



Original Article

Impact of COVID-19 on Small Business Households: A Case Study of Thanh Hoa and Tuyen Quang Provinces, Vietnam

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Abstract: This study aims to assess the impact of COVID-19 on the business activities of 196 small business households, and their adaptation strategies to cope with those impacts in Thanh Hoa and Tuyen Quang provinces of Vietnam. By utilizing descriptive statistics and OLS regression, this study's results show that all targeted business owners believe that COVID-19 had changed customer demands and reduced their supply input significantly. Our study findings also revealed that due to COVID-19, households' living expenditure, transportation costs and input costs were significantly increased and led to a reduction in the number of customers. Households in the study area showed their willingness to apply the adaptation strategies to change their business products or business methods. Further, adaptation measures such as increasing advertising or improving sales skills were reported to be less attractive to the participation of households in the context of increasing waves of the recent pandemic. Significant factors that affected households' income were the type of businesses (including food and beverage businesses, grocery businesses, fashion and cosmetic businesses, technology products businesses and entertainment and beauty services businesses), the age of the business owner, the decrease in the supply of input goods, increased transportation costs and the reduced number of other purchases. Some policy recommendations are suggested such as giving priority to vaccination for sellers and freight carriers, creating a mechanism for smooth transportation of goods between localities, tax reduction or exemption during the closure because of the state policies including lock downs, social distancing, and to support business owners in the form of a subsidy or to provide them with a platform for online business that might be more suitable in the current situation.

Keywords: COVID-19, business owners, households' perception, adaptation measures, income.

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1. Introduction

There have been several unexpected shocks of unprecedented events since the outbreak of the novel corona virus (COVID-19) emerged in Wuhan China and spread to the rest of the world in 2020. Despite efforts by countries to control the spread of the pandemic, globally, there have been nearly 218 million infections and more than 4.5 million deaths by COVID-19 occurring since the start of the pandemic until September 2021¹. Since the first case of corona virus was noticed in Vietnam in January 2020, the authorities in Vietnam have taken many timely actions to prevent the spread and to control the infection in the community by taking a series measures such as testing, tracing, isolation activities and implementation of social distancing.

Experiencing around three pandemic (COVID-19) outbreaks from early 2020 to early 2021, Vietnam is recognized as one of the countries that has succeeded in epidemic prevention and control. In the context of Covid affecting all aspects of the socio-economic development, Vietnam was one of the few countries in the world with a positive economic growth rate at 2.91% in 2020 [1, 2]. The Government has been implementing numerous policies to support businesses and the population affected by this pandemic, such as implementing monetary support packages (about 300,000 billion VND), fiscal support packages (about 180,000 billion VND), social security support packages (over 62,000 billion dong), electricity price support packages (about 12,000 billion dong), telecommunications price support packages (about 15,000 billion dong) and about 20,000 billion VND worth of exemptions for taxes, fees and charges for businesses [3]. However, Vietnam is also facing numerous risks and challenges in an uncertain world economic environment. The re-emergence of COVID-19 in many countries, accompanied by blockade measures, has prolonged the disruption of supply

chains in 2021, which has weakened the endurance of businesses, and has also created geopolitical conflicts among major countries which can expose a large open economy like that of Vietnam to unexpected risks [4, 5]. Moreover, the weakness of Vietnam's economy also comes from internal risks such as a large fiscal imbalance, slow speed and level of development investment (especially in infrastructure), low management efficiency, the vulnerability of the banking-financial system, the heavy dependence of growth on the FDI, lack of autonomy in technology and raw materials, low labor quality and slow improvement, and low public investment efficiency [2, 6, 7].

Economic figures for the first half of 2021 show that Vietnam's economy in general still has a certain growth, yet the economic losses in the field of small-scale businesses and household businesses which are sectors of the informal economy, have suffered are due to the negative effects of the 4th COVID-19 outbreak. There are more than 85,000 enterprises temporarily suspending business or waiting for dissolution as of August 2021². There have been thousands of individual households businesses that have had to temporarily stop their businesses or conducted business in moderation [8, 9].

A household business is a business model that is owned by an individual or a household. The owner has the right to register the business nationwide [10, 11]. The household business is a very popular small-scale business model in Vietnam due to its advantages, such as not requiring much capital, being easy to manage, with simple establishment procedures, and with simplicity in tax declaration and accounting [8]. Household businesses play a very important role in the country's economy. This is demonstrated by the creation of jobs and the solving of social problems. Moreover, household businesses are a factor in promoting entrepreneurship and developing the market economy. In other words, household businesses contribute to the creation

¹ WHO Coronavirus (COVID-19) Dashboard.
<https://covid19.who.int/>

² National business registration portal.
<https://dangkykinhdoanh.gov.vn/en/Pages/default.aspx>

of material wealth, goods and services for society which directly contribute to economic growth [8].

Fairlie [12] points out that the existence and development of a trading business depends on many factors related to the business environment or the market. Therefore, the impact of COVID-19 on small household businesses can be very severe. The decrease in revenue during the epidemic period and with many business households forced to close during the period of social isolation are the first negative effects that can be seen [6, 13]. However, the impacts of COVID-19 on household businesses and small businesses have mostly not been specifically determined because of the lack of data provided and the short duration of the impact. Therefore, a comprehensive assessment and analysis of the effects of the COVID-19 pandemic on household businesses is required. This is the basis for proposing recommendations to the government to help retail business households overcome difficulties and promote growth again. In addition, clearly recognizing the challenges and opportunities of retail business households in the coming time is the basis for building appropriate business strategies.

This study contributes to solving the above goals by analyzing the data set collected from the actual survey on how COVID-19 has impacted business households and which adaptation measures they are practicing in this uncertain situation. Further, we explore the households' perception of the impact of COVID-19 on household businesses, their responses to these impacts as well as identifying the determinants of their response behavior to the impact of COVID-19. Recommendations that are derived from the analysis of research results are the basis for policymakers and local authorities to find appropriate solutions to support small business households to overcome the current shock and adapt to COVID-19 in the long run.

2. Data and analytical methods

2.1. Data

The primary data were collected from 196 household businesses by utilizing a Google forms questionnaire in Thanh Hoa and Tuyen Quang provinces in Vietnam. Thanh Hoa is the province considered to have the 39th³ highest infection rate in the country, while Tuyen Quang is one of the three provinces with the lowest infection rate. Selecting areas with low and moderate numbers of COVID-19 cases provides a more comprehensive assessment of the impact of COVID-19 and ensures objectivity in the selection of strategies for the impact of COVID-19.

2.2. Analytical methods

To generalize the perception of small business households about the impact of COVID-19 on their business activities and their countermeasures, this study applied descriptive and comparative statistical methods to explore the study objectives. To analyze the factors affecting the decrease in household income due to the appearance of COVID-19, this study uses an ordinary least squares model which was applied by Morgan and Trinh [14] as follows:

$$Decline_i = \alpha_0 + \alpha_1 Type_i + \alpha_2 HH_i + \alpha_3 Covid_i + \varepsilon_i$$

The dependent variable $Decline_i$ denotes the difference between the average monthly income of the household before COVID-19 outbreak and during the period of COVID-19. Independent variables include: $Type_i$ are dummy variables showing the type of products that the household is trading. This variable is classified into five groups of items namely: 1. Food and beverage businesses, 2. Grocery businesses, 3. Fashion and cosmetic businesses, 4. Technology products businesses and 5. Entertainment and beauty services businesses. Therefore, we have five dummy variables as above (i.e. food and beverage businesses, grocery businesses, fashion and cosmetic businesses, technology products

³ COVID-19 Pandemic Portal of the Ministry of Health. <https://covid19.gov.vn/>

businesses, entertainment and beauty services businesses). This variable takes the value 0 if the household is not trading in this item and takes the value 1 if the household is trading in that item.

HH_i variables are variables representing the characteristics of the household business such as number of employees, gender, age, education of the household head, and location of the household. $Covid_i$ are variables showing the

impact of COVID-19 on household businesses, including: the impact of increasing household spending, reduction in customer demand, increase input costs, reduction of input supply, increased shipping costs and reduction in the number of customers. These variables are evaluated on a 5-level Likert scale.

The variables of the model are explained in detail in Table 1.

Table 1: Definition and descriptive statistic variable

Variables	Definition	Mean	Std.Dev	Min	Max
Type					
Food	Food and beverage business	0,245	0,431	0	1
Grocery	Grocery business	0,235	0,425	0	1
Fashion	Fashion and cosmetics business	0,214	0,411	0	1
Services	Entertainment and beauty services business	0,219	0,415	0	1
Industrial	Industrial and technology goods business	0,102	0,303	0	1
Characteristics of the household business					
Labor	Number of people in the household engaged in business	1,750	0,813	1	5
Gender	Gender of business owner	1,546	0,499	1	2
Age	Age of business owner	36,030	9,683	19	59
Edu	Edu of business owner	2,811	0,928	1	4
TH	Living in Thanh Hoa	0,495	0,501	0	1
TQ	Living in Tuyen Quang	0,505	0,501	0	1
Impact of COVID-19					
Spending	Impact of Covid 19 on household spending decrease	4,071	0,897	1	5
Demand	Impact of Covid 19 on customer demand	4,229	0,885	1	5
Cost	Impact of Covid 19 on input costs increase	4,061	0,990	1	5
Supply	Impact of Covid 19 on input supply increase	3,974	1,028	1	5
Shipping	Impact of Covid 19 on shipping costs increase	3,786	1,079	1	5
Customers	Impact of Covid 19 on the number of customers decrease	3,224	0,771	1	5

Source: The data is calculated from the survey data.

3. Results and discussion

3.1. Perceptions of small business households on the impact of COVID-19

Figure 1 shows the perception of business householders about the impact of COVID-19 on their businesses. All business owners believe that COVID-19 is changing customers demand and reducing input supply significantly. Besides, the

households' living expenditure also changed but not significantly according to the increasing trend. This can be explained by the sudden increase in household expenditures during the COVID-19 period such as spending more on health care products, cleaning products, medical supplies, and protective gear. In addition, the cost of electricity and water for households during this time also increased due to the fact that members have had to stay at home longer to implement social distancing.

Furthermore, households also have had to pay more for food storage. COVID-19 has also made transportation costs and input costs increase

significantly. In contrast, the number of customers has reduced due to policies on travel restrictions and social distancing.

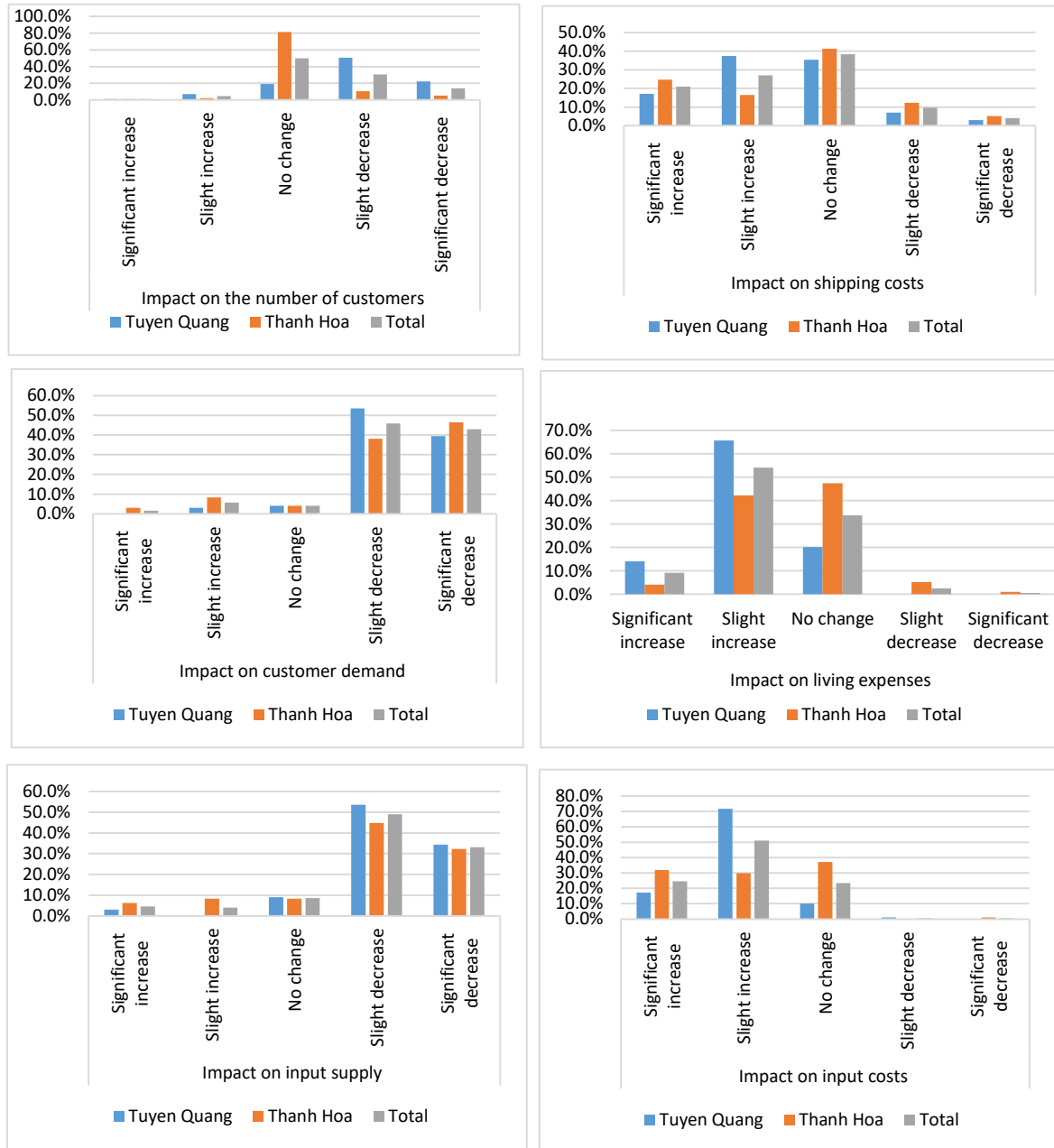


Figure 1: Perceptions of household about the impact of COVID-19 on business activities
 Source: The figures are calculated from the survey data.

3.2. Impact of COVID-19 on income of small business households

The impact of COVID-19 on the income of small business households is shown in Tables 02 and 03. From Table 2, it can be seen that

approximately half the households' incomes (49.49%) have been reduced by 30% to 60% compared to that before COVID-19. The proportion of households in Tuyen Quang that had their incomes reduced by at least 60% is greater than in Thanh Hoa.

Table 2: Change of average monthly income of households before and during COVID-19 by study area

Change of average monthly income	Percentage of households (%)		
	Tuyen Quang	Thanh Hoa	Total
Changeless	2.0	0.0	1.02
Increase	1.0	6.2	3.57
Less than 30% loss	8.1	17.5	12.76
From 30% to 60% loss	48.5	50.5	49.49
From 60% to 80% loss	30.3	16.5	23.47
More than 80% loss	10.1	9.3	9.69

Source: The data is calculated from the survey data.

Table 3: Change of average monthly income of households before and during COVID-19 by business product groups

	Percentage of households (%)				
	Food and beverage business	Grocery business	Fashion and cosmetics business	Industrial and technology goods business	Entertainment and beauty services business
Change-less	-	2.56	2.50	-	-
Increase	-	12.82	-	6.25	-
Less than 30% loss	2.63	12.82	20.00	6.25	19.15
From 30% to 60% loss	44.74	43.59	50.00	62.50	48.94
From 60% to 80% loss	23.68	17.95	22.50	21.88	29.79
More than 80% loss	28.95	10.26	5.00	3.13	2.13

Source: The data is calculated from the survey data.

The data in Table 3 shows that among the groups of households, the highest percentage of households whose average monthly income has decreased by more than 80% are the food business households. The next group of households with this rate of more than 80% loss are the households doing grocery business, at 10.26% of the total number of households. Households with an increase in average income during Covid-19 are those in the grocery business group and the technology and industrial product business group with the proportion of households being 12.8% and 6.25%

respectively. The results of this study are in contrast to some recent studies by Davis [15], Hoseini and Valizadeh [16] which have found that the tourism and semi-durables' businesses like clothing are the sectors hit the hardest; meanwhile non-durables, that would include food and beverages, were affected the least. Our results support the prediction of Campos-Vazquez and Esquivel [17] that mobility restrictions will have larger impacts on consumption in less developed countries and lead to large declines in food services.

3.2. Behaviors to cope with the impact of COVID-19

To cope with the impact of COVID-19, households have chosen to combine methods of coping which are divided into 5 strategic groups:

- (1) Transformation of business products,
- (2) Transformation of business methods,
- (3) Finding new input resources and output markets;
- (4) Strengthening advertising;
- (5) Improve management and sales skills;
- (6) Giving up trading business.

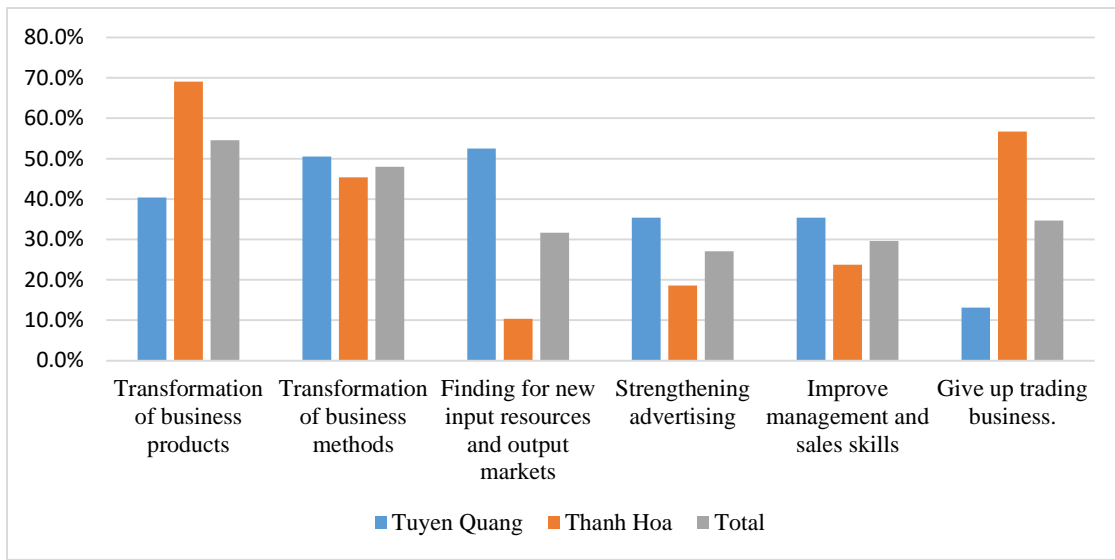


Figure 2: Behaviors to cope with the impact of COVID-19 of households by study area
 Source: The data is calculated from the survey data.

There is a difference in the response of business households between the two study areas. The data of Figure 2 shows that the majority of household businesses in Thanh Hoa to cope have applied switching business items. Nearly half of the business households have carried out a transformation of business methods. Finding new input and output markets and transforming business methods are two strategies that have been prioritized by business households in Thanh Hoa. More than 50% of households in Thanh Hoa have chosen to give up their business, but only a little more than 10% of households in Tuyen Quang have implemented this strategy. And this is also the strategy that has been least applied by households in Tuyen Quang. In general, households in both study areas have preferred to apply strategies to change business products or business methods. Adaptation measures such as increasing

advertising or improving sales skills are less attractive for the participation of households in the context of increasingly serious COVID-19.

The choice of strategies of households that trade in different products to cope with the impact of COVID-19 are distinguishable from one another. Food and beverage business households tend to give up the business more than households trading other products. Meanwhile, the conversion of business items carried out by fashion or cosmetic business households is the largest. It is remarkable that households dealing in technology and industrial products tend to apply the strategy of finding new markets and improving the qualifications and skills of sellers. COVID-19 is altering households' investment portfolios due to a shift in their risk behavior. Lost confidence in the economy can lead to a decrease in total investment [18].

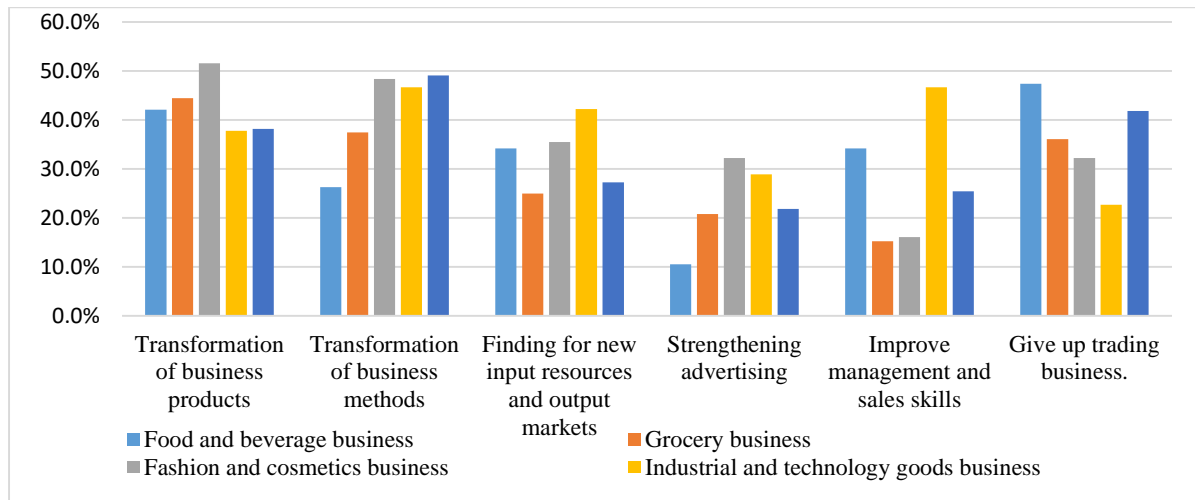


Figure 3: Behavior of households to cope with the impact of COVID-19 by business sector

Source: The data is calculated from the survey data.

3.3. Factors of reduced income due to COVID-19

The results of the regression of the determinants of reduced income due to COVID-19 in the study area are shown in Table 4. A variance inflation factor (VIF) provides a

measure of multicollinearity among the independent variables in a multiple regression model. The results show that the value of VIF ranges from 1.07 to 2.12; the mean VIF is 1.52. This indicates that there is no multicollinearity between the independent variables.

Table 4: Regression results of determinants of reduced income due to the COVID-19 pandemic

	Variables	Coefficient	Std.Err	VIF
1	Food	- 12.678***	2.409	1.78
2	Grocery	- 16.381***	2.600	2.04
3	Fashion	- 10.898***	2.477	1.74
4	Industrial	-9.450***	3.124	1.51
				1.19
5	Gender	- 1.795	1.618	1.09
6	Age	- 0,198**	0.0838	1.10
7	Edu	0.156	0.909	
8	TH	4.008.736**	1.978	1.64
9	Spending	1.066	1.315	1.37
10	Demand	0.698	1.286	2.02
11	Cost	- 2.123*	1.140	1.18
12	Supply	-1.970*	1.123	2.12
13	Shipping	- 2.443***	0.760	1.07
14	Customers	3.443***	1.096	1.37
	Constant	12.876		
	R-squared	0,379		
	Mean VIF			1.52

Source: The data is calculated from the survey data.

The results show that COVID-19 negatively affects all household businesses in all types of business. The magnitude of coefficients shows that the income of grocery and food and beverage business households has been reduced the most when compared to other business households with coefficients of 16.38 and 12.68, respectively. Next, the income of households trading in fashion and beauty cosmetics, and industrial products also decreased with coefficients of 10.89 and 9.45, respectively. This phenomenon can be explained by the fact that groceries are fundamental items for people's lives; therefore, they are necessary items that must be purchased every day. Therefore, when the government implements social distancing, although grocery stores are not closed, the number of buyers is still less than usual. During the social distancing period, restaurants are only allowed to sell take-out goods, so the income of these households is also significantly reduced.

The education level of the small business owner was found to be positively related to the likelihood of income reduction due to Covid-19. Our results confirmed the study of Morgan and Trinh [14] about relationship between education and the likelihood of income reduction due to COVID-19. Despite being insignificant, the sign of this coefficient depicted that households with educated business owners are less likely to experience a reduction in income due to COVID-19. Therefore, improving the qualifications of household business owners may be a viable solution to improve the adaptive capacity of business households to such shocks.

In our study, gender has a negative effect on the amount of income reduction. This means that the income of households that are male-headed businesses will have less reduction in income than households businesses that are female-headed. Although this factor is not statistically significant, it can be seen in this study that male business owners are better able to manage their businesses than women in the context of COVID-19. The age of the household head in this study was found to have a negative and

statistically significant impact on the reduction of household income with a coefficient of 0.212. In other words, younger business owners are likely to change their business response practices with a negative impact of COVID-19 more quickly than others. This is opposite to the finding of Morgan and Trinh [14] that the likelihood of a reduction in income is lower for households whose heads are over 50 years old.

The decrease in the supply of input goods and the increase in transportation are the factors that have a negative and statistically significant impact on the decline in income of household businesses which the coefficient of impact being -1,970 and -2,177 respectively. Disruptions in the supply chains of products, especially for agricultural products, are the cause of the scarcity of inputs, which drives up input prices. In addition, due to government travel restrictions, transportation and circulation have become difficult during social distancing. This is the cause that pushes up the cost of transporting goods and leads to a decrease in household income from business. Government policies such as granting permits to transport goods between localities, vaccinating transport operators to support the movement of goods and ensuring the normal operation of supply chains are a necessity. Besides, the management of the movement of the shipper to ensure epidemiological control is indispensable to achieve the dual goals of economic development and disease control. The factor of the reduced number of customers has a positive and statistically significant effect on the reduced income of business households with a coefficient of 3.698. Worry and fear of being infected is the reason why customers limit going to crowded places and leave home less. This is the cause of the decrease in the number of customers during the lockdown. Vaccination is a measure to protect the health of customers, thereby reducing customers' apprehensions when coming to buy goods. In our model, the impact of the household expenditure variable on the decrease in household income is not statistically significant. But the sign of this coefficient shows that the

increase in household expenditure has the same direction as the decrease in income.

4. Conclusion

The first estimate of the COVID-19 impacts on small business households (based on the three-month April-June survey data for 2021) have pointed out that the households most affected by Covid-19 are entertainment service business households, followed by grocery business households. In addition are factors such as the type of business goods, the age of the business owner, the negative effects of COVID-19 on the decrease in the supply of input goods. The impact of COVID-19 such as increasing transportation costs and reducing the number of other purchases are statistically significant factors for the decrease in income of small business households. Changing business items and changing business methods are the adaptive methods chosen by many households. Besides, nearly 60% of business households in Thanh Hoa have chosen to give up their business. Small businesses households are an important point in the supply chain. Ensuring normal business operations for small businesses is essential to maintaining a smooth and relatively stable economy during the COVID-19 social distancing period. If a small business household stops operating for a long time, it can seriously affect the local economy, destabilizing the lives of people in the area, and may lead to instability in security and society. Therefore, the government needs to have policies to support households that can survive and overcome difficulties during the pandemic to maintain the operation of these business households.

The recommended support policies are: giving priority to vaccinations for sellers and freight carriers, creating a mechanism for the institute to smoothly transport goods between localities, tax reduction or exemption during the closure to implement social distancing, and supporting business households to transition to a more suitable new business form such as

e-commerce. In addition, extensive and in-depth research on the factors affecting the decision of business households to adapt to the impact of COVID-19 needs to be quickly conducted in order to make informed decisions timely and in line with reality solutions.

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