factors are widely selected as the choice of determinants of credit spread change (Collin-Dufresne et al., 2001b). The related theories are as follows:

The financial instability hypothesis by Minsky (1992) explained the credit crisis of the debt market caused by the accumulation of the debt from three imbalanced numbers of three groups of borrowers, i.e. hedge borrowers, speculative borrowers, and Ponzi borrowers. The credit cycle is different from the business cycle since the assumption of the theory is based on a different economy structure. The economy structure of the business cycle based on the general economy is dominated by the real exchange of good and cash, while in the *modern* economy the trading is via contracts with different participants.

The credit cycle theory focuses on the abnormality phenomenon of the credit spread due to the cycle of credit. The credit cycle can be different from the business cycle due to persistent effects after the recession state. This credit cycle can change the structure of the model in explaining credit spread change (Maalaoui et al., 2008).

The relationship between the equity and bond

market can be explained by the efficient markets hypothesis. It shows that there is a relationship between the equity and bond markets through non-synchronized perceptions of private information. The equity market with low transaction cost reacts to the information before the bond market, and therefore the relationship between the lagged return of equity market can explain the bond market return (Kwan, 1996).

4. Liquidity Risk

The aggregate liquidity factors are related to the stock returns. Stocks with higher liquidity give higher expected return to the investors (dos Santos Paiva & Savoiac, 2009). Since the corporate bond market has much lower liquidity than the stock market, the liquidity risk is higher. The liquidity can be in two parts, liquidity shock due to the firm default and unexpected less price in the future. Therefore the liquidity and credit risks are correlated (Ericsson & Renault, 2006).

Option pricing theory explains the relationship between credit spread and the liquidity of the corporate bond in terms of convenience yield. The investors require higher premiums on investing on the slow-cash-converted securities, such as corporate bonds, than the fast-cash-converted securities, such as Treasury bonds (Nakashima & Saitob, 2009). The credit spread puzzle of the Merton model may cause this by not including the liquidity factor in the model, especially in very short-term corporate bonds (Covitz & Downing, 2007). The higher the liquidity, the lower is the credit spread (Lo, Mamaysky & Wang, 2004).

5. Time-To-Maturity Risk

Since the volatility of the yield of corporate bonds is related to the time-to-maturity, the credit spread is affected by the *time-to-maturity*. This relationship is called term-structure, which can be increasing, decreasing or hump shaped. The main theory related to the increasing shape is liquidation theory.

The liquidation theory explains the relationship between yield to maturity and time to maturity to be an increasing function due to the fact that the

investor demands higher premiums on longer maturity bonds in order to hold a longer one. Therefore, the yield to maturity increases with the time-to-maturity (Fabozzi, 2005).

MODEL

The credit spread change is determined from the interest rate, macroeconomic, and liquidity factors and it is controlled by controlled variables. The framework can be developed to the single- and multiple-regime models. The multiple-regime model applies the two regimes of the credit cycle, low and high regimes, where a low regime refers to the period when the credit spread mean or variance is low and not volatile and vice versa. The regimes of the credit cycle are acquired from the Markov regime switching model by Davies (2008) and Maalaoui et al. (2008). It is assumed to have two different regimes to avoid the difficulties in the interpretation of the state's phenomenon. Moreover, the computational resources and divergence of the parameters are more assured with two states assumption (Perlin, 2010). To study the change of the sensitivities during two different regimes, the interactive terms of the credit cycle are multiplied with each explanatory variable and added to the single regime model.

1. The Single-Regime Multiple Regression Model

The model is simply an ordinary multiple regression analysis with a general form expressed as

$$\Delta CS_t^j = \alpha_0^j + \sum_{i=1}^{N} \alpha_i^j X_{t,i}^{(j)} + \varepsilon_t^j \tag{1}$$

where ΔCS_t^j is the credit spread change of credit ratings and time-to-maturity portfolio j, α_0^j is a constant, α_i^j are estimated sensitivities of the observed independent variables x_{ij}.

2. The Multiple-Regime Multiple Regression Model

The multiple-regime multiple regression focuses on the regime change of the credit cycle by adding additional interaction terms (Davies, 2008;

Maalaoui et al., 2008). The general term of the multiple regime model is as follows

$$\Delta CS_t^j = \beta_0^j + \sum_{i=1}^{N}\beta_i^j X_{t,i}^{(j)} + \gamma_0^j \times inter_t^j + \sum_{i=1}^{N}\gamma_i^j X_{t,i}^{(j)} \times inter_t^j + \varepsilon_t^j \qquad (2)$$

$$\Delta CS_t^{j,L} = \beta_0^j + \sum_{i=1}^{N}\beta_i^j X_{t,i}^{(j)} + \varepsilon_t^j \quad when\ inter_t^j = 0 \qquad (3)$$

$$\Delta CS_t^{j,H} = (\beta_0^j + \gamma_0^j) + \sum_{i=1}^{N}(\beta_i^j + \gamma_i^j) X_{t,i}^{(j)} + \varepsilon_t^j \quad when\ inter_t^j = 1 \qquad (4)$$

where β_0^j and β_i^j are parameters of the low regime, γ_0^j and γ_i^j are parameters of the marginal effect terms. The dummy variables $inter_t^j$ are equal to zero when the credit cycle regime of portfolio j are in low regime, otherwise one (Davies, 2008; Maalaoui et al., 2008). β_i^j and $\beta_i^j + \gamma_i^j$ can be interpreted as sensitivities of explanatory variables in low and high regimes, respectively.

DATA

The individual corporate bond data are obtained from the mark-to-market of the fixed-incomes prepared by the ThaiBMA via the iBond database, including static credit spread[1], time-to-maturity, and credit rating. To ensure that the portfolios have no additional risk, the corporate bonds with an embedded option and a floating coupon type are filtered out. Moreover, they are discarded whenever a bond has less than one year time-to-maturity (Collin-Dufresne et al., 2001b; Maalaoui et al., 2008). The bond without a credit rating either TRIS or FITCH are also filtered out. The non-investment bonds, i.e. with a credit rating lower than BBB, are filtered out.

The aggregate static spread curves, CS_t^i, are constructed for each credit rating, j, e.g. AAA, AA, A, BBB[2], through the lognormal function as in equation (5).

$$CS_t^j(T) = a_0 \ln(1+T) + a_1 \qquad (5)$$

where CS_t^j is the static spread curve of portfolio j at month t. It is a function of time-to-maturity T, and a_0 and a_1 are the parameters from the OLS of $CS_t^i(T)$ and its related time-to-maturity T (Siwamogsatham, 2010). The lognormal function gives an increasing function which is reasonable for the credit spread of corporate bonds that is increasing with the time-to-maturity. The $CS_t^j(t,T)$ is a series of credit spread at time-to-maturity T can be calculated from the parameter obtained from the OLS.

The interest rate risk is captured by the interest rate level, the slope of the yield curve, and the interest rate volatility. The interest rate level (r_t^{2y}) is obtained from the yield of two-year Treasury yield ThaiBMA zero coupon yield curve. The proxy of the slope of the yield curve ($slope_t^{10y-2y}$) is the spread between 10-year and 2-year maturity Treasury bonds. The historical interest volatility ($\sigma_t^{r,10y}$) is calculated from the one-year historical interest rate volatility using the daily spot rate of ten-year-maturity Treasury bond yield from the ThaiBMA zero coupon yield curve.

Macroeconomic risk includes equity market return and historical volatility of equity market return. The equity market index is obtained from the Bloomberg database via Stock Exchange of Thailand (SET). The return of the stock market (set_t) is the percentage change of the stock index. The historical volatility of equity market return (σ_t^{set}) is calculated from the standard deviation of daily return back for 180 days from the Bloomberg database.

Liquidity factors are measured by the missing price, the ratio of non-trading days to the number of days in the month of each bond. and the turnover ratio ($turn_t$) is a ratio between the total trading volume in the month to the number of outstanding bonds (Maalaoui et al., 2008). The higher the ratio, the more frequent trades are in the secondary market. The trading volume data is from the pricing data from the ThaiBMA website. The outstanding volume is calculated by using value of the outstanding at the end of the month divided by par value of 1,000 THB.

The interaction terms of each portfolio $inter_t^j$ are obtained from the Markov Switching Model using the time-series data of credit spread of each portfolio as an input of the analysis. The credit spread of each portfolio is assumed to have the following process

$$\ln CS_t^j = \mu_{S_t}^j + \varepsilon_{S_t}^j \qquad (6)$$

where S_t, 1, 2 $\mu_{S_t}^j$ is the mean of $\ln CS_t^j$ at state S_t, and $\varepsilon_{S_t}^j$ follows a normal distribution with zero mean and variance $\sigma_{S_t}^{2j}$. The means and variances in regime 1 and 2 are different. The transition of the state is assumed stochastic or it is uncertain

whether the state will change or not. Since the switching process is assumed to be known, a transition matrix that controls the probability of making a switch from one to another state is represented by the probability of a switch from state n to state m between time t and $t + 1$ (p_{mn}).

The estimation of the parameters in the Markov Switching model is based on the maximum likelihood using Hamilton's filter (Hamilton, 1990). The calculation process is to estimate the parameters by employing Expectation-Maximization (EM) algorithm, the iterative process to find the maximum likelihood of the model with a latent variable (Dempster, Laird & Rubin, 1977). The calculation of the *smoothed probabilities* can be obtained from an iterative process. The smoothed probability is then used to weight y_t. The OLS calculation of the weighted y_t is performed to generate the new estimate parameter. The process is repeated again until the value of the likelihood function is maximum and the fixed parameter of θ is found (Maalaoui et al., 2008).

For this study, the calculation of smoothed probability and parameter θ is performed by MATLAB package MS_Regress written by Perlin (2010). Whenever the smoothed probability is lower than 0.5, the credit spread is in the low regime and vice versa. The smooth probability is converted to dummy variable, $inter_t^j$, using this criteria (Maalaoui et al., 2008).

The control variables are default and time-to-maturity risk. Corporate bonds with similar credit ratings are assumed to have similar default risk, while the same time-to-maturity reflects the same time-to-maturity risk. Therefore, they are controlled by setting portfolios of four ratings (e.g. AAA, AA, A, and BBB) and three time-to-maturity (e.g. short, medium, and long time-to-maturity) (Collin-Dufresne et al., 2001b; Maalaoui et al., 2008). Only the systematic risk factors are studied, due to the fact that the idiosyncratic risk can explain a little part of the credit spread variation.

There are many problems related with the OLS regression for time-series data. Firstly, the nonstationary problem of the dependent and independent variables can be conducted using ADF test. If the null hypothesis cannot be rejected, the series has non-stationary problems. The solution is to cal-culate the first difference to the variable and retest ADF again. Secondly, the multicollinearity problem in the independent variables can be tested by calculating the correlation matrix and VIF test. The criteria for severe collinearity is high correlation (more than 0.80 or less than -0.80) and VIF > 5. Thirdly, the appropriate lag terms of independent variables is found by testing the univariate OLS with credit spread change to minimize the AIC.

After running the OLS of either single-regime or multiple-regime models, it is necessary to check the other two problems, serial correlation and heteroscedasticity problems in the error terms of the regressions. To detect the serial correlation in the error terms, the Botch Goffin Serial LM test is used. If there is a serial correlation, the standard errors are corrected by Newey-West standard error before reading the t-test. The heteroscedasticity problem can be detected by the White test and the standard errors can be corrected by the White standard error. However, if two problems are found, the Newey-West standard error is selected (Gujarati, 2003).

FINDINGS

The corporate bond data contains total transaction of 11,364. The number of samples in each credit rating groups are different. Most of the samples are in A with 324 bond issues and 5,907 observations. The OLS is used to fit the data for each credit rating group on month t. Using these parameters from the credit spread curve, the credit spread at time-to-maturity at 2, 5 and 10 years of each credit rating group at month t can be estimated. Table 1 shows the descriptive statistics of credit spread of all portfolios.

The preliminary results is the Markov switching parameters as shown in Table 2, respectively. The ADF test (The results are not shown here.) shows that all variables are nonstationary except for the volatility of the interest rate and return on the equity market. Therefore, they are corrected with the first difference. The ADF of the first difference shows that the first difference of the variables are stationary. The collinearity problem is tested with correlation matrix and VIF test (The

results are not shown here.). The explanatory variables do not have severe collinearity problem. The appropriate lags of the explanatory are tested and it is found that the appropriate lags for equity market return and volatility are two months (The results are not shown here.).

The summary of estimated parameters from Markov regime switching model is in Table 2 using the assumption of a common mean and different variance. The smooth probability can be plotted against time as in Figure 1a. Interaction terms can be constructed by using a continuous probability. Whenever the continuous probability is lower than 0.5, the credit spread is in a low regime, otherwise it is in a high regime. The interaction terms are plotted in Figure 1b. Most of the credit spreads have similar patterns of interaction terms, a high regime between the end of 2008 to the beginning of 2010, except for the medium-term AA, which has a high regime from 2006 to the beginning of 2010 and becomes low afterwards.

THE EMPIRICAL RESULTS

The results of the OLS analysis of a single-regime model are presented in Panel A in Table 3. The change of short-term interest for most of the portfolios are negatively related to the credit spread change, except for the low credit rating group. The coefficient value increases with the time-to-maturity. The result is consistent with the expected sign. Only in the AAA rating group, the change of slope of the term-structure is slightly positively related with the credit spread change. Across all ratings and time-to-maturity groups, the volatility of long-term interest rate is not very significant and the signs are mixed. The lag of return of the equity market is negatively correlated with credit spread change both economically and statistically. Moreover, the sensitivities increase consistently across credit ratings and time-to-maturity groups. However, the change of the historical volatility of return of equity market is not statistically significant across all portfolios. While the turnover ratio is statistically significant in AA and A rating groups, the missing price ratio is only statistically significant in the AAA rating group. The sign of both

liquidity factors are as expected and the value of sensitivities increase with the time-to-maturity. Surprisingly, the BBB rating group is the only group that is not related with liquidity factors.

Panel B in Table 3 shows the results from the regression of the multiple-regime model. For the low regime, for the BBB rating group, there is no explanatory variable explaining credit spread change. The interest rate factors are statistically significant only for the AA and A rating groups as expected. Only in the AA-medium term, the return of equity market and its historical volatility are slightly statistically significant. However, the sign of the market return is not as expected. The liquidity factors are significant for all portfolios, except the BBB rating group. Surprisingly, the significant liquidity factors in a low regime are switched from the single-regime model, i.e. the missing price ratios are significant in the AA and A rating groups, while the turnover ratio is significant for the AAA rating group. The missing price ratio has a similar sign as expected, while the sign of the turnover ratio is positive. Note that the liquidity factor is significant only for the short- and long-term time-to-maturity and not significant for the medium-term time-to-maturity.

The marginal effect can be interpreted from the second half of the Panel B in Table 3. The marginal coefficient of the change of short-term interest rate of most of the portfolios are strongly statistically significant, except the BBB rating group. The change of short-term interest rate is negatively related with the credit spread change. The value of the sensitivity increases with longer time-to-maturity and lower credit ratings. The sensitivity of the slope of the term-structure is positively significant in all portfolios, except the A rating group that the value increases with longer time-to-maturity. The relationship between interest rate volatility is slightly statistically significant in the medium-term AAA, the short- and the long-term AA groups. However, the signs are mixed. For the AAA rating group the relationship is positive as in theory, however, for the AA rating group the relationship is negative. All portfolios have strong negative relationships between the lag of return of equity market and the credit spread change. However, the lag of change of historical volatility of the equity

market return is statistically related with credit spread changes in the AA and A rating groups and the medium-term BBB group. The signs are as expected, except the short-term AA. The sensitivities are not economically significant in comparison to other explanatory variables. The liquidity factors only play important roles for the medium-term AA and A rating groups and the long-term A rating group. The market liquidity has a negative effect on the credit spread change, while the individual liquidity factor has no relationship to all portfolios. Liquidity cannot explain the credit spread change for the AAA and BBB rating groups. The adjusted R-squared for multiple-regime models is between 0.44 and 0.83, while the adjusted R-square for single-regime models is between 0.29 to 0.45. The multiple-regime models can explain the credit spread change better than the single-regime models. For all portfolios, the Akaike criterions in multiple-regime models are lower than single-regime models.

There is evidence of sign switch in the change of interest rate in the AAA rating and the long-term AA rating groups, the slope of the term-structure in all portfolios except for the A rating group, the volatility of the interest rate in the medium-term AAA rating, the short- and the long-term AA rating groups. For the return of equity market all portfolios have a sign switch. The change of the equity market return has a sign switch in the A rating and the medium-term AA rating groups. Liquidity factor has no evidence of sign switch, except for the turnover ratio in the medium-term AA rating group.

DISCUSSION

The application of Markov switching model can improve the explanatory power of the model. However, the low credit rating portfolio cannot be explained by the systematic risk as in previous studies (Collin-Dufresne et al., 2001b; Maalaoui et al., 2008; Mongkonkiattichai & Pattarathammas, 2010). One of the possible reasons for this contradiction is the low number of samples in the BBB rating group. Furthermore, the credit spread change of a low credit rating can be explained by idiosyn-

cratic risk factors or other systematic factors.

The relationship between the change of short-term interest rate and the credit spread change is consistent with Longstaff and Schwartz (1995) and Duffee (1998) who found that the increase of change of short-term interest during an inflationary period increases the firm value above the default threshold; therefore the default probability of the firm is lower. The consequence is the narrow credit spread change. This evidence confirms the interest rate risk as in the structural model proposed by Merton (1974).

The slope of the term-structure and the long-term interest rate volatility are not significantly related with credit spread change in most of the portfolios. These results are consistent with Collin-Dufresne et al. (2001b), Campbell and Taksler (2003), Lepone and Author (2009), and Mongkonkiattichai and Pattarathammas (2010). The slope of the term-structure can explain the credit spread change only for the AAA rating group, however, the sign is different from the expected outcome. This is the indication that the change of term-structure and volatility of long-term interest rate are not the driving force of credit spread change. When including the credit cycle in the model, the slope of the term-structure has a positive relationship with the AAA, A, and BBB rating groups in high regime. Though the sign is not as in the expectation theory by which the increase in the slope of the term-structure refers to the higher future interest rate and therefore the economy seems to be better and the firm should gain more profit and reduce the default probability as well as the credit spread. During the credit crunch, the information of increases of interest rate seemed to be bad news for the market, such that during this period, the market needed to have low cost of funds and required the authorities to stimulate the economy. Therefore, when the signal of the raise of interest rate occurs, the credit spread also increases.

The credit spread change is more sensitive to the two-month lag of the return of equity market than the change of interest rate. The result is similar to the previous studies (Longstaff & Schwartz, 1995; Duffee, 1998; Davies, 2008). The sensitivities monotonically increase with the lowering of credit rating. Increases in equity market return dra-

matically impact the credit spread change of the lower rating groups more than the higher rating groups. Moreover, the return of the equity market can be a leading indicator for the credit spread change. The change of equity market impacts the credit spread approximately after two months. This result shows that the information flow from equity market can affect the credit spread change, such that the increase in the return of equity market reduces the default probability of a firm; therefore the credit spread narrows. The efficient markets hypothesis is rejected, since the past return of equity market can explain the change of credit spread of corporate bonds as proposed in Smith (1990) and Kwan (1996). However, in the low regime the equity market return is not related with the credit spread. Surprisingly, the lag of the change of volatility of the equity market is statistically insignificant. This result is inconsistent with most of the credit spread change studies in the U.S. (Collin-Dufresne et al., 2001b; Huang & Kong, 2003; Maalaoui et al., 2008), but is consistent with studies in Australian market (Lepone & Author, 2009) and Thai market (Mongkonkiattichai & Pattarathammas, 2010). This shows that the volatility of the equity market may have a similar effect on both Treasury and corporate bond in the same direction. Therefore the spread does not have the relationship with the volatility of the equity market return.

Liquidity cannot explain the change of the BBB rating group, while in the other portfolios the relationship between liquidity and credit spread is as expected. This result is contradictory to the study of Driessen (2005), Maalaoui et al. (2008), and Nakashima and Saito (2009) who found that the factor loading of liquidity factor is more significant in the low rating group. However, the BBB rating is the least traded portfolio among the others. The liquidity factor seems to be ineffective when using the very illiquid corporate bond.

The market liquidity and credit spread of the AA and A rating groups are found to be negatively correlated, while the missing price ratio, as a local liquidity, can explain the change of the credit spread in the AAA rating group with a positive relationship. For the AA and A rating groups, the number of corporate bonds is more than the number of corporate bonds in AAA and BBB rating group. Therefore the liquidity of the market can reflect the liquidity of the two rating groups, while the credit spread of the AAA rating group can be explained better with the local liquidity factor. It also shows that including more than one liquidity proxy in the models can help to explain the credit spread change of different rating and time-to-maturity groups.

Compared with the single-regime model, the coefficient of local liquidity is significant in the AAA rating group, and the coefficient of market liquidity is significant in the AA and A rating groups, the low-regime seems to have different relationship, such that the local liquidity can explain the credit spread change for the AA and A rating groups as expected and the coefficient of the market liquidity is significant in the AAA rating group. However, the sign of market liquidity is not as expected. This evidence shows that an increase in local liquidity can reduce the credit spread for the AA and A rating groups, however, the market liquidity can increase the credit spread of the AAA rating group. If the market liquidity refers to the trade volume of the AA and A in the credit market, during the low regime, it seems that the demand of the credit market goes to the AA and A rating groups more than the AAA rating group. The investors seem to be more confident to trade in the low rating group; therefore this behavior makes the high rating corporate bonds more attractive and the credit spread should increase.

The market liquidity seems to have a negative correlation with the credit spread change for the AA and A rating groups. Increases in market liquidity can reduce the credit spread. This same conclusion can be carried as in the single-regime. The local liquidity and credit spread change of the AAA rating group is not correlated.

Though most of the coefficients of the explanatory variables of a single-regime model and marginal effect seem to be identical, the multiple-regime model can clarify the explanation of the relationship between the slope of the term-structure and credit spread change under a high regime and shows that there is no relationship between the equity and the debt market during a low regime. Liquidity factors can drive the credit spread change

regardless of credit cycle. The sign switch during regime shift exists in interest rate and macroeconomic factors, but there is no sign shift in liquidity factors.

CONCLUSIONS AND RECOMMENDATIONS

For the academic side, the results also show that the Markov Switching Model can identify the credit cycle regime in Thailand appropriately under the assumption of different variances in two regimes and the information of recovery rate can help improve the explanatory power of the model.

For individual investors and bond issuers, they should be aware of systematic risk in different regimes. In the low variance period, only the interest rate and liquidity factor play an important role with credit spread. However, in high variance period the interest rate and macroeconomic factors affect the credit spread change.

For the regulator, the setting of monetary policy can reduce the severe economic shock which results from the high cost of funding. As discussed on the expectation of interest rate during the high regime, if the regulator increases the interest rate during this period, the credit spread will increase. The regulator should relax the monetary policy until the credit cycle reverses to a low regime.

In general, the higher the liquidity, the lower the credit spread; therefore for all market participants in a secondary market, the high frequency of trading can reduce the cost of funding, as well as increase the NAV of the portfolio.

Future studies can focus on the idiosyncratic risk factor regarding default and liquidity at the firm level. Moreover, the study can be extended to find other systematic risk factors that can relate to the recovery rate and credit cycle of credit spread. Changes in political policy, tax, and the effect of sovereign risk of the credit spread can be tested using event study. There should be awareness of asymmetrical effects during high and low variance of equity market return as discussed in Collin-Dufresne et al. (2001b). Researchers thus can implement the event study together with interactive terms to refine the results during the transi-

tion period.

Other techniques on other regime switching models, such as SETAR[3], PSTAR[4], or LSTAR[5] can be further studied to improve the explanatory power of the model (Granger, Teräsvirta & Anderson, 1993). The liquidity proxies have many varieties of choices. The higher frequencies of the data and more aspects of the data, e.g., price and volume of portfolio or bond market or co-movement market, if available, should be included into the model. The dummy variable of the regime of credit cycle can be obtained by other methods such as time-dummy variable, and self-extracting threshold models.

References

Anramov, D., Jostova, G., & Philipov, A. (2007). Understanding changes in corporate credit spreads. *Financial Analysts Journal*, 63(2), 90-105.

Backshall, T., Giesecke, K., & Goldberg, L. (2005). Credit risk modeling. In F. J. Fabozzi & S. V. Mann (Eds.), *The handbook of fixed income securities* (7th ed.). chapter 33, 779-798, New York: McGraw-Hill.

Black, F. & Cox, J. (1976). Valuing corporate securities: Some effects of bond indenture provisions. *The Journal of Finance*, 31, 351-367.

Black, F. & Scholes, M. (1973). The pricing of options and corporate liabilities. *Journal of Political Economy*, 81(3), 637-654.

Campbell, J. & Taksler, G. B. (2003). Equity volatility and corporate bond yields. *The Journal of Finance*, 58(6), 2321-2350.

Chen, N. & Kou, S. (2009). Credit spreads, optimal capital structure, and implied volatility with endogenous default and jump risk. *Mathematical Finance*, 19(3), 343-378.

Christensen, J. (2008). The corporate bond credit spread puzzle. *FRBSF Economic Letter*, (10), 1-3.

Collin-Dufresne, P. & Goldstein, R. (2001). Do credit spreads reflect stationary leverage ratios? *The Journal of Finance*, 56(5), 1929-1957.

Collin-Dufresne, P., Goldstein, R. S., & Martin, J. P. (2001). The determinants of credit spread

changes. *The Journal of Finance*, 56(6), 2177-2207.

Covitz, D. & Downing, C. (2007). Liquidity or credit risk? The determinants of very short-term corporate yield spreads. *The Journal of Finance*, 62(5), 2303-2328.

Cox, J., Ingersoll, J., & Ross, S. (1981). A re-examination of traditional hypotheses about the term-structure of interest rates. *The Journal of Finance*, 48(2), 769-799.

Davies, A. (2008). Credit spread determinants: An 85 year perspective. *Journal of Financial Markets*, 11, 180-197.

Dempster, A., Laird, N., & Rubin, D. (1977). Maximum likelihood from incomplete data via the EM algorithm. *Journal of the Royal Statistical Society B*, 39, 1-38.

dos Santos Paiva, E. V. & Savoiac, J. R. F. (2009). Pricing corporate bonds in Brazil: 2000 to 2004. *Journal of Business Research*, 62, 916-919.

Driessen, J. (2005). Is default event risk priced in corporate bonds? *Review of Financial Studies*, 18(1), 165-195.

Duffee, G. R. (1998). The relation between treasury yields and corporate bond yield spreads. *The Journal of Finance*, 53(6), 2225-2241.

Duf?e, D. & Lando, D. (2001). Term structures of credit spreads with incomplete accounting information. *Econometrica*, 69, 633-664.

Elton, E. J., Gruber, M. J., Agrawal, D., & Mann, C. (2004). Factors affecting the valuation of corporate bonds. *Journal of Banking & Finance*, 28(11), 2747-2767.

Ericsson, J. & Renault, O. (2006). Liquidity and credit risk. *The Journal of Finance*, 61(5), 2219-2250.

Fabozzi, F., Mann, S., & Wilson, R. (2005). Corporate bonds. In F. J. Fabozzi & S. V. Mann (Eds.), *The handbook of fixed income securities* (7th ed.). chapter 13, (pp. 305-350). New York: McGraw-Hill.

Fabozzi, F. J. (2005). Credit analysis for corporate bonds. In F. J. Fabozzi & S. V. Mann (Eds.), *The handbook of fixed income securities* (7th ed.). chapter 32, (pp. 733-778). New York: McGraw-Hill.

Giesecke, K. (2006). Default and information. *Journal of Economic Dynamics & Control*, 30, 2281-2303.

Granger, C., Terasvirta, T., & Anderson, H. (1993). Modelling nonlinearity over the business cycle. In J. Stock & M. Watson (Eds.), Business cycles, indicators and forecasting. *Studies in Business Cycles*, volume 28. The Chicago Press. 20

Gujarati, D. N. (2003). *Basic Econometrics* (fourth ed.). Singapore: McGraw Hill.

Hamilton, J. D. (1990). Analysis of time series subject to regime changes. *Journal of Econometrics*, 45, 39-70.

Huang, J.-Z. & Kong, W. (2003). Explaining credit spread changes: New evidence from option-adjusted bond indexes. *Journal of Derivatives*, 11(1), 30-44.

Jarrow, R. & Protter, P. (2004). Structure versus reduced form models: A new information based perspective. *Journal of Investment Management*, 2, 1-10.

Jarrow, R. & Turnbull, S. (1995). Pricing derivatives on financial securities subject to credit risk. *The Journal of Finance*, 50(1), 53-85.

Kwan, S. H. (1996). Firm-specific information and the correlation between individual stocks and bonds. *Journal of Financial Economics*, 40, 63-80.

Lepone, A. & Author, C. (2009). Determinants of credit spread changes: Evidence from the Australian bond market. *The Australasian Accounting Business & Finance Journal*, 3(2), 26-36.

Lesseig, V. & Stock, D. (1998). The effect of interest rates on the value of corporate assets and the risk premia of corporate debt. *Review of Quantitative Finance and Accounting*, 11, 5-22.

Lo, A., Mamaysky, H., & Wang, J. (2004). Asset prices and trading volume under fixed transaction costs. *Journal of Political Economy*, 112, 1054-1090.

Longstaff, F., Mithal, S., & Neis, E. (2005). Corporate yield spreads: Default risk or liquidity? New evidence from the credit default swap market. *The Journal of Finance*, 60(5), 2213-2253.

Longstaff, F. & Schwartz, E. (1995). A simple approach to valuing risky fixed and floating rate debt. *The Journal of Finance*, 50(3), 789-820.

Maalaoui, O., Dionne, C., & François, P. (2008).

Credit Spread Changes under switching regimes. PhD thesis, HEC Montreal.

Merton, R. (1973). A rational theory of option pricing. *Bell Journal of Economics and Management Science*, 4(1), 141-183.

Merton, R. (1974). On the pricing of corporate debt: The risk structure of interest rates. *The Journal of Finance*, 29, 449-470.

Minsky, H. (1992). The financial instability hypothesis. Working Paper No. 74, The Jerome Levy Economics Institute of Bard College.

Mongkonkiattichai, S. & Pattarathammas, S. (2010). Linkage between stock volatility and corporate bond yield spread in Thailand. *China-USA Business Review*, 9(1), 1-26.

Nakashima, K. & Saitob, M. (2009). Credit spreads on corporate bonds and the macroeconomy in Japan. *Journal of The Japanese and International Economies*, 23, 309-331.

Perlin, M. (2010). MS_Regress - the MATLAB package for Markov regime switching models. Available at SSRN:http://ssrn.com/abstract=1714016.

Siwamogsatham, T. (2010). Development of ThaiBMA credit and liquidity spread. Working Paper, Thai BMA.

Smith, C. W. J. (1990). The theory of corporate finance: A historical overview. In C. W. J. Smith (Ed.), *The modern theory of corporate finance* (2nd ed.). New York: McGraw-Hill.

Tirawannarat, W. (2004). Corporate bond pricing: an empirical comparison of Longstaff and Schwartz (1995) and Merton (1974) model: evidence from Thailand. Master thesis, Faculty of Commerce and Accountancy, Thammasat University, Bangkok, Thailand.

Tittayanurak, A. (2002). Determinants of spreads on new corporate bond offerings. Master thesis, Thammasat University, Bangkok, Thailand.

Zhou, C. (2001). The term structure of credit spreads with jump risk. *Journal of Banking & Finance*, 25, 2015-2040.

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Figure 1: The Smooth Probability and Interaction Terms of Each Portfolio of Corporate Bonds including short, medium, and long term time-to-maturity of credit ratings AAA, AA, A, and BBB. The smoothed probability has a value between zero and one. The value shown here is the smoothed probability of p_{11}. When p_{11} is near 1, it can be implied that the probability that the credit spread change is in high regime state at time $t - 1$ would stay in the high regime at time t. The interaction terms are converted from the smooth probability such that if the smoothed probability crosses the value 0.5, the regime of the credit spread change from a low regime to a high regime, and vice versa. Therefore the smooth probability which is more than 0.5 is converted to 1, otherwise 0.
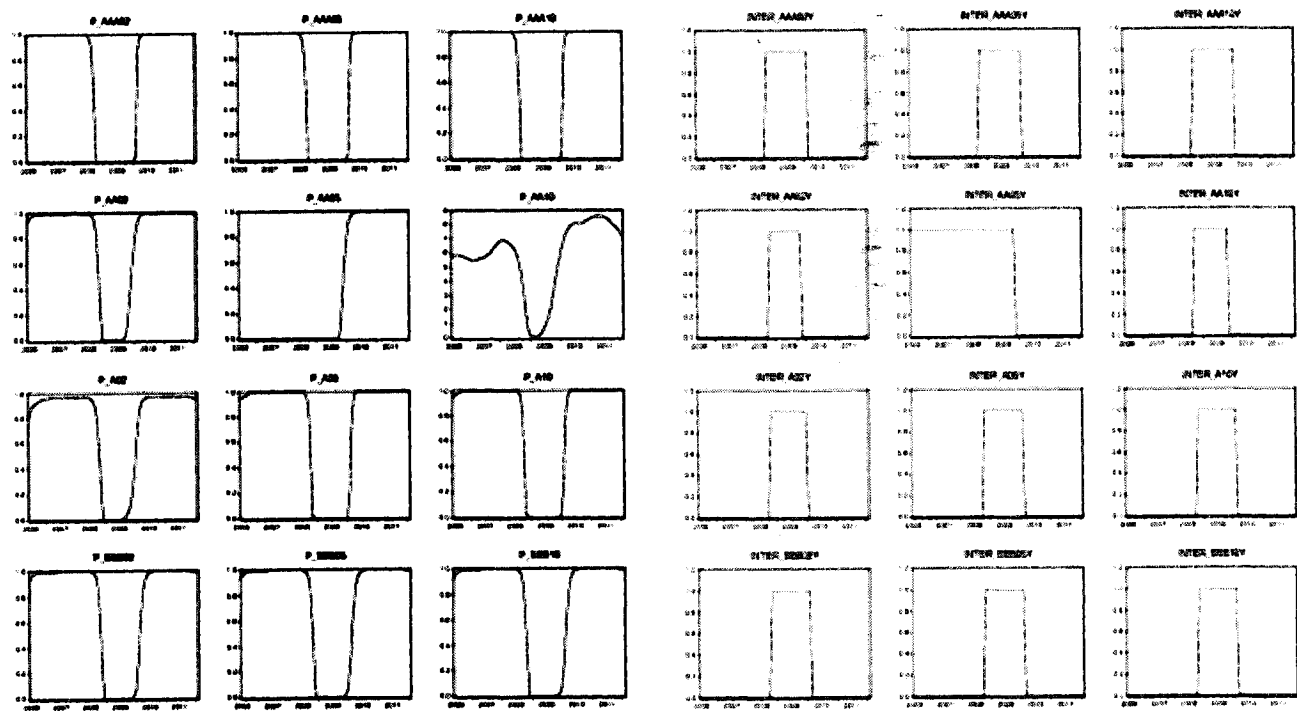
A) Smoothed Probability   B) Interaction Terms

Source: created for this study

Table 1: Descriptive Statistics of Credit Spread

This table shows the descriptive statistics of credit spread. The statistical results include mean, median, max. and min., standard deviation, skewness, Kurtosis, Jarque-Bera and its p-value. For the normality test, skewness and Kurtosis of the normally distributed residual is at 0 and 3.0. When the p-value (p) of Jarque-Bera (JB) is sufficiently low, the null hypothesis that the residual is normally distributed is rejected. The notation on the first column are, CS_t^j is the aggregate credit spread of portfolio j. σ, S and K stand for standard deviation, skewness and Kurtosis, respectively.

Variables	Mean	Median	Max	Min	σ	S	K	JB	P	Obs.
CS_t^{AAA02}	40.75	32.58	98.95	26.56	18.80	1.96	5.71	65.16	0.000	69
CS_t^{AAA05}	65.42	52.64	156.86	42.63	29.57	1.94	5.66	63.53	0.000	69
CS_t^{AAA10}	87.00	70.18	207.50	56.68	39.00	1.93	5.63	62.85	0.000	69
CS_t^{AA02}	59.27	53.01	128.97	34.99	24.92	1.49	4.59	32.69	0.000	69
CS_t^{AA05}	96.30	86.60	207.98	56.55	40.29	1.44	4.48	30.11	0.000	69
CS_t^{AA10}	128.67	116.24	277.07	75.41	53.74	1.42	4.44	29.07	0.000	69
CS_t^{A02}	83.36	66.49	198.66	52.73	39.40	1.79	4.99	48.30	0.000	69
CS_t^{A05}	133.66	110.03	304.21	84.15	58.03	1.82	5.16	51.59	0.000	69
CS_t^{A10}	177.64	149.01	396.51	111.61	74.42	1.83	5.23	52.68	0.000	69
CS_t^{BBB02}	180.02	169.57	332.22	123.80	54.34	1.38	4.09	25.15	0.000	69
CS_t^{BBB05}	292.98	275.91	540.11	201.82	88.18	1.38	4.12	25.49	0.000	69
CS_t^{BBB10}	391.76	368.89	721.91	270.04	117.77	1.38	4.13	25.63	0.000	69

Source: created for this study

Table 2: Estimated Parameters from Markov Regime Switching Model

This table presents the parameters of the switching regime model for AAA, AA, A, and BBB Thai corporate bonds credit rating groups maturing in 2, 5, and 10 years. The natural logarithm of credit spread has a common mean and two different standard deviations in the first and the second regime, i.e. $\ln CS_t^j = \mu^j + \varepsilon_{S_t}^j$, where $\varepsilon_{S_t}^j$ follows a normal distribution with zero mean and variance $\sigma_{S_t}^{2j}$. The parameters include μ, σ_1, σ_2, p_{11} and p_{22} stand for mean, standard variation of regime 1 and 2, conditional probabilities of the process being in state 1 and 2, respectively. The values in parentheses are the p value from the estimation.

Var.	AAA	AAA	AAA	AA	AA	AA	A	A	A	BBB	BBB	BBB
(p)	2 yrs	5 yrs	10 yrs	2 yrs	5 yrs	10 yrs	2 yrs	5 yrs	10 yrs	2 yrs	5 yrs	10 yrs
μ	3.45	3.93	4.22	3.89	4.56	4.72	4.12	4.66	4.96	5.05	5.54	5.83
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
σ_1	0.01	0.01	0.01	0.05	0.01	0.10	0.08	0.01	0.01	0.02	0.02	0.02
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.017)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
σ_2	0.60	0.58	0.57	0.54	0.21	0.17	0.34	0.57	0.54	0.29	0.29	0.29
	(0.005)	(0.005)	(0.005)	(0.025)	(0.000)	(0.000)	(0.000)	(0.007)	(0.007)	(0.01)	(0.01)	(0.01)
p_{11}	0.98	0.98	0.98	0.98	1.00	0.90	0.93	0.98	0.98	0.98	0.98	0.98
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
p_{22}	0.94	0.94	0.94	0.91	0.98	0.90	0.67	0.93	0.93	0.93	0.93	0.93
	(0.000)	(0.000)	(0.000)	(0.013)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.002)	(0.002)

Source: created for this study

Table 3: Determinants of Credit Spread Changes in Thailand by Rating and Time-to-Maturity Group

The results of the regression analysis of single- and multiple-regime model are presented in panel A and B, respectively. The single-regime model is: $\Delta CS_t^j = \beta_0^j + \beta_1^j \Delta r_t^{2y} + \beta_2^j \Delta slope_t^{10y-2y} + \beta_3^j \sigma_t^{10y} + \beta_4^j set_{t-2} + \beta_5^j \Delta\sigma_{t-2}^{set} + \beta_6^j \Delta turn + \beta_7^j \Delta mis_t^j + \epsilon_t^j$. The multiple-regime model is: . In each panel, the coefficients of explanatory variables and their t-statistics, adjusted R-square, Akaike criterion, and the adjusted standard error methodology are presented. The values in parentheses are t-statistics. The asterisk sign of ***, **, * indicate the significance level at 1%, 5%, and 10%, respectively. The critical t-value at significance level at 1%, 5%, and 10% are 2.663, 2.002, and 1.296 for the single regime model, and 2.678, 2.009, and 1.299 for the multiple regime model, respectively. The adjusted standard methodology is noted with N and W in row adj. Med. for Newey West and White Heteroscedasticity respectively.

	AAA02Y	AAA05Y	AAA10Y	AA02Y	AA05Y	AA10Y	A02Y	A05Y	A10Y	BBB02Y	BBB05Y	BBB10Y
Panel A. Single Regime Model												
Constant	-0.18	-0.38	-0.56	0.98	1.58	2.1	0.99	2.58	3.96	0.12	0.3	0.46
	(-0.12)	(-0.16)	(-0.177)	(0.418)	(0.418)	(0.418)	(0.345)	(0.531)	(0.681)	(0.026)	(0.037)	(0.037)
Δr_t^{2y}	-4.95***	-7.63***	-9.97**	-9.98***	-15.85***	-20.98***	-16.78***	-25.33**	-32.82**	-9.66	-15.91	-21.37*
	(-2.769)	(-2.678)	(-2.639)	(-3.563)	(-3.51)	(-3.487)	(-2.704)	(-2.341)	(-2.652)	(-1.281)	(-1.218)	(-1.447)
$\Delta slope_t^{10y-2y}$	3.32*	5.15*	6.75*	2.4	3.81	5.04	2.34	2.96	3.5	8.81*	14.61	19.68
	(1.805)	(1.756)	(1.734)	(0.832)	(0.818)	(0.813)	(0.623)	(0.67)	(0.452)	(1.341)	(1.048)	(1.294)
σ_t^{10y}	0.59	1.09	1.53	-1.18	-1.84	-2.41	-2.62	-5.64	-8.27	2.18	3.32	4.32
	(0.21)	(0.244)	(0.258)	(-0.268)	(-0.259)	(-0.256)	(-0.469)	(-0.597)	(-0.73)	(0.287)	(0.211)	(0.186)
set_{t-2}	-25.05***	-36.87***	-47.2***	-44.19***	-71.34***	-95.09***	-60.12*	-96.44**	-128.2**	-109.46**	-178.82**	-239.47***
	(-3.022)	(-2.789)	(-2.691)	(-3.404)	(-3.409)	(-3.411)	(-1.925)	(-2.089)	(-2.043)	(-2.28)	(-2.643)	(-3.514)
$\Delta\sigma_{t-2}^{set}$	0.08	0.14	0.2	0.06	0.09	0.13	0.54	0.74	0.92	0.36	0.57	0.75
	(0.41)	(0.462)	(0.482)	(0.189)	(0.192)	(0.193)	(0.687)	(0.665)	(0.617)	(0.454)	(0.416)	(0.472)
$\Delta turn$	-13.72	-1	10.13	-539.29*	-851.1*	-1123.78*	-1060.68**	-1581.21**	-2036.4**	-982.57	-1615.25	-2168.52
	(-0.062)	(-0.003)	(0.022)	(-1.448)	(-1.418)	(-1.405)	(-2.519)	(-2.113)	(-2.335)	(-1.198)	(-1.275)	(-1.21)
Δmis_t^j	28.65**	43.91**	57.25*	27.6	46.64	63.29	-39.9	-57.55	-72.98	306.79	501.75	672.24
	(2.112)	(2.03)	(1.994)	(0.474)	(0.497)	(0.506)	(-0.353)	(-0.368)	(-0.325)	(1.202)	(1.144)	(1.112)
$\overline{R}^2$	0.35	0.33	0.32	0.39	0.38	0.38	0.45	0.45	0.45	0.29	0.29	0.29
aic	5.73	6.66	7.23	6.63	7.59	8.16	7.40	8.24	8.77	8.38	9.37	9.96
adj. Med.							W	N	W	N	W	
Panel B. Multiple Regime Model												
Constant	-0.47	-0.75	-1	-0.79	-1.04	-1.72	-0.51	0.61	1.2	-2.61	-4.35	-5.87
	(-0.516)	(-0.394)	(-0.507)	(-0.503)	(-0.161)	(-0.511)	(-0.305)	(0.193)	(0.384)	(-0.58)	(-0.738)	(-0.592)
Δr_t^{2y}	-0.91	-1.49	-1.99	-3.45*	-19.02***	-5.84	-5.86**	-8.13*	-10.45**	-3.45	-5.51	-7.31
	(-0.782)	(-0.586)	(-0.789)	(-1.672)	(-3.625)	(-1.275)	(-2.111)	(-1.964)	(-2.042)	(-0.595)	(-0.577)	(-0.573)
$\Delta slope_t^{10y-2y}$	-1.67	-2.63	-3.47	-1.61	-9.7	-4.13	-0.38	-3.45	-4.66	-3.73	-6.06	-8.09
	(-0.96)	(-0.853)	(-0.908)	(-0.629)	(-1.291)	(-0.752)	(-0.126)	(-0.67)	(-0.877)	(-0.511)	(-0.488)	(-0.502)

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	AAA02Y	AAA05Y	AAA10Y	AA02Y	AA05Y	AA10Y	A02Y	A05Y	A10Y	BBB02Y	BBB05Y	BBB10Y
σ_t^{10y}	0.68	1.05	1.38	1.59	-0.24	3.27	-0.93	-3.3	-4.93	5.05	8.4	11.33
	(0.437)	(0.303)	(0.405)	(0.546)	(-0.011)	(0.526)	(-0.323)	(-0.572)	(-0.898)	(0.613)	(0.726)	(0.625)
set_{t-2}	2.24	4.8	7.04	5.71	34.56*	10.52	8.4	22.22	29.67	27.98	45.89	61.55
	(0.301)	(0.335)	(0.44)	(0.501)	(1.37)	(0.431)	(0.556)	(0.952)	(1.06)	(0.86)	(0.802)	(0.858)
$\Delta\sigma_{t-2}^{set}$	-0.04	-0.05	-0.06	-0.14	1.44*	-0.27	-0.09	-0.03	-0.02	0.06	0.11	0.14
	(-0.431)	(-0.178)	(-0.32)	(-0.605)	(1.677)	(-0.545)	(-0.349)	(-0.07)	(-0.036)	(0.096)	(0.122)	(0.099)
$\Delta turn$	217.73*	336.38	440.14*	62.76	240.33	210.51	78.33	222.6	348.33	-101.43	-144.74	-182.61
	(1.696)	(1.147)	(1.566)	(0.234)	(0.527)	(0.365)	(0.289)	(0.402)	(0.675)	(-0.145)	(-0.11)	(-0.119)
Δmis_t^j	11.23	17	22.05	52.38*	81.91	123.94*	123.29*	191.31	252.97*	196.54	319.93	427.83
	(1.137)	(0.905)	(1.022)	(1.325)	(1.214)	(1.46)	(1.528)	(1.269)	(1.664)	(0.894)	(1.128)	(0.883)
$inter_t^j$	-6.7*	-11.51*	-15.72*	15.13*	4.65	34.71*	-0.33	1.45	4.58	14.44	25.88	35.88
	(-1.425)	(-1.777)	(-1.458)	(1.56)	(0.374)	(1.841)	(-0.023)	(0.124)	(0.216)	(0.878)	(0.908)	(0.99)
$\Delta\sigma_t^{2y} \times inter_t^j$	-10.47***	-15.78***	-20.42**	-17.97***	4.97	-38.01***	-29.77***	-45.72***	-59.09***	2.2	2.88	3.48
	(-2.874)	(-3.2)	(-2.465)	(-3.706)	(0.508)	(-4.085)	(-3.845)	(-5.155)	(-3.774)	(0.171)	(0.147)	(0.122)
$\Delta slope_t^{10y-2y} \times inter_t^j$	8.89***	13.72***	17.95***	9.06**	16.53*	20.71**	3.92	8.74	10.98	24.86**	41.2***	55.49**
	(3.202)	(3.076)	(2.907)	(2.371)	(1.846)	(2.539)	(0.553)	(1.081)	(0.821)	(2.298)	(2.769)	(2.328)
$\sigma_t^{10y} \times inter_t^j$	11.18	19.86*	27.46	-31.42*	-4.7	-71.71**	-1.78	-7.04	-14.19	-24.46	-44.98	-62.91
	(1.171)	(1.555)	(1.259)	(-1.739)	(-0.173)	(-2.063)	(-0.062)	(-0.3)	(-0.33)	(-0.742)	(-0.81)	(-0.866)
$set_{t-2} \times inter_t^j$	-32.38*	-49.26**	-64.02*	-79.98***	-149.44***	-172.7***	-78.48***	-144.04***	-196.97***	-256.71***	-419.52***	-561.89***
	(-1.899)	(-2.351)	(-1.656)	(-4.366)	(-3.287)	(-4.524)	(-3.12)	(-4.128)	(-3.805)	(-5.241)	(-4.311)	(-5.206)
$\Delta\sigma_{t-2}^{set} \times inter_t^j$	0.01	0.01	0.02	0.37	-1.67*	0.89	1.38**	1.73*	2.11*	1.17	1.9*	2.54
	(0.017)	(0.028)	(0.03)	(0.744)	(-1.545)	(0.882)	(2.259)	(1.897)	(1.828)	(0.902)	(1.368)	(0.892)
$\Delta turn \times inter_t^j$	-285.95	-308.81	-328.8	-475.06	-1829.42*	-1133.91	-1436.42	-2287.61*	-3159.66*	-89.31	-381.09	-636.24
	(-0.442)	(-0.411)	(-0.223)	(-0.643)	(-1.686)	(-0.728)	(-1.152)	(-1.444)	(-1.475)	(-0.051)	(-0.125)	(-0.164)
$\Delta mis_t^j \times inter_t^j$	15.33	24.73	32.96	-133.77	-126.57	-313.78	-169.04	-254.48	-362.55	738.43	1210.83	1623.94
	(0.686)	(0.601)	(0.675)	(-0.902)	(-0.565)	(-0.989)	(-0.452)	(-0.704)	(-0.62)	(1.064)	(1.111)	(1.062)
$\bar{R}^2$	0.67	0.63	0.62	0.75	0.44	0.75	0.80	0.83	0.83	0.61	0.61	0.61
aic	5.15	6.16	6.75	5.82	7.58	7.35	6.46	7.17	7.72	7.88	8.87	9.46
adj. Med.	W	W	W	W	W	W	W	W	W	W	W	W

Source: created for this study

THE DETERMINANTS OF SUBORDINATES' PERCEIVED LEADERSHIP STYLES IN SMALL AND MEDIUM ENTERPRISES IN THAILAND

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Abstract

This study aims to examine the determinant factors of perceived leadership style in small and medium enterprises (SMEs) in Thailand. Discriminant analysis results showed that leaders who used different leadership styles (coercive, authoritative, affiliative, democratic, pacesetting and coaching) had different degrees of emotional intelligence, personality traits, adversity quotient, and ethics of leadership.

Keywords: Leadership Styles, Emotional Intelligence, Big-Five Personality Traits, Adversity Quotient, Ethics

บทคัดย่อ

งานวิจัยนี้มีจุดมุ่งหมายเพื่อศึกษาปัจจัยที่มีผลต่อรูปแบบภาวะผู้นำในองค์กรขนาดกลางและขนาดเล็กในประเทศไทย ผลของการวิเคราะห์โดยใช้การวิเคราะห์จำแนกประเภทพบว่าผู้นำที่ใช้รูปแบบภาวะผู้นำที่ต่างกัน (ผู้นำแบบเผด็จการ ผู้นำแบบแบบตามระเบียบ ผู้นำแบบเพื่อนร่วมงาน ผู้นำแบบประชาธิปไตย ผู้นำแบบตัวอย่าง และผู้นำแบบโค้ช) มีระดับความต่างกันในด้านความฉลาดทางอารมณ์ ด้านลักษณะบุคลิกภาพ ด้านความสามารถในการฝันฝ่าปัญหาอุปสรรคและด้านจริยธรรม

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INTRODUCTTION

Leadership has been a central concept in organization theory for many years. Leadership styles refer to the characteristics and behaviors of leaders which have been defined in various ways, but the key question is "what is the best leadership style?" Leadership styles have long been a matter of discussion in order to determine the appropriate characteristics or styles of leadership behavior because style of leadership is crucial for the performance and growth of an organization (Hogan, Curphy & Hogan, 1994). Leadership is in an open system and leaders face various environmental uncertainty from both inside and outside the company. Environment uncertainty can affect strategic planning, decision making and the performance outcome of the company (Matthews & Scott, 1995). Fiedler (1981) pointed out that leadership success is dependent upon personality and the ability to adapt as well as maintain situational control through either task or relationship motivation. Goleman (1995) postulated that an effective leader should have many styles to match different situations. However, Hersey and Blanchard (1996) agued that no style of leadership had proved suitable for all situations and the leader should choose the style or adjust to match the situation taking into account the maturity/readiness of the followers they encounter. Thus, the consensus of opinion is that there is no best style of leadership, and that leaders need to adapt and adjust to match situation. Yulk (1999) pointed out that much research on leadership style has measured the behavior of leaders but there is less evidence about integrating factors of independent situations since different environment-related conditions of uncertainty as well as entrepreneurial culture influence the style and behavior of leaders. Thus, lack of an integrative model reveals a gap to investigate the devel-

opment of the leadership phenomenon, especially research in small and medium enterprises (SMEs).

In a global entrepreneurial monitors ranking in year 2011, Thailand ranks the highest in terms of established business owner-managers and statistically ranged high on early stages of entrepreneurial activity than other countries around the world (Kelly, Singer & Herrington, 2011; Virasa & Hunt 2008). The present study investigates the perceptions of subordinates regarding the factors associated with leadership styles among SMEs in the Thai context. These factors include Big-Five personality traits, emotional intelligence, adversity quotient and ethics.

LITERATURE REVIEW

Styles of Leadership

Shea (1999) pointed out that humans reciprocate with each other under the system of causal interaction based on personal characteristics, environmental factors and cognitive self-regulation. Furthermore, the self-regulation of leaders or managers involves different behaviors to persuade followers to accomplish tasks. The behaviors relevant to persuade subordinates are referred to as leadership style. The concept of leadership style is still debated under various perspectives since different approaches have led to different classifications of leadership style such as transformational and transactional leadership (Bass & Avolio, 1985); delegating, participating, selling, and telling styles (Hersey & Blanchard, 1988); and McClelland and Hay/McBer's leadership typology (Goleman, 2000). Styles of leadership are derived from different conceptualization and operationalization of researchers' perspective (Giritli & Oraz, 2004). The concept of leadership style is based on the characteristics of task-relationship behavior between leaders and followers (Chong & Wolf, 2009).

In this study, the researcher has adopted the leadership style from David McClelland and Hay/McBer's leadership style typology. The six leadership styles of McClelland are based on transactional and transformational leadership concepts. There are six styles of leadership that Hay/McBer's consulting firm found when studying effective leadership in various situations and working environ-

ments worldwide (Goleman, 2000). The six typologies of leadership were identified as coercive, authoritative, affiliative, democratic, pacesetting, and coaching leaders.

The coercive and the authoritative styles fall under the transactional leadership definition; and the affiliative, the democratic, the pacesetting, and the coaching styles fall under the transformational leadership definition (Giritli & Oraz, 2004). These six styles stem from different aspects of emotional intelligence but directly impact on the working environment or climate in a company (Goleman, 2000; Montgomery, 2006).

The leadership concept had been studied from the trait, behavioral, and situational approaches in order to define the patterns or characteristics of effective leadership. However, most researchers have accepted that there cannot be a consensus and there are still no empirical studies to support a normative or best leadership style (Hersey & Blanchard, 1996). Trait, behavioral and situational approaches imply the status quo of leadership in a company and makes it possible to predict future performance. It is essential that leadership should match the situations or different climates in different circumstances. Based on the social cognitive perspective, the factors of emotional intelligence, adversity quotient, ethics of leadership and the Big-Five personality traits could be used to explain the behavior or style of leadership in the current study. These factors were derived from the relationships among leadership variables by Yukl (2006) and Derue et al., (2011).

Emotional intelligence

Emotional intelligence is one of the key factors that influences individual work performance and successful life outcomes (MacCann et al, 2003; Goleman, 1995). Goleman's study found that in almost 70 percent of cases, emotional competencies is a determinant of people's success (Goleman, 1995) and up to 30 percent of cases can predict job performance (MacCann et al., 2003). Most research on emotional intelligence and leadership style focus on task oriented and people oriented styles and transformation, transactional and laissez-faire leadership styles but rarely distinguishes specific styles of leadership such as coercive, authoritative, affiliative, democratic, pacesetting, and

coaching styles. Many studies have confirmed that effective leadership rests on transformational leadership. For example, Palmer et al., (2001) found a higher correlation between emotional intelligence and transformational leadership than with transactional leadership. Sunindijo et. al., (2007) conducted research to investigate the relationship between leadership style and emotional intelligence in construction project management in Thailand and found that project managers and engineers who gained high scores for emotional intelligence were more likely to use open communication and a proactive leadership style. Goleman (2000) conducted tests of emotional intelligence and leadership style in different climates and found positive correlations with authoritative, affiliative and coaching styles, and negative correlations with coercive and pacesetting styles. Thus, it is reasonable to hypothesize that emotional intelligence is likely to be associated with leadership styles. Therefore, the first hypothesis was posed as:

Hypothesis 1: Leaders who display different levels of emotional intelligence will adopt different leadership styles in SMEs in Thailand.

Big-Five Personality traits

Personality trait is one of the factors that explains the relationship between personality and behavior. Many researchers have used personality trait to measure performance and establish a taxonomy of personal attributes that can be extended to measure various areas of administration. Most researchers agreed to adopt the five-factor model to measure and establish a taxonomy of personality attributes (Lord et al., 1986; Digman, 1990; Barrick and Mount, 1991; McCrae and Costa 1997; Judge, et al., 2002; Llewllyn and Wilson, 2003; Williamson, Pemberton and Lounsbury, 2007). Personality traits can be distinguished from cognitive ability measurement. The results determine the characteristics of personality in various situations with various behaviors and styles of leadership. Moreover, the personality of individuals are changeable over time (Alkahtani et al., 2011). The meta-analysis of Derue et al. (2011) indicated that the traits of leaders are associated with task competence and interpersonal attributes. Vroom and Jago (2007) adopted personality traits as disposi-

tional variables in specific situations across contexts to determine leadership effectiveness. To develop the prediction criteria of personality traits and to determine the behavior or style of leaders, the present study adopted the five-factor model which includes extraversion, neuroticism, openness to experience, conscientiousness, and agreeableness. The researcher attempted to explore how the five-factor model influences the choice of behavior or the style of leaders. This leads to the following hypothesis:

Hypothesis 2: Leaders who display different levels of Big-Five personality traits will adopt different leadership styles in SMEs in Thailand.

Adversity Quotient

The concept of adversity quotient (AQ) is a measurement tool to determine how people respond to situations and events in hardship circumstances (Hie, 2009). Stoltz (1997) argued that the adversity quotient can measure, predict and enhance leader effectiveness by indicating areas to improve performance outcome. The adversity quotient (AQ) concept is derived from three scientific fields: cognitive psychology (subconscious), psychoneuroimmunology (mental and physical health), and neurophysiology (habit) and enables the measurement of how people respond to adversity. Adversity intelligence can fill the gap between intelligence and emotional intelligence since IQ and emotional intelligence cannot explain one's success or explain why some leaders fall short in different levels of adversity events (Stoltz, 1997). In the present study, the researcher explored the adversity quotient (AQ) as an influential factor upon the behavior or style of leaders as measured by follower ratings. This leads to the following hypothesis:

Hypothesis 3: Leaders who display different levels of adversity quotient will adopt different leadership styles in SMEs in Thailand.

Ethics of Leadership

Ethical scandals involving business leaders are a major impetus for the discussion of how leaders ought to behave and how leaders demonstrate ethi-

cal conduct, especially in hardship situations. Ethics of leadership is essential for an organization and requires leaders to demonstrate ethical behavior to followers in order to create successful outcomes for the company. Ethics of leadership can fill the gap between emotional intelligence and adversity intelligence since a leader who has high emotional intelligence and high adversity intelligence might not be considered as being strong in business ethics and morality. Schminke et al. (2002) stated that the ethical behavior of a leader has a significant influence on the ethical behavior of the followers which is greater than other influences. Moreover, Brown and Trevino (2006), Ponnu (2009) and Piccolo et al. (2010) argued that ethical behavior of leadership is related to the selection of the style of leadership. Behaviors of different leaders are characterized by different notions of morality, beliefs and judgments (Kalshoven, et al., 2011). Ponnu and Tennakoon (2009) found that ethical leadership behavior has a positive impact on employee outcomes in terms of employee commitment and employee trust in leader. Hence, the present study adopted the ethical leadership scale (ELS) from Brown, Trevino and Harrison (2005) to measure how ethics of leadership influences the choice of behavior or style by leaders. This leads to the following hypothesis:

Hypothesis 4: Leaders who display different levels of ethics will adopt different leadership styles in SMEs in Thailand.

RESEARCH METHODOLOGY

Data Collection and Sample

This study was a comparative research that investigated the differences between emotional intelligence, leadership traits, adversity quotient, and ethics of leadership and six leadership styles in the Thai SME context. The present study was conducted using a survey method with various measurement scales. The research survey adopted a questionnaire to assess leadership style. Since this study was based on the perceptions of subordinates on leadership styles and behavior, the participants in this study were subordinates in small and medium enterprises. A list of SME's in Thailand was obtained from the Office of Small and Medium Enterprises Promotion (OSMEP). This list was based on the Thailand's Standard Industrial Classification, 2009 (TSIC). According to OSMEP (2010), the number of employees in SMEs in Bangkok and suburban areas was estimated at approximately 3,320,000 or 31.6 percent of registered employees in Thailand. The respondents in this study included the manufacturing, retailing/wholesale and service segments. This study employed the simple random sampling technique by assigning all members into computer program and picked randomly based on the abovementioned list in order to ascertain that each individual of the group has an equal chance of being selected from the entire population (Kemper, Stringfield, & Teddie, 2003). A total of 470 survey responses were collected; however, 44 sets were removed, the remaining 426 sets were usable for analysis which was sufficient for this statistical hypothesis test of discriminant analysis based from formula by Yamane (1967).

Measurement of Variables

There were five variables constructed into a measurement questionnaire that included the variables of leadership styles, emotional intelligence, personality traits, adversity quotient, and ethics of leadership.

The six leadership styles item scale was adapted from a managerial style questionnaire (MSQ) by David McClelland and the Hay group (1988) to assess the leadership behavior and style from the followers' perspective. The MSQ questionnaire was constructed to measure the managerial style of a leader in work situations (Chusmir, Koberg & Mill, 1989). The six leadership styles were depicted as coercive, authoritative, affiliative, democratic, coaching and pacesetting. The item describes the characteristics of each of the six leadership styles. The respondents could respond by choosing only one number that matches their leader's behaviors and styles. The six leadership styles had six responses with anchors for each choice representing: 1 = coercive style, 2 = authoritative style, 3 = affiliative style, 4 = democratic style, 5 = pacesetting style, and 6 = coaching style.

The emotional intelligence was adapted from the self-reported model by Schutte et al., (1998).

The reason for selecting a self-reported model of Schutte is because the SSEIT scale found no correlation between emotional intelligence and the Big Five personality traits (Digman, 1990; Ackerman & Heggestad, 1997; O'Boyle et al., 2011). The questionnaire consisted of a 28 items scale with a 4-point, Likert scale format with 1 = strongly disagree, 2 = not agree, 3 = agree, 4 = strongly agree. The personality traits scale was adopted the Big Five Inventory (BFI) by John, Donahue, and Kentle (1991), cited in John and Srivastava (1999). Big-Five personality traits were adopted as a control variable to distinguish the traits of leaders using different styles and behaviors. The questionnaire consisted of a 44 item scale and four-point Likert scale with 1 = strongly disagree, 2 = not agree, 3 = agree, 4 = strongly agree. The scale determined the personality characteristics of leaders across five factors: extraversion, conscientiousness, neuroticism, agreeableness and openness to experience. The adversity response profile (ARP) by Stoltz (1997) was adopted. The adversity quotient was developed by Albert Ellis (1962) based on the rational emotive model of behavior. The adversity quotient (AQ) is a measurement tool to determine how well people respond to hardship situations. The adversity quotient questionnaire consisted of a 12 item scale with a 4-point, Likert scale format with 1 = strongly disagree, 2 = not agree, 3 = agree, 4 = strongly agree.

The ethical leadership scale (ELS) was adopted from Brown, Trevino and Harrison (2005) to assess the ethical component of leadership from the followers' perception. The ethical leadership scale was designed to measure ethics of the upper level management positions such as supervisor, manager and leader in the organization. This questionnaire consisted of a 10-item scale and 4-point Likert scale continuum from 1 = strongly disagree, 2 = not agree, 3 = agree, 4 = strongly agree.

Statistical Treatment of Data

The present study investigated the association between the four determinant factors and six leadership styles in the Thai SME context. The exploratory factor analysis (EFA) and multiple discriminant analysis (MDA) were performed to investigate the phenomena in statistical terms in order to predict group membership (leadership style). The multiple discriminant analysis was applied to test when the dependent variable is categorical and independent variables are measured on the interval scales by calculating the variate's weight in each independent variable to compare the differences between group means or centroid scores (Hair, 2006). The test of equality of group means was used to examine the group differences in order to test hypotheses 1 to 4.

RESULTS

The Wilks' Lambda in Table 1 showed all of the tests were statistically significant with the p value < 0.01, hence all null hypotheses were rejected and H1-H4 were accepted. There were significant differences in the levels of emotional intel-

Table 1: Group Descriptive Statistics and Tests of Equality for the Estimation Sample of the Six-Group Leadership Styles

Independent Variables	Dependent Variables Group Mean						Test of Equality of Group Means		
	Coe (n=40)	Au (n=97)	Aff (n=67)	Do (n=131)	Pae (n=36)	Coa (n=55)	Wilks' Lamda	F Value	Sig.
MEIAware1	2.81	3.13	3.14	3.30	3.03	3.30	.911	8.19	.000
MEIRegulate2	2.59	2.97	3.06	3.12	2.86	3.13	.897	9.64	.000
MEIUtilize3	2.66	2.96	3.01	3.10	2.81	2.97	.912	8.06	.000
MExtraversion	2.85	2.99	2.94	3.12	2.96	3.02	.948	4.62	.000
MAgreeableness	2.56	2.97	3.10	3.27	2.83	3.16	.822	18.2	.000
MConscientious	2.82	3.05	3.12	3.29	2.94	3.26	.896	9.75	.000
MNeuroticism	2.51	2.43	2.41	2.33	2.51	2.29	.954	4.05	.001
MOpenness	2.62	2.88	2.88	3.02	2.83	2.92	.889	10.5	.000
MEthics	2.59	3.04	3.17	3.18	2.90	3.22	.828	17.4	.000
MAdversity	2.72	3.16	3.16	3.33	3.03	3.29	.867	12.8	.000

Note: Coe = Coercive, Au = Authoritative, Aff = Affiliative, Do = Democratic, Pae = Pacesetting, Coa = Coaching.

ligence, Big-five personality traits, adversity, and ethics among leaders who adopted different leadership styles.

Emotional Intelligence

The results showed that appraisal and expression of emotion were significantly different as per leadership styles at the $p < .05$ level, $F(5,420) = 8.193$, Wilks' Lambda = .911, $p = .000$. For appraisal and expression of emotion: coaching ($M = 3.30$, SD = .453), democratic styles ($M = 3.30$, SD = .418), affilative ($M = 3.14$, SD = .505), authoritative ($M = 3.13$, SD = .433), pacesetting ($M = 3.03$, SD = .557) and coercive ($M = 2.81$, SD = .582).

The results showed that regulation of emotion was significantly different as per leadership styles at the $p < .05$ level, $F(5,420) = 9.64$, Wilks' Lambda = .897, $p = .000$. For regulation of emotion: coaching style ($M = 3.13$, SD = .443), democratic ($M = 3.12$, SD = .402), affilative ($M = 3.06$, SD = .416), authoritative ($M = 2.97$, SD = .458), pacesetting ($M = 2.86$, SD = .625) and coercive ($M = 2.59$, SD = .595).

The result showed that utilization of emotion was significantly different as per leadership styles at the $p < .05$ level, $F(5,420) = 8.06$, Wilks' Lambda = .912, $p < .000$. For utilization of emotion: democratic style ($M = 3.10$, SD = .404), affilative ($M = 3.01$, SD = .409), coaching ($M = 2.97$, SD = .462), authoritative ($M = 2.96$, SD = .367), pacesetting ($M = 2.81$, SD = .428), and coercive ($M = 2.66$, SD = .508).

Big-Five Personality Traits

The results showed that the levels of extraversion were significantly different as per leadership styles at the $p < .05$ level, $F(5,420) = 4.62$, Wilks' Lambda = .948, $p < .000$. For extraversion: democratic style ($M = 3.12$, SD = .377), coaching ($M = 3.02$, SD = .349), authoritative ($M = 2.99$, SD = .412), pacesetting ($M = 2.96$, SD = .332), affilative ($M = 2.94$, SD = .359), and coercive ($M = 2.85$, SD = .378).

The results showed that neuroticism was significantly different as per leadership styles at the $p < .05$ level, $F(5,420) = 4.05$, Wilks' Lambda = .954, $p < .001$. For neuroticism: coercive ($M =$

2.51, SD = .338), pacesetting styles ($M = 2.51$, SD = .290), authoritative ($M = 2.43$, SD = .321), affilative ($M = 2.41$, SD = .347), democratic ($M = 2.33$, SD = .341), and coaching ($M = 2.29$, SD = .308).

The results showed that openness to experience was significantly different as per leadership styles at the $p < .05$ level, $F(5,420) = 10.523$, Wilks' Lambda = .828, $p < .000$. For openness to experience: democratic style ($M = 3.02$, SD = .345), coaching ($M = 2.92$, SD = .318), affilative ($M = 2.88$, SD = .332), authoritative ($M = 2.88$, SD = .316), pacesetting ($M = 2.83$, SD = .254) and coercive ($M = 2.62$, SD = .266).

The results showed that conscientiousness was significantly different as per leadership styles at the $p < .05$ level, $F(5,420) = 9.755$, Wilks' Lambda = .828, $p < .000$. For conscientiousness: democratic style ($M = 3.29$, SD = .437), affiliative ($M = 3.12$, SD = .503), authoritative ($M = 3.05$, SD = .435), pacesetting ($M = 2.94$, SD = .456), coaching ($M = 2.29$, SD = .308), and coercive ($M = 2.82$, SD = .424).

The results showed that agreeableness was significantly different as per leadership styles at the $p < .05$ level, $F(5,420) = 18.224$, Wilks' Lambda = .828, $p < .000$. For agreeableness: democratic style ($M = 3.27$, SD = .401), coaching ($M = 3.16$, SD = .479), affiliative ($M = 3.10$, SD = .499), pacesetting ($M = 2.83$, SD = .446), authoritative ($M = 2.97$, SD = .449), and coercive ($M = 2.56$, SD = .558).

Adversity Quotient

The results showed that adversity quotient was significantly different as per leadership styles at the $p < .05$ level, $F(5,420) = 12.88$, Wilks' Lambda = .867, $p < .000$. For adversity quoitient: democratic style ($M = 3.33$, SD = .404), coaching ($M = 3.29$, SD = .407), affiliative ($M = 3.16$, SD = .437), authoritative ($M = 3.16$, SD = .420), pacesetting ($M = 3.03$, SD = .533), and coercive ($M = 2.72$, SD = .590).

Ethics

The results showed that ethics of leadership was significantly different as per leadership styles at the $p < .05$ level, $F(5,420) = 17.48$, Wilks' Lambda = .828, $p < .000$. For ethics: coaching (M

= 3.22, SD = .375), democratic (M = 3.18, SD = .338), affiliative (M = 3.17, SD = .422), authoritative (M = 3.04, SD = .376), pacesetting (M = 2.90, SD = .458) and coercive (M = 2.59, SD = .556).

Table 2: Box's M Test Results of Equality of Covariance Matrices Test Results

Box's M		473.397
F	Approx.	1.593
	df1	275
	df2	99627.301
	Sig.	.000

Tests null hypothesis of equal population covariance matrices.

The Box's M test was used to test the dispersion matrices of the independent variables (Hair, 2006). The results showed significant differences between groups at the significance level $p < 0.01$ from multivariate normal.

Table 3: Summary of Canonical Discriminant Functions

Func-tion	Eigen-value	% of Variance	Cumula-tive %	Canonical Correla-tion
1	.304	73.1	73.1	.483
2	.055	13.2	86.3	.228
3	.031	7.5	93.8	.173
4	.021	5.2	98.9	.145
5	.004	1.1	100.0	.067

The Eigenvalues showed five discriminant functions of the proportion of variance. The first function accounts for 0.30 and 73.1% of the total among-groups variability. This implied that function 1 could explain the variance at 73.1 percent and canonical correlation at 0.483. A large eigenvalue identified a strong function (Hair, 2006). Thus, the function 1 was a good fit for the data.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 5	.688	156.197	50	.000
2 through 5	.896	45.643	36	.130
3 through 5	.945	23.425	24	.495
4 through 5	.975	10.699	14	.710
5	.996	1.865	6	.932

The Wilks' Lambda was used to explain the proportion of total variability not explained. The Wilks's Lambda of Canonical Disciminant of function 1 through 5 was 0.688 with statistically significant with p value = < 0.001. The value for chi-square was 156.197 provides a statistical estimate of model fit.

The independent variables (emotional intelligence, the Big-Five personality traits, adversity and ethical leadership) could predict group membership based on leadership styles.

Standardized Canonical Discriminant Function Coefficients

	Function
	1
MEIAware1	-.097
MEIRegulate2	.053
MEIUtilize3	.236
MExtraversion	-.186
MAgreeableness	.711
MConscientiousness	-.282
MNeuroticism	-.054
MOpenness	.315
MEthical	.495
MAdversity	-.125

The standardized canonical discriminant function coefficient identifies the importance of each predictor. The important factors in the grouping of variables showed the values of awareness of emotion (-.097), regulate of emotion (.053), utilize of emotion (.236), extraversion (-.18), agreeableness (.711), conscientiousness (-.28), openness to experience (.315), neuroticism (-.05), adversity (-.12), and ethics (.495).

Table 4: Unstandardized Canonical Discriminant Function Coefficients

Canonical Discriminant Function Coefficients	
	Function
	1
MEIAware1	-.206
MEIRegulate2	.115
MEIUtilize3	.564
MExtraversion	-.495
MAgreeableness	1.550
MConscientiousness	-.622
MNeuroticism	-.163
MOpenness	.985
MEthical	1.237
MAdversity	-.281
(Constant)	-8.053

Table 4 shows the canonical discriminant function coefficient of all the independent variables. In this table, six groups were used to calculate the discriminant function:

$$D = -8.053 - .206 \times \textit{Awareness} + .115 \times \textit{Regulation} + .564 \times \textit{Utilize} - .495 \times \textit{Extraversion} + 1.55 \times \textit{Agreeableness} - .622 \times \textit{Conscientiousness} - .163 \times \textit{Neuroticism} + .985 \times \textit{Openness} + 1.23 \times \textit{Ethics} - .281 \times \textit{Adversity}$$

Table 5: Functions at Group Centroids of Leadership Styles

Functions at Group Centroids	
	Function
Style	1
Coercive	-1.416
Authoritative	-.143
Affiliative	.241
Democratic	.458
Peacesstting	-.541
Coaching	.251

Unstandardized canonical discriminant functions evaluated at group means

Table 5 above indicates the average discriminant score for subjects in the six groups. The comparison of group differences can be assessed through the group centroid, the average of average discriminant scores (Z scores). The results indicate that in function 1 the average discriminant score was coercive (-1.416), authoritative (-.143), affiliative (.241), democratic (.458), pacesetting (-.541), and coaching (.251).

The classification results provide a summary of categorical cases analysis on dependent variables on the basis of the set of independent variables. There were 32.6 percent of the original group cases correctly classified. The results of coercive (57.5%), authoritative (13.4%), affiliative (26.9%), democratic (42%), pacesetting (33.3%), and coaching (32.7%) were correctly classified.

DISCUSSION

Discriminant analysis was conducted which aimed to predict group membership (coercive, authoritative, affiliative, democratic, pacesetting, and coaching) of 426 cases on six leadership styles group. Ten independent variables were used as predictors (appraisal and expression of emotion, regulation of emotion and utilization of emotion emotional intelligence, extraversion, agreeableness, conscientiousness, openness to experience, neuroticism, adversity quotient and ethics). Box's M indicated, $M = 437.39$, $F (275, 99627.3) = 1.5$, $p < .001$.

The discriminant function demonstrated a significant association between groups and predictors, $X^2 (DF = 50, n = 426) = 156.19$, $p < 0.0001$, with the discriminant function accounting for 23.3% of the between-group variability.

The structure matrix of correlations between predictors and the discriminant function presented that each independent variables displayed a structure coefficient in excess of .30. The highest value was found for agreeableness (.833) followed by

Table 6: Classification Results

Classification Results									
			Predicted Group Membership						Total
		Style	Coercive tative	Authori-tive	Affilia-cratic	Demo-cesstting	Peaing	Coach-	
Original	Count	Coercive	23	7	2	0	5	3	40
		Authoritative	15	13	21	20	18	10	97
		Affiliative	7	5	18	15	8	14	67
		Democratic	7	9	27	55	13	20	131
		Peacesstting	9	6	2	2	12	5	36
		Coaching	6	4	10	13	4	18	55
	%	Coercive	57.5	17.5	5.0	.0	12.5	7.5	100.0
		Authoritative	15.5	13.4	21.6	20.6	18.6	10.3	100.0
		Affiliative	10.4	7.5	26.9	22.4	11.9	20.9	100.0
		Democratic	5.3	6.9	20.6	42.0	9.9	15.3	100.0
		Peacesstting	25.0	16.7	5.6	5.6	33.3	13.9	100.0
		Coaching	10.9	7.3	18.2	23.6	7.3	32.7	100.0

a. 32.6% of original grouped cases correctly classified.

ethics (.814), adversity (.690), openness to experience (.610), regulate of emotion (.609), conscientiousness (.579), utilize of emotion (.548), awareness of emotion (.541), extraversion (.345).

In univariate comparisons, mean score on awareness of emotion was found to be significantly higher for democratic and coaching style (M = 3.30) compared a with coercive style (M = 2.81), $F(5,420) = 8.19$, $p < 0.001$. Mean score on regulate of emotion was found to be significantly higher for coaching style (M = 3.13) compared with coercive style (M = 2.59), $F(5,420) = 9.64$, $p < 0.001$. Mean score on utilize of emotion was found to be significantly higher for democratic style (M = 3.10) compared with coercive style (M = 2.66), $F(5,420) = 8.06$, $p < 0.001$. Mean score on extraversion was found to be significant higher for democratic style (M = 3.12) compare with coercive style (M = 2.85), $F(5,420) = 4.62$, $p < 0.001$. Mean score on agreeableness was found to be significantly higher for democratic style (M = 3.27) compared with coercive style (M = 2.56), $F(5,420) = 18.2$, $p < 0.001$. Mean score on conscientiousness was found to be significantly higher for democratic style (M = 3.29) compared with coercive style (M = 2.82), $F(5,420) = 9.75$, $p < 0.001$. Mean score on neuroticism was found to be significantly higher for coercive and pacesetting style (M = 2.51) compared with coaching style (M = 2.56), $F(5,420) = 4.05$, $p < 0.001$. Mean score on openness to exprience was found to be significantly higher for democratic style (M = 3.02) compare with coercive style (M = 2.62), $F(5,420) = 10.5$, $p < 0.001$. Mean score on ethics was found to be significantly higher for coaching style (M = 3.22) compared with coercive style (M = 2.59), $F(5,420) = 17.4$, $p < 0.001$. Mean score on adversity was found to be significantly higher for democratic style (M = 3.33) compared with coercive style (M = 2.72), $F(5,420) = 12.8$, $p < 0.001$.

The classification procedure for the total sample of 426 cases, 139 (32.6%) overall were classified correctly. Correct classification rates were observed by coercive (57.5%), authoritative (13.4%), affiliative (26.9%), democratic (42%), pacesetting (33.3%), and coaching (32.7%).

IMPLICATIONS AND CONCLUSION

This study provides important knowledge for SME leaders to apply an appropriate style and behavior in the competitive markets of Thailand. Although many organizations focus on financial performance to determine success, another indicator of organizational success should be derived from subordinates' happiness and satisfaction because subordinates are an important element driving organizational growth and success. Subordinates' perceptions and concerns in the form of feedback can be seen as the key to employee satisfaction in the workplace and also can be used as guidelines for leaders and organizational development.

After a thorough analysis of data, the following recommendations are suggested for managers/leaders for SMEs in Thailand. Employees perceived that leaders who showed agreeableness, ethical and adversity of leadership which allow subordinates to participate in the decision-making process, encourage subordinates to share ideas and opinions that could lead to ability to solve problems by teamwork and collaboration, were more democratic. Democratic leadership style was reported as the most effective for successful entrepreneurs and company performance in western countries (McCarthy, Puffer & Darda, 2010). Leaders should realize that the styles they think they are using might not be effective in the perception of the subordinates. Moreover, agreeableness, ethics and adversity contribute toward a democratic style which is seen as competitive for fostering success and growth for small and medium enterprises in Thailand.

References

Ackerman, P. L., and Heggestad, E. D. (1997). Intelligence, personality, and interests: Evidence for overlapping traits. *Psychological Bulletin*, Vol. 125, pp. 219-245.

Alkahtani, A. H, Abu-Jarad, I, Sulaiman, M. and Nikbin, D (2011). The impact of personality and leaderhip styles on leading change capability of Malaysian managers. *Australian Journal of Business and Management Research*, Vol. 1 No. 2, pp. 70-97.

Bass, B. M. (1985). *Leadership and Performance*

Beyond Expectations, Free Press, New York, NY.

Barrick, M. R. and Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis, *Personnel psychology*, No. 44, pp. 1-26.

Brown, M. E., Trevino, L. K., and Harrison, D. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Process*, No. 97, pp. 117-134.

Brown, M. E. and Trevino, L. K. (2006). Ethical leadership: A review and future directions. *The leadership Quarterly*, No. 17, pp. 595-616.

Chong, E. and Wolf, H. (2009). Factors influencing followers' perception of organizational leaders. *Leadership and Organizational Development Journal*, Vol. 31 No. 5, pp. 402-419.

Chusmir, L. H., Koberg, C. S. and Mill, J (1989). Male-female different in the association of managerial style and personal values. *Journal of Social Psychology*, Vol. 129 No. 1, pp. 65-78.

Derue, D. S., Nahrgang, J. D., Wellman, N., and Humphrey, S. E. (2011). Trait and behavioral theories of leadership: An integration and meta-analytic test of their relative validity. *Personnel Psychology*, No. 64, pp. 7-52.

Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, Vol. 41, pp. 417-440.

Fiedler, F. E. (1981). *Leadership effectiveness, American Behavioral Scientist*, Vol. 24 No. 5, pp. 619-632.

Goleman, D. (1995). *Emotional Intelligence: Why It Can Matter More Than IQ for Character*, Health and Lifelong Achievement. Bantam Books, New York.

Goleman, D. (2000). Leadership that gets results, *Harvard Business Review*, March-April, pp. 78-90.

Giritli, H. and Oraz, G. T. (2004). Leadership styles: some evidence from the Turkish construction industry. *Construction Management and Economic*, No. 22, pp. 253-262.

Hair, J., Black, B. Babin, B., Anderson, R. and Tatham, R. (2006). *Multivariate Data Analysis* (6th edition). Upper Saddle River, NJ: Prentice-Hall.

Hersey, P. and Blanchard, K. (1988). *Management of organizational behavior: Utilizing human resources* (5th ed.) Englewood Cliffs, NJ: Prentice Hall.

Hersey, P. and Blanchard, K. (1996). Great ideas revisited: Life-cycle theory of leadership. *Training & Development*, Vol. 51 No. 1, pp. 42-47.

Hie, G. P. (2009). *Adversity quotient: Turning obstacles into opportunities* (Book review). SOEWARNA Digest, 2nd Quarter, No. 1, pp. 24-25.

Hogan, R., Curphy, G. J. and Hogan J. (1994). What we know about leadership: effectiveness and personality. *American Psychologist*, Vol. 49 No. 6, pp. 493-504.

Judge, T. A., Bono, J. E., Ilies, R. and Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, Vol. 87 No. 4, pp. 765-780.

John, O. P. and Srivastava, S. (1999). The Big-Five trait taxonomy: History, measurement and theoretical perspectives, In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and Research* (2nd ed., pp. 102-138). New York: Guilford.

Kelley, D. J., Singer, S., Herrington, M. (2011), Global Entrepreneurship Monitor 2011 Global Report.

Kemper, E. A., Stringfield, S. and Teddie, C. (2003). *Mixed methods sampling strategies in social science research: Handbook of Mixed Methods in Social & Behavioral*, Sage Publication, Inc. CA.

Lord, R. G. De Vader, C. L., and Alliger, G. M. (1986). A meta-analysis of the relation between personality traits and leadership perceptions: An application of validity generalization procedures. *Journal of Applied Psychology*, Vol. 71, pp. 402-410.

Llewellyn, D. F and Wilson, K. M. (2003). The controversial role of personality traits in entrepreneurial psychology. *Education + Training*, Vol. 45 No. 6, pp. 341-345.

MacCann, C., Matthews, G., Zeidner, M. and Roberts, R. D. (2003). Psychological assessment of emotional intelligent; A review of self-report and performance -based testing. *The International Journal of Organizational Analysis*, Vol.11 No. 3, pp. 247-274.

MaCarthy, D. J., Puffer, S. M. and Darda, S. V. (2010) Convergence in entrepreneurial leadership style: Evidence from Russia. *California Management Review*, Vol 52 No. 4, pp. 48-72.

MaCrae, R. R. and Costa, P. T. Jr. (1997). *Personality trait structure as a Human Universal. American Psychologist*, Vol. 52 No. 5, pp.509-516.

Matthews, C. H., and Scott, S. G. (1995). Uncertainty and planning in small and entrepreneurial firms: An empirical assessment. *Journal of Small Business Management*, Vol 33 No. 4, pp. 34-52.

Montgomery, M. J. (2006). Leadership in a correctional Environment. *Corrections Compendium*, Vol. 31 No. 3, pp. 1-11.

O'Boyle, E. H. Jr., Humphrey, R. H., Pollack, J. M., Hawver, T. H. and Story, P. A. (2011). The relationship between emotional intelligence and job performance: A meta-analysis. *Journal of Organizational Behavior*. Vol. 32, pp. 788-818.

OSMEP (2004). *The white paper on small and medium enterprises of Thailand in 2003 and trends 2004*, Office of Small and Medium Enterprises Promotion (OSMEP), pp. 1-370.

Palmer, B., Walls, M., Burgess, Z. and, Stough, C. (2001). Emotional intelligence and effective leadership. *Leadership & Organization Development Journal*, Vol. 22 No. 1, pp. 5-10.

Piccolo, R. F., Greenbaum, R., Den Hartog, D. N., and Folger R. (2010). The relationship between ethical leaderhip and core job characteristics. *Journal of Organizational Behavior*, No. 31, pp. 259-278.

Ponnu, C. H. and Tennakoon, G. (2009). The association between ethical leadership and employee outcomes - the Malaysian case. Electronic *Journal of Business Ethics and Organization Studies*, Vol.14 No.1 pp.21-32.

Schminke, M., Wells, D., Peyrefitte, J., and Sebora, T. C. (2002). Leadership and ethics in work groups: A longitudinal assessment. *Group & Organization Management*, Vol. 27 No. 2, pp. 272-293.

Schutte, N. C., Malouff, J. M., Hall, L.E., Haggerty, D. J., Cooper, J. T., Golden, C. J., and Dornheim, G. L. (1998). Development and validation of a measure of emotional intelligence. *Personality and individual differences*, No. 25, pp. 167-177.

Shea, C. H. (1999). Charismatic leadership and task feedback: A laboratory study of their effects on self-efficacy and task performance. *Leadership Quarterly*, Vol. 10, pp. 375-397.

Stoltz, P.G., (1997), Adversity Quotient: Turning Obstacles into Opportunities, USA: John Wiley and Sons, Inc.

Sunindijo, R. Y., Hadikusumo B. H. W., and Ogunlana, S. (2007). Emotional intelligence and leadership styles in construction project management. *Journal of Management in Engineering*. Vol. 23 No. 4, pp. 166-170.

Virasa, T. and Hunt (2008). Global entrepreneurship monitor Thailand 2007 executive report. The Office of SMEs Promotion, Thailand and College of Management, Mahidol University. pp. 1-54.

Vroom, V. H. and Jago, A.G. (2007). The role of the situation in leadership. *American Psycologist*, Vol.62 No. 1, pp. 17-24.

Williamson, J. M., Pemberton, A. E., and Lounsbury (2007). Personality traits of individuals in different specialties of librarianship. *Personality traits of individuals*, Vol. 64 No. 2, pp. 273-286.

Yukl, G. (1999). An evaluation of conceptual weaknesses in transformational and charismatic leadership theories. *Leadership Quarterly*, Vol. 10 No. 2 pp.285-305.

Yukl, G.A. (2006). *Leadership in Organizations*. Upper Saddle River, NJ: Prentice Hall.

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BUSINESS ETHICS OF TOUR OPERATORS FOR SUPPORTING SUSTAINABLE TOURISM DEVELOPMENT AND ITS DETERMINANTS: A CASE OF THAILAND

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Abstract

This research aims to measure the awareness and the performance of tour operators (TOs) regarding sustainable tourism development (STD) ethical behavior and to explore the characteristics of TOs affecting their STD ethical performance. Qualitative data was obtained from interviews with stakeholders and quantitative data collected from a survey of 130 tour operators in Chiangmai and Phuket provinces to answer the research objectives. The results reveal that the tour operator have awareness of STD ethical behaviour at a rather high level but their performance regarding STD ethical behaviour was at a moderate level. In addition, the study found a statistically significant difference between their awareness and performance. The value of registered capital is the only variable that has a significant effect on TOs' STD ethical performance. Furthermore, several policy recommendations for closing the awareness gap and implementation gap were drawn in this study.

Key words: business ethics, tour operator, sustainable tourism development

บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อประเมินระดับความตระหนักและผลการดำเนินการของธุรกิจจัดบริการการท่องเที่ยวตามแนวทางจริยธรรมเพื่อการพัฒนาการท่องเที่ยวที่ยั่งยืนและศึกษาปัจจัยภายในของธุรกิจจัดบริการการท่องเที่ยวที่มีผลต่อผลการดำเนินงานตามหลักจริยธรรมดังกล่าว การศึกษานี้ใช้ข้อมูลเชิงคุณภาพจากการสัมภาษณ์กลุ่มผู้มีส่วนได้ส่วนเสียของอุตสาหกรรมการท่องเที่ยวและใช้ข้อมูลเชิงปริมาณจากการสำรวจธุรกิจบริการการท่องเที่ยวจำนวน 130 ราย ในจังหวัดเชียงใหม่และภูเก็ต ผลการศึกษาพบว่าธุรกิจจัดบริการการท่องเที่ยวมีความตระหนักต่อจริยธรรมในระดับค่อนข้างสูงและมีผลการดำเนินการตามหลักจริยธรรมดังกล่าวในระดับปานกลาง และพบว่าระดับความตระหนักมีความแตกต่างจากระดับขีดความสามารถในการดำเนินการอย่างมีนัยสำคัญทางสถิติ นอกจากนี้ผลการศึกษายังพบว่ามูลค่าทุนจดทะเบียนของผู้ประกอบการธุรกิจจัดบริการการท่องเที่ยวเป็นปัจจัยภายในของธุรกิจเพียงปัจจัยเดียวที่มีผลต่อผลการดำเนินงานทางด้านจริยธรรมของผู้ประกอบการธุรกิจจัดบริการการท่องเที่ยว

คำสำคัญ: จริยธรรมทางธุรกิจ, ธุรกิจจัดบริการการท่องเที่ยว, การพัฒนาการท่องเที่ยวที่ยั่งยืน

INTRODUCTION

The tours industry has played a crucial role for Thailand's economic development; contribution to job creation, export revenue generation, and the engine of local development. However, it is broadly acknowledged from tourism development in the past that those gains have normally imposed cost to society in several aspects; for example, envi-ronmental erosion and radical change in local community ways of living. Thus, the tourism industry needs thoughtful planning and managing of development in ways that provides benefits to all parties.

The World Tourism Organization (2001) has defined sustainable tourism development (STD) as "*Tourism that takes full account of its current and future economic, social and environmental im-*

pacts, addressing the needs of visitors, the industry, the environment and host communities". To attain the STD, the collective participation of key stakeholders in the tourism industry is essential; the key stakeholders include tourists, tourism attraction organizations, tourism service providers, local community, national and local public administration, and tour operators.

Within tourism industry structure, tour operators (TOs) still play influential roles (Budeanu 2005) in promoting or ignoring STD to both backward and forward stakeholders in the tourism supply chain (see Figure 1). These influential roles evolve from many factors including; (1) asymmetric information between TOs and tourists, (2) economies of scale from purchasing tourism related services at a high volume or in the long-term contract, (3) high bargaining power of TOs over the services providers. From the role of TOs described above, it can be concluded that TOs is certainly a key player in promoting and mobilizing STD.

In order to utilize TOs as a vehicle for promoting STD, the initial key success factor should be present. The primary condition is the business ethics of TOs regarding the concept of STD (Fennel & Malloy 1995; Karwacki & Boyd 1995). Therefore, it is vital to explore the business ethics of TOs and to figure out the determinants of their ethical behavior in order to draw up a correct and effective strategy for promoting STD ethical behavior of the TOs. Thus, this research has two objectives; (1) to measure the awareness and application of TOs regarding STD ethical behavior and; (2) to explore the internal factors of TOs affecting STD ethical behavior. The researcher selected Chiangmai and Phuket as the geographical area for the study because both destinations represent popular tourism destinations of Thailand. Although tourism products of Chiangmai (Culture and Mountainous Nature) and Phuket (Entertainment and Coastal Nature) are different, both group of tourism products are the core tourism products of Thailand. Moreover, there are significant numbers of local tour operator firms located in both areas.

LITERATURE REVIEW

Sustainable Tourism

Since the World Commission on Environment and Development (1987) gave the meaning of sustainable development as "*a process to meet the needs of the present without compromising the ability of future generations to meet their own needs*" in its report, the concept of the sustainable development has been used extensively in almost all branches of development. For example, the World Tourism Organization: WTO (2001) has defined sustainable tourism as "*Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities*". Although the definition is sufficiently flexible to allow a variety of approaches and interpretations of the concept (Cernat & Gourdon 2007), the diversity in views has led some scholars to question its utility (Middleton & Hawkins 1998). However, in general, it can be interpreted that this definition emphasizes the balance of tourism development in three dimensions including; 1) current and future development opportunity; 2) economic, social, and environment impacts; and 3) the impact to all stakeholders in the tourism supply chain.

More recently and specifically, the United Nations Environment Program: UNEP (2005), enacted 12 objectives of sustainable tourism development (STD) as follows; economic viability, local prosperity, employment quality, social equity, visitor fulfillment, local control, community well-being, cultural richness, physical integrity, biological diversity, resource efficiency, and environmental purity. Furthermore, several international organization have defined and set indicators for measuring sustainable tourism development (Eurostat, 2006; ONS, 2011; NWTO, 2004)

Tour Operators and Tourism Sustainability

Weaver and Oppermann (2000) demonstrated that tour operator business is rather similar to travel agency because they both sell tourism products directly to the tourists. However, Page (2003) ar-

gued that a tour operator is different from a travel agent in that tour operators mix the individual tourism services and sell it as a tourism product for the price that cover all elements.

In the tourism supply chain as shown in figure 1, tour operators play crucial roles in mobilizing sustainable tourism development. Budeanu (2005) clearly stated the significant potential of tour operators (TOs) to influence a large number of customers for several reasons include; (a) the majority of international travellers continue using tour operator services; (b) bargaining power over service providers from its large scale and bulk purchasing order; (c) its ability to save time and money for travellers compared with the case that they arrange all elements in the tour package by themselves; (d) function of linking or matching supply with demand for tourism enable TOs to have superior information and ability to forecast market trends.
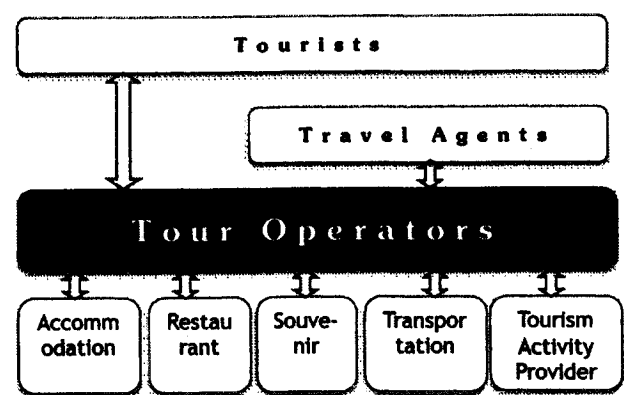
Figure 1: Tour operator in the Supply Chain
   Source: Author

The emergence of Tour Operators' Initiative (TOI) is evidence of the awareness of the leading TO firms that have clear strategy and action in promoting sustainable development (TOI, 2003). The TOI has progressively executed its effort in promoting capacity building, the engagement of tour operators to the sustainable tourism development (UNEP 2005), the knowledge transfer from best practice to other TOs (TOI 2003), and the improvement in tourism supply chain management according to the concept of sustainable development (TOI 2004) (Schwartz et. al., 2008).

Tour Operators Business Ethics and Its Determinants

In general, business ethics is the accepted way of conducting business for promoting fairness, and maximizing benefits to society (Schermerhorn 2008). In the tourism industry, WTO (2001) has published a global code of ethics for tourism which consists of 10 principles, and many organizations have released documents regarding ethics in the tourism industry with the focus on tour operators in certain areas. For example, Tearfund (2001) revealed the experiences of 65 U.K. based tour operator in practicing responsible business and World Wildlife Foundation (WWF 1999) published the code of conduct for tour operators in the Arctic.

Hultsman (1995) investigated the literature on tourism and ethics. He categorized tourism ethics into 5 general categories, ecological issues, marketing issues, sustainable development issues, humanistic and social issues and tourism education issues. As these 5 categories of tourism ethics are not firmly related to sustainable tourism development, Fennell and Malloy (1999) classified tour operator ethics into 3 categories; economic, social and ecological scenarios.

Regarding the determinants of tourism operators' business ethics, Fennell and Malloy (1999) employed a multidimensional scale to measure the ethical nature of tourism operators and to test the difference between ecotourism, adventure, fishing, cruise-lines and golf operators. The research results revealed that ecotourism operators has the highest score followed by adventure, fishing, cruise and golf operators. However, the definition of tourism operators in their study is not clear as to whether they are the tour operators or tourism service providers.

DATA AND METHODOLOGY

This research employs both qualitative and quantitative data. The quantitative data is obtained from the questionnaire distributed to all Thai tour operators located in Chiangmai and Phuket; 130 questionnaires were returned and used to perform quantitative data analysis. The questionnaire con-

sists of 3 parts; firm information, the awareness level of firm on the STD ethical behaviors (economics, social, management, and environment aspects), and their performance on those STD ethical behaviors (5 scales interval questions).

To attain the research objectives, the data from the survey was analyzed with descriptive statistics, including frequency, percentage, arithmetic mean and standard deviation, to explore the TOs' characteristics, their awareness and performance toward STD ethical behavior. Inferential statistical analysis, namely, dependent sample t-test was used to test the significance of difference between awareness and performance toward STD ethical behavior. Moreover the independent sample t-test and analysis of variance (1-way ANOVA) were also used to investigate the influence of TOs' characteristics on their STD ethical performance.

In addition, to explain the quantitative analysis results and to draw up policy recommendations, this study also collected qualitative data from interviews with key stakeholders of the tourism industry in both provinces; including tour business, tourism service provider business (hotels, homestay, guesthouses, restaurants, transportation, souvenir shops, and tourism activity providers), community leaders, local government agencies, and regional government agency. The questions asked of the stakeholders are about their expectations and opinions on the roles of tour operator to promote STD.

RESULTS

Characteristics of Tour Operator Firms in Chiangmai and Phuket

Most tour operator firms in both provinces have multifunction roles in their business, such as, reserving hotel and air flights (same as the travel agent), developing and selling package tour to group tourists, and selling their own package tours to the individual tourists. The majority of them (91%) are owned by Thai, they mostly have registered capital of less than 5 million THB (82%), and employ less than 10 staffs. This implies that most of them are small business enterprises. However, 59% of them have experience of conducting this business for more than 5 years. As per their profitability rate, almost half of them are able to make profit of more than 10% from the sales revenue.

STD Ethical Behaviour Awareness and Performance

In general, the TOs reveal their awareness of the overall STD ethical behaviour at a rather high level ($\bar{x}$ = 3.41). They are aware the ethics in aspect of environment at highest score ($\bar{x}$ = 3.59), followed by social aspect ($\bar{x}$ = 3.58), management aspect ($\bar{x}$ = 3.27), and economic aspect ($\bar{x}$ = 3.22), as shown in figure 2.
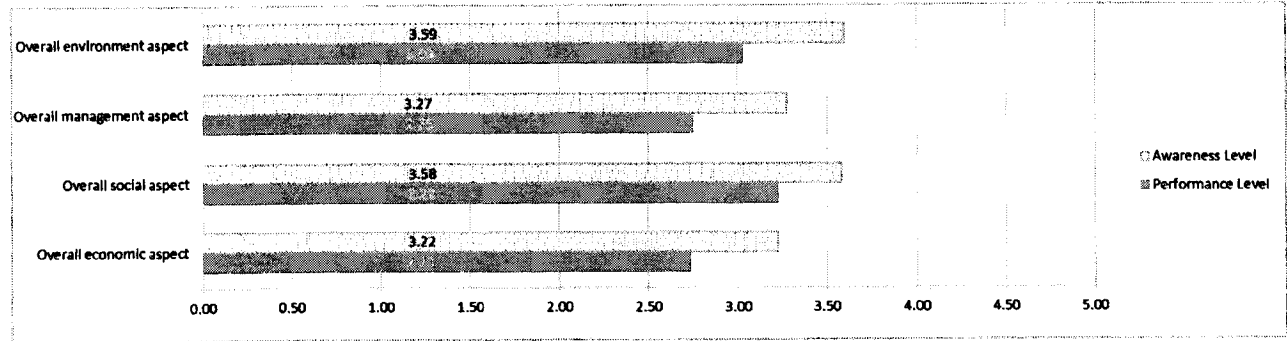
Figure 2: The Awareness and Performance Level of Tour Operators Toward STD Ethical Behavior
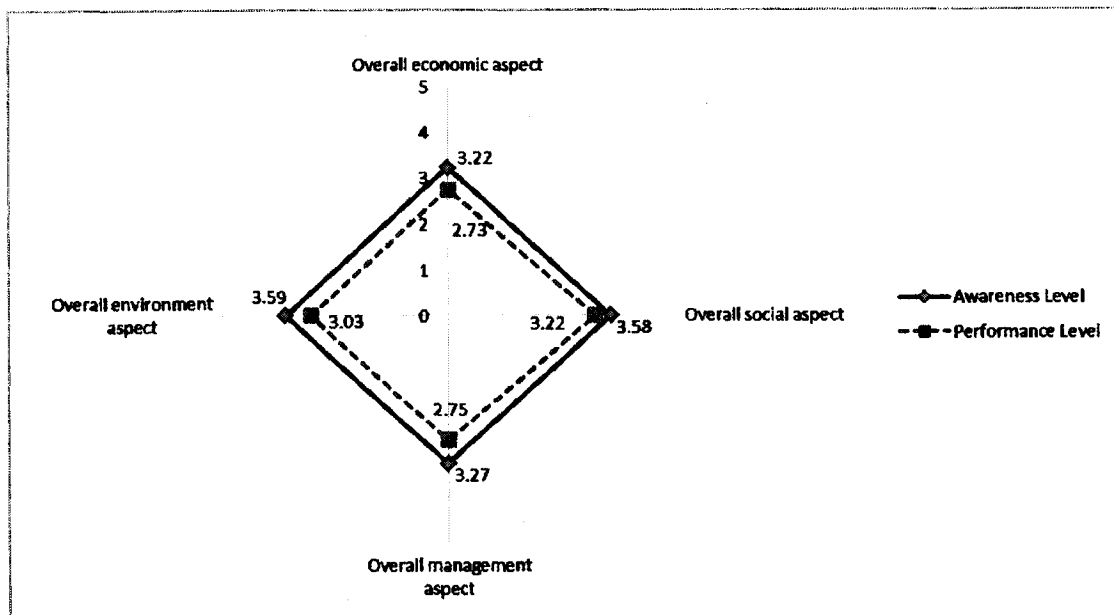
Figure 3: The Difference Between Awareness and Performance Level of Tour Operators Toward STD Ethical Behavior

Table 1: The One-Sample t-test for testing the Difference Between Awareness and Performance

STD Ethical Behaviour of TO	Awareness Level	Performance Level	dependent t-test statistics	Significant Value t-statistics
Economic	3.22**	2.73	7.60	0.00
Social	3.58**	3.22	5.11	0.00
Management	3.27**	2.75	7.10	0.00
Environment	3.59**	3.03	5.89	0.00
Overall	3.41**	2.93	7.00	0.00

** significant at 0.01 level

Regarding the performance of TOs toward STD ethical behaviour, they generally implement it at a moderate level ($\bar{x} = 2.93$). Among the 4 aspects of STD ethical behaviour, their performance on the STD ethical behaviour in social aspect ($\bar{x} = 3.22$) is the highest, compared to environmental aspect ($\bar{x} = 3.03$), management aspect ($\bar{x} = 2.75$), and economic aspect ($\bar{x} = 2.73$).

STD Ethical Behaviour Awareness and Performance gap

Figure 3 presents the difference between awareness level and performance level of TOs on all 4 aspects. Inferential statistics analysis was performed in order to verify significance of the differences. The results of 2-way hypothesis testing with one-sample t-test analysis as shown in table 1 suggests that awareness level toward STD ethical
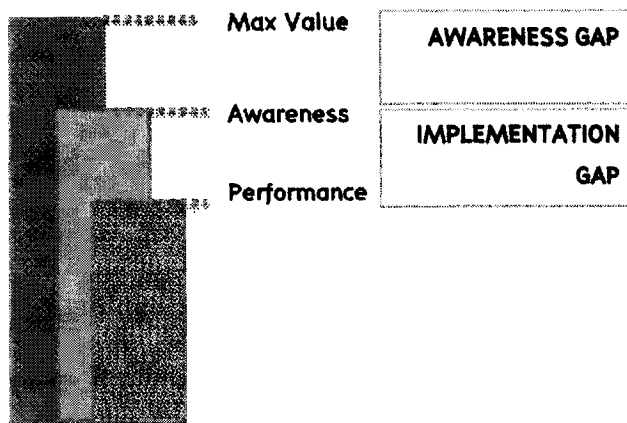
Figure 4: Awareness Gap and Implementation Gap of Tour Operator

behaviours of TOs in all aspects are significantly different from their performance level at statistically significant level of 0.01. Therefore, from figure 3 and figure 4, it can be concluded that the TOs have awareness gap and implementation gap.

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STD Ethical Behaviour Determinants

Organization Size in Terms of Registered Capital

It can be seen from the results of the analysis of variance on table 2 that the size of TOs firms in terms of registered capital value affects their STD overall ethical performance and in the aspect of economics and environment. Further analysis for finding the significant difference of STD ethical performance between 3 size groups of TOs based on registered capital was performed and the results are shown in table 3.

From the results shown in table 3, it can be inferred that the TOs having registered capital of less than 1 million THB have significantlly lower level of STD ethical performance overall and in the aspect of economic and environment compared to the TOs that have registered capital performance of higher than 5 million THB. Moreover, the TOs having registered capital between 1 and 5 million THB also significantly perform STD ethical behaviour less than those having registered capital of more than 5 million THB.

Table 2: The 1-way ANOVA Results of Testing STD Ethical Performance Among TOs with Different Value of Capital Registered

STD Ethical Performance of TO	Statistics	Statistics Value	df1	df2	sig
Economic	F-test[1]	5.833**	2	127	0.004
Social	F-test[1]	2.759	2	127	0.067
Management	F-test1	1.322	2	127	0.270
Environment	Brown-Forsythe[2]	6.119**	2	126.12	0.003
Overall	F-test[1]	4.410*	2	127	0.014

[1]the test for equality of variance (Levene's Test) reveal that TOs with different register capital have indifferent level of variance in their performance.

[2]the test of equality of variance (Levene's Test) reveal that TOs with different register capital have significant different level of variance in their performance.

* significant at 0.05 level

** significant at 0.01 level

Table 3: The Results of Testing STD Ethical Performance Among TOs with Different Value of Capital Registered

Registered Capital	X	Less than 1 million THB	1 - 5 million THB	More than 5 million THB
STD ethical performance in economic aspect (tested with LSD)				
Less than 1 million THB	2.50		-0.36* (0.016)	-0.58** (0.002)
1 - 5 million THB	2.86			-0.22 (0.270)
More than 5 million THB	3.08			
STD ethical performance in environment aspect (tested with Dunnett T3)				
Less than 1 million THB	2.82		-0.25 (0.443)	-0.69** (0.001)
1 - 5 million THB	3.06			-0.44* (0.033)
More than 5 million THB	3.51			
STD ethical performance in overall (tested with LSD)				
Less than 1 million THB	2.75		-0.26 (0.068)	-0.50** (0.005)
1 - 5 million THB	3.01			-0.24 (0.191)
More than 5 million THB	3.25			

1significant values are in parenthesis

*significant at 0.05 level

**significant at 0.01 level

Table 4: The 1-way ANOVA Results of Testing STD Ethical Performance Among TOs with Different Length of Experience in Doing Business

STD Ethical Performance of TO	Statistics	Statistics Value	df1	df2	sig
Economic	F-test[1]	1.743	3	126	0.161
Social	F-test[1]	0.453	3	126	0.715
Management	F-test[1]	1.284	3	126	0.283
Environment	F-test[1]	0.487	3	126	0.692
Overall	F-test[1]	0.765	3	126	0.516

[1]the test for equality of variance (Levene's Test) reveal that TOs with different register capital have indifferent level of variance in their performance.

Experiences of Doing Business

The results of statistical testing of the difference of STD ethical performance among the TOs with different years of experience in doing business are shown in table 4. The table reveals that the TOs with different length of doing business have indifferent STD ethical performance on all aspects at a statistical significance level of 0.05.

Finding from Stakeholders Interviews

The tour operator firms and stakeholders mostly agree that the obstacles or limitations for TOs to perform their business in accordance with STD ethical behavior are (1) the cooperation of tourism service providers; (2) the commitment of the firm owners or top managers; (3) the concern regarding rising costs or losing their competitive advantage as a result of being ethical; (4) the price war competition among TOs forcing the firms to cut some costs by having to ignore the negative consequences; and (5) the short term vision when conducting TO business; short run profitability is more important. On the other hand, most of them disclose that the huge incentives that motivate TOs to perform the STD ethical behavior are (1) customer satisfaction, (2) the firm reputation; (3) the greater sales revenue and access to the high value clients; and (4) lower risk.

DISCUSSION AND CONCLUSION

The TOs level of awareness and performance according to the STD ethical behaviour in terms of social and environment is higher than the management and economics aspects because the so-cial environment impact can directly affect the attractiveness of their tourism products and consequently affect their business opportunity while and management and economic issues may not directly affect their opportunity in doing business.

Regarding the gap analysis, the results from figure 3 and figure 4 confirm that there are two types of gaps remaining among the TOs, which are awareness gap (gap between full score (5) and their awareness level) and implementation gap (gap between awareness level and performance level). To close the awareness gap, the results from qualitative analyses suggests 3 measures which include; (1) raising awareness and promoting responsible tourism to tourists and all other parties in the supply chain is essential (see figure 5); (2) encouraging the TOs to have a long-term business vision, thus they will pay more attention to long-run profitability and sustainability; (3) informing and educating the TOs about their extensive contribution to STD, since most of the TOs perceive that they are intermediaries which create no direct impact on the social and environment. In addition, the possible measures for closing the implementation gap are: (1) conducting capacity building program to TOs in order to incubate attitude, knowledge and skill in conducting business according to STD ethical standards; (2) raising awareness among stakeholders in the supply chain which enables the TOs to receive cooperation from their partners; (3) promoting the cluster development of TOs because, with the cluster, the TOs can collectively raise their bargaining power with other parties and can effectively induce the tourism service providers to conduct their business in a sustainable way.

The results reveal that the TOs with higher registered capital have higher STD ethical performance

Figure 5: Measures for Closing Awareness Gap and Implementation Gap of Tour Operator
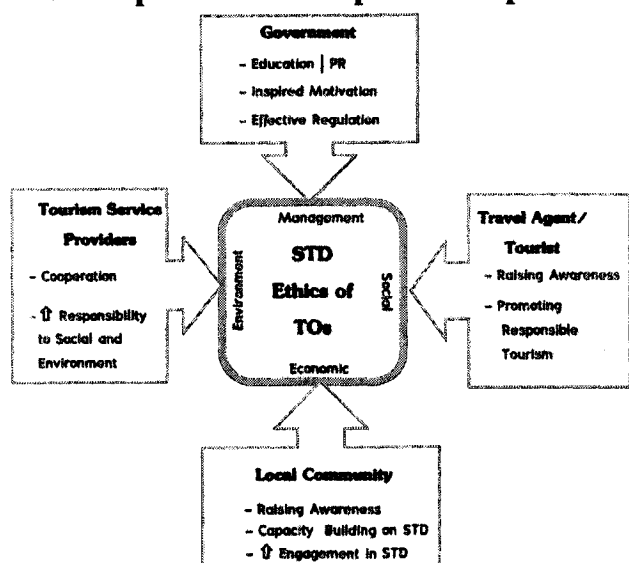
Source: Author

than those with lower registered capital. This is because the higher the capital invested, the longer the business vision. Thus, the higher capital intensive TOs tend to pay more attention to the firm reputation and customer satisfaction than the lower capital intensive firms.

References

Budeanu, Adriana. (2005). Impacts and responsibilities for sustainable tourism: a tour operator's perspective. *Journal of Cleaner Production*. 13, 89-97.

Cernat, Lucian. & Gourdon, Julien. (2007). *Is the Concept of Sustainable Tourism Sus-tainable?*. CERDI

Eurostat. (2006). *Methodological Work on Measuring the Sustainable Development of Tourism*. European Commision

Fennell, David A. & Malloy, David C. (1995). Ethics and Ecotourism: A Comprehensive Ethics Scale. *Journal of Applied Recreation Research*. 20, 163-183.

Fennell, David A. & Malloy, David C. (1999). Measuring The Ethical Nature of Tourism Operators. *Annals of Tourism Research*. 26, 928-943.

Karwacki, J., & C. Boyd. (1995). Ethics and Ecotourism. *Business Ethics*. 4, 225-232

Middleson, Victor T.C. and Hawkins, Rebecca. (1998). Preface. *Sustainable Tourism*. ix-xii

ONS. (2011). *Sustainable Tourism: A Review of Indicators*. United Kingdom Office for National Statistics

Page, Stephen J. (2003). *Tourism Management: managing for change*. Butterworth-Heinemann

Roberts, Sherma. & Tribe, John. (2008). *Sustainability Indicators for Small Tourism En-terprises - An Exploratory*

Schermerhorn, John R. (2008) *Management*. 11ed. Wiley & Sons

Schwiartz, Karen., Tapper, Richard., Font, Xavier. (2008). Sustainable Supply Chain Management Framework for Tour Operators. *Journal of Sustainable Tourism*, 16, 298-314.

Tearfund. (2001). Tourism: Putting Ethics into Practice.

TEATA. (2011). *Sustainable Thai Tour Operator Standard, Informed by the Global Sustainable Tourism Criteria*. (online)

TOI. (2003). *Sustainable Tourism: The Tour Operators' Contribution*. Tour Operators Initiative for Sustainable Tourism Development

TOI. (2004). *Supply Chain Engagement for Tour Operators: Three Steps Toward Sus-tainability*.

UNEP. (2005). *Integrating Sustainability into Business*. A Management Guide for Responsible Tour Operations.

Weaver, D. & Oppermann, M. (2000). *Tourism Management*. Brisbane: Wiley & Sons

World Commission on Environment and Development. (1987). *From One Earth to One World: An Overview*. Oxford: Oxford University Press.

World Tourism Organization. (2001). *Global Code of Ethics for Tourism*. World Tourism Organization

World Tourism Organization. (2004). Indicators of Sustainable Development for Tourism Destinations: A Guidebook. World Tourism Organization

WWF. (1999). *Code of Conduct for Tour Operators in the Arctic*

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THE RELATIONSHIPS OF FINANCIAL ASSETS IN FINANCIAL MARKETS DURING RECOVERY PERIOD AND FINANCIAL CRISIS: EVIDENCE FROM THAILAND

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Abstract

The aim of this paper is to examine the long run relationship between SET index, gold price, 1-year, 2-year, and 10-year Government Bond Yield (GB), and 1-month and 3-month T-bill rate in Thai's financial market for the period between March 2001-December 2010 using Johansen method and to study their short-run adjustment through the Vector Error Correction Model (VECM) in order to find the speed of adjustment towards long run equilibrium. Moreover, this paper also tests the impact on each variable resulting from the changes in other variables by using Impulse Response Function and Variance Decomposition Test. Results found that during economic recovery period, SET index has positive relationship with gold price, 2-year GB yield, and 3-month T-bill rate. Meanwhile, during economic crisis, SET index has a positive relationship with gold price, 1-year, 10-year GB yields, and 3-month T-bill rate. The Vector Error Correction model indicated that in the recovery period SET index rapidly adjust itself back to equilibrium after deviating from long run path, while during crisis period 1-year GB yield is the fastest in adjusting back to long run equilibrium. Moreover, the Impulse Response Function presented that SET index is significantly affected by the shock of itself which is consistent with the Variance Decomposition Test which indicates that the variation of SET index is mainly due to the change of itself during the recovery period; while during crisis, SET index has a positive response to the shock of itself. Variance Decomposition Test reported that 98.95% of variation of SET index can be explained by its own changes.

Keywords: Cointegration, Financial crisis, Gold, Stock market, Bond market

บทคัดย่อ

บทความนี้มีวัตถุประสงค์เพื่อศึกษาความสัมพันธ์เชิงดุลยภาพระยะยาว ระหว่างดัชนีหุ้นตลาดหลักทรัพย์ ราคา ทอง อัตราผลตอบแทนพันธบัตรรัฐบาลอายุ 1 ปี 2 ปี และ 10 ปี และตั๋วเงินคลังอายุ1 เดือน และ 3 เดือน ในตลาดการเงิน ประเทศไทยตั้งแต่ มีนาคม 2544 - ธันวาคม 2553โดยประมาณค่าด้วยวิธี Johansen และศึกษาการปรับตัวในระยะสั้น ด้วยการสร้างแบบจำลองการปรับตัวในระยะสั้น (Vector Error Correction Model: VECM) เพื่อหาความเร็วในการ ปรับตัวเข้าสู่ดุลยภาพระยะยาว นอกจากนี้ยังทำการทดสอบผลกระทบของตัวแปรแต่ละตัวต่อการเปลี่ยนแปลงอย่าง ฉับพลันของตัวแปรอื่น โดยใช้วิธีการวิเคราะห์ปฏิกิริยาตอบสนองต่อความแปรปรวน (Impulse Response Function) และ การทดสอบการแยกส่วนของความแปรปรวน (Variance Decomposition Test) จากการศึกษาพบว่าในช่วงเศรษฐกิจฟื้นตัว ดัชนีหุ้นตลาดหลักทรัพย์มีความสัมพันธ์ในทิศทางเดียวกันกับราคาทอง อัตราผลตอบแทนพันธบัตรรัฐบาล 2 ปี และตั๋วเงินคลังอายุ3 เดือน ขณะที่ในช่วงวิกฤตการณ์ทางการเงิน ดัชนีหุ้นมีความสัมพันธ์กับราคาทอง อัตราผลตอบแทน พันธบัตรรัฐบาลอายุ 1 ปีและ 10 ปี และตั๋วเงินคลังอายุ 3 เดือนในทิศทางเดียวกัน ผลการศึกษาการปรับตัวระยะสั้นของ ดัชนีหุ้นจากแบบจำลอง VECM พบว่าในช่วงเศรษฐกิจฟื้นตัว มีการปรับตัวสู่ดุลยภาพระยะยาวเร็วกว่าตัวแปรอื่น ในขณะที่ช่วงวิกฤตการณ์ทางการเงินอัตราผลตอบแทนพันธบัตรรัฐบาล 1 ปีมีการปรับตัวสู่ดุลยภาพระยะยาว เร็วกว่าตัวแปรอื่น นอกจากนั้นผลการวิเคราะห์ปฏิกิริยาตอบสนองต่อความแปรปรวนมีความสอดคล้องกับการวิเคราะห์

การแยกส่วนของความแปรปรวนซึ่งพบว่าความผันผวนของดัชนีหุ้นส่งผลกระทบกับตัวมันเองทั้งในช่วงเศรษฐกิจฟื้นตัว
และช่วงวิกฤตการณ์ทางการเงินโดยพบว่าความผันผวนของดัชนีหุ้นส่งผลกระทบกับตัวมันเองถึงร้อยละ 98.95

INTRODUCTION

The Thai financial market primarily consists of stock market, bond market, money market and gold market. The Stock Exchange of Thailand (SET) was established since 1974 and until the end of 2011 there were 471 listed companies in the market (Stock Exchange of Thailand (SET), 2011). It is an essential market as a source of funds for corporate and an alternative investment for investors rather than savings in banks. Besides, the Thai bond market was small and underdeveloped prior to the 1997 Asian financial crisis. There were only government and state enterprise bonds in the market till 1998 when the government issued bonds for the first time to support the lack of liquidity in the financial markets as a result of the crisis in 1997. Consequently, the market size and trade volume increased significantly in the bond market. The structure of the Thai bond market is divided into two major components, which are government bonds, and corporate bonds whereby government bonds accounted for approximately 85% of total market outstanding in the Thai bond market (Chabchitrchaidol & Panyanukul, 2005).

In addition, Money market, represented by Treasury bills (T-bills), is a short-term debt instrument with maturity less than 1 year. Treasury bills in Thailand were first issued in 1945 with a total value of THB 50 million, and were ceased in 1990. In September 1999, the government has begun reissuing Treasury bills. In general, Treasury bills typically have 28 days, 91 days, and 182 days maturity periods.

Furthermore, Gold market is another essential market in recent years. In Thailand, gold has become more popular after the US subprime crisis which began in late 2007. The investors' behavior, particularly in Thailand, has changed in the last few years from people who buy gold for jewelry to those that buy for speculating, which shows a new perspective of financial market development in Thailand.

The aim of this study is to investigate the long

run and short run relationships among financial assets in the Thai financial market. The period of testing is divided into two sub-periods, the first period is economic recovery period after Asian financial crisis in 1997 starting from March 2001 to June 2007, and the second period is financial crisis period affected by US subprime crisis starting from July 2007 to December 2010. Johansen cointegration approach is used to test the long run movement of asset variables and Vector error correction (VEC) model is applied to examine the speed of adjustment of variables in the short run. Besides, the impulse response function and Variance Decomposition are utilized to measure the interaction of each asset to the shock of other assets in the markets. This empirical study is beneficial to the individual investors, whereby the understanding of financial assets' relationships and their movement will support the investors' decision in selecting the combination of assets in their portfolios to enhance the effective management of their asset allocations.

REVIEW OF THEORIES AND EMPIRICAL STUDIES

1. Modern Portfolio Theory

Modern portfolio theory is a theory related to maximizing expected return and minimizing risk by choosing the proportions of various assets in the portfolio. This is the fundamental concept of Markowitz (1952, 1959) in his work on "Portfolio Selection". He argued that the investor should maximize the expected return and minimize risk level in their portfolio by selecting a combination of various assets to obtain the highest returns in the future. Moreover, Haugen (2001) has stated that the investor can make a decision to allocate assets in order to diversify risk and earn the expected return in portfolio. He divided asset allocation decisions into 2 types (i) strategic asset allocation decisions as regards the relative amount of

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assets classes for long term investments and (ii) tactical asset allocation focusing on the short term adjustments when the prices of assets are changed to help investors rebalance their portfolios.

2. Related Empirical Studies

There are several papers which have applied cointegration method to examine long run relationships for financial assets. For instance, the research by Aktar (2009), Yang, Kolari, and Min (2003), Wang and Huyghebaert (2008), Chen, Gerlach, and Cheng (2009) and Azman-Saini, Azali, Habibullah, and Matthew (2002), Janak and Sarat (2008), Psillaki and Margaritis (2008) examined the cointegration of stock markets both internationally and domestically. The results of those papers found that the stock markets are integrated across countries, but major stock markets in the world such as US and Japan's stock market tend to influence performances of emerging markets in Asia. Moreover, the Asian stock markets are more integrated after the financial crisis in 1997.

Besides, the papers by Jeon, Ji, and Zhang (2012), Falkowska and Lewicki (n.d.), Laopodis (2008), and Mills and Mills (1991) studied the international linkages of the government bond yields across countries by using cointegration analysis. These studies found that there is no cointegration between bond markets and international bond markets, which implied that there is no existence of a long run relationship in the bond markets across countries. This is because bond yields are determined by the policy of each country.

Some empirical studies examined the relationship between stocks and bonds for instance, Ahmed (2009), Johansson (2010), and Lim, Ong, and Ho (2012) studied the relationship between stock and bond markets. The authors found that stocks and bonds have a negative correlation to each other. In addition, Hartmann, Straetmans, and de Vries (2004) analysed the comovement between stocks and bonds by focusing on the flight to quality case (meaning a crash in stock markets accompanied by a boom in government bond markets) by using a novel approach. The authors found that when stock markets crash, the investors will move their investment to bonds but this does not happen dur-

ing market stability.

Moreover, there are few papers which studied the relationships between stocks, bonds and Treasury bills such as Antell (2004) who studied the volatility linkages in the Finnish stock, bond, and money markets. The author found that the volatility of bonds and money market does not influence stock market, but the money market volatility has a negative effect on both stocks and bonds markets. Recent research from Farrell (2011) analyses the return and risk data for major assets such as stocks, bonds, and T-bills over an 80 years period. The author found that stocks provided the highest risk as well as returns, whilst bonds generated a lower returns and lower variance than stocks. For the T-bills, it was found that there was little variance compared to bonds and they provided the lowest returns among different financial assets.

Furthermore, there are empirical studies on gold market and its relation to other asset markets such as stock indices, bonds and commodities indices. Researchers such as Dempster (2008), Herbst (1983), Lawrence (2003), Smith (2001, 2002), Wozniak (2008), Baur and Lucey (2009), and Do and Sriboonchitta (2010) applied Granger causality test and Johansen cointegration technique. Those authors concluded that the prices of gold move independently from stock markets, but gold prices and bonds move in the same direction. Besides, Ranson and Campbell (2005), and Gulati and Mody (1982) studied the role of gold as a safe haven, and as a leading indicator for inflation and interest rates. The results show that gold serves as a diversifier asset for investors during the financial market uncertainty as well as a good predictor of nominal long and short term interest rates.

Since the previous empirical studies have examined the relationships of various types of assets, this study uses similar methodology of Baur and Lucey (2009) as a guideline to identify the long run and short run relationship between the different types of financial assets by focusing on the domestic market in Thailand. The research framework and methodology are presented in the next section.

RESEARCH FRAMEWORK AND METHODOLOGY

1. The Conceptual Framework

The Johansen cointegration method is applied to examine the long run relationship among SET index, gold price, 1-year, 2-year, and 10-year government bond (GB) yields, and 1-month, 3-month Treasury bill (T-bills) rates using daily data for the economic recovery period, starting from March 2001 to June 2007 and the financial crisis period, starting from July 2007 to December 2010. Vector Error Correction Model (VECM) is used to test the speed of adjustment of asset variables in the short run dynamic. Apart from examining cointegration relationship, it is useful to identify the interaction of each variable to other variables by applying Impulse Response Functions to examine the response of assets. Variance decomposition is applied to test how one asset is influenced by the shocks of other assets in the model.

The variables in this paper consist of (i) SET index, denoted by (SET), (ii) Gold price, denoted by (Gold) is the selling price which is quoted in Thai Baht, (iii) 1-year, 2-year, and 10-year government bond (GB) yields, denoted by (GB1Y), (GB2Y), and (GB10Y), respectively, (iv) 1-month and 3-month Treasury bill rates representing the short-term interest rates in money market, denoted by (TBILL1M) and (TBILL3M). All variables are daily data and collected from March 2001 to December 2010. The raw data was obtained from Bloomberg for SET index and gold prices. Government bond yields and Treasury bill rates were gathered from the website of Thai Bond Market Association (www.Thaibma.or.th). All variables are converted into the natural logarithm form for cointegration analysis.

2. Methodology

For the workflows of testing Johansen cointegration, all variables have to undergo the Unit root test. The Augmented Dickey-Fuller (ADF) unit root test is applied to each individual variable. The test of the unit root hypothesis was introduced by Dickey and Fuller (1979, 1981) and the following hypotheses are tested:-

$H_o: \beta = 0$ (variable contains a unit root), and

$H_1: \beta = 0$ (variable is stationary)

The null hypothesis (H0) is rejected if t-statistics is smaller (negative) than the critical value, it means that the series are stationary (Griffiths, Hill & Lim, 2007).

Secondly, the important step is to select an appropriate lag length to be included in the model. This research uses Akaike Information Criteria (AIC) to compute the optimal lag length where the smaller value of AIC is selected (Harris, 1995).

After obtaining the order of integration using ADF test and the optimal lag length to be included in the model, the Johansen cointegration analysis is used to investigate the long run relationship of variables in the model. The important aspect of conducting Johansen cointegration test is to determine the number of cointegrating vector (r) or rank. There are two statistical tests to determine the rank (r) which are trace test and maximum eigenvalue.

The functional forms of test are given as;

$$\lambda_{trace}(r) = -T \sum_{i=r+1}^{g} \ln\left(1 - \hat{\lambda}_i\right) \text{ and }$$

$$\lambda_{max}(r, r+1) = -T \ln\left(1 - \hat{\lambda}_{r+1}\right)$$

where r is the number of co-integrating vectors and $\hat{\lambda}_i$ is the estimated value for the ith ordered eigenvalue (characteristic roots) from the Π matrix. T is the number of observation.

The hypothesis of λ_{trace} are;

$H_o: r = 0 \quad H_1: 0 < r < g$

The hypothesis of X_{max} are;

$H_O: r = 0 \quad H_1: 0 < r + 1$

For the hypothesis of trace statistic, if the null hypothesis ($r = 0$) cannot be rejected, then it implied that there is no cointegrating vectors. Consequently, the test for long run relationships is completed because if there is no long run relationship, then there is no short run relationship as well. However, if the null hypothesis ($r = 0$) is rejected, then it implies that there is cointegrating vector, and there is existence of long run relationship among variables (Brooks, 2002).

Johansen cointegration test is based on vector error correction model (VECM). This is because

VECM is a useful technique for testing for cointegration in a whole system of equations in one step and without requiring a specific variable to be normalized (Maysami & Koh, 2000). The functional form of VECM is presented as follows:

$$
\begin{bmatrix}
\Delta GOLD_t \\
\Delta SET_t \\
\Delta GB10Y_t \\
\Delta GB2Y_t \\
\Delta GB1Y_t \\
\Delta TBILL3M_t \\
\Delta TBILL1M_t
\end{bmatrix}
= \sum_{i=1}^{k-1} \Gamma_i
\begin{bmatrix}
\Delta GOLD_{t-i} \\
\Delta SET_{t-i} \\
\Delta GB10Y_{t-i} \\
\Delta GB2Y_{t-i} \\
\Delta GB1Y_{t-i} \\
\Delta TBILL3M_{t-i} \\
\Delta TBILL1M_{t-i}
\end{bmatrix}
+ \Pi
\begin{bmatrix}
\Delta GOLD_{t-k} \\
\Delta SET_{t-k} \\
\Delta GB10Y_{t-k} \\
\Delta GB2Y_{t-k} \\
\Delta GB1Y_{t-k} \\
\Delta TBILL3M_{t-k} \\
\Delta TBILL1M_{t-k}
\end{bmatrix}
+
\begin{bmatrix}
\mu_1 \\
\mu_2 \\
\mu_3 \\
\mu_4 \\
\mu_5 \\
\mu_6 \\
\mu_7
\end{bmatrix}
$$

This model contains seven variables of the first difference, and k-1 lags of the first differenced dependent variables μ_t is the white noise residual vector with $E(\mu_{it}) = 0$, $E(\mu_{1t}\,\mu_{2t}) = 0$ where i = 1, 2, ..., k-1 and $\Gamma_i = \left(\sum_{j=1}^{i} \beta_j\right) - I_g$ where represents short-term adjustments among variables across seven equations at the ith lag.

$\Pi = \left(\sum_{j=1}^{k} \beta_i\right) - I_g$ the Π matrix contains the coefficients of long run equilibrium of seven variables in the data vector. It can be defined as $\Pi = \alpha\beta'$, where α is the speed of adjustment to disequilibrium, β is a matrix of long run coefficients.

Finally, to determine how one variable responds over time to a shock of other variables or its own shock, Impulse Response Function (IRF) approach is used to examine how the shock of one asset can effect to other assets in different markets. Variance Decomposition is useful to determine how much of the forecast error variance for any variables in a system can be explained by innovations (or shocks) to each explanatory variable in the system over a time horizon (Brooks, 2002). This analysis will identify how each asset contributes to the shock of other assets and the volatility transmission across markets.

RESULTS

1. Unit Root Test

As cointegration requires that the variables are stationary in the same level or integrated of the same order, the use of Augmented Dickey Fuller (ADF) with no intercept and no trend is applied. The null hypotheses of unit root in both periods of March 2001-June 2007 and July 2007-December 2010 cannot be rejected for each individual variable at 95% confidence level, and it suggested that all variables are non-stationary. Then each variable is tested at the first difference and the results show that the null hypotheses of unit root test in the first difference can be rejected at 95% confidence level, and it indicates that all variables are stationary. Hence, all variables are integrated at level one or I(1) which means that they are stationary after the first difference.

2. Lag Length Selection Criteria

The results presented in table 1 are the optimal lag length, which is selected based on the lowest values of Akaike Information Criterion (AIC). Thus, AIC determined 6 lags (-44.99688) for the first period (Mar. 2001 - Jun.2007) and 3 lags (-40.65263) for the second period (Jul.2007 - Dec.2010).

Table 1: Lag Order Selection

Lag	AIC (Mar.01-Jun.07)	AIC (Jul.07-Dec.10)
0	-11.83583	-10.46646
1	-44.56368	-40.19277
2	-44.85608	-40.62459
3	**-44.83932**	**-40.65263***
4	-44.83831	
5	-44.82924	
6	**-44.99688***	

3. Johansen Cointegration Test

Table 2 and 3 present the trace statistics which indicate that the period from Mar. 01 to Jun. 07, the null hypothesis of 3 cointegrating equations cannot be rejected at 5% significance level, while in the period from Jul. 07 to Dec. 10, the null hypothesis of 4 cointegrating equations cannot be rejected at 5% significance level. This implies that there is existence of long run relationships among asset variables in both periods.

Table 2 and 3 presents the results of the λ_{trace}

Table 2: Johansen Cointegration Test Summary for Mar. 01-Jun. 07

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.043425	187.9281	111.7805	0.0000
At most 1 *	0.032096	114.8962	83.93712	0.0001
At most 2 *	0.019363	61.23176	60.06141	0.0397
At most 3	0.009814	29.06705	40.17493	0.4047
At most 4	0.004388	12.84306	24.27596	0.6349

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

*denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Table 3: Johansen Cointegration Test Summary for Jul. 07-Dec. 10

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.068040	178.6088	111.7805	0.0000
At most 1 *	0.036993	114.4851	83.93712	0.0001
At most 2 *	0.035823	80.18318	60.06141	0.0004
At most 3 *	0.029699	46.98637	40.17493	0.0089
At most 4	0.010821	19.55128	24.27596	0.1759

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

*denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

and λ_{Max} tests. Based on the above results, it concludes that there are 3 cointegrating relationships at 5% significance level for the period from Mar. 01 to Jun. 07 and there are 4 cointegrating relationships at 5% significance level for the period from Jul. 07 to Dec. 10. For normalizing with respect to SET index, the cointegrating coefficients of long run relationship of SET to other assets during recovery are given below;

β = (1.00, -3.707384, 253.0218, -122.0847, 25.88216, 188.5573, -328.0658)

and this gives the cointegraing relation as;

$LSET_t$ = $3.707384LGOLD_t - 253.0218LGB1Y_t + 122.0847LGB2Y_t - 25.88216LGB10Y_t - 188.5573TBILL1M_t + 328.0658TBILL3M_t$

During economic recovery period, it shows that the SET index has a positive correlation with gold price, 2-year GB yield and 3-month T-bill rate, while SET index has an inverse correlation with 1-year, 10-year GB yields and 1-month T-bill rate.

For the crisis period, after normalizing with respect to SET index, the cointegrating coefficients of long run relationship of SET to other assets are given below;

β = (1.00, -0.683334, -11.27484, 7.717752, -0.646741, 8.115458, -4.039348)

and this gives the cointegraing relation as;

$LSET_t$ = $0.683334LGOLD_t + 11.27484LGB1Y_t - 7.717752LGB2Y_t + 0.646741LGB10Y_t - 8.115458TBILL1M_t + 4.039348TBILL3M_t$

For the financial crisis period, the coefficients of gold price, 1-year, 10-year GB yields and 3-month T-bill rate have a positive relation to SET index but the 2-year GB yield and 1-month T-bill rate show a negative relation to SET index. The next steps will analyze the short-term relationships among financial asset variables.

4.   Vector Error Correction Estimation (VECM)

Table 4 presents the results of the VEC estimation during recovery period and crisis period. It shows the coefficient of lagged variables in the error terms which measure the speed of adjustment of variable after deviating from long run equilibrium. During recovery period, the coefficient of SET index implies that the speed of adjustment in the short run deviation from the long run path is faster than

Table 4: Results of Vector Error Correction Estimation

Error Correction:	SET	GOLD	GB1Y	GB2Y	GB10Y	TBILL1M	TBILL3M
1st period	-0.000142	-0.0000503	-0.0000321	0.0000656	-0.0000475	-0.000068	0.0000734
	[-3.784]***	[-1.92954]*	[-1.08856]	[1.78457]*	[-1.54962]	[-1.71386]*	[2.22644]**
2nd period	0.000268	-0.000096	0.006598	0.001117	0.001351	-0.002152	0.001261
	[0.15795]	[-0.07112]	[5.37437]**	[0.78149]	[0.86997]	[-1.70291]*	[1.09159]

Note: Figures in ( ) indicate Standard errors & [ ] indicate t-statistics

[*] indicates significant at 90% confidence level, [**] indicates significant at 95% confidence level, [***] significant at 99% confidence level.

other assets by moving downward to the long run equilibrium by approximately 0.000142 percent. In the crisis, the speed of adjustment of 1-year GB yields in the short run increased as compared with the earlier period because its coefficient value 0.006598 percent adjusted itself when it moved away from long run path by rising upward to long run equilibrium.

5. Impulse Response Function (IRF) Analyses

During the recovery period, IRF results show the response of assets in the market to the shocks of stock market considering 5 days market variations. It found that all financial assets have a negative response to the stock market shock immediately but only 10-year GB yield has a positive response 2 days later. It indicated that stock market has a low response to the shock of other assets in the markets, while gold price has a negative response to the shock of stock market and bond market. Moreover, 2-year and 10-year GB yields have an inverse response to the shock of 3-month T-bill rate. Furthermore, during financial crisis, the results show that government bond yields and Treasury bill rates have a positive response to the stock market shock while gold price has a negative response and only little impact from the stock market shock. Meanwhile, SET index and gold price have a negative response to the shocks of bond market and T-bills, but Gold price has a positive response to the shock of 3-month T-bill rate. Bond market has an inverse response to the change in 10-year GB yield and 3-month T-bill rate. In addition, T-bills rates have an inverse response to the change of 10-year GB yield.

6. Variance Decomposition Analyses

The variance decomposition results found that during the recovery period the changes in SET index and gold price can be fully explained by their own shocks where variations are mainly due to their own changes 99%. For government bond yields, variations are attributed mainly from the shock in the bond market as well as stock market. For, 1-month and 3-month T-bill rates variations attributed from 1-year GB yield of 25.77% and 35.97%, respectively. These results imply that the variations of stock market and gold price have limited impact from the changes of other assets in the markets during recovery period.

On the other hand, during the financial crisis the variation of SET index is completely explained by its own shock in the first day and then decreases to 98.95% after 5 days where variation is attributed to the 10-year GB yield. Similarly, gold's variation is mainly explained by itself on the first day and 5 days after the shock impact from itself and 1-year GB yield decreased to 97.68%. For bond market, variation in 1-year and 2-year GB yields are attributed to the variation of 10-year GB yields. Furthermore, the variations of T-bill rates are attributed by themselves and 1-year GB yield. Thus, results in both periods show that variations of stock market and gold price are mainly explained by its own shock.

CONCLUSION AND RECOMMENDATIONS

During the recovery period, SET index, gold price, 2-year GB yield, and 3-month T-bill rate move in the same direction in the long run. In the

short run, SET index seems to adjust itself fastest after shifting away from long run path, while 1-year and 10-year GB yields move independently of the SET index. For the crisis period, SET index, gold price, 1-year and 10-year GB yields have moved together in the long run, whereas 3-month T-bill rate show, a insignificant and negative relationship to stock market. It implies that 3-month T-bill will not impact stock market volatility. While the testing of speed of adjustment in the short run, it is found that 1-year GB yield has rapidly adjusted itself after deviating from long run path. Thus, the investor may select shares, gold, and Government bonds, which have maturity longer than 1 year, in order to diversify risks in their portfolios and consider 1-year, 10-year GB as a hedger during the recovery period. Besides, the shares, gold, 1-year and 10-year GB, and 3-month T-bill should be considered for investment in the long run.

However, the results of impulse response indicates that gold responds negatively to the shock of stock market. Hence, it can be either a hedger or diversifier against stock market when the market is unstable. Moreover, the variation of stock market is mainly due to its own shock according to variance decomposition results.

Additionally, for allocating assets in a portfolio, investors should consider the economic factors and political situations in domestic and outside countries to make decision in managing their portfolio apart from the asset correlations.

For further research on Thai financial markets, researchers should focus on the relationships of financial assets between Thailand and other Asian countries. The study on the cointegration relationships of various types of assets in the international markets will be beneficial to the investors which will help to enhance the efficiency in their portfolio management, asset allocation and risk diversification across markets.

References

Ahmed, J. A. (2009). The equilibrium relations between stock index and bond index: Evidence from Bursa Malaysia. *International Research Journal of Finance and Economics*, 30, 7-17.

Aktar, I. (2009). Is there any Comovement Between Stock Markets of Turkey, Russia and Hungary? *Journal of Finance and Economics*, 26, 192-200.

Antell, J. (2004). *Volatility Linkages in the Finnish Stock, Bond, Money markets*. Swedish School of Economics and Business Administration. Switzerland: EMFA 2004. Retrieved October 15, 2011, from http://papers.ssrn.com

Azman-Saini, W., Azali, M., Habibullah, M. S., & Matthews, K. G. (2002). Financial integration and the ASEAN-5 equity markets. *Applied Economics*, 34(18), 2283-2288.

Baur, D. G., & Lucey, B. M. (2009). Is gold a hedge or a safe haven? An analysis of stock, bonds and gold. *The Financial Review*, 45(2), 217-229.

Brooks, C. (2002). *Introductory Econometrics for Finance* (2nd ed.). Cambridge: Cambridge University Press.

Chabchitrchaidol, A., & Panyanukul, S. (2005). *Key Determinants of Liquidity in the Thai Bond Market*. Bank of Thailand. Bangkok: Bank of Thailand.

Chen, W. S., Gerlach, H. R., & Cheng, Y. P. (2009). The Impact of Structural Breaks on the Integration of the Asean-5 Stock Markets. *Social Science Research Network (SSRN)*, 3-24. Retrieved from http://ssrn.com/abstract=1410605

Dempster, N. (2008). What does a *US recession imply for the gold price?* London: World Gold Council.

Dickey, D. A., & Fuller, W. A. (1979). Distributions of the estimators for Autoregressive Time Series with a Unit Root. *Journal of the American Statistical Association*, 75, 427-431.

Dickey, D. A., & Fuller, W. A. (1981). Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root. *Econometrica*, 49, 1057-1072.

Do, G. Q., & Sriboonchitta, S. (2010). *Cointegration and Causality among International Gold and ASEAN Emerging Stock Markets*. Retrieved December 5, 2012, from SSRN: http://ssrn.com/abstract=1533919

Falkowska, A., & Lewicki, P. (n.d.). *Analysis of European, American and Japanese bond*

yields: Stationarity, cointegration, Granger causality. Retrieved April 7, 2012, from http://homepage.univie.ac.at/robert.kunst/tser11_proj_falkowka.pdf

Farrell, L. J. (2011). Asset allocation under extreme uncertainty. *Journal of Portfolio Management,* 37(2), 72-82.

Griffiths, E. W., Hill, R. C., & Lim, C. G. (2007). *Using Eviews for Principles of Econometrics* (3rd ed.). John Wiley & Sons, Inc.

Gulati, I. S., & Mody, A. (1982). International gold price movements, 1972-1982. *Economic and Political Weekly,* 17, 46, 1861-1870

Harris, R. (1995). *Using cointegration analysis in econometric modelling.* New Jersey: Prentice Hall International Inc.

Hartmann, P., Straetmans, S., & de Vries, C. G. (2004). Asset market linkages in Crisis periods. *Review of Economics & Statistics,* 86(1), 313-326.

Haugen, R. A. (2001). *Modern Investment Theory* (5th ed.). New Jersey: Prentice Hall International Inc.

Herbst, F. A. (1983). Gold versus U.S. common stocks: some evidence on inflation hedge performance and cyclical behavior. *Financial analysts journal,* 66-74.

Janak, R., & Sarat, D. (2008). *Integration of India's stock market with global and major reginal markets.* Retrieved November 20, 2012, from BIS Paper No. 42: http://www.bis.org/publ/bppdf/bispap42h.pdf

Jeon, B. N., Ji, P., & Zhang, H. (2012). *International linkages of Japanese bond markets: an empirical analysis.* Australia: MPRA. Retrieved from http://mpra.ub.uni-muenchen.de/36929/

Johansson, C. A. (2010, April). Stock and Bond Relationships in Asia. (*CERC Working Paper* No. 14), China Economic Research Center, Stockholm School of Economics. Retrieved from http://www.hhs.se/cerc

Laopodis, T. N. (2008). Government Bond Market Integration within European Union. *International Research Journal of Finance and Economics* (19), 56-76.

Lawrence, C. (2003). *Why is gold different from other assets? An Empirical Investigation.* London: World Gold Council.

Lim, S. Y., Ong, S. L., & Ho, C. M. (2012). Co-Movement Between Malaysian Stock Index and Bond Index: Empirical Evidence from Rank Tests for Cointegration. *Journal of Applied Finance,* 18(1), 5-18.

Markowitz, M. H. (1952). Portfolio Selection. *The Journal of Finance,* 7(1), 77-91.

Markowitz, M. H. (1959). *Portfolio Selection: Efficient Diversification of Investments.* New York: Wiley.

Maysami, R. C., & Koh, T. S. (2000). A vector error correction model of the Singapore stock market. *International Review of Economics and Finance,* 9, 79-96.

Mills, T. C., & Mills, A. G. (1991). The International Transmission of Bond Market Movements. *Bulletin of Economic Research,* 43(3), 273-282.

Psillaki, M., & Margaritis, D. (2008). Long run interdependence and dynamic linkages in international stock markets: Evidence from France Germany and the U.S. *Journal of Money, Investment and Banking,* 4, 59-73.

Ranson, D., & Campbell, R. (2005). *Gold as a leading indicator of inflation. London: World Gold Council.* Retrieved January 10, 2011, from World Gold Council: http://www.gold.org/value

Smith, G. (February 2002). *London gold prices and stock price indices in Europe and Japan.* London: World Gold Council.

Smith, G. (November 2001). *The price of gold and stock price indices for the United States.* London: World Gold Council.

Stock Exchange of Thailand. (2011). *Annual Report 2011: Stock Exchange of Thailand.* Thailand. Retrieved from http://www.set.or.th/en/about/annual/files/AW%20SET_ar11_en_lowres_update.pdf

Wang, L., & Huyghebaert, N. (2008). *The Co-Movement of Stock Markets in East Asia. Did the 1997-1998 Asian Financial Crisis Really Strengthen Stock Market Integration?* United Kingdom: The Chinese Economic Association. Retrieved from http://www.ceauk.org.uk

Wozniak, R. (2008). *Is gold a volatile asset? London: World Gold Council.* Retrieved from

http://www.gold.org/

Yang, J., Kolari, J., & Min, I. (2003). Stock market integration and financial crisis: the case of Asia. *Applied Financial Economics*, 13, 477-486.

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THE ACCEPTANCE OF COSMETIC SURGERY: A STUDY ON THAI WOMEN IN BANGKOK

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Abstract

The business of cosmetic surgery has now become a very lucrative and fast-paced industry as appearance-enhancing treatments and procedures have become increasingly popular around the world. A number of cosmetic surgery clinics and hospitals are now competing against one another to capture a share of the multi-billion dollar cosmetic surgery market. Thailand has been one of the most sought after countries for cosmetic surgery and ranks among the top 20 countries for cosmetic surgery procedures worldwide.

The main aim of this study is to examine the relationship between intrapersonal and interpersonal factors which influence the acceptance of cosmetic surgery among Thai women. This research study examined the relationship between psychological characteristics, sociocultural influences, cosmetic surgery experiences, body appearances, body image, demographic variables and respondents' acceptance of cosmetic surgery. The 437 non-clinical respondents in this study are exclusively Thai women who have undergone cosmetic surgery in the past or who are likely to undergo cosmetic sometime soon. The data was gathered from 13 cosmetic surgery clinics and hospitals located in different parts of Bangkok.

Narcissism, appearance orientation and body area satisfaction were significantly related to the acceptance of cosmetic surgery. Respondents with vicarious experiences were more favorable toward accepting cosmetic surgery. The findings showed statistical differences in the demographic variables of age, income, occupation, vicarious experiences with respondents' perception of body image and their acceptance of cosmetic surgery. Consumers who accept cosmetic surgery show a marked tendency for facial treatments (rhinoplasty, blepharoplasty) rather than surgery related to their bodies.

This exploratory study will help develop new research paradigms in consumer research, international marketing, and managerial practices. Marketers can use this study's findings to better understand the nature of Thai female consumers and to segment and target those consumers who have favorable attitude toward enhancing their appearance.

Keywords: cosmetic surgery, psychological characteristics, body image, sociocultural influences, cosmetic surgery experiences

บทคัดย่อ

ธุรกิจศัลยกรรมความงามกลายเป็นอุตสาหกรรมที่ทำกำไรอย่างมากและมีการเติบโตอย่างรวดเร็ว และการทำศัลยกรรมตกแต่งเสริมความงามแก่รูปร่างหน้าตายังเป็นที่นิยมอย่างแพร่หลายทั่วโลก ปัจจุบันคลินิกและโรงพยาบาลบริการการทำศัลยกรรมตกแต่งความงามมีการแข่งขันอย่างมากเพื่อได้มาซึ่งส่วนแบ่งตลาดที่มีมูลค่าหลายพันล้านดอลล่าร์ ประเทศไทยเป็นประเทศที่ถูกจับตามองมากที่สุดเนื่องจากติด 20 อันดับสูงสุดที่มีการทำศัลยกรรมความงามทั่วโลก

วัตถุประสงค์หลักในงานวิจัยนี้เพื่อศึกษาความสัมพันธ์ระหว่างปัจจัยภายในและปัจจัยภายนอกซึ่งมีอิทธิพลต่อการยอมรับในการทำ ศัลยกรรมความงามของผู้หญิงไทย งานวิจัยนี้ศึกษาความสัมพันธ์ระหว่างลักษณะเฉพาะเชิงจิตวิทยา อิทธิพลทางสังคมวัฒนธรรม ประสบการณ์ในการทำศัลยกรรมเสริมความงาม รูปร่าง ภาพลักษณ์ทางรูปร่างหน้าตา ตัวแปรด้านภูมิหลังทางประชากร และการยอมรับในการทำศัลยกรรมความงามของผู้ให้ข้อมูล ผู้ให้ข้อมูลทั้ง 437

คน ซึ่งไม่ใช่ผู้ป่วยเป็นผู้หญิงไทยที่เคยมีประวัติการทำศัลยกรรมความงามหรือ ผู้ที่มีความปรารถนาที่จะทำศัลยกรรม
ความงามอย่างใดอย่างหนึ่งในอนาคตอันใกล้นี้ ข้อมูลถูกรวบรวมจากคลินิกและโรงพยาบาลที่มีบริการการทำศัลยกรรม
เสริมความงามตั้งอยู่ในพื้นที่ต่าง ๆ ในกรุงเทพมหานคร

ความหลงใหลในตัวเอง แนวโน้มเกี่ยวกับรูปร่างหน้าตา และความพอใจในส่วนต่างๆ ของร่างกายมีความสัมพันธ์
อย่างมีนัยยะสำคัญต่อการยอมรับในการทำศัลยกรรมความงาม ผู้ให้ข้อมูลที่มีประสบการณ์ทางอ้อมจากการทำศัลยกรรม
ความงามของผู้อื่นมีความปรารถนาในการทำศัลยกรรมความงาม ผลการศึกษาพบว่าตัวแปรด้านภูมิหลังทางประชากร
ได้แก่ อายุ รายได้ อาชีพ ประสบการณ์ทางอ้อมของการทำศัลยกรรมความงาม มีความแตกต่างกันทางสถิติต่อการรับรู้
เกี่ยวกับรูปร่างหน้าตาและการยอมรับในการทำศัลยกรรมความงามของผู้ให้ข้อมูล ผู้บริโภคที่ยอมรับศัลยกรรมความงาม
มีแนวโน้มอย่างเด่นชัดต่อศัลยกรรมบนใบหน้าและศีรษะมากกว่าการทำศัลยกรรมความงามที่ร่างกาย เช่น ศัลยกรรม
ตกแต่งเสริมจมูก และศัลยกรรมเปลือกตา

การวิจัยเพื่อการสำรวจจะช่วยพัฒนาให้เกิดกระบวนทัศน์ใหม่ ๆ ในการวิจัยผู้บริโภค การตลาดระหว่างประเทศ
และวิธีปฏิบัติของการบริหาร นักการตลาดสามารถใช้ผลของงานวิจัยนี้เพื่อเข้าใจธรรมชาติของผู้บริโภคเพศหญิงใน
ประเทศไทยมากขึ้น และเพื่อแบ่งกลุ่มเป้าหมายในกลุ่มผู้บริโภคที่มีทัศนคติที่ดีต่อการเสริมความงามทางรูปร่างหน้าตา

คำสำคัญ: ศัลยกรรมความ, ลักษณะเฉพาะเชิงจิตวิทยา, ภาพลักษณ์ทางรูปร่างหน้าตา, ประสบการณ์ในการ
ทำศัลยกรรมเสริมความงาม

INTRODUCTION

The business of cosmetic surgery has now become a very lucrative and fast-paced industry as appearance-enhancing treatments and procedures have become increasingly popular and acknowledged around the world. A number of cosmetic surgery clinics and hospitals are now competing against one another to capture a share of the multi-billion dollar cosmetic surgery market. This study is primarily influenced by the rapid changes in appearance improvement procedures wherein social trends and mass media exposure now link worldwide consumers. Considering the strong social and cultural trends that have pushed this figurative form of consumption, it is clear that aesthetic improvement has great market potential, even if there is ambivalence about the idea of artificially-enhanced beauty. With regular launches in all metropolitan areas, the challenge for cosmetics surgical clinics and hospitals is certainly to better understand consumer's needs, to propose attractive solutions and to be able to create distinctive services responding to a wider variety of values and lifestyles.

People at present put great emphasis on physical appearance (Grossbart & Sarwer, 1999; Swami, Taylor & Carvalho, 2009b). This can be attested by the large number of appearance-enhancing treatments and surgeries available right now, which are strongly predicted to increase in the coming years (Swami, Chamorro-Premuzic, Bridges & Furnham, 2009a). A great number of cosmetic surgical procedures including rhinoplasty, liposuction, Botox injections (Botulinum Toxin Type A), face lifting, blepharoplasty (eyelid augmentation) and breast enlargement are undertaken nowadays, even among ordinary individuals (Henderson-King & Henderson-King, 2005).

Research Objectives

The main aim of this study is to examine the relationship between intrapersonal and interpersonal factors which influence the acceptance of cosmetic surgery among Thai women.
Specifically it aims to:

- Assess the relationship between psychological characteristics of Thai women and their acceptance of cosmetic surgery;
- Explore socio-cultural influences of Thai women and their acceptance of cosmetic

surgery;

- Study cosmetic surgery experiences of Thai women;
- Examine the differences in demographic profiles of female cosmetic surgery consumers;
- Examine body appearances of Thai women seeking cosmetic surgery;
- Investigate body image perception of Thai women.

REVIEW OF LITERATURE

Narcissism

Lasch (1979) stated that cultural and social change in this current century has established the dominant stream of narcissism. Symbolic consumption, the likeliness to give undue prominence to material interests, devotion to the hedonistic values, striving for acceptance in the society, media internalization, exerting influence for one's own advantage and keeping up appearances—all play a vital role in the culture of narcissism. Narcissistic personality is a psychological trait that arouses feelings of dissatisfaction, ambiguity and uncertainty. Narcissistic people identify themselves by looking at others. Being good looking, youthful, healthy, and celebrity-like are the main components of this trait. Thus, narcissists reinforce an idealistic beauty through the medicalization or beauty created by doctors. A narcissist is a person who looks upon himself or herself with an elevated feeling of pleasure. Twenge, Konrath, Foster, Campbell and Bushman (2008) and Carver and Scheier (2004) characterized narcissists as those who have false pride, are self-conceited, have tendencies to disregard others, and have an inflated sense of self-importance.

Wink (1991) described a narcissist as someone who deliberately behaves to attract attention. The distinctive traits of narcissism include being self-regulatory, indulging in fantasy, being manipulative, experiencing a feeling of grandeur, egotism, social poise, arrogance, vanity, highly sensitive to criticism, excessive self-importance, extraversion and delusive self (Aiken, 1993; Campbell, Goodie

& Foster, 2004; Cervone & Pervin, 2008; Judge, LePine & Rich, 2004; Mullins & Kopelman, 1988; Robbins & Judge, 2007; Robins & Paulhus, 2001; Wink & Gough, 1990; Wink, 1991; Weiten & Lloyd, 2006). Narcissists have a bearing on grandiosity, entitlement and exhibitionism due to their extravagant and conspicuous behavior intended to attract other people's attention (Carver & Scheier, 2004; Cisek & Hart, 2007; Clair, 2000). They tend to inflate positively their own self-view. Narcissism has a dominant influence on a body-image, beauty and appearance that affect physical attractiveness and self-confidence. Highly narcissistic persons place attention on outward body parts (Davis, Claridge & Cerullo, 1997; Jackson, Ervin & Hodge, 1992).

Self-esteem

Self-esteem is an appraisal towards the value of oneself (Pennington, McLoughlin, Smithson, Robinson & Boswell, 2003). Self-esteem is always linked with the idea of self-concept, which in the process involves the element of self-evaluation (Pennington et al., 2003); the extent to which a person believes in his or her self-worth (Bosson, Lakey, Campbell, Hill, Jordan & Kernis, 2008; Cervone & Pervin, 2008; Pervin & John, 2001; Schultz & Schultz, 2000; Weiten & Lloyd, 2006). Self-esteem is in accordance with self-evaluation that reflects attachment to the self (Besser & Priel, 2009; Weiten & Lloyd, 2006). It is found to exist in the self-concept in terms of how a person regards himself or herself. Individuals with high self-concept center on their personal judgment, social interaction and their role in society (Aiken, 1993; Burger, 2000).

Self-esteem pertaining to self-perception constitutes the important attributes a person should deal with in his social relations. Self-esteem is usually derived from the way public perception is formed through outside appearance and looks. Thus, the value of the person and his level of self-esteem are measured by how he is bonded with his social community and how this organized group shares his interests and concerns (Pervin & John, 2001). Dressing up and buying an apparel of a distinctive style is aimed at appearing particularly

appealing and attractive to others in order to nurture self-esteem (De Mooij, 2003). The development of self-esteem depends on the state of being accepted, adopted and affirmed by the community where the person belongs. Self-esteem is the psychological trait that affects body image dissatisfaction that increases the chances of making the decision to undergo cosmetic surgery. As a result, undergoing aesthetically pleasing cosmetic surgery has raised satisfaction with physical appearance, alleviating emotional strain and improving self-esteem (Sarwer, Wadden, Pertschuk & Whitaker, 1998).

Self-enhancement

Self-enhancement is a concept that describes an individual who perceives himself excessively in order to raise a dignified view of self-worth. Self-enhancement is marked by positive self-evaluation, optimism and confidence but often accompanied by feeling of neglect towards others (Robins & Paulhus, 2001). Weiten and Lloyd (2006) claimed that self-enhancement is an appraisal whereby individuals make too high an estimate of their value and abilities. Thus, they keep themselves in good condition and think highly of their capabilities. Self-enhancement is a self-serving mechanism that prompts self-enhancers to create illusory ideas of themselves. Self-enhancement individuals usually are self-absorbed (Farwell & Lloyd, 1998; Heine, 2003; Hamamura, Heine & Takemoto, 2007). This is usually marked by having self-delusional behaviors and qualities (Hamamura et al., 2007; Trzesniewski, Donnellan & Robins, 2008). Consequentially, they are often out of the context of reality.

Motivations to self-enhancement have been observed to be closely connected with the desire for self-improvement. This desire to improve one self coupled with an individual's self-evaluation of himself provides streams of information as to the dynamics of his/her behavior. Wayment and Taylor (1995) mentioned that self-evaluative information processing accompanied with self-relevant judgments lead self-enhancement individuals to be more conscious about how they appear to others. Certainly, self-enhancers pay a lot of money to buy designer apparel and dress up in the latest fashion. The act of appearing good in public is the main premise for this particular trait (De Mooij, 2003). Self-enhancement emerges from social interaction and social commitment. Individuals spontaneously seek approval and the acceptance from others in order to avoid being an outcast from society.

Self-enhancement is enlarged by the attractive force of physical appearance particularly the body (Park, Crocker & Vohs, 2006). Being attractive is a significant source of stress especially among women due to peer pressure. Self-esteem is always attached to the idea of attractiveness. A favorable judgment and reception from friends makes a great impact on outward appearance. A satisfactory acceptance contributes to the progress of self-worth. Having the power to attract others contributes meaningfully to the formation of an intimate relationship and puts up a barrier for refusal (Park et al., 2006). The slim image of a fashion model becomes less important among women who feel confident and comfortable with their outside appearance. On the contrary however, women who always get a favorable response from their social group become more conscious of their appearance leading them to consider different ways to maintain, if not enhance, their physical condition. Jarry and Kossert (2007) explained that these self-conscious women consider their pleasant external looks as the primary cue of their self-enhancement or self-worth. Delinsky (2005) stated that people who put emphasis on the importance of their appearance for self-enhancement have a higher tendency to accept cosmetic surgery in a more favorable manner. However, the choice of which cosmetic procedure to follow and the moral acceptance of the procedure are still considered as main issues in the decision to undergo cosmetic operation.

Sociocultural Attitudes toward Appearance

In recent years, the sudden increase of cosmetic surgical procedures has been brought about by extensive exposure to different forms of media communication. Mass media, entertainment, articles and advertisements play a vital role in affecting the interest, likelihood and acceptance of cosmetic sur-

gery among individuals (Delinsky, 2005; Grossbart & Sarwer, 1999; Markey & Markey, 2009; Sarwer, Grossbart & Didie, 2003; Swami, Arteche, Chamorro-Premuzic, Furnham, Stieger, Haubner & Voracek, 2008; Swami et al., 2009b), and also arouse interest in body image (Agliata & Tantleff-Dunn, 2004). Grossbart and Sarwer (1999) stated that media manifest social trends, influence public opinion in their favor and pull the strings behind the scene. Swami et al., (2008) suggested that mass media exposure serves as an intermediary between gender and the cause of vicarious experience of cosmetic surgery. Individuals who are exposed more to the media show more recognition of the benefits of cosmetic surgery. Sociocultural influences are said to have an effect on body image which leads to the consideration of undergoing cosmetic surgery (Sarwer et al., 1998).

Brown, Furnham, Glanville and Swami (2007) argued that solely exposing oneself to media does not affect the decision to undergo cosmetic surgery. Media message internalization is more considerable than media exposure in bringing about cosmetic surgery decisions. In a similar manner, Delinsky (2005) indicated that media message is a contributory outcome of going in for a cosmetic surgery process. Delivering information, knowledge, ideas from TV, articles, newspapers, magazines, and the internet are meaningful tools to create awareness and knowledge, increase understanding about cosmetic surgery and results in molding public opinion. Mass media exposure affects the approval for cosmetic surgery by the frequency of media consumption and a wide variety of sources of exposure. Markey and Markey (2009) asserted that a more advanced extent of media message internalization concerns a greater degree of learning and information leading to eagerness to undergo body alteration. Pictorial information obtained from media exposures and advertisements represent an ideal image for people. Media exposure gives a feeling of impulse, of being displeased and dissatisfied with one's current body image that usually boils down to a low-level assessment of individual's physical appearance (Agliata & Tantleff-Dunn, 2004; Sarwer et al., 2003).

Interpersonal Relationships

People usually engage first in internal search to remember any previous experience with regard to cosmetic services and brands. External search is then performed by first asking opinions from spouses, family, girlfriends, friends and relatives. Close intimate relationship such as family and friends are the most influential persons that convince one to have faith in cosmetic surgery. Social support, friendship and intimacy through social circles are considered as mentoring for teenagers with specific needs (Delinsky, 2005; Park, Calogero, Harwin & DiRaddo, 2009). Delinsky (2005) stated that a favorable approval of cosmetic surgery emerges from social interaction and from the normative belief about physical appearance established by each culture and society. Brown et al., (2007) on the other hand, revealed that peer pressure and close relationships with friends manipulate women's opinion to undergo cosmetic surgery. Thus, the interrelatedness with others or social contact becomes a source of considerable influence to undergo cosmetic surgery. Cosmetic surgery conforms oneself to correct and improve physical deformities in order to achieve affection and attachment from friends and sense of belonging from others (Grossbart & Sarwer, 1999).

Personal Experience

Previous personal experience with cosmetic surgery affects an individual's decision to continue undergoing cosmetic surgery, the procedures of which are dependent on how he or she evaluates his/her participation in the surgical process. Personal knowledge or information about cosmetic surgery breeds familiarity (Delinsky, 2005; Swami et al., 2008). Thus, this previous personal knowledge of beauty-enhancing cosmetic surgery experience contributes to the person's willingness to undergo cosmetic surgery in the future (Swami et al., 2008). Brown et al., (2007) contended that the number of participants who have personal experience with cosmetic surgery induces them to have greater motivation for cosmetic surgical procedures. Delinsky (2005) found out that personal experience is not the best predictor of whether or

not a certain person will be likely to undergo cosmetic surgery in the future. Despite the strong desire to change their appearance, people are less likely to continue with the procedure due to some conventional misconceptions or the difficulty in accepting the risks related to cosmetic surgery. These misconceptions have been brought about by conflicting messages from society. This might have been caused by some saying that cosmetic surgery is plausible, that it is safe and not dangerous, while others say otherwise. Thus, cosmetic surgery knowledge acquired either through vicarious experience or gained by actual experience is able to reduce this dissonance.

Vicarious Experience

Hoyer and MacInnis (2007) defined vicarious exploration or experience as a decision-making process which occurs when consumers collect information about a product, either from reading or talking with others, or putting themselves in a stimulating shopping environment. Delinsky, (2005) on the other hand, referred to a vicarious experience especially in the area of cosmetic surgery as watching a close friend or family member decide to undergo surgery or recover from a surgery. Prospective cosmetic surgery patients are also induced into action by the accumulation of knowledge that is guided by other's experiences (Agliata & Tantleff-Dunn, 2004). Vicarious experience is embodied in the closeness of social intercourse arising from peers, family and close acquaintances. In this sense, a close relationship and intimacy within their social groups conventionalizes the standard and value of ideal beauty. The effect upon the judgment or feelings of cosmetic surgery acquired from others is an indirect exposure of considerable influence (Brown et al., 2007; Swami et al., 2008). Therefore, as the vicarious experience derived from friends and family increases, the more likely is a person to approve of cosmetic surgery (Delinsky, 2005). Women rely heavily on the expression of approval, support attraction, exemplars and recommendations from friends and family. Individuals seek to reduce negative feedback and teasing expressed by others by undergoing cosmetic surgery is seen as a self-correcting instrument

(Markey & Markey, 2009). Delinsky, (2005) stated that nose operations are the most widely accepted form of vicarious experience and has the greatest approval by the general public.

Demographics

Demographics are very important determinants which categorize personal characteristics of consumers. A demographic variable is utilized to classify demographic profiles in order to segment consumers into target groups. This, in some ways, signifies if gender, age, education and occupation are crucial factors in understanding consumption behaviors. Aging is a major factor in the decision to undergo cosmetic surgery (Brown, et al., 2007; Henderson-King & Henderson-King, 2005). The signs of aging readily affect women. To be nice looking, being attractive and to look young occupies most women's thoughts. Young women engage their interest in their external appearance, and are excessively concerned about their figure and weight. Young women in poor shape find themselves in great misery (Goodman, 1994). In addition, older women devote more time to facial concerns. Wrinkled and unattractive faces bring them generalized feeling of distress. As a result, they put extra care to their faces, and are more likely to go in for cosmetic surgery (Goodman, 1994). The older people become, the higher the possibility of their favoring cosmetic surgery (Henderson-King & Henderson-King, 2005). Older women agree to cosmetic surgery in order for them to look especially beautiful compared to their younger counterparts (Frederick, Lever & Peplau, 2007). Chisnall (1995) reported that female teenagers are concerned more with their appearance, thus they are willing to pay money on everything that will enhance their looks. Mai, Jung, Lantz & Loeb (2003) investigated teenager's social behavior and found that young consumers have the will to be trendsetters for obvious social reasons. They want to belong to their social group that is why they try very hard to be elegant, good in taste, refined in manner, wear stylish dress and use innovative products. Products and services they buy are driven by sensational appeal rather than useful function. It is also important to note that these young students

are born in the domain of materialism that significantly stresses possession of things and maintaining a high standing status. They want to achieve power and superiority (Mai et al., 2003). Furthermore, cosmetic surgery in Thailand has trickled down from high social status, high-income earners including celebrities, well-known stars and singers into lower middle and upper middle income individuals. Moreover, market expansion of cosmetic surgery has grown so rapidly that it has become available to many potential teenage customers. This young target market has already been aware of the advantages of cosmetic surgery (Jinchang, 2010).

Body Appearance

Swami and Tovée (2006) stated that the preferences on body appearance is largely dependent on socio-economic status (SES), values and culture. As an example of a BMI study conducted in Thailand, people who live in rural areas have very different views on physical attractiveness than those who are living in the cities. Thai urban culture projects greater preference on artificial beauty and low weight, and the perception that those whose body mass is heavier are unattractive, infirm and unproductive. In contrast with the rural population, people in the countryside consider women having excessive weight and well-rounded waists as appealing and more acceptable (Swami & Tovée, 2006).

Body Shape and Body Weight or Body Mass Index (BMI)

Individuals perceive body shape from different viewpoints. It may vary depending upon their actual weight, their ideal image and societal standards (Doll, Ball & Willows, 2004). The Body Mass Index (BMI) is the process of determining human body sizes and body fat. The individual's body weight divided by the square of his or her height is a formula which indicates the category of body condition ranging from being emaciated to obese. Swami and Tovée (2006) contended that BMI is a significant antecedent used in assessing the physical attractiveness of a person. Studies on BMI have

often incorporated physical appearance and personality traits in order to offer a comprehensible understanding of body image (Kvalem, Soest, Roald & Skolleborg, 2006). Henderson-King and Henderson-King (2005), Frederick et al., (2007) and Swami et al., (2009b) contended that the state of being obese is not the main reason to undergo cosmetic surgery. However, Markey and Markey (2009) argued that overweight people always feel dissatisfied and are teased oftentimes about their body parts. Overweight people usually experience the feeling of contempt and aversion that results from the unworthy feeling they experience of themselves and the idea that they do not deserve attention. They suffer from severe physical and mental strain which leads them to overeat or engage in binge eating behavior (Goodman, 1994). Frederick et al., (2007) stated that people who have an abundance of flesh and people who are displeased with their weight are more likely to undergo liposuction but not overall cosmetic surgical procedures. It is only as a result of harassment and ridicule that a fat person is more likely to approve of cosmetic surgery (Markey & Markey, 2009; Park et al., 2009).

Body Image

Body image means sensory perception of the body parts which is derived from sociocultural ties (Sarwer et al., 1998). Body image is relevant to a person's physical appearance (Sarwer & Cash, 2008; Sarwer & Crerand, 2004; Cash & Grasso, 2005; Sarwer et al., 1998). It is the subjective concept that forms in the mind of the person on how he/she evaluates his/her physical appearance based on self-observation and reaction of others. Cash and Grasso (2005) contended that the most common form of body image is how one conceives his/her physical appearance. Thus, body image represents the origin of reception of knowledge that directs social behavior (Sarwer & Crerand, 2004). A person's self-esteem, beliefs, feelings, and values about appearance contribute much to the decision to undergo body modification or appearance enhancement. In brief, the physical body and psychosocial factors form the body image of an individual (Sarwer & Cash, 2008; Sarwer & Crerand,

2004; Sarwer et al., 1998). von Soest, Kvalem, Roald and Skolleborg (2009) claimed that body image is a psychological feature that arouses interest in cosmetic surgery. Hence, body image dissatisfaction induces individuals toward undergoing aesthetic and cosmetic surgical operations (Sarwer & Cash 2008; Sarwer & Crerand, 2004; von Soest et al., 2009).

Body image is a multifaceted measure that emanates from cognitive-behavioral theory (Cash & Grasso, 2005). The three multidimensional constructs include perception, attitude and behavior (Sarwer & Cash, 2008). Substantially, body image is separated into two compositions consisting of body image orientation and body image evaluation.

First, body image orientation is characterized by the effort invested in making the body look good. Sarwer and Crerand, (2004) specified that body image investment places an emphasis on the psychological significance of body image on self-worth or self-esteem (Sarwer & Cash, 2008; von Soest et al., 2009).

Second, body image evaluation is called body image value that indicates the degree of an individuals' satisfaction with his/her physical appearance (Sarwer & Cash, 2008; von Soest et al., 2009). Similarly, Sarwer and Crerand (2004) referred to a persons' perception that may affect how effectively an individual relates to a given body size, body weight, physical features, and appearance.

People want to be aesthetically pleasing. They would like to have attributes that catch the eye and would like to become even more attractive. Interpersonal relationship or social interaction, social comparison, media exposure and physical appearance-related teasing are usually regarded as societal influences on individual's beautifying behavior. Hence, body image is significantly stressed vide social and cultural influences that depend largely on social behavior and interactions (Sarwer & Crerand, 2004).

Motivation for improving body image

Firstly, social relation is a stimulus for body image improvement. A rational motive for this social interaction is that there is a driving force within individuals to ascertain an outward body image by comparing the differences between their physical appearances and that of others. Hence, they have a tendency to seek others' approval (Cash, Phillips, Santos & Hrabosky, 2004; Rumsey & Harcourt, 2004).

Secondly, exposure to mass media arouses interest in improving people's body image. The consumption of mass media which includes advertising affects a potential customer in creating a desire for cosmetic surgery. Hence, a desirable physical appearance illustrates the significance of body image (Agliata & Tantleff-Dunn, 2004).

Thirdly, the evaluation of one's physical appearance relies on feelings and thoughts. People may place a higher value on what pleases the eyes (Sarwer & Crerand, 2004). Cash, Phillips, Santos and Hrabosky (2004) and Sarwer and Cash (2008) mentioned that staying in shape and maintaining the right body weight is one of the major considerations in undergoing body enhancement. Waistline and belly becomes the principal body parts that are likely to be considered when making the decision to undergo cosmetic procedure. Nose and teeth are the key important points to improve the appearance of the face. Women of larger sizes have greater dissatisfaction with their existing body image than those having small and medium sizes. Women do care about the part of their legs between the hips and the thighs (Cash et al., 2004). In contrast to women, men prefer to possess muscular strength (Agliata & Tantleff-Dunn, 2004; Cash et al., 2004).

The Acceptance of Undergoing Cosmetic Surgery

Cosmetic surgery has now become widespread and is easily obtainable by the general public. The issue of cosmetic surgery is particularly critical when several motivations result in the decision to undergo cosmetic surgery. The feeling of being discontented has the greatest influence on people to undergo cosmetic surgery. Issues related to body dissatisfaction are neutralized when monetary function and hedonic value are satisfied simultaneously (Hamilton III, Carithers & Karnell, 2004). The reasons for cosmetic surgery are as follows:

Cosmetic surgery consumers can be everyone, not only the well known, wealthy people (Markey & Markey, 2009). Cosmetic surgery is not limited only to the upper social class but it has now become widely open to the members of the middle and lower classes (Goodman, 1994). The affordable cost of the procedures coupled with advanced surgical instruments and operational techniques are major reasons for the desire to undergo cosmetic surgery among people (Brown et al., 2007; Goodman, 1994; Henderson-King & Henderson-King, 2005). Today, there is lower risk of infection and damage and gradual healing of wounds after injury healing rapidly to a satisfactory state compared to surgical procedures in the past. Therefore, the more confidence and trust in cosmetic surgeons and the less painful the experience, the greater the decision to undergo surgery (Brown et al., 2007; Hamilton III et al., 2004; Swami et al., 2008). Goodman (1994) argued that no matter how much physical discomfort, injury or painful experience that come with cosmetic surgery, these effects have less importance than the satisfaction felt by the person conforming to approved standards of beauty or values of the society. Moreover, individuals' disposable incomes have increased drastically. They are capable of spending on discretionary acquisitions and can afford to pay the price of aesthetic surgery (Grossbart & Sarwer, 1999; Henderson-King & Henderson-King, 2005).

People normally prefer to look younger than their actual age (Frederick et al., 2007; Goodman, 1994; Grossbart & Sarwer, 1999; Henderson-King & Henderson-King, 2005). Looking old is something many women want to avoid. They always aim for perfection and flawlessness as much as they possibly can. Indeed, they are solicitous to avoid the displeasure of being unattractive or lacking power to arouse the interest of others. This potency has a greater influence than ob-

taining a greater degree of attractiveness (Henderson-King & Henderson-King, 2005). Therefore, individuals who score low in physical attractiveness are more willing to undertake cosmetic surgery (Brown et al., 2007; Swami et al., 2009a).

Attitudes Towards Cosmetic Surgery

Henderson-King & Henderson-King (2005) proposed the Acceptance of Cosmetic Surgery Scale (ACSS) in order to understand the three elements in a surgery to correct a condition which include: attitudes toward cosmetic surgery; the factors related to these attitudes; and the determination of cosmetic surgery acceptance among the general population.

Attitudes towards the acceptance of cosmetic surgery are different from the likelihood of having cosmetic surgery. People may accept the idea of undergoing cosmetic surgery but they may neither undergo a cosmetic operation nor engage in the behavior of undergoing cosmetic surgery. The attitudes towards cosmetic surgery are influenced by subjective norms, intrapersonal relationship and individuals' expectation. These attitudes are formed by the feelings of being dissatisfied with the body, the dread of lacking beauty or charm, a painful emotion resulting from an awareness of body inadequacy and the commitment of time, money, energy and effort to undergo cosmetic surgery along with the expectation of some worthwhile results. Brown et al., (2007) stated that the uneasiness proceeding cosmetic surgery stems from the expectations that it may not reach a person's imaginary standard of beauty and perfection.

Swami et al., (2009b) and Swami et al., (2009a) adopted the Intrapersonal, Social and Consider constituents of attitude (ACSS scale) that make causal connections with cosmetic surgery. Firstly, *Intrapersonal* is relevant to a favor conferred that makes improvement to the self. Secondly, *Social* involves the social process of motivating cosmetic surgery which gives direction to behavior. Thirdly, *Consider* is dealing with the likelihood of having cosmetic surgery, the features that stimulate interest plays a large part in decision-making (Henderson-King & Henderson-King, 2005). The

results show that people who have a favorable attitude towards cosmetic surgery tend to undertake surgery more than others do (Swami et al., 2009a and Swami et al., 2009b).

CONCEPTUAL FRAMEWORK

This study explores psychological characteristics, sociocultural influences, demographic profile, body weight and shape, and body image dissatisfaction on the acceptance of cosmetic surgery among Thai female consumers. Specifically, body image is an acquisition of individual differences, subjective norms, social standards, internalization of media messages, the accumulation of an individual's experience, anticipation of ideal physical appearance, demographic determination and the perception of body weight and shape, which contribute to the acceptance of cosmetic surgery procedures. This network of relationship among the variables is presented as follows:

METHODOLOGY

Descriptive research design is employed. Structural Equation Modeling (SEM) or a multivariate analysis technique is formulated to examine relationships. The researcher applied the survey research approach to gather the primary data from respondents.

Sample Description

The target respondents in this study are exclusively Thai women who have undergone cosmetic surgery in the past or who are likely to undergo cosmetic sometime soon. The majority are working women and employees. The study excludes females who are less than 18 years of age, as 18 is considered the minimum age for cosmetic surgical procedures without parental consent. Samples were drawn from the list of 13 cosmetic surgery clinics and hospitals in Bangkok. A total of 520 questionnaires were distributed, 40 sets in each of the 13

Psychological Characteristics
- Narcissism
- Self-Esteem
- Self-Enhancement

Sociocultural Influences
- Sociocultural Attitudes
- Family
- Peers

Cosmetic Surgery Experiences
- Personal Experience
- Vicarious Experience

Body Appearance
- Body Shape
- Body Weight

Demographic Profile
- Income
- Age
- Relationship Status
- Education
- Occupation

Body Image

The Acceptance Of Cosmetic Surgery

clinics which were included in the sampling frame. Of this, 437 questionnaires were returned, allowing for a response rate of 84 percent. The researcher excluded cosmetic and plastic surgery clinics/hospitals that offer non-surgical procedures and clinics that conduct only sex-change, transgender surgery.

Multistage sampling method

In the first stage, a simple random sampling method is employed to select a sample of clinics/hospitals from the sampling frame of 52, a total of 13 hospitals were selected.

In the second stage, quota sampling technique is used to identify the number of respondents in each clinic/hospital selected. The total sample size of this research is 400. Given that 13 clinics/hospitals are sampling units, the samples to be collected from each place is approximately 31.

In the final stage, judgment sampling is used to select the respondents from the 13 clinics/hospitals selected. This sampling technique is also useful in situations where some respondents are more knowledgeable or more willing to be interviewed. Of 520 questioniraues destributed 437 were returned and was used for the analysis of the study Sructural Equation Modlelling was used in this study.

FINDINGS

The percentage of the majority Thai female respondents reported that they had personal or vicarious experiences with nose reshaping. About 62.9 percent of them said they have seen others who had undergone the procedure, while 24.7 percent said they have undergone such type of surgery themselves. The next common procedure is breast enlargement which accounts for 46.5 percent of those who knew others who had the procedure, while 18.3 of the respondents said that they have undergone the procedure themselves. Other popular procedures for those reporting vicarious experiences are skin color lightening (28.6 percent), acne scarring reduction (26.8 percent), eyelid augmentation known as blepharoplasty (23.6 percent) and teeth whitening (20.1 percent). Among those

who have personal experiences of cosmetic surgery, the most common, aside from the ones mentioned above, are for acne scarring reduction (16.7 percent), skin color lightening (13.7 percent), and teeth whitening (11.4 percent).

As per the demographic profiles of the respondents, the following details emerged: the majority of the sampled respondents belong to the age category of 21-25 years and this represents 37.3 percent of the total sample. The next predominant age group belongs to those between 26-30 years, and this represents 21.3 percent. The education profiles of the sampled respondents indicate that 62.2 percent have bachelor degrees and 20.6 percent have master degrees. With regard to relationship status of the sampled respondents, the findings indicate that 70.5 percent are single, while 16.2 percent are married. In addition, 25.9 percent have income below 15,000 Baht, while 17.2 percent have an income between 30,001 to 50,000 baht. Approximately 37 percent were in private employment, while 22 percent of the respondents were students. Statistics of body mass index shows that 60 percent of the sampled respondents were of normal weight.

Narcissism characteristic was significantly related to the acceptance of cosmetic surgery. Theoretically, body image was explained by 3 constructs, i.e., appearance evaluation, appearance orientation and body area satisfaction. However, the data fitted two constructs, namely, appearance orientation and body area satisfaction. Both these were significantly related to the acceptance of cosmetic surgery. In addition, cosmetic surgery experiences were explained by 2 constructs, i.e., personal experiences and vicarious experiences. However, the data fitted only one construct, namely vicarious experience, which was positively related to the acceptance of cosmetic surgery. There are statistical differences in the demographic variables of age, income, occupation, vicarious experiences and respondents' perception of body image. Respondents with vicarious experiences were more favorable toward accepting cosmetic surgery. Statistical analysis of the data showed that body image mediates the relationship between socio-cultural influences and the acceptance of cosmetic surgery. Furthermore, the difference in body image is also due

to differences in the demographic profiles.

DISCUSSION AND CONCLUSIONS

Self-esteem characteristic is positively related to Thai women's Appearance Orientation. The finding of this study is consistent with the previous research finding that self-esteem is linked with self-image and impels women to put more effort in their physical appearance (Delinsky, 2005 and Swami et al., 2009a). The findings show that self-esteem characteristic is also positively related to Thai women's Appearance Evaluation. Self-esteem has a positive and statistically significant relationship with appearance evaluation. The finding of this study is consistent with the previous research finding in that persons with low self-esteem tend to neglect their physical appearance (Burger, 2000; Sarwer et al., 1998). Socio-cultural Attitude towards Appearance has a positive and statistically significant relationship with appearance orientation. The finding of this study is consistent with the previous research findings. Strong social and cultural forces influence body image (Grossbart & Sarwer, 1999; Sarwer et al., 1998). Socio-cultural attitudes toward appearance deal with the internalization of mass media (TV, billboards, music videos, movies, the Internet, magazines, soap operas, and beauty pageant programs) exposure and convey images of ideal attractiveness, beauty, desired shape and weight. The willingness to improve body image is formulated by information from mass communication (Delinsky, 2005). Women form an ideal image of physical body based on their acquisition of mass media messages.

In this study, the Narcissism characteristic shows a positive and statistically significant relationship with the acceptance of cosmetic surgery. The finding of this study is consistent with the previous research finding. Cosmetic surgery is good for people who care about self (Carver & Scheier, 2004; Cisek & Hart, 2007; Davis et al., 1997; Jackson et al., 1992; Pervin & John, 2001). Narcissistic people are more materialistic and pay a lot of attention to their appearance. Thai Women expend time and money with a view to obtaining ideal beauty in making the body look good. Hancock, Hughes, Jagger, Patterson, Russell, Tulle-Winton & Tyler (2000) argued that it is an advantage to be attractive. A good looking person gains more acceptance from others.

Peer Conditional acceptance based on appearance has a positive and statistically significant relationship with appearance orientation. This study supported the previous research findings on peer's influence in that friendship and social relations had a great impact on appearance orientation or body image concern. Appearance orientations are closely correlated with women's connection with peers that bring social support and social acceptance into existence (Gerner & Wilson, 2005). Sociocultural Attitude towards Appearance has a positive and statistically significant relationship with appearance evaluation. The finding of this study is consistent with the previous research findings that appearance evaluation is instantly identified by socio-cultural attitude towards appearance. The issue of socio-cultural attitude towards appearance is particularly critical when mass media internalization move into a desire discourse of socio-cultural ideals of beauty. Women tend to compare themselves with cine artists, celebrities, and models and their physical appearances such as shape, waist, breast and hips as seen in mass media, are potential stimulus for women to be attractive and inadvertently women plot ways and means to groom their body so as to resemble the mass media personalities.

Body Weight has a positive and statistically significant relationship with appearance evaluation. As expected, proportionate with an increase in appearance evaluation, there has been a rise in body weight. Body appearance, related to body size perception of women, plays a central role in defining body image (Kvalem et al., 2006; Magee, 2010; Swami et al., 2008). BMI has essentially been ascertained as a precedent of the personal enhancement process (Swami & Tovee, 2006). The study also found that Body Shape has a positive and statistically significant relationship with Body Area Satisfaction. This finding is consistent with the previous research finding that body shape is an important determinant of body area satisfaction. Mass media portrayal of the model's figure as seen in the magazine, TV and movies provides the needed stimulus for women to strive for an ideal shape. Women give preference to the attainment of real-

istic, thin, healthy, youthful and curvy look over the media exposure of a very thin body. The thin ideal women figures exhibited in mass media elevates body image dissatisfaction or social pressure and increases the feeling of anxiety about female's physical features (Grogan, 2008).

The acceptance of cosmetic surgery increased proportionately with increasing appearance orientation. There is a vital link between physical appearance, image, attractiveness and self-presentation that reflect on Thai women's motives when making a decision to undergo cosmetic surgery. Sarwer et al., (1998) stated that body image is widely recognized as a core principle for aesthetic cosmetic surgery determination because body image ascertains the physical appearance and body of humans. Cosmetic surgical procedures are the tools to enhance the physical appearance and body image. Frederick et al., (2007); Grossbart and Sarwer (2003); Markey and Markey (2009); Park et al., (2009) and Sarwer et al., (2003) stated that dissatisfied individuals tend to be more willing to modify or enhance their appearance and are more likely to experiment with cosmetic surgery repeatedly.

In terms of demographic factors, Age level has a statistically significant difference with Appearance Orientation as well as Body Image Satisfaction. The finding of this study is consistent with the previous research findings which state that women take the matter of chronological aging into consideration (Brown et al., 2007; Henderson-King & Henderson-King, 2005). The signs of aging, particularly on the face, have a significant impact on body image because it can be interpreted as being low in physical ability (Goodman, 1994). Women who cannot preserve their youthful appearance often suffer from depression and dejection (Wink, 1991). The feeling of dissatisfaction among women of older age arises from a comparison of their present actual appearance and their youthful appearance in the past. They have an anxious feeling or fear of being unattractive and signs of wrinkles exacerbate their inadequacy (Magee, 2010). Grogan's (2008) research showed that fashion models and actresses are the most comparative source of body image evaluation for women aged 16-39 years old, whereas family members are

role models for women aged 40-49. Income level has a statistically significant difference with Appearance Orientation. The finding of this study is consistent with the previous research finding. Reid (1995) contended that middle and upper income groups tend to spend a lot and freely on recreation consumption. In 1992, Thai people spent 8.8 percent of their annual expenditure on healthcare and 12.7 percent on entertainment and recreation (Reid, 1995). Young Bangkok middle income earners are more likely to disburse a larger portion of income on the pursuit of pleasure and personal grooming. People who live in the metropolitan area with high disposable income tend to be more committed to body enhancement schemes owing to urban normative beliefs and to fit in with societal standards (Mai et al., 2003). There is a significant difference between occupational classification and Thai women's body image.

Occupational classification showed statistically significant differences with Appearance Orientation, Appearance Evaluation and Body Area Satisfaction. The study also found that vicarious experiences have a statistically significant difference in Appearance Orientation, Appearance Evaluation, Body Area Satisfaction, and Acceptance of Cosmetic Surgery. These findings are consistent with those of previous research which shows that accumulated knowledge has made a significant contribution to the creation of visionary expectations in terms of possessing an attractive physical appearance (Agliata & Tantleff-Dunn, 2004). Cosmetic surgery is perceived as a tool to remedy body image disturbance according to the high exposure acquired from vicarious experience (Delinsky, 2005). Delinsky (2005) and Swami et al. (2008) argued that vicarious experiences with cosmetic surgical procedures make a person familiar with the surgical process and induces them to have greater motivation for cosmetic surgery. Relationship status has a statistically significant difference in Body Area Satisfaction. The finding of this study is consistent with the previous research findings of Magee (2010). Appearance enhancement and body image are highly important among single females seeking a romantic relationship. Women dwell on physical attractiveness with great emphasis in order to sustain their sexual relationships. The final

demographic variable, education level, also showed statistically significant differences with Appearance Orientation. The finding of this study is consistent with the previous research finding that women who have higher education are concerned more on their body image, especially college students, who rely heavily on interpersonal influences (Magee, 2010). Interestingly, Family's Appearance-Related Attitude, in this study, was not significantly related to Appearance Orientation. This finding is not consistent with the previous research study finding by Grogan (2008). This might be because Thai women, especially those who are young and working, may be influenced by media and friends more than family members. They also feel that their friends may have greater knowledge about cosmetic surgery processes and clinics than family and may rely on the former for information related to such surgery. In this study, Body Shape was not significantly related to either Appearance Orientation, Appearance Evaluation, and Body Area Satisfaction. This finding is inconsistent with the previous research study findings by Doll et al. (2004) and Grogan (2008). Thai women who accept cosmetic surgery tend to focus on facial features (rhinoplasty, blepharoplasty, acne scarring reduction, teeth whitening, and mentoplasty) rather than body appearances. Hence, for Thai women, a greater emphasis was placed on having attractive facial features rather than body shape.

Implications/Recommendations of the Study

Cosmetic surgery business in Thailand is going through enormous changes, including the entry of the new technology and surgical techniques. A number of cosmetic surgery clinics and the hospitals in Thailand are competing against one another to capture a share of the multi-billion baht cosmetic market. The findings of this study will help develop new research paradigms in consumer research, international marketing, and managerial practices.

Marketers can use this study to better understand consumers and to segment and target those consumers who have favorable attitude toward enhancing their appearance. Marketing managers can apply the findings of this study to create brands that will attract the different types of consumers. Marketers may employ the psychological characteristics of self-esteem and narcissism, body image, body appearance, socio-cultural influences in designing their marketing mix. The relevant demographic factors of age, education, marital status, occupation and income can be employed by doctors and clinics to attract customers, and also to estimate consumer demand for medical services. Marketing strategies relying on the aforementioned factors can be applied to consumption contexts such as attracting new customers, and emphasizing the services offering. Cosmetic surgery providers may enable consumers to select a wide variety of services that expresses their own individuality.

This empirical study has contributed literature that is pertinent to the acceptance of cosmetic surgery with variables relating to psychological characteristics, socio-cultural influences, cosmetic surgery experiences, body appearances and body image. Secondly, this study has an exploratory nature because this is the first time a study of this nature has been conducted with combined variables from the socio-psychological contexts to predict acceptance of cosmetic surgery in Thailand. Most of the previous studies in this field have explored only the psychological variables, whereas, this study explores the cross-disciplinary variables in marketing and consumer behavior. Interestingly, this study's sample consists of non-clinical respondents (previous cosmetic surgery researches have employed clinical samples).

The adaptation of several scales in this study provided a rigorous cross-cultural validation test that has implications for both academics and practitioners in cross-cultural consumer research and marketing. Increasing consumption of cosmetic surgery has resulted in a multibillion baht market which means physical appearance and body image are crucial determinants for marketers in the beauty business.

Practitioners should give references of vicarious experiences to their clients so as to influence their decision for cosmetic surgery, because the study's findings indicate that clients who are inclined toward cosmetic surgery need to be reinforced by others who have undergone cosmetic

surgery and such referrals will enhance their motivation toward cosmetic surgery.

This study's findings indicate that clients who accept cosmetic surgery tend to focus on facial features (rhinoplasty, blepharoplasty, acne scarring reduction, teeth whitening, and mentoplasty) than body appearances. Therefore, clinics in Bangkok who perform cosmetic surgery procedures should invest in technologies and equipment that enhances facial features. They also need to advertise the array of services via traditional and social media networks

Professionals who work in cosmetic surgery clinics, including doctors, marketers, beauty assistants, and nurses should maintain databases of prospects and existing cosmetic surgery consumers which is the key to capturing sales volume, driving deals, attain the connection with consumers and easy management of cosmetic surgery programs. Follow up calls should be made continuously to prospects as well as previous customers. In addition, marketers may get a wider target market through the use of social networking sites in order to promote their services in the marketing of beauty.

FURTHER STUDY

Consumer behavior is a time-bound characteristic (psychological characteristics, sociocultural influences can be influenced by the media and body image), as such, a longitudinal study would be recommended so as to comprehensively understand this phenomenon. Thai women's attitudes may change over time according to changes in cultural values.

The second recommendation is that future researchers replicate this study using cross-sectional samples across Thailand and other Asian countries to confirm or refute the findings.

A third recommendation of this study is to replicate this study to different groups of consumers (transgender and male) to compare and contrast the findings.

Fourthly, this study employed self-administered questionnaire, and as such, it may not have reflected the true feeling of the respondents. The recommendation therefore is to have an in-depth quali-

tative research to reflect the true perspectives of the respondents. Qualitative research aims at an in-depth understanding of an issue, including an exploration of the reasons and context for participants' beliefs and actions, so interviews, the most common qualitative method research, would be particularly well suited to the collection of data on sensitive topics like undertaking cosmetic surgery. Fifthly, safety and satisfaction dissonances are primary concerns of Thai women and therefore these crucial variables should be added to the model in order to yield more accurate perspectives of women in Thailand, who may intend to undergo cosmetic surgery.

Finally, consumer behavior includes psychological characteristics, subjective norms, consumers' experiences, and demographic information along with attitudinal data to create a segmentation scheme that can divide the market. Merely studying attitude toward the acceptance of cosmetic surgery may not be able to provide explanations on consumer buying behavior. Future research should bring in socio-economic variables, social class and status for a better understanding of individuals' behavior towards cosmetic surgery.

References

Agliata, D., Tantleff-Dunn, S. (2004). The impact of media exposure on males' body image. *Journal of Social and Clinical Psychology, Special Issue: Body Image and Eating Disorders*, 23(1), 7-22.

Aiken, L. R. (1993). *Personality: Theories, Research, and Applications*. Englewood Cliffs, New Jersey: Prentice Hall.

Besser, A., & Priel, B. (2009). Emotional responses to a romantic partner's imaginary rejection: The roles of attachment anxiety, covert narcissism, and self-evaluation. *Journal of Personality*, 77(1), 287-319.

Bosson, J. K., Lakey, C. E., Campbell, W. K., Hill, V. Z., Jordan, C. H., & Kernis, M. H. (2008). Untangling the links between narcissism and self-esteem: A theoretical and empirical review. *Journal Compilation*, 1415-1439.

Brown, A., Furnham, A., Glanville, L., & Swami,

V. (2007). Factors that affect the likelihood of undergoing cosmetic surgery. *Aesthetic Surgery Journal*, 27, 501-508.

Burger, J., M. (2000). *Personality* (5ᵗʰ ed.). Belmont: Wadsworth Thomson Learning.

Campbell, W. K., Goodie, A. S., & Foster, J. D. (2004), Narcissism, confidence and risk attitude. *Journal of Behavioral Decision Making*, 17, 297-311.

Carver, C., S., & Scheier, M., F. (2004). *Perspectives on personality* (5ᵗʰ ed.). Boston: Pearson.

Cash, T. F., & Grasso, K. (2005). The norms and stability of new measures of the multidimensional body image construct. *Body Image*, (2), 199-203.

Cash, T. F., Phillips, K. A., Santos, M. T., & Hrabosky, J. I. (2004). Measuring "negative body image": Validation of the body image disturbance questionnaire in a non-clinical population. *Body Image: An International Journal of Research*, 1, 363-372.

Cervone, D., & Pervin, L., A. (2008). *Personality: Theory and Research* (10ᵗʰ ed.): John Wiley & Sons, Inc.

Chisnall, P. M. (1995). Consumer Behaviour (Third ed.). London; New York: McGraw- Hill.

Cisek, S., & Hart, C., M. (2007). The I that buys: Narcissism as consumers. *Journal of Consumer Psychology*, 17(4), 254-257.

Clair, M., St. (2000). *Object relations and self psychology: An introduction* (Third ed.): Brooks/ Cole Thomson Learning.

Davis, C., Claridge, G., & Cerullo, D. (1997). Reflections on narcissism: Conflicts about body-image perceptions in women. *Personality and Individual Differences*, 22, 309-316.

Delinsky, S. S. (2005). Cosmetic Surgery: A common and accepted form of self-improvement?. *Journal of Applied Social Psychology*, 35 (10), 2012-2028.

De Mooij, M. (2003). Consumer behavior and culture: Consequences for global marketing and advertising. Thousand Oaks: SAGE Publications.

Doll, M., Ball, G. D., & Willows, N. D. (2004). Rating of figures used for body image assessment varies depending on the method of fig-

ure presentation. *The International Journal of Eating Disorders*, 35(1), 109-14.

Farwell, L., & Lloyd, R. W. (1998). Narcissistic processes: Optimistic expectations, favorable self-evaluations, and self-enhancing attributions. *Journal of Personality, 66(1), 65-83.*

Frederick, D. A., Lever, J. & Peplau, L. A. (2007). Interest in cosmetic surgery and body image: Views of men and women across the lifespan. *Plastic and Reconstructive Surgery*, 120, 1407-1415.

Gerner B. & Wilson, P. H. (2005). The relationship between friendship factors and adolescent girls' body image concern, body dissatisfaction, and restrained eating. *International Journal of Eating Disorders*, 37 (4), 313-320.

Goodman, M. (1994). Social, psychological, and developmental factors in women's receptivity to cosmetic surgery. *Journal of Aging Studies*, 8(4), 375-396.

Grogan S. (2008). *Body Image: Understanding body dissatisfaction in men, women and children* (2ⁿᵈ ed.). New York: Routledge.

Grossbart, T. A., & Sarwer, D. B. (1999). Cosmetic surgery: Surgical tools-Psychosocial goals. *Seminars in Cutaneous Medicine and Surgery*, 18(2), 101-111.

Hamamura, T., Heine, S. J., & Takemoto, T. R. S. (2007).Why the better-than-average effect is a worse-than average measure of self-enhancement: An investigation of conflicting findings from studies of East Asian self-evaluations. *Motivation and Emotion*, 31, 247-259.

Hamilton III, G. S., Carithers, J. S. & Karnell, L. H. (2004). Public perception of the terms Cosmetic, *Plastic and Reconstructive Surgery. Archives of Facial Plastic Surgery*, 6(5), 315-320.

Hancock, P., Hughes, B., Jagger, E., Patterson, K., Russell, R., Tulle-Winton, E., & Tyler, M. (2000). *Body, Culture and Society: An Introduction*. Open University Press: Buckingham.

Heine, S. (2003). Making sense of East Asian self-enhancement. Journal of Cross-Cultural Psychology, 34(5), 596-602.

Henderson-King, D., & Brooks, K. D. (2009). Materialism, Sociocultural Appearance Messages, and Paternal Attitudes Predict College Women's Attitudes about Cosmetic Surgery.

Psychology of Women Quarterly, 33, 133-142.

Henderson-King, D., & Henderson-King, E. (2005). Acceptance of cosmetic surgery: Scale development and validation. *Body Image: An International Journal of Research*, 2, 137-149.

Hoyer, W., & MacInnis, D. (2007). *Consumer Behavior* (4th ed.). Boston: Houghton Mifflin.

Jackson, L. A., Ervin, K. S., & Hodge, C. N. (1992). Narcissism and body image. *Journal of Research in Personality*, 26(4), 357-370.

Jarry, J. L. & Kossert, A. L. (2007). Self-esteem threat combined with exposure to thin media images leads to body image compensatory self-enhancement. *Body Image*, 4(1), 39-50.

Jinchang, K. (2010). *Effects of perfectionism on attitudes towards cosmetic surgery: The mediating roles of perfectionistic self-presentation and sociocultural internalization* (unpublished master's thesis). Chulalongkorn University, Bangkok, Thailand.

Judge, T. A., LePine, J. A., & Rich, B. L. (2004). Loving yourself abundantly: the relationship of the narcissistic personality to self and other perceptions of workplace deviance, leadership, and task and contextual performance. *Journal of Applied Psychology*.

Kvalem, I. L., Soest, T. V., Roald, H. E., Skolleborg, K. C. (2006). The interplay of personality and negative comments about appearance in predicting body image. *Bod Image*, 3(3), 263-273.

Lasch, C. (1979). *The Culture of Narcissism: American Life in an Age of Diminishing Expectations*. Norton & Company, USA.

Magee, L. (2010). *Predicting acceptance of cosmetic surgery: The effects of body image, appearance orientation, social anxiety, and fear of negative evaluation* (unpublished doctoral thesis). The Temple University Graduate Board, USA.

Mai, N. T. T., Jung, K., Lantz, G., & Loeb, S. G. (2003). An exploratory investigation into impulse buying behavior in a transitional economy: A study of urban consumers in Vietnam. *Journal of International Marketing*, 11(2), 13-35.

Markey, C. N., & Markey, P. M. (2009). Sociocultural correlates of young women's desire to obtain cosmetic surgery. Sex Roles: *A Journal of Research*, 61, 158-166.

Mullins, L. S., & Kopelman, R. E. (1988). Toward an assessment of the construct validity of four measures of narcissism. *Journal of Personality Assessment*, 52(4), 610-625.

Park, L. E., Calogero, R. M., Harwin, M. J., & DiRaddo, A. (2009). Predicting interest in cosmetic surgery: Interactive effects of appearance-based rejection sensitivity and negative appearance comments. *Body Image*, 6, 186-193.

Park, L. E., Crocker, J., & Vohs, K. D. (2006). Contingencies of self-worth and self-validation goals: Implications for close relationships. In K. D. Vohs & E. J. Finkel (Eds.) *Self and relationships: Connecting intrapersonal and interpersonal processes*, 84-103. New York: Guilford Press.

Pennington, D., McLoughlin, J., Smithson, R., Robinson, D., & Boswell, K. (2003). *Advanced Psychology: Child development, Perspectives & Methods*. Dorset: Hodder & Stoughton.

Pervin, L., A., & John, O., P. (2001). *Handbook of Personality: Theory and Research* (2nd ed.). New York/ London: The Guilford Press.

Reid, D. M. (1995). *Consumer Marketing in Thailand: turning demand into profit*. Hong Kong: Economist Intelligent Unit.

Robbins, S. P., & Judge, T. A. (2007). *Organizational Behavior* (12th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Robins, R. W., & Paulhus, D. L. (2001). The Character of self-enhancers: Implications for organizations. In R.T. Hogan & B.W. Robert (Eds.), *Personality psychology in the workplace* (pp. 193-219). Washington, DC: American Psychological Association. *Communication and Society*, 3(1), 3-37.

Rumsey, N. & Harcourt, D. (2004). Body image and disfigurement: issues and interventions. *Body Image*, 1, 83-97.

Sarwer, D. B., & Cash, T. F. (2008). Body image: interfacing behavioral and medical sciences. *Aesthetic Surgery Journal*, 28(3), 357-358.

Sarwer, D. B., & Crerand, C. E. (2004). Body image and cosmetic medical treatments. *Body Image*, 1(1), 99-111.

Sarwer, D. B., Grossbart, T. A., & Didie, E. R. (2003). Beauty and society. *Seminars in Cutaneous Medicine and Surgery,* 22(2), 79-92.

Sarwer, D. B., Wadden, T. A., Pertschuk, M. J., & Whitaker, L. (1998). The Psychology of cosmetic surgery: A review and reconceptualization. *Clinical Psychology Review,* 18(1), 1-22.

Schultz, D., P., & Schultz, S., E. (2000). *Theories of Personality* (7th ed.). Belmont: Wadsworth/ Thomson Learning.

Swami, V., Arteche, A., Chamorro-Premuzic, T., Furnham, A., Stieger, S., Haubner, T., & Voracek, M. (2008). Looking good: Factors affecting the likelihood of having cosmetic surgery. *European Journal of Plastic Surgery,* 30, 211-218.

Swami, V., Chamorro-Premuzic, T., Bridges, S., & Furnham, A. (2009a). Acceptance of cosmetic surgery: Personality and individual difference predictors. *Body Image,* 6, 7-13.

Swami, V., Taylor, R., & Carvalho, C. (2009b). Acceptance of cosmetic surgery and celebrity worship: Evidence of associations among female undergraduates. *Personality and Individual Differences,* 47, 869-872.

Swami, V., & Tovée, M. J. (2006). Does hunger influence judgments of female physical attractiveness? *British Journal of Psychology,* 97, 353-363.

Trzesniewski, K. H., Donnellan, M. B., & Robins, R. W. (2008). Is generation me really more narcissistic than previous generations?. *Journal of Personality,* 76(4), 903-918.

Twenge, J. M., Konrath, S., Foster, J. D., Campball, W. K., & Bushman, B. J. (2008). Further evidence of an increase in narcissism among college students. *Journal of Personality,* 76(4), 919-927.

von Soest, T., Kvalem, I., Skolleborg, K., & Roald, H. (2006). Psychosocial factors predicting the motivation to undergo cosmetic surgery. *Plastic and Reconstructive Surgery,* 117(1), 51-62.

Wayment, H. A., & Taylor, S. E. (1995). Self-evaluation processes: Motives, information use, and self-esteem. Journal of Personality, 63(4), 729-757.

Weiten, W., & Lloyd, M., A. (2006). *Psychology applied to modern life: Adjustment inthe 21st century* (8th ed.). Belmont: Thomson Wadsworth.

Wink, P. (1991). Two faces of narcissism. *Journal of Personality and Social Psychology,* 61(4), 590-597.

Wink, P., & Gough, H. G. (1990). New narcissism scales for the California psychological inventory and MMPI. *Journal of Personality Assessment,* 54(3),446-462.

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THE FIRM'S CHARACTERISTICS, CORPORATE GOVERNANCE AND DIVIDEND PAYMENT: EVIDENCE FROM NONFINANCIAL FIRMS LISTED IN THAILAND DURING 2001 TO 2010

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Abstract

Studies conducted in developed countries have dominated the literature on the determinants of dividend payment. Nonetheless, there is much variation in corporate governance between developed and developing countries. The primary objective of this study is to explore the effect of firm characteristics and corporate governance factors on dividend payment in Thailand. The conceptual model in this study integrates important elements which affect the dividend payment, testing firms listed on the Stock Exchange of Thailand (SET) between 2001 and 2010, using 1,525 observations. Results indicate that there are four independent variables which influence dividend payment, consisting of three firm characteristics variables and one corporate governance variable. The results of this study provide benefits to two main parties, the investors and the management involved in the payment of dividends in the company. Basically, investors would be able to select stocks which meet their criteria if they know the factors which influence dividend payment. Moreover, the management teams can attract value stock investors by maintaining the factors influencing high dividend payment.

Keywords: Dividend, Ownership, Influence, Stock Market.

บทคัดย่อ

การศึกษาปัจจัยที่มีผลกระทบต่อการจ่ายเงินปันผล โดยทั่วไป ทำการศึกษาในประเทศที่พัฒนาแล้ว ซึ่งมีข้อแตกต่างของปัจจัยด้านบรรษัทภิบาลอย่างมาก ระหว่าง ประเทศที่พัฒนาแล้ว และ ประเทศที่กำลังพัฒนา ดังนั้นการศึกษานี้มีวัตถุประสงค์เพื่อศึกษา ผลกระทบของปัจจัยทาง คุณลักษณะของบริษัท และ ปัจจัยด้านบรรษัทภิบาล ซึ่งมีผลกระทบต่อการจ่ายเงินปันผลของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย รูปแบบจำลองของการศึกษานี้ได้รวบรวมปัจจัยสำคัญที่กระทบต่อการจ่ายเงินปันผล โดยทำการทดสอบกับข้อมูลของบริษัทในตลาดหลักทรัพย์แห่งประเทศไทย ระหว่างปี 2001 ถึงปี 2010 เป็นจำนวน 1,525 ข้อมูล ผลการศึกษาพบว่า ปัจจัยที่มีผลกระทบต่อการจ่ายเงินปันผลมีทั้งสิ้นสี่ปัจจัย แบ่งเป็นปัจจัยด้านคุณลักษณะของบริษัท สามตัวแปร และ ปัจจัยจากด้านบรรษัทภิบาลหนึ่งตัวแปร ซึ่งผลการศึกษามีประโยชน์ต่อทั้ง นักลงทุน และ ผู้บริหาร โดยนักลงทุนสามารถเลือกหลักทรัพย์ได้ถูกตัวตามความต้องการ อีกทั้ง ผู้บริหาร สามารถดึงดูด นักลงทุนที่ต้องการเงินปันผลสูง โดยการรักษาระดับของปัจจัยที่ส่งผลต่อการจ่ายเงินปันผล ให้เอื้อต่อการจ่ายเงินปันผลในระดับสูงได้

คำสำคัญ: เงินปันผล, ความเป็นเจ้าของ, ความมีอิทธิพล, ตลาดหลักทรัพย์

INTRODUCTION

Nowadays, it seems that investors are more interested in high dividend paying stock (Greenberg, 2012). Especially, in Thailand, the SET realizes the importance of increasing demand in stock with high dividend payment so it developed the SET High Dividend 30 Index as the benchmark index for investors who prefer to invest in stock with high dividend payment. This index indicates the price movement of 30 stocks with a large size (market capitalization), high liquidity (consistently trading) and high dividend payment (SET, 2011).

However, the SET high dividend 30 index provides only the information on the benchmark index for the investors. The knowledge about the determinants of dividend payment is still inadequate. Many investors do not know which stock they should invest if they want to invest in high (low) dividend paying stock. The investors such as low-income investors, retired investors, old investors, risk-averse investors, also foundations, pension funds, and insurance companies tend to prefer high dividend paying stocks (Allen et al., 2000). The investors such as high income investors, young investors, risk-lover investors tend to prefer low dividend paying stock (Allen et al., 2000). How do these investors select the stock which meets their criteria? To answer this question, investors need to understand the factors affecting the dividend payment, so as to understand the true factors which make investors select the right stocks in their portfolio selection. This study can answer such a question to make the investors fully understand the characteristics of stock which pays a high (low) dividend.

Dividend is an imporatant issue for investors, especially value stock investors. On one hand, the value investors prefer high dividend payment. On the other hand, the firm cannot satisfy the investors' need because the company prefers to pay only the appropriate value. A higher dividend payment means that the firm has a lower amount of money for investment and debt repayment. Therefore, the decision about dividend payment is very important for the firm's management. The findings of research provide benefits to both the academic and business world. In the business world, there are two main parties involved with the dividend payment in the company, which include the stockholders (investors) and the management team. Since the individual and the institutional investors cannot force the company to pay as per their wants, the investors should choose the firms which have the characteristics and corporate governance factors most likely to pay what they want. The investors who prefer a high dividend payment should invest in low leverage and small sized firms, low growth opportunity which have single shareholders with high largest ownership.

The objective of this study is driven by the fact that previous literature on the determinants of dividend payment has been mainly conducted in developed countries. However, there is a variation in corporate governance (which is one factor affecting dividend payment) between the developed and developing countries (Mulili & Wong, 2011). The results of the determinants of dividend payment of developed countries, therefore, cannot be generalized to a developing country which leads to the study's research objectives.

The research objective aims to understand which factors drive firms to pay high or low dividends. Therefore, the term dividend payment is used. The main research objectives are to examine the influence of firm characteristics on dividend payment and to investigate the impact of corporate governance factors on dividend payment.

REVIEW OF LITERATURE: DIVIDEND THEORY

The following are familiar dividend theories which consist of seven main dividend theories beginning with the pioneering 'Dividend Irrelevant theory' of M&M (1961). The other theories are the 'Bird-in-the-Hand', tax disadvantage, clientele, dividend signalling, dividend agency, business life cycle theories, and catering theory.

The first theory is **The Miller-Modigliani Dividend Irrelevance Theory**. Miller and Modigliani (1961) explained the Dividend Irrelevance proposition under the assumptions of a perfectly competitive and efficient capital market. They suggested that the dividend payout affects

neither the current share price nor the total return to shareholders because the firm's value is determined only by its basic earning power and business risk. They believed that investors who still want to invest in a firm can use cash from dividends to reinvest in the firm's shares and the result will be equal because there are no taxes or transaction costs in the basic assumption.

Next, **the Bird-in-the-Hand theory** suggests that the dividend payout ratio increases, a firm's stock value increases. The proponent of the theory was Myron Gordon in 1959. Gordon (1959) demonstrated that both the current dividend and the past five-year average of dividend had positive relations to a firm's stock price. This means that dividends increase shareholder wealth. Gordon believed that receiving certain dividends in the current period has lower-risk than waiting for uncertain capital gain in the next period. Investors can at least get money and decide whether to re-invest the money in the same company or not.

The Tax Preference Theory suggests that as the dividend payout ratio increases, a firm's stock value decreases. Paying taxes could impact the investor's preference for a net cash dividend and the firm's value. When dividends are subject to taxation, the relationship between the dividend payout and a firm's value will be negative. The difference between dividend (income) tax and capital gains tax makes a low-dividend payout firm more attractive (Black & Scholes, 1974). It means that a cash dividend payment may lead to a decrease in a firm's stock price.

The Clientele effect represent an important factor to segment markets (Blackburn, Goetzman & Ukhov, 2009). Different groups of stockholders prefer different dividend payout policies. Miller and Modigliani (1961) stated that firms with lower dividend payouts attract investors who avoid dividends. Firms with a high dividend payment would be interesting to investors who are interested in dividends. Black and Scholes (1974) classified investor's dividend preferences into three groups: investors who prefer high dividend payments, investors who prefer low dividend payments and investors who are indifferent about the source of income i.e. dividend or capital gain.

Signaling Hypothesis is based on asymmetric information between insiders (managers or directors) and outside market investors. The insiders have better information about the firm than outside investors (Bhattacharya, 1979: Miller & Rock, 1985: John & Williams, 1985: Ambarish et al., 1987). Signaling theory researchers believe that dividends convey information about a firm's future profitability and growth opportunity. Signaling theory indicates that firms use dividends as signal information to outsiders, where higher dividend payout tends to signal better future profitability and is followed by increasing price.

Agency Hypothesis or Incomplete contracts: conflicts will occur if the contract is incomplete, followed by agency costs. A manager who owns one hundred percent of a firm has different behaviors to a manager who owns less than one hundred percent of a firm (Jensen & Mecking, 1976). When managers own less than one hundred percent, they exhibit selfish behavior: they may make decisions in order to satisfy themselves instead of maximizing shareholder wealth. Jensen and Mecking (1976) labeled the loss from this agency problem as "*Residual loss*". Jensen and Mecking (1976) defined expenditure and cost that has to be incurred to monitor the operation of their agent as "Agency cost". To prevent those problems, a firm should distribute cash to shareholders by paying it out via dividends (Easterbrook, 1984; Jensen, 1986).

Maturity Hypothesis / Firm Life-cycle Theory base on Grullon, Michaely, and Swaminathan (2002) suggest that, "*Firms increase their cash payout as they become more mature because of a diminishing investment opportunity set*" (Grullon et al., 2002, p.388). Thus, paying higher dividend means lower investment opportunity and earnings profit. When a firm becomes mature, it has fewer opportunities to invest, so there are more retained earnings in the firm. Thus, to reduce agency cost, a mature firm should pay cash dividends or repurchase the firm's shares in order to distribute excess funds to shareholders. Therefore, a dividend increase may signal the commitment of management to protect over-investment but not to signal the firm's future profitability.

Catering Theory of Dividends: In the view of a catering theory of dividends "*when investor demand for payers is high (low) and Modigliani-*

Miller-style arbitrage is limited, a stock price premium (discount) could appear on payers (nonpayers), and firms on the margin may then cater to the implied investor demand in an attempt to capture this "dividend premium"" (Baker & Wurgler, 2004, p.272). Catering theory of dividends focuses more on the demand for shares that pay dividends. *"Managers cater to investors by paying dividends when investors put a stock price premium on payers and not paying when investors prefer nonpayers"* (Baker & Wurgler, 2002, p.1).

RESEARCH METHODOLOGY

The theoretical framework explains dividend theory, which is the basic knowledge for hypotheses development and independent variable selection. The theoretical framework has been designed as shown in figure 1. The framework includes seven theories which explain how the two groups of independent variables (which are firm characteristics and corporate governance) are related to the dependent variable. The firm characteristics variable is explained by three theories (Signaling, Agency Cost, and the Firm life-cycle theories), and the corporate governance predictors are explained by five theories (Signaling, Agency cost, Bird-in-the-Hand, Tax Preference, Clientele Effect theories and a Catering theory of dividens).

The conceptual framework explains the research framework together with the selected variables. Based on the literature review of both dividend theory and empirical studies, there is evidence of two groups of variables, namely firm characteristic variables and corporate governance variables, that influence the dividend payment. The relationship between firm characteristics, corporate governance and the dividend payment will be tested as to whether there is a significant relationship between the independent variables and the dependent variable. Each independent variable has been related to dividend payment by the dividends theory as shown in figure 1 as follows:

1. *Profitability:* Signaling theory states that dividends convey information about a firm's future profitability and a firm's growth opportunities (Bhattacharya, 1979; Miller & Rock, 1985; John & Williams, 1985; Ambarish et al., 1987). A board of directors uses dividend payments to convey information about a firm's performance and firm's characteristics to outside investors. Therefore, it is expected that a firm with larger profits (in the current year and expected high profit projected in the future) will signal future profitability to outside investors via the higher dividend payments.

2. *Leverage:* According to agency theory, one of the best solutions to reduce agency cost is to reduce a firm's cash flow in order to reduce the cash and resources available to the firm's managers (Grossman & Hart, 1980; Rozeff, 1982; Easterbrook, 1984; Jensen, 1986). Debt could be another substitute for dividend payment to eliminate agency cost. The debt holder will monitor the agency problem in the firm. Therefore, it is expected that the higher debt level leads to lower

Figure 1: Theoretical Framework as a Foundation Supporting the Testable Relationships

Theories/ Concepts	Predictors	Dependent Variables

Signaling Theory
Agency Theory
Firm life cycle Theory

→ Firm Characteristics

Signaling Theory
Agency Theory
Bird-in-the-Hand Theory
Tax Preference Theory
Clientele Effect
Catering Theory

→ Corporate Governance

Dividend Payment*
*The dividend payment is measured by the Dividend Payout ratio.

agency cost which leads to lower dividend payment.

3. *Liquidity:* Jensen and Mecking (1976) stated that the higher liquidity lead to the higher agency problem. According to agency theory, one of the best solutions to reduce agency cost is to reduce a firm's cash flow in order to reduce the cash and resources available to the firm's managers (Grossman & Hart, 1980; Rozeff, 1982; Easterbrook, 1984; Jensen, 1986). A higher firm dividend might mitigate the agency cost problem which occurs from higher liquidity. Therefore, it is expected that the higher liquidity level lead to higher dividend payment.

4. *Size:* The previous evidence suggests that some large sized firms have more profitable investment opportunities, which stimulate financing needs. According to firm life cycle theory, the high growth opportunity firm needs to use funds for expanding business. Internal funding is cheaper than external funding or new stock issues. Therefore, it is expected that larger firm which have the higher growth opportunity have a lower dividend payment.

5. *Growth opportunity:* According to firm life-cycle theory, "A firm increases their cash payout as they become more mature" (Grullon et al., 2002, p.388). Paying a higher dividend is a sign of lower investment opportunity and profit. Consequently, it is expected that the dividend payment has an inverse relationship with growth opportunity.

6. *Board size:* Larger board size has better quality in monitoring and controlling cost and capital spending. A larger board size allows more specialized directors and thus better monitoring (Chemmanur et al., 2009; Abdelsalam et al., 2008); the higher the monitoring ability of a board of directors, the lower the firm's agency cost. Consequently, the monitoring ability of a board of directors can substitute dividend payments for reducing agency cost. Therefore, it is expected that larger board size lead to a lower dividend payment.

7. *Proportion of outside directors to total directors:* A high proportion of outside (independent) directors is considered better for good corporate governance. Outside directors will monitor and force the firm's management to disgorge retained earnings in order to protect minority shareholders from agency cost and residual loss.

Therefore, it is expected that higher the proportion of outside directors to total directors lead to a higher dividend payment.

8. *Foreign ownership:* Firms with foreign ownership has superior performance compared to domestic firms. Since foreigners have superior technological know-how, and because of the investment promotion benefits from the Thai government (Wiwattanakantang, 2001). According to signalling theory, boards of directors use a higher dividend payment to signal the higher firm's performance. Therefore, it is expected that higher foreign ownership leads to a higher dividend payment.

9. *Largest ownership:* Since these ownees have the largest share in the firm, the best benefits they get from the firm are capital gain from outside investors. According to signaling theory, the largest shareholders want a firm to pay higher dividends to inform outsiders that their firm has good performance. Also, according to catering theory of dividend, a stock price premium (discount) could appear on payers (nonpayers), then firms pay dividend to satisfy investor demand in an attempt to capture dividend premium. Therefore, it is expected that higher largest ownership leads to a higher dividend payment.

10. *Insider ownership:* Insider ownership refers to the shareholders who are involved in a firm's management; the higher the percentage of shares held by insider ownership, the lower the conflict between shareholders and management. According to agency theory, an important solution for reducing agency cost is reducing a firm's cash flow to reduce the power of management to disgorge income (Grossman & Hart, 1980; Rozeff, 1982; Easterbrook, 1984; Jensen, 1986). Therefore, it is expected that higher insider ownership leads to a higher dividend payment.

11. *Family ownership:* The higher the percentage of family ownership, the higher the Return on Assets (Wiwattanakantang, 2001; Chen et al., 2005; Sraer & Thesmar, 2007; Allouche et al., 2008). According to signalling theory, boards of directors use a higher dividend payment to signal the higher firm's performance. Therefore, it is expected that higher family ownership leads to a

higher dividend payment.

12. *Institutional ownership:* According to tax preference theory, there are different rules for dividend taxes and capital gains taxes for normal investors. Individual investors have to pay dividend tax as ordinary income, which is higher than capital gains tax. However, some institutional owners receive tax exemptions for dividend tax, and consequently institutional owners may pay lower dividend taxes than other types of ownership. According to clientele effect, institutional owners prefer a dividend paying firm because of tax advantages. Therefore, it is expected that the higher institutional ownership lead to a higher dividend payment.

According to above explanation, the conceptual framework has been designed in order to explain how each independent variable influences the dividend payment as shown in Figure 2. The following shows the relationship between each independent variable and the dividend payment, and develops hypotheses on relationships based on the review of literature (both theoretical and empirical).

The hypotheses has been developed to test the relationship between each independent variable and the dividend payment as show on belowing

H1o: There is no significant relationship between the firm's profit and the firm's dividend payment.

H2o: There is no significant relationship between the leverage ratio and the dividend payment.

H3o: There is no significant relationship between the firm's liquidity and the dividend payment.

H4o: There is no significant relationship between the firm's size and the dividend payment.

H5o: There is no significant relationship between the firm's growth opportunity and the dividend payment.

H6o: There is no significant relationship between the number of directors and the dividend payment.

H7o: There is no significant relationship between the ratio of outside directors to total directors and the dividend payment.

H8o: There is no significant relationship between the percentage of shares held by foreign shareholders and the dividend payment.

H9o: There is no significant relationship between the percentage of shares held by largest shareholders and the dividend payment.

H10o: There is no significant relationship between the percentage of shares held by insider shareholders and the dividend payment.

H11o: There is no significant relationship between the percentage of shares held by shareholders from same family and the dividend payment.

Figure 2: Conceptual Framework of Hypothetical Relationships

Independent Variables   Dependent Variable

Firm Characteristics
- Profitability
- Leverage
- Liquidity
- Size
- Growth Opportunity

Corporate Governance Variables
Board of Directors
- Board Size
- Proportion of Outside Directors to Total directors
Ownership Structures
- Foreign Ownership
- Largest Ownership
- Insider Ownership
- Family Ownership
- Institutional Ownership

Dividend Payment*
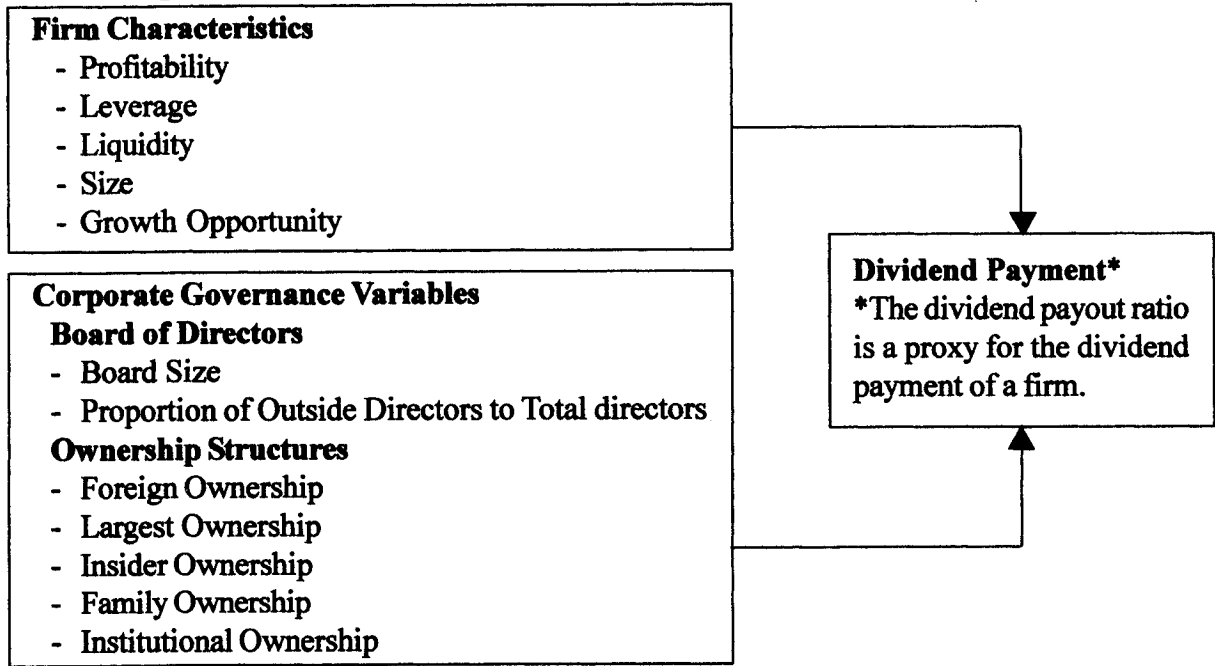*The dividend payout ratio is a proxy for the dividend payment of a firm.

H12o: There is no significant relationship between the percentage of shares held by institutional shareholders and the dividend payment.

To explore the determinants of the dividend payment for the companies listed on the SET during 2001 - 2010, information on each company is carefully collected. Financial firms are excluded since they have different characteristics and regulations in financial reporting standard as well as their general accounting policies. The observation will include only firms with positive net profit that pay dividends, and the firms that have all the variables under this study. In addition, this study screens outliers by using Z-scores and Scatter plots, and the outliers' information will be excluded from the analysis. Therefore, data being collected for the study includes the unbalanced panels of 295 firms, with 1,525 observations.

Secondary data were used in this study; they were collected from three difference sources at the Stock Exchange of Thailand. Those data are 1) Financial statements from www.setsmart.com, the official website of the Stock Exchange of Thailand. 2) Company annual reports, derived from the 56-1 form, and 3) Data from the Information Services Department of Stock Exchange of Thailand. In order to investigate the relationship between the dividend payment and the twelve independent variables, this study adopts a multiple regression analysis. The model of multiple linear regressions is

$$DIV1_{it} = \beta_0 + \beta_1 PROFit + \beta_2 LEVERit + \beta_3 LIQit + \beta_4 SIZEit + \beta_5 GROWit + \beta_6 BZit + \beta_7 OUTit + \beta_8 FOREit + \beta_9 LARGEit + \beta_{10} INSIDit + \beta_{11} FAMit + \beta_{12} INSit$$

DIV1 = Dividend Payment (Dividend Payout Ratio) as measured by the ratio between dividend to net profit

PROF = Firm's Profit as measured by ROA (Return on Asset)

LEVER = Firm's Leverage as measured by Debt to Total Asset Ratio

LIQ = Firm's Liquidity as measured by Current Ratio

SIZE = Firm's Size as measured by Logarithm of Total Assets

GROW = Firm's Growth as measured by Percentage Change of total sales revenue

BZ = Firm's Board size as measured by Logarithm of Total number of Members of Board of Directors

OUT = Firm's Outside Directors on the Board of Director as measured by Percentage of Outside (Independent) Directors to Total Directors

FORE = Firm's Foreign Ownership as measured by the percentage of shares held by foreign shareholders

LARGE = Firm's Largest Ownership as measured by the percentage of shares held by the largest shareholder

INSID = Firm's Insider Ownership as measured by the percentage of shares held by directors and firm's senior management

FAM = Firm's Family Ownership as measured by the percentage of shares held by shareholders from the same family

INS = Firm's Institutional Ownership as measured by the percentage of shares held by institutional shareholders.

β_0 = Intercept term

β_k = A vector of parameters to be estimated

EMPIRICAL FINDINGS

The t-statistic test in the multiple regression model is a two tail distribution. This study, therefore, uses the Wald test to derive the precise testing result. Table 1 summarizes the results of hypotheses testing by using the Wald Test. Multicollinearity also has been checked to determine whether all variables can be put in the model at the same time. Table 2 presents the correlation matrix of twelve variables.

There are four null hypotheses rejected. The null hypothesis of Hypothesis 2 is rejected at a 5% significance level ($\beta_2 = -0.1716$, p-value = 0.0127). The empirical results show that the higher the firm's leverage, the lower the dividend payment. The null hypothesis of Hypothesis 4 is rejected at a 1% significance level ($\beta_4 = -0.0088$, p-value = 0.0900). The empirical results show that the higher the firms size, the lower the dividend payment. The null hypothesis of Hypothesis 5 is rejected at a 5% sig-

nificance level (β_5 = -0.0005, p-value = 0.1000). The empirical results show that the higher growth opportunity, the lower the dividend payment. The null hypothesis of Hypothesis 9 is rejected at a 5% significance level (β_9 = 0.0015, p-value = 0.0329). The empirical results show that the higher the percentage of largest ownership, the higher the dividend payment. The directions of all the rejected hypotheses are consistent with expected outcomes.

The remaining null hypothesis, hypothesis 1 for profitability, hypothesis 3 for firm's liquidity, hypothesis 6 for number of total directors, hypothesis 7 for the percentage of outside directors, hypothesis 8 for foreign ownership, hypothesis 10 for insider ownership, hypothesis 11 for family ownership and hypothesis 12 for institutional own-

ership were not rejected. The results of the Wald Test confirmed the results of the multiple regression model that only 4 key elements, which are the leverage, the firm's size, growth opportunity, and the largest ownership, can explain the variation in the dividend payment, while the other elements, which include profitability, liquidity, board size, outside directors, foreign ownership, inside ownership, family ownership and institutional ownership, cannot explain the variation in dividend payment.

Summary of the results of hypotheses testing is shown on Table 1 with the hypotheses testing and regression analysis presented earlier the following statement can be drawn: "There are significant negative relationship between the firm's

Table 1: Hypotheses Testing Results

Null Hypotheses	coefficient	p-value
H1o: There is no significant relationship between the firm's profit and the firm's dividend payment.	-0.0008	0.4293
H2o: There is no significant relationship between the leverage ratio and the dividend payment.	-0.1716	0.0127**
H3o: There is no significant relationship between the firm's liquidity and the dividend payment.	-0.0006	0.8587
H4o: There is no significant relationship between the firm's size and the dividend payment.	-0.0088	0.0900***
H5o: There is no significant relationship between the firm's growth opportunity and the dividend payment.	-0.0005	0.0980**
H6o: There is no significant relationship between the number of directors and the dividend payment.	-0.0051	0.8602
H7o: There is no significant relationship between the ratio of outside directors to total directors and the dividend payment.	-0.013	0.7552
H8o: There is no significant relationship between the percentage of shares held by foreign shareholders and the dividend payment.	-0.0009	0.1544
H9o: There is no significant relationship between the percentage of hares held by largest shareholders and the dividend payment.	0.0015	0.0329**
H10o: There is no significant relationship between the percentage of shares held by insider shareholders and the dividend payment.	-0.0004	0.2831
H11o: There is no significant relationship between the percentage of shares held by same family and the dividend payment.	0.0000	0.9372
H12o: There is no significant relationship between the percentage of shares held by institutional shareholders and the dividend payment.	-0.0005	0.4341

** = 5% significance level and *** =1% significance level

leverage, size and growth opportunity with the dividend payment. In addition, there is a significant positive relationship between the percentage of largest ownership with the dividend payment".

In conclusion, three variables of firm characteristics variables have significant relationships to the proxy of dividend payment which are leverage, size and growth opportunity and one variable of corporate governance variables have significant relationships with dividend payment which is largest ownership.

DISCUSSION AND RECOMMENDATIONS

The results on Table 2 showed that there are no high correlations evidenced among the twelve independent variables.

The investors who prefer a high dividend payment should invest in low leverage and small sized firms, low growth opportunity which have single shareholders with high largest ownership. Low leverage firms have lower restrictions on dividend payment, so they can pay a higher level of dividend payment. Small sized firms tend to have a higher risk than larger sized firms, so they compensate investors by providing certain income in the form of dividend payments. The low growth opportunity firms tend to use less cash for investment, so they can pay higher dividend payment. A single shareholder with a highest share will have a dominant ability to force the firm to pay a dividend. On the other hand, the growth stock inves-

tors should invest in stock with the opposite characteristics.

The findings of this study provide benefits to management in the sense that the main objective of the management is to maximize the shareholder wealth by maximizing the firm's value. According to catering theory of dividends, management teams can cater to investors by paying dividends when investors put a stock price premium on payers. If the relationship between dividend payment and firm value is positive, following bird in the hand theory, management team can increase the dividend payment in order to raise up the firm value. If the management team can attract the target investor properly, the demand for the stock will increase. Then, the price of the stock and the market value of the firm will increase. If the management teams want to attract value stock investors to invest in their firm, they should maintain the variables which impact high dividend payment and announce to investors that their firm has a small size, a low leverage level, low growth opportunity, high percent of shares held by largest ownership. These characteristics are features of stock which provides a high dividend payment and is suitable for investment. When the investors who prefer to invest in value stock increase investments in the stock, the price of stock and the market value of firms will increase. The objective of the management term, therefore, can be achieved.

To achieve the objective of the management team in increasing the demand for the stock, the investors should fully understand such factors,

Table 2: Correlation Matrix

	PROF	LEVER	LIQ	SIZE	GROW	BZ	OUT	FORE	IARGE	INSID	FAM	INS
PROF	1.00											
LEVER	-0.15	1.00										
LIQ	0.00	-0.41	1.00									
SIZE	0.04	0.43	-0.21	1.00								
GROW	0.13	0.12	-0.05	0.08	1.00							
BZ	-0.05	0.11	-0.12	0.32	0.01	1.00						
OUT	0.05	-0.03	0.07	-0.01	-0.01	-0.43	1.00					
FORE	0.04	0.05	-0.04	0.27	-0.02	-0.08	0.03	1.00				
LARGE	0.00	-0.01	0.03	0.14	0.01	-0.02	-0.03	0.17	1.00			
INSID	0.07	-0.06	0.04	-0.08	0.00	-0.08	0.19	-0.13	-0.24	1.00		
FAM	0.09	-0.13	0.15	-0.32	-0.03	-0.22	0.11	-0.32	-0.19	0.12	1.00	
INS	-0.08	0.09	-0.13	0.26	0.03	0.30	-0.12	-0.26	0.36	-0.17	-0.45	1.00

which can affect the dividend payment. The management team can maintain those factors (structure) in order to achieve their strategy to pay high or low dividend payment. The result of this study, therefore, provides benefits to the SET in the sense that it is an organization that provides information to investors. Currently, SET provides information on the SET High Dividend 30 Index, which is the benchmark index for investors who prefer to invest in high payment stock. However, SET High Dividend provides only 30 stocks which have high market capitalization and high liquidity with limited dividend yields at 15 percent. The results of this study can provide more information with all dividend paying stock for investors. Investors understand that the firms which have a high potential to pay high dividends are the firms which have small size, low leverage, low growth opportunity and a high percentage of shares held by largest ownership. When the investors fully understand the factors affecting the dividend payment, investors can select the stock which meets their criteria. The management team can increase the stock price and firm value as they aim. In addition, the increasing in investor knowledge can benefit the financial market as a whole.

Moreover, as financial planning, management can manage the sources and uses of fund using the dividend payout. A firm's leverage, growth opportunity, size and percentage of share held by largest ownership can be used as the variable to forecast the dividend payment, management can therefore adopt appropriate financial planning in order to balance between dividend payment and future capital expenditure.

References

Abdelsalam, O., El-Masry, A., & Elsegini, S. (2008). Board composition, ownership structure and dividend policies in an emerging market: Further evidence from CASE 50. *Managerial Finance*, 34(12), 953-964.

Allen, F., Bernardo, A. E., & Welch, B. I. (2000). A Theory of dividends based on tax clienteles. *The Journal of Finance*, 55(6), 2499-2536.

Allouche, J., Amann, B., Jaussaud, J. & Kurashina, T. (2008). The impact of family control on the performance and financial characteristics of family versus Nonfamily businesses in Japan: A matched-pair Investigation. *Family Business Review*, 21(4), 315-328

Ambarish, R., John, K., & Williams, J. (1987). Efficient signalling with dividends and investments. *The Journal of Finance*, 42(2), 321-343.

Baker, M., & Wurgler, J. (2002). A catering theory of dividend. *The Journal of Finance*, 1-49.

Baker, M., & Wurgler, J. (2004). Appearing and disappearing dividends: The link to catering incentives. *Journal of Financial Economics*, 73, 271-288.

Baba, N. (2009). Increased presence of foreign investors and dividend policy of Japanese firms. *Pacific-Basin Finance Journal*, 17(2), 163-174.

Bhattacharya, S. (1979). Imperfect information, dividend policy, and "The bird in the hand" Fallacy. *The Bell Journal of Economics*, 10(1), 259-270.

Black, F., & Scholes, M. (1974). The effects of dividend yield and dividend policy on common stock prices and returns. *Journal of Financial Economics*, 1, 1-22.

Blackburn, D.W., Goetzmann, W.N., & Ukhov, A.D.(2009). Risk aversion and clientele effects. In: Constantinides, G.(Eds.). NBER Working paper series. *National Bureau of Economic Research*, Cambridge.

Chemmanur, T. J., Paeglis, I., & Simonyan, K. (2009). Management quality, Financial and Investment Policies, and Asymmetric information. *Journal of Financial and Quantitative Analysis*, 44(5), 1045-1079.

Chen, J., & Dhiensiri, N. (2009). Determinants of dividend policy: The evidence from New Zealand. *International Research Journal of Finance and Economics*, 34, 18-27.

Chen, Z., Cheung, Y.L., Stouraitis, A., & Wong, W.S. (2005). Ownership concentration, firm performance, and dividend policy in Hong Kong. *Pacific-Basin Finance Journal*, 13, 431-449.

Easterbrook, F.H. (1984). Two Agency-costs Explanations of Dividends. *The American Eco-*

nomic Review, 74(4), 650-659.

Gordon, M.J. (1959). Dividends, earnings, and stock prices. *The Review of Economics and Statistics*, 41(2), 98-105.

Greenberg, G. (2012). Retrieved February 20, 2012 from http://www.forbes.com/sites/thestreet/2012/01/18/3-top-dividend-stocks-for-2012/

Grossman, S.J., & Hart, O.D. (1980). Takeover bids,the free-rider problem,and the theory of the corporation. *The Bell Journal of Economics*, 11(1), 42-64.

Grullon, G., Michaely, R., & Swaminathan, B. (2002). Are dividend changes a sign of firm maturity? *The Journal of Business*, 75(3), 387-424.

Jensen, M.C. (1986). Agency costs of Free cash flow,Corporate finance, and Takeovers. *The American Economic Review*, 76(2), 323-329.

Jensen, M.C., & Mecking, W.H. (1976). Theory of the Firm: Managerial behavior,Agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.

John, K., & Williams, J. (1985). Dividend, dilution, and taxes: A Signalling equilibrium. *The Journal of Finance*, 40(4), 1053-1070.

Miller, M. H., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. The Journal of Business, 34(4), 411-433.

Miller, M. H., & Rock, K. (1985). Dividend policy under asymmetric information. *The Journal of Finance*, 40(4), 1031-1051.

Mulili, B. & Wong, P. (2011). Corporate Governance Practices in developing countries: The Case for Kenya. *International Journal of Business Administration*, 2(1), 14-27.

Rozeff, M.S. (1982). Growth,beta and agency costs as determinants of dividend payout ratios. *The Journal of Financial Research*, 5(3), 249-259.

Sraer, D., & Thesmar, D. (2007). Performance and behaviour of family firms:Evidence from the French stock market. *Journal of the European Economic Association*, 5(4), 709-751.

SET (2011). Retrieved February 20, 2012 from http://www.set.or.th/en/products/index/SETHD.html

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