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Salma Akter

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Retail business practices in Bangladesh: an empirical study

Salma Akter

Feni University Business School,
Feni University,
Feni, Bangladesh
Email: salma@feniuniversity.ac.bd

Abstract: In this research paper the main aim is to find out whether business ownership and different level of ownership status (age, education, experience, personal investment, and bank loan) have any relationship with business earnings. To conduct this research, author used primary dataset, and data was collected using questionnaire. After sending the questionnaires to different retailers, authors have received 123 responses. In this research paper the author used ordinary least squared (OLS) model and GMM estimation. After analysing the dataset, results shows that female company ownership is inversely connected to Bangladeshi retail business earnings, and a similar association can be shown when businesses use bank loans rather than personal investments. However, when a business owner invests his or her own money, the profits are bigger (positive). For business owners of a comparable age, education level, and experience, we see similar favourable and statistically significant benefits.

Keywords: retail business; Bangladesh; earnings; ownership status.

JEL codes: L80, L81, L82.

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Biographical notes: Salma Akter is an Assistant Professor in Finance at the Feni University, Bangladesh. She obtained her MBA from the Jahangirnagar University (IBA). Her research interests include corporate finance, stock market, banking and corporate governance.

1 Introduction

The shift to a service economy (Vargo and Lusch, 2004, 2008; Gallouj et al., 2015) has prompted enterprises to investigate how value co-creation takes place in a system of service exchange, rather than a normative view that focuses on customer engagement in value co-creation (Akaka et al., 2015). As a result, in the growing value network in retail environments, retailers appear to be redefining their role as integrators of services rather than distributors (Lush et al., 2007; Hagberg et al., 2016). Simultaneously, the retail business is rapidly evolving due to the growing need for knowledge-intensive service innovations and the ongoing search for interactive and innovative solutions in service

production (Buke, 2002; Lusch and Spohrer, 2012; Kindstrom et al., 2013; Bertacchini et al., 2017; Pantano et al., 2018; Willems et al., 2017).

Retail involves the sale of merchandise from a single point of purchase directly to a customer who intends to use that product. The single point of purchase could be a brick-and-mortar retail store. Today retailing is largest contributing sector to GDP of Bangladesh. Modern retailing can generate employment opportunities for significant number of people in various retail operations. About 6.0 million small and medium enterprises are actively performing in Bangladesh which were contributing 25% of the total GDP, employing about 31 million people and providing 75% of household income (Chowdhury, 2015). Now retail sector, being considered as the most dynamic and attractive sector in Bangladesh and it has a profound effect on our society and the people in it. The large numbers of persons are engaging in retail activities, the number of people these organisations employ, and the tremendous sales volumes they generate indicate the importance of retailing in our society. Retailers play a major role in creating and adding value to final goods and services. Retailers often act as the contact between manufacturers, wholesalers, and the consumer. Many manufacturers would like to make one basic type of item and sell their entire inventory to as few buyers as possible, but consumers usually want to choose from a variety of goods and services and purchase a limited quantity. Retailers collect an assortment from various sources, buy in large quantity, and sell in small amounts.

The compound annual growth rate of the global retail industry was 4.8% from 2009 to 2013 and the rate is expected to grow at 6.5% from 2013 to 2018 with industry revenue of \$7,215.1 billion by the end of 2018 (Chowdhury, 2015). Considering the future increasing demands of customers, retail business is increasing day by day with large volume of product categories and creating new opportunities for the new entrepreneurs. It is also the second largest industry in US in terms of number of employees and establishment according to US Census Bureau (2015).

Bangladesh is being seen as a potential goldmine for retail investors. There are lots of opportunities to start a new retail business or work for an existing one in Bangladesh. For growing this sector, progressive and liberal policies on retailing, economic and political stability, improved infrastructure, knowing demographic character, increasing urbanisation, and introducing new products to serve with wide variety of choices to consumers are necessary. So, a significant and enough research are required for making this country as a top destination for retailers and an attractive emerging retail market.

In this research paper the aim is find out whether business ownership and different level of ownership status (age, education, experience, personal investment, and bank loan) has any relationship with business earnings. After using retail business data from different Bangladeshi retail organisations the results show that female ownership, and bank loan-based business are negatively correlated with business earnings, means if business owner is female then business earnings are less compared to their male counterpart. At the same time if business owner starts his/her business using bank loan then business earnings will be less or negative. But on the other hand, business owner age, education, experience and personal investment is positively correlated with business earnings.

This paper contributes in two ways towards current literature,

- 1 to the best of my knowledge this is the first paper where quantitative research has done using Bangladeshi retail industry data to find out Bangladeshi retail industry earnings structure
- 2 to the best of my knowledge this is the first paper where using Bangladeshi retail industry data author found that business ownership and different level of ownership status has some kind of (positive or negative) relationship with business earnings.

Rest of the paper is organised as follows. In Section 2, the author explained the theoretical background and developed the hypotheses. In Section 3, the methodology and data collection process were given. The findings and discussions were presented in Section 4. In Section 5, the author concluded this paper.

2 Literature review and hypothesis development

2.1 Retail industry structure in Bangladesh

2.1.1 Evolution of Bangladeshi retail

The evolution of retailing in Bangladesh can be traced back to the Village Haats (village market) and small-town market. The rural retail industry was categorised into two formats: Weekly Haats and Village Melas. Daily necessity of the villagers met by weekly haats. Village Melas were larger in size with a variety of goods like food, clothing, cosmetics and small consumer durables. With the emergence of larger cities and towns the retail business is being exposed to the new formats to meet the demand of the consumers and make available all essential items at fair prices.

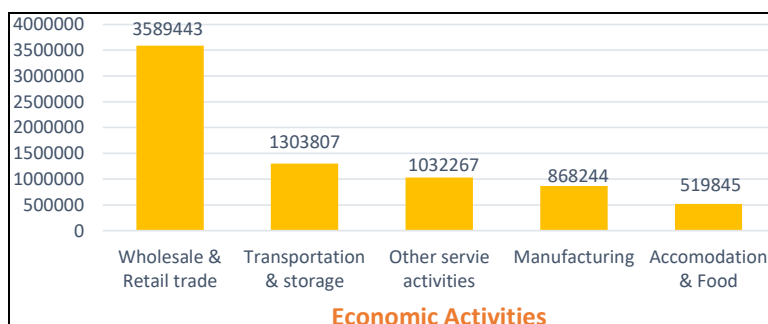
2.1.2 Modern retail format

Modern retail format is becoming increasingly popular to the consumers. Different formats such as departmental stores, hypermarkets, supermarkets, specialty and convenience stores, malls, multiplexes, and fun zone are rapidly spreading across the retail landscape. Today retailing is one of the biggest contributing sectors to GDP of Bangladesh. About 6.0 million small and medium enterprises are actively performing in Bangladesh which were contributing 25% of the total GDP, employing about 31 million people and providing 75% of household income (Chowdhury, 2015). The large numbers of persons are engaging in retail activities, the number of people these organisations employ, and the tremendous sales volumes they generate indicate the importance of retailing in our society (Palto et al., 2018). The rate of growth of retailing in Bangladesh over recent years was 7% based on the gain report 2013. The sector is one of the biggest contributors of national employment that is at 12% and made a 14.3% contribution to the national GDP during 2011–2012 together with wholesale.

According to Economic Census 2013, the total numbers of 24,500,850 persons are engaged in the total of 7,818,565 establishments in Bangladesh. Out of these establishments the huge number of establishments occupies very tiny size, while the insignificant number is big in size. Using the economic activities data, we observed that the wholesale and retail trade, has appeared as the unbeatably largest sector with

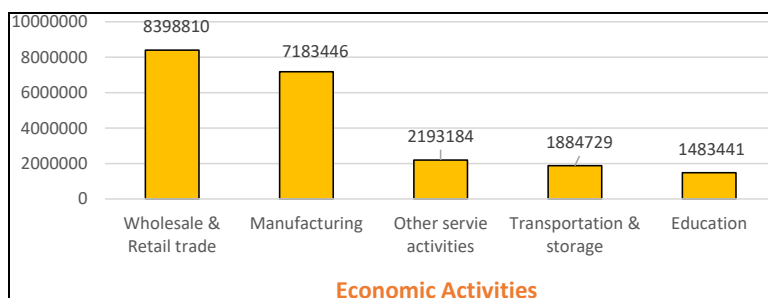
3,589,443 (45.90%) establishments, in which 8,398,810 persons are employed and Manufacturing holds the second position with 7,183,446 TPE.

Figure 1 Establishments by economic activities (top five) (see online version for colours)



Source: Economic Census Report-2013, BBS

Figure 2 Total persons engaged (TPE) by economic activities (top five) (see online version for colours)



Source: Economic Census Report-2013, BBS

2.1.3 Retail formats in Bangladesh

Mom-and-pop stores are family-owned business catering to small sections; they are individually handled retail outlets and have a personal touch. Departmental stores: are general retail merchandisers offering quality products and services. Convenience stores: are in residential areas with slightly higher prices goods due to the convenience offered. Shopping malls are the biggest form of retail in Bangladesh, malls offer customers a mix of all types of products and services including entertainment and food under a single roof. E-trailers are retailers providing online buying and selling of products and services. Discount store is a retail store that sells products at prices lower than those asked by traditional retail outlets. Some discount stores are similar to department stores in that they offer a wide assortment of goods; indeed, some are called discount department stores. Vending is a relatively new entry, in the retail sector. Here beverages, snacks and other small items can be bought via vending machine. Hyper-marts/supermarkets are large self-servicing outlets offering products from a variety of categories. Category killers are small specialty stores that offer a variety of categories. They are known as category killers as they focus on specific categories, such as electronics and sporting goods.

Specialty stores sell special merchandise are small, specialised, mostly independent retailers, who with a certain product line address a particular segment of the market but offer variety for clients in the specialised branch. They operate in such areas as, for example, children's clothing, sportswear, coats, shoes for women, and sometimes even in the form of chain stores (Hameli, 2018).

2.2 Theoretical background

2.2.1 Agency theory

Though we know that retail industry in Bangladesh is not that developed like other developing countries (like India, China, and South Africa) or developed countries, but still we can observe some agent and principle conflict, which we called the Agency theory. The agency theory contents that the relationship between owners and managers is also called principal and agent relationship (Jensen and Meckling, 1976). Through maximum of Bangladeshi retail businesses are sole traders, but still there are some conflict happen between the owner and the people manage the businesses. In this kind of relationship each party is driven by its economic benefits according to the agency theory (Hasan, 2021c), so it means owner and managers tent to behave opportunistically to maximise their interest (Shapiro, 2005).

In the owner and manager relationship, managers are possible to behave opportunistically because they are involved in the daily operations of businesses on behalf of the business owner (Jensen and Meckling, 1976). As a result, they have an information advantage over the business owner. Managers can take advantage of the knowledge asymmetry by either consuming more resources than they require or engaging in risky products in exchange for advantages without bearing any risk of loss (moral hazard) (Ballwieser et al., 2012). Due to knowledge asymmetry, principals may be subjected to adverse selection, which involves the hiring of unqualified managers. As a result, these managers under-perform, resulting in the business owner incurring agency charges (Jensen, 1986).

2.2.2 Signalling theory

Spence proposed the signalling theory in 1973. Spence (1973) proposed that two persons (owner and customer) may attain information symmetry by each delivering a signal to the other that contained some useful information. Signalling theory has become increasingly relevant in the fields of anthropology (Bliege Bird and Smith, 2005), dividend payment (Hasan, 2021a, 2021b; Hasan and Islam, 2022; Hasan, 2022), and earnings (Hasan, 2021a, 2021b, 2022). According to Connelly et al. (2011), signalling theory is a mechanism for outsiders to address information asymmetries by getting favourable and honest information from insiders.

According to signalling theory if business ownership status is strong then there are more chances that business earnings will be higher (Mahoney et al., 2013). From previous literature we can see that if business owner status like experiences, age or personal investment increase then business earnings also increase at the same time or subsequent year (Hasan, 2021c).

2.3 Hypothesis development

Bloom et al. (2011) suggest that female ownership help to increase customer service but female ownership does not help to increase business earnings, which proved to have a negative effect on business earnings. Alongside this, Hillman et al. (2007) found that in situations which business found environmental constraints, the female ownership found to have a reductive impact upon firm risk taking.

Burgess and Tharenou (2002) stated that the number for female business owner compared to the female population is not proportionate. Adams and Funk (2012) suggest that female and male systematically have different value and risk attitudes, where diversity results in improved perspectives and cognitive ability of the business (Hambrick et al., 1996), as Hambrick and Mason (1984) suggest the strategic choices of business owner is a result of behavioural and cognitive characteristics. Based on these arguments author developed the following hypothesis.

H1 Female business ownership is negatively (less positively) correlated with business earnings.

Various characteristics (owner age, education level, experience) or variables have long been examined in relation to their impact on business management success (Judd, 2015). One area of study has been the human traits of business owners and managers. However, research on these qualities has often been fruitless. Nonetheless, the human traits of small business owners/managers appear to justify more investigation in the study of small business retailing. The influence of a small retail establishment's owner/manager on organisational success is more direct and less sensitive to other intervening variables than the influence of a large corporation's manager on corporate success (Friedlander and Pickle, 1968).

Several detailed studies on the characteristics of small business owners and managers have been published (Davids, 1963; Pickle, 1964; Mancusco, 1978). In their essay "do you have what it takes to run your own business?" Vaught and Hoy (1981) were able to divide owner characteristics into three categories: demographics, attitudes, and behaviours. However, much of the small business study has primarily focused on the attitudes and behaviours of the owners and managers being studied. The relationship between the owner age, business experience, education level, as well as these variables' relationship to business success, has not been adequately investigated. As a result, the primary goal of this research is to assess these variables and identify their impact on small business earnings in Bangladesh. The research study's topic respondents were a group of small-business retail grocery store owners. Based on that author developed the Hypotheses 2, 3 and 4, which are as follows.

H2 Business owner age is positively correlated with business earnings.

H3 Business owner education level is positively correlated with business earnings.

H4 Business owner experience is positively correlated with business earnings.

Every entrepreneur must first look to his own personal property while starting a business (Mikic et al., 2016). Even though entrepreneurs prefer to invest only other people's money to decrease risk, banks and other investors require capital investment from entrepreneurs as a statement of faith in the business. Most of their funds come from personal savings accumulated over time. Savings money can be found in current bank

accounts, savings bank accounts, or in the form of effective money. There is a positive correlation between savings and probabilities; it is a cause-and-effect relationship characterised by a high likelihood that a person will start a business venture if he or she has a large amount of savings, on the one hand, and that he or she will generate greater amounts of savings if he or she engages in business management, on the other hand (Hurst and Lusardi, 2006). Similarly, entrepreneurially active persons have a higher concentration of savings (wealth), and entrepreneurship is a major factor that influences aggregate savings (wealth), and consequently aggregate consumption (Gentry and Hubbard, 2004). Based on these arguments we formulate next hypothesis, which is as follows.

H5a Personal investment is positively correlated with business earnings.

Bank loans are the most popular type of debt financing. Such financing can be short- or long-term, and it is distinguished by the provision of collateral as payment assurance by entrepreneurs. As a result, this sort of financing is difficult to get for enterprises that are still in the early stages of their development. Banks require collateral for financing entrepreneurial projects in the early stages of development because they demand proof of effective business operations, real evidence of sustained sales, and the potential of products or services to create adequate cash flows to secure loan payback (Mikic et al., 2016). Banks look at the company's ability to create cash flows when determining the loan's requirements because the cash flow will be used to service the loan. Based on above arguments author formulate final hypothesis, which is as follows.

H5b Bank loan is negatively (less positively) correlated with business earnings.

Table 1 Business type

<i>Business type</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative</i>
Ceramic	10	8.13	8.13
Clothes	14	11.38	19.51
Corrugated iron sheet	10	8.13	27.64
Electronics	10	8.13	35.77
Flower	10	8.13	43.90
Fruits	10	8.13	52.03
Furniture	10	8.13	60.16
Parlour	10	8.13	68.29
Pharmacy	10	8.13	76.42
Restaurant	10	8.13	84.55
Telecom	10	8.13	92.68
Timber	9	7.32	100
<i>Total</i>	<i>123</i>	<i>100</i>	

3 Data and methodology

3.1 Data, sample selection and variables

Author collected the data using questionnaires from different types of Bangladeshi retailers. Author asked 350 retailers to fill up the questionnaires, but only 123 retailers responded. Author included 18 questions in the questionnaire. Authors have an unbalanced panel of 123 observations. Author firstly divided the dataset in two categories,

- 1 based on business type (see Table 1)
- 2 based on business ownership type (see Table 2).

Table 3 shows the definitions of the variables. In here author created dummy variable for all the independent variables. The dependent variable is earnings. All the monetary values are calculated using Bangladeshi Taka (BDT).

Table 2 Business ownership type

<i>Business ownership type</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative</i>
Partnership	16	13.01	13.01
Sole trader	107	86.99	100
<i>Total</i>	<i>123</i>	<i>100</i>	

Table 3 Variables definitions

<i>Variable</i>	<i>Variable meaning</i>	<i>Variable definitions</i>
<i>Dependent variable</i>		
E_{it}	Earnings	If business earnings are 11 lacks Bangladesh Taka or more then it takes value 1, 0 otherwise.
<i>Independent variables</i>		
Female	Female	If business owner is female then it takes value 1, 0 otherwise.
Age	Age	If business owner age is between 50–59 then it takes value 1, 0 otherwise.
Education	Education	If business owner has bachelor's degree and above then it takes value 1, 0 otherwise.
Experience	Experience	If business owner has 10 years or more years of experiences then it takes value 1, 0 otherwise.
$Per_inv.$	Personal investment	If business owner invests his/her personal money then it takes value 1, 0 otherwise.
Bank loan	Bank loan	If business owner takes bank loan, then it takes value 1, 0 otherwise.
<i>Control variables</i>		
Competition	Competition	If business face competition, then it takes value 1, 0 otherwise.
Employee	Employees number	If business has 3 or more than 3 employees then it takes value 1, 0 otherwise.

Table 3 Variables definitions (continued)

<i>Variable</i>	<i>Variable meaning</i>	<i>Variable definitions</i>
<i>Control variables</i>		
<i>Insu_cover</i>	Insurance cover	If business has insurance cover, then it takes value 1, 0 otherwise.
Crime	Crime	If business face crime problem, then it takes value 1, 0 otherwise.
<i>Mana_skill</i>	Management skill	If business has management skill, then it takes value 1, 0 otherwise.
<i>Political_prob</i>	Political problem	If business face political problem, then it takes value 1, 0 otherwise.
<i>Admin_prob</i>	Admin problem	If business face admin problem, then it takes value 1, 0 otherwise.
Wages	Wages payment	If business paid wages to employees monthly then it takes value 1, 0 otherwise.
<i>Fixed effect</i>		
Business type	Business type	Business type dummy

3.2 Summary of statistics

Table 4 reports the descriptive statistics of all the variables. Table 5 shows the correlation matrix of the sample. From Table 4 we can see that all of the variables minimum and maximum value is 0 and 1 respectively, because all of the variables are dummy (binary) variables. Table 4 shows that the mean value of business earnings is 0.179 and standard deviation value is 0.385. Rest of the variables standard value is more than 20%, which is very high. From Table 5 we can see that business earnings are negatively correlated with all other variables except age, but these relationships statistical are not significant. Bank loan is statistically significantly correlated with female, age and experience.

Table 4 Descriptive statistics

<i>Variables</i>	<i>Obj.</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>Min</i>	<i>Max</i>
Female	123	0.097	0.297	0	1
Age	123	0.138	0.367	0	1
Education	123	0.268	0.445	0	1
Experience	123	0.238	0.426	0	1
Personal investment	123	0.211	0.409	0	1
Bank loan	123	0.504	0.502	0	1
Initial capital	123	0.033	0.178	0	1
Present capital	123	0.049	0.216	0	1
Business earnings	123	0.179	0.385	0	1
Employee wages	123	0.862	0.347	0	1

Table 5 Correlation matrix

<i>Variables</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
1 Female	1.000									
2 Age	-0.132	1.000								
3 Education	-0.137	-0.083	1.000							
4 Experience	-0.054	0.055	0.053	1.000						
5 Personal investment	0.165	-0.034	0.091	-0.053	1.000					
6 Bank loan	-0.222*	0.209*	-0.023	0.245*	-0.124	1.000				
7 Initial capital	-0.060	0.192*	-0.008	0.006	0.017	0.090	1.000			
8 Present capital	-0.075	-0.091	-0.052	-0.037	-0.117	-0.002	-0.042	1.000		
9 Business earnings	-0.082	0.059	-0.091	-0.109	-0.138	-0.089	-0.086	-0.106	1.000	
10 Employee wages	0.132	-0.113	0.029	0.167	-0.024	-0.162	-0.192*	-0.019	0.064	1.000

Note: Level of significance: *<0.05.

3.3 Model and method

Using following model specification, I want to examine whether business ownership and different level of ownership status (age, education, experience, personal investment, and bank loan) has any relationship with business earnings.

$$\begin{aligned}
 E_{it} = & \alpha_0 + \beta_1 Female_{it} + \beta_2 Age_{it} + \beta_3 Education_{it} + \beta_4 Experience \\
 & + \beta_5 Per_inv_{it} + \beta_6 Bank_loan_{it} + \lambda_1 Competition_{it} \\
 & + \lambda_2 Employee_{it} + \lambda_3 Insu_cover_{it} + \lambda_4 Crime_{it} \\
 & + \lambda_5 Mana_skill_{it} + \lambda_6 Political_prob_{it} + \lambda_7 Admin_prob_{it} \\
 & + \lambda_8 Wages_{it} + \sum \vartheta \lambda Business_type_{dummy} + \zeta_{it}
 \end{aligned} \tag{1}$$

where subscript i represent business unit and t represent time. Business type dummy capture the business type effect. ζ_{it} is the standard error.

This research paper examines whether business ownership and different level of ownership status (age, education, experience, personal investment, and bank loan) has any relationship with business earnings using ordinary least squared (OLS) method. The model author selected in here can test in different ways, whether the model specification is good fit for the dataset or not, different methods are included:

- 1 using R -squared value
- 2 mean absolute error (MAE)
- 3 root mean squared error (RMSE).

But in this research paper author used R -squared value to test how good the model is fit for the dataset. As we know that a linear regression model's R -squared is a measure of how well it 'fits' a dataset. R -squared, also known as the coefficient of determination, is the fraction of the response variable's variance that can be explained by the predictor variable. R -squared might be anywhere between 0 and 1. A value of 0 indicates that the predictor variable has no effect on the responder variable. A score of 1 means that the predictor variable can properly describe the responder variable without error. In fact, you will almost never see R -squared values of 0 or 1. Instead, you will most likely come across a number between 0 and 1. In here author used R -squared value to test how good the model is for the dataset, because in here the main objective is to predict the value of the response variable accurately using the predictor variable. In general, the higher the R -squared number, the better the predictor variables can predict the responder variable's value.

Usually how accurate model need to be determined how high an R -squared value should be. For example, in scientific investigations, a regression model's R -squared may need to be more than 0.95 to be regarded credible. If the dataset is extremely variable, an R -squared of merely 0.3 may be sufficient in other fields. If we look at the previous literature in this area of research, where researchers used primary data most of their R -squared value is around 30%–40% range (see Mikic et al., 2016; Judd, 2015; Rana et al., 2014). Table 6 documented the main results. Table 6 has eight different models, using which author prove the all six hypotheses. From Table 6 we can see that all the eight model specifications R -squared value is between 32%–39%. So based on that author can tell that the models are robust.

Table 6 OLS regression results

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Constant	0.49496** (0.32182)	0.44125** (0.32286)	0.47624** (0.32584)	0.46679** (0.32399)	0.48072** (0.32832)	0.51286** (0.33044)	0.03549** (0.12713)	0.50363** (0.32721)
Female	-0.49142** (0.26911)						-0.50294** (0.27065)	-0.49619** (0.26874)
Age		0.15814* (0.09385)					0.16630** (0.09532)	0.16884* (0.09439)
Education			0.05889* (0.07629)				0.04699* (0.07582)	0.05332* (0.07594)
Experience				0.10549* (0.07918)			0.06732* (0.07806)	0.09201* (0.07946)
Personal investment					0.02591** (0.10402)		0.06157** (0.09923)	0.00618** (0.10276)
Bank loan						-0.05856*** (0.07936)	-0.06121** (0.07693)	-0.06001** (0.07973)
Competition	0.10479* (0.07857)	0.11708* (0.07854)	0.11336* (0.07944)	0.12462* (0.07922)	0.11117* (0.08157)	0.10736* (0.08018)		0.10249* (0.08155)
Employee number	-0.20975 (0.14348)	-0.23896* (0.14390)	-0.21877* (0.14529)	-0.20348* (0.14513)	-0.22338* (0.14554)	-0.20916* (0.14651)		-0.18919* (0.14502)
Insurance cover	-0.04231* (0.07305)	-0.03837* (0.07318)	-0.04402* (0.07442)	-0.03907* (0.07356)	-0.03969* (0.07459)	-0.05097* (0.07614)		-0.06405* (0.07582)
Crime	-0.19674 (0.25313)	-0.20336 (0.25381)	-0.18318 (0.25668)	-0.18404 (0.25506)	-0.18971 (0.25723)	-0.18891 (0.25653)		-0.19164 (0.25262)

Notes: Level of significance: * < 0.10, ** < 0.05 and *** < 0.01; standard errors are in parenthesis.

Table 6 OLS regression results (continued)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Management skill	0.23245** (0.11052)	0.22531*** (0.11075)	0.23155*** (0.11208)	0.24366** (0.11199)	0.22383** (0.25723)	0.22775** (0.11197)		0.24876** (0.11181)
Political problem	0.08631* (0.09534)	0.06750* (0.09577)	0.07454* (0.09675)	0.08456* (0.09605)	0.07777* (0.09707)	0.08421* (0.09674)		0.07724* (0.09580)
Administration problem	0.01038 (0.11099)	0.02106 (0.11115)	0.02383 (0.11250)	0.04734 (0.11368)	0.01416 (0.11446)	0.01601 (0.11245)		0.03641 (0.11493)
Wages	0.20975* (1.13322)	0.19939* (1.24151)	0.11251* (0.24696)	0.17813* (0.27282)	0.21285* (0.24117)	0.20703* (0.23904)		0.19177* (0.26458)
Business type effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	34.96%	34.65%	33.24%	33.99%	32.89%	33.21%	32.40%	38.62%
N	123	123	123	123	123	123	123	123

Notes: Level of significance: * <0.10 , ** <0.05 and *** <0.01 ; standard errors are in parenthesis.

4 Findings and discussion

Table 6 documented results from the estimation of equation (1). This table has eight different model specifications and using this table author proved all the six hypotheses. From model 1 in Table 6 we can see that female is negatively associated (female, p -value < 0.05) with Bangladeshi retail business earnings. This result is in line with the Hypothesis 1 (H1) and with previous literature, where Bloom et al. (2011) found that female ownership increases customer satisfaction but do not increase (or reduce) business earnings.

We can see similar kind of results in model (2–4). Where the results shows that business owners age, education level and experience are positively and statistically significantly (age, education, and experience, p -value < 0.10) associated with business earnings. It means that if the business owner has more age, then it always helps business to earn more money. Also, from the results we can observe that if business owner has bachelor's or more higher-level degree then it is positively help business to earn more money. Because using their educational knowledge business owners can figure out innovative ways and techniques to improve his/her businesses and, which helps to increase earnings. Smartly we can see same results when business owners have more experience. These results are consistent with the hypotheses (H2, H3 and H4) and previous literature (see Judd, 2015).

In Table 6, in models 5 and 6 the results shows that personal investment is positively, and bank loan is negatively associated with Bangladeshi retail business earnings. These results are consistent with the hypotheses (H5a and H5b) and previous literature (see Mikic et al., 2016). In model 7, when author runs the regression only using the 6 main independent variables, excluding the control variables, the results shows that all the independent variables are statistically significantly associated with business earnings. We can see similar kind of results when author runs the regression using all the variables (including control variables). These results are telling us that business ownership and different level of ownership status (age, education, experience, personal investment, and bank loan) has significant relationship with business earnings.

Control variable competition shows positive and significant results across the all-model specifications, these results mean when there are more competitions, business earnings are more. Which is true, because when competition increases, businesses will implement new business strategies and techniques, which the helps business to earn more money. We can see similar positive and statistically significant results for management skills, political problems, admin problem and wages. Insurance cover shows the negative and statistically significant results across all models, these results mean if business has insurance cover, then business will have more earnings. Because insurance cover helps businesses to get some compensation against their unwanted damages.

4.1 GMM estimation

Author extended the robustness test using GMM estimation (see Hasan et al., 2022). In Table 7, there are two different model specifications, in the first model specifications author only included the main independent variables and in the second model specifications author included the control variables as well. In both model specifications the results show that business ownership and different level of ownership status (age,

education, experience, personal investment, and bank loan) has significant relationship with business earnings. These results are consistent with the previous results.

Table 7 GMM estimation results

<i>Variable</i>	<i>Model 1</i>	<i>Model 2</i>
Constant	0.29206*** (0.06833)	0.79189** (0.43821)
Female	-0.12215** (0.09066)	-0.10065** (0.09179)
Age	0.07203* (0.11195)	0.10321* (0.10119)
Education	0.07322* (0.06807)	0.07043* (0.06585)
Experience	0.08245** (0.07183)	0.11077** (0.06776)
Personal investment	0.12364* (0.06522)	0.03357* (0.07437)
Bank loan	-0.09131** (0.07588)	-0.08234** (0.07437)
Competition		0.01762 (0.07321)
Employee number		-0.17747** (0.07276)
Insurance cover		-0.06667* (0.07712)
Crime		-0.22869* (0.40185)
Management skill		0.30007** (0.12609)
Political problem		0.10239* (0.08413)
Administration problem		0.11724 (0.09761)
Wages		0.30856* (0.07407)
Business type effect	Yes	Yes
N	123	123

Notes: Level of significance: * <0.10 , ** <0.05 and *** <0.01 ; standard errors are in parenthesis.

5 Conclusions

This research paper examines whether business ownership and different level of ownership status (age, education, experience, personal investment, and bank loan) has any relationship with Bangladeshi retail business earnings. In here author reassess previous evidence that small business (retail) ownership and different level of ownership status (age, education, experience, personal investment, and bank loan) has significant relationship with business earnings. More specifically author examine whether female or male business ownership, business owners age, education level, experience, personal investment, and bank loan has any direct relationship with business earnings.

The results show that Female business ownership is negatively related with Bangladeshi retail business earnings, and we can see similar kind of relationship when business use bank loan rather than own personal investments. But when owner use own personal money as investment then business earnings higher (positive). We can see similar kind of positive and statistically significant results for business owners age, education level and experience. Based on these findings I can conclude the paper by saying this that business ownership and different level of ownership status (age,

education, experience, personal investment, and bank loan) has statistically significant relationship with Bangladeshi retail business earnings.

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