Chapter 5

CONCLUSIONS, DISCUSSION, IMPLICATIONS, LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

The aim of this chapter is to draw conclusions from the results shown and explained in chapter 4. This chapter consists of four sections. The first section presents the conclusions and discussion; the second section presents the major implications of the research; the third section identifies the limitations inherent in this study; and the chapter concludes with suggestions for future research.

5.1 Conclusions and Discussion

The purpose of this section is to summarize the general findings of the study. The first section recapitulates the aims of this research. Sections 5.1.2 and 5.1.3 summarize selectivity and market timing performances measures, and results of the estimation of selectivity and market timing performances, respectively. The findings of selectivity and market timing during the 9 sub-periods are reported in 5.1.3. The findings of correlation between the two market timing performance measures are presented in 5.1.4.

5.1.1 An overview of the two aims

The two primary aims of the study are the isolation and examination of the selectivity and market timing performances of equity fund managers in Thailand during the

period of 1992-2004. The secondary aim pursued in this study is the examination of the sensitiveness of market timing results to alternative market timing performance measures.

5.1.2 Selectivity and market timing performance

Treynor (1965) pioneered a classic risk-adjusted measure based on mean-variance relationship. Later an alternative classical measure was formulated by Sharpe (1966 and 1994) and labeled as Sharpe ratio. The Sharpe ratio uses standard deviation as the relevant risk measure to measure the performance of a portfolio. Jensen (1968) developed a proto-type single factor regression called Jensen alpha model to estimate and isolate the fund managers' skill in the form of an intercept term. As a constant, the intercept term measures the selection ability of a given portfolio. As this model assumes that the risk level of a fund is stationary and thus fails to identify fund managers' market timing ability. Since the inception of the Jensen model, several researchers developed a variety of fund performance measures, such as, Information ratio (Treynor and Black 1973), Components of investment performance on *selectivity* and *risk* (Fama 1972), Four-index model (Elton, Gruber and Blake 1996b), M^2 (Modigliani and Modigliani 1997), Four-factor model (Carhart 1997), Three-factor model (Block and French 2002) and so on. All these models have further focused on investigating the factors that contributes to intrinsic funds' performance rather than on fund managers' timing ability.

Fama (1972) and Jensen (1972) advocate that fund managers often time changes in their portfolio composition with buying and selling activities according to anticipated

price shifts in such manner to reduce risk. Treynor and Marzuy (1966) and Henriksson and Merton (1981) extended the analysis of with a further breakdown by capturing the market timing attribute of fund managers' skills (Grinblatt and Titman (1989b)).

Subsequent to Treynor and Marzuy (1966)'s work, some researchers developed alternative market timing performance measures while others continue to employ existing measures with minimal modifications. Such works include studies by Fabozzi and Francis (1979), Kon and Jen (1978, 1979), Quandt (1972), Henriksson and Merton (1981), Veit and Cheney (1982), Kon (1983), Chang and Lewellen (1984), Lee and Rahman (1990), Grinblatt and Titman (1994), Ferson and Schadt (1996), Beckers (1997), Danial, Grinblat, Titman, and Wermers (1997), Bello and Janjigian (1997), Kao, Cheng, and Chan (1998), Busse (1999), Goetzmann, Ingersill Jr., and Ivkovic (2000), Umamaheswar Rao (2000), Dellva, Demaskey and Smith (2001). The evidence from these studies, based on diversified portfolios, generally indicates that only a limited number of fund managers have either selectivity or market timing abilities.

Empirical results of Thai fund selectivity performance studies during the 1990s using Jensen measure have shown that the funds during 1990s had inferior selectivity performance than the market benchmark (Mainkamnurd 1996, Pornchaiya 2000, and Jegasothy, Satjawathee, and Tippet 2005). Overall results on market timing performance of the Thai funds suggested only a very small proportion of fund managers have had adequate market timing ability (Lonkani 1996, Srisuchart 2001, and Chunhachinda and Tangprasert 2005).

5.1.3 Thai equity fund selectivity and market timing performance results and discussion

The primary aim of the study is to examine the selectivity and market timing performance of equity fund managers in Thailand during 1992-2004. Accordingly, investigations on selectivity performance, market timing performance, and, selectivity and market timing performance over nine overlapping periods (five years each) beginning in January 1992 and ending in December 2004 was carried out. Summary and discussion on the findings of these investigations are presented below.

5.1.3.1 Selectivity and market timing performance results, 1992-2004

Thai equity fund selectivity performance was examined using Jensen measure. The risk-adjusted performance measure strongly indicates that fund manager's selectivity ability with respect to individual fund was inferior to the market benchmark at the 10 percent level of significance. The overall result is consistent with the finding of Jegasothy et al (2005) who also found that Thai fund manager had inferior selectivity performance during 1992-2000. A possible explanation of the inferior selectivity performance could be that the funds were significantly affected by a severe financial crisis during which the economy collapsed in 1997. As a result of the crisis, funds earned unstable dampening returns across the industry making it hard to form systematic guesses. However, when the proportion of the funds having positive alpha value was tested (without considering the significant level of alpha) the majority of Thai equity fund performance was not different relative to the market benchmark during 1992-2004.

Thai equity fund market timing performance in this study is examined by employing Treynor and Mazuy measure, and, Henriksson and Merton measure. Both TM and HM models have strongly indicate that fund managers' market timing ability with respect to individual fund choice was inferior to the market portfolio. This status is further confirmed by examining the frequency of those funds having positive $beta_2$ (without considering the significant level) where the result suggests that majority of the Thai equity fund managers behave as inferior market timer during 1992-2004. These findings are aligned with the observation made by Srisuchart (2001) that the Thai fund managers have exhibited inferior market timing performance during 1990-2000.

5.1.3.2 Selectivity and market timing performance results during the 9 sub-periods

Selected sub time periods were also examined in this study to check for stability of results over time. Nine overlapping of five-year sub-periods beginning in January 1992 and ending in December 2004 was formed in this analysis to determine whether any particular sub-period stands out over the entire sample period. Results based on Jensen alpha indicate that during the early years, all fund managers have performed fund selectivity reasonably better than the following periods. Namely, during the middle years only a few fund managers were able to show adequate level of selectivity skills. The decline in fund manager's fund selectivity performance is very likely outcome of the market volatility that is triggered by the economic crisis that commenced in Thailand by 1997. The country was subjected to a severe financial crisis during which the economy collapsed and noted as the worst recession in modern Thai economic history (Hataiseree 1998).

The selectivity performance result of the first sub-period (1992-1996) is consistent with Bhovichitra (1996) who found that fund manager have handled selectivity well. However, it is diagonally opposite to the findings made by Mainkamnurd (1996) for the period of 1992-1995 that the fund underperformed the market portfolio. The fifth sub-period (1996-2000) result of this study is accordance with the findings of Pornchaiya (2000) who examined fund performance during 1996-1999 and found that Thai fund underperformed the market benchmark during this period.

For the market timing, the result of the first sub-period (1992-1996) finds that only a few fund managers had significant positive market timing ability. The result is consistent with the findings of Lonkani (1996) who investigated on market timing performance during 1992-1995 and found that fund managers in general had inferior market timing ability. In addition, result of the ninth sub-period (2000-2004) is similar to the findings of Chunhachinda and Tangprasert (2005) who examined market timing ability during 2001-2003 using monthly data. The finding was that the Thai fund managers had poor market timing ability than the market benchmark indications.

The finding of inferior market timing ability is also consistent with prior research in developed countries in the 1990s. These studies include Danial, Grinblat, Titman, and Wermers (1997), Beckers (1997), Kao, Cheng, and Chan (1998), Goestzmann, Ingersill Jr., and Ivković (2000), Umamaheswar Rao (2000), Dellva, DeMaskey and Smith (2001).

5.1.4 Correlation between market timing measures

High significant positive relationships between the TM and HM measures in this study indicated that any measure is sufficient in examining market timing performance. This finding is consistent with the results obtained by Dellva et al (2001) in testing correlation among market timing performance measures in the US. Their study showed that the choice of the market timing model does not affect the aggregate results. Although the authors report small differences between the quadratic (TM) and the dummy variable (HM) results, their conclusions are the same.

5.2 Implications of the Research Findings

The first implication of this study is that Thai fund selectivity performance as measured by Jensen Alpha, TM and HM models and market timing performance as measured by TM and HM models provide marginally different but interesting results. The selectivity ability results strongly documented that the selectivity performance of equity fund managers in Thailand was not different from the market during 1992-2004. However, when funds were measured in terms of market timing ability, the performance of Thai equity fund managers is inferior to the market benchmark.

The inconsistent results of both selectivity and market timing abilities suggest that it would be better for investors to consider fund performance information including not only the selectivity performance information but also the market timing performance information. At present most fund management companies provide fund performance information reporting only the selectivity performance in term of rate of return. This

study suggests that the market timing performance information should be made available to investors. Also the selectivity performance in term of risk-adjusted measure should be made available as well.

The second implication is that either TM or HM market timing measure is sufficient to examine market timing ability of Thai equity fund managers. However, for the purpose of gaining insight into fund performance, all two measures should be considered by all participants in the Thai equity fund industry including investors, fund managers, analysts, researchers, regulators, and new market participants because they are different in conceptual links and thus likely to offer differing magnitude to market timing performances by the fund managers. The TM measure provides result on capturing the effects of a fund manager who adjusts for risk based on a timing forecast. Fund managers lower the fund beta when they anticipate a market decline and increase the beta when they expect the market to rise. While the HM measure provides result on how fund managers fit two linear regressions to the fund data, one for up-market periods, when the fund outperforms risk free rate, and the other for down-market periods, when fund underperforms risk free rate.

5.3 Limitations

Unlike fund performance studies in developed financial markets, research study in Thailand, a developing financial market, faces a number of limitations, including data collection, proxy for variables, selection of the risk-free rate, and the market index. The inherent limitations of this study are as follows.

First, non availability market index that included dividend distributions in Thailand to the public domain. Hence the findings of the study are constrained by the choice of market benchmark. The only market index for which data is available over the study period, from January 1992 through December 2004, is the SET Index and its quality is limited by not including dividend distributions. Although an alternative index, the SET 50 Index, exists not considered on this study due to non availability for the full nine-year period 1992-2004 of this study.

The second limitation is incomplete fund data. Voluntary agreement to provide data, no information on terminated funds and inherent survivorship bias contributes to this limitation.

Third, the sample in this study consists of both closed-end funds and open-end funds. The two reasons for using both closed-end and open-end funds in this study are: (1) changing fund type (i.e. from closed-end type to open-end type) has been a frequent event in the Thai fund industry; and (2) in practice, although funds have changed type from closed-end to open-end, money that has been pooled in funds has continually been managed. Therefore, return of funds should be continually calculated as the funds have been continually operating. However, closed-end funds and open-end funds have their own characteristics. Combining closed-end fund and open-end funds into one sample may influence fund performance results and the conclusions inferred.

Fourth, most of the funds have been launched or have been operating significantly after 1992; therefore, the majority of the funds in the sample set have different holding

horizons. This can be illustrated by the fact that only seven local equity funds[1] existed at the beginning of this study time period.

Fifth, use of deposit rate of commercial banks as risk-free rate differs from the developed country approach of using Government Bonds. Since the Thai government stopped issuing the new Government Bonds during the period 1990-1998, there was no risk-free yield curve for Government Bonds during that period. Therefore the deposit rate of commercial banks is used as risk-free rate proxy in this study because it has a full guarantee from the Thai government. In fact, the deposit rate of commercial banks is normally higher than rate of return on the Government Bonds. Therefore, the choice of the risk-free rate may have influenced the interpretation of the results.

Sixth, the fund selection ability measurement using Jensen measure, has been often disapproved for the criticisms laid against the Asset Pricing Models (Brailsford and Heaney 1998). Hence, the interpretations of this study warrant caution as well.

Seventh, a number of alternative measures have been developed in the US studies, such as those by Grinblatt and Titman (1994), Ferson and Schadt (1996), Carhart (1997), Danial, Grinblat, Titman, and Wermers (1997). Employing of these measures is limited in this study because of the incomplete Thai financial market data. During the early 1990s, some important data including fund size, book-to-market equity, and

[1] One of these seven funds, Ruam Pattana Fund (RPF), was terminated in November 1993 and the NAV data of this fund is not available. The sample set of this study remains only six funds at the beginning of the study period.

management fee for many funds have not been recorded on monthly basis or not available.

The limitations listed above are quite similar to that observed in the study by Satjawathee (2004) since both studies have used the same fund data available in Thailand. The main emphasis of this study is different instead of dealing with the data and data transformation issues. The difference is that the study had attempted to deal different issue of jointly observing selectivity and market timing.

5.4 Suggestions for Future Research

Given the limitations listed in the previous section, suggestions are given for further studies of fund performance in Thailand as follows.

First, as stated in 5.3, this study has employed the deposit rate of commercial banks to be a proxy for risk-free rate because there was no risk-free yield curve of the Government Bonds and the Thai government gives a full guarantee for the deposit rate. Since the deposit rate of commercial banks is normally higher than rate of return on the Government Bonds, issues of the *true* risk-free rate and the effect of risk-free rate to risk-adjusted performance of Thai funds are of interest for future research.

Second, to make a gainful understanding of the past market timing and selectivity performances, sub-periods of different time length have to be considered during the performance tests. Different structures of sub-periods such as one year with both

adjacent and cascading periods for testing short-term performance, or sub-periods based on market index, bull-bear market period could be of useful frame works to explore.

Third, if the fund data bank in Thailand becomes more complete and proxy measures are more comprehensive, it will be worthwhile to revisit the same issues with all other evaluation measures to obtain alternative complementary insights into to fund performance information. In addition, financial characteristics that may influence a fund performance, such as fund's size, service fee, proportion of investment and other factors, are suggestions to be considered. Furthermore, if an appropriate market benchmark becomes available, it must be compared with other types of Thai funds, (such as fixed income funds, flexible funds, specialist funds and balanced funds) to make comprehensive judgment on fund industry.

Finally, qualitative data of fund manager, such as fund manager's graduation degree, level of studying, experience in career and so on, is another interesting issue to examine fund manager's ability.