

THE LAHORE JOURNAL OF BUSINESS

Lahore School of Economics

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Afreen Malik*

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in Dealing with Unanticipated
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Quality of Corporate Governance Risk Management in Dealing with Unanticipated Events: Evidence from Pakistan

Rubeena Tashfeen^{*}, Saud Hayat^{}, Afreen Mallik^{***}**

Abstract

This study examines the effectiveness of the corporate governance structure when coping with any potentially unexpected events. For the purpose of this research, an event study has been conducted in order to investigate the market responses of various firms through the Cumulative Average Abnormal Return (CAAR) of the stocks listed on the Pakistan Stock Exchange (PSX). The stocks data under consideration is that which was presented after the assassination of Benazir Bhutto in 2007. The overall results indicate that firms that are governed conventionally do not perform well in the markets during a crisis situation. In our comparison of conventionally, and non-conventionally governed firms, the overall pooled results show that the former record a lower CAAR. This, in short, indicates that conventional corporate governance structures may not be equipped to take timely and dynamic actions that are deemed necessary in the face of a crisis. Moreover, our results suggest that firms which have less diversified ownership, and governance mechanisms are less vulnerable to such unanticipated events. There are two reasons that support our hypotheses: first, strict governance mechanisms, and a resultant cautious/conservative approach may not allow firms to take timely and proactive decisions during these situations and second, there is a lower chance of existing agency problems, as family owners would be working for the protection of their own wealth during these events. Therefore, our findings ultimately reveal that the conventional corporate governance structures that work during normal time period, may become ineffective during a crisis. This study, aims to fill a gap in the literature in order to provide fresh insights into the stock market dynamic, and corporate governance risk management. Furthermore, it also highlights the benefits of family owned structures, and unconventional corporate governance systems, that may outperform conventional governance structure in some situations. This, however, raises the question whether one governance framework could be the correct fit in all the situations.

Keywords: CAAR, corporate governance, Pakistan Stock Exchange, risk management.

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JEL Classification: G30, G32; G34.

1. Introduction

Over the years, global and national events across the world have proved to be fatal for stock markets. Many researchers have examined the extent to which certain events can impact stock markets. In this regard, their findings have revealed that events such as the 9/11 attacks, London attacks, 2008 global financial crisis, and other global phenomenons and critical events have had a severe impact on stock returns (Ali, Qingshi, Memon, Baz, & Ali, 2017). Similar research has also been done in Pakistan, where authors have studied notable national events and situations, such as Benazir Bhutto's assassination, the long march in 2007, ouster of General Pervaiz Musharraf, the elections of 2008, and the various terrorist attacks (Hassan, Mahmood, Ahmed & Abbas, 2014). Researchers define the events as either anticipated or unanticipated. for instance, if certain happenings cannot be predicted, for example, Benazir Bhutto's assassination, the 2008 Global Meltdown, or the ouster of a dictatorial government in 2008, then these are termed as unanticipated events that have the tendency to leave severe impacts on the unprepared financial markets (Barros & Gil-Alana, 2009).

Corporate governance is one of the most critical concepts considered whenever the matter of corporate performance and shareholder rights arises. It has been argued that the action and process of decision making varies across firms, based on their corporate governance mechanisms and composition. In the global financial crisis of 2008, one of the key factors that contributed in the global meltdown was corporate governance (Erkens, Hung, & Matos, 2012; Kirkpatrick, 2009). Earlier, many firms in the US, such as Enron and World.com, faced bankruptcy due to fraudulent activities and weak corporate governance. This necessitated significant governance reforms throughout the world. In response, countries have now established corporate governance codes which require firms to implement well-defined governance frameworks and mechanisms, in order to ensure the proper management of companies that are aligned to the interest of stockholders.

Stock markets are highly sensitive to the events that take place in the financial markets. A catastrophic event in the market can leave investors and organizations in ruins, as has been evidenced during the global financial crisis. Traditionally, researchers have been employing event specific study tools to analyze the effects of the particular event on the stock earnings (Cumulative Average Abnormal Returns), herein after

CAAR. But their models were limited to the examination of abnormal returns for the days surrounding an event. Our paper extends the methodology of the event study, and establishes an innovative framework. We determine the impact of the Benazir Bhutto's assassination on CAAR, for the PSX stocks. Secondly, and more importantly, our contribution is in the examination of the impacts of conventional and unconventional corporate governance structures on CAAR, specifically in response to Benazir Bhutto's assassination. This paper distinguishes itself from other event studies, as it provides new insights into the performance of firms during an event, and provides new evidence on corporate governance framework and structures during a crisis.

The next section presents the research objectives of this research, followed by the literature review. The fourth section documents the research methodology employed, along with the dilation on the sample data and description of variables. In the fifth section, we provide results of the tests, followed by a discussion of the findings and conclusion of the study.

2. Research Objectives

The larger research objective of this study is to gauge the effectiveness of corporate governance structures: Conventional and unconventional, during crises. And towards the end, we aim:

- a) To study the impact of Benazir Bhutto's assassination event on the cumulative average abnormal returns of the PSX stocks, and,
- b) To examine the impact of the corporate governance structure on the CAAR of stocks during the days surrounding the event.

3. Literature Review

Since the governance crisis of 2001-2003, there have been efforts to bring positive reforms and improvements to the existing standards, through the definition of new regulations to protect shareholders' wealth and organizational sustainability. However, efforts such as Sarbanes Oxley Act (SOX 2002) in the US, and European corporate governance codes still appear to be inadequate as evidenced during the financial crisis of 2007-2008. Many researchers have related the magnitude of losses to the hubris and greed of the management, and poor corporate governance. A statement from an OECD report insists that "the financial crisis can be, to

an important extent attributed to failures and weaknesses in corporate governance arrangements" (Kirkpatrick, 2009, p. 2).

While conducting a cross country study on the impact of governance over the performance of European banks during credit crisis, Beltratti and Stulz (2009) argued that they found no evidence of better performance of banks with better governance. They employed the universally accepted *Corporate Governance Quotient (CGQ score)* method to gauge the governance score. The findings indicated that commercial banks which had directors who enjoyed more independence, and where the shareholders tended to favor the board, suffered the most during the financial crisis of 2007-08. Adams and Mehran (2010) too documented that the ratio of outside directors is irrelevant to firm performance.

Erkens et al. (2012) tried to gauge the influence of corporate governance on the returns of financial firms exclusively during the financial crisis in 2007-08. They obtained data from 30 countries, and their sample constituted of 296 firms from the financial sector. The study found that financial institutions which had a high number of independent directors on their boards, and a high concentration of institutional ownership, had their returns more adversely impacted during the financial crises. They contended that this was because of two main factors: firstly, institutional ownership encouraged the maximization of returns, even at the cost of a higher risk factor; and secondly, independent directors insisted on investing in risky projects, just to maximize the shareholders' wealth.

There is limited research done and available on the impact of corporate governance on the response of the stock market to unanticipated events in Pakistan. Javid and Iqbal (2008) address the effects of corporate governance on corporate valuation, ownership and corporate financing in Pakistan. Furthermore, the authors also examine the determinants of corporate governance and investigate whether more concentrated boards, ownership, external financing, firm size, and project opportunities have any relationship with the strength of corporate governance. Their findings suggest that it is eventually the financial markets that compensate good governance and punish bad corporate governance practices. Firms with high growth and a larger size tend to require more external financing and as a result, they tend to choose better governance standards and practices, and a higher level of transparency. On the other hand, firms with concentrated ownership do not tend to adopt good governance practices and also prefer to disclose less. On the contrary, Carney (2005) and Anderson and Reeb (2003) argue that when there is higher family

ownership and firms experience less agency issues. They claim that family owners certainly do have more rights over assets and hence, they are more active in making a decision, given the time constraint of an opportunity that might have the potential to materialise. This gives them a competitive edge over other rival firms.

In another study, Hassan et al. (2014) examined the responses of KSE 100 index returns to political events through the years 1998 to 2013. They calculated the abnormal returns to measure the market responses and employed the event study methodology for this purpose. As a part of their study, they recorded the adverse abnormal returns a few days prior, and a few days post the occurrence of an event for every outcome window that was examined. Nazir et al. (2014) also studied the impacts left by political events on abnormal returns for the years between 1999 and 2011. They employed the mean-adjusted return model to examine the stock return responses through the event study. The main objective was to study the difference in returns due to certain political regimes i.e., autocracy and democracy. The authors contended that Pakistani stock markets are very sensitive to political upheavals, with the KSE 100 listed companies recording negative returns post political crisis event. At the same time, the study also observed the Karachi Stock Exchange's inefficiency, as the market started absorbing the strident information only 15 days after the event. Since there have been fewer dictatorships in comparison to civilian government, the authors were not in a position to make any inferences on stock market responses during the autocratic government style.

Another study was conducted by Taimur and Khan (2015) on the effects of political events and natural disasters on Pakistan KSE 100 stock market, by conducting a research on almost 43 government specific, and four disastrous occurrences from the years 1998 to 2013. The authors classify political events into two parts: a) encouraging political events; and b) negative government occurrences. By using different event windows, they inferred that the catastrophic happenings have had no effect on stocks returns, whereas negative political occurrences unfavorably have affected the returns of listed firms on Pakistan stock markets. Suleman (2012) conducted a similar study, but used the univariate asymmetric GARCH methodology in order to fulfill his research objectives. The purpose of his research was to measure the impact of any political news on the stock market through the variability of stock market returns. The findings indicated that the industries or sectors which tend to be highly volatile in response to good news, tend to have lower beta and variances that change rapidly over time.

Recently, there has been a growing awareness of the disadvantages of conventional governance structures, mandated under the codes of corporate governance. Researchers and industrialists are questioning whether family dominated governance structures, with less independent directors, have some advantages over the conventional type of framework. Warren Buffet questions whether any director can be totally independent when it comes to the compensations pertaining to the the board of directors. In this part of the continent (India and Pakistan) there are promoter-driven companies, where the boards may not be able to achieve independence. Recently, the Tata and Mistry conflict has highlighted the need to reevaluate the corporate governance structures and control mechanisms, especially with regard to independence. Others are questioning whether the conventional type of corporate governance can adequately manage and control the very large conglomerates, where numerous layers of hierarchies exist (Livemint, 2017).

The fact is that the current model of corporate governance, itself, has been challenged at many forums, particularly for family owned businesses. The requirements of management of family owned business, and their governance structures are perceived to be different than the standard model of corporate governance.

Our research mainly focuses on the variability of cumulative abnormal returns during the biggest political/terrorist events that took place in the history of Pakistan, and caused turmoil and panic amongst the public and investors who were relying on the stock exchanges. We examine the governance structures prevalent in the KSE listed companies at the time of the event, in order to assess their role during the crucial event. The objective of this study would be to determine whether conventional governance structures provided a cushion to companies during the crisis. This is the first study to make such examination, both in Pakistan and internationally, and we have aimed to contribute to the field of corporate governance, and also add depth to the literature pertaining to the studies of finance.

4. Methodology

Event studies have popularly been used to test the stock market efficiency in the literature pertaining to finance. The objective of this tool is to see what effect an event can have on returns or firm performance. There are generally two types of events that can be examined: Anticipated and unanticipated events. Events which can be predicted, or are pre-determined fall within the category of anticipated events, such as dividend

announcements, merger announcements, acquisitions, and joint ventures. Unanticipated events, on the other hand, occur suddenly and without any prior information of the event. They can have catastrophic effects such as, the 2008 global financial crisis, terrorist attacks, natural disasters, etc. Brown and Warner (1985) have elaborated in great detail on the methodology of constructing an event model, where the variable of interest is to be examined, both before and after the occurrence of the event.

We follow the methodology of Brown and Warner (1985) in developing our model. The main event to examine in this study is the event of the assassination of Benazir Bhutto (a two-time serving former prime-minister of Pakistan), that took place on 27th December, 2007. The reason behind studying Benazir Bhutto's assassination event is that it was one of the most catastrophic events in the political history of Pakistan, having drastic economic consequences as well. Generally, in order to study the effects of an event on firm earnings, researchers resort to the examination of abnormal returns as the indicators of the firm's earnings. There are a few studies that examine the CAAR, and have largely observed a negative CAAR for the event. The primary focus of this research is to examine the CAAR for the event with respect to the impact that corporate governance has during the occurrence of unanticipated events or crises.

4.1 Data

The data has been collected from the annual reports of the companies that are part of the study sample. The "event" that is taken into consideration for the purpose of this research constitutes of a single event, which was the assassination of Benazir Bhutto. In this regard, the data has been extracted from 45 firms, listed on the stock exchange. We have considered the top 10% of the firms, under each sector on the PSX, based on their market capitalization. Currently, there are almost 584 listed companies operating on the Pakistan Stock Exchange, belonging to approximately 36 sectors. However, it was observed that there were firms from certain sectors whose data was not available, and hence, these were excluded from the study sample.

This study employs both corporate governance, and data pertaining to abnormal returns. For the purpose of reviewing the abnormal returns, the market price of the shares were taken prior to the event date. Usually, the event studies take a term horizon of 220 or 240 days returns before the event, in order to calculate the expected returns or the estimation window. We have calculated expected returns using a horizon of 260 days

returns. Moreover, by using the method proposed by Kothari and Warner (2007), we have calculated the expected returns through the market model, by regressing each stock's historical return on the markets return. Corporate Governance data pertaining to corporate governance characteristics, i.e., Big-4 auditors, family ownership, foreign directors, independent directors, block holders, and CEO & chairman duality, were extracted from the annual reports manually.

4.2 Corporate Governance Variables

A distinguishing feature of this paper is the examination of CAAR, based on the corporate governance components. We have segregated the governance structures into the conventional and unconventional, where the mandatory requirements under the code of corporate governance are termed as conventional corporate governance. Any governance composition that deviates, and is different from the conventional structure, is termed as unconventional governance. To add to this, we have followed Lang's and Maffte's (2011) method in our distinction between the two groups. The authors have studied the transparency of the stocks during the 2008 global meltdown, and classified firms into highly transparent, and those with low transparency, using an index. We have also segregated the corporate governance variables into conventional and unconventional variables, and examine the components: Big-4 audit firms, foreign directors, family ownership, independent directors, institutional ownership, block holders, and CEO/Chairman duality.

Javid and Iqbal (2008) studied the impact of the ownership concentration, and the performance of the KSE stocks. They argued that firms in developed economies are dominated by ownership characteristics i.e. lower family ownership, higher independent directors, higher institutional ownership, and lower block holders. Some authors also suggest that firms with less ownership concentration are more proactive in their decision making processes, in wake of thee unanticipated events that might occur (Feinberg, 1975). The corporate governance mechanisms are developed based on the classifications shown in Table 1.

Table 1 shows the composition of the governance mechanisms. BIG-4 audit firms are taken as the dummy variable, and rated conventional if the firm has external auditors from BIG-4 or "0" otherwise. Foreign directors is also taken as a dummy variable representing the conventional governance if there are foreign directors in the BOD. Family ownership is measured as the percentage of the shares held by the family members,

indicating conventional governance if family holdings are below the mean of the overall sample. Similar measures are taken for independent directors, and institutional ownership. CEO/Chair duality is also taken as a dummy variable, and is labeled as conventional governance, if both positions are not held by the same person. Lastly, block holders are measured as the number of block holders in a firm.

Table 1: Segregation of Corporate Governance Mechanisms

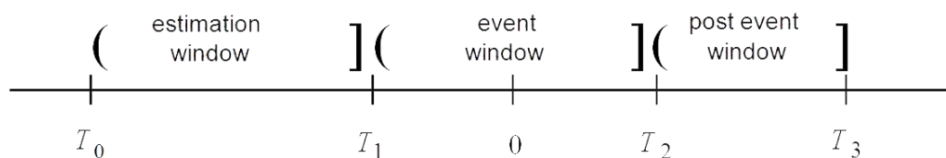
Variable	Measure	Conventional Governance (1)	Unconventional Governance (0)
BIG4	Dummy	Yes	No
FORDRC	Dummy	Yes	No
FAMOW	Mean	<Mean	>=Mean
CEO/CHR	Dummy	If duality	If no duality
INDDRC	Mean	>=Mean	<Mean
INTOW	Mean	>=Mean	<Mean
BLOCK	Mean	<Mean	>=Mean

Variable definitions are provided in Appendix 2

4.3 Event Design

The event study is designed using the work of Kothari and Warner (2007). It is based on a short horizon, as we have taken into consideration the first 20 days in the post-event window, since the stock markets show sensitivity (though diluted) to events up to the 20th day, but the effects disappear after this..

Figure 1: Model of Event Study



The above figure shows the model of our event study, where the ' T_0 ' represents the beginning of the estimation window, i.e. one year prior to the event window, and ' T_1 ' as the end of the estimation window. Whereas, ' 0 ' is the event date i.e., the day that Benazir Bhutto was assassinated, lies between ' T_1 ' and ' T_2 ', and this event window is based upon a single day for the event which took place on 27th December, 2007. The post-event window that lies between ' T_2 ' and ' T_3 ', comprises of the 20 days after the event, and it is our

focus of interest for the purpose of this study. The detailed methodology for estimating the CAAR is provided in Appendix 1.

5. Results

Based on the techniques described in the works of Kothari and Warner (2007), we have run the market model to derive the abnormal returns for the stocks. Subsequently, we have also computed the CAAR from the abnormal return of stocks for the pooled sample for each day, starting from day 0 as the day of the event. In order to meet the objectives, conventional and unconventional governed firms are distinguished in the way that Lang and Maffte (2011) guided in their research papers. The description of the governance variables is provided in Appendix 2. Furthermore, we have segregated the CAAR for the stocks by splitting the sample based on conventional and unconventional corporate governance. The results of a comparison between the mean CAAR for pre-event and post-event periods are presented in Table 2.

Table 2: Mean CAAR for Firms with Conventional and Unconventional Governance

	Pre-Event		Post-Event	
Pooled	0.5032835		-0.1245758	
	Conventional	Unconventional	Conventional	Unconventional
Pooled	0.0770744	0.0429811	-0.0052917	-0.0178909
BIG4	0.2639915	0.239292	-0.1306628	0.0060871
FRDR	0.2831761	0.2201074	0.0649133	-0.1894889
INDR	0.0505098	0.4527737	-0.0924687	-0.032107
FMOW	0.2701282	0.2331553	-0.2283304	0.1037548
INOW	0.1724838	0.3307997	0.0137473	-0.138323
BLOCK	0.1758976	0.3273859	-0.1115695	-0.0130061
CECH	0.2842668	0.2190167	-0.0024229	-0.1221527

The above Table 2 shows the mean values of CAAR for the pooled and grouped samples. The firms are divided into two groups; conventional and unconventional, based on their governance structure. The CAAR for the pooled sample drastically drops below zero during the post-event days. The grouped sample mean differences present a different picture. The mean CAAR for the conventional governed firms was higher to those of unconventional governed firms (0.0770 and 0.0430) in the pre-event days, and as well as in the post-event days (-0.0053 and -0.01790). The BIG-4 auditors show a higher CAAR during the pre-event days. Although the results drastically changed in the days following the assassination, as the firms having auditors other than Big-4 (0.0060) performed far better than

those firms using Big-4 auditors (-0.1306). When looking for representation of foreign directors in the BOD, we find that firms with foreign directors performed better than those which had no representation of foreign directors, and this difference persists in both the pre-event and post-event days. Firms with more independent directors in the BOD were more vulnerable to the event, as their abnormal returns were low compared to firms with less independent directors. Firms with higher family ownership, and larger institutional ownership show higher CAAR values after the event. Furthermore, firms with a larger number of block holders appear to have done better than those with a lower percentage of block holders; and the CEO & Chairman duality provides higher CAAR values after the event.

Table 3 provides a summary of the final results that are computed by running Levene's test of the equality of variances, and a two sample t-test for equality of means. The detailed results of the tests are provided in Appendix 3. We determine whether the post-event CAAR for the Pooled sample is statistically different from the estimation window or not. The results suggest that the post-event CAAR is statistically different between firms which have unconventional and conventional governance. However, the CAAR recorded is negative. Secondly, for the pooled and grouped samples, we have run tests to see if the two groups (conventional and unconventional governance), are different from each other in both their mean performance and variance. The pooled sample, which was divided into conventional and unconventional governed firms, shows that these firms are significantly different from each other. However, the results for differences in CAAR variances for the BIG-4, family ownership, CEO/Chairman duality, foreign directors, independent directors, and institutional shareholding are significantly different.

An analysis of the two sample t-test of equality of means shown in Table 3 depicts that there is a difference in the mean CAAR performance for the two groups: conventional governance and unconventional governance. While all the results are statistically significant, the Pooled sample, Big-4, independent directors, family ownership, and block shareholding exhibit higher mean CAAR values for the unconventional governance group.

Table 3: Mean CAAR differences for post-event Days

	Mean CAAR	t-statistic
Pooled	-0.02437	-3.109***
Mean Difference Governance Conventional (G) – Unconventional (P)		
Pooled	-0.71517	-8.29***
BIG-4	-0.13072	-5.919***
FRDR	0.25156	9.84***
INDR	-0.6181	-2.376***
FMOW	-0.33944	-10.13***
INTOW	0.15895	6.25***
BLOCK	-0.10974	-3.957***
CECH	0.12072	5.37***

Pooled CAAR are highly statistically significant for all the days considered in the post-event window. We have run a two-sample t-test to determine if the grouped samples (conventional and unconventional) are statistically different from each other. ***, **, * show the significant p-levels at 1%, 5% and 10% respectively.

The differences in governance control mechanisms for conventional and unconventional structures are highlighted graphically in Figures 2, 3, 5, 6, and 8, respectively shown below. The foreign directors, institutional ownership and CEO/Chairman duality show higher CAAR mean values for the group with conventional governance, which is demonstrated in Figures 4, 7 and 9, respectively.

Figure 2: Cumulative Average Abnormal Return (CAAR) for Conventional (GCG) and Unconventional (PCG) Corporate Governance Sample Firms

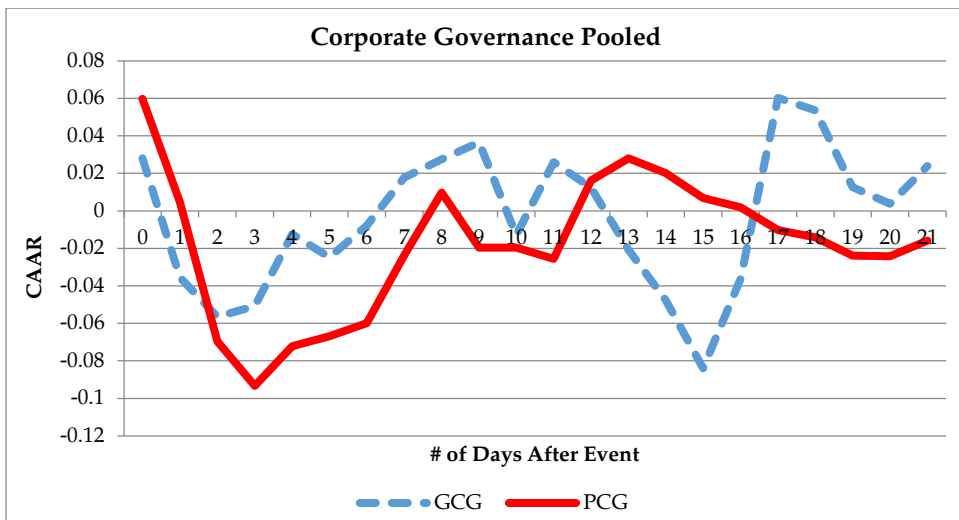


Figure 3: CAAR for Firms that use Big 4 Auditors (BIG-G) and Non-Users (BIG-P)

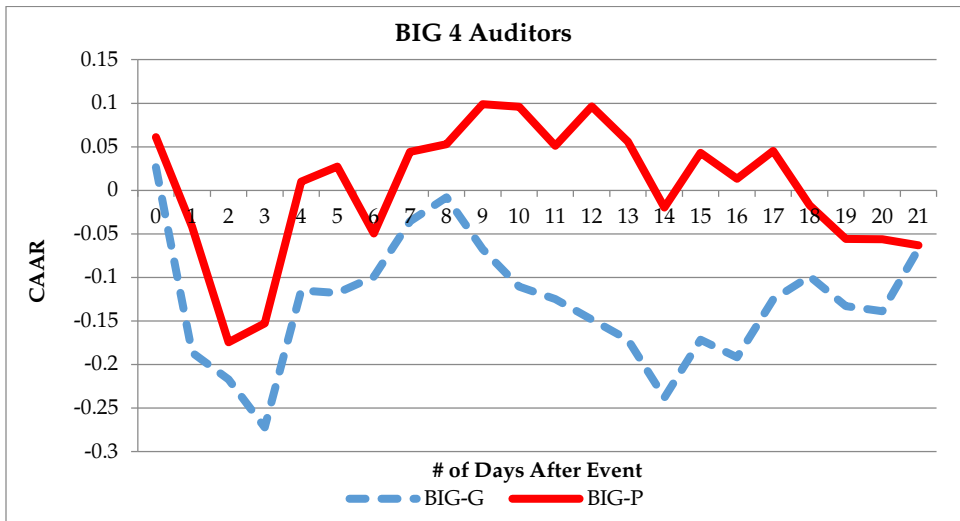


Figure 4: CAAR for Firms with (FRDR-g) and without (FRDR-P) Foreign Directors

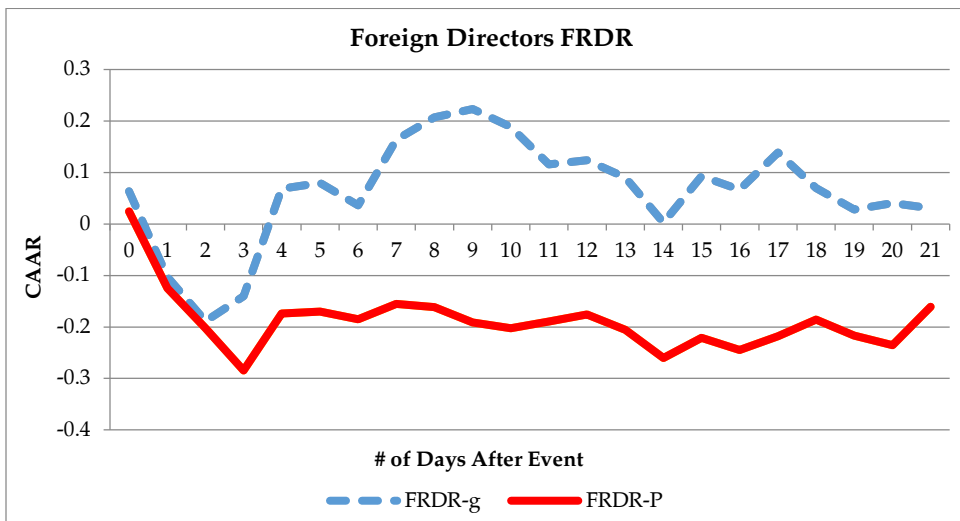


Figure 5: CAAR for Firms with Higher (INDR-G) and with Lower (INDR-P) Number of Independent Directors.

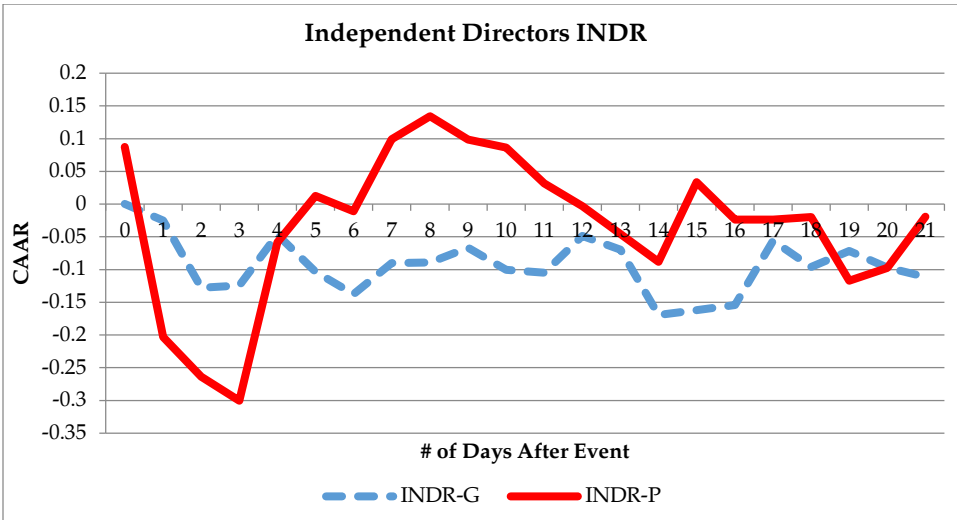


Figure 6: CAAR for Firms with Lower Family Ownership (FMOW-G) and Higher Family Ownership (FMOW-P)

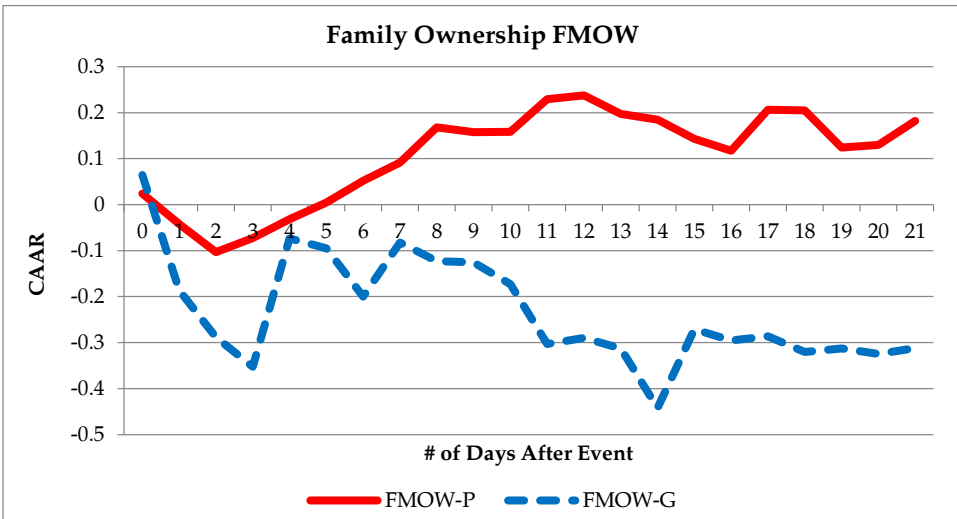


Figure 7: CAAR for Firms with Larger (INTOW-G) and Smaller (INTOW-P) Institutional Ownership

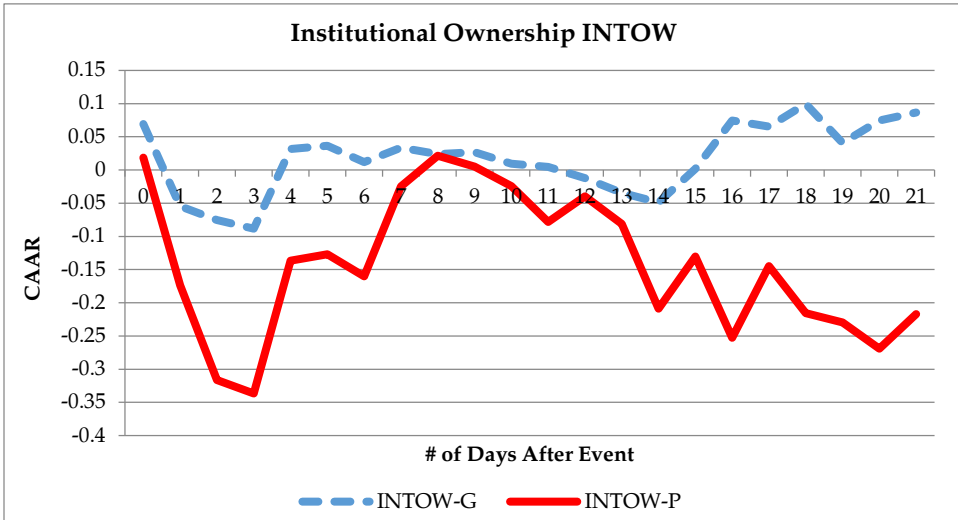


Figure 8: CAAR for Firms with Higher (BLOCK-P) and Smaller (BLOCK-G) Block Ownership

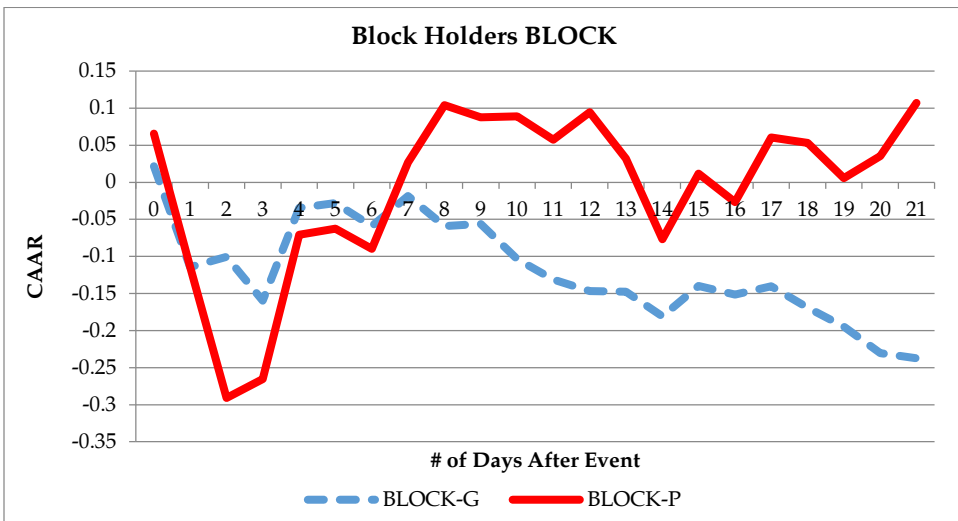
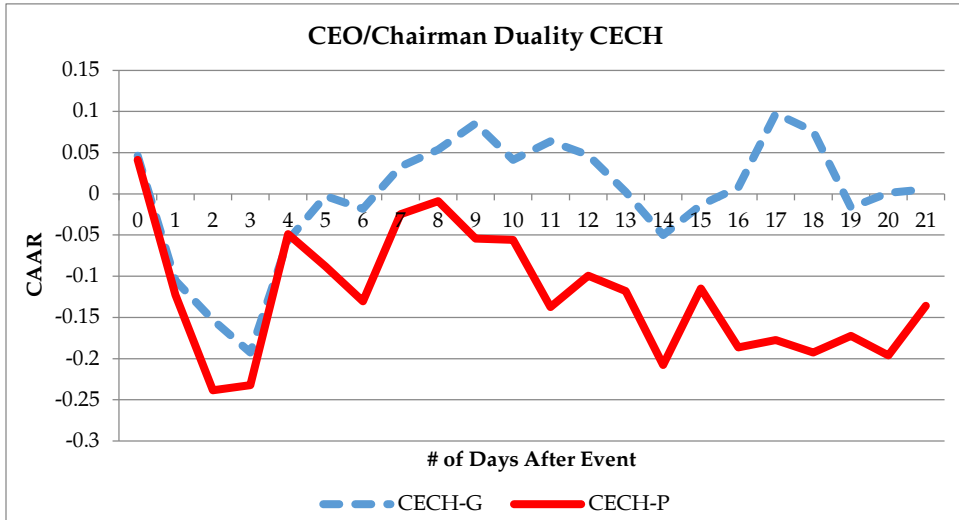


Figure 9: CAAR for Firms with CEO Duality (CECH-G) and without CEO Duality (CECH-P)



6. Discussion and Conclusion

The paper investigates the efficacy of corporate governance structures, and their composition in a crisis situation. Towards this objective, we have focused on the effects of the event of Benazir Bhutto's assassination on the CAAR of stocks listed on the PSX. For the pooled sample of CAAR, our findings are similar to the previous studies, in that we also observe negative abnormal returns following the event that is taken into consideration. Through this study, we have provided and introduced new insights into the literature. With our examination, it is illustrated how corporate governance impacts that are observed during crises events. Furthermore, our segregation of conventional and unconventional corporate governance structures is new, and adds value to the research that has already been done in this discipline. This governance segregation, which digresses from the conventional strong and weak governance labels, acknowledges and recognizes that there are firms that have different governance structures, and may perform as effectively as any other firm. Other than this, we have drawn support for our unconventional results from the literature on family-owned businesses that appear to be better managed, and perform better.

When analyzing the firm CAARs for each governance mechanism during a political and financial market crisis, we have found that firms with BIG-4 auditors experience negative returns, as compared to firms

without BIG-4 auditors. This suggests that the cautious and conservative approach of these auditors may impede the proactive market responses required during a crisis. However, for the conventional governance grouping in respect of foreign directors and institutional shareholding, we observe positive returns during a crisis, while CEO duality provides a smaller, negative CAAR.

In unconventionally governed firms where family ownership and block shareholding is higher, a higher CAAR is observed. This argument is supported by some researchers (Anderson & Reeb, 2003; Carney, 2005) who contend that firms that have less diversified ownership, have a competitive edge on their rivals. It gives them an advantage in decision making in situations where there are time constraints. Similarly, a higher proportion of independent directors perform worse than a board having a lower level of independence during a crisis.

From the findings we conclude that firms which are controlled by family members were less vulnerable during the days following the assassination. These findings indicate that firms with strict governance mechanisms might not be proactive enough in decision making in the wake of an unanticipated event. Moreover, our results suggest that firms having less diversified ownership and governance mechanism are less vulnerable to such unanticipated events. There are two reasons that support these findings: first, strict governance mechanisms and resultant cautious and conservative approach may not allow firms to take timely and proactive decisions during these situations; secondly, this could stem from a lower chance of existing agency problems, as family owners would be working for the protection of their own wealth during these events. In our comparison of conventionally and unconventionally governed firms, we conclude that a larger number of independent directors, and a smaller percentage of block holders result in a reduction in the CAAR values, while a larger foreign directorship and a larger institutional ownership positively impact the CAAR. The Big-4 external auditors, independent directorship and more diversified ownership hinder the performance of the firm in its response to a crisis event.

Overall the results show that conventionally-governed firms record a lower CAAR, as compared to unconventionally governed firms when it comes to the response to crisis events. This indicates that the conventional corporate governance structures may not be equipped to be flexible in the face of a crisis. This may also be due to an over-cautious and conservative approach, which works well during normal periods, but is a handicap

during crises. Therefore, we suggest that there could be some flexibility or a contingency committee in the corporate governance structure that may provide a cushion during a crisis, and have the freedom to operate independently, in order to respond in a timely and dynamic manner as required.

This is the first study (to the knowledge of the authors) both nationally and globally that examines the corporate governance risk management responses during a crisis. And the perspective of conventional and unconventional governance provides new insights to the existing literature. It extends research in the area of corporate governance and capital markets. These findings have important implications for regulators and the management in their choice and restructuring of corporate governance framework.

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Appendix 1

CAAR Calculations

Calculating CAAR for the stocks: *it*

$$E(Rit) = ai + \beta i Rmt + \varepsilon \dots\dots\dots Eq. (1)$$

In the above equation, equation 1, market model is defined to determine the expected return '*E(Rit)*' of a stock. Using the equation 1, market return '*Rmt*' for the same period as that of estimation window of a stock is taken and regression is run to find-out the daily expected returns.

$$ARit = (ACRit - Ei) \dots\dots\dots Eq. (2)$$

After calculating the expected returns of a stock, abnormal returns '*ARit*' can be computed using the above equation 2, which we get as a result of expected return subtracting the abnormal return of a particular day.

$$AABRt = \sum_i^n ABRit/n \dots\dots\dots Eq. (3)$$

As we have multiple stocks, so we calculate Average Abnormal Return '*AABRt*' as the sum of all the abnormal returns on a particular day. This is shown in the equation (3) above.

$$CAARt = \sum_t AABRt \dots\dots\dots Eq. (4)$$

At last, the CAAR is obtained using the equation (4) above, as sum of AABR in a rolling manner. In the analysis window we take 5 days for the examination of CAAR.

Appendix 2

Definition of Variables

Variable	Conventional Governance Definition	Unconventional Governance Definition	Measure	Research
BIG4	If the auditors of a firm belongs from big 4 auditors.	If the auditors are other than BIG-4.	Dummy Variable, 1 for Conventional, 0 for Unconventional	Khurrana and Raman (2004)
FRDR	If there are foreign directors in the BOD.	If there are no foreign directors.	Dummy, 1 for Conventional, 0 for Unconventional	Massulis, Wang and Xie (2012)
INDR	If the representation of independent directors in BOD is above the mean of overall sample.	If the representation of Independent directors is less than the sample mean.	Mean, 1 for Conventional, 0 for Unconventional	Farber (2005)
FMOW	If the family ownership in a firm is below the mean of sample.	If the family holdings in a firm is more than the sample mean.	Mean, 1 for Conventional, 0 for Unconventional	Barontini & Caprio (2006)
INOW	If the institutional holdings in a firm is greater than the sample mean.	If the institutional holdings less than the sample mean.	Mean, 1 for Conventional, 0 for Unconventional	Lin et al. (2013)
BLOCK	If block holders are less than the sample mean.	If the number of block holders in a firm are more than the sample mean.	Mean, 1 for Conventional, 0 for Unconventional	Lemmon & Lins (2003)

Variable	Conventional Governance Definition	Unconventional Governance Definition	Measure	Research
CECH	If CEO and Chairman of Board are different persons (duality) it is rated as conventional governance.	If there is no duality.	Dummy, 1 for Conventional, 0 for Unconventional	Farber (2005)
POOLED	Taking full sample	Taking full sample		

Appendix 3

**Levene's Test For Equality of Variance and Two Tailed T-Test or
Equality of Means in the Characteristics of Conventional and
Unconventionally Governed Firms**

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference
CG Pooled	Equal variances assumed	51.855	.000	-8.290	42	.000	-.71517	.08627
	Equal variances not assumed			-8.290	21.370	.000	-.71517	.08627
BIG 4	Equal variances assumed	.204	.654	-5.919	42	.000	-.13072	.02208
	Equal variances not assumed			-5.919	41.958	.000	-.13072	.02208
FRDR	Equal variances assumed	3.753	.059	9.841	42	.000	.25156	.02556
	Equal variances not assumed			9.841	33.664	.000	.25156	.02556
INDR	Equal variances assumed	8.806	.005	-2.376	42	.022	-.06181	.02601
	Equal variances not assumed			-2.376	26.988	.025	-.06181	.02601
FMOW	Equal variances assumed	.669	.418	-10.126	42	.000	-.33944	.03352
	Equal variances not assumed			-10.126	41.083	.000	-.33944	.03352
INTOW	Equal variances assumed	10.607	.002	6.245	42	.000	.15895	.02545
	Equal variances not assumed			6.245	30.508	.000	.15895	.02545
BLOCK	Equal variances assumed	3.011	.090	-3.957	42	.000	-.10974	.02774
	Equal variances not assumed			-3.957	35.396	.000	-.10974	.02774
CECH	Equal variances assumed	.181	.672	5.368	42	.000	.12072	.02249
	Equal variances not assumed			5.368	41.990	.000	.12072	.02249

Sovereign Wealth Funds' Affiliation and Acquisition Premium: Evidence from the Asia-Pacific Region

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Abstract

This study aims to extend the signaling theory, by offering the buy-side sovereign wealth fund's (SWF) affiliation as a signal of the acquisition premium. Using the mergers and acquisitions (M&As) deals' data from Asia-Pacific, over the period from 2000-2017, the results reveal that the effect of buy-side SWF's affiliation, on the acquisition premium of target firms is negative, and statistically significant in the North Asian region. Our cross-country analysis shows a negatively significant effect of the buy-side SWF's affiliation on the acquisition premium in China. The findings of our sectoral analysis report a significantly adverse effect of SWF's affiliation on the acquisition premium in the energy and cyclical goods sector. This suggests that the SWFs are likely to be more influential in M&As deals that are conducted in the strategic sectors. Our findings demonstrate that the buy-side SWF's affiliation can be used as a signal of quality. That is to say that this affiliation increases the bargaining power of buyers to reduce the acquisition premium for targets. The findings are particularly important for the managers of firms managing SWFs' investments, as they can negotiate better deals with the targets due to the managers' affiliation with the SWFs.

Keywords: Asymmetric information, signaling theory, sovereign wealth funds (SWFs), generalized estimating equation, mergers and acquisitions.

JEL Classification: G30,G34,G38.

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1. Introduction

Entrepreneurs and venture capitalists use the initial public offerings (IPO) of successful firms as a strategy to exit from the market. This exit mechanism by backers of the private firms has been investigated extensively in the existing studies, both theoretically and empirically (Bayar & Chemmanur, 2011; Cumming & Binti Johan, 2008; DeTienne, McKelvie & Chandler, 2015). Another market exit option that is also used by the firms is the post-IPO acquisition of target firms by the acquirers, where the latter has more assets and experience in the industry. These post-IPO acquisitions of the target firms, however, have not been discussed much in the mainstream literature (Bayar & Chemmanur, 2011; Sullivan & Unite, 2001; Qi, Sutton & Zheng, 2013; Zhao, Xiong & Shen, 2018). Post-IPO acquisitions have been increasing over the last few years. For instance, the national venture capital association (NVCA) documents that the IPO driven M&A deals in United States increased from 698 deals in 2010, to 769 in 2017. The value of IPO-exit deals increased from US\$31.61 billion in 2010, to US\$51.02 billion in 2017, showing a 61% increase in the value of M&A-exit deals from 2010 to 2017.¹ Outside the US, the Asia-Pacific region has also experienced a rapid increase of about 44% in IPO driven M&As deals, over the period from 2012 to 2017, where the acquisition deals' value increased from US\$80 billion in 2012 to US\$115 billion in 2017.² The major contributors of such a large increase in acquisition deals is the appearance of sovereign wealth funds (SWFs)³, as buyers, in these deals. For example, Temasek Holdings, the SWF in Singapore, claimed the region's biggest deal, with a US\$5.7 billion investment to acquire the Hong Kong-based beauty retailer, A.S. Watson Group.⁴

Generally, the target firms in post-IPO acquisition deals have a short track record, i.e., acquirers don't have sufficient information about the true potential of the target firms, as it is not easy to value these firms. In addition, acquirers lack trust in the facts and figures provided by these target companies. This is because, usually, these firms hide damaging information and aggregate the positive factors (Ragozzino & Reuer, 2007). This information asymmetry hampers the valuation of targets, as acquirers

¹ <https://nvca.org/download/54862/>

² <https://www.bain.com/insights/asia-pacific-private-equity-report-2018/>

³ The Sovereign wealth fund institute defined Sovereign wealth fund as "A sovereign wealth fund is state- owned investment fund or entity established from balance of payment surpluses, official foreign currency operations, the proceeds from privatizations, government transfer payments, fiscal surpluses, and/or receipts resulting from resource exports".

⁴ <https://www.bain.com/insights/asia-pacific-private-equity-report-2018/>

are unable to evaluate the company with incomplete information. This eventually leads to the discounting of offer price by acquirers, resulting in reduced realized gains for the target firms. To increase the gains from acquisition deals, target firms send signals to acquirers in order to provide the information about the true potential and quality of the target firms (Akerlof, 1970; Reuer, Tong & Wu, 2012). The signaling theory of Spence and Michael (1974) suggests that reliance on quality signals increases the valuation and acquisition premium of targets due to the least discounting of offer price by the acquirers (Arikawa & Imad'Eddine, 2010; Hsu, 2004; Nicholson, 2005; Qi et al., 2013; Wright et al., 2004).

The existing studies on signals and acquisition premium use different signals to explain the acquisition premium of the target firms. For instance, the exiting research strengthens the belief that the reputation of the firm's underwriter is an indication of the quality of the firm (Arikan & Capron, 2010; Carter & Manaster, 1990; Kirkulak & Davis, 2005). Also, the backing of prominent venture capitalists signal a firm's higher credence (Cho & Lee, 2013; Ivanov & Xie, 2010; Megginson & Weiss, 1991). Furthermore, a positive affiliation with renowned alliance partners signifies the future prospects and probability of an increase in the firms' resources (Jensen, 2004). The other signals include the geographic location, IPO underpricing, government involvement, and the macro-economic effects (Choi, Petra & Guar, 2015; Graebner & Eisenhardt, 2004; Hayward & Hambrick, 1997; Reuer et al., 2012; Rubbaniy, Shahzad & Zahir-ul-Hassan, 2018). However, the sovereign wealth funds (SWFs) affiliation, as the signal of acquisition premium, has been a void in the existing literature, though some studies investigated the role of SWF investments in M&A deals (Bortolotti, Fotak & Megginson, 2015; Boubakri, Cosset & Grira, 2016, 2017; Boubakri, Samir & Cosset, 2011; Debarsy, Gnabo & Kerkour, 2017; Lenihan, 2014). Despite a considerable amount of extant literature on the concept of acquisition premium (Certo, Holcomb & Holmes, 2009; Higgins & Gulati, 2003; Rubbaniy et al., 2018), little attention has been paid to the signaling effect of SWFs affiliation in the context of target firms. We seek to investigate the impact of the buy-side SWF affiliation on the acquisition premium of the target firms, specifically in the Asia-Pacific region. In particular, we aim to seek an answer to whether the buy-side SWFs affiliation explain acquisition premium of target firms in Asia-Pacific region.

The choice of Asia-Pacific region is motivated by a few defining factors. First, Asia-Pacific has become one of the foremost play grounds for M&A activities. Second, the nationalist governments invest heavily in the SWFs in the regions which are involved in M&A transactions. For instance,

the Peoples Republic of China (PRC) owns the second largest SWF, with assets of \$941 billion⁵; Australia and Singapore also hold SWFs, which invest in the M&A markets. Third, the M&A markets in the region are distinct from those in other developed countries due to different market inefficiencies. These include, for instance, offer price mechanism, low disclosure and investor protection (Chang, Chen, Chi & Young, 2008).

We contribute to the existing literature in a few significant ways. First, we extend the exiting literature (see for instance Vasudeva, Nachum and Say (2017)) by linking the SWF affiliation with the acquisition premium of target firms. Second, we use the Generalized Estimation Equation (GEE) to deal with correlated outcomes resulting from the acquirers' involvement in multiple deals. Finally, we investigate the buy-side SWFs' affiliation, as a signal of acquisition premium in the Asia-Pacific at regional, country, and sectoral level, which has never been examined in the exiting literature.

Our results show that the buy-side SWF's affiliation adversely, and significantly affects the acquisition premium in North Asia region. Our cross-country analysis shows a significantly negative effect of buy-side SWF's affiliation on the acquisition premium in China. The findings of our sectoral analysis report a significantly negative effect of SWF's affiliation on the acquisition premium in the energy and cyclical goods sector. The stronger effect in these sectors suggests that SWFs are likely to be more influential in M&As deals conducted in strategic sectors. Our findings advocate that the buy-side SWF's affiliation can be used as the signal of quality by buyers (acquirers). This is because this particular affiliation increases the bargaining power of buyers, resulting in reduced acquisition premium for targets. The findings of this study are particularly important for the managers of firms which are actively involved in SWFs' investments. The main reason of this being that it provides empirical evidence on the bargaining power of acquirers, backed by SWFs, to curb the acquisition premiums of target firms.

The remainder of this paper is as follows. Section 2 outlines the data collection and methodology; Section 3 explains empirical results, and finally Section 4 concludes the study.

⁵ <https://www.swfinstitute.org/sovereign-wealth-fund-rankings/>

2 Data Collection and Research Methodology

2.1 Data Collection

The sample data of acquisition deals of different sectors and countries in Asia-Pacific region ⁶ has been collected from the Thomson Reuters Eikon database, using a deals screener. Underwriter prominence (URP) is the ranking of the acquirer's underwriter, that is composed using the Loughran and Ritter (2004) ranking from 1980-2014. Our sample constitutes of the acquisition deals announced from January 2000 till December 2017, in the Asia-Pacific region. We applied certain filters on our data to keep it comparable with the existing literature. First, following the existing studies, we have excluded the financial sector firms, close ended mutual funds, real estate investment trusts (REITs), spin-offs and leveraged buyouts. Second, we included all the deals with non-missing values of our dependent variable acquisition premium. Third, we excluded the duplicate acquisition deals. Finally, we included the acquisition deals in which the acquirers acquired 51%, or more stakes in the target firms after acquisition transaction. The above exclusions reduced our final sample to 1348 deals. To remove the biasness due to extreme values, and to normalize the data, we applied some additional filters. For instance, we winsorized different variables in the following ways: in acquisition premium (ACQP), we removed 28 observations based on the lowest (percentile 1%) and highest percentiles (percentile 99%); in IPO underpricing (IPOUND), we removed 138 observations (Percentile 1% and Percentile 99%), and after these exclusions our final sample includes 1182 observations.

Table 1 presents the descriptive statistics of our sample data, which includes the mean, standard deviation, skewness and kurtosis, providing information about the characteristics of the data. Table 1 also shows an average acquisition premium of 25.85%, with a standard deviation of 33.85% that shows the deviation of the acquisition premiums received by target firms around its mean. The distribution of the acquisition premium is positively skewed, with a skewness value of 0.89, and kurtosis of 6.19. This shows leptokurtic behavior of the acquisition premium's data distribution. Our main explanatory variable, the buy-side SWF affiliation dummy variable (BSWF), is on average 0.02 with a standard deviation of 0.13, but high values of kurtosis (60.23) and skewness (7.79). These values are not surprising as most of the acquirers are not affiliated with SWFs.

⁶ List of countries and sectors is displayed in Appendix A.

Furthermore, we also explained the descriptive statistics of control variables in Table 1.

Table 1: Descriptive Statistics

Variables	Obs.	Mean	Standard Deviation	Skewness	Kurtosis
ACQP	1182	25.85	33.85	0.89	6.19
BSWF	1182	0.02	0.13	7.7	60.23
IPOUND	1182	2.71	24.62	-2.52	13.55
URP	1182	0.15	0.35	1.99	4.97
VCI	1182	0.13	0.34	2.17	5.73
FSIZE	1152	5.91	1.52	0.22	3.51
DV	1182	5.51	1.24	0.85	3.14
TENDOF	1182	0.09	0.28	2.95	9.68
COMSTK	1020	0.17	0.37	1.8	4.23
CBORD	1182	0.42	0.49	0.32	1.1
SHARACQ	1163	67.13	30.67	-0.4	1.81

In this table, our dependent variable is the Acquisition Premium % (ACQP), which is the ratio of offer price to share price of target firms, 4 weeks before the acquisition announcement. Our independent variable is the buy-side sovereign wealth fund affiliation (BSWF), that is a dummy variable, which takes a value of '1' if sovereign wealth fund is affiliated with the acquirer, and otherwise '0'. We have controlled other variables such as, IPO underpricing % (IPOUND), that is the difference of initial offer price and target closing price on the day of the announcement (Loughran & Ritter, 2004); Underwriter's Prestige (URP), that assumes a value of '1' if the target firm is affiliated with the leading underwriter, and '0' otherwise. Venture capitalist involvement (VCI) is a dummy variable that discloses the presence of the financial sponsors by assuming a value of '1', and '0' otherwise. Firm size % (FSIZE) is the natural log of target total assets (\$mil). Deal value (DV) is the value of transaction (\$ mil) used to control for the size of the deal. Tender offer (TENDOF) is a dummy variable that shows tender offer status, as the target firm management resists to the tender offer initially to get a higher acquisition premium. The common stock (COMSTK) dummy variable is used to control for the payment method, as acquisition premiums fluctuate with the payment methods. Cross border (CBORD) dummy depicts whether the deal is between national boundaries or bidders from other countries are also involved in the transactions. The shares acquired % (SHARACQ) indicates the percentage of shares acquired by the buyer in the acquisition deal. It is used to control the target's management demand for higher payments, should they lose control in the acquisition of the firm.

Source: Own composition from Thomson Reuters Eikon

2.2 Theory and Hypothesis Development

We begin with a discussion about the signaling theory by describing the role of different signals in determination of the acquisition premium. The next course of action would be to present how SWFs affiliation can be used as the signal of the acquisition premium of target firms. We conclude this section by explaining our contextual, methodological, and empirical extensions towards the signaling theory.

2.2.1 Signaling Theory of Market Signals:

The signaling theory is presented by Spence and Michael (1974), which documents that information asymmetry exists in the markets, as one party may have more information than the other party in the underlying deals; this information asymmetry results in unsuccessful deals. The signaling theory is applied in situations where Party A's (acquirer) decision is dependent on the other party, i.e., Party B's (target) unknown characteristics. Consequently, the payoff of Party B depends on Party A's decision. The signaling theory of Party A's decision and Party B's pay off depends upon the following assumptions: (i) the indirect interdependence of both parties A and B (Scitovsky, 1954) (ii) uncertainty about B's true characteristics before A receives signals about B, (iii) rationality assumption of both parties, (iv) B's intentions to maximize its gains, and (v) A's intentions to correctly interpret the signals of Party B (Park & Patel, 2015). In addition, Party A does not have the ability to change the conditions between the times at which the signals release, and the paying off to Party B (Hölmstrom, 1979).

The signaling theory is quite useful, and is applicable in diverse settings (Allen & Faulhaber, 1989; Bergh, Connelly, Ketchen & Shannon, 2014; Connelly, Certo, Ireland & Reutzel, 2011; Park & Patel, 2015). However, Spence (1978) specifically applied this theory in the job market, where a job applicant has sufficient information about his personality, but the employer does not have the complete information about the applicant. Due to credibility issues, the employers do not rely on what the applicants are saying during an interview, rather they rely on indirect (Kutsuna, Dimovski & Brooks, 2008), costly and less imitable signals (Welch, 1989) of a job applicant's characteristics. These include the educational degrees of the applicant and other attributes. Rubbaniy et al. (2018) used IPO underpricing and sell-side government involvement as the signal of acquisition premium in Asia-Pacific region. They also found support in favor of the signaling effect of IPO underpricing in Asia-Pacific region, and in Singapore. Vasudeva et al. (2017) proposed the signaling characteristics of SWFs investments, and they suggest that SWFs can serve as intermediary signalers. The intermediary signalers point out towards the impact of unintentional signals, which happen to contrast with the deliberate, two-party signaling between a signaler and a receiver (Connelly et al., 2011; Janney & Folta, 2003).

Existing literature documents some buy-side determinants of the acquisition premium. These include, for instance, how there are acquirer

network ties with acquisition advisors (Beckman & Haunschild, 2002), experience (Hayward & Hambrick, 1997; Moeller & Schlingemann, 2005), and management hubris. We extend the existing strand of literature by investigating the role of the third-party intermediary signaler. In our study involving M&A deals, we use third-party intermediary signalers that signal about the quality of an entity of interest (e.g. firms). The signal receivers interpret the quality of the firms based on the intermediary's actions (e.g. SWF affiliation with acquirers). The credibility of third-party signaling is high, as the signaler does not intend to influence particular firms.

2.3 Hypothesis

We argue that like venture capitalist affiliation, alliances and underwriter prominence signals of acquisition premium, buy-side SWFs affiliation also reveals signalling information. Chari, Ouimet & Tesar (2004) suggest that acquirers may have more bargaining power in emerging markets due to a smaller number of bidders competing for the target. This way acquirers can generate positive returns, as governments facilitate foreign acquisitions. Walking and Edmister (1985) hypothesize that the acquisition premium of target firms depends on the relative bargaining power of the acquirer and the target firms. Billett and Ryngaert (1997) and Varaiya (1987) further explained that the distribution of the premium of bidders and targets depends on the relative bargaining strength of the target and acquirer firms.

Based on the discussion in the above literature, we expect that the affiliation of acquirers, with SWFs increases the bargaining power of the acquirers, which can reduce the acquisition premium of the target firms. These arguments lead us to develop the following hypothesis:

Hypothesis 1: Buy-side SWF's affiliation adversely affects the acquisition premium of target firms in M&A deals.

2.4 Empirical Model

We have developed the following model for analysis of buy-side SWF affiliation as a signal of acquisition premiums in the Asia-Pacific region. Our model in Equation (1) investigates the impact of buy-side SWF affiliation on the acquisition premium of targets, in the presence of some standard control variables (Beckman & Haunschild, 2002; Comment & Schwert, 1995; Jarrell, Brickley & Netter, 1988; Loughran & Ritter, 2004). The model is defined in the following manner

$$ACQP_{i,t} = \beta_0 + \beta_1 BSWF_i + \beta_2 IPOUND_i + \beta_3 URP_i + \beta_4 VCI_i + \beta_5 FSIZE_i + \beta_6 DV_i + \beta_7 TENDOF_i + \beta_8 COMSTK_i + \beta_9 CBORD_i + \beta_{10} SHARACQ_i + \mu_i \quad (1)$$

Here, the dependent variable is the *Acquisition Premium (ACQP)* that is the ratio of offer price to share price of the target firm, 4 weeks before the acquisition announcement. Our independent variable is the buy-side SWF affiliation (*BSWF*) that signifies the dummy variables which indicates the value of '1', if SWF is affiliated with acquirer, and otherwise '0'. *IPO underpricing (IPOUND)* is the percentage difference of the initial offer price, and the target closing price on the day of the announcement (Loughran & Ritter, 2004). *Underwriter Prestige (URP)* is the dummy variable which takes a value of '1', if the target firm is affiliated with a leading underwriter, and '0' otherwise. *Venture capitalist involvement (VCI)* is the dummy variable that discloses the presence of the financial sponsors with a value of '1', otherwise '0'. *Firm size (FSIZE)* is the natural log of total assets (\$mil) of the target, while *Deal value (DV)* is the value of transaction (\$mil), and is used to control for the size of the deal. *Tender offer (TENDOF)* is a dummy variable that shows the tender offer status. Usually, the target firm's management resists to the tender offer initially in order to increase the acquisition premium. Since, the acquisition premium fluctuates with the payment methods, we capture the payment method using the common stock (*COMSTK*) dummy variable, which takes a value of '1' if the acquirer issues stocks to buy target, and '0' otherwise. Cross border (*CBORD*) dummy depicts whether the deal is between the national boundaries, or if foreign bidders also take part in the transactions. The shares acquired (*SHARACQ*) display the percentage shared acquired during the acquisition deal. It is controlled because the management of the target firms requires higher payments if they lose control in the acquisition of the firm. Finally, μ represents the error term.

2.5 Correlative Deals Problem

In this study, we have improved the existing methodology by using the generalized estimating equations' approach, which is originally proposed by Liang and Zeger (1986). This is so because the GEE estimation solves the correlated outcomes of the same acquirer firms involved in various acquisitions over the different time periods. Specifically, the deals conducted by identical acquirers in our sample can be correlated due to their distinct characteristics, and expertise offered and available to the deal-making process. Furthermore, the QIC criterion is used to differentiate between the correlation structures (exchangeable and

independent) in GEE estimations; the correlation structure with the smallest QIC value is the most optimal correlation structure for the estimation of the model.

3 Empirical Results

We begin our analysis by testing the existence of multicollinearity in our data, and Table 2 exhibits the pairwise correlation matrix between the variables of our study. Table 2 reports a negative correlation (-0.039) between the acquisition premium and the buy-side SWF affiliation. This reveals the view that the affiliation of the acquirer, with SWF is negatively associated with the acquisition premium of target firms. Moreover, the acquisition premiums are positively, and significantly related with IPO underpricing, with a correlation of 0.597. The mean value of the variance inflation factor test is less than 5, which suggests an absence of the multicollinearity problem in our explanatory variables. Overall, our pairwise correlation matrix, and the variance inflation factor show that no perfect, or very high correlation exists in our explanatory, and control variables; therefore, it is safe to apply the econometric tests on our data.

Table 2: Pairwise Correlation Matrix

Variab les	ACQP	BSWF	IPOU ND	URP	VCI	FSIZE	DV	TEND OF	COMS TK	CBOR D	SHAR ACQ
ACQP	1.000										
BSWF	-0.039	1.000									
IPOUN D	0.597*	-0.006	1.000								
URP	0.069*	0.023	0.053	1.000							
VCI	0.021	0.030	0.020	0.043	1.000						
FSIZE	-	0.105*	-0.012	0.053	0.018	1.000					
DV	0.137*	-0.006	0.117*	0.039	0.056	0.080*	0.615*	1.000			
TEND OF	0.018	0.033	0.064*	-0.000	-0.111*	-0.044	-0.073*	1.000			
COMST K	-	-0.061*	-0.067*	-0.017	-0.119*	-0.094*	0.026	-0.141*	1.000		
CBORD	0.082*	0.149*	-0.027	0.115*	0.048	0.068*	-0.072*	0.064*	0.074*	-0.215*	1.000
SHARA CQ	0.185*	-0.031	0.133*	0.002	0.059*	-0.288*	0.232*	-0.160*	0.276*	0.075*	1.000
VIF	-	1.01	1.02	2.41	1.04	2.43	1.74	1.05	1.11	1.08	1.19

In this table, our dependent variable is the Acquisition Premium % (ACQP), which is the ratio of offer price to share price of target firms, 4 weeks before the acquisition announcement. Our independent variable is the buy-side sovereign wealth fund affiliation (BSWF), that is the dummy variable, which takes a value of '1' if sovereign wealth fund is affiliated with the acquirer and otherwise '0'. We have controlled other variables such as, IPO underpricing % (IPOUND), which is the difference of initial offer price and target closing price on the day of announcement (Loughran & Ritter, 2004); Underwriter's Prestige (URP) that assumes a value of '1' if the target firm is affiliated with leading underwriter and '0' otherwise. Venture capitalist involvement (VCI) is a dummy variable that discloses the presence of the financial sponsors, by assuming a value of '1', and '0' otherwise. Firm size % (FSIZE) is the natural log of target total assets (\$mil). Deal value (DV) is the value of transaction (\$ mil) used to control for size of the deal. Tender offer (TENDOF) is a dummy variable that shows the tender offer status as the target firm management resists to the tender offer initially to get a higher acquisition premium. The common stock (COMSTK) dummy variable is used to control for the payment method, as the acquisition premiums fluctuate with the payment methods. Cross border (CBORD) dummy depicts whether the deal is between national boundaries or bidders from other countries are also involved in the transactions. The shares acquired % (SHARACQ) indicates the percentage of shares acquired by the buyer in the acquisition deal. It is used to control target's management demand for higher payments, should they lose control in the acquisition of the firm. VIF explains the variance inflation factor test for the detection of multicollinearity.

Source: Own composition from Thomson Reuters Eikon

3.1 Does Buy-Side SWFs' Affiliation Explain Acquisition Premium at Sub-Regional Level?

To investigate the effects of buy-side SWF's affiliation, the results of Equation (1) are presented in Table 3. Column (1) to (5) of Table 3 show the results of Equation (1), for full sample acquisition deals, acquisition

deals in North Asia, acquisition deals in South Asia, acquisition deals in Australasia, and acquisition deals conducted in South East Asia, respectively.

Our results show that in North Asia, the impact of buy-side SWF affiliation on acquisition premium is negative and significant at 1% level, with a coefficient of -46.406, suggesting that buy-side SWF affiliation reduces the acquisition premium of target firms by 46.40%. In other sub-regions, this effect is negative, but statistically insignificant. This negative effect of SWF affiliation on acquisition premium explains the bargaining power of acquirers. That is to say that, affiliation with financial intermediaries increases their power of negotiation in M&A process, which is consistent with Chari et al. (2004), who suggest that acquirers may have more bargaining power in emerging markets due to a lesser number of bidders competing for the target.

The results of most of our control variables are consistent with the existing literature. For instance, IPO underpricing has a positive, and highly significant impact on the acquisition premium in all sub-regions, which is consistent with the beliefs of Reuer et al. (2012) and Rubbaniy et al. (2018); venture capitalists' involvement has a positively significant impact on the acquisition premium in North Asia, which is consistent with the results of Ragozzino and Blevins (2016); firm size has a negative and highly significant impact on the acquisition premium in full sample and South Asia, which is consistent with the findings of Park and Patel (2015); deal value displays a positive and significant impact on the acquisition premium in Southeast Asia, which is consistent with the revelations of Reuer et al. (2012); the common stock dummy variable reports a negative and statistically significant impact on acquisition premium in full sample, and in North Asia, which is consistent with the findings of Eckbo and Langohr (198), and Huang and Walkling (1987); cross border dummy shows a positive and significant impact in North Asia, i.e., the effect of quality signals are higher in cross border deals, which is consistent with the study results of Kang and Kim (2010) and Moeller and Schlingemann, (2005); the percentage of shares acquired in the M&A transaction shows a positive and highly significant effect on the acquisition premium in full sample, and in North Asia, which is consistent with the results of Reuer et al. (2012).

Table 3: Sovereign Wealth Fund Affiliation as Signal of Acquisition Premium in Asia Pacific Region

Variables	(1) Full Sample	(2) North Asia	(3) South Asia	(4) Australasia	(5) Southeast Asia
BSWF	-8.354 (6.621)	-46.406*** (17.595)	- -	-16.370 (17.608)	0.035 (6.126)
IPOUND	0.817*** (0.038)	0.789*** (0.047)	0.966*** (0.181)	0.748*** (0.103)	0.780*** (0.077)
URP	3.580 (2.421)	7.871** (3.775)	-3.705 (12.538)	1.106 (4.672)	-3.007 (3.687)
VCI	-2.526 (2.614)	7.467* (3.915)	-7.687 (12.732)	-8.335 (5.704)	-8.070** (4.018)
FSIZE	-2.171** (0.886)	1.006 (1.331)	-13.878*** (4.601)	-1.528 (1.736)	-2.204 (1.712)
DV	0.018 (1.054)	-1.737 (1.649)	7.967 (4.914)	-3.142 (2.077)	3.182* (1.848)
TENDOF	-5.296* (3.074)	-2.124 (4.873)	-22.712** (11.386)	-11.693 (8.597)	-1.474 (3.789)
COMSTK	-7.063*** (2.512)	-8.055** (4.049)	-15.105 (13.086)	-6.425 (4.542)	-4.397 (5.116)
CBORD	2.754 (1.824)	5.245* (3.014)	-4.714 (8.708)	1.866 (3.547)	0.554 (2.831)
SHARACQ	0.089** (0.037)	0.152** (0.061)	-0.276 (0.220)	0.031 (0.089)	-0.002 (0.056)
Constant	30.968*** (4.778)	12.431* (7.367)	89.761*** (21.686)	56.802*** (10.762)	17.716** (7.959)
Observations	978	354	52	337	235
Qic- Exchangeable	700170	757318	892226	764523	749688
Qic- Independent	700143	762162	888698	769203	748387

In this table, our dependent variable is the Acquisition Premium % (ACQP), which is the ratio of offer price to share price of the target firms, 4 weeks before the acquisition announcement. Our independent variable is the buy-side sovereign wealth fund affiliation (BSWF) that is a dummy variable, which takes a value '1' if sovereign wealth fund is affiliated with acquirer and otherwise '0'. We have controlled other variables such as, IPO underpricing % (IPOUND), which is the difference of initial offer price and target closing price on the day of announcement (Loughran & Ritter, 2004); Underwriter's Prestige (URP) that assumes a value of '1' if the target firm is affiliated with leading underwriter, and '0' otherwise. Venture capitalist involvement (VCI) is a dummy variable that discloses the presence of the financial sponsors by assuming a value of '1', and '0' otherwise. Firm size % (FSIZE) is the natural log of target total assets (\$mil). Deal value (DV) is the value of transaction (\$ mil) used to control for size of the deal. Tender offer (TENDOF) is a dummy variable that shows tender offer status as the target firm management resists to the tender offer initially to get a higher acquisition premium. The common stock (COMSTK) dummy variable is used to control for the payment method, as the acquisition premiums fluctuate with the payment methods. Cross border (CBORD) dummy depicts whether the deal is between national boundaries or bidders from other countries are also involved in the transactions. The shares acquired % (SHARACQ) indicates percentage of shares acquired by the buyer in the acquisition deal. It is used to control the target's management demand for higher payments, should they lose control in the acquisition of the firm. *, **, and *** indicate the statistical significance at the 10, 5 and 1% levels of significance, respectively. QIC criterion is used to differentiate between the correlation structures in GEE estimations. The correlation structure with the smallest QIC value is the most optimal correlation structure for the estimation of the model. R-Square is not estimated because of the independent correlation among variables in GEE estimations. Standard errors are in parentheses. – indicates that the variable is not estimated.

Source: Own composition from Thomson Reuters Eikon

3.2 Does Buy-side SWFs' Affiliation Explain Acquisition Premium at Country Level?

We suspect that the insignificant results for most of the regions in Table 3 may be due to the missing values of SWFs across different regions. Alternatively, the insignificant results could be due to the huge diversity across different countries of the Asia-Pacific region. We therefore investigate whether the buy-side SWF's affiliation's effect on the acquisition premium is country specific. To serve the purpose, we have run Equation (1) across 10 different countries⁷, and the results are posted in Table 4. Columns (1) to (10) of Table 4 show the results of Equation (1) for acquisition deals in Australia, New Zealand, China, South Korea, Taiwan, Hong Kong, India, Thailand, Malaysia and Singapore, respectively.

Table 4 shows that the effect of buy-side SWF affiliation on acquisition premium is negative and highly significant, only in China. The coefficient of SWF's affiliation for China has a value of -45.684, suggesting that buy-side SWF's affiliation reduces the acquisition premium of target firms by 45.68% in China. This negative effect of SWF affiliation on the acquisition premium in China is likely to be due to their nationalist governments (Greenfeld, 2012; Zheng, 1999; Zhimin 2005). This results in a strong affiliation of the acquirers with financial intermediaries, which increases their negotiation power in the M&A deals process in turn. The results of our control variables are consistent with existing studies (Beckman & Haunschild, 2002; Jarrell et al., 1988; Reuer et al., 2012).

⁷ The data for analysis is run across 10 countries, while the data for the other sampled countries is not sufficient enough to run the analysis.

Table 4: Sovereign Wealth Fund Affiliation as Signal of Acquisition Premium in different Countries of Asia-Pacific Region

Variables	(1) Australia	(2) New Zealand	(3) China	(4) South Korea	(5) Taiwan	(6) Hong Kong	(7) India	(8) Thailand	(9) Malaysia	(10) Singapore
BSWF	-18.771 (17.352)	-	-45.684** (17.765)	-	-	-	-	-6.408 (14.163)	-9.381 (11.030)	4.205 (7.666)
IPOUND	0.804*** (0.103)	-0.072 (0.749)	0.687*** (0.070)	0.465*** (0.078)	0.803*** (0.110)	0.915*** (0.089)	0.953*** (0.186)	1.522*** (0.257)	0.770*** (0.140)	0.673*** (0.139)
URP	3.148 (4.847)	-9.202 (20.156)	11.373* (6.069)	-4.862 (8.888)	-1.059 (6.739)	7.002 (7.150)	-4.324 (12.701)	-	-2.608 (6.115)	-3.547 (5.548)
VCI	-7.208 (5.673)	-50.298** (22.324)	12.900** (5.588)	6.142 (6.612)	-6.118 (12.640)	0.462 (8.660)	-8.546 (12.530)	27.178** (13.299)	-16.684 (11.223)	-8.251* (4.524)
FSIZE	-2.255 (1.740)	9.180 (10.541)	1.314 (2.282)	-1.982 (2.094)	-0.302 (3.262)	2.740 (2.549)	-13.670*** (4.675)	-3.099 (3.867)	3.404 (3.344)	-7.772*** (2.295)
DV	-1.875 (2.077)	-18.602 (15.936)	-2.409 (2.655)	-0.594 (2.354)	-3.054 (3.184)	-0.057 (3.441)	7.675 (5.037)	-1.206 (4.697)	-5.878 (3.872)	10.702*** (2.534)
TENDOF	-15.596* (9.283)	-8.972 (29.983)	13.294 (13.402)	-1.808 (6.457)	-4.340 (6.843)	-13.411 (9.190)	-22.135** (11.195)	-14.419* (7.599)	-1.168 (8.513)	-2.268 (5.029)
COMSTK	-7.075 (4.491)	-3.137 (28.762)	21.992** (10.105)	-13.214*** (4.787)	-5.850 (6.722)	-24.507* (13.097)	-15.322 (12.778)	-16.991* (9.679)	-3.774 (9.743)	9.411 (8.660)
CBORD	-0.959 (3.563)	37.369** (17.836)	1.592 (5.216)	11.689* (6.154)	3.966 (7.533)	2.959 (5.186)	-4.785 (7.691)	9.663 (9.024)	-4.420 (6.005)	0.563 (3.684)
SHARACQ	-0.041 (0.095)	0.341 (0.294)	0.114 (0.094)	0.050 (0.084)	0.095 (0.137)	0.389*** (0.131)	-0.263 (0.231)	0.214 (0.172)	0.192 (0.120)	-0.100 (0.072)
Constant	61.181*** (11.101)	45.804 (54.986)	12.262 (12.761)	32.375*** (10.164)	27.282 (18.258)	-11.550 (13.803)	89.533*** (20.380)	28.652** (13.707)	21.916 (15.667)	18.256* (10.769)
Observations	317	20	143	41	52	118	51	21	74	119
Qic-Exchangeable	785823	1770089	890082	813256	806195	868859	884621	1170299	-	843982
Qic-Independent	796838	1702771	901323	813144	804059	867193	886685	1161123	837525	843928

In this table, our dependent variable is the Acquisition Premium % (ACQP), which is the ratio of offer price to share price of target firms, 4 weeks before the acquisition announcement. Our independent variable is the buy-side sovereign wealth fund affiliation (BSWF) that is the dummy variable, which takes a value of '1' if sovereign wealth fund is affiliated with the acquirer, and otherwise '0'. We have controlled other variables such as, IPO underpricing % (IPOUND), which is the difference of initial offer price and target closing price on the day of the announcement (Loughran & Ritter, 2004); Underwriter's Prestige (URP) that assumes a value of '1' if target firm is affiliated with leading underwriter, and '0' otherwise. Venture capitalist involvement (VCI) is a dummy variable that discloses the presence of the financial sponsors by assuming a value of '1', and '0' otherwise. Firm size % (FSIZE) is the natural log of target total assets (\$mil). Deal value (DV) is the value of transaction (\$ mil) used to control for the size of the deal. Tender offer (TENDOF) is a dummy variable that shows tender offer status as the target firm management resists to the tender offer initially to get a higher acquisition premium. The common stock (COMSTK) dummy variable is used to control for the payment method as acquisition premiums fluctuate with the payment methods. Cross border (CBORD) dummy depicts whether the deal is between national boundaries or bidders from other countries are also involved in the transactions. The shares acquired % (SHARACQ) indicates the percentage of shares acquired by the buyer in the acquisition deal. It is used to control the target's management demand for higher payments should they lose control in the acquisition of the firm. *, **, and *** indicate the statistical significance at the 10, 5 and 1% levels of significance, respectively. QIC criterion is used to differentiate between the correlation structures in GEE estimations, the correlation structure with the smallest QIC value is the most optimal correlation structure for the estimation of the model. R-Square is not estimated because of the independent correlation among variables in GEE estimations. Standard errors are in parentheses. - indicates that the variable is not estimated.

Source: Own composition from Thomson Reuters Eikon

3.3 Does Buy-side SWFs' Affiliation Explain Acquisition Premium at Sectoral Level?

The insignificant effect of the buy-side SWF's affiliation, on the acquisition premium in four out of five countries stir us to investigate whether the insignificance is driven by the M&A heterogeneity across different sectors of the economy. This is because some sectors are strategically more important than the others; and thus, the buy-side SWF's affiliation effect may vary across different sectors of the economy. We therefore investigate whether the buy-side SWF's affiliation effect on acquisition premium is sector specific. To investigate this effect, we rerun Equation (1) across 8 different sectors of the economy, and the results are posted in Table 5. Columns (1) to (8) of Table 5 show the results of Equation (1) for acquisition deals in energy, cyclical goods, technology, utilities, basic material, non-cyclical goods, telecommunications and healthcare sectors, respectively.

The results in Column (1) and (2) of Table 5 show that the SWF's affiliation has a significantly negative effect on the acquisition premium in energy and cyclical goods sectors at a 1% level of significance.

This negative effect of SWF affiliation on acquisition premium in these sectors is due to their strategic nature, i.e., the energy sector's revenue is a major source of sovereign wealth funds (Boubakri et al., 2011; Kotter & Lel, 2011; Truman, 2009), and cyclical goods includes heavy machinery and raw materials that increase their power of negotiation in M&A deals process in these sectors.

Table 5: Sovereign Wealth Fund Affiliation as Signal of Acquisition Premium in Asia-Pacific Region- Sectoral Analysis

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Energy	Cyclical Goods	Technology	Utilities	Basic Materials	Non-Cyclical Goods	Telecommunications	Health-care
BSWF	-104.978*** (34.035)	-35.369* (18.189)	12.951 (12.257)	- -	- -	- -	-18.778 (12.349)	-24.325 (20.470)
IPOUND	0.807*** (0.204)	0.846*** (0.087)	0.872*** (0.108)	0.504*** (0.129)	0.983*** (0.116)	0.758*** (0.083)	0.384*** (0.101)	0.759*** (0.129)
URP	-0.201 (8.799)	1.225 (5.562)	-3.804 (5.618)	-5.035 (7.757)	6.305 (6.671)	-3.354 (5.788)	12.354** (5.170)	-3.123 (11.400)
VCI	-26.643* (14.632)	1.685 (5.017)	14.372*** (5.432)	5.890 (6.319)	-13.367 (12.363)	-11.287* (5.963)	-10.204 (8.597)	-4.174 (9.478)
FSIZE	-14.889*** (3.645)	-2.214 (2.220)	-2.206 (2.500)	-0.685 (2.683)	-3.063 (2.029)	0.068 (2.544)	-1.715 (3.511)	-2.890 (4.053)
DV	8.711** (4.164)	1.617 (2.440)	1.882 (2.843)	-3.369 (3.217)	-0.497 (2.652)	-0.689 (2.601)	-1.453 (4.620)	1.017 (5.053)
TENDOF	-12.888 (14.948)	-9.683 (7.846)	-9.932 (6.717)	4.071 (7.817)	-0.072 (10.010)	3.600 (7.709)	-0.710 (7.792)	-24.278 (15.237)
COMSTK	-20.222** (8.262)	3.872 (6.955)	-9.873* (5.686)	-7.358 (10.869)	-12.409** (5.435)	-13.998* (7.401)	-18.491*** (6.921)	-10.791 (11.259)
CBORD	-4.221 (7.219)	5.521 (4.169)	2.305 (4.707)	13.029*** (4.945)	-6.743 (4.614)	4.853 (4.317)	-1.461 (6.554)	10.770 (7.041)
SHARACQ	-0.178 (0.173)	0.075 (0.082)	0.099 (0.089)	0.164 (0.114)	0.197* (0.103)	0.104 (0.090)	0.392*** (0.135)	-0.250 (0.156)
Constant	90.300*** (19.732)	18.972* (11.247)	17.756 (12.703)	22.639 (14.303)	37.756*** (12.306)	15.591 (10.860)	25.515* (13.926)	56.373*** (20.227)
Observations	69	188	137	22	161	91	21	67
Qic-Exchangeable	1108849	740573	765767	881820	764254	-	-	838851
Qic-Independent	1107766	742267	764912	888505	764103	786121	877037	839209

In this table, our dependent variable is the Acquisition Premium % (ACQP), which is the ratio of offer price to share price of target firms, 4 weeks before the acquisition announcement. Our independent variable is the buy-side sovereign wealth fund affiliation (BSWF), that is the dummy variable, which takes a value of '1' if sovereign wealth fund is affiliated with an acquirer, and otherwise '0'. We have controlled other variables such as, IPO underpricing % (IPOUND) which is the difference of initial offer price and target closing price on the day of the announcement (Loughran & Ritter, 2004); Underwriter's Prestige (URP) that assumes a value of '1', if the target firm is affiliated with leading underwriter, and '0' otherwise. Venture capitalist involvement (VCI) is a dummy variable that discloses the presence of the financial sponsors by assuming a value of '1', and '0' otherwise. Firm size % (FSIZE) is the natural log of target total assets (\$mil). Deal value (DV) is the value of transaction (\$ mil) used to control for the size of the deal. Tender offer (TENDOF) is a dummy variable that shows tender offer status as the target firm management resists to the tender offer initially to get a higher acquisition premium. The common stock (COMSTK) dummy variable is used to control for the payment method, as the acquisition premiums fluctuate with the payment methods. Cross border (CBORD) dummy depicts whether the deal is between national boundaries or bidders from other countries are also involved in the transactions. The shares acquired % (SHARACQ) indicates the percentage of shares acquired by the buyer in the acquisition deal. It is used to control the target's management demand for higher payments, should they lose control in the acquisition of the firm. *, **, and *** indicate the statistical significance at the 10, 5 and 1% levels of significance, respectively. The QIC criterion is used to differentiate between the correlation structures in GEE estimations, the correlation structure with the smallest QIC value is the most optimal correlation structure for the estimation of the model. The R-Square is not estimated because of the independent correlation among variables in GEE estimations. Standard errors are in parentheses. - indicate that the variable is not estimated.

Source: Own composition from Thomson Reuters Eikon

4 Conclusions

Although Vasudeva et al. (2017) investigated the signaling effect of SWFs' investments in determination of firm ownership choice in foreign acquisition deals, the buy-side SWFs' affiliation as the signal of acquisition premium is a void in the existing studies as per the knowledge of the authors. This study attempts to fill this very gap, and extends the exiting literature on signaling theory by offering the role of buy-side SWF's affiliation in order to explain the acquisition premium of target firms.

Our results support the theory that buy-side SWF's affiliation reduces the acquisition premium of target firms significantly in the North Asia region. In other sub-regions, this effect is negative but statistically insignificant. These findings are consistent with the theory that the negative effect of SWF's affiliation on acquisition premium is due to the higher bargaining power of acquirers. This means that the affiliation with financial intermediaries increases the acquirer's power of negotiation in the M&A process.

Our cross-country analysis shows a negatively significant effect of buy-side SWF's affiliation, on the acquisition premium only in China. The findings of our sectoral analysis report an adversely significant effect of SWF's affiliation on the acquisition premium in the energy and cyclical goods sector. A significantly negative effect of SWF's affiliation on the acquisition premium in these sectors suggests that the SWFs are likely to be more influential in the M&As deals conducted in these strategic sectors. Overall, our findings suggest that the buy-side SWF's affiliation can be used as a signal of buyer's quality, as this affiliation increases the bargaining power of buyers resulting in reduced acquisition premium for targets in certain regions, countries and sectors.

The findings of this study are particularly important for the managers of SWFs who invest in M&A deals in South Asia, China, and other strategic sectors. It is believed that the main goal of the managers is to maximize the value of the shareholders, in our case, this is the value of SWF. Hence, our empirical evidence, that SWF's affiliation provides a relative reduction in the acquisition premium to the targets or financing cost of the buyers, makes investment managers of SWFs more confident, while bargaining the M&A deals with the targets. The most striking result that emerged from our analysis is that the effect of SWF's affiliation is strong in the energy sector deals, as most of the sovereign wealth funds are in oil exporting countries and have major stakes in the energy sector's M&A activities and investments (Kotter & Lel, 2011; Truman, 2009).

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*Appendix***Appendix A: List of Countries and Sectors**

List of Countries in Asia Pacific Region	
Serial#	Target Nation
1	India
2	Hong Kong
3	Australia
4	Singapore
5	New Zealand
6	China
7	Malaysia
8	Taiwan
9	Philippines
10	South Korea
11	Thailand
12	Indonesia
13	Vietnam
14	Sri Lanka

List of Target Firm Economic Sectors	
Serial#	Target Economic Sector
1	Non-Cyclical Consumer Goods / Services
2	Technology
3	Basic Materials
4	Cyclical Consumer Goods / Services
5	Utilities
6	Telecommunications Services
7	Energy
8	Healthcare

Herd Behaviour, Short-Lived Phenomenon: Evidence from Pakistan Stock Exchange

Shaista Jabeen* and Sayyid Salman Rizavi**

Abstract

This research intends to investigate the herd behaviour of investors in Pakistan Stock Exchange (PSX). Previous literature claims that herd behaviour is driven from fundamental information, which causes quick price adjustments to new information and thus leads to efficient markets. However, some researchers have claimed that herd behaviour does not depend upon fundamental information, and hence, leads to price instability. For the purpose of this research, the daily closing stock prices of 528 companies listed in the PSX have been used to calculate the stock returns. The market-wide herd measure, proposed by Chiang and Zheng (2010), has been used to compute the herd behaviour. The data has been investigated for autocorrelation, heteroscedasticity, and stationarity issues. Findings revealed that herding did not exist in PSX, but some sectors did follow this behaviour. This study can help regulators to comprehensively investigate market anomalies leading to smooth market processing.

Keywords: Herd behavior, behavioral finance, return dispersions, PSX, stock returns.

JEL Classification: G11, G12, G14

1. Introduction

As a general practice, investors carry out either independent decision making for investments in security markets, or follow price leaders or entities with better information or other big players in the market. Moreover, it is believed that people are under the influence of others at the time of decision making. Although such decision making may not be considered rational, it usually exists in stock markets, commodity markets, and foreign exchange markets. Modern statistical tools enable us to test for such behaviour. The above mentioned

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discussion leads to the concept of herd behaviour, which is a famous area of behavioural finance. As per academic literature, there are two notable aspects of finance, i.e. traditional finance, and behavioural finance. The former aspect deals with Fama's (1970) Efficient Market Hypothesis (EMH), and later deals with the psyche of market participants. These two aspects can be considered as two extreme views which pertain to the study of investment behaviour.

In the area of behavioural finance, the concept of herding has been used when market participants interact with each other, leading to correlational trade activities (Chiang & Zheng, 2010). Keynes (1936) has presented the concept of herd behaviour. The main theme of this idea pertains to the investors who do not take into consideration the information that is readily available to them. Instead, these individuals follow the behaviour of the group, even though the group activities might not be based on vital information. Moreover, the investors either follow other knowledgeable investors, because of unavailability of information, or think that other investors possess more concrete and reliable information. This behaviour was termed as "meme," a psychological demonstration, which means inaccurate views, and principles, transmitted from one investor to another. Van Campenhout and Verhestraeten (2010) further explained that herding depicts a situation where the investors forego their personal information, and follow the crowd, despite knowing that their information is accurate. This may, or may not be a conscious or unconscious effect and can be considered as cognitive bias, or even a planned move. Investors do this to make themselves feel confident, or to minimise their level of uncertainty (Hogg & Vaughan, 2009). Waweru, Munyoki and Uliana (2008) disclosed that the decision of investors to indulge in buying or selling is significantly influenced by the decision of their peers or group members

Literature reveals that herding seems to be a conjunction of attitudes. These attitudes are triggered when investors follow other individuals, or groups, in securities trading as well as in financial markets. Research shows that there has been positive, as well as negative support for herd behaviour. Some researchers claim that herd behaviour is not dependent upon any fundamental information, and thereby leads to price instability and increases volatility (Venezia, Nashikkar & Shapira, 2011). Other researchers believe that herding is based on fundamental information causing quick price adjustments to new information, and thus leads to efficient markets (Choi & Skiba, 2015). It means when new information arrives to the market, stock prices automatically adjust and

hence herd behaviour too. There are two viewpoints of herding in the security market. One aspect of research has examined how investors do herding around the market by focusing on the market activity data. This viewpoint deals with Cross-Sectional Standard Deviation (CSSD) that is presented by Christie & Huang (1995). This measure has also been extended by Chang, Cheng and Khorana (2000), and they have termed it as Cross-Sectional Absolute Deviation (CSAD). This herding measure has been applied in several Asian financial markets. Hwang and Salmon (2004) also introduced a proxy for herd behaviour. The second aspect of research is centered up on the herd behaviour that is adopted by institutional investors. Rising momentum of institutions leads to the phenomenon of institutional herding. Liao, Huang and Wu (2011) explained that institutional herd behaviour takes place when institutional investors imitate each other while purchasing and selling securities. Institutional herding was first explained by Lakonishok, Shleifer and Vishny (1992), and it was amended by Sias (2004).

Previous researchers have investigated and observed herd behaviour in both advanced, and developing countries: Chang et al. (2000) in Taiwan and South Korea; Laih and Liao (2013) in Taiwan & China; El-Shiaty and Badawi (2014) in Egypt; Jlassi and Naoui (2015) in DIJA and S & P 100 index; Litimi (2017) in certain French sectors; Chong, Liu and Zhu (2016) in China; and Sharma, (2018) in India. However, (Chiang & Zheng, 2010) explained that herd behavior is a phenomenon which occurs due to the strong information asymmetry of emerging markets. Limited researches have been conducted on the market-wide herd behaviour in Pakistan, evidence of which has been mentioned in the literature review section of this study. The current study employs Chiang and Zheng (2010) approach to measure herd behavior, which is still not incorporated, and far from embedded in Pakistan's context. This research work intends to achieve the following objectives:

1. To examine the herd behaviour of investors in PSX
2. To find out the prevalence of herd behaviour in all sectors of PSX

2. Literature Review

In the financial markets, herd behaviour has different manifestations. These can be categorised into two broader categories: intentional and spurious. It is necessary to differentiate between these two types, but empirically, it is a difficult task due to many factors

affecting the investment choices of people and firms (Bikhchandani & Sharma, 2000). Some researchers argued that herding has rational and irrational viewpoints (Hirshleifer & Teoh, 2009).

Previous researchers have attempted to discover herd behaviour by using the methods of dispersion around market returns. This is especially looked into during the times of considerable variations in security prices. These instances are quite frequent, as herding usually occurs during periods of market stress, when investors forego their personal information and imitate the crowd (Christie & Huang, 1995) and these considerable variations lead to huge differences in market returns. The correlation in these market returns eventually paves way for market-wide herding. Market-wide herding focuses on the cross-sectional correlation of returns of all the stocks that are traded in the market (Caporale, Philippas & Economou, 2008).

2.1. Empirical Evidence of Market-Wide Herding

Previous researches have showed a mixed trend and prevalence of herd behaviour in stock markets. Some studies demonstrated strong herding effects, while others disclosed its absence.

Chiang and Zheng (2010) highlighted the existence of herd behaviour in advanced stock markets and in Asian markets, but they did not find its traces in the US market. Cakan and Balagyozyan (2014) observed the herding phenomena in the Turkish banking sector between the periods of 2007-2012, through CSSD measure. Similarly, Ahsan and Sarkar (2013) could not find evidence of herding in the Dhaka stock market from 2005-2011. However, Teng and Liu (2014) observed the existence of herd behaviour in the Greater Chinese stock markets during the financial crisis of 2008. Other than this, Yao, Ma and He (2014) investigated whether there was a prevalence of herd behaviour in the Chinese A and B share markets. Results revealed that the phenomenon existed especially in the B share market, and was more significant in growth stock, rather than in value stocks.

El-Shiaty and Badawi (2014) observed herd behaviour in the Egyptian stock market by using the CSSD and CSAD measures. Similarly, Ramadan (2015) used the CSAD measure and detected the presence of herd behaviour in Amman's stock market as well. For this purpose, he used the daily data points of the Free Float Share Weighted Index from 2000-2014. Moreover, Zouari, Ghorbel, Ghorbel-Zouari & Boujelbene

(2014) studied the concept of herding in the Tunisian market, by using the GARCH model from the period of 2000-2012. His results revealed that there was, indeed, a presence of herd behaviour in the Tunisia Stock Exchange. Other than that, Zheng, Li and Chiang (2017) studied herding in a staggering number of nine Asian markets by using a modified version of the CSAD. Results showed that strong herding effects were observed in the technology and financial sectors, whereas limited effects were found in the utility sectors of these markets. Huang and Wang (2017) studied the factor of fear, and its impact on herd behaviour by using the Volatility Index (VIX), CSSD, and CSAD measures. They concluded that herd behaviour is dependent upon investor's fear and, investors have a tendency to respond to bad news more quickly as compared to the good news. Holmes, Kallinterakis, Ferreira and Pedro (2013) observed that there was a practice of intentional herd behaviour in Portugal's stock market. Similarly, Blasco, Corredor and Ferreruela (2011) detected intentional herding in Spanish markets as well.

Herding phenomenon has been greatly observed in the bullish & bearish markets. Herd behaviour was existed in Indian National stock market on the S & P Nifty 50 index between the periods of 1997 to 2008 (Mandal, 2011). A price-based model with the application of the Kalman Filter was used to determine the existence of herding behaviour. It was observed that the phenomenon took place when the market was heading in a positive direction. Similarly, by using the CSAD model, and Hwang's and Salmon's (2004) measures, Demirer, Kutan and Chen (2010) observed that there was a prevalence of herding in Taiwan's bullish market as well.. However, they did not find any support or evidence of herding through the CSSD method. Herd behaviour was observed in Chinese and Indian stock markets as well. The Chinese market exhibited herd behaviour when the market was in decline, while the Indian market showed this behaviour during the bearish market trends (Lao & Singh, 2011).

Seetharam (2013) explored the pervasiveness of herd behaviour between the period of 1995-2011 in South Africa, and did not observe any signs of it in the bear market. Garg and Jindal (2014) also reported similar results during the days of extreme high and low trading volumes in the stock market. Herd behaviour has also been examined in six Asia Pacific markets during the subprime mortgage crisis (Laih & Liao, 2013). It was not present in Singapore and Hong Kong. Although it was partially practiced in South Korea and Japan and was completely prevalent in the Stock Exchanges of Taiwan and China. The Karachi Stock Exchange exhibited signs of herding during the bullish and bearish trends as well. It

was measured through the Ordinary Least Squares (OLS) regression and the Quantile Regression (Malik & Elahi, 2014).

Chiang, Li and Tan (2010) confirmed the evidence of herding behaviour in the Chinese A share market during its positive and negative trends. They used OLS method and found that there was no support for B shares. However, the quantile regression reported the presence of strong evidence in both types of shares (Luo & Schinckus, 2015; Sharma, Narayan & Thuraisamy, 2015) Similarly, Mahmud and Tinic (2015) highlighted that A Shares usually exhibit herding during bearish, and B shares show evidence of this behaviour during the bullish trends.

Rahman, Chowdhury and Sadique (2015) observed herd behaviour in the Saudi stock market as well. While Jlassi and Naoui (2015), showed vigorous proofs of herding in the US stock markets, especially during the bullish periods, and also during the days of high trading volume. Furthermore, a significant connection has been observed between herd behaviour and market sentiment. Chong, Liu and Zhu (2016) highlighted the existence of herd behaviour in the Chinese stock market by using the CSSD model. Hwang, Kim and Sing (2016) examined herd behaviour in the Korean equity market from 2005-2015. Herd behaviour was practiced during the period when the market was under stress, and in the bull market strong herding effects were observed. The herd behaviour during the bullish and bearish trends was observed in Vietnam's stock market during the time span of 2005 to 2015 (Vinh & Anh, 2016). Similar results were presented by Chiang, Li, Tan and Nelling (2015) in the Pacific-Basin bullish and bearish markets. Their results also showed that herd behaviour was directly linked with the performance of the stock market, and indirectly with market volatility. Chen, Wu and Huang (2017) also used the CSAD measure, and showed that investors engage in herding in China, especially during the rising conditions of the market. They attributed herd behaviour to the irrational expectations of investors. In their study, Mertzanis and Allam (2018) used the CSAD measure, but could not detect the herding effects in the Egyptian stock market, during the bullish and bearish market conditions. This led them to believe that herding was a short-lived aspect. Sharma (2018) also investigated herd behaviour in the Indian stock market. He applied the Generalized Auto Regressive Conditional Heteroscedasticity (GARCH (1, 1) in order to remove the heteroscedasticity from the data collected. It was observed that the bullish, bearish, and extreme price movements did not reflect any of the signs of the herding. Moreover, it was revealed that limited herding effects were present during extremely negative trends in the markets.

Chiang and Zheng's (2010) methodology was also employed by some other authors. For instance, Lindhe (2012) investigated herd behaviour in four Nordic countries. Results revealed that in Finland's stock market, herding behaviour was observed by the investors, even when the market was positive and negative. However, the same is not true in the remaining three countries. Hanafi and Abaoub (2016) noticed that there was prevalence of herd behaviour in the bullish and bearish (before, and during the political & social crisis period) Tunisian stock market. The research work also focused on the connection between share price and trading volume to identify herding behaviour. Results showed that the herding was present only when the market was going up. Chaffai and Medhioub (2018) revealed the signs of herd behaviour in the Islamic Gulf Cooperation Council stock markets from 2010-2016, both during up and down market conditions.

Limited research has been conducted on herd behaviour in Pakistan, and mixed herding effects prevail in Pakistan's stock market. Javaira and Hassan (2015), and Javed, Zafar, and Hafeez (2013) observed the absence of herd behaviour in Karachi stock market. On the other hand, Malik and Elahi (2014) demonstrated the herding effects in Karachi Stock Exchange in both up and down markets. Herd behaviour was measured through the OLS and quantile regression analysis. Zafar and Hassan (2016) presented the signs of herd behaviour in Pakistan stock market during the bullish, as well as the bearish periods. Shah, Shah and Khan (2017) studied herd behaviour in PSX from 2004-2013 by using the CSSD measure. Qasim, Hussain, Mehboob and Arshad (2019) examined the impact of herd behaviour and the overconfidence bias on decision making of investors in Pakistan, through the quantitative approach.

3. Data and Methodology

For the purpose of this study, PSX was referred to as the primary source of data. However, some specific data was collected from the Business Recorder of Pakistan as well. Research work for the study was conducted by taking into consideration 528 companies which had been listed in PSX from June 1998 to June 2018. However, the companies listed after the year 2010 were excluded from the study, in order to maintain the symmetry of the data. This period has been selected, particularly because it gave a holistic view of the data of almost all the listed companies of PSX. It must be noted that PSX consists of 35 sectors, out of which the real estate sector has been excluded for this research (this sector has been not added as it consisted of a single company which was listed after the year

2010, and hence did not fulfil the definition of the data collection criteria). Sector wise distribution of the companies along with the trading volume of each sector (cumulative figure from the years 1998-2018) have been mentioned in Table 1. The daily stock prices of the listed companies were collected from PSX in order to calculate the stock returns. The data was analyzed by using the Chiang and Zheng (2010) approach. The stock returns were computed by applying the formula, $\text{LN}(P_t/P_{t-1}) * 100$. For the purpose of this study, the data has also been tested for autocorrelation, heteroscedasticity, and stationarity issues.

3.1. Models of Herd Behaviour

The widely used models of herd behaviour have been explained in this section of the study. Also, as mentioned and justified previously, the current study focuses on the Chiang and Zheng (2010) model.

3.1.1 Cross-Sectional Standard Deviation (CSSD)

The work of Christie and Huang (1995) is considered to be one of the pioneer studies which pertain to market-wide herding. Their model focuses on the closeness of returns of individual stock to the returns of market. The model is based on the following workings:

$$\text{CSSD} = \frac{\sqrt{\sum_{i=1}^N (R_{i,t} - R_{m,t})^2}}{(N-1)} \quad (1)$$

Where, $R_{i,t}$ = stock return of firm i at time t ; $R_{m,t}$ = cross-sectional average return of the N stocks in the market portfolio at time t ; N = number of stocks in the portfolio.

The presence of herd behaviour is determined through the dummy variable technique. Firstly, the level of dispersion is segregated when the market's return distributions are at an extreme tail level. After this, it is investigated whether it varies from the average level of dispersions, excluding the outermost market returns. The following regression is used to perform these tests:

$$\text{CSSD} = \alpha + \beta_1^U D_t^U + \beta_2^L D_t^L + \varepsilon_t \quad (2)$$

Where, α = coefficient that depicts the average dispersion of the sample, and excludes the area covered by two dummy variables; $D_t^L / D_t^U = 1$, if the

R_m on day t lies in the extreme lower/upper tail of the return distribution, or 0 otherwise.

In the absence of herd behaviour, the dispersion increases from the market, leading to positive coefficients. The negative coefficients exhibit that herd behaviour prevails in the market. Moreover, in the above equation, extreme market movements are defined by making use of the two criteria, i.e. one percent (five percent) upper and lower criteria.

3.1.2. Cross-Sectional Absolute Deviation (CSAD)

Although the CSAD model is based on the CSSDs' assumptions, there do exist some differences in it. The CSAD model is more refined as it is able to capture herd behaviour in periods of extreme market returns. This model is based on an absolute deviation of returns. It describes dispersion of returns of individual stock as well as the weighted average market returns. The CSAD model is described with the help of the CAPM model. Presence of herd behaviour leads to the grouping of individual securities returns, especially around the periods of market return. This means that the investors forego personal information, and imitate the information of the market. The model is shown as follows:

$$CSAD = \frac{1}{N} \sum_{i=1}^N |R_{i,t} - R_{m,t}| \quad (3)$$

Where: $R_{i,t}$ = stock return of firm i at time t ; $R_{m,t}$ = cross-sectional average return of N stocks in the portfolio at time t ; N = number of stocks in the portfolio.

The measure focuses on two parameters of market return, and asserts a non-linear association between individual stock returns, and market returns. This is done in order to effectively show evidence of herd behaviour. In a herd free market, market returns and the individual security returns move in the opposite direction, leading to an increased linear relationship. During the existence of herding, the association between individual security returns, and the corresponding dispersion tend to decrease, or at least increase at a less than proportionate rate as compared to the market return.

The following equation is used to perform the tests:

$$CSAD = \alpha + \gamma_1 |R_{m,t}| + \gamma_2 R_{m,t}^2 + \varepsilon \quad (4)$$

Where, $R_{m,t}$ = market return; Y_2 = if, significant and negative, infers herd behaviour

CSAD and R_m may carry an asymmetric relationship, and herd behaviour can be observed in the bullish and bearish period. This particular test can be applied to the overall market, although it is segregated into two parts, depending upon the direction of the relevant market return

$$CSAD_t^{UP} = \alpha + \gamma_1^{UP} |R_{m,t}^{UP}| + \gamma_2^{UP} (R_{m,t}^{UP})^2 + \varepsilon_t \quad \text{if } R_{m,t}^{UP} > 0 \quad (5)$$

$$CSAD_t^{DOWN} = \alpha + \gamma_1^{DOWN} |R_{m,t}^{DOWN}| + \gamma_2^{DOWN} (R_{m,t}^{DOWN})^2 + \varepsilon_t \\ \text{if } R_{m,t}^{DOWN} < 0 \quad (6)$$

3.1.3. Chiang and Zheng (2010) Model

Chiang and Zheng (2010) presented a model that is slightly different from the CSAD:

$$CSAD_t = \gamma_0 + \gamma_1 R_{m,t} + \gamma_2 |R_{m,t}| + \gamma_3 R_{m,t}^2 + \varepsilon_t \quad (7)$$

Where, $CSAD_t$ = measure of return dispersion; $R_{m,t}$ = value of an equally weighted realized return of all industry indexes on day t ; $|R_{m,t}|$ = absolute term.

The above equation is different from the one formulated for the CSAD model, in the sense that an additional variable, $R_{m,t}$, is included in it. In this way, any variances in the investors' behaviour, in diverse market conditions, can be fully observed. The variable, $\gamma_2 + \gamma_1$, focuses on the association between return dispersion, and market return, when $R_{m,t} > 0$. Whereas, $\gamma_2 - \gamma_1$ depicts the same association when $R_{m,t} < 0$. CSAD model holds that CAPM asserts a linear association between dispersion in individual security and the market portfolio returns. According to theory, the dispersion in individual asset returns must increase with the increase in the variable, $|R_{m,t}|$. The investors exhibit herd behaviour by showing a uniform reaction during any large movements or changes in the market prices. So, $R_{m,t}^2$ is added, while a significant negative coefficient, γ_3 , is consistent with the presence of herd behaviour.

3.2. Data Analysis and Interpretation

The research data is analyzed by using the descriptive statistics, the stationarity test, and the regression analysis. The summary of results, along with interpretation, is explained further on the paper. Moreover, the results of only those sectors have been mentioned which have illustrated the presence of herd behaviour.

Table 1: Sector-wise Distribution of Companies Listed in Pakistan Stock Exchange along with Trading Volume

S #	Sectors	Number of Companies (528)	Average Trading Volume	Minimum Trading Volume	Maximum Trading Volume	Standard Deviation
1	Automobile Assembler	12	4253755	94072	17000000	4968901
2	Automobile Parts & Accessories	10	421770	74096	1095593	291174
3	Cable & Electrical Goods	7	6736703	3190	40900000	11200000
4	Cement	20	27600000	317405	94500000	24700000
5	Chemicals	26	9681648	3884040	25500000	5236586
6	Close-End Mutual Funds	8	2449107	7554	13300000	7554
7	Commercial Banks	20	32800000	3589408	95400000	24800000
8	Engineering	12	1857321	9057	13200000	3377114
9	Fertilizers	6	49600000	12800000	111000000	26400000
10	Food & Personal Care Products	17	1245915	12779	8240481	2204149
11	Glass & Ceramics	8	1548593	8547	7302221	2415468
12	Insurance	29	1790132	197042	3582560	744729
13	Investment Banks	26	4754595	9702	13600000	4646118
14	Jute	2	13416	2365	93833	21751
15	Leasing Companies	9	276220	10115	1158352	282047
16	Leather & Tanneries	5	63516	2554	250479	58305
17	Miscellaneous	22	2334706	101498	11000000	2711951
18	Modarabas	27	478482	34644	1184225	333760
19	Oil & Gas Exploration Companies	4	28900000	12586	106000000	36300000

S #	Sectors	Number of Companies (528)	Average Trading Volume	Minimum Trading Volume	Maximum Trading Volume	Standard Deviation
20	Oil & Gas Distribution Companies	6	46000000	4300332	138000000	42400000
21	Paper & Board	9	709835	37437	2524056	721129
22	Pharmaceuticals	10	453145	5245	2164663	600725
23	Power Generation & Gas Distribution	15	33700000	4944888	100000000	29600000
24	Refinery	4	20900000	50767	53200000	17100000
25	Sugar & Allied Industries	33	375138	19136	1737133	422940
26	Synthetic & Rayon	11	6193403	842779	20300000	5638303
27	Technology & Communication	8	130000000	10100000	332000000	111000000
28	Textile Composite	53	2928147	54092	5436573	1703821
29	Textile Spinning	80	392428	4206	1613837	459793
30	Textile Weaving	13	286411	11952	1097929	324788
31	Tobacco	3	136949	4821	440264	135125
32	Transport	4	13100000	239095	57100000	16200000
33	Vanaspati & Allied Industries	6	1023664	219089	19400000	4207992
34	Woollen	2	170308	321	1186792	289939

Source: Pakistan Stock Exchange, Business Recorder of Pakistan

Table 1 shows the sector wise distribution of companies, as well as the trading volume of these sectors. According to the trading volume, the technology & communication sector has the highest and the jute sector has the lowest average volume. Moreover, the minimum and maximum values, and the standard deviation have also been mentioned in table 1.

Table 2: Descriptive Statistics and Stationarity Results of Cross-Sectional Absolute Deviation

S #	Sector	Mean	Standard Deviation	Minimum	Maximum	CSAD	Rm
	All Sectors (Pakistan Stock Exchange)	2.386	1.621	.0272	57.346	-38.385***	-72.413***
1	Automobile Assembler	1.932	2.008	.008	63.279	-58.322***	-65.326***
2	Automobile Parts	2.423	3.882	0	122.552	-45.065***	-74.863***

S #	Sector	Mean	Standard Deviation	Minimum	Maximum	CSAD	Rm
3	and Accessories Food & Personal Care Products	2.145	5.643	.016	169.331	-51.105***	-65.476***
4	Leasing Companies	2.947	3.193	.003	33.600	-44.956***	-74.678***
5	Leather & Tanneries	2.290	4.455	.0003	134.028	-48.705***	-63.401***
6	Oil & Gas Distribution Companies	1.459	2.639	.002	97.297	-58.322***	-65.326***
7	Pharmaceuticals	1.690	3.659	.014	112.344	-36.677***	-47.550***
8	Synthetic & Rayon	2.116	3.023	.040	76.177	-54.084***	-77.078***
9	Textile Spinning	3.205	3.072	.105	62.190	-28.395***	-117.25***
10	Textile Weaving	2.860	5.237	.007	153.434	-55.663***	-68.965***
11	Woollen	1.763	2.727	.0008	56.570	-33.804***	-68.179***

Source: Pakistan Stock Exchange (Results are computed on the basis of data taken from PSX) Table 2 shows descriptive statistics of Cross-Sectional Absolute Deviation (CSAD) for Pakistan Stock Exchange as well as the sectorial distribution of PSX.

* Statistical significance at the 10% level

** Statistical significance at the 5% level

*** Statistical significance at the 1% level

Table 2 displays the descriptive statistics of PSX, and its sectors. The data ranges from a span of 2469 to 4935 days, and spreads over the period of June 1998 till June 2018. The higher mean values propose significant increase in the market differences that are experienced across sectoral returns. High standard deviation proposes that the stock market, and its sectors, have unusual cross-sectional disparities due to any unforeseen events or tremors in market activity. Moreover, the minimum and maximum, and stationarity values have also been reported in the table. The Augmented Dickey-Fuller (ADF) test has been applied to check the stationarity of the variables identified for the purpose of this study. The null hypothesis of the unit root has been rejected in all the cases. The results of the ADF test show that all the variables, for all the sectors have been stationary at their respective levels. This means that the data has shown consistency over time. This also demonstrates that the mean, variance and the autocorrelation remain stationary, given the time factor involved.

Table 3: Regression Results

Sr #	Sector	γ_0	γ_1	γ_2	γ_3	R^2	Durbin Watson
	All Sectors (PSX)	2.053*** (46.26)	-.032 (-0.55)	.673*** (7.11)	.101*** (6.83)	0.671	2.053
1	Automobile Assembler	.694*** (7.35)	.618*** (6.97)	.322*** (6.09)	-.067*** (-4.05)	0.892	2.049
2	Automobile Parts and Accessories	.510*** (10.23)	.041 (1.46)	1.545*** (30.91)	-.003*** (-6.25)	0.889	2.012
3	Food & Personal Care Products	.561 *** (8.06)	-.013 (-0.35)	1.531*** (22.52)	-.002** (-2.19)	0.953	2.017
4	Leasing Companies	.662*** (20.36)	-.012 (-0.86)	1.574*** (47.12)	-.007** (-2.05)	0.799	2.041
5	Leather & Tanneries	.289*** (4.04)	.049 (1.30)	1.447*** (21.59)	-.002 *** (-3.03)	0.888	2.013
6	Oil & Gas Distribution Companies	.694*** (7.35)	.618 (-6.97)	.322*** (6.09)	-.067*** (-4.05)	0.903	2.049
7	Pharmaceuticals	.325*** (3.87)	.045 (1.01)	1.362*** (13.76)	-.002** (-1.72)	0.917	2.016
8	Synthetic & Rayon	.483*** (15.29)	.016 (0.78)	1.660*** (42.25)	-.008*** (-9.68)	0.884	2.009
9	Textile Spinning	1.028*** (13.05)	.060 (1.03)	1.943*** (23.73)	-.015*** (-8.60)	0.741	2.097
10	Textile Weaving	.584*** (11.54)	.013 (0.53)	1.704*** (37.83)	-.004*** (-7.18)	0.946	2.016
11	Woollen	-.013 (-0.10)	.002 (0.10)	1.020*** (11.66)	-.005*** (-9.77)	0.766	2.020

Table 3 depicts the daily regression estimates of cross-sectional absolute deviation. Parentheses consist of heteroskedastic t-statistics. Durbin Watson values for autocorrelation are also mentioned.

Table 3 explains the regression results of the PSX, and its respective sectors. Some sectors exhibited autocorrelation and heteroscedasticity issues. The autocorrelation was found to be first order in these sectors, and this problem was removed by applying statistical test. The values of Durbin Watson after removing the autocorrelation, have become closer to the standard values, and are reported in the table. Similarly, the heteroscedasticity has been managed by using the robust standard errors. The Heteroscedastic-t statistics have been presented in parenthesis. Other than this, the adjusted R^2 explains the changes in CSAD, as described by the market return (R_m), its absolute value ($|R_m|$) and the squared value ($R_{m,t}^2$). While the remaining changes were due to other factors that were held constant in the model. The highest value (0.94) was observed in the textile weaving sector. The value of γ_1 described the unit changes in the cross-sectional absolute deviation,

caused by one unit change in the market return on an average. The values reached their peak level (0.07, 0.61, 0.17, and 0.95) in PSX, and in some of its sectors (automobile parts & accessories, automobile assembler, and leasing). The values of $|R_m|$ were shown through the γ_2 coefficient. Negative values of $R_{m,t}^2$ confirmed the presence of herd behaviour. These results imply that herding exists when a negative, and significant relationship exists between the cross sectional absolute deviation, and market returns. This means that the returns of individual firms hold a tendency to form a cluster around the market/industry returns, and as a result, the deviation from the market decreases. As per the results, the PSX did not reveal the existence of herding, but some sectors showed this behaviour nonetheless. In these specific sectors, the values of $R_{m,t}^2$ were negative, and significant at different level (1%, 5%, 10%). These revelations lead to the proposition that $R_{m,t}^2$ is a measure of extreme market movements, and supports herding in these sectors. Results also provide clarity on the findings that investors forego their own information and follow the crowd in these sectors. Therefore, keeping these results in mind, the asset pricing model did not seem to have support in these sectors. Apart from this, the overall investors in Pakistan Stock Exchange did not show any herding behaviour. It can be inferred that the investors in PSX were more focused on rational decision making processes. However, the question is why herding is practiced in some sectors, but not found not in others. The possible reason for this could be the lack of confidence level of the investors. Another reason could be that these investors imitate the behaviour of other informed or experienced investors in these sectors. And yet, another reason could be that the firms in these sectors have high or low stock returns. Previous researchers argued that herding is a short-lived phenomenon (Christie & Huang, 1995). The results of this model are also supported by the researchers in different countries, for example, Lindhe (2012), in four Nordic countries, Hanafi and Abaoub (2016) in the Tunisian stock market, and Chaffai and Medhioub (2018) in the Islamic Gulf Cooperation Council stock markets.

4. Conclusions and Implications

This study provides significant insights into the market behaviour, as it uses the Chiang and Zheng (2010) approach to measure herd behaviour in PSX, and its associated sectors. PSX did not reveal the existence of herding, but some sectors depicted this behaviour at all possible levels. It can be inferred that the investors in PSX focus more on rational decision making, but, they also follow the information that they get from other investors in some of the sectors that have been included in

this study. It can also be inferred from the study that herding is an integral component, one which is difficult to eliminate. Some factors which trigger the herding behaviour might include limited knowledge, experience, and homogenous expectations of investors. Moreover, an expectation of uncertainty about the accuracy of the information might also be cause herding behaviour in investors. If the market information is properly conveyed to investors, herding activities can be reduced to a minimum. Besides, investors must consider herding conditions and agendas in order to make rational decisions. On the other hand, managers must aim for financial transparency, as well as detailed and quality controlled financial statements of their respective companies. This transparency in published information can facilitate investors to make better, more informed and confident decisions. Moreover, it will help out decision-making authorities to comprehensively investigate any market anomalies that would eventually lead to smooth market processing.

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Conceptualizing the Impact of Religiosity on the Preferences for Islamic Banking in Mirpur (Azad Jammu and Kashmir): An Empirical Analysis

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Abstract

Over the years, Islamic banking has emerged as a viable alternative to conventional banking, especially after the global financial crises of 2008. Despite the fact that the existing literature emphasizes on this significant shift in customers' preferences in favor of Islamic banking, there are only a few studies that investigate the actual motives behind this shift. Hence, the key objective of this study is to identify the different factors that explain consumer preferences regarding Islamic banking services, specifically in Mirpur. Even more specifically, this study explores the role of religiosity in influencing consumers' choice of Islamic banking in Mirpur. To test whether or not religiosity affects consumer preference for Islamic banking, the logistic regression technique has been used for the data analysis. The overall results reveal that besides the conventional variables, the religiosity level of customers, Shariah compliance of an Islamic bank, and knowledge of the respondent about prohibition of interest (Riba) in Islam have positive, and significant effects on consumers' selection of Islamic banks. Based on these empirical findings, this study suggests that along with improving delivery and quality of services, Islamic banks should emphasize on Shariah compliance which provides a sustainable competitive advantage for Islamic banks over conventional banks.

Keywords: Islamic banking, religiosity, customers' preferences, Azad Jammu and Kashmir, conventional banking.

JEL Classification: D12, P4, G2,

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1. Introduction

Financial intermediaries play a crucial role in the growth and development of a country (King & Levene, 1993). Due to the ever growing industrial and commercial activities worldwide, the banking sector has gained importance as an essential facility to promote business operations (Levine, 1997). In the earliest stages of its establishment, the Islamic society was able to effectively mobilize resources, and finance its productive activities without having any involvement of interest (Riba). This system worked efficiently for many centuries after the dawn of Islam (Abedifar, Ebrahim, Molyneux & Tarazi, 2015). Mudharabah, Musharakah and Qarzi-Hasna were considered to be the main, and most important modes of finance for commercial activities, as well as the industry in the Mediterranean region, during twelfth and thirteenth centuries (Abedifar et al., 2015; Goitein, 1971). However, the Protestant Reformation in the fifteen century provided a stimulus to intellectual growth, which resulted in the industrial revolution in Europe. This, in turn, resulted in the emergence of western financial intermediaries, and the financial system based on Islamic traditions become dormant (Abedifar et al., 2015; Hillebrand, 2009; Molyneux & Iqbal, 2005). However, after gaining independence from the colonial rule, many Muslim countries started re-establishing the Islamic banking system, along with the conventional banking system (Iqbal & Molyneux, 2005).

Over the last fifty years, there has been a growing demand for the Islamic financial system from the Muslim, as well as the non-Muslim countries, all over the world¹. The global financial crises provided further impetus to the Islamic banking system, and has ultimately induced the demand for an alternative banking and finance system (Khan, 2010). The interest free banking system has been introduced in some conventional banks as well. Yet, the financial institutions that specialize in Islamic banking have witnessed the fastest growth rate over the last couple of years (Aregbeyen, 2011). Although Islamic banking is based on the Islamic religious law, it is not considered to be a religious bank that is restricted exclusively to Muslims. People of any religion or faith can bank with an Islamic bank. Its products and services are universally accessible to individuals of all races and faith, who wish to conduct, or pursue financial

¹ Islamic banks, like their conventional peers, are financial intermediaries, trustees and custodians of people's money or financial assets. Islamic banking is primarily market driven, but with ethical and moral dimensions that are based on Islamic Sharia. Hence, it prohibits the receipt and payment of interest, and advocates participatory banking on profit and loss sharing (Imam & Kpodar, 2013; Khan & Mirakhor, 1990; Shahid, Mehmood, Ahmad, Ahmad & Shafique, 2015).

transactions that are devoid of interest, and that are in harmony with the principles of the Islamic *Sharia'h* law (Chapra, 1985; Osman, Ali, Zainuddin, Rashid & Jusoff, 2009). The Islamic banking system has grown enormously over the last four decades. It attracts Muslim, and non-Muslim customers equally, and is spread all over the global landscape as a viable alternate to the conventional banking system (Iqbal & Molyneux, 2005; Osman et al., 2009). Due to its assets backing nature and risk sharing principles, the global Islamic finance industry has experienced enormous growth and stands at a staggering amount of two trillion US dollars mark (State Bank, 2016).

The Islamic banking industry is also growing at a considerable rate in Pakistan. It has witnessed a process of significant progress, especially after the year 2002, when the State Bank of Pakistan re-launched it with a new, and more reassured vision. Presently, the Islamic banking system consists of an 11.4 percent share of total assets, and a 13.2 percent share of deposits of the total banking activity in Pakistan (State Bank, 2016). According to statistics provided by the State Bank (2018), "the network of Islamic banking industry consisted of 21 Islamic banking institutions; 5 full-fledged Islamic banks and 16 conventional banks having standalone Islamic banking branches by end of March, 2018". The State Bank of Pakistan plays a pivotal role in the growth and development of Islamic banking in Pakistan. With the advent of the Islamic banking system in Pakistan, new opportunities and banking options are now available for the consumers, in case they decide to choose between an Islamic bank or a conventional bank. This opportunity permit the consumers to rank the different types of banks, according to the level of satisfaction they give to their consumers (Rehman & Shabbir, 2010). Initially, the consumers' preferences toward Islamic Banks were slow, and marked with skepticism. But, with passage of time, the level of trust and dependency on the Islamic way of banking is increasing, and is continuing to grow rapidly (Zakaria, Kader, Razali & Abdullah, 2014). Understanding the factors that shape the customers' preferences is imperative for an Islamic bank, in order for it to work efficiently, and be successful in such a competitive environment².

Consumer preferences allow a consumer to rank different bundles of goods or services, according to their levels of utility, or their total satisfaction of consuming a good or service. Satisfaction does not depend

² Preference refers to the set of assumptions related to ordering some alternatives, based on the degree of gratification, happiness, satisfaction, enjoyment, or utility they provide, a process which results in an optimal 'choice'.

upon the product or service itself, rather it depends on the customer's perception. Many factors contribute towards the emergence, acceptance, and adoption of Islamic Banks in a secular society. According to Chapra (1985), there have been given, clear guidelines about what is *halal* (permitted) and *haram* (prohibited) in Islam. Islam promotes brotherhood, social equality and fairness in all economic activities, for the wellbeing of the mankind. Some studies argue that the *Shariah* compliance attribute is the highest priority for consumers when they choose the Islamic banking system (Abduh, Kassim & Dahari, 2012). Devlin and Gerrard (2004) evaluated that the majority of consumers choose Islamic banking because of their religious motives and incentive. In the religious incentives, interest free loans, Islamic teachings, *shariah* compliance, knowledge of Islam, and religious environment are the main factors which motivate consumers towards Islamic banking (Khan, 2014; Reni, 2013). The Holy Quran states that "*O believers, fear God, and give up the riba that remains outstanding if you are believers*" (Qur'an, 2: 278). The main principles of Islamic banking activities comprise of the prohibition of interest (*riba*), or usury, in all forms of banking transactions, undertaking business and trade activities on the basis of fair and legitimate profit, giving *zakat* (alms tax), and development of all *halal* aspects of business, that are not prohibited by Islam. Unlike the conventional banking system, the Islamic banking system prohibits usury, the collection and payment of interest, and it promotes profit-sharing in all conduct of the banking businesses (Doraisamy, Shanmugam & Raman, 2011; Haron & Shanmugam, 1997).

The existing literature explores the conventional determinants for selecting the Islamic banking system. These determinants include low service charges, accessibility to bank branches, service quality, banks' overall reputation, and recommendations from family and friends (Awan & Azhar, 2014; Tara, Irshad, Khan, Yamin, & Rizwan, 2014; Zulfiqar, Arshad, Fareed, Shahzad & Hussain, 2014). This study used the Divine Economics approach, which argues that individuals having a belief in an afterlife, make their current life choices of commodities and services in accordance with their respective faith patterns (Hamdani, Ahmad, Khalid & Tahir, 2004). Our study contributes to the existing literature in different ways. First, we construct a composite index of religiosity, based on different dimensions of the religion, using the Divine Economic Survey (2016). Second, we also construct an index of the Islamic Bank's reputation, using different aspects of the *Shariah* compliance law. Third, we use the knowledge of respondents about prohibition of interest (*Riba*) in Islam. According to the best of our knowledge, there are seldom studies that

explore the relationship between the customers' preferences for Islamic Bank, and the faith based variables. Hence, the key objective of this study is to identify the factors that explain consumer preferences when it comes to the Islamic banking services in Mirpur, Azad Jammu and Kashmir. Moreover, this study also investigates the impact of religiosity on consumer preferences, regarding the Islamic banking services in Mirpur, Azad Jammu and Kashmir.

The rest of the study is organized as follows. Section 2 reviews the relevant literature, and discusses the motivation behind this study. Section 3 explains the theoretical background, model specification and data collection. Section 4 presents the empirical findings, and Section 5 concludes the study.

2. Review of Relevant Literature

There is growing literature that proves the resilience of the Islamic financial system during the global financial crises (Abedifar, Molyneux, & Tarazi, 2013; Čihák & Hesse, 2010; Hasan & Dridi, 2011). In Malaysia, the average annual growth of deposits that were held by the Islamic banks, was 32 percent over the period of 2007 to 2012. While, the share of conventional banks decreased from 92.5 percent, to 80.4 percent (Ariff, 2014). As widely believed and witnessed, risk and returns are the primary factors that govern the customers' preferences. However, many studies argued that along with the risk and return, many other factors govern the customers' preference when it comes to the choice of banking (Beal, Goyen, & Philips, 2005; Fama & French, 2007; Fisher & Statman, 1997).

For instance, customer satisfaction is the most critical concern for Islamic banking, as it is believed that if the customers are satisfied, it leads to more demand for the products that Islamic banking has to offer (Awan & Azhar, 2014). Many studies have found that a bank's location significantly affect the consumer's choice of banking (Amin, 2013; Marimuthu, Jing, Gie, Mun, & Ping, 2010; Ramadan, 2013; Rehman & Shabbir, 2010; Siddique, 2012; Zulfiqar et al., 2014). Some studies reported that a convenient location of a bank is an important determinant of the consumers' preferences when the choice of bank is in question (Holstius & Kaynak, 1995; Kaynak & Kucukemiroglu, 1992; Mokhlis, Mat, & Salleh, 2008). The quality of services provided by the bank, the bank's name and reputation, are strong points of consideration for the choice of a bank (Abduh & Omer, 2012; Haque, Osman, & Ismail, 2009; Msewli & Naudi, 2015; Ramadan, 2013; Tara et al., 2014). The basic knowledge of the

principles of Islam is a factor that is deemed to have a positive relationship with consumer preference for Islamic banking. When people have more knowledge of the Islamic ideology, they are more likely to prefer Islamic banking, because Islam prohibits interest (*riba*) on loans. It has been observed that Muslims tend to make deposits in Islamic financial institutions, mostly due to religious reasons (Chapra, 1992). Islamic Banking is dissimilar to the conventional banking system, mostly because

Islamic banking prohibits usury, collection and payment of *riba*, promotes profit and loss sharing, and zakat for the benefit of the society, and development of all halal features of any business. Awareness regarding the financial teachings of Islam has a positive impact on the consumers' choice for selecting a bank (Awan & Azhar, 2014; Hassan, Chachi, & Abul-Lattif, 2008; Tara et al., 2014). The quality of services, such as online banking, convenient ATM locations, and speedy service have been found significant in some earlier studies conducted to determine the motives behind a particular choice of bank (Frangos, Fragkos, Sotiropoulos, Manolopoulos, & Valvi, 2012; Saleh, Rosman, & Nani, 2013; Zulfiqar et al., 2014). The concept of religiosity has been extensively debated in the behavioral and experimental economics perspective. Many studies found a significant relationship between religiosity and economic behavior (Ahmed, 2009; Ruffle & Sosis, 2007). The relationship between religion, and customers' preferences for Islamic banking is also well documented in literature. Religion is the main factor that shapes the consumer preference for the Islamic banking system. Religion is also an influencing factor in the adoption of the Islamic banking system (Othman & Owen, 2001; Rahim & Junos, 2012; Tessler, 2010; Waemusor, 2010). A review of the existing literature suggests that there is hardly any study which has made an in depth analysis of the relationship between customers' preferences for Islamic Banks, and faith base variables. These variables include the level of religiosity, level of the Islamic bank's reputation based on Shariah compliance, and knowledge of the respondents about prohibition of interest (*riba*) in Islam. Hence, the key objective of this study is to identify the factors that explain the consumer preferences regarding the Islamic banking services. Moreover, this study also investigates the impact of faith based variables on consumer preferences for the Islamic banking services.

3. Theoretical Background and Model Specification

In line of the researches of Innaccone (1998), Hamdani et al. (2002) and Hamdani et al. (2004), this study incorporates the religious beliefs, and

the religiosity levels of individuals in the modeling behavior of an individual, who perceives and believes in afterlife. According to this framework, the life cycle consists of two phases; life on earth, and life in the hereafter. When such perception holds, it becomes plausible to assume that utility is also the sum of two further types of utilities. These include the utility of current actions in the current period, and the expected utility of current actions in the future. Under the Islamic faith, a follower needs to maximize his utility in this life, and life after death in the light of the Islamic code of conduct in consumption, production, exchange, etc. Hence, due to religious obligations, a rational consumer will prefer to maximize his utility only from halal sources of income, because of the perceptions that have been formed by him due to his faith. A consumer who wants to make the most of his spiritual belief and life will prefer to spend his life in this world under the umbrella of the Islamic laws that have been defined for him. Thus, it is expected that a more religious individual would prefer a banking system which offers products and services in accordance with Islamic *shariah* law, while a less religious individual may feel comfortable in selecting the conventional or Islamic banking system, depending on their relative advantages in the current life. These individuals may switch over to Islamic products and services if their incentives are higher than those offered in the conventional banking system. Moreover, they may also switch from Islamic banking to conventional banking, if conventional banks provide better incentives to them. The theoretical background helps us formulate an empirical model that may be estimated for analyzing the direction and magnitude of determinants of the banking system. To uncover various determinants of consumer preferences for Islamic banking, the empirical model takes the following form:

$$CP = \beta_0 + \beta_1 D + \beta_2 BRI + \beta_3 SQ + \beta_4 Inc + \beta_5 Y + \beta_6 REL + \beta_7 K + \beta_7 Ed + \varepsilon_i \quad \text{Eq. 1}$$

Where *CP* is consumers' preferences for Islamic Banking, *D* is the accessibility to the bank's branch, *BRI* is the bank's overall reputation and image, *SQ* is the service quality provided by the Islamic Bank, *I* is the incentives provided by bank, *Y* is the income in rupees per month, *K* is the knowledge of respondent about Islam, *REL* is the religiosity of respondent, and ε_i is the random error term. The description and construction of variables is provided in Table A1.

3.1 Data

Primary data is used for both descriptive and empirical analysis of the study. In this association, the data was collected using an extended

version of the Divine Economics Survey (2016), after adding a new section related to Islamic banking. The Divine Economic Survey Series started in the year 2000. The survey covers a variety of aspects relating to the economy, religiosity and other dimensions of human behavior. Before conducting the final survey, a pilot testing of 30 questionnaires, on the basis of random sampling is done. The basic aim of conducting this exercise is to check issues in the questionnaire, specifically related to language, understanding, time and data variation etc. After pilot testing, all these problems were identified and duly fixed.

The data set of 186 bank customers has been selected from district Mirpur (Azad Jammu and Kashmir) through the convenient sampling technique. Convenient sampling is a type of non-probability sampling. For empirical analysis, the Logit technique has been used because the dependent variable is a dummy variable, where a value of one represents the act of selecting Islamic banking, and a value of zero represents the act of selecting conventional banking.

4. Results and Discussion

4.1. Descriptive Analysis

For the purpose of this research, descriptive statistics are used to describe the basic characteristics of the study sample. The summary of the descriptive statistics of the variables under consideration is given in the following table.

Table 1: Descriptive Statistics

Variables	Observations	Minimum	Maximum	Mean	Standard Deviation
Age	186	20	60	33.01	8.853
General Education (in years)	186	5	18	14.46	2.336
Income	186	7000	300000	39892.2	33002.454
Distance from home to Islamic bank (in km)	186	1	45	6.79	9.111
Valid N (listwise)	186				

The summary of statistics shows the sample characteristics. The data was collected from 186 consumers of banking products and services. The majority of the respondents were found to be aware of the Islamic banking system in their area by either using their products and services or,

at least, by having heard about such products and services. The summary of statistics shows that the lower value of standard deviation means that the data points are closer to their mean values. This indicates that our variables are free from the problem of high dispersion. For instance, the age variable has not experienced high dispersion, and also has a lower standard deviation. Similarly, the data points for income and general education are also less dispersed from mean, which shows that there is less dispersion of the data points from the mean. The age of respondents in the sample ranges between 20 to 60 years.

There are 131 male respondents, while 55 of the respondents contacted for the purpose of this study are female. This bias is due to the fact that in Azad Jammu and Kashmir, the ratio of a male operating a bank account is very high, as compared to a female, though the exact data on the male to female ratio is not available.

The table shows that the sample includes respondents who have an education level ranging between the grade levels 5 till the 18th. The mean value of the level education in this study sample is 14 years, i.e. a bachelor's degree. The average national level of education is grade level 10th.³ The average level of education of the sample population used in this study is higher than the national education level in Pakistan. This is mostly due to the fact that the sample data only includes bank customers in Mirpur city.

When taking the monthly income into consideration, the respondents of this study were earning an income of more than Rs.7000-300,000 per month. However, a large group of respondents reported that they earn less than 40,000 Rupees per month. The average income in Azad Jammu and Kashmir was calculated to be 11856 Rupees per month⁴. It must be noted that the average level of income in this study is higher than the national average income. This may be due to the sample selection bias mentioned above, or due to the fact that people in Mirpur city enjoy a higher income and living standard because of their migration to UK and other countries.

The distance from respondent's home to the Islamic bank branch ranges between 1 to 45 kilometers. The average distance is calculated to be 6 kilometers approximately.

³ Federal Ministry of Education, literacy 2015

⁴ Azad Jammu & Kashmir, at a Glance 2013 by Planning & Development Department Muzaffarabad

4.2. Empirical Findings

As mentioned in section 4.1, the impact of religiosity on consumer preferences for Islamic banking has been analyzed by employing the Logit model, as an estimation technique. Table 2 reports the empirical findings of the study. Moreover, column one shows the list of variables used in this study. In column two and three, the coefficients and odd ratios are shown. Column four presents the p-value of all the variables.

Table 2: Results of Logistics Regression Analysis

Dependent Variable: Choice of Bank			
Variables	Coefficient	Odd ratio	P> z
Religiosity index	0.6124242	1.844898	0.024
Log income	0.6388213	1.5279143	0.081
Reputation and image	0.7620761	1.7666965	0.026
Distance	0.6245261	1.8673612	0.019
Consumer knowledge about Interest in Islam	0.6024542	1.826596	0.03
Incentive	-0.2320893	.7928753	0.33
Service quality	0.6532622	1.9218	0.07
General education	0.6005598	1.8182726	0.023
Constant	1.658178		
Chi square	77.91	69.00	79.51
p-value	0.00		
N	186		
R ²	0.31	0.27	0.31

The results in table 2 reveal that the consumers' level of religiosity has come out to be statistically significant, and comes with the expected signs of positivity. Keeping in view the Islamic principles, it was, a priori, assumed and expected that more religious people show more inclinations towards Islamic banking considering that *riba* is prohibited in Islam. The religiosity index is statistically significant with an expected positive sign. The odd ratio of religiosity came out to be 1.8448, which shows that if religiosity increases by one unit, the chance of selecting Islamic banking increases by 84%. This proved the hypothesis that religiosity significantly affects consumers' preferences for Islamic banking. In Mirpur city, the consciousness of Islamic principles especially, interest free banking is a source of satisfaction for consumers. The results are in line with the existing empirical literature (Othman & Owen, 2001). The variable in the results that

is labeled as income (consumer's monthly income), is statistically significant with an expected positive sign. The odd ratio of income is 1.5279, which shows that if income increases by one unit, the chance of choosing Islamic banking is 52%.

The variable in the regression results which is labeled as REP (Reputation and image of the bank), is statistically significant with an expected positive sign. The odd ratio of reputation is 1.7666, which shows that if the reputation increases by one unit, the odds of selecting Islamic banking will increase by 76%. Customers are mostly influenced and positively skewed towards those banks which enjoy a good reputation and image. In Mirpur city, it is observed that most people select Islamic banks because of the reputation and image the bank carries in terms of its adherence to Shariah compliance. Islamic banks create a positive reputation when their customers are completely confident that their operations are conducted according to Sharia laws. Hence, our results are also consistent with the previous studies (Abduh & Omer, 2012; Msewli & Naudi, 2015; Ramadan, 2013; Tara et al., 2014). The variable of distance is also statistically significant, and reflects that there is a positive association between the distance, and the selection of an Islamic bank. Another important factor that is considered in this study is the consumers' knowledge about Islam. This variable is statistically significant with an expected positive sign. As people gain more knowledge about Islam, they are more likely to prefer Islamic banking simply due to the fact that Islam prohibits interest (*riba*) on loans. The odd ratio of the consumers' knowledge about interest in Islam is 1.8265, which shows that if consumers' knowledge about Islam increases by one unit, the odds of selecting Islamic banking increases by 82%. This shows that consumers with more knowledge of Islam realize that there is a clear difference between prohibited and permissible things according to Islamic laws, and hence prefer the Islamic banking system. It is observed that people who have more knowledge about the concept of interest in Islam, prefer the Islamic banking system. Many earlier studies document similar findings (Awan & Azhar, 2014; Marimuthu et al., 2010)

The variable of incentives is statistically insignificant, with an expected positive sign. There may be different reasons for this unexpected result. For example, incentives do not always attract consumers in case of Islamic banking, due to the other motivations that have been discussed already. Another possible reason may be that Islamic banks offer high profit rates, which might lead the consumers to suspect that these are probable tactics that are usually practiced by conventional banks.

The variable labeled as SQ (service quality) is statistically significant with an expected positive sign. The odd ratio of service quality is 1.9218, which shows that if service quality increases by one unit, the odds of selecting Islamic banking increases by 92%. This shows a positive relationship between service quality and customers' selection of an Islamic bank. This result is also consistent with the existing empirical literature (Frangos et al., 2012; Saleh et al., 2013; Zulfiqar et al., 2014). Moreover, the variable of general education is also statistically significant, with an expected positive sign. This result substantiates that general education also increases the sensitivity of customers toward interest (*Riba*), which is prohibited in Islam.

5. Conclusions

Islamic banking is a rapidly growing phenomenon in Pakistan including Azad Jammu & Kashmir. The main objective of the study was to identify the factors that explain customers' preferences when it comes to the banking services in Mirpur, Azad Jammu & Kashmir. The study also investigates the impact of religiosity, on customers' preferences for Islamic banking services. The findings of the study reveal that some conventional factors, such as income, location, service quality, and the general education of respondents are positively associated with customers' preferences for Islamic Banking in Mirpur. Interestingly, the results of study show that faith based variables, such as the religiosity level of the respondents, reputation and image of an Islamic bank for Shariah compliance, and the respondents' knowledge about interest (*Riba*) prohibition in Islam affects the customers' choice of an Islamic bank. These results corroborate the Divine Economics approach, which argues that individuals having a belief in an afterlife, make their current life choices of commodities and services in accordance with their respective faith patterns. These findings have important implications for the Islamic banks, particularly operating in Mirpur. These findings also suggest that along with improving the delivery and quality of services, Islamic banks should emphasize on the Shariah compliance, which provides a competitive advantage for Islamic banks

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Appendix A

Table A1 Description and Construction of Variables

Variables	Description
Consumer Preferences (CP)	Dummy variable equal to one if respondent choose Islamic Bank
Distance to Bank Branch (D)	Distance of Islamic Bank from respondent's house in kilometers
Bank's Reputation and Image (BRI)	In this study, we develop an index of Islamic bank's reputation using different aspect of bank's Shariah compliance and performance. These aspects are measure on the scale from 1 to 5 (where 1 is lowest that is 'strongly disagree' and 5 is highest value that implies 'strongly agree'). In line with Haq, Khan & Saddique (2015), we use the following formula to construct an index. $(BRI) = \frac{\sum_{i=1}^n(\text{response score on question } i)}{\sum_{i=1}^n(\text{maximum score on question } i)} \times 100$
Service Quality (SQ)	Dummy variable equal to one if service quality such as sufficient number of ATM machines, Online banking services, information brochures of an Islamic Bank is better than conventional bank otherwise zero
Incentives Provided by Bank (I)	Dummy variable equal to one if respondent consider the incentives such as high return and low service charges provided by Islamic banks are better than conventional banks
Income (Y)	Monthly income of respondent in years
Knowledge about interest (riba)	Dummy variable equal to one if respondent consider interest is strictly forbidden in Islam otherwise zero
Religiosity (REL)	We develop and index of religiosity using different indicators from the Divine Economic Survey (2016). In line with Haq et al. (2015), we use the following formula to construct an index. $(BRI) = \frac{\sum_{i=1}^n(\text{response score on question } i)}{\sum_{i=1}^n(\text{maximum score on question } i)} \times 100$
General Education (G_EDU)	Conventional formal education in years

The Impact of Downside Risk on Expected Return: Evidence from Emerging Economies

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Abstract

This paper investigates the comparative relationship between the downside risk adjusted CAPM and traditional CAPM. The premise of the traditional CAPM is that the expected return is based on the incidence of systematic risk (beta), which has been assumed to be homogenous for both the developed, and the emerging stock markets. However, empirical results are not aligned with this assumption, as the basic risk and return relationship happens to be negative, and insignificant in the case of emerging markets. This may be due to the emerging stock markets' distinct characteristics (i.e. high volatility, low liquidity, and less availability of historical data). To deal with the said issue, extant literature supports the use of the semi-variance methodology (SV-M) for emerging markets, instead of the mean-variance (M-V) method. Therefore, this study referred to the Fama and Macbeth (1973) methodology that was applied over monthly data ranging from June, 2000 to June, 2018. Results indicate that there is a positive relationship between the risks (downside and traditional beta) and the expected return. Moreover, results also reveal that downside risk has more significance and explanatory power as compared to the traditional beta. Hence, as per the above findings, the study suggests using the semi-variance methodology for the calculation of the expected returns in emerging economies. However, the significance of the residuals, and beta square terms in both methodologies clearly indicate that there is a need to adjust and incorporate more risk factors, as well as an element of non-linearity while arriving at a probable risk and return relationship.

Keywords: Mean variance, semi-mean variance, downside risk, downside CAPM, traditional CAPM, Fama-Macbeth regression.

JEL Classification: G11, G12, G14, F20

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1. Introduction:

An investment decision is based on three determinants; the future cash flow, the projected life span and the discount rate. The effectiveness of an investment decision depends on how these three factors are accessed by the investor. The estimation of cash flow usually requires immense understanding of the project before it is implemented. The project life span is also an important factor to consider as a change in this will cause disruption in the whole perspective of the project. However, past literature clearly indicates that the discount rate is used as a compass while making critical investment decisions, and the corporate market theory provides several ways in which one can arrive on the appropriate discount rate. This discount rate may be termed as the cost of capital. Moreover, this cost of equity is considered to be an integral cost of capital. Capital asset pricing models are a renowned measure to calculate the cost of equity (Bekaert, Geert and Harvey, 1995; Pereiro, 2006). Different authors report that corporate manager mostly used the CAPM for the calculation of equity, instead of any other model (Ehrhardt & Brigham, 2011; Bruner, Eades, Harris, & Higgins, 1998; Graham & Harvey, 2001; Jenkinson, 2006). However, the authors also reported a considerable variation in the use of CAPM for the said purpose (Bruner et al., 1998).

Previous studies in this discipline have also shed light on how the estimations of the discount rate through capital asset pricing theory may also vary from emerging markets to the more developed markets (Geert Bekaert & Harvey, 1995; Estrada, 2000). Geert Bekaert and Harvey (2002), and Sabal (2004) reported that emerging economies are more volatile, less integrated and lower the trading volume. Moreover, not only are they smaller in size, but the traditional capital asset pricing will not be able to drive and lead the risk and return relationship (Solnik, 1973).

The pioneer study on the concept of emerging markets is perhaps by Harvey (1995), where he found that the systematic beta is low and largely insignificant. Subsequent studies have since then reported somewhat similar results, that eventually show that the beta and returns are actually unrelated (Adams & Thornton, 2009; Geert Bekaert, Erb, Harvey, & Viskanta, 1996; Estrada, 2002a; Estrada & Serra, 2005).

Empirical studies have also reported that the returns' distributions in the emerging markets are more skewed, rather than symmetrical, as the

CAPM expected. Kahneman and Tversky (1979) explain this skewed behavior in the Prospect Theory, and Gul (1991) explains this in his Disappointment Aversion Theory, where they cumulatively state that investors dislike the downside deviation more than the upside deviations. So, in order to capture this downside behavior, many studies have subsequently used the downside beta in the CAPM model, rather than the traditional beta. Even though definitive theoretical support is available for the downside beta, still, a limited amount of work has been seen on an empirical basis, especially in the aspect of the investors' preference for upside and downside risks (Rashid & Hamid, 2015; Raza, 2018).

The previous work in this aspect can also be referred to for the adjustment of more than one risk factor that affects the expected returns. Fama and French (1992) find out that the adjustment of the size and value factor into the existing CAPM will improve the explanatory power of the model. Interestingly, the same results are reported by many other researchers across time and cross section. However, criticism can still be seen in the use of these factors. According to Perold (2004), the size and value factors are not about risk at all. That is to say that, if the size is a risk factor, then the small firms tend to combine themselves to form large firms. Likewise, the value effect is based on allotting equal weightage to small and large firms, which are already lying in the capitalization-weighted value indexes. Perold (2004) also concluded that till the actual risk attributes that underlies behind these factors have been identified, the explanatory power of the model will be in doubt. Hence, such models have a limited scope of application. So this particular work is limited to the traditional, and downside CAPM.

Keeping this in mind, it must be noted that the study revolves around two basic research questions. These include whether traditional beta explains the mean returns of emerging markets, or whether the downside and upside beta have more explanatory power in this relationship. This study also aims to contribute towards the existing knowledge on capital market theory. This task will be undertaken by proving a recent empirical analysis with strong methodology, along with a comparison between the improved framework (D-CAPM), and the existing framework of CAPM. The data used in this paper is quite in-depth, and also addresses the problem that comes with the assumption of normality. The results of this study provide significant help to investors, corporate managers, and project managers for a better selection of their discount rate in emerging markets.

2. Theoretical Background

Studies on downside risk show that there is a major improvement in the literature of portfolio and asset pricing theory. This phenomenon itself has started getting the right kind of attention recently as it involves the calculation of discount rate in emerging markets for the purpose of making wise investments decisions, although the discussion of this topic started from Roy (1952). According to Roy (1952), investors, while making investments, first focus to save their principal amount, and accept any minimum returns that conserve its principle amount. This "safety first" approach is termed as the downside risk. In this regard, Markowitz (1959) recognized the importance of the downside risk. According to him, investors are more interested into downside risk, mainly due to the fact that they are more concerned about the safety of their principal amount, and secondly due to the returns not being normally distributed in most of markets. Markowitz (1959), however, prefers to deal in total risk, just because its computation is simple.

Quirk and Saposnik (1962), and Mao (1970), also believe that investors are more skewed towards the negative side of the returns instead of the positive side. Researchers like Simkowitz and Beedles (1978), Singleton and Wingender (1986), Chunnachinda, Dandapani, Hamid and Prakash (1997), and Rehmann et al. (2003), criticize the very basic assumption of the traditional CAPM, that propose that the returns follow the normal distributions, while in actuality, the distribution is highly skewed towards the emerging markets.

Jahankhani (1976) is probably the first one to empirically investigate the difference between the mean-variance, and semi-variance technique in order to successfully calculate the systematic risk. Results of this study indicate that the semi-variance beta provides a better explanation of the risk - return relationship, instead of the mean variance beta. However, some authors argue that these results may be due to the small sample biasness, as the authors took the sample from 1951 to 1969.

Furthermore, some authors have also worked on the semi-variance methodology for the calculation of downside, as well as the upside beta. Kraus and Litzenberger's (1976) have extensively worked on the downside and upside beta in higher order movements. Their results supported the semi-variance technique as it tends to produce better results than the

methods used before. Similarly, Fabozzi and Francis (1977) came up with an innovative idea as he adjusted the downside and upside beta as a random coefficient. The results however indicate that there is no significant relationship between risk and return under the semi-variance methodology. Subsequently, the work of Kim and Zumwalt (1979) reports significant results, with a downside beta and expected return, but the upside beta reports a negative coefficient. The work of Chen (1982) discussed that this issue usually arises due to the multicollinearity and proposed that the time varying regression model should be used instead of the two pass regression.

Estrada (2002a) reflects that the downside CAPM tends to perform better in emerging markets, as compared to the same in traditional CAPM. The downside CAPM explains 55% of the variations in the mean returns in the emerging markets. The results display a weak correlation between the emerging markets and the world market portfolio, which indicates a partial integration nature of an emerging market. Results also reveal that there is an insignificant relationship between beta, and the returns, while on the other side the downside beta is statistically significant with the mean returns. The author argues that this might be due to the reason that the world market portfolio has been inefficient in explaining the stocks returns of the emerging markets. Harvey's (2000) work on the downside beta, and the subsequent results suggest that this method produces better results for emerging economies, than that for developed economies.

In addition to this, Estrada's (2002b) study on the downside CAPM, for both developed and emerging economies, calculates the CAPM beta, and the downside beta, on each return, with respect to the MSCI World Index. The traditional CAPM, as well as the downside CAPM, report significant results. However, but later these results show an explanatory power of almost 47%. The author has divided the sample into developed and emerging markets. He has then investigated the relative efficiency of both the models. The interesting facts that arise after seeing the results are that all the risk factors in the emerging markets' data are significant with respect to the developed markets, where none of the risk factors are significant, and the downside CAPM still outperforms the traditional CAPM.

Different studies emphasize that the economic significance of the risk returns paradigm is more important for practitioners, than it being statistically significant (Estrada & Serra, 2005). Under the same influence, many authors have estimated the risk and return relationship, using the Fama and Macbeth (1973) methodology, which falls under the GMM

framework, in order to identify the variables for the calculation of cost to equity. Along with this, they have also carried out economic analysis, for the purpose of identifying the variables that produce the most profitable portfolios. Their results report a weak statistical relationship between the downside risk and return, but the downside risk happens to have the largest impact on returns, while staying within the economic framework.

Many different methods are available in the literature to cater to the adjustment of the downside risk into the CAPM beta. Hogan and Warren (1974) used the semi-variance, and the covariance methodology, instead of the variance co-variance, in order to arrive at the downside adjusted CAPM. Similarly, Bawa and Lindenberg (1977), and Harlow (1991) also developed a downside adjusted beta. However, they did this using the Mean Lower Partial Moments methodology, instead of the Semi-Variance methodology. The difference between these varying methodologies is only the estimation of the target rate of return (Rashid & Hamid, 2015). Estrada (2002) further extended the Semi-Variance methodology by dividing the downside volatility of both the stock and the market. The difference in Estrada's (2002) methodology, as compared to the other two methodologies is that their methodologies assume that the co-semi variance of all assets is homogenous. Moreover, they also infer that the deviations calculated from the both methods will be lower than their mean level, which may result in weak estimations of the risk and return relationship. Hence, the use of Estrada's (2002) work is more suitable in this regard (Rashid & Hamid, 2015).

The contextual review of the literature reveals that there are a few studies based on the comparative analysis of the mean-variance and the semi-variance methodologies over BRICS (Brazil, Russia, India, China and South Africa) plus Pakistan. Rashid and Hamid (2015) worked on the semi-variance methodology, by using the abovementioned techniques, and found a better explanation of the expected returns in the banking sector. Sehgal and Pandey (2018) worked on the Indian stock market by using a different measure of the downside risk, and the particular study concluded that there tends to be a significant relationship between these downside measures. Galagedera (2009); Galagedera (2007) and, Iqbal, Brooks and Galagedera (2010) have worked on these emerging markets, and have reported that the downside risk has a better explanatory power than other risk measures in asset pricing.

This study aims to analyze the comparative estimations of the risk and return relationship, by using both the mean variance and the semi-variance techniques. This research also provides a significant contribution towards the existing literature, by estimating and evaluating the mean-variance capital asset pricing model, as well as the downside risk adjusted capital asset pricing model. Moreover, the aim is to test the significance of these models for emerging markets, in terms of the recent data explored in this context.

3. Data and Methodology

This study has used and referred to six major stock markets of the world, i.e. Brazil, Russia, India, China, South Africa and Pakistan. The purpose was to test the mean variance and semi-variance methodologies, and to test and validate the traditional as well as the downside CAPM. All the companies which have a price related history from June, 2000 to June, 2018, are included into the study sample. To justify this research aim, the study used the Fama and Macbeth (1973) methodology on the individual stocks of each market. This methodology proposes an approach which is based on two steps, i.e., in the first step, the time variant beta is measured by using the time series regression for the individual stock over the market premium. In the second step, the excess security return is regressed on the estimated beta, which was derived from the first steps. At the end, the slopes and the betas obtained are averaged out and tested for their significance.

Multiple hypotheses have been developed to test the risk and return relationship. The time variant beta that has been obtained from the first pass regression of Fama and Macbeth (1973) model are used to arrive at the risk and return relationship.

$$R_i - R_f = \lambda_0 + \lambda_1\beta_i + \mu_i \text{-----(For CAPM)}$$

$$R_i = \lambda_0 + \lambda_1\beta_i^D + \mu_i \text{-----(For D-CAPM)}$$

The linear assumption of the capital asset pricing model is tested by adding the squared terms of the systematic risk. This is added as an explanatory variable into the risk and return framework.

$$R_i - R_f = \lambda_0 + \lambda_1\beta_i + \lambda_2\beta_i^2 + \mu_i \text{-----(For CAPM)}$$

$$R_i = \lambda_0 + \lambda_1\beta_i^D + \lambda_2\beta_i^{2D} + \mu_i \text{-----(For D-CAPM)}$$

To check that the systematic risk is the only a measure of expected return, the residual of error term is added to the model.

$$R_i - R_f = \lambda_0 + \lambda_1\beta_i + \lambda_2U_i + \mu_i \text{-----(For CAPM)}$$

$$R_i = \lambda_0 + \lambda_1\beta_i^D + \lambda_2U_i^D + \mu_i \text{-----(For D-CAPM)}$$

The joint hypothesis is tested out by including all these variables, in order for the explanatory variable to arrive at the risk and return relationship.

$$R_i - R_f = \lambda_0 + \lambda_1\beta_i + \lambda_2\beta_i^2 + \lambda_3U_i + \mu_i \text{-----(For CAPM)}$$

$$R_i = \lambda_0 + \lambda_1\beta_i^D + \lambda_2\beta_i^{2D} + \lambda_2U_i^D + \mu_i \text{-----(For D-CAPM)}$$

The fifth hypothesis is performed only for the downside CAPM, where both the upside and downside beta are regressed against the mean returns of firms, into a single model, as recommended by (Estrada, 2007).

$$R_i = \lambda_0 + \lambda_1\beta_i^D + \lambda_2\beta_i^{2D} + \lambda_3U_i^D + \lambda_1\beta_i^U + \mu_i$$

4. Empirical Results for the Mean-Variance CAPM

The Following results are reported by taking the averages of slopes and standard errors, in order to test the null hypothesis and adjusted R-squares, which are derived from Fama and Macbeth's (1973) second step regression. These results are obtained by a monthly cross sectional regression, which eventually averages out for all the lopes, standard errors and associated figures as reported in table 1.

Table 1: Results for Traditional CAPM

Country	Model	β_i	β_i^2	U_i	Constant	Adj. R-squared
Pakistan	1	0.0162**			-0.0983***	0.039
	2	0.0700***	-0.0616***		-0.0880***	0.337
	3	0.0193***		-	-0.0665***	0.21
	4	0.0932***	-0.0906***	7.862*** 5.557*	-0.106***	0.357
Brazil	1	-0.00705			-0.00485***	0.014
	2	-0.00598	-0.0147		-0.00444***	0.019
	3	-0.00711		-1.244	-0.00327*	0.021
	4	-0.0162	0.119	-9.943	0.0045	0.026
China	1	0.00212			0.00260***	0.004
	2	0.00158	0.0163*		0.00242***	0.009
	3	0.0021		4.366*	0.00158***	0.011
	4	0.00288	-0.0243	10.07	0.00052	0.011
India	1	0.00302**			0.000988***	0.006
	2	0.00302**	0.0000285		0.000986***	0.006
	3	0.00302**		-0.435	0.00117	0.006
	4	0.00241	0.0111	-7.346	0.00346	0.007
South Africa	1	0.00386**			-0.000631	0.022
	2	0.00153	-0.00519***		-0.00112	0.055
	3	0.00416**		-	0.00547**	0.063
	4	0.00912	0.00456	5.938*** -10.39	0.0105	0.065
Russia	1	-0.00181			-0.00497***	0.009
	2	0.000458	-0.00219		-0.00493***	0.015
	3	-0.0018		-3.563	-0.000749	0.021
	4	-0.0162	0.014	-20.02*	0.0185	0.035

* p<0.1, *** p<0.01, ** p<0.05

In the first phase of the analysis, the systematic risk (Beta) has been computed through the 36 months' recursive rolling window. In the second phase of the analysis, the cross-sectional regression has been estimated and disclosed, in Table 1.

Table 1 exhibits the insignificant results for Brazilian, Russian and the Chinese markets for all the reported hypothesis. The results indicate that the capital asset pricing model is unable to explain the variations in the mean returns of the firms in these countries through the systematic beta. The results for hypothesis 1 indicate that the risk and return relationship is significant only for Pakistan, India and South Africa, where the systematic beta significantly explains the variations of mean returns, but with low predictive power of the R-square which lies at only 3%. Model

2 exhibits the results after incorporating the non-linearity assumption, whereby the Pakistani and South African markets report a significant presence of non-linearity.

The third hypothesis tests the adequacy of the beta factor. The results in this regard exhibit that the residuals of Pakistan and South African markets are statistically significant, while the same is insignificant in the Indian market. The significant value of the residual terms indicate the inadequacy of the beta factor, while the insignificant value indicates the applicability of the CAPM. These results show that in Pakistan and South Africa, there is still a need to include the other factors in the market premium, but in the Indian market, the beta factor properly explains the risk and return relationship.

The joint hypothesis is tested by taking the beta factor, its square term, and the residual term on the mean returns of firms into a single model. The consequences of this hypothesis indicate that the beta factor is only significant in the Pakistani market, where all the other markets report insignificant results. The intercept term differs considerably from zero, which indicates the presence of risk free assets into each model. However, a negative value is opposite to the main assumption of Sharpe (1964). This suggests that the traditional CAPM model does not hold true for these countries over the examined period (2000 to 2018), except that in Pakistan. These results are mostly related to Iqbal, Brooks and Galagedera (2010), and Rashid and Hamid (2015) studies which discuss the case of Pakistan, and Korkmaz, Cevik and Gurkan (2010) in the case of Brazil, China, India, Russia and South Africa.

5. Empirical Results for The Down-Side CAPM

In the second step of the analysis, the semi-variance methodology of Estrada (2002) is used to calculate the downside beta. Furthermore, this beta is regressed a cross sectional basis in order to arrive at the slopes, standard errors and adjusted r-square, which are eventually averaged out, and results are reported in Table 2.

Table 2: Results for the Downside CAPM

Country	Model	β_i^D	β_i^{2D}	U_i^D	β_i^U	Constant	Adj. R-squared
Pak	1	0.0153***				0.0115***	0.225
	2	0.0359***	-0.0091*			0.0111***	0.436
	3	0.0692***		-0.0546**		0.0165***	0.554
	4	0.0367***	-0.0062	-0.0460*		0.0155***	0.556
	5	0.0021			0.00734**	0.0103***	0.1240
Brazil	1	0.0824**				0.00564***	0.1349
	2	0.0053*	-0.026***			0.00642***	0.1880
	3	-0.0035		-0.116***		0.0155***	0.2540
	4	-0.0015	-0.0073	-0.108***		0.0150***	0.2590
	5	-0.0028			0.0052	0.00562***	0.1794
China	1	0.00357*				0.00332***	0.0070
	2	0.0012	0.0178			0.00325***	0.0100
	3	0.00328*		-0.0646***		0.00894***	0.0390
	4	0.0000	0.0248	-0.0676***		0.00911***	0.0450
	5	0.00352*			-0.0006	0.00342***	0.0070
India	1	.002104***				0.00518***	0.0155
	2	.014146***	0.010***			0.00546***	0.0391
	3	.0066028***		-0.0304***		0.00903***	0.0775
	4	.0123167***	-0.0012	-0.0296***		0.00896***	0.0851
	5	0.00580***			-0.0007	0.00521***	0.0240
South Africa	1	-0.0013				0.00607***	0.0030
	2	0.0129***	-0.011***			0.00352***	0.1150
	3	-0.0004		-0.0937***		0.0128***	0.2550
	4	0.0023	-0.0022	-0.0865***		0.0118***	0.2580
	5	0.0000			-0.00355*	0.00693***	0.0180
Russia	1	-0.00248*				-0.0009	0.0210
	2	0.0028	-0.0035			-0.0017	0.0340
	3	0.00287**		-0.0530***		0.00416**	0.0910
	4	-0.0011	-0.0012	-0.0508***		0.0037	0.0930
	5	0.0012			-0.005***	-0.0006	0.0680

In Table 2, results for downside CAPM are reported. The downside beta significantly explains the mean returns in hypothesis 1, for Pakistan, Brazil and India at the 95% confidence interval. While in China and Russia this confidence interval is at 90%. The results for South Africa is insignificant. The sign of the downside beta is positive, except for Russia, where the sign is against the theory. The downside risk model is more valid in these markets as compared to the traditional CAPM model. Although the issue of non-linearity and significance of residual term is still present in this model as well. Almost all the intercept values are statistically significant and positive as the CAPM expected. The power of the model varies from country to country, but it is still better than the traditional model. In Pakistan and Brazil, the downside CAPM shows more predictive power than in other countries. The results reported above indicate that the

downside beta is statistically significant for all the models that clearly indicate the validity of the downside CAPM. However, the issue of non-linearity and significant residuals also exists. It indicates that more variables may be incorporated into the downside capital asset pricing model so that the alpha becomes statistically insignificant.

6. Conclusions

The determination of the discount rate is an important decision in the pricing of any assets, in any stock market. Different methods have been developed for this purpose, but the capital asset pricing model is used mostly for this purpose. The multi-version CAPM model has been observed in the literature on the basis of different dynamics of the stocks markets in the world. This study tries to attempt an investigation into the emerging markets for the estimation of an appropriate discount rate. For this purpose, this study applies two different models i.e. the traditional CAPM and the downside CAPM, and compares their predictive power.

Due to different fundamentals of emerging markets i.e. high volatility, low size, low trading volume, then that in developed markets, multiple authors suggest the use of the semi-variance technique for the purpose of estimating the risk and return relationship (Estrada, 2007; Estrada & Serra, 2005).

This study provides the comparative analysis between the traditional CAPM, and the downside CAPM. It does this by incorporating the most suitable methodology, and updated data for BRICS countries, and Pakistan, for the period of 2000 till 2018. The study also uses the monthly stock returns for all the listed companies which have a history for these selected years. Fama and Macbeth (1973) two-pass regression model has been employed for testing both the CAPM models, by taking the time invariant beta over a 36-month rolling window.

Results clearly indicate the superiority of the downside capital asset pricing model over the traditional capital asset pricing model, but still, problems of non-linearity and significant alpha exist. This means that a larger risk factor could be accommodated, along with the market risk premium, so that the basic assumptions of asset pricing theory can be retained.

In conclusion, the use of the downside capital asset pricing for the calculation of cost of equity in emerging countries is a recommended practice. This model has better predicative power than the traditional models, especially in emerging economies.

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Does the Choice of Brand Positioning Strategy Matter in the Creation of Brand Love? The Mediating Role of Brand Positioning Effectiveness

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Abstract

To understand how brand love can be created, this study examines the effect of brand positioning strategies (benefit brand positioning strategy, feature brand positioning strategy and surrogate brand positioning strategy) on brand love, by conceptualizing brand positioning effectiveness as a mediator. The proposed conceptual model was empirically studied with the responses of 607 young consumers from private universities in Pakistan. This study finds evidence of complementary mediation of brand positioning effectiveness between brand positioning strategies, and brand love in the context of high street fashion retail brands. For the brand managers, this study implies that the development of an interpersonal consumer-brand bond can be developed by employing benefit brand positioning strategy, surrogate brand positioning strategy and feature brand positioning strategy. This, as a result, also indicates the effectiveness of all three of these brand positioning strategies.

Keywords: Brand positioning strategy, brand positioning effectiveness, brand love, high street retail, Pakistan.

JEL Classification: E32, F23, F44, M00, M30, M31, M37

1. Introduction

The idea that consumers form partner-like associations with brands is referred to as brand relationships (McAlexander, Shouten, & Koeing, 2002). Other than brand love, consumer-brand relationship literature also mentions other forms of associations between consumers and brands. These include brand satisfaction (Carroll & Ahuvia, 2006), brand trust and brand commitment (Chaudhuri & Holbrook, 2001; Fournier & Yao, 1997; Sung & Choi, 2010), brand attachment (Thomson, MacInnis, & Park, 2005), brand passion (Albert, Merunka, & Valette-Florence, 2013) and brand connectedness (Escalas, 2004). Amongst the many concepts explaining

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consumer-brand relationships, relatively, brand love is a new concept in the marketing research (Unal & Aydin, 2013). Fournier (1998) was the pioneer who introduced the concept of love which consumers can experience towards a brand, and explained it as a long-term and passionate relationship of a consumer with a particular brand.

Marketers in the fashion retail industry have been struggling to find out which of the three brand positioning strategies (functional brand positioning strategy, benefit brand positioning strategy, and surrogate brand positioning strategy) is more effective in developing a positive perception about a brand in the consumers' minds. As the differentiation based on functional attributes of fashion retail brands gets blurred, the need to develop strong, emotion based consumer-brand relationship becomes more evident. This is so because the reliance of a significant portion of marketing communications is now appealing to emotions and feelings of the consumers (Grisaffe & Nguyen, 2011). On the basis of empirical evidence, it has been suggested that brand love is a stronger concept when compared with brand commitment and brand satisfaction, when it comes to predicting the word of mouth and brand loyalty associated with a brand. In eventuality, these very factors could be a reason for the reliance on the emotional appeal aspect in marketing communication (Batra, Ahuvia, & Bagozzi, 2012).

Practitioners, over time, have advocated the importance of brand love in marketing communications (Delgado, Palazón, & Pelaez, 2017). Roberts (2006) suggested that a brand based on a brand positioning strategy that encourages the development of love-like brand-consumer relationships, is likely to cause emotional damage in a situation where that particular brand is taken away from the consumers. The word 'love' is being used frequently in marketing communications in Pakistan. The studies that have conceptually explained consumer-objects relations (Shimp & Madden, 1988) have developed a valid and reliable measure of consumer-object love (Batra et al., 2012; Brakus, Schmitt, & Zarantonello, 2009; Shimp & Madden, 1988; Whang, Allen, Sahoury, & Zhang, 2004). Apart from the research stream which explained brand love as consumer-object love, another stream of brand love research has focused on investigating the antecedents of brand love. These include the brand equity (Batra et al., 2012), brand identification and brand trust (Albert et al., 2013; Bergkvist & Bech-Larsen, 2010), brand satisfaction (Sarkar, 2011; Sarkar, Ponnamp, & Murthy, 2012; Unal & Aydin, 2013) and hedonic shopping motivations (Carroll & Ahuvia, 2006).

Gil and Velazco (2017) have investigated the effect of brand positioning strategies on brand love in the context of personal branding. However, their research lacks the analysis of the comparative effectiveness of the three brand positioning strategies, and brand love. Park, Jaworski and MacInnis (1986) acknowledge that three brand positioning strategies namely; functional brand positioning strategy, experiential brand positioning strategy, and symbolic brand positioning strategy, effectively aid towards fortifying a romantic consumer-brand bond. However, the conceptual framework proposed is restricted to symbolic brand positioning strategy, and its impact on brand love and brand identity. Carrol and Ahuvia (2006) have studied the product level brand positioning strategy, and the brand-level constructs in the context of their relationship with brand love. However, this study was limited to examine feature and brand related positioning. It is important to address the knowledge gap which exists in the relationship between brand love, and the choice of brand positioning strategies adopted by fashion retail brands. This premise is also supported by Delgado et al. (2017), who suggested further research in this area, to understand how the development of an emotional consumer-brand bond is imperative in the blossoming of brand love.

Advertising helps fashion brands set their product apart relative to the competition, if they can successfully make a marketing campaign communicating brand love (Grant, 2016). The identity of the brand is communicated with the help of effective brand positioning (Urde, 1999), therefore, making brand positioning strategies critical for the eventual development of brand love. Any form of consumer- brand attachment can be enhanced with the help of effective marketing communications. This is especially true if brand positioning is based on the emotional aspects of the brand, in which case the consumer is expected to show greater commitment towards the brand (Thomson & MacInnis, & Park, 2005). In support of the importance of brand positioning strategies on brand love, Grant (2016) states that the magnitude of the love for a brand is largely caused by the perception communicated by the brand executives. He believes that this is done with the help of effective brand positioning. Two questions addressed in this study are; (1) Is the choice of brand positioning strategy (benefit brand positioning strategy, surrogate brand positioning strategy and feature brand positioning strategy) critical for the creation of brand love?, and (2) Does the overall brand positioning effectiveness (namely; favourability, dissimilarity, uniqueness, credibility and sustainability) have a mediating role between the relationship of brand positioning strategies (benefit brand positioning strategy, surrogate brand positioning strategy and feature brand positioning strategy), and brand love?

The above mentioned research questions will be answered in the context of Pakistan's high street fashion retail industry. As the competition in this retail industry gets fiercer, effective brand positioning strategies for fashion brands are needed to create differentiation. Pakistan's economy is ranked as the eleventh largest economy, and is believed to have the potential for high growth rate in the coming future (Punjab Board of Investment and Trade, 2016). The economic turnaround between 2013 and 2016 has encouraged both the local and international fashion retail brands to establish their presence in Pakistan (Ahmed, 2016). Seventy three percent of the total population in Pakistan is under the age of 35 years, the increased demand of fashion retail brands can also be attributed to a greater number of young consumers (Punjab Board of Trade and Investment, 2016).

2. Theoretical Underpinnings and Hypotheses Development

The idea that the concept of love does not apply only to humans, but also to brands that have attributes with human-like traits is known as anthropomorphism (Alvarez & Fournier, 2016). Branding a product by giving it a specific name, (Eskine & Locander, 2014; Waytz, Heafner, & Epley, 2014), and describing a brand as if it was a human (Aggarwal & McGill, 2007; Puzakova, Kwak, & Rocereto, 2013) aims to change consumers' perception so that they anthropomorphize brands. Websites that use marketing communications based on avatars, and follow social norms such as welcoming and saying goodbye to website visitors are attempting to appeal to those anthropomorphic tendencies (Nowak & Rauh, 2005). High street fashion retail brands, in particular, rely heavily on effective marketing communications to create a strong interpersonal love between consumers and brands. Marketers use various visuals, verbal and metaphorical tools to activate knowledge of a "human" schema, thereby, enhancing the consumer's tendencies to think of brands in anthropomorphic ways.

The development of a love-like relationship between the consumer and a brand is largely based on the choice of the brand positioning strategy (Fuchs, 2008). If a person treats a brand as a human, then it means that he attributes certain human mental capacities, for example emotions or feelings to that brand; or maybe the person tends to believe that the brand has emotions and feelings about the consumer (Waytz, Cacioppo, & Epley, 2010a; Waytz, Epley, & Cacioppo, 2010b).

Ahuvia (1993) has studied the concept of love as an object. Whang, Allen, Sahoury and Zhang (2004) have shed light on the concept of loving a product, and Thompson, Rebecca and Roland (2005) have analysed the concept of an emotional consumer-brand bond. But no previous researcher has tested the relationship of brand love with different brand positioning strategies, and brand positioning effectiveness. The motivation for the present research is derived partly from Unal and Aydin (2013) who have proposed that “brand love needs to be studied with elements such as brand positioning, trust and brand image”. The present research aims to take this concept a step further, by investigating the relationship of brand positioning strategies, brand love and brand positioning effectiveness in fashion apparel retail brands in Pakistan. Wind and Cardozo (1974) provide support to the objective of the study, by stating that consumer-brand relationships are largely dependent on the choice of brand positioning strategies. In this regard, they believe that one such brand-consumer relationship is brand love, which is the focus of this research.

2.1. Brand Love

Recognition of the importance of brand love is a relatively recent marketing phenomenon, and has been shown to influence marketing communications decisions (Batra et al., 2012; Carroll & Ahuvia, 2006). Fournier (2009) explained “that consumers can think about their relationships with brands in a way that is similar to their relationships with committed partners or best friends”. The basis of brand love (i.e. consumers developing emotional relationships with brands based on features, personality and symbolic attributes of brands) is grounded in the theory of brand positioning literature (MacInnis & Folkes, 2017). Through the phenomenon of humanization of brands, consumers express themselves both personally and socially (Ahuvia, 2015). Since brand love is a concept that is derived from the concept of interpersonal love in psychology (“I love you”), and is applied in a consumption context of a product, therefore it is deemed difficult to understand (Delgado et al., 2017).

Shimp and Madden (1988) viewed the concept of brand love as embedded in the interpersonal theories in psychology. They proposed that love that is interpersonal, and love for a product are similar. Among various theories about brand love, Sternberg and Barnes’s (1986) triangular theory of love is a common framework researchers have used to explain brand love in the past. Sternberg and Barnes’s (1986) theory makes use of a metaphor, to conceptually explain consumer-object love. The metaphor comprises of three components; intimacy (“feelings of closeness,

connectedness, and bondedness"), passion ("the drives that leads to romance, physical attraction, sexual consummation, and related phenomena in loving relationships"), and decision/commitment ("Decision is the short term recognition that one loves someone else, whereas commitment is the long term intention to maintain that love").

Rauschnabel and Ahuvia (2014) are credited as the pioneers of the concept of brand anthropomorphism and its effect in the form of brand love; but they complained about the lack of research in the domain of brand love. Empirical findings of the relationship of brand love with other consumer behaviour variables are indeed not extensive, and there is more that needs to be done to understand brand love, conceptually and empirically (Batra et al., 2012). In particular, brands of fashion products are known to possess symbolic meanings, as compared to brands in other product categories (Escalas & Bettman, 2005). This is due to the ability of fashion brands to convey the identity of the wearers (Hebdige, 1987). There is a need to fill the conceptual, contextual and methodological gaps present in understanding the concept of brand love, which is as an emotional bond that creates a romantic relationship between brands and consumers. It must also be understood that this relationship goes beyond brand satisfaction, brand loyalty and brand trust. The research on these lines inevitably needs to relate brand positioning strategies that eventually lead to brand love. Most of the prior literature in this regard originates from the United States of America (Albert et al., 2013); therefore, a study based on Pakistani fashion retail brands will add value to the existing literature on brand love.

Ahuvia (1993; 2005) pioneered the quantitative analysis of brand love, and the consumers' ability to love a brand and their related consumption behaviour. Ahuvia's work revolves around explaining that interpersonal love, and consumer-brand love have more commonalities than differences. For example, the consumers find products attractive, they aspire to have them, long for their consumption, and they feel that a certain brand is a natural fit to their personality. Consumers feel willing to spend their financial resources on a brand because they feel as if it is a part of them. This perspective is in consistency with Aron's theory of self-expansion as applied to brands (Aron & Aron, 1986), where closeness to a brand is shown in a Venn diagram depicting the self as an overlap with the brand (MacInnis & Folkes, 2017).

Despite the existence of different theoretical perspectives about brand love, there is unanimity with regards to the possibility of the presence of love that consumers can have with a brand, and such brands

become an important part of their lives (Ballester, Palazón, & Muñoz, 2017). Although brand love has emerged as an important consumer-brand relationship construct, there is still a lack of understanding as to how the love relationship between a consumer and a brand is created, fostered, and strengthened by the efforts of marketers. It has been proposed that brand love may be influenced by the effectiveness of brand positioning strategies (e.g., product features, benefits of the product) adopted by the marketers (Batra et al., 2012; Carroll & Ahuvia, 2006).

2.2. The Mediating Effect of Brand Positioning Effectiveness

Brand positioning effectiveness is based on “emphasizing the distinctive characteristics that make a brand different from its competitors, and such characteristics are appealing to the consumer” (Kapferer, 2004). Table 1 summarizes the five dimensions of brand positioning effectiveness, as proposed in the literature.

Table 1: Dimensions of Brand Positioning Effectiveness

Author	Year	Brand Positioning Effectiveness Dimensions	Definition
Sujan and Bettman	1989	Dissimilarity	“How similar or distinct the brand is perceived to be in comparison with other brands in the product category”.
Chaturvedi and Carroll	1998	Uniqueness	“The differentiation that a brand enjoys in the marketplace vis-à-vis its competitors by virtue of perceptions unique to that brand, or other perceptual brand-specific effects”.
Mahajan and Wind	2002	Favourability	“Brand must be accompanied with positive associations; the brand needs to appeal to the head and/or heart of consumers”.
Erdem, Joffre, and Anna	2006	Credibility	“The believability of the product position information contained in a brand, which depends on the willingness and ability of the firms to deliver what they promise”.
Keller	2006	Sustainability	“Brand position which is hard to attack from competitors, defensible, and pre-emptive”.

Favourability is considered to be the most primary of all other brand positioning effectiveness dimensions (Dacin & Daniel, 1994). Favourability also determines whether or not consumers have created favourable associations with the brand (Aaker, Batra, & Myers, 1992; Dillon, Thomas, Amna, & Soumen, 2001; Keller, 2003). It is important for the marketers that consumers perceive the brand as favourable (Keller, 2003).

Consumers always have various expectations towards a brand (Keller, Sternthal, & Tybout, 2003), hence the dissimilarity is driven primarily by whether the brand meets the perceived expectations or not (Punj & Moon, 2002; Sujan & Christine, 1987). "Attributes on which a brand has values that are similar to the competitor brands will cause perceived similarity, whereas attributes on which a brand has values that are different from the competitors, will create a perception about the brand as dissimilar" (Bijmolt, Wedel, Pieters, & Desarbo, 1998; Tversky, 1977). Thus, the overall dissimilarity is about the differences that occur in the shared perceptual space of a brand about competitors' brands (Chaturvedi & Carroll, 1998).

If the brand is perceived to be unique or niche, a market is created for it, and the brand is not perceived to be a prototypical example in that product category (Sujan & Bettman, 1989). A brand is only credible if it positions itself as a trustworthy brand relative to competition in the perceptual map of consumers (Dröge & Darmon, 1987). Credibility has the ability to reduce consumers' feelings of scepticism about a particular brand (Yoo & Donthu, 2001).

Fuchs (2008) defines brand positioning effectiveness as "the extent to which a brand is perceived to occupy a favourable, dissimilar, unique, and credible position in the minds of (target) consumers". This study, proposes to add sustainability as the fifth crucial dimension to the concept of brand positioning effectiveness. Therefore, this study measures brand positioning effectiveness as a multidimensional construct that can be measured with the help of five dimensions namely; favourability, dissimilarity, uniqueness, credibility and sustainability (Edwards, 2001; Fuchs, 2008; Fuchs & Diamantopoulos, 2012). Many researchers have emphasized on the concept of sustainability dimension (Jobber, 2004; Keller, Sternthal, & Tybout, 2003; Kotler, 2003; Pham & Muthukrishnan, 2002), however, none have empirically tested sustainability as a fifth dimension of brand positioning effectiveness.

The idea of brand positioning effectiveness, as a mediating variable between brand positioning strategies and consumer behaviour

consequences needs to be explored in further detail (Fuchs & Diamantopoulos, 2010). Thus far, the studies pertaining to brand positioning effectiveness treat it as a dependent variable (Azmat & Lakhani, 2015; Fuchs, 2008; 2012; Fuchs & Diamantopoulos, 2010; Sair & Shoaib, 2012). However, in order to take into account the long-term consequence of the choice of brand positioning strategy, one must take into account the intervening role of brand positioning effectiveness and brand love. This premise assumes that if a brand positioning strategy is effective, only then will it develop a consumer-brand bond of love. Most of the prior studies have determined the relationship of brand positioning effectiveness with consumer buying intentions, purchase interest and consumer brand preference (Alpert & Michael, 1995; Carpenter, Glazer & Nakamoto 1994; Kalra & Goodstein, 1998).

Marketers are often faced with the challenge of identifying the most effective brand positioning strategy (Keller & Lehmann, 2006; Pham & Muthukrishnan, 2002;). For example, there is an ongoing debate on whether benefit brand positioning strategy is considered to be more effective than surrogate brand positioning strategy, or vice versa. Lack of attention to this challenge in brand positioning strategy research has been pointed out by Keller and Lehmann (2006). Ideally, a brand positioning strategy should be effective to the extent that it is difficult to imitate (Cravens, 2000; Keller, Sternthal, & Tybout, 2003). A brand positioning strategy is expected to have the ability to achieve a differential advantage for a prolonged period of time for a particular brand (Czepiel, 1992; De Chernatony, 2006).

It has been posited that there exists a clear and unambiguous relationship between consumer behaviour and marketing communication activities (Wind & Cardozo, 1974). Marketing communication activities are tools for communicating brand positioning to the target consumers (Lilien & Arvind, 2003; Lodish, 1986). The most widely studied behavioural consequence of brand positioning effectiveness is the intention to purchase a brand; and it is reported to have a strong positive relationship with certain dimensions of brand positioning effectiveness. These include the favourability, dissimilarity, uniqueness and credibility of a brand (Fuchs, 2008). However, this study proposes that the timeliest consumer based consequence of brand positioning is the creation and maintenance of brand love.

2.3. Relationship Between Benefit Brand Positioning Strategies, Brand Positioning Effectiveness, and Brand Love

The benefit brand positioning strategy has been conceptually explained by many researchers in two parts; direct benefits brand positioning strategy and indirect benefits brand positioning strategy. Direct benefit brand positioning is viewed as having the following features: it “communicates advantages of (the usage of) a brand; is based on the personal value consumers assign to the features of goods and services; is more closely related to one’s self than product attributes; is not directly observable; is functional in nature; it reflects whether a brand works as intended; it is mostly composed of attribute-based benefits and it also refers to problems’ solutions and functional needs” (Aaker & Shansby, 1982; Crawford, 1985; Keller, 1993; Tybout & Sternthal, 2005; Vriens & Hofstede, 2000). The indirect benefits brand positioning strategy has been explained as “Benefits that satisfy experiential needs; is based on psychosocial consequences derived by consumers out of the use of the product that have a hedonic or expressive function; it gives consumers an indirect advantage of the consumption of a brand; it gives perception of a self or a social-image benefit” (Crawford, 1985; Gutman, 1982; Keller, 1993; Olson & Thomas, 1983; Tybout & Sternthal, 2005; Vriens & Hofstede, 2000).

The personification of a brand shows the brand as having human-like benefits, even when the brand perception does not have a human-like shape (Delbaere, McQuarrie, & Phillips, 2011). The purpose of this is to give consumers an experience of social and personal benefits. Another way in which the benefit brand positioning strategy can be communicated is through the representation of a brand as fulfilling the role of a human in a social setting (MacInnis & Folkes, 2017). Brands which are positioned based on associative secondary benefits, such as fulfilling the roles of the “hero”, the “caregiver” and the “magician”, are reported to be more effective in creating positive perceptions about a particular brand in the minds of the consumers (Mark & Pearson, 2001). Research findings on the role of benefit brand positioning strategy, and its effectiveness are limited. This has made this area of study an important one for understanding the benefit brand positioning strategy, as it helps consumers by forming an emotional relationship with the brand in a human-like manner (MacInnis & Folkes, 2017). Therefore, this study hypothesizes in the following hypothesis that brand positioning effectiveness mediates the relationship between benefit brand positioning strategy and brand love.

Hypothesis 1: Brand positioning effectiveness mediates the relationship between benefit brand positioning strategy and brand love.

2.4. Relationship Between Surrogate Brand Positioning Strategy, Brand Positioning Effectiveness and Brand Love

The surrogate brand positioning strategy is designed to develop the consumers' associations regarding the intangible aspects of a brand. It highlights the symbolic attributes of the brand that allow the consumer to come to their own conclusions regarding the perception about that particular brand (Bridges, Kevin, & Sanjoy, 2000). Surrogate brand positioning strategy is different from other brand positioning strategies that are based on attributes and benefits, or creation of inferred (secondary) associations. Rather, it refers to the intangible aspects of the brand (Bridges, Kevin, & Sanjoy, 2000; Crawford, 1985; Friedmann & Parker, 1987; Keller, 1993).

Marketing communications based on assigning the product with a human name (Eskine & Locander, 2014; Waytz, Heafner, & Epley, 2014), describing the product in the first person (Aggarwal & McGill, 2007; Puzakova et al., 2013), and labelling the brand as having a gender, are reported to increase the tendencies of the consumers to anthropomorphize brands (Chandler & Schwarz, 2010; Waytz, Heafner, & Heafner, 2014). Such anthropomorphized effects are an outcome of the surrogate brand positioning strategy. This particular line of research implies that consumers can regard brands as human-like partners in real life, only if a brand's marketing communications are based on surrogacy. Kwak, Puzakova, and Rocereto (2015) investigated the effect of consumers' beliefs that "the brand had a mind" of its own, on consumer's perceptions of the fairness of price changes. The study reported that the more a brand is known to have a mind of its own, the more consumers are likely to perceive the brand as being favourable. And therefore, an inseparable consumer-brand bond of interpersonal love is created (MacInnis & Folkes, 2017). Surrogate brand positioning strategies can be communicated through visual cues, for instance, by making the brand's physical attributes like that of a human (Hur, Koo & Hofmann, 2015), or by representing the brand as an avatar for creating inferred associations (Nowak & Rauh, 2005). Therefore, this study postulates in the following hypothesis that brand positioning effectiveness mediates the relationship between surrogate brand positioning strategy and brand love.

Hypothesis 2: Brand positioning effectiveness mediates the relationship between surrogate brand positioning strategy and brand love.

2.5. Relationship Between Feature Brand Positioning Strategy, Brand Positioning Effectiveness and Brand Love

The feature brand positioning strategy is conceptually explained in literature as a “brand that highlights the concrete attributes of the brand in order to create a differential advantage. Concrete attributes are characteristics of the brand advantage; these are objectively measurable, mostly tangible; these attributes are also specific to the product category” (Aaker & Shansby, 1982; Hooley, John, & Nigel, 2004; Keller, 1993; Olson & Thomas, 1983; Plummer, 2000; Vriens & Hofstede, 2000).

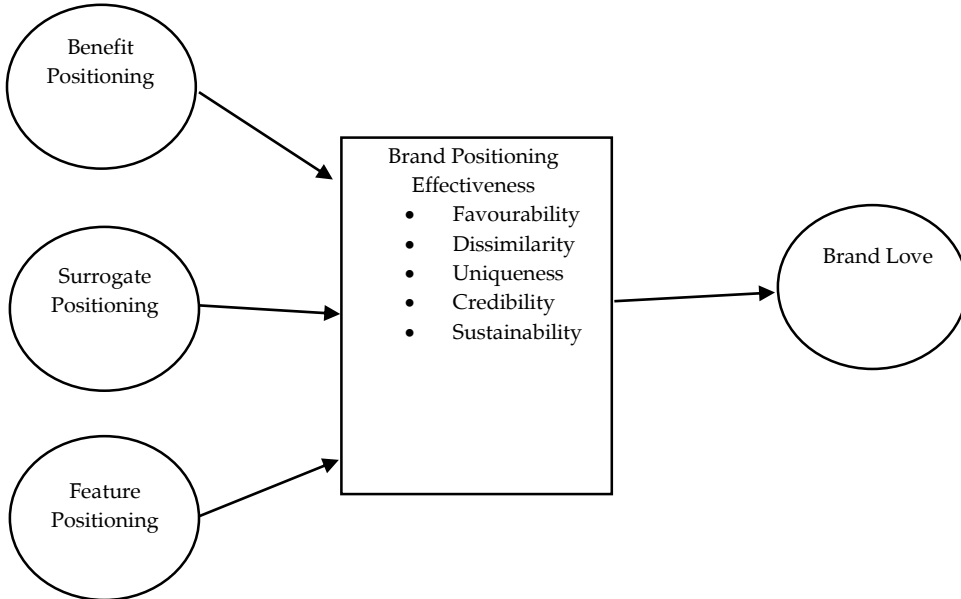
Empirical findings show that consumers react more favourably towards brands whose brand positioning is based on features (Aggarwal & McGill, 2007). Considering that the brand positioning is based on the features of a brand, consumers are highly likely to view the brand as different/ similar to other brands. Research suggests that the feature brand positioning strategy, based on tangible attributes, prompts the inference that the brand has a certain value attached to it (MacInnis & Folkes, 2017). For example, brands using the feature brand positioning strategy are likely to be more negatively judged (when compared to those that do not employ such features) when the brand is involved in socially deviant behaviour (Puzakova et al., 2013). Building upon extant research, this study proposes that brand positioning effectiveness mediates the effect of the feature brand positioning strategy on brand love. Therefore, it can be hypothesized that;

Hypothesis 3: Brand positioning effectiveness mediates the relationship between feature brand positioning strategy and brand love.

Marketing communications are a tool for communicating brand positioning (Lilien & Arvind, 2003; Lodish, 1986). Overall, the results of this study are aimed at providing brand managers with empirically-based insights for making strong, brand positioning strategy decisions. Occupying a strategic place in the consumers' minds relative to competition in the market place is not adequate for a brand. Developing, and then maintaining a long-term interpersonal relationship of a brand with the consumer, has to be the ultimate aim of marketers. This study tests whether significant relationships exist between brand positioning strategies, and brand love. Moreover, this study explores the role of brand positioning effectiveness as a mediator between the relationship of three different brand positioning strategies, and brand love (see Figure 1). This study, therefore, aims to answer the following research question; Does brand positioning effectiveness mediate the relationship between brand

positioning strategies (benefit brand positioning strategy, surrogate brand positioning strategy, feature brand positioning strategy), and brand love?

Figure 1: Conceptual Framework



3. Methodology

3.1. Sample

To test the objectives of the study, a cross-sectional, self-administered survey methodology was used. It is a regular practice to use surveys for data collection in the discipline of marketing (Crano, Brewer, & Lac, 2014; Malhotra & Birks, 2006). The questionnaire was administered amongst the graduate, and postgraduate students of private universities in Pakistan. Prior observational research provides evidence that private university students are the regular shoppers of high street fashion apparel retail brands (Anderson & Carpenter, 2005). The use of private university students is justified, based on the premise that they have access to the internet so they would not have difficulty in responding to an on-line survey (Boatswain, 2015). Moreover, extant brand positioning studies have most frequently used student samples, therefore, they are equally appropriate for this study (Tepper, William, & Gary, 2001; Voss, Spangenberg, & Grohmann, 2003). Students' average age was 21 years, out of which, 412 females and 195 males responded to the survey. All the

respondents were single and the responses were collected from three main cities; Lahore, Karachi and Islamabad. The respondents had representation from undergraduate, graduate and doctoral programs. Eight private universities were selected randomly from the list of Pakistani universities available on the official website of Higher Education Commission¹. The questionnaire was distributed among students via e-mail with the help of the registrars in the program offices of eight universities (Wiedmann, Walsh, & Mitchell, 2001). Out of the questionnaires emailed to students, 607 were received. Table 2 shows the number of survey responses received from the overall eight, randomly selected private universities.

Table 2: Survey Samples Received

	Overall	A	B	C	D	E	F	G	H
Responses Received	607	76	50	122	86	94	22	73	84
Data Collection Method			Online Questionnaire						

Note: A, B, C, D, E, F, G and H are names of the universities which are kept anonymous.

3.2. Instrument

All the items in the questionnaire are re-worded and adapted from previously published instruments because of their established reliability and validity. The instrument for brand positioning effectiveness, with its five dimensions; dissimilarity, uniqueness, credibility, sustainability, and favourability, was adapted from Fuchs (2008). The scale for all three brand positioning strategies; benefit brand positioning strategy, feature brand positioning strategy and surrogate brand positioning strategy was adapted from Fuchs (2008). The measurement scale originally developed by Fuchs (2008) has been frequently used by many researchers (Azmat & Lakhani, 2015; Fuchs & Diamantopoulos, 2010; Sair & Shoaib, 2014; Smith & Burns, 2013), therefore, it has an established reliability and validity. The scale comprising of 10 items for brand love was adapted from Ahuvia (2015). The focus of the study is only on high street fashion apparel retail brands which are explained in the Cambridge English Dictionary (2017) as fashion brands that are easily available in shopping malls, and fashion streets in cities for consumers, and are in complete contrast with the custom made fashion designer brands.

¹ List of private universities in Pakistan is available on the official website of Higher Education Commission (Source: <http://www.hec.gov.pk/Ourinstitutes/pages/Default.aspx>).

3.3. Data Analysis

Another concern regarding the bias in results is the non-response bias to questionnaire surveys, resulting as a consequence of missing data, which can lead to biased results of the sample representing a population (Lineback & Thompson, 2010). Early respondents were compared with late respondents on key demographic indicators (gender, income, marital status, city of residence and education), where late respondents were considered to be non-respondents (Armstrong & Overton, 1977). This method of measuring non-response bias is called wave analysis, and Armstrong and Overton (1977) named it a linear extrapolation method. It is based on the assumption that early respondents of a survey (W1) are different from late respondents of a survey (W2), and that the late respondents are actually non-respondents. In this study, 413 questionnaires were received in the early wave of the data collection process, and 194 responses were collected in the later wave of the survey data collection. W1 and W2 had a difference of five weeks. W2 responses were generated as a consequence of a reminder e-mail to the program offices of the eight universities.

Questionnaires received in W1 and W2 were compared, based on four demographic variables. These included gender (female or males), marital status (married or single), city of residence (Lahore, Karachi, Islamabad and others) and education (doctoral degree or equivalent, master's degree or equivalent and bachelor's degree or equivalent). Statistical significance was estimated by the Chi-square test in SPSS 22.0. A p-value, less than or equal to 0.05, was considered statistically significant. Statistically significant differences were not seen in all four demographic indicators, indicating that there was no systematic bias between W1 and W2. No association was found between W1 and W2, based on gender, marital status, city of residence and education ($\chi^2 = 3.17, p = 0.20$; $\chi^2 = 5.61, p = 0.18$; $\chi^2 = 3.11, p = 0.35$ and $\chi^2 = 4.76, p = 0.25$) respectively. These analyses show that there is a no non-response bias problem in this study, and that the final sample of 607 can be considered an accurate representation of the population.

Most researchers have pointed out the presence of the problem of common method bias in behavioural science (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The common method variance can be defined as "variance that is attributable to the measurement method rather than to the construct of interest" (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Common method variance can influence the relationships between

different variables (Podsakoff et al., 2000). Since the common method bias can affect research findings, therefore, this study used AMOS 22.0 to measure the common method variance.

The common latent factor test was employed as a statistical remedy for the common method bias (Aulakh & Gencturk, 2000). For this purpose, in order to test the hypothesis that only a single factor can be responsible for the variance in data collected, all items were loaded onto a single factor (Iverson & Maguire, 2000). This method entails all questions from all of the constructs in the questionnaire into a factor analysis, in order to calculate whether the majority of the variance can be explained by one general factor. The regression weights of all the items were -.213 (21.3%). The square of the regression weights (common variance) was 36.6%. A single factor explains 36.6% of the variance in the model. The goodness-of-fit statistics indicators suggested a bad model fit, since these indices value fell outside the commonly accepted cut-off points; CMIN/ DF = 6.71 (cut-off point, 2 and 5), normed fit index (NFI) = 0.330, adjusted goodness of fit index (AGFI) = 0.491, comparative fit index (CFI) = 0.618, Tucker Lewis Index (TLI) = 0.447, root mean square error of approximation (RMSEA) = 0.142. All the indicators other than CMIN/ DF had a cut-off point of 0.7, and the RMSEA should have been less than 0.10 (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017).

The Structural Equation Modelling (SEM) in AMOS 22.0 was used to test the model with the maximum likelihood estimation. The first step in structural equation modelling is the confirmatory factor analysis (CFA) (Anderson & Gerbing, 1988). The second step is to test the fit of the structural model (Schumacker & Lomax, 2004). The cut-off point for factor loadings of an item is greater than 0.70, therefore, it is considered to be reliable (Comrey & Lee, 1992) (see table 3). Also, the uni-dimensionality of all the items was established by the CFA (Anderson & Gerbing, 1988). "CFA helped determine the fit of the measurement model along with an estimation of the validity and reliability of the constructs" (Shah & Goldstein, 2006). The CFA was performed for all the constructs used in this study, i.e., the benefit brand positioning strategy, feature brand positioning strategy, surrogate brand positioning strategy, brand positioning effectiveness, and brand love.

Table 3: Confirmatory Factor Analysis

Factor and Item	F.L.^a	Cronbach's Alpha	CR^b	AVE^c	ASV^d
Benefit Positioning		0.751	0.733	0.501	0.295
BP1	0.781				
BP2	0.710				
BP3	0.831				
BP4	0.776				
BP5	0.892				
BP6	0.712				
Surrogate Positioning		0.762	0.762	0.545	0.312
SP1	0.760				
SP2	0.699				
SP3	0.781				
SP3	0.766				
SP3	0.800				
Feature Positioning		0.727	0.798	0.517	0.215
FP1	0.799				
FP2	0.751				
FP3	0.738				
FP4	0.691				
Brand Positioning effectiveness	0.712	0.791	0.733	0.641	0.185
Dissimilarity					
DSS1					
DSS2					
DSS3					
DSS4					
Favourability	0.701				
FAV1					
FAV2					
FAV3					
FAV4					
Uniqueness	0.718				
UNQ1					
UNQ2					
UNQ3					
UNQ4					
Credibility	0.771				
CRE1					
CRE2					
CRE3					
CRE4					
CRE5					
Sustainability	0.700				
SUS1					
SUS2					
SUS3					
SUS4					

Factor and Item	F.L. ^a	Cronbach's Alpha	CR ^b	AVE ^c	ASV ^d
Brand Love		0.744	0.711	0.613	
BL1	.734				
BL2	.690				
BL3	.831				
BL4	.777				
BL5	.782				
BL6	.711				
BL7	.791				
BL8	.701				
BL9	.733				
BL10	.776				

Goodness-of-fit statistics: CMIN/ DF = 2.56, NFI = 0.711, AGFI = 0.776, CFI = 0.768, TLI = 0.829, RMSEA = 0.070

Note: All are statistically significant, $p < 0.05$; $n = 607$

^a Standardized Factor Loadings. ^b Composite Reliability. ^c Average Variance Extracted. ^d Average Shared Variance.

4. Results

Discriminant and convergent validity of constructs were checked to determine the internal consistency of the constructs, and hence ensured the validity and reliability of the constructs (Tsao, 2014) (see Table 3). The Cronbach's alpha value of the constructs exceeded 0.70, which is a recommended cut-off point for the reliability test in the research domain of social sciences (Nunnally & Bernstein, 1994). No items of the questionnaire had to be dropped since all the items met the reliability test i.e. factor loadings were above 0.7 on their respective factors. As suggested by Hair et al. (2017), composite reliability (CR) is a superior reliability measure having a recommended cut-off level of 0.70. Average Variance Extracted (AVE) for the constructs should be greater than 0.5 (Fornell & Larcker, 1981). This value explains that the constructs have convergent validity, and these constructs have items which reflect the latent constructs. Results indicated that the reliability and convergent validity of the measurement scale is good. Table 4 shows the discriminant validity of the constructs. Ideally, correlations between a construct and all other constructs should be smaller than the square root of the AVE of that construct (Chin, 1998). Numbers in parenthesis on the diagonal show the square root of AVE. For discriminant validity to hold, numbers in each row and column should be smaller than the numbers in the parenthesis in that row and column (Fornell & Larcker, 1981). The goodness-of-fit indicators indicate a good model fit since they fall within the commonly accepted cut-off points (Hu & Bentler, 1998); CMIN/ DF = 2.56, NFI = 0.711, AGFI = 0.776, CFI = 0.768, TLI = 0.829, RMSEA = 0.07.

Table 4: Pearson Correlation Coefficients and Discriminant Validity

Constructs	BP	SP	FP	BPE	BL
BP	(0.70)				
SP	0.42**	(0.74)			
FP	0.32**	0.39**	(0.72)		
BPE	0.38**	0.31**	0.37**	(0.80)	
BL	0.29**	0.24**	0.33**	0.47**	(0.84)

**Correlation is significant at the 0.05 level (2-tailed).

Numbers in parenthesis on the diagonal show the square root of AVE. For discriminant validity to hold, numbers in each row and column should be smaller than the numbers in parenthesis in that row and column.

Labels: BF, Benefit positioning; SP, Surrogate positioning; FP, Feature positioning; BPE, Brand positioning effectiveness; BL, Brand love.

In order to test the conceptual model (see Figure 1), the research hypotheses were examined using structural model testing. Results of the relationships between benefit brand positioning strategy, feature brand positioning strategy, surrogate brand positioning strategy and brand love are shown in Table 5. The benefit brand positioning strategy and the surrogate brand positioning strategy are significantly positively related with brand love ($\beta = .654^{**}$, $p < .000$ and $\beta = .261^{**}$, $p < .001$), respectively. On the contrary, feature brand positioning strategy does not lead to the creation of brand love ($\beta = .413^{**}$, $p < .210$). Goodness-of-fit indicators suggested a good model fit since they fall within the commonly accepted cut-off points as shown in Table 5 (Hu & Bentler, 1998).

Table 5: Coefficients of the Structural Model

Independent Variables	Dependent Variables	β^a	p
Benefit brand positioning strategy	Brand Love	0.654**	0.000
Surrogate brand positioning strategy	Brand Love	0.261**	0.001
Feature brand positioning strategy	Brand Love	0.413	0.210

Goodness-of-fit statistics: CMIN/ DF = 3.28, NFI = 0.732, AGFI = 0.815, TLI = 0.887, CFI = 0.701, RMSEA = 0.082

^aStandardized coefficients are reported.

This study makes use of bootstrapping (3000 subsamples, standardized estimates of the direct and indirect effects, 95% bias-corrected

confidence intervals) (Jones, Taylor, & Bansal, 2008), to measure the mediating effect of brand positioning effectiveness between benefit brand positioning strategy, feature brand positioning strategy, surrogate brand positioning strategy and brand love. "Bootstrapping empirically estimates the sampling distribution of the indirect effect and generates a confidence interval for estimation and hypothesis testing" (Preacher & Hayes, 2008). Bootstrapping has become the preferred method for estimating indirect effects in the mediation analysis (Preacher & Hayes, 2008). Graphical representation of the mediation analysis can be seen in three separate structural equation models (M1, M2 and M3) (see figures 2, 3 and 4).

Figure 2: Mediation Effect of Brand Positioning Effectiveness between Benefit Brand Positioning Strategy and Brand love

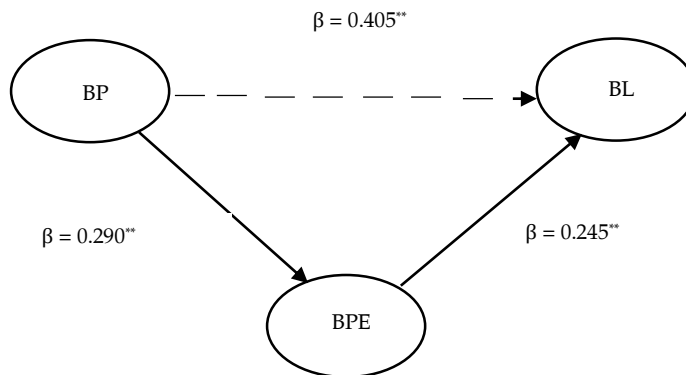


Figure 3: Mediation Effect of Brand Positioning Effectiveness between Surrogate Brand Positioning Strategy and Brand love

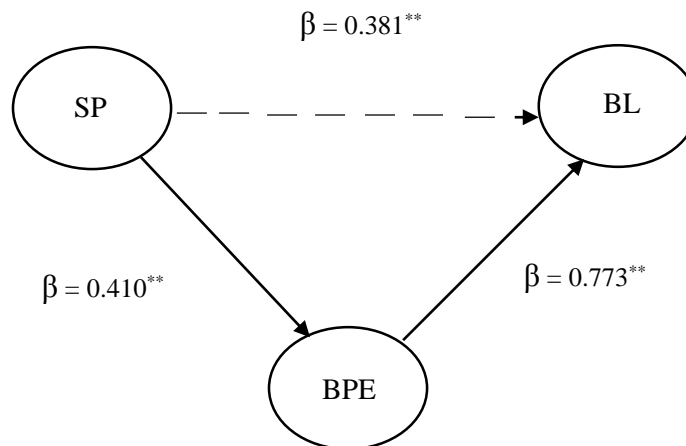
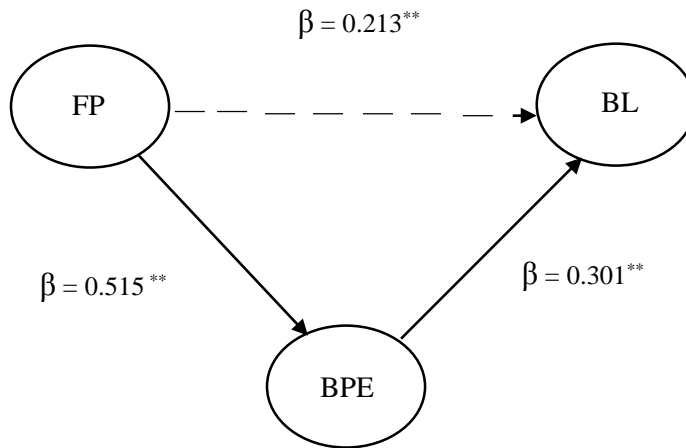


Figure 4: Mediation Effect of Brand Positioning Effectiveness between Feature Brand Positioning Strategy and Brand love



The first test towards mediation analysis is to analyse whether the indirect effect of benefit brand positioning strategy, feature brand positioning strategy, surrogate brand positioning strategy and brand positioning effectiveness on brand love is significant, or not significant (Zhao, Lynch, & Chen, 2010). The coefficient of indirect effect is significant ($\beta = .071^{**}$, $p < .000$), as shown in table 6. The indirect effect being significant confirms that mediation is present (Zhao, Lynch, & Chen, 2010). Upon adding brand positioning effectiveness as a mediator between the relationship of benefit brand positioning strategy and brand love, the coefficient remains significant ($\beta = .405^{**}$, $p < .000$). The coefficients of benefit brand positioning strategy, and brand positioning effectiveness, brand positioning effectiveness and brand love also remain significant ($\beta = .290^{**}$, $p < .003$; $\beta = .245^{**}$, $p < .001$). Therefore, the mediator is identified to be consistent with the hypothesized conceptual framework, and it can be said that the brand positioning effectiveness complementarily mediates the relationship between benefit brand positioning effectiveness, and brand love. All the goodness-of-fit statistics for H_1 (M1) were within the acceptable range (CMIN/ DF = 3.01, NFI = .714, AGFI = .759, TLI = .832, CFI = .793, RMSEA = .077).

Table 6: Results of Mediation Analysis Predicting Brand Love

Hypotheses	Bootstrapping		Direct Effect		Indirect Effect		Decision Rule	
	Independent Variables	Mediator	Dependent Variables	β^*	p	β^*		p
H ₁	Benefit positioning	Brand positioning effectiveness	Brand love			0.071**	0.000	Mediation Present
	Benefit positioning		Brand love	0.405**	0.000			
	Benefit positioning		Brand positioning effectiveness	0.290**	0.003			Complementary Mediation
	Brand positioning effectiveness		Brand love	0.245**	0.001			
Goodness-of-fit statistics: CMIN/ DF = 3.01, NFI = .714, AGFI = .759, TLI = .832, CFI = .793, RMSEA = .077								
H ₂	Surrogate positioning	Brand Positioning Effectiveness	Brand Love			0.317**	0.000	Mediation Present
	Surrogate positioning		Brand love	0.381**	0.001			
	Surrogate positioning		Brand positioning effectiveness	0.410**	0.000			Complementary Mediation
	Brand positioning effectiveness		Brand love	0.773**	0.000			
Goodness-of-fit statistics: CMIN/ DF = 3.77, NFI = .745, AGFI = .739, TLI = .731, CFI = .811, RMSEA = .069								
H ₃	Feature positioning	Brand positioning effectiveness	Brand love			0.155**	0.004	Mediation Present
	Feature positioning		Brand love	0.213**	0.000			Complementary Mediation
	Feature positioning		Brand positioning effectiveness	0.515**	0.000			
	Brand positioning effectiveness		Brand love	0.301**	0.003			
Goodness-of-fit statistics: CMIN/ DF = 2.17, NFI = 0.712, AGFI = 0.881, TLI = 0.791, CFI = 0.913, RMSEA = 0.070								

*Standardized regression co-efficients.

The coefficient of indirect effect is significant ($\beta = .317^{**}$, $p < .000$), as shown in Table 6. The indirect effect being significant confirms that mediation is indeed present (Zhao, Lynch, & Chen, 2010). After adding brand positioning effectiveness as a mediator between the relationship of surrogate brand positioning strategy and brand love, the coefficient remains significant ($\beta = .381^{**}$, $p < .000$). The coefficients of surrogate brand positioning strategy and brand positioning effectiveness, brand positioning effectiveness and brand love also remain significant ($\beta = .410^{**}$, $p < .000$; $\beta = .773^{**}$, $p < .001$). Therefore, the mediator is identified to be consistent with the hypothesized conceptual framework, and it can be said that brand positioning effectiveness complementarily mediates the relationship between surrogate brand positioning effectiveness and brand love. For H_2 (M2), all the goodness-of-fit statistics were within the acceptable range of values (CMIN/ DF = 3.77, NFI = .745, AGFI = 0.739, TLI = .731, CFI = .811, RMSEA = .069).

The coefficient of indirect effect was found to be significant ($\beta = .155^{**}$, $p < .004$), which confirms that mediation is present. In the presence of brand positioning effectiveness as a mediator between the relationship of feature brand positioning strategy and brand love, it was estimated that the relationship between feature brand positioning strategy and brand love, feature brand positioning strategy and brand positioning effectiveness, brand positioning effectiveness and brand love was found to be significant ($\beta = .213^{**}$, $p < .000$; $\beta = .515^{**}$, $p < .000$; $\beta = .301^{**}$, $p < .003$), respectively. Since the direct effect is insignificant, it can be said that the relationship between feature brand positioning strategy, and brand love is mediated by brand positioning effectiveness. This result is consistent with the hypothesized theoretical framework. For H_3 (M3), all the goodness-of-fit statistics were within the acceptable range of values (CMIN/ DF = 2.17, NFI = .712, AGFI = .881, TLI = .791, CFI = .913, RMSEA = .070).

In conclusion, brand positioning effectiveness complementarily mediates the relationship between benefit brand positioning strategy, and brand love; and also complementarily mediates the relationship between surrogate brand positioning strategy and brand love. Benefit brand positioning strategy was found to have a significant direct effect on brand love, and a significant indirect effect on brand love through brand positioning effectiveness. Similarly, surrogate brand positioning strategy was found to have a significant direct effect on brand love, and a significant indirect effect on brand love through brand positioning effectiveness. Feature brand positioning strategy was found to have an insignificant direct effect on brand love, and a significant indirect effect on brand love

through brand positioning effectiveness. Therefore, brand positioning effectiveness has an indirect-only mediation between the relationship of feature brand positioning strategy and brand love.

5. Discussion and Managerial Implications

The findings of this study present evidence that the relationships between benefit brand positioning strategy and brand love, surrogate brand positioning strategy, feature brand positioning strategy and brand love were mediated by brand positioning effectiveness. The intense competition in the high street fashion apparel retail industry underscores the need for the choice of the most effective brand positioning strategy. This ultimately leads to the establishment of an interpersonal consumer-brand bond. The relationship of love between consumers and fashion brands is highly likely to serve as the biggest impediment to brand switching. However, the development of this inseparable bond depends on the choice of brand positioning strategy as well. In this contextual setting, it was found that brand positioning strategies are the starting point of developing a love-like consumer-brand bond, with brand positioning effectiveness acting as a mediator.

Surrogate brand positioning strategy and benefit brand positioning strategy have a positive significant relationship with brand love. Fashion brands whose marketing communications are focused on showing the benefits of product use are likely to create brand love. Similarly, if fashion brands adopt positioning based on symbolic aspects of the fashion brand, it is likely that an inseparable romantic consumer-brand bond will be formed which is the ideal state of association between consumers and brands. Opposing results were found for the feature brand positioning strategy. Fashion brands will not be able to create brand love if their positioning is based on tangible features of the product offering.

The indirect effect indicates that the benefit brand positioning strategy, surrogate brand positioning strategy, feature brand positioning strategy through brand positioning effectiveness, will have an impact on the development of brand love. The results confirm that brand positioning effectiveness acts as a complementary mediator between benefit brand positioning strategy, feature brand positioning strategy and surrogate brand positioning strategy. All three of these aspects play a vital role in creating brand love for fashion retail brands (Pham & Muthukrishnan, 2002). More importantly, this study validates the crucial role of brand positioning effectiveness. This means that if a brand positioning strategy is not

implemented effectively then it would not lead to brand love. It compliments past studies from Albert, Merunka and Valette-Florence (2008) in considering the effect of brand positioning effectiveness. This result also verifies that there might be other variables impacting the relationship between the three different brand positioning strategies; and brand love.

This study shows the importance of the choice of brand positioning strategies in creating brand love, and the crucial role of brand positioning effectiveness as a mediator. The benefit brand positioning strategy has a significant and positive impact on brand positioning effectiveness (Schiffman & Kanuk, 2007). In this study, brand positioning effectiveness was found to have a positive and significant impact on brand love. These findings suggest that marketing efforts should attempt to communicate benefits of the usage of the products of the fashion brand. The brand, through its marketing efforts, must also fulfil all the promises made to the consumers, and advertise itself as a solution to the problem. Surrogate brand positioning strategy was found to have a positive and significant impact on brand positioning effectiveness (Bridges, Kevin, & Sanjoy, 2000). In this study, brand positioning effectiveness was found to have a positive and significant impact on brand love. Therefore, in the light of these findings, advertising efforts should highlight intangible attributes of the brand, and also promote the secondary associations with the fashion brand. These results suggest that fashion brands should focus all their marketing communications on benefit and surrogate brand positioning strategies i.e. highlighting intangible and symbolic attributes of the brand. The adoption of a strategic choice of benefit brand positioning strategy; and surrogate brand positioning strategy will help develop brand love.

In summary, young consumers of fashion retail brands will form an interpersonal love-like bond with the brand, due to the fashion brand's focus on communicating the benefits of product use. At the same time, benefit brand positioning strategy is likely to lead brand positioning effectiveness. The results for surrogate brand positioning strategy are similar. Consumers of fashion brands will form strong love based consumer-brand bonds if their marketing communications are based on a surrogate brand positioning strategy. Therefore, making surrogate brand positioning strategy should be a significant, but not the only predictor for consumers' brand love for fashion brands.

The direct effect of feature brand positioning strategy is insignificant. Upon adding brand positioning effectiveness as a mediator, both the indirect effect and the direct effect become significant. Therefore,

it can be assured that the relationship between feature brand positioning strategy, and brand love is complementarily mediated by brand positioning effectiveness. Only if the features of the brands are communicated effectively with the help of marketing communications, will the consumers of fashion retail brands have a great amount of regard for the fashion brand. Consumers seem to show concern for the quality of the fabric, its durability and purposefulness. They need to be sure about the features of the products which fashion brands are offering, and how well they are being communicated to the consumers. This study analysed the complementary mediation of brand positioning effectiveness, implying that feature brand positioning strategy has a significant impact on the effectiveness of brand positioning strategy, which further influences the creation of brand love. In order to be a brand that forms a love-like consumer-brand bond, marketers need to put in a lot of effort to sell the features of their product offerings.

The findings of this study also have critical managerial implications. The positioning strategy of fashion brands should aim towards creating brand love. If consumers feel like they are emotionally and physically attached to a brand, such attachment is likely to initiate brand love. Marketing managers should aim to actively create media mix strategies. These strategies can communicate the various benefits of the consumption of the fashion brand, highlight differentiating product features and promote the symbolic associations of the brand. It is important to note that marketers must understand that the ultimate consumer outcome of brand positioning strategies is the creation of brand love. The findings of this study show that marketers must concentrate on developing a comprehensive understanding of the use of both traditional and alternative marketing mediums. This is so they can effectively communicate observable advantages of fashion products that they are selling i.e. benefit brand positioning strategy. Also, they should consider marketing content to design, and to create consumer associations about the external, symbolic elements, and features of the fashion brand. Marketing managers must take necessary steps in order to not just realise the importance of the choice of brand positioning strategy, but also to acknowledge that brand positioning strategies' effectiveness is equally, if not more, important to the creation of a strong interpersonal consumer-brand bond. Through the mediating effect of brand positioning effectiveness, benefit brand positioning strategy, feature brand positioning strategy and surrogate brand positioning strategy can complementarily create brand love.

6. Limitations and Suggestions for Future Research

This research is not free of limitations. Firstly, it focuses only on the fashion apparel retail industry, and within that industry, the emphasis was on high street fashion retail brands only. Further research in the future can incorporate a more generalizable context, with diversified industry choices, such as kids' clothing, working women's clothing, and maternity fashion clothing (Wilcox, Howell, & Breivik, 2008). Secondly, brand positioning effectiveness complementarily mediates the relationship between the three brand positioning strategies, and brand love. This gives the researchers a reason to believe that there might be other variables intervening between the relationship of the three different brand positioning strategies, and brand love. Thirdly, this study tests only three brand positioning strategies. Ideally, the future research should test more typologies of brand positioning strategies. Fourthly, qualitative research, such as in-depth interviews with marketing executives of fashion retail brands, might give valuable insights to brand managers and marketers. It might do so in developing a more holistic conceptual framework of inter-relationships between brand positioning strategies, brand positioning effectiveness, and brand love. Lastly, a single respondent data collection approach has been used in this study, as only student consumers were approached to respond to the survey questionnaire. Future research may incorporate a multi-level study, where data can be collected at the marketing manager and consumer level as well.

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The Lahore School has both undergraduate and graduate programs in economics, business information systems and finance. Its postgraduate program leading to the MPhil and PhD degree is administered through the Lahore School's Centre for Research in Economics and Business (CREB). The student body and faculty comprise both national and expatriate Pakistanis and The Lahore School encourages expatriate Pakistanis to join as students or as faculty.

The Lahore School's publication program comprises The Lahore Journal of Economics, The Lahore Journal of Business (bi-annual publications), Lahore Journal of Policy Studies, a Seminar Paper Series and a Text Book Series. The Program encourages both in-house and external contributors.

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