UNIVERSITI PUTRA MALAYSIA

IMPACT OF OWNERSHIP CONCENTRATION, INDUSTRY AND LIQUIDITY FACTORS ON MOMENTUM EFFECT IN MALAYSIA AND AUSTRALIA

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By

TAN YENG MAY

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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IMPACT OF OWNERSHIP CONCENTRATION, INDUSTRY AND LIQUIDITY FACTORS ON MOMENTUM EFFECT IN MALAYSIA AND AUSTRALIA

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September 2015

Chair : Associate Professor Cheng Fan Fah, Ph.D.
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It is well documented that momentum strategies are profitable and significant in developed markets. By contrast, emerging market momentum evidence is found to be inconclusive. This suggests a continued need for further exploration in the research area, and underscores the possibility that some underlying attributes fundamental to the Asian and emerging markets could be responsible for this disparity. The current study examines a few aspects of momentum investment strategy using data from two qualitatively distinct markets of the Asia-Pacific region – Malaysia and Australia. The employment of these two databases helps shed different light on the performances of momentum investment strategies in these markets and how factors ubiquitous to the emerging markets are possibly linked to the momentum effect. The study employs more than 700 stocks for each market and conducts analyses across the study period spanning from 1995 to 2013.

Overall, this study finds evidence of momentum returns in both markets, although evidence in Malaysia is less pronounced and of shorter term nature. In Australia, momentum portfolios are significantly profitable in the short and intermediate terms. In addition to covering a full sample period, targeted examination is also conducted over the 1997 Asian crisis and 2006 global crisis sub-periods to evaluate the impact of severe crisis on momentum profitability. The results are consistent with the prediction of weaker or negative momentum during periods of severe economic downturn.

In addition to stock-level momentum, this study also finds strong evidence of industry momentum for both the Malaysian and Australian equity market. Further analysis of industry-neutral momentum portfolios offers indication that industry component can be a determining factor of stock momentum.

Motivated by the lack of evidence of an association between ownership concentration and momentum effect, the study examines the potential linkage between ownership concentration and momentum. The results show that ownership concentration is an attributing factor of stock momentum in Malaysia, but finds no such compelling evidence in Australia. The Malaysian evidence is consistent with the notion that information uncertainty associated with concentrated ownership leads to more

synchronous price movements. This is in line with the unique institutional and corporate structure of Malaysia. By implementing momentum strategies on liquidity-conscious sub-samples, the study further shows that bid-ask spread can predict the strength and persistence of return continuation for both markets. The finding of this analysis thus validates the conjecture that liquidity plays a determining role in momentum, and it shed light on the relation between liquidity and momentum returns in the emerging market context.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

KESAN-KESAN PENGKLASIFIKASIAN PEMUSATAN PEMILIKAN, INDUSTRI DAN KECAIRAN KEATAS MOMENTUM DI MALAYSIA DAN AUSTRALIA

Oleh

TAN YENG MAY

September 2015

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Kajian mendapati bahawa strategi momentum menguntungkan dan signifikasi dalam pasaran maju. Sebaliknya, bukti momentum pasaran membangun didapati ianya tidak meyakinkan. Adalah dicadangkan kajian berterusan untuk penerokaan lanjutan dalam kawasan kajian, dan merungkai kemungkinan bahawa beberapa sifat-sifat yang mendasari asas kepada pasaran Asia dan baru muncul boleh bertanggungjawab terhadap perbezaan ini. Kajian semasa ini mengkaji beberapa aspek strategi pelaburan momentum dengan menggunakan data dari dua pasaran kualitatif berbeza di rantau Asia Pasifik iaitu Malaysia dan Australia. Penggunaan kedua-dua pangkalan data ini dapat membantu memberi penerangan yang berbeza pada persembahan strategi pelaburan momentum di pasaran ini dan bagaimana faktor-faktor yang sentiasa ada kepada pasaran membangun mungkin dikaitkan dengan kesan momentum. Kajian ini mengambilkira lebih daripada 700 saham untuk setiap pasaran dan mengendalikan analisis-analisis merangkumi tempoh pengajian 1995-2013.

Secara keseluruhan, kajian ini mendapati keterangan pulangan momentum dalam kedua pasaran tersebut, walaupun keterangani di Malaysia adalah kurang ketara dan bersifat jangka pendek. Di Australia, portfolio-portfolio momentum adalah lebih jauh menguntungkan dalam jangka masa pendek dan pertengahan. Tambahan untuk meliputi tempoh sampel yang penuh, pemeriksaan sasaran juga dijalankan ke atas krisis Asia pada 1997 dan krisis global pada tahun 2006 untuk menilai kesan krisis yang teruk ke atas keuntungan momentum. Keputusan adalah selari dengan ramalan momentum lemah atau negatif semasa tempoh kegawatan ekonomi yang teruk.

Tambahan kepada momentum peringkat saham, kajian ini juga mendapati keterangan yang kukuh bahawa momentum industri untuk kedua-dua pasaran ekuiti Malaysia dan Australia. Analisis lanjut portfolio momentum industri berkecuali menawarkan petunjuk bahawa komponen industri boleh menjadi faktor penentu terhadap momentum saham.

Didorong dengan kekurangan bukti berkaitan antara pemusatan pemilikan dan kesan momentum, kajian ini meneliti hubungan potensi antara pemusatan pemilikan dan momentum. Keputusan menunjukkan bahawa pemusatan pemilikan adalah faktor

mengaitkan momentum saham di Malaysia, tetapi mendapati tiada keterangan yang menarik di Australia. Bukti Malaysia adalah selari dengan tanggapan bahawa ketidakpastian maklumat yang berkaitan dengan pemusatan pemilikan membawa kepada pergerakan harga yang lebih serentak. Ini sejajar dengan struktur institusi dan korporat yang unik di Malaysia. Dengan melaksanakan strategi momentum pada sub-sampel kecairan yang peka, kajian itu juga menunjukkan bahawa sebaran penawaran-permintaan boleh meramalkan kekuatan dan kelebihan pulangan kesinambungan untuk kedua-dua pasaran. Penemuaan analisisa ini mengesahkan bahawa kecairan memainkan peranan penentu dalam momentum, dan menerokai penemuan baru pada hubungan antara kecairan dan momentum pulangan dalam konteks pasaran membangun.

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I certify that a Thesis Examination Committee has met on 18 September 2015 to conduct the final examination of Tan Yeng May on her thesis entitled Impact of Ownership Concentration, Industry and Liquidity Factors on Momentum Effect in Malaysia and Australia in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

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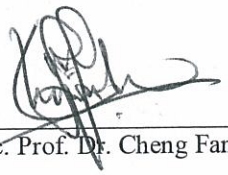
Signature: 
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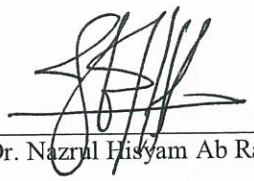
Signature: 
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Name of Chairman Committee: Assoc. Prof. Dr. Taufiq Hassan

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LIST OF ABBREVIATIONS

AMH	Adaptive Market Hypothesis
ASIC	Australian Securities and Investments Commission
ASX	Australia Securities Exchange
AU	Australia
BMA	Bursa Malaysia
EMH	Efficient Market Hypothesis
KLCE	Kuala Lumpur Composite Index
KLSE	Kuala Lumpur Stock Exchange
GDP	Gross Domestic Product
Market Cap	Market Capitalization
MY	Malaysia
YTM	Yield to Maturity
GCIS	Global Industry Classification System
ICB	Industrial Classification Benchmark

CHAPTER 1

INTRODUCTION

1.1 Introduction

The Asian market has taken on greater importance in the world financial markets. According to a 2013 World Bank report, Asia and the Pacific region contributed around 40% of the growth of world economy in 2012. It has also charted the highest regional growth of 7.5% in the same year, supported by robust domestic demand and easing external uncertainties (World Bank, 2013). In addition, a surge in net portfolio flows has been seen in the emerging Asia on the back of markedly easing of global financial conditions since mid-2012, in conjunction with relaxing monetary stances of many advanced economies. Coupled with data from mutual funds that show recovery of capital flows to the strong levels witnessed before the Global Financial Crisis (International Monetary Fund, 2013), this bodes well for a buoyant and resilient Asian financial market which will continue to be in the limelight of international money managers. Indeed, "King of Emerging Markets" Mark Mobius has been quoted as saying that the emerging markets are gearing up to be the dominant economies in the coming decades (Tee, 2014).

"But since the financial crisis, the easy money in emerging markets is over….investors are looking for emerging markets managers that have a successful track record through bull and bear markets" (Hedge Funds Review editorial, 2011, para. 1). Practitioners and academics alike have never ceased searching for a proven trading strategy, or a systematic way to make profit in the capital market. A number of practitioners have adopted relative strength strategies as their stock selection criteria long before any formal academic documentation. Evidence abounds that money managers take advantage of stock return predictability. For example, mutual funds and pension fund managers tend to buy stocks which have shown positive returns over the past periods (Grinblatt & Titman, 1989, 1991; Lakonishok, Shleifer & Vishny, 1992). Grinblatt, Titman and Wermers (1995) also reveal that almost three-quarter of equity funds track momentum. In addition, Keppler (1990) and Macedo (1995) reported on the potential benefits of style investment strategies applied to country selection. There is also evidence of hedge funds' significant exposure to momentum across a variety of assets (Asness, Ilmanen, Israel & Moskowitz, 2013). The above evidence serves to underscore the prevalence of momentum strategy among practitioners and further highlight the popularity of trading strategies that have been proven to systematically deliver profitable results.

Technical trading strategy is predicated upon a belief in return predictability and recurring trends in stock prices over time. Such trading strategy that dictates that past information can be used to predict future direction in a consistent manner violates the Efficient Market Hypothesis (EMH). According to the weakest form of EMH, current stock prices incorporate all past information, and thus investor should not be able to generate significant abnormal profits based on historical information. Having said that, many empirical studies have presented completely opposite evidence. That is, return-based trading strategies have been found to be capable of producing significant profits.

One such popular strategy is the momentum trading strategy. Known also as relative strength strategy, the momentum strategy is based on the notion that current trends of stocks will continue in the same direction over short to medium term, through which abnormal profit is exploitable by investors. The momentum investment strategy involves purchasing stocks that have outperformed in the recent past (winners), and simultaneously taking a short position in the underperforming stocks (losers) over the same horizons. The excess return of the strategy is then derived from the difference between returns of the extreme (winner and loser) portfolios. This strategy was first formally documented by Jegadeesh and Titman (1993) and has since earned intense interest from academicians and practitioners.

There is now substantial literary evidence that momentum trading strategy is profitable. However, most evidence for the significantly profitable momentum investment strategy stems from studies on US and other mature international markets such as Europe. While existence of momentum is found to be remarkably persistent in the developed countries, evidence is at best mixed, if not ranging from predominantly weak to insignificant, in the Asian and emerging markets. This suggests a continued need for further exploration in the research area, and underscores the possibility that some underlying attributes fundamental to the Asian markets could be responsible for this disparity. It is plausible that the peculiarities underlying the emerging markets reveal differences not only in the predictability of stock returns, but also in magnitude and persistence.

Asian markets differ in numerous key aspects from the Western developed markets. Some of the common characteristics embedded in these markets are their rich diversity of cultures, and their unique institutional and political dimensions. This diversity has afforded researchers unique and interesting opportunities to examine what seem to have become regularities in most Western developed markets. Among the most widely discussed peculiarities of Asian markets, particularly the emerging ones, is concentrated ownership. A great deal of research has shown that corporate ownership is highly concentrated in emerging countries. Thin trading of stocks, a liquidity concern, has also found to be more pervasive in emerging markets as compared to the developed counterparts. While trading behavior of institutional investors may greatly impact the movement of stock prices (Yu, 2008), evidence shows that participants in emerging stock markets are overall dominated by individual investors notwithstanding an increasing weight of institutional trading in recent years. Other distinguished qualities that may be segmenting the emerging markets from the developed ones include heavy government interventions in economies and businesses (Ang, 2008), and direct involvement of politics in businesses. It has been demonstrated that the state has been and is becoming an increasingly important owner of firms in the Asian markets. For example, it has been shown that government-linked-companies account for 34% of stock market capitalization in Malaysia as a whole (Asian Development Outlook 2004 Update). Likewise, corporate ownership in the region is highly linked to the major politic transformations (Carney & Child, 2012). Given the vast diversity of social environments, political atmospheres and institutional relations of the region, it raises the issue of generalizability of the findings of developed markets to the emerging ones. In this respect, Bekaert and Harvey described the logic best as follows:

Emerging markets have long posed a challenge for finance. Standard models are often ill suited to deal with the specific circumstances arising in these markets. However, the interest in emerging markets has provided impetus for both the adaptation of current

models to new circumstances in these markets and the development of new models (Bekaert & Harvey, 2003, p.3).

Given the ubiquitous characteristics of Asian markets, it is relevant to inquire whether momentum effect prevails in the region. While evidence of momentum is well-established in the Western developed markets, there is lacking of such in-depth analysis designed particularly for the Asian emerging markets. In this study, Malaysia, a middle-income economy of the region by World Bank's classification, is selected to provide for a focused analysis in this research area. Malaysia is generally regarded as having well-developed capital markets by global standards, yet displays the unique characteristics pointed out earlier. Hence, Malaysia provides an interesting setting for testing what has become an established framework in the current research area. As markets in the same region show a number of variations in financial, economic, and environmental aspects, the current study also examines Australia, a developed market in the region. The deliberate inclusion of the two countries in this study - Malaysia as an emerging Asian market and Australia as a developed economy in the region - is intended to facilitate purposeful momentum study against the backdrop of topics of central importance in this region. Against this backdrop, the current study focuses particularly on two unique characteristics of the Asian markets, namely ownership concentration and liquidity.

Prior research shows that ownership concentration is prevalent in most of the countries in Asia and Pacific. This raises the issue that wealth may be very concentrated in the hands of a few controlling groups. To illustrate this point, Figure 1.1 depicts the proportion of firms controlled by large shareholders using a 20% cut-off in control rights of the largest shareholders in Malaysia and Australia. The figure also shows the mean ownership controlled by the three largest shareholders of the countries in the region.

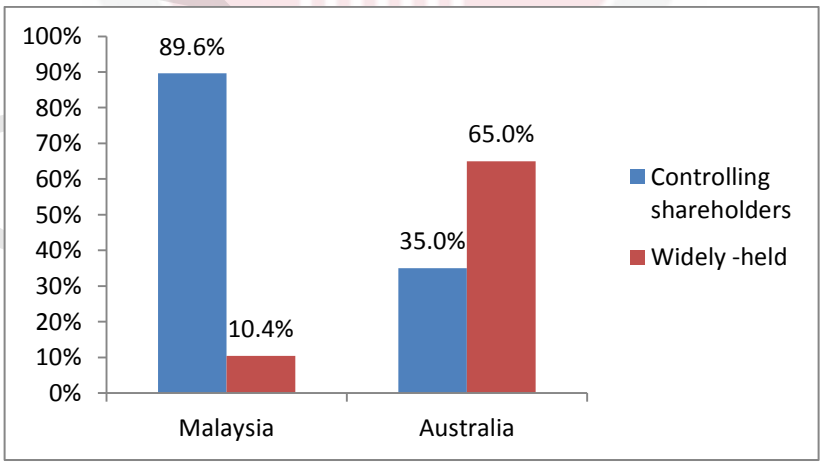


Figure 1.1. Share of Firms under Ultimate Control (20% Control Ownership Level) vs. Widely Held

Adapted from La Porta et al. (1999); Krishnamurti, Sevic & Sevic (2003)

As shown by the above figure, Malaysia as an emerging Asia is uniquely characterized by a large number of family-owned and state-owned companies (Claessens, Djankov & Lang et al., 2000, 2004). It has relatively high degree of ownership concentration - almost 90% of the firms in Malaysia have a controlling shareholder. Australia has been classified as developed market, and concentrated ownership is deemed less pervasive. La Porta et al. (1999) report that 65% of the Australian firms were widely held, using 20% as definition of control for a sample of the 20 largest companies.

In addition to pervasive dominating family ownership, ties between government and business have also been shown to be inseparable in some countries in the region. For example, while families have control over the majority of corporations in Malaysia, Indonesia, Thailand, Korea and Hong Kong, state control is common in Malaysia and Singapore (Claessens et al., 2004). This has been supported by Carney and Child (2012) that has reported that even though family control remains largely prevalent, state control is becoming increasingly important in Southeast Asian countries.

Concentration of ownership is a heavily researched topic in terms of corporate transparency and agency cost. However, the causal effect of ownership concentration and corporate transparency is unsettled and exploration in this topic is incomplete. On one hand, there is vast amount of literature pointing to the expropriation of minority shareholders by controlling shareholders through tunneling of resources (Cheung, Jing, Lu, Rau & Stouraitis, 2009). On the other hand, there is some evidence of controlling shareholders propping up share prices of distressed firms.

The first view argues that it may be easier for controlling shareholders to manipulatively move money and carry on inter-group transactions with minimal publicity and external monitoring. This creates an opaque information environment for firms dominated by controlling shareholders. Additionally, controlling shareholders have been reported to display strong incentive to filter or conceal information in the event of negative news for the purpose of safeguarding their own interests. Therefore, the effect of these undesirable behaviors of controlling shareholders is inadequate information disclosure and corporate opacity. In other words, it is quite likely that concentrated ownership leads to lower corporate transparency and thus greater information asymmetry.

It follows that in an environment where corporate transparency is low, investors are more likely to exhibit psychological conditions such as investor overconfidence and self-attribution bias (Daniel et al., 1998). In another study, investor overconfidence is shown to be more pronounced when investors need to value stocks that require interpretation of ambiguous information (Daniel & Titman, 1999). As a result, mispricing is possibly more severe in firms with higher degree of information asymmetry (Hirshleifer, 2001). Building on these intuitions, a framework has been constructed asserting that lower corporate transparency that stems from concentrated share ownership results in greater information asymmetry, and this further induces greater mispricing of stock prices. The resulting prolonged deviation of stock prices from their fundamental values leads to greater synchronous price movements, and thus stronger momentum.

An alternative view argues that controlling shareholders prop up firm in distress, and through the process benefiting the minority shareholders. If controlling shareholders take actions to stabilize stock prices, thereby inducing the price stabilization effect or a

reversal in share prices, the momentum effect is likely to be weaker (Chui, Titman, & Wei, 2000). A more recent propping example recalls the action of the top management of Astro Malaysia Holdings Bhd, who purchased the group's shares in an effort to support the share price. This happened after the group lost some 10% of its value over two consecutive days post-IPO on 19 Oct 2012. In response to this, four of the company's key management members collectively bought half a million shares on the open market, sending the group's share price up by 3%. On the pretext of price stabilization effect, less pronounced momentum for group with controlling shareholder system may be anticipated. Chui et al. (2000) provided evidence which supports this view.

So in theory, there are potentially two sources affecting momentum in opposite directions, and the net effect of ownership concentration on momentum constitutes an empirical issue to be examined. To put these arguments in perspective, Figure 1.2 demonstrates the two potential countervailing effects of ownership concentration on momentum.

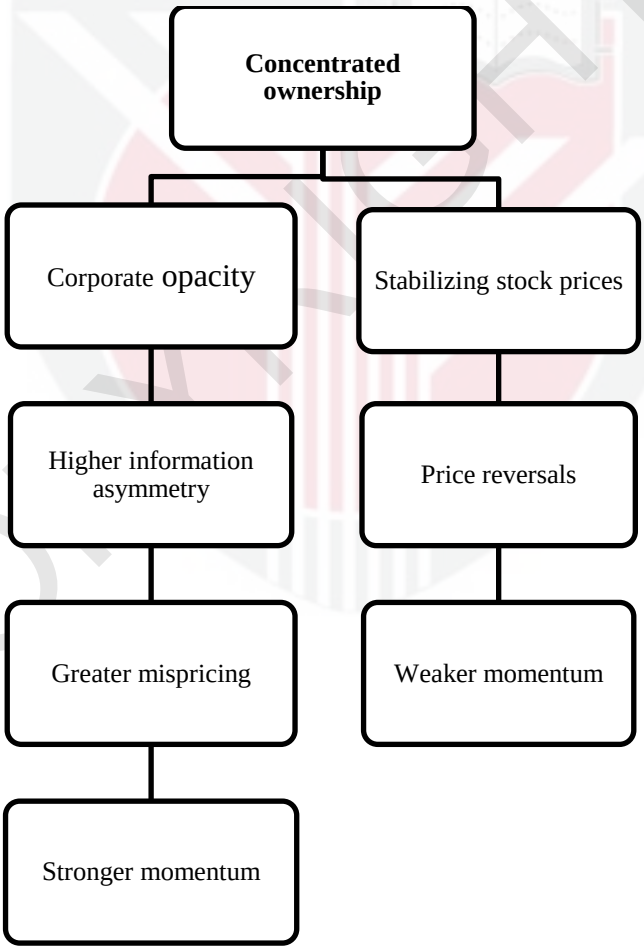


Figure 1.2. Potential Effects of Concentrated Ownership on Momentum

In reviewing the literature, no study has been found which investigates the interaction between ownership concentration *per se* and the momentum effect. The closest paper to this camp is Chui et al. (2000) which used group-affiliated and independent firms as a distinguishing factor to determine the relationship between corporate ownership structure and momentum profits. However, given the apparent prevalence of cultural and institutional differences, it is necessary to examine the influence of concentrated ownership in this typical Asian environment, in which weak minority shareholders protection is more of a commonality. Using Malaysia as one of the databases, this study contributes by offering insight into the potential link between ownership concentration and momentum in an institutionally unique environment. Since issue of ownership concentration also presents in some of the most developed countries (La Porta, Lopez-de-Silanes, & Shleifer, 1998), further contribution has been made by assessing a developed market in the region, namely Australia.

Another dimension that reflects the peculiarities of emerging markets is thin trading of stocks. Thin trading of stocks raises the specter of liquidity risk (Bekaert, Harvey, & Lundblad, 2007), which is an important consideration of international investors when it comes to making cross-border investments. Markets with high concentration are often associated with low liquidity, a quality shunned by institutional and foreign investors as it may lead to difficulties exiting a market prompt enough when needed. Reportedly, Malaysia is among the top 20 most concentrated stock markets in the world by market value (Hsieh & Nieh, 2010). Table 1.2 demonstrates that trading activities in the two selected countries are concentrated in a few listed companies. In Malaysia, 46 companies account for 71.2% of the trading value while in Australia, 98 companies account for 87.7% of trading value (World Federation of Exchanges, 2012).

Table 1.1. Market Concentration (2013)

	5% market value	5% trading value	Number of companies	Total companies
Malaysia	74.60%	71.20%	46	911
Australia	85.50%	87.70%	98	1959

Source: World Federation of Exchanges
Note: Market concentration is given by the portion represented by 5% of the most heavily capitalized companies and 5% of the most traded shares compared to total market capitalization and share trading value of the country, respectively

The notion of risk has been shown to be different in emerging and developed markets. Empirical findings on emerging markets indicate a positive relation between return and turnover (Dey, 2005). In markets in which thin trading of stocks is pervasive, market efficiency is hampered and perceived risk is higher. In light of this, institutional investors must be mindful of how this attribute impacts their investment strategies if they were to operate in this environment. It is conceivable that higher liquidity empowers traders to react to new information more promptly and efficiently. Thinness of stock trading, on the other hand, exerts an opposite effect on the speed of price adjustment. This line of thought seems to suggest that lower liquidity stocks are more

likely to exhibit stronger momentum, due either to a delay in the price discovery mechanism, or under-reaction to information. Notwithstanding the apparent logic of how illiquidity may accentuate momentum, some extant studies document that higher turnover stocks improve the performance of a momentum trading strategy (Chui et al., 2000; Lee & Swaminathan, 2000; Chan, Hameed, & Tong, 2000). An exception to the above is Demir, Muthuswamy and Walter (2004), who documented higher momentum profit when momentum strategy is implemented on firms with low trading volume than on firms with high trading volume.

Diverging empirical arguments of how liquidity is related to momentum may be identified at this point. While much has been researched on whether liquidity is a priced factor for stock returns, little attention has been given to how momentum effect interacts with liquidity. Of the limited few studies that have, attention has been predominantly focused on developed markets. However, insights into such interactions are needed most in an environment in which the liquidity issue is of more practical relevance. In this framework, it is not unrelated to what Wang (1994) has pointed out, that there is a close link between the behavior of trading volume and the underlying heterogeneity among the investors. Furthermore, in the earlier liquidity-momentum studies, turnover and trading volume were used as a proxy for liquidity. Some researchers have however argued that these variables are not good measurement for liquidity (Lee & Swaminathan, 2000; Novak, 2014). Hence, in this study, the bid-ask spread is used as proxy for liquidity to provide fresh perspective in this research area.

Another focal point of this study is the industry aspect of momentum investment strategies. Industry momentum is built on the same intuition that inefficiency of market causes price deviation from long-run fundamental values, thereby causing short-to-intermediate term persistent return continuation. Industry momentum is first documented by Moskowitz and Grinblatt (1999). The authors document a strong and prevalent industry momentum effect in the US equity market when the strategy of taking a long position in top performing industries and a short position in worst performing industries is implemented.

Industry momentum is relatively less explored compared to stock-level momentum. Moreover, prior studies have been concentrating almost exclusively on developed markets. As already mentioned, emerging economies are institutionally and environmentally different from advanced economies. Of note is that emerging markets have been experiencing transformation in the economic dynamics in recent years. Not only do they enjoy high economic growth in which per capital income is increasing, there has also been a noticeable deceleration of population growth. This help fuels greater spending power of consumers in these markets. Other factors that are distinct to emerging markets include policy makers' initiatives to enable infrastructure and to support development of specialized industrial clusters, and strong ties between types of investors and certain industries clusters, to name just a few. Taken as a whole, it is likely that industries of the emerging economies operate on a different landscape from the advanced economies. This presents a niche for studying industry influence on momentum profitability in a setting that is qualitatively different from the advanced market in terms of market structure and thus provides fresh out-of-sample evidence. Lastly, the findings of this study have important implications not only in terms of market efficiency and optimal investment policy, but also the general applicability of the strategy in these markets.

1.2 Growing Importance of the Asia-Pacific Region as a New Focus of Research

While most of the earliest research on momentum focuses on developed markets, mounting interest has been extending to emerging markets, with Asia-Pacific being one of the regions that has captured great deal of attention. The increased research interest in this region is hardly surprising as over the past decade, international investors were increasingly attracted to the robustness of Asia-Pacific economies. This is especially true when global economies are facing a slow-down in growth, while Asia is deemed leading the world out of economic downturn in the recent global crisis. While global growth in 2015 is projected to rise, it is the acceleration of the economically dynamic and rapidly growing emerging economies that drive growth (see Table 1.3).

Table 1.2. Global GDP Growth

	2011	**2012**	**2013**	**2014**	***2015 (projected)***
World	3.9	3.2	3.0	3.6	3.9
Advanced Economies	1.6	1.3	1.4	2.3	2.3
Emerging Markets and Developing Countries	6.3	5.1	4.7	5.0	5.3

Source: World Economic Outlook 2014, IMF
Note: Figures indicate annualized percentage of GDP growth

International Monetary Fund managing director Christine Lagarde put this more aptly as follows:

> More recently, during the dark days of the global financial crisis, it was Asia that kept the flame alive, accounting for about two-thirds of global growth. Clearly, the momentum is here, the dynamism is here, and the future starts here. (Lagarde, November 2012)

As economic gravity is shifting to Asia, it boosts the strategic importance of Asia and Pacific markets. As an illustration, in 2010 alone, GDP of Asia-Pacific excluding Japan grew by 8.3%, almost doubled 2009 growth. Further evidence shows that growth in Asia-Pacific's GDP actually helps to expand the world's GDP by 3.9% (Merrill Lynch & Capgemini, 2011).

The growth in size and importance of the Asia-Pacific stock markets was unprecedented over the past decades. To put this in perspective, the tables and figures below illustrate the remarkable growth of the various stock market indicators of the region. The areas are segregated into three time zones according to World Federation of

Exchanges' classifications, namely the Americas, Asia-Pacific and EAME (Europe - Africa - Middle East).

Figure 1.3 exhibits the breakdown of global market capitalization for year 2000 and 2013. Although the Americas remained very dominant in 2013 (44% of world market cap), Asia-Pacific market size has almost doubled in just over a decade-long period (from 16% to 29%).

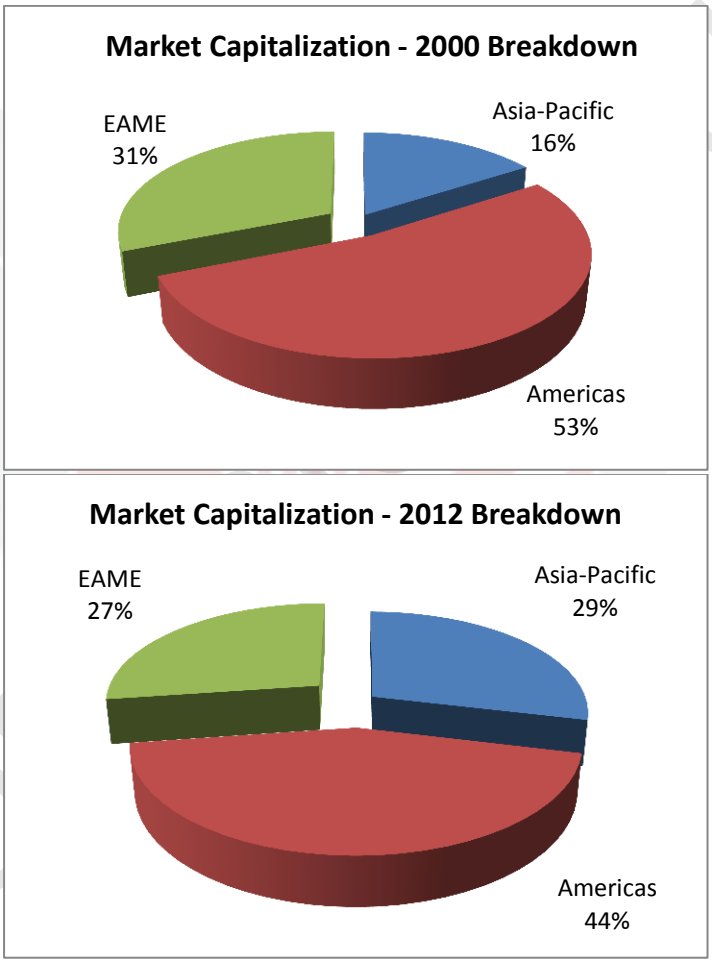


Figure 1.3. Market Capitalization (2000 vs. 2013)
Source: World Federation of Exchanges

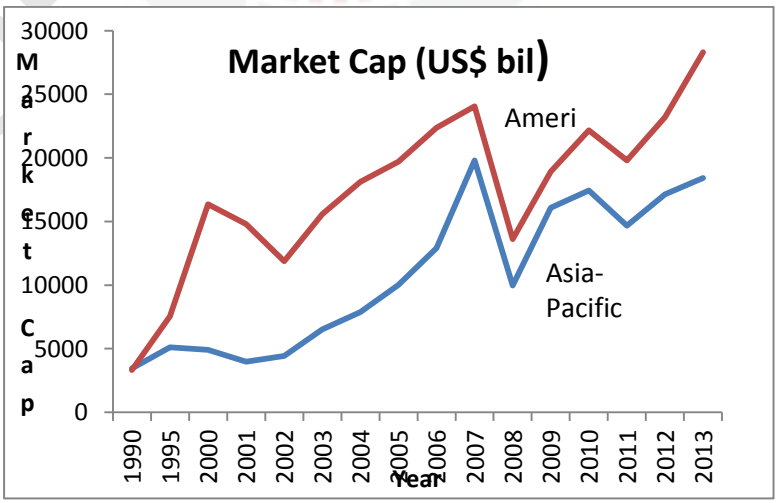
It is further evident from Table 1.4 and Figure 1.4 that growth of Asia and Pacific over the past two decades has been phenomenal. Using Americas as a yardstick to gauge the development of Asia-Pacific's equity markets, a rough check indicates that over a period of just 13 years (2000 – 2013), difference between stock market cap of Asia-Pacific and Americas (inclusive of Canadian stock markets) has narrowed remarkably.

This sheer market cap of USD18 trillion of Asia and Pacific stock market accounts for 29% of total world market cap, offering enormous potential to investors who wish to mobilize their capital across the region.

Table 1.3. Stock Market Capitalization of Asia-Pacific and Americas from 1990 – 2013 (US$ billion)

Year	Asia-Pacific	Americas
1990	3,456	3,315
1995	5,121	7,541
2000	4,919	16,367
2001	3,968	14,792
2002	4,437	11,886
2003	6,517	15,565
2004	7,888	18,123
2005	10,018	19,693
2006	12,908	22,370
2007	19,792	24,063
2008	9,959	13,617
2009	16,082	18,933
2010	17,435	22,173
2011	14,670	19,789
2012	17,131	23,193
2013	18,415	28,297

Source: World Federation of Exchanges



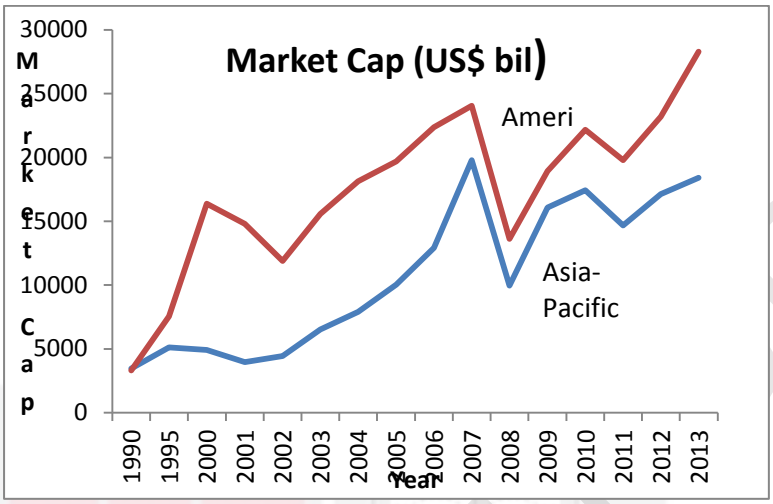
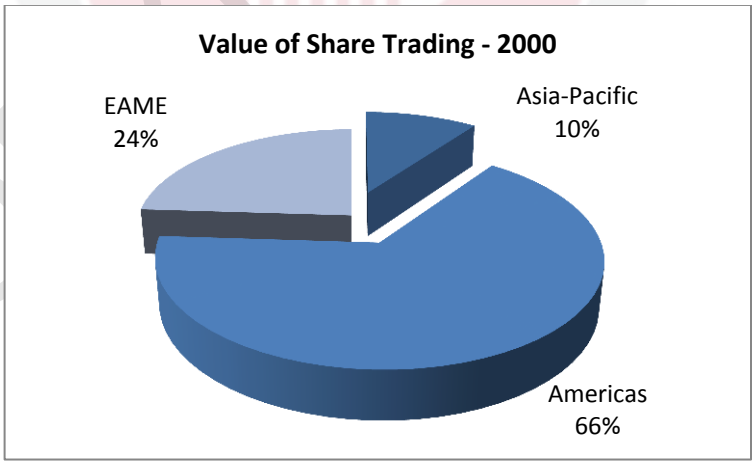


Figure 1.4. Stock Market Capitalization of Asia-Pacific and Americas from 1990 – 2013 (US$ billion)

Source: World Federation of Exchanges

Value of share trading is another key market indicator observed by many. In Figure 1.5 global breakdown of value of share trading (electronic order book) is exhibited for year 2000 and 2013. Notably the total value of share trading of Asia-Pacific has charted impressive growth over the 13-year period. Once again, the economic pies of Americas and EAME have relatively diminished to give way to the expansion of the Asia-Pacific.



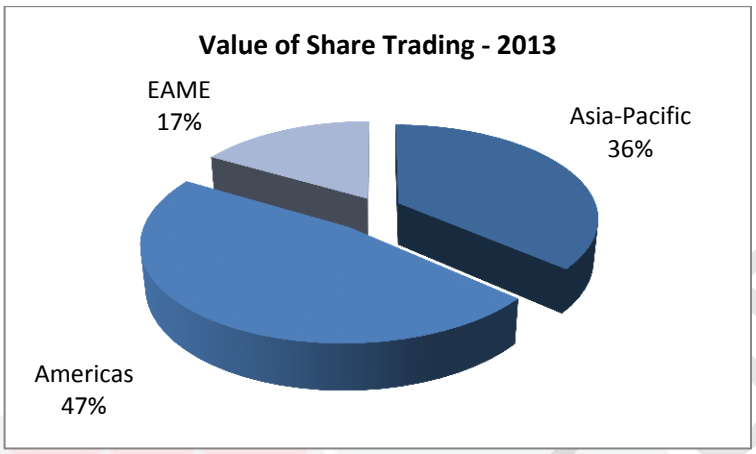


Figure 1.5. Value of Share Trading (2000 vs. 2013)
Source: World Federation of Exchanges

Going forward, although Asia and Pacific's growth is projected to pick up rather gradually amidst a rather unfavorable external financial environment at the point of writing, it is expected to remain as the global growth leader, expanding at a rate 2% faster than the world average in 2013 (International Monetary Fund, 2012). Besides, activities in many emerging economies continue to contribute more than two-thirds of the growth of global economies (World Economic Outlook, 2014).

1.3 Problem Statement

Stock momentum represents one of the greatest challenges to the market efficiency theory. Since its first documentation by Jegadeesh and Titman (1993), it has stirred much enthusiasm among academicians and practitioners due to its remarkable consistency in generating abnormal returns in most developed markets. Comparatively, the same conclusive evidence has not been identified in the emerging markets. This is likely why research interest on momentum effect remains active to date, even decades after its formal documentation.

Given the increasing importance of emerging markets in the world financial stage, coupled with the lack of conclusive evidence of the effect in these markets, more detailed tests on the efficacy of momentum strategies in the Asian emerging markets are imperative. Hameed and Kusnadi (2002) highlight a low correlation between the US and Asian momentum effect and argue that "Asian data provide independent evidence on momentum strategy" (p.392). It is conceivable that these markets suffer from significant inefficiencies, and are less correlated with the US, affording researchers the opportunity to examine the generalizability and practical usefulness of the phenomenon in the region. In this respect, Malaysia as an emerging market is selected for its ubiquitous social-economic and institutional market and corporate structure. Another market in the same region, Australia, has been chosen in light of its developed and mature capital market. The selection of the two markets will thus provide an ideal setting in which the evidence of, and potential contributing factors to, momentum can be tested.

In addition to distinctive institutional and social environmental qualities, the two markets have also faired differently in the two most recent financial crises – the 1997 Asian Financial Crisis and the 2006 Global Financial Crisis. It was documented in Lim, Brooks and Kim (2007) that the 1997 Asian crisis impaired the efficient functioning of most Asian stock markets, with Malaysia being one of the hardest hit economies. In the more recent global crisis, however, Malaysia was able to navigate through it relatively well after recalibrating its management of macroeconomic, corporate and financial risks since the previous Asian crisis. Although the local economies have not been entirely spared from the adverse impact of the global crisis, it was not as severely impacted as previously. Conversely, Australian stock market emerged relatively unscathed from the 1997 Asian crisis. Having said that, the local economies and financial markets did not fare as well in the more recent global crisis. The crisis saw Australian equity prices decrease sharply, sending Australian households' wealth down by nearly 10% by March 2009. Per the above observations, it is apparent that the two dissimilar market environments experienced by the two economies provide an ideal opportunity to examine the effect of severe market downturn on momentum profitability.

While the evidence of past winning stocks consistently outperform past losing stocks abounds, there is relatively little attention on whether past high performing industries outperform past low performing industries in a consistent way. It is generally known that stocks in the same industry tend to move together as they are subjected to the same business cycles and driven by the same underlying factors. Therefore, understanding whether the return continuation effect is persistent if stocks are sorted by industries/sectors provides further evidence on the robustness of momentum effect. While some studies have examined issues related to industry momentum, the evidence is nonetheless confined to advanced economies by far. Compared to developed markets, Asian and emerging markets differ in many dimensions. Hence it will be of much relevance to assess the presence of industry effect in these markets. Besides, in a regional study comparing the industry momentum effect in developed markets and emerging markets, Ji and Giannikos (2010) pointed out some important differences between stock-level and industry-level momentum. In particular, stock momentum in Asia has found to be predominantly weak and insignificant but industry momentum has found to be large and statistically reliable. Secondly, while stock momentum has shown to be weaker in emerging markets than in developed markets, industry momentum has demonstrated to be otherwise.

Corporate finance literature has long been recognizing the importance of industries in explaining various issues phenomenal to the field. This is however not observed in the asset pricing literature. To date, relatively few researchers have documented the influence of industries on conditional asset. An examination of industry momentum profits will therefore deepen the appreciation of industries' role in understanding financial markets of the countries undertaken in this study. While there is some evidence of industry momentum in the developed markets, research in the emerging markets remains sparse and limited.

It is generally known that Asian stock markets and business environment differ culturally and institutionally from their Western counterparts. For one, business organization of firms in developed markets is characterized by dispersed ownership, while concentrated ownership structure has long been embraced by Asian firms. For instance, half of the corporate sectors in Indonesia, Philippines and Thailand, and about

a third of the corporate sectors in Hong Kong and Korea are controlled by the largest ten families of the countries (Claessens et al., 2004). In Malaysia, state-controlled firms are common and this ubiquitous characteristic often renders it one of the most appealing grounds for case studies in related topics. Concentrated share ownership raises an important issue of corporate transparency, and it is common knowledge that information opacity cultivates uncertainty. Nevertheless, despite the pervasiveness of concentrated ownership in this region, and the widely documented association between ownership concentration and information quality, there has yet to be study on how ownership concentration affects momentum profitability. In view of this, the current study aims to narrow the gap by developing a framework that investigates the relation between levels of concentrated ownership and performance of momentum investment strategy. Given the pervasiveness of concentrated ownership in the region, it is not only relevant but also important for institutional investors who are also momentum traders to understand the inherent relation between the two factors. The understanding will thus help in optimizing their portfolio construction process.

Another pervasive attribute of emerging markets is thin trading of stocks. Emerging markets are characterized by high liquidity risk (Lee, 2011) and are smaller in size. This raises the issue of how scarcity of trading affects asset allocation decisions of institutional investors. While much has been documented on the relation between liquidity and expected return, there is scant literature relates this firm characteristic to performance of portfolio construction based on the principle of return continuation. Since money managers are usually momentum traders, and thin trading of stocks is prevalent in emerging markets, it is therefore relevant to determine if improvement of the strategy can be gained by conditioning on this factor. Examining the pretext of scarcity of trading causes delay in price discovery and under-reaction to information, one may expect stronger momentum effect among low liquidity stocks. In this spirit, Li, Brooks and Miffre (2009) document higher momentum returns for low volume stocks. Of note is that extant evidence in this research area is more divided than conclusive. For example, Lee and Swaminathan (2000) argue that it is the high volume stocks that contribute positively to momentum profitability. However, it is noteworthy that prior research uses mostly trading volume and turnover as proxy for liquidity, and all have been focusing on developed and mature markets. In this study, an allegedly more appropriate measurement of liquidity – bid-ask spread – is employed. The empirical issue here is whether investors can benefit from the information of liquidity premium when applying momentum strategy in the markets where illiquidity is a practical concern.

1.4 Objectives of the Study

Whether there is trend continuation of stock prices that is exploitable by money managers is useful. While evidence of such momentum effect is established in the developed markets, there is handful of such focused analyses in the Asian and emerging economies. The main thrust of the current study is to provide in-depth examinations of various issues in relation to momentum effect in Malaysian and Australian stock markets. Specifically, this study seeks to address the following objectives:

1. To establish evidence of stock momentum and to examine the profitability of stock momentum investment strategies.
2. To examine the profitability of industry momentum investment strategies, and to determine if industry can be a contributing factor to stock momentum.
3. To explore the effect of ownership concentration on stock momentum profitability.
4. To examine the influence of liquidity on stock momentum profitability.

1.5 Motivation of the Study

Momentum has found to be substantial in the Western developed markets, but empirical studies on momentum in the Asian markets are limited and have on the whole provided inconclusive evidence. The current study is motivated to add to the literature in the research area of momentum, and to evaluate the efficacy of these strategies in this much deserving region. For this purpose, Malaysia and Australia are selected in view of the distinctive nature of many aspects of their economies. The selection of these two qualitatively differing databases in the same region may help shed different light on the issues discussed herein.

While there have been studies on cross-country momentum involving Malaysia, the position of the market has largely been assessed in comparative discussions in the research area. This study differs from the previous works, as it has been designed specifically for the markets undertaken in this study, and it dissects the idiosyncratic factors uniquely relevant to the markets. It is also worth mentioning that momentum studies in Australia have not been extensively researched, and the extant literature offers contradictory evidence at best (Galariotis, 2010).

The inconsistent finding of momentum in this region highlights an unsettled issue and poses an interesting question: if momentum has found to be substantial in the US and European markets, why is this not so with their Asian counterparts? To pin down the plausible contributing factors, the current study investigates the interactions of momentum profitability with variables that have empirically shown to be prevalent in the region. Given the institutional and environmental uniqueness of these markets, it is conceivable that the inconclusive results may stem from the very differences that separate these economies from the developed ones. The in-depth analysis of the two vastly different databases in this study is expected to shed light on how these variables affect momentum in different settings.

Understanding the underlying factors that drive momentum is essential for effective market timing and deployment of funds by investors, especially international money managers who constantly mobilize their funds cross-country. The findings of this study will guide investors in their choices of enhanced investment strategies, simplify decision-making process and to avoid committing sub-optimal allocation of funds. Against this backdrop, active portfolio management strategies based on market timing and forecasting stock returns thus offer considerable value to investors.

In addition to stock momentum, efficacy of industry momentum trading strategies is also explored. It is generally understood that stocks of any particular industry are highly correlated. That is, they are subjected to the same regulatory restrictions,

exposed to similar macroeconomic factors, and behave analogously in the arena of corporate finance. Hence, it will be interesting to see if industry return continuation is a stand-alone phenomenon and therefore should be accorded separate treatment, or is it an inextricable driving factor of stock-level momentum. Overall, the findings of the current study are expected to further substantiate the knowledge of the field, both theoretically and practically.

1.6 Research Contributions

1.6.1 Contributions to Existing Theories

This study adds to the body of knowledge of momentum by examining whether the peculiarities of Asia-Pacific markets have any influence on the prediction of momentum profitability. Since emerging market returns are lowly correlated both among each other and with the developed markets (Harvey, 1995), the current study provides a validation test on a sample that is not so correlated with samples used in the previous studies. Further, as Asian markets have been gaining increasing weight in the world financial markets, it is crucial that more research work such as this be carried out in the region. In particular, to the author's knowledge, no published work has undertaken a focused country-specific study of momentum effect in Malaysia, and this study is taking a step further in narrowing the gap.

This study extends the existing empirical evidence in several aspects. First, it provides fresh evidence on stock momentum profitability in Malaysia and additional empirical evidence in Australia. The solicitation of new evidence on more markets, and the determination of universal elements of momentum in different markets, "could potentially support the inclusion of the momentum factor in asset pricing models" (Galariotis, 2010, p.370). In addition, this study examines stock momentum over different study periods, including two sub-periods that span across two major financial crises. This allows for assessment of how extreme market environments may impact the efficacy of momentum trading strategies. The current study therefore extends the evidence of momentum both geographically and temporally. Second, the study examines the profitability of industry momentum strategy. This is a less-explored area particularly for the emerging markets. Hence, the current study contributes by providing fresh evidence of industry-level momentum in Malaysia, and additional knowledge to the limited evidence in Australia. Third, it explores the relationship between ownership concentration and momentum, and its implications on the trading strategy. This is largely a novelty as no known study has included this factor in momentum studies. Hence, relation between ownership concentration and momentum returns represents an interesting void to be filled, in the combined area of investment and corporate finance. Lastly, the study investigates how past returns that are conditional on liquidity affect future returns. This makes another major contribution to the momentum literature, addressing the issue of particular relevance to the Asian and emerging markets. In this respect, bid-ask spread, instead of the more commonly used trading volume and turnover, is employed as proxy for liquidity.

1.6.2 Implications for Practitioners

This study has important implications for practitioners. It is broadly known that institutional investors involve actively in momentum trading. For instance, mutual fund

managers in US are prone to pursuing momentum strategies (Grinblatt et al., 1995; Badrinath & Wahal, 2002). Internationally, foreign investors act as momentum traders when they buy stocks (Choe, Kho, & Stulz, 1999). In Lakonishok et al. (1992), pension fund managers were shown to exhibit herding behavior in buying and selling stocks. The above evidence pointedly illustrates the common adoption of relative strength trading strategy among money managers.

Hence the immediate practical implication of this study is to provide useful information on the efficacy of momentum strategies to the investment community. Seeking the best investment options, international money managers frequently access foreign equity markets and mobilize funds across markets. Hence, first and foremost, this study provides useful information on whether positive return is achievable by implementing momentum trading strategies in these markets. As the study also accesses the effect of momentum across several different time spans, the analysis is also relevant to investors who may seek to exploit the strategies based on certain economic states, or to avoid implementing such strategies in others.

Next, the study explores potential influence of institutional factors uniquely relevant to the emerging markets on stock momentum. The findings are expected to provide clues regarding the relations among various firm characteristics and momentum profits, thereby affording investors better knowledge to strategize allocation of funds and optimize portfolio construction. For instance, if high ownership concentration is associated with more pronounced momentum effect, investors who base their portfolio construction on momentum strategies may incorporate this factor in their portfolio selection process. They may do so by first segmenting the securities before implementing the strategies.

Finally, analysis of industry momentum offers useful indications to investors or fund managers who may wish to exploit the industry dimension of momentum strategies. For example, if industry momentum is present, money managers may adopt trading strategies based on industry/sector mutual funds (O'Neal, E.S., 2000).

In sum, since investment in the emerging markets plays an increasing role in asset allocation particularly for international money managers, and given the popularity of momentum investment strategies among traders and money managers, the issues explored in the current study are of relevant and of significant practical usefulness.
Although the current study covers only two countries, it is conceivable that the empirical results and usefulness of this study will be of relevance to other closely related markets in the region. This is especially true in the wake of greater regional economic integration, which allows for unprecedented cross-border movement of investment flows and distribution of funds.

1.7 Chapter Organization

This study is organized as follows. Chapter 1 introduces the research background and motivation of the current study. It highlights the voids in the extant momentum literature, and provides justifications for the current study. Specifically, it poses the problem statements central to the current research area, sets the research objectives, and concludes with the implications of the study.

To provide an overall understanding of the two markets examined in the study, Chapter 2 presents overviews of economic and financial background of the two selected markets, with a special focus on the respective equity markets.

Chapter 3 maps the theoretical dimensions of the research area and critically reviews and synthesizes the extant literature on momentum and other related studies, including ownership concentration and liquidity. In this way the chapter provides a theoretical background through which the framework of the current study has been derived and eventually fitted in.

Description of data collection and research design to test the objectives set forth in the introductory chapter are elaborated in Chapter 4. In the last part of the study, three chapters - Chapter 5, 6 and 7 – have been dedicated to discuss the results and findings of the study. Findings of stock momentum profitability across different time spans are discussed in Chapter 5. Chapter 6 examines the industry aspects of momentum. Chapter 7 discusses possibilities of ownership concentration and liquidity as potential sources of stock-level momentum. A brief chapter, Chapter 8, is used to present summary of findings of all the three preceding chapters in tabular format. Finally, Chapter 9 concludes the whole study, identifies any inherent limitations, and makes suggestions for future research.

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