Comparing the Impact of Brand Value on Corporate Profit in B2B and B2C Businesses: A Case Study

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Abstract

In recent years, the importance of branding has dramatically increased on the ground that brands have the potential to be a source of long-term competitive advantages for any businesses. Although it seems that brand value, theoretically, has a significant impact on corporate profits, evaluating the brand value's influence level on corporate profits can give clear signals to both managers and investors to adopt the most accurate and probable decisions. Furthermore, another significant concern of this study is whether considering different types of business matters in such analyses. As a case study, this paper investigates the impact of brand value on corporate profit in two significant industries that operate in the Tehran Stock Exchange, i.e., petrochemical and banking industries which stand for B2B and B2C businesses respectively. To do so, the monthly data from June 2008 to June 2018 in a Panel GMM framework is applied. The results show that the effect of brand value on the profit of both the banking and petrochemical industries are positive and significant. These results also confirm that the effect of brand value on profitability in the B2C businesses (banking industry) is significantly higher, almost double, compared to the B2B (petrochemical industries) business group.

Keywords

Brand Value, B2B Businesses, B2C Businesses, Panel GMM Model.

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Introduction

Brand value, which is considered an invaluable intangible asset of the companies, is a multi-dimensional and complicated concept because it carries invaluable information about the company and its customers. This information cannot be numerically obtained due to the intangibility of this variable and its relationship with the customers' conceptual values (Pappu et al., 2005). As a result, different and complex concepts indicating the brand value of a company and its position in the customers' mind have formed during the recent decades for estimating this valuable variable. These concepts have calculated brand value mainly using approximate methods. However, although there has been no ideal method for the calculation of brand value, the importance of this variable for the position of a company in the market and the attraction of customers, its higher profitability and its role in winning over the company's opponents cannot be ignored (Merz et al., 2018). In other words, a brand value is one of the most important factors distinguishing a company from its competitors in the market, keeping the previous customers and attracting new ones and consequently, increasing demands, sales, price, income and the profitability; thus, companies always attempt to increase their brand value to gain more profits (Ahn et al, 2018). Different companies, e.g., B2B, B2C, or B2G, across the world choose this targeting strategy as their long-term development strategy. The attempt is made by great companies such as Apple, Microsoft, Coca-Cola, Amazon and thousands of other companies for gaining more success and profitability by making a consistent effort to keep and promote the value of their brands not only in their countries but also in the whole world (Sekerin et al, 2014). Therefore, although the positive functions of the policies increasing brand value are obvious to everyone, the basic question is whether the amount of influence of brand value on the profitability of different companies will be the same under similar economic conditions and whether the business-type of companies matter.

It should be admitted that the majority of the companies operating across the world include B2C and B2B companies. These companies are different regarding the market structure, type of activity and customer attraction strategies. For example, companies that present their final product to customers (i.e. B2C companies) need to get the

attention of natural persons to increase their performance and profitability while those introducing their product as an intermediate good to other businesses (i.e. B2B companies) need to attract the views of legal persons, which include a set of actual persons or the board of management demanding the intermediate goods or services (Liu et al., 2018). Therefore, strategies, policies, and tools used by different companies to attract customers and to gain more success will be different based on their field of activities. Accordingly, although the influence of brand value of every company on its profitability has been confirmed, the variation of this influence in different types of B2B and B2C companies is not clear (Chang et al., 2018).

In addition, it should be stated that by determining the degree of brand value's influence in these two groups of businesses, their managers and macro decisionmakers can make systematic plans for the adoption of brand development policies, brand expansion strategies, better costs management, more efficient use of advertising costs, and finally, choosing between different expending costs to achieve a higher brand value and alternative strategies such as implementing more attractive costs with a lower profit margin (Emerson et al, 2014). Furthermore, managers of similar companies will also be able to take optimal policies and strategies relying on the present study as research project based on internal case studies. On the other hand, capital market activists can pick up clear signals for purchasing and selling shares in the portfolio of assets with the purpose of maximising their profits. Despite that, so far few studies (e.g., Liu et al., 2018) have been carried out to compare the effect of brand value on different companies' profitability. On this basis, two groups of the most successful and largest businesses in the Tehran Stock Exchange, petrochemical and banking industries, were selected as representatives of the B2B and B2C companies. In this regard and to make a reliable comparison between these businesses, some accurate and efficient statistical methods are used in terms of analysing the role of brand value in achieving higher profitability. On this basis, the main hypothesis addressed in the present study is the following:

"The effect of brand value on the profit of the companies that are active in the banking industry, as examples of B2C markets, is higher

than its effect on those operating in the petrochemical industry, as examples of B2B markets".

Theoretical Framework

Theoretical framework includes three major parts: "branding, marketing and business management," "the relationship between brand value and corporate profit," and "different types of businesses." In the first section, the role of increasing brand value and gaining sustainable profits in the field of marketing and business management will be explained. The second part will consist of the theoretical background of the relationship between the two primary variables of the study. Ultimately, in the last section, as the idea based on which the main hypothesis of this study and its development manner will be presented, different types of businesses (i.e. B2C and B2B) and their representatives (i.e. banking and petrochemical industries) will be elaborated.

Branding, Marketing and Business Management

Generally, the common point between business management, marketing management, and branding activities in a business can be considered to develop the business and increase the value of brand, continuously improve the performance in different fields, improve ability to keep the former customers and find new customers, involve a stable growth in the company's profitability, and increase the popularity of the brand (Sovbetov, 2016). Thus, branding, marketing and business management has the potential to not only develop the brand value of different companies, but to augment the number of the customers, the degree of sales and income, and finally, the profitability of the businesses as well. On this basis, what is crucial here is the theoretical framework on the relationship between brand value and profitability that logically demonstrates the direction of this relationship.

The Relationship between Brand Value and Corporate Profit

This section of the study, in addition to the theoretical study of brand value effects on corporate profits, the method of calculating each of these variables, brand value, and corporate profits, will be described in detail.

How does Brand Value Influence Corporate Profit?
Generally, the relationship between brand value and corporate profitability can be argued based on a resource-based theory, RBT (Kaleka, 2011; Morgan et al. 2009). According to the RBT logic, different businesses seek to create economic benefits through sustainable competitive advantages derived from their valuable, strategic, and rare resources and capabilities. The application of the RBT logic to the literature of marketing and brand management and also customer-firm relationship confirms that brand value – as a crucial intangible resource of a firm – can augment the sale promotion, income, profitability, and performance of the firm to successfully compete with other similar companies through increasing the number of its customers and promoting the reputation of the company (Wang and Sengupta, 2016; Iglesias et al., 2013). Therefore, by improving the brand value of a firm, the performance and profitability of the firm will directly be increased.

In line with this, an increase in brand value creates a loop of economic and non-economic factors in a way that this loop finally leads to the companies' profitability. This loop is such that with an increase in the brand value of a company, customers' views about the company's products become more positive. In the next step, these customers attempt to raise their awareness about the features of those products, which leads to uniqueness of the company's products in the mind of the customers, ensuring their satisfaction, loyalty and fidelity (Gupta et al., 2018; Sovbetov, 2016; Melovic et al., 2016; Erkollar and Oberer, 2016; Ajagbe et al., 2014; Stahl et al., 2011; Slotegraaf and Pauwels, 2008; Kotler et al., 2006; Pappu et al., 2005; Zekeri, 2004). In addition, such experiences of customers are transfigured into the promotion of product price because the customers' perceived value of products, which is directly related to the amount of their willingness-to-pay, will increase. Besides, based on the argument that consumers tend to pay more money for the goods with a high reputation, many studies have confirmed the direct and significant effect of brand value on the sales volume (Belo et al., 2014). For example, when Samsung releases a new product, consumers stand in long queues to buy them despite their higher price compared to similar products from other companies. Therefore, the high level of positive brand value is one of the reasons for the large sales volume and the considerable profitability of Samsung.

Accordingly, studies such as Sovbetov (2016), Melovic et al. (2016), Stahl et al. (2011), Duduciuc and Ivan (2014), Ghachem (2011), and Erkollar and Oberer (2010) underline the idea that brand value represents an expression of the individuals' evaluative judgment about the corporation. This expression plays a significant role in determining the number of a company's customers because some authors are of the opinion that the main determinant of brand value is the customer herself. Another positive effect of brand value (on the companies' profit) is customer retention (Brodie et al., 2009). Getting back to the example of Samsung, the majority of consumers of Samsung products do not necessarily have one Samsung product but may have more than one Samsung product. They may also be waiting for the release of a new product. As an indication of brand loyalty, this can finally lead to more profits for the Samsung Company as the costs of production and, mainly, supplying the products is much lower in the companies with higher brand value.

On the other hand, they argue that a new customer, psychologically, will most likely prefer a firm that already has a broad customer portfolio, reputation, prestige, and esteem of the organization. In other words, if the number of existing customers of a firm is significantly larger than others, then new customers generally perceive that the firm has the most valuable brand in that market (Pena et al., 2018). Consequently, not only does this event help to retain the organization's current customer portfolio but also it enhances the portfolio by the acquisition of new consumers. Under such conditions, this will raise its ability to compete with other similar companies that have a different brand value. Therefore, on the one hand, all the mentioned factors can lead to an increased demand for and sale of the company's products, and as a result, the income and profitability of the firm will be augmented. On the other hand, well-established brand value can enable companies to achieve new customers and more profit; again, more customers can be considered as a sign of more brand value and subsequently more profit. To be more precise, this process continues as a sustainable loop. Different studies have been conducted in different communities each of which focuses on a part of the loop (Liu et al., 2018; Sovbetov, 2016; Belo et al., 2014; Stahl et al., 2011; Kapferer, 2008; Zekeri, 2004; Aaker, 1991).

Considering the aforementioned effects of brand value on the companies' profit, two main questions come to mind. Since there are some different methods to calculate the brand value and corporate profit, which of them, in the present study, will be used? And whether the abovementioned effects of brand value on profitability are similar across different types of business systems. To answer these questions, we will first describe how these variables are estimated and, then, examine different types of businesses.

Method of Measuring Corporate Profit
Generally, the profitability of a company indicates its ability to produce income and the profit resulting from it. In this regard, the question is that by which method the corporate profit can be measured? To select a method for calculating the profitability of a company, income or net income is usually used as the criterion. The data required for estimating the variables and evaluating the executive operations of a company are extracted directly from the loss-profit statement of the company, which includes a summary of the financial and production services and other activities of the companies. On this basis, to analyze the effect of brand value of an industry on the profitability level of that industry (as in the studies by Liu et al. 2018, Osterle et al. 2018, Chehab et al. 2016, Erkollar and Oberer 2016, Melovic et al. 2016, and Ajagbe et al. 2014), this study uses the gross profit (revenue minus cost of goods) or the profit before paying interest, paid on debt, or tax as the profitability criterion.

Calculating Brand Value
Generally, brand value is confirmative of the real financial value of the brand, which is assessed based on a company's performance in the market (Srinivasan et al., 2011). On this basis, to imply the positive functions of measuring brand value, it should be noted that it helps to estimate the company's operating income, free cash flow derived from the brand, and the associated brand risks. As a result, business leaders can improve their policies and strategies to increase profitability, make management more efficient, and develop their company (Rahman et al., 2018). For instance, if there is a massive positive difference between the profit margin of a company and its operating costs, it can be argued that the company has a higher efficiency in

producing and selling its products. This is a significant sign of both the relative advantage of the goods produced by that company and the existence of high brand value (Srinivasan et al., 2011).

Although many attempts have been made so far to measure the value of brands quantitatively, no model has been globally accepted. Despite that, this does not mean that nothing has been done in this regard. It should be admitted that different approaches have been introduced for evaluating a brand. The most widely used ones are based on the managerial view and include three ways: cost-based, market-based, and income-based (Sovbetov, 2016). On this basis, different method**s** have been introduced to determine the value of a brand most of which can be classified into some main categories; these models include financial, behavioral and psychological models (or models based on consumer's understanding), business models, portfolio models, and hybrid models (Belo et al., 2014). Some of these models (e.g., financial models) estimate brand value using numbers, while others (such as behavioral models) do not.

In the present study, since the data required for the case study was chosen from the stock market, the use of financial models for brand value estimation seems more convincing. What is noteworthy in this type of models is that in the evaluation of a brand based on financial models, brand value is determined by the stock trading in the market and by the stock traders. Also, there are different criteria in the structure of financial models – such as market capital, Tobin's-q, stock returns, and market-to-book ratio, etc. – for the determination of the value of a brand. Accordingly, from among these criteria, the present study uses Tobin's-q to estimate the brand value. In the following, the concept and the reasons for the adoption of this criterion will be delineated.

Tobin's-q
Despite the market capital, stock returns, and market-to-book ratio criteria, which rely mainly upon the evaluation of the potential and future development opportunities of a company for evaluating a brand, Tobin's-q, which was introduced by James Tobin in 1969, in addition to having forward-looking ability and providing a remarkable vision of the potential future profits of the company, has been widely used in the literature on marketing to measure the de facto value and brand

value. One of the most important reasons for the wide acceptance of this criterion for estimating brand value is that it not only measures a company's economic performance but is a good index for the determination of the value of the shareholders' assets. Another broad application of this criterion is that, despite the accounting criteria, which are dependent on industry, this ratio is an industry-independent variable and is a mediated criterion based on risk, which can be also used for the comparison of the performance of companies in different industries (Peters and Taylor, 2017).

From a theoretical perspective, Tobin's-q is equal to the proportion of the market value to the alternative value of the tangible assets of a company (such as land, the existing goods, cash, shares, etc.). Due to the lack of easy access to the data related to replacement value in the developing countries like Iran, the present study uses book value (i.e., debt book value plus the market value of equity) as an alternative to replacement value in the estimation of the foregoing criterion.

The point that should be considered when analyzing and interpreting this ratio is that the numerical value of this ratio will have three different types. If the numerical value is higher than one, then the target company will have intangible assets. In other words, Tobin analysis asserts that if the market value of a corporate asset is more significant than its replacement value (the book value), then the value of the company's stock is more than its intrinsic value. In marketing, this difference is called brand value, which is created through the value added of a brand's assets. Furthermore, it is evident that if the market value of a corporate asset is smaller than its replacement value, then the value of the company's stock is less than its intrinsic value. Finally, the equivalence of the two amounts of the market value and its replacement value also represents that no value can be attributed to the brand value (Srinivasan et al., 2011).

Different Types of Businesses
A review of the marketing and brand management literature (e.g. Kazinguvu, 2016; Mainardes et al., 2014; Ritson, 2011; Casadesus-Masanell and Ricart, 2009) reveals that the policies, strategies, and management of all businesses are not generally the same due to the existence of fundamental differences in the type of their companies; consequently, if different companies are separately examined in

applied studies based on logical criteria, the findings can not only be more useful and productive, but the possibility for achieving different business managers' ultimate goals will be improved (Rao, 2008). Accordingly, to make effective and timely managerial decisions, in every business, the knowledge of different types of the business systems helps to have a deeper understanding of the Strengths and Weaknesses, Opportunities, and Threats (SWOT) that prepares the ground for adopting efficient and effective decisions, increasing performance and profitability, and, finally, achieving business successes (Simoes et al., 2015).

Overall, in the field of marketing management, business systems can be classified into three categories based on purchase motivation, which include Business-to-Business (B2B), Business-to-Consumer (B2C), and Business-to-Government (B2G). B2C refers to a process in which the companies sell their products directly to consumers. However, B2B is a process for selling goods or services to other businesses. Reciprocally, the process by which the companies sell up their products to the government is Business-to-Government or B2G. The business systems that support B2C, B2B or B2G transactions, sales administration and communications differ in complexity, scale, scope, and cost (Liu et al., 2018).

The most crucial distinction between different types of the market has to do with the nature of demands. To be more precise, in the B2C market, consumers usually purchase at lower scales and with a lower complexity compared to B2B markets or government-owned companies, i.e., B2G. Furthermore, in the markets based on the B2C model, the decisions related to the final purchase take less time in comparison with the purchases made in the markets based on B2B or B2G. In the studies on the companies with a B2C structure, a better understanding of the age groups, gender, income, the location of consumers and other demographic and psychological information about their needs and purchasing behaviour are of significance in promoting brand loyalty. In the companies based on the B2B model, on the other hand, price, potential profit, decreased costs and increased productivity are highly significant. In the B2G companies, however, the company responds to the needs of a particular government-owned company via a tender (Sekerin et al., 2014).

Accordingly, as the primary purpose of the present study is to compare the impact of brand value on the profitability of different types of businesses, banking and petrochemical industries have been chosen as our case studies, respectively as B2C and B2B markets, in the Tehran Stock Exchange (TSE). In the following, in addition to introducing these two industries, the primary rationale behind their selection will be demonstrated.

Banking Industry as a B2C Market in Iran
In the Iranian economy, the banking industry can be considered as the most critical linking bridge between the supply and demand of monetary resources. In fact, the massive (about 90%) dependence of Iran's economy on the banking network (Safarpour, 2016) has increased the importance of paying attention to this area.

On the other hand, an examination of the undeniable effects of (multidimentional) sanctions on Iran's banking industry during the recent years has shown that they have weakened the financial markets, decreased foreign currency reserves and national currency value, destabilized internal financial markets, increased expected inflation, decreased the banks' ability to attract both internal and international investment by limiting oil sales, blocked the country's assets, and to a large extent prohibited exports and imports and bank interactions at the international level (Tafti et al., 2013). On this basis, considering the many constraints and obstacles in the way of optimal performance of the country's banking industry, the crucial question is whether the brand value can have a significant effect on the performance and profitability of suchlike companies in this group of businesses[1]. Moreover, under such conditions, how can the optimal rate of investment for the promotion of the brand value of the companies in the banking sector be analyzed? On the other hand, by investing a brand extension strategy in the banking sector – which can directly lead to an increase in the brand value of this industry – to what extent will investors in this field be able to achieve higher profitability (assuming other conditions are fixed)? The answer to these questions will help the managers, decision makers, and even investors to

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1. Considering the fact that Iran's banking system has been under sanctions from 2007 until now, it was naturally under sanctions during the time period of the study.

develop and apply effective and efficient strategies, plans, or decisions to improve the performance and profitability of this industry as the industry active in the B2C market (Augusto and Toress, 2018).

Overall, in the previous studies, what has been important is that consumers in these markets did not always choose one particular brand or all the products of a brand in the long term. For this reason, in these markets, although conveying information to the customers is crucial and decisive, it requires a high cost. Therefore, it seems that the position of brand value in B2C markets is precious for the reinforcement of the performance of companies as this helps them decrease their total costs and introduce their products and services with more ease. This way, by determining the degree of influence of brand value on the profitability of this group of businesses, it will be possible to analyze elasticity and develop optimal strategies in both sections of supply and demand of the share of these companies in the stock market (Abounoori et al., 2016). This will not only improve the conditions for the cost management and performance of this industry, but will also prepare the ground for this area of the country's economy to thrive.

Petrochemical Industry as a B2B Market in Iran
As a strategic industry in the Iranian economy, petrochemical industry has always produced the largest income among different non-oil export items and has naturally had a considerable and significant effect on the economic development of the country. Furthermore, Iran's 20-Year Economic Perspective is also indicative of the petrochemical industry being in the lead among different sectors of the country (Komijani et al., 2014). Meanwhile, some critical issues in Iran's economy like economic sanctions, the role of technological advancements in promoting the production of alternative fuels, inputs of the petrochemical products, and the Shale Oil Boom, etc., emphasize the importance of marketing management, sales, profitability, and finally sustainable management of this industrial field (Valizadeh et al., 2017).

According to many experts, the petrochemical industry is a B2B market and the rather limited number of customers in these markets as well as the existence of deeper and more long-term-oriented inter-organizational interactions in the B2B market is considered as the most important features of these markets (Han and Sung, 2008). On

the other hand, experts in the petrochemical field regard this industry as a high-risk field; consequently, any investment in this industry requires correct and complete recognition of the nature of this field. Ignoring this may not only make investment irrecoverably risky but will change future investment expectations in this area (Huang et al., 2012). Under these conditions, the main questions are whether in the petrochemical industry as an example of B2B market, brand value has a significant effect on the rate of profitability, or the role of other factors affecting demand (e.g., price, sales conditions, quality of produced goods, etc.) is more prominent in this field, and investment costs, which can directly lead to an increase in the brand value of this industry, produce a significant return? In other words, to what extent can managers in this field develop efficient and practical strategies for promoting the brand and, consequently, increased profitability of these companies? On the other hand, how can investors in this field benefit from the brand extension strategies of petrochemical companies (or policies) which can directly lead to increased brand value?

There is an essential point in these markets to be taken into account for providing a theoretical answer to these questions. Although B2B companies have a relatively more stable and smaller number of customers, they select their active and reliable customers based on an identification process. This leads to the increased rivalry among the competitors. As a result, although access to customers seems much comfortable, this process is time-consuming, which raises the possibility of switching consumers toward the competitors (Liu et al., 2018). Based on this critical feature, it can be argued that the role of brand value and also brand management in creating brand loyalty and adopting effective and efficient policies in marketing and branding not only can keep companies' performance stable but also can improve it. Thus, company managers should continuously examine these types of markets and prepare the conditions for attracting the potential and preserving the existing customers. Therefore, in the present study, the role of brand value in the petrochemical company's profit in the Tehran Stock Exchange will be evaluated and then, in addition to comparing the degree of effects of brand value on profitability of these two types of businesses, the obtained results will be comprehensively analyzed to achieve the main goal of the present study.

Empirical Results
In this section, we will first examine descriptive statistics related to the dependent variables of the study (i.e. the profitability of the banking industry as a representative of B2C and the profitability of the petrochemical industry representing B2C). The reliability of all the research variables is examined. Subsequently, based on the main hypothesis, the relationship between brand value and profitability of B2C and B2B industries will be modeled using the panel GMM model as a dynamic panel model. To this end, monthly time series data from June 2008 to June 2018 were used, and this information was collected via TSE official website and statistical center of Iran. Moreover, the received data were analyzed using Excel and Eviews softwares. It should also be mentioned that the variables of this study have two main features: First, they are the log transformation of the research variables due to the fact that this function, as a widespread method, is often applied to transform skewed data or data with some outlier to follow a normal distribution and thus, to augment the reliability of the related statistical analyses. Second, as the stationary tests show that the level of all of the variables is non-stationary, the solution to eliminate the negative consequences of such problem – i.e. spurious regression – the first difference of the logarithm of each variable are used as follows:

- DLBI?: The first Difference of the LBI?, Logarithm of Banking Industry, Index.
- DLPI?: The first Difference of the LPI?, Logarithm of Petrochemical Industry, Index.
- DBVBI?: The first Difference of the BVBI?, Brand Value of Banking Industry, Index.
- DBVPI?: The first Difference of the BVPI?, Brand Value of Petrochemical Industry, Index.
- DLRBI?: The first Difference of the LRBI?, Logarithm of the Revenue of Banking Industry, Index.
- DLRPI?: The first Difference of the LRPI?, Logarithm of the Revenue of Petrochemical Industry, Index.

Furthermore, the total revenue criterion has an advantage over the assets criterion since total income includes the inflation as well and will have a more significant effect in estimating brand value than the assets (Giri et al., 2017). Accordingly, the company size criterion,

which is measured by the operational revenue logarithm, is used as an instrumental variable in the panel GMM models.

Descriptive Statistics of Dependent Variables

Before modeling, there is a need to examine the characteristics and descriptive statistics related to the logarithm series of the banking stock index, LBI, and the logarithm of petrochemical stock index, LPI – as the primary variables of the study – to be able to carry out modeling reliably and in accordance with the nature of the collected data.

Table 1. Descriptive Statistics

Stat.	LBI	LPI
Standard Deviation	0.0389	0.0214
Skewness	0.5667	0.5479
Kurtosis	2.4748	2.6371
Jarque-Bera (P-value)	1.189 (0.551)	1.647 (0.439)
Liang-Box Q(5)	260.05 (0.0004)	575.44 (0.000)

Source: Findings of the Study

As the table shows, all the variables have positive skewness, and their kurtoses are lower than the normal distribution's kurtosis. Furthermore, according to Jardue-Bera statistics for normality test, the logarithm of the banking industry index and petrochemical industry index series produced homogeneous results, and both of them were normally distributed in the sample period at 98% level of the significance. In addition, based on the *Liang-Box statistics* (with five lags) in all the variables, the null hypothesis "there is no serial autocorrelation between the components of each series" is rejected. On this based, the significant impact of each dependent variable's lag on itself can be predicted in the modeling process. Under such conditions, using the panel GMM model seems to be more efficient than the panel models with fixed and random effects since the model inefficiency associated with the possible relationship among the lags of the dependent variable (for solving the problem of serial autocorrelation) and the residuals of the model will be resolved. Besides, as modeling a variable without ensuring its statistical stationarity is fundamentally unacceptable and gives rise to the belief that there is a spurious regression. Therefore, first the stationarity test of the research variables will be examined and, then, the research models will be presented.

Unit root Tests (Stationarity Test)
Although there are several unit root tests, in most applied related studies the IPS (Im, Pesaran & Shin, 2003) method is used in which the null hypothesis indicates that all the panels contain a unit root. Accordingly, in the present study, the IPS stationary test will be used to increase the reliability of the results. It should be noted that like all other unit root tests, IPS test have some assorted options – i.e., intercept, intercept and trend, or none – that should be chosen to prove the series' stationarity. As a result, in the present study, all the options have been tested for the mentioned unit root test, but on the ground that all variables have been stationary by intercept, just this option is presented in table (2).

Table 2. IPS Unit Root Test

Variable	Accounting Value	P-Value	Result
LBI?	-0.784	(0. 236)	Non-Stationary
DLBI?	-4.251	(0.002)	Stationary
LPI?	-0.829	(0.407)	Non-Stationary
DLPI?	-3.074	(0.005)	Stationary
BVBI?	-1.036	(0.154)	Non-Stationary
DBVBI?	-6.291	(0.000)	Stationary
BVPI?	-1.004	(0.182)	Non-Stationary
DBVPI?	-5.436	(0.000)	Stationary
LRBI?	-0.896	(0.376)	Non-Stationary
DLRBI?	-4.873	(0.001)	Stationary
LRPI?	-0.981	(0.218)	Non-Stationary
DLRPI?	-5.214	(0.000)	Stationary

Source: Findings of the Study

The results presented in the above table indicate that based on all the mentioned tests, the null hypothesis considering the existence of unit root in the level series, LBI?, LPI?, BVBI?, BVPI?, LRBI?, and LRPI?, was confirmed, while the IPS test supports the results on the absence of the unit root in the first-order difference series, DLBI?, DLPI?, DBVBI?, DBVPI?, DLRBI?, and DLRPI?. In other words, the mentioned differentiated series are stationary with the same level of stationarity for all the variables. As a result, since the variables are not stationary, checking the existence of the co-integration relationship – which examines as if two series have constant co-variance over time –

should be considered as a decisive stage. Under such circumstances, the long-term relationship between the variables can be modeled through different statistical models, e.g., panel GMM model.

Co-integration Test

Generally, all the panel co-integration tests can be generally divided into two categories, i.e. residual-based and maximum-likelihood-based. Among all types of these tests, Kao (1999) panel co-integration test is the most widely used one, and consequently, this panel co-integration test will be used in the present study. The results of this test for each group of variables are presented in the following table.

Table 3. Kao (1999) Panel Co-Integration Tests

The Relationship Between LBI?, BVBI?, and LRBI?		
T-Statistics	P-Value	Result
ADF	-3.927	(0.000)	Co-integrated
The Relationship Between LPI?, BVPI?, and LRPI?		
T-Statistics	P-Value	Result
ADF	-4.639	(0.000)	Co-integrated

Source: Findings of the Study

The results of Kao (1999) panel co-integration tests presented in Table 3 point out that the null hypotheses of the Kao test "there is no co-integration between the relevant panel repressors" with regard to both relationships are rejected at 95% level of the significance; consequently, there is a stable long-term relationship between each group of the variables, and these variables can be modeled with no constraints. Therefore, in the following step, the research models will be estimated.

Panel GMM Model

As it can be seen in Table 1, the results of Liang-Box test point to the existence of autocorrelation among the dependent variables, which shows that the panel GMM model can explain the behavior of the dependent variables and, in this case, the best solution is to add a lag from the dependent variable to the model. On this basis, the results of modeling in the banking and petrochemical industries are presented in the following table.

Table 4. Estimated Panel GMM Model results for B2C Businesses

Variables	Coefficient	T-Statistics	P-Value
Constant	0.17	6.352	(0.000)
BVBI?	0.12	6.175	(0.000)
AR(1)	0.79	26.418	(0.000)
$\overline{R}^2$		0.81	
Fisher Test		59.73	
F-Prob		(0.000)	
Durbin Watson (DW)		1.98	

Source: Findings of the Study

Table 5. Estimated Panel GMM Model results for B2B Businesses

Variables	Coefficient	T-Statistics	P-Value
Constant	0.14	4.432	(0.000)
BVPI?	0.19	3.385	(0.001)
AR(1)	0.73	8.672	(0.000)
$\overline{R}^2$		0.89	
Fisher Test		90.99	
F-Prob		(0.000)	
Durbin Watson (DW)		2.03	

Source: Findings of the Study

The results presented in the Tables 4 and 5 not only emphasize the general results from the panel GMM model with the autoregressive variable but point to the fact that the problem of autocorrelation has been resolved in these models as the Durbin-Watson statistic are about 2, which are completely favourable. In addition, all the coefficients of the independent variables are statistically significant and consistent with scientific theories in both models. Besides, the adjusted coefficient of determination ($\overline{R}^2$) values in both above models were 81 and 89% respectively, a finding which indicates that more than 80% of the changes in the dependent variable (profitability) in any of the models can be explained by the independent and control variables of the study. In addition to these results which are reliable signs of the models' goodness-of-fit, the results from the Fisher tests in both models also clearly indicate that the whole models fit well with their data. Finally, based on the findings from the aforementioned models, the reliability of the results was confirmed; therefore, as the next step, we can now examine the research hypotheses and conclude.

Summary of Results

In the present study, the effect of brand value on the profitability of petrochemical and banking industries – as the two representatives of B2B and B2C businesses – in the Tehran Stock Exchange was examined and compared. To robustly examine the variables, after introducing variables in "empirical results," the descriptive statistics of dependent variables have been presented. Then, to prohibit spurious regression, Stationary tests have been applied. Regarding the results of unit root tests, as all variables have been non-stationary, a co-integration test has been applied to a group of variables, "LBI, BVBI, and LRBI" and" LPI, BVPI, and LRPI" to find out the existence of any long-run relationship among non-stationary variables. The result of this test has illustrated that there is a stable long-term relationship between each group of the variables. Accordingly, since the existence of spurious regression was rejected, estimating the relationship between each group of the study variables by GMM was permitted.

In this regard, the results of the models developed for these two businesses showed that using the panel GMM model could significantly model the relationship between the variables and therefore, the mentioned result was highly reliable for testing the hypothesis. Based on the results presented in Table 4, it should be admitted that the effect of brand value on the profit of banking companies, as examples of B2C markets, is positive and significant. Based on the findings of this model, the effect of brand value on the profitability of the banking companies was 19%, suggesting that if the brand value of banking industries has a 1% change, the profitability of these companies will consequently experience a 19% change. Additionally, in B2B businesses, brand value also had a positive and significant effect equivalent to 11% of the profitability of the petrochemical industry. Although being positive about the brand value effects on the profitability of companies in most different businesses – B2B or B2C – seems axiomatic, the amount of this effect was obscure. Therefore, the results of this study confirm the primary hypothesis of the study, as the magnitude of the impact of brand value on profitability in the B2C businesses (i.e. banking industry) was higher compared to the B2B business group.

Discussion and Implications

Generally, an essential concern for B2C and B2B firms is how to maximize the profit contribution of their brand value expansion. We tried to uniquely assess the impact of brand value on corporate profit of two samples of B2C and B2B firms, banking, and petrochemical industries, by reviewing the literature, completing the existing works, and extending current knowledge in this area. We found out that brand value has a significant, constant, and positive effect on the profit of firms that operate in both B2B and B2C markets. Moreover, as it said before, another critical result of our study is that the brand value's impact is stronger on the firm's profit in the B2C market than the other one.

It should be noted that although based on the literature of this field, the existence of positive and constant impact of brand value on corporate profits seems more convincing, there are some researches like Liu et al., (2018), Bordley (2003), Bayus and Putsis (1999), and Quelch and Kenny (1995) who have fount out that the brand values' effect levels on corporate profit in each type of businesses like B2C markets are not the same. To be more precise, according to the study of Liu et al. (2018), while the impact of brand value on the corporate profit for both B2B and B2C firms are positive, it is in the form of an inverted-U for a B2C firm's profit, which means that the brand value's level of effect on corporate profit varies both during the time and from a business to another. In this regard, similar to the results of a large number of researches like Liu et al. (2018), Chang et al. (2018), Rahman et al. (2018), Yan and Cao (2017), Sovbetov (2016), Chehab et al. (2016), Belo et al. (2014), Ajagbe et al. (2014) Stahl et al. (2011), and Slotegraaf and Pauwels (2008), our findings lend additional support to results obtained by the majority of prior work, which noted that the impact of brand value on the firm's profit is not constant in different businesses. Hence, by comparing these findings with the results of other mentioned researches, it can be shown that the strength of brand value's positive effect on corporate profit is not a fixed and universal law. Under such circumstances, if managers, macro decision makers, and investors in these two businesses and other similar fields do not pay enough attention to the significant results of the present study, they might adopt inefficient policies, strategies, plans, or decisions. Therefore, it should be underscored that

the consideration of different types of businesses matters in such analyses.

In addition, with regard to the interpretation of the estimated coefficients (assuming other conditions are fixed), it can be suggested that the existence of a stronger and more significant coefficient in the relationship between brand value and B2C firm's profit (i.e. 19%) in comparison with the coefficeint obtained for the relationship between brand value and the B2B firm's profit shows that by the adoption of a brand extension strategy in the banking sector – which can directly lead to an increase in the brand value – the amount of profitability that banking investors and clients can achieve is roughly 20%. On the other hand, having smaller brand value impacts on corporate profit in petrochemical industries does not mean that improving brand value in B2B businesses has no significant effects on the firm's profit but it demonstrates that in the same conditions, exerting brand extension strategies has probably more profit for investors who are interested in banking shares.

Furthermore, in the two foregoing types of businesses, the findings of this study have emphasized two viewpoints toward the structural differences between different markets, which generally regard the variety and number of customers, investors and managers. From an investor's standpoint, adopting brand extension strategies to attract investments is more stimulating for B2C businesses than B2B ones because the expected profitability of B2C markets is approximately two folds in comparison to that of B2B markets. As a result, both capital market activists and the managers of similar companies can pick up clear signals respectively for purchasing and selling shares in the portfolio of assets with the purpose of maximizing their profits and making the most efficient decisions and strategies for developing their business based on the present study as a study founded on internal case studies. Moreover, from managers and policy makers' standpoint, adopting brand extension strategies in B2C businesses is by far more effective than using these strategies for B2B ones, whereas in the case of B2B businesses, alternative strategies like product extension, product diversification, market share increase, price discrimination policy, and so forth seem presumably more efficient than brand extension policies. Consequently, by determining the brand value's

level of effect on corporate profit in these types of businesses, the ground can be set for the identification of the optimal amount of investment in brand extension strategies and thus, to promote the brand value of the companies in these sectors of our economy. Finally, it should be mentioned that brand management requires an efficient, dynamic, and proactive management of the need and mind space of customers. In this regard, to comprehensively evaluate the conditions and optimize the likelihood of the success of the adopted policies and decisions, it is necessary to conduct various studies in different pertinent matters to develop the brand value and, consequently, to create more profit.

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