

CRISIS MITIGATION STRATEGIES AND THE
ROLE OF GOVERNMENT HELP:
EVIDENCE FROM FIRM-LEVEL COVID-19
SURVEYS

by

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Kyiv School of Economics

Abstract

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This study investigates the actions taken by Polish and Albanian firms to mitigate crisis consequences and the role of government help in the strategy implementation for employment, liquidity, and changes in business activity using the first wave of COVID-19 focused Enterprise Surveys conducted by the World Bank in 2020.

Results suggest that government help, both received and expected, affects the decision of implementing a strategy only for Polish firms. More specifically, government help appears to increase the probability of Polish firms implementing all four crisis mitigation strategies: laying off workers, increase of remote work, business online activity increase, and covered liquidity shortages.

TABLE OF CONTENTS

Chapter 1. INTRODUCTION.....	1
Chapter 2. LITERATURE OVERVIEW	4
Chapter 3. METHODOLOGY	8
Chapter 4. DATA DESCRIPTION.....	11
Chapter 5. ESTIMATION RESULTS	18
5.1 Estimation results for laying off workers	18
5.2 Estimation results for remote work increase	20
5.3 Estimation results for business online activity increase	23
5.4 Estimation results for covered liquidity shortages	26
5.5 Limitations and drawbacks	28
Chapter 6. CONCLUSIONS.....	29
WORKS CITED	31
Appendix. Estimation results.....	34

LIST OF TABLES

<i>Number</i>	<i>Page</i>
Table 1. Independent variables and their expected effect	10
Table 2. Sector and firm activity status summary, %	12
Table 3. Overview of main dynamics in firms' activities, %	13
Table 4. Descriptive statistics.....	14
Table 5. Descriptive statistics with a country breakdown	16
Table 6. Marginal effects for probit model (dependent variable: laying off workers).....	19
Table 7. Marginal effects for probit model (dependent variable: remote work increase).....	21
Table 8. Marginal effects for probit model (dependent variable: business online activity increase).....	24
Table 9. Marginal effects for probit model (dependent variable: covered liquidity shortages).....	26
Table 10. Estimation results for probit models	34
Table 11. Estimation results for probit models with a country breakdown	35

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Chapter 1

INTRODUCTION

The COVID-19 pandemic has taken all countries heavily and unexpectedly and has led to worldwide lockdowns, which resulted in the subsequent economic crisis. Consequently, some firms shut down permanently, whereas others cut down salaries, laid off employees or increased business online activity, so their strategies focused on survival. According to Bartik et al. (2020), 43 percent of US businesses are temporarily closed, and firms have decreased their employee counts by 40 percent on average relative to January 2020. Most of these firms experienced shock caused by the rapid decrease in sales, lower accessibility of outside liquidity, and closed borders, which consequently complicated import-export processes.

One of the main factors that helped firms in the euro area to go through the pandemic more easily and contain its effects is financial help provided by the government, according to Haroutunian et al. (2021). Moreover, European firms received loan guarantees which helped firms to restore their business confidence in the short run. Nonetheless, government aid focused mostly on the small- and medium-sized firms since they were affected more severely by the pandemic than big ones.

There is a rapidly growing amount of literature on the firms' responses and adaptations in response to the COVID-19 crisis and their expectations on finance availability and need. We are interested in the crisis mitigation strategies firms implemented for liquidity, employment, and overall business activity and whether these strategies have proven to be effective. More specifically, this study aims to provide insights into two research questions. Firstly, we are interested in the role

government aid plays in the firms' decisions to implement a specific strategy. Secondly, we investigate whether other factors have similar effect on the crisis mitigation strategies both in Poland and Albania.

For this research, we have decided to focus mainly on a comparison of Poland and Albania. Even though these countries are at different stages of development – Poland is a member of the European Union, whereas Albania's entrance to the EU is only a goal – they both share a common historical background. That is why it will be captivating and informative to compare these two countries as the result may show us differences or similarities in firms' responses to the crisis. Since we have decided to focus our research on two countries, it is also important to consider the differences in government aid provided in both countries for this research.

This study uses the probit model to estimate the effect of firm characteristics such as size, sector, sales dynamic, export orientation, and government help on a particular firms' mitigation strategies implemented for employment, liquidity, and changes in business activity. For this purpose, we use COVID-19 focused Enterprise Surveys conducted by the World Bank in 2020 for Poland and Albania. This way, our study will make a valuable contribution to the literature by evaluating the probability of strategy implementation for Polish and Albanian firms.

We find that government help affects the implementation of mitigation strategies only in Polish firms. We assume that this may be the case due to the low aid and performance of the Albanian government. Data shows that the percentage of Albanian firms that received or expect to receive government help is substantially lower than in Poland. Also, results show that the government help positively affect all mitigation strategies except for laying off workers. In this case, received government help increases the probability that firms will lay off workers as a

response to the crisis. We assume that this is due to the sequence of the events - first, firms lay off workers; then apply for government help; and finally, receive it.

The rest of this study is organized as follows. In chapter 2, the literature review is presented. Chapter 3 provides a detailed discussion of the model specification and estimation process methodology, and Chapter 4 presents a data description. In Chapter 5, we introduce the estimation results. Chapter 6 summarizes key findings and proposes possible policy implications.

Chapter 2

LITERATURE OVERVIEW

The question about firms' strategies implementation after being hit by the crisis has been extensively investigated in the literature. The first group of studies we have analyzed focuses on the economic crisis of 2008-2009, its consequences, and firms' responses, the second one focuses on the same questions but concerning the crisis caused by the COVID-19 pandemic.

In the study about the consequences of the economic crisis of 2008-2009 and the actions firms took conducted by Fabiani et al. (2015), the authors discovered that firms mostly preferred to adopt strategies focused on cost reduction. Even though the most common strategy was reducing non-labor costs, firms that adjusted labor costs did so primarily by laying off temporary employees and reducing hours worked. Also, their findings sanctioned the firms' strong resistance to base wage cuts: based on their research; the firms rarely implemented such reductions except in Estonia, where almost 45 percent of the firms reduced nominal wages in response to the crisis.

Addressing the question about the specific labor mitigation strategies firms implemented, Kunovac (2015) discovered that Croatian firms cut their costs, mostly concentrating on labor cost reductions as a response to the economic crisis. The main method was a decrease in labor input, while a reduction of wages was implemented less often, although the share of workers affected by wage cuts increased thrice. Moreover, according to the study of Fadejeva and Krasnopjorovs (2015), in Latvia, firms reduced labor costs mostly by lowering base wages, the number of permanent and temporary workers, and by reducing the number of working hours per worker. The authors also stressed their attention to manufacturing and construction firms being affected most in 2008–

2009.

Furthermore, it is highly crucial to investigate the question of government help provided during the economic crisis of 2008-2009.

Investigating the actions Poland took to ease the consequences of the crisis of 2008-2009, Duszczyk (2014) reveals that it was an essential point for Poland to increase its market intervention with the help of government financing. This way, the country's real GDP growth rate had remained positive even while it had been negative among all EU members in 2009.

Considering that automobile manufacturing had been one of the most affected sectors by the crisis, Domanski et al. (2013) investigated strategies Polish firms from this sector implemented. Larger firms had not been affected that badly, so they did not take such costly actions as moving their business to other countries or locations for the sake of cheaper production.

After reviewing the literature on the economic crisis of 2008-2009, we provide a synthesis of quickly evolving COVID-19 related studies. Yet, the number of relevant studies on COVID-19 is limited due to the novelty of the issue.

Župerkienė et al. (2021) researched the crisis mitigation strategies implemented by Lithuanian firms. The authors' primary focus was a comparison of firms of different sizes, and they concluded that small- and medium-sized firms suffered more than big ones, especially those in the services sector (accommodations, tourism, etc.). Also, most of these firms increased remote work and moved their activity online.

As to the employment during the COVID-19 crisis, Shinozaki and Rao (2021) uncovered that Philippine firms started to lay off workers a month after the pandemic started. Overall, 69.4 percent of manufacturing firms had to lay off workers, whereas in the service sector – 67.3 percent of firms.

Investigating the response of Armenian firms to the crisis, Beglaryan and Shakhmuradyan (2020) discovered that small and medium firms are twice as likely to lay off their workers than big firms implying that they suffered more from the pandemic. Moreover, according to Raies and Ben Mimoun (2021), 27.6 percent of small- and 49.1 percent of medium-sized Saudi firms had to lay off workers as a response to the pandemic.

Studying the experience of Southern European firms during the pandemic, Webster et al. (2021) revealed that export-oriented and retail firms increased the share of remote work more rather than other firms. Moreover, Grover and Karplus (2021) concluded that firms which implemented mitigation measures, especially in manufacturing, are less likely to take a hard hit during the COVID-19 crisis.

Analyzing government help available during the COVID-19 crisis in firms from 60 countries, Cirera et al. (2021) concluded that receiving financial aid reduces the number of workers laid off. Moreover, the authors discovered that the main barrier for a firm to receive government help is a lack of awareness – approximately 56 percent of firms did not apply for government help due to unawareness.

According to Albert et al. (2020), credit conditions for Spanish firms have been intensifying continuously, especially in the third quarter of 2020. Moreover, considering the partial equilibrium model of the entry and growth of new businesses to determine the effectiveness of policy tools, authors found evidence on a loan subsidy reducing interest rates on debt is the most effective in the long term while a wage subsidy is more effective in fostering employment in the short term.

Finally, according to Ebeke et al. (2021), European firms were allowed to receive job retention sponsored by the government for maintaining employment by

adjusting working hours and reducing the total amount of wages paid. Intending to cover some part of liquidity shortages, the government gave firms loans at subsidized rates. Yet, the government put small and medium firms which had significant revenue losses (for example, caused by the decrease of sales) as its top priority.

Chapter 3

METHODOLOGY

In order to investigate the question of adjustments firms made post-crisis, we have decided to follow the methodology of Aga and Maimir (2020), who based their research on Sub-Saharan African countries using the same COVID-19 focused Enterprise Surveys. The authors used the OLS model for various mitigation strategies, including labor force adjustments, overall employment, and availability of external financing for covering liquidity and cash flow shortages.

Yet, since all our variables are dummies (descriptive statistics is presented in table 3), we take into consideration the variables of interest presented in the study but use the probit model due to the limitations of our data.

Implementing the method presented in the study by Adian et al. (2020), we have divided our firms by size: firms with less than 100 full- and part-time employees are considered to be small and medium firms, and large firms in the opposite case. As a result, we identified 1,096 of all firms in our dataset to be small- and medium-sized, which is 92.4 percent of the total number of firms used in the further models.

Also, we have determined whether the firm is export-oriented based on the share of direct and indirect export in the firm's sales – if the export share exceeds 30 percent, the firm will be considered export-oriented. Overall, there are 225 export-oriented firms in our dataset.

So, following the formal specification of Probit model by Wooldridge (2015), the model can be specified as follows:

$$\Pr(y_i = 1|X_{ji}) = \Phi(\beta_0 + X_{ji}\beta_j), \quad (3.1)$$

where y_i denotes different outcomes including laying-off workers, changes in remote work and business online activity, and covered liquidity and cashflow shortages for every firm $i = 1, 2, \dots, n$;

X_{ji} denotes factors $j = 1, 2, \dots, 7$ such as:

firm being small and medium sized – 1, 0 otherwise;

firm being export-oriented – 1, 0 otherwise;

retail and other services sector – 1, 0 manufacturing sector;

decrease in sales – 1, 0 otherwise;

government help received – 1, 0 otherwise;

government help is expected to be received in the next 3 months – 1, 0 otherwise;

country: Poland – 1, Albania – 0.

Additionally, as mentioned in the introduction, we are interested in comparison of Poland and Albania, specifically similarities and differences between factors that affect four mitigation strategies presented above. In order to run this comparison, we exclude the independent dummy variable ‘country’ which identifies country being Poland or Albania and run Probit models for two countries separately.

Finally, after reviewing the literature on economic crisis of 2008-2009 and crisis caused by the COVID-19 pandemic and presenting methodology, control variables and their expected effect on the explanatory variables are reflected in the Table 1.

Table 1. Independent variables and their expected effect

Variable	Laying off workers	Remote work increase	Business online activity increase	Covered liquidity shortages
Small and medium firm (<100 employees)	+	+	+	+
Export oriented		+		
Retail and other services	-	+	+	
Sales decrease	+	+	+	+
Received government help	-	-		+

Note: + denotes positive effect, - denotes negative effect, empty cell implies that no evidence was found in the literature

Chapter 4

DATA DESCRIPTION

For this study, we use the firm-level COVID-19 surveys conducted in Albania and Poland by the Enterprise Surveys, World Bank Group. They include information about the business environment, various constraints to firm performance and growth, and how the environment changed after the COVID-19 outbreak.

The original sample for Poland (first wave of surveying) consists of 1,369 observations for Polish firms, whereas the sample for Albania has only 377 observations for Albanian firms. Both samples provide firms' answers to the structural changes caused by the pandemic and their expectation about the future concerning sales, production, labor, finance, and policies.

Overall, surveys focus on the firms engaged in the following activities classified by ISIC Rev. 3.1: manufacturing (group D), construction sector (group F), services sector (groups G and H), transport, storage, and communications sector (group I) and information technology (a division of group K). Yet, these sectors are grouped as follows: manufacturing, retail, and other services.

Summary of the sectors and firms' activity at the time of surveying are presented in Table 2. It is evident from the table that around 73 percent of Polish firms are manufacturing ones in contrast to 38 percent in Albania. Therefore, it might be expected that Polish firms have been affected less than Albanian firms by the pandemic due to the crisis nature (Lu et al. 2020). As to the activity status, twice as many Albanian firms are temporarily closed, whereas approximately three times more Polish firms are temporarily closed. Additionally, we might expect a lower number of observations in our models since most of the firms answered

general questions such as sector and correct activity status whereas more specific and narrow questions were presented to the respondent selectively.

Table 2. Sector and firm activity status summary, %

		Poland	Albania
N		1005	347
Sector	Manufacturing	73,43	38,04
	Retail	8,26	20,75
	Other services	18,31	41,21
Establishment is	Open	90,75	86,46
	Temporarily closed	6,25	12,68
	Permanently closed	3	0,86

Source: author`s calculations, COVID-19 surveys, 2020

Table 3 shows a summary of firms' answers to a small fraction of more focused questions, which can provide us with a general picture of the situation in both countries.

In addition to key variables used in the further analysis, we reviewed additional firms' characteristics. we see that more Albanian firms increased their delivery or carry-out services – 26.2 percent in contrast to 22 percent of Polish firms. Moreover, we are interested in firms' credit usage which may imply the overall financial situation in firms of both countries. As to both sales and purchases on credit, they remained the same in more Polish firms (61.8 and 63.7 percent

respectively), whereas in Albania the percentage of firms where credit usage increased is higher – 21.8 and 20.3 percent whereas in Poland it is 6.2 and 5.6 percent respectively.

Table 3. Overview of main dynamics in firms' activities, %

Variable	Country	N	Percentage of firms			
			Increased	Remained the same	Decreased	Unknown
Sales over a year	Poland	975	6.2	39.9	53.7	0.2
	Albania	344	6.7	9.9	83.1	0.3
Business online activity	Poland	975	19.6	-	79.1	1.3
	Albania	344	16	-	81.1	2.9
Delivery or carry-out	Poland	975	22	-	76.7	1.3
	Albania	344	26.2	-	71.2	2.6
Liquidity or cash flow	Poland	975	3.5	50.5	44.1	1.9
	Albania	344	13.6	15.1	70.1	1.2
Sales on credit	Poland	975	6.2	61.8	27.6	4.4
	Albania	344	21.8	33.7	32.3	12.2
Purchases on credit	Poland	975	5.6	63.7	26.8	3.9
	Albania	344	20.3	38.6	29.7	11.4

Source: author's calculations, COVID-19 surveys, 2020

It is also evident from the table that the situation in Poland is more stable than in Albania. For instance, sales remained the same in 39.9 percent of the Polish firms, whereas in Albania – only in 9.9 percent. Moreover, if we consider liquidity

or cash flow, the picture is similar as well – liquidity or cash flow remained the same in 50.5 percent of Polish firms and only in 15.1 percent of Albanian firms, which may result in fewer number of firms that have managed to cover their shortages in liquidity or cash flow.

Table 4 presents detailed information about variables used in the following analysis for Albania and Poland jointly.

Table 4. Descriptive statistics

Variable	N	Mean	Min	Max	Std. Dev.
Laying-off workers	1186	0.18	0	1	0.38
Remote work increase	1186	0.21	0	1	0.41
Business online activity increase	1186	0.19	0	1	0.39
Covered liquidity shortages	1186	0.08	0	1	0.27
Small and medium firm (<100 employees)	1186	0.83	0	1	0.38
Export oriented	1186	0.19	0	1	0.39
Retail and other services	1186	0.36	0	1	0.48
Sales decreased	1186	0.61	0	1	0.49
Received government help	1186	0.56	0	1	0.50
Government help is expected in 3 months	1186	0.08	0	1	0.27
Poland	1186	0.71	0	1	0.45

Source: author`s calculations, COVID-19 surveys, 2020

It is apparent from the table that the highest share of firms, 21 percent, increased remote work among four strategies we are interested in whereas only 8 percent of firms have managed to cover liquidity shortages.

Nonetheless, this relatively small share might be explained by the limitations in financial help firms received after the pandemic started. According to KPMG (2021) report on government help provided, the Polish government reduced the interest rate for firms that suffered the most from the pandemic and require to take a loan. Also, entrepreneurs from small- and medium-sized firms received “a subsidy constituting a portion of the interest rate due to the bank corresponding to 2 percentage points”.

Moreover, according to IMF (2021) report on government actions in Albania, employees of small businesses received a one-off payment of 40 thousand ALL (approximately 390 USD). As for the firms, the government reserved 6.5 billion ALL (approximately 63 million USD) for paying the minimum salaries to small businesses that closed their activities. Also, the government provided a sovereign guarantee of 11 billion ALL (approximately 107 million USD or 0.6% of Albanian GDP) to firms to pay wages for the employees for up to 3 months with an interest rate of 2.85 percent. Finally, the Albanian government guaranteed 60 percent of the loans with a 5 percent interest rate.

Table 5 shows the difference between both countries’ main characteristics, especially government help received and expected by the firms. It is evident that Polish firms implemented more adjustments to their business activity: more firms laid-off workers, increased remote work, and business online activity. Also, it is apparent that 63 percent of Polish firms had received government help at the time of surveying in contrast to 39 percent of Albanian firms. Nonetheless, 11 percent of all Albanian firms we analyze had managed to cover liquidity and cash flow shortages whereas in Poland the figure is 7 percent.

Table 5. Descriptive statistics with a country breakdown

Variable	Poland			Albania		
	N	Mean	Std. Dev.	N	Mean	Std. Dev.
Laying-off workers	846	0.20	0.40	340	0.11	0.31
Remote work increase	846	0.25	0.43	340	0.13	0.34
Business online activity increase	846	0.21	0.40	340	0.16	0.37
Covered liquidity shortages	846	0.07	0.25	340	0.11	0.31
Small and medium firm (<100 employees)	846	0.84	0.37	340	0.80	0.40
Export oriented	846	0.17	0.38	340	0.24	0.42
Retail and other services	846	0.25	0.43	340	0.62	0.49
Sales decreased	846	0.53	0.50	340	0.83	0.37
Received government help	846	0.63	0.48	340	0.39	0.49
Government help is expected in 3 months	846	0.10	0.30	340	0.03	0.18

Source: author`s calculations, COVID-19 surveys, 2020

Moreover, considering firm characteristics, the shares of small- and medium-sized firms in the sample are similar for Poland and Albania – 84 and 80 percent respectively. As for the sector, only 25 percent of Polish firms in our sample are from the retail and other services sector in contrast to 62 percent of Albanian firms. This difference may be the explanation of why the share of export-oriented Albanian firms is higher than for Polish firms (17 and 24 percent respectively). Finally, since the retail and other services sectors suffered more from the crisis

caused by the COVID-19 pandemic, it is apparent to be a reason for the difference in firms whose sales decreased. In Poland, the share of the firms whose sales decreased equal to 53 percent, whereas in Albania this figure equals 83 percent.

Chapter 5

ESTIMATION RESULTS

Estimation in this chapter is done according to the methodology presented in Chapter 3. The first through fourth parts of the chapter discuss estimation results for the probit model for four mitigation strategies (laying off workers, increase of remote work and business online activity, and covered liquidity shortages) separately. All estimation results are shown for the full sample (including Polish and Albanian firms together) as well as for Poland and Albania separately. In the final fifth part of the chapter, we discuss the limitations and drawbacks of this study.

Since it is impossible to conclude the effect just by looking at the output of the probit model, in this chapter we present marginal effects for all regressions, estimation results for probit model analysis are presented in Appendix A.

5.1 Estimation results for laying off workers

In the first stage of the analysis, we aim to understand what factors affect the firm's decision and need to lay off workers. Table 6 presents the marginal effects of estimating equation 3.1.

Marginal effects show that the probability of firm laying off workers is lower for the small- and medium-sized firms than for larger firms by 6.9 percent. This evidence contradicts with the Beglaryan and Shakhmuradyan (2020). In our opinion, the reason for this is that small- and medium-sized firms have lower number of workers and they cannot afford to lay off workers as easily as big firms since workers at small firms often perform several important tasks for firms' activity.

Table 6. Marginal effects for probit model (dependent variable: laying off workers)

	Full sample	Poland	Albania
Small and medium firm (<100 employees)	-0.069** (0.033)	-0.085** (0.042)	-0.045 (0.052)
Export oriented	-0.002 (0.027)	0.030 (0.036)	-0.054 (0.037)
Retail and other services	-0.016 (0.023)	-0.043 (0.029)	0.013 (0.036)
Sales decreased	0.214*** (0.019)	0.264*** (0.026)	0.094*** (0.029)
Received government help	0.051** (0.024)	0.077** (0.031)	0.002 (0.035)
Government help is expected in 3 months	0.059 (0.050)	0.056 (0.060)	0.212 (0.151)
Poland	0.117*** (0.021)		
Observations	1,186	846	340

Source: author's calculations

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Furthermore, if the firm faced a decrease in sales after the start of the COVID-19 pandemic, the probability of laying off workers as a mitigation strategy increases by 21.4 percent. This factor is statistically significant for both Polish and Albanian firms. Yet, its effect is greater for the firms in Poland – a decrease

in sales is associated with a 26.4 percent increase in the probability of workers being laid off, while in Albania this figure is only 9.4 percent.

Interestingly, receiving government help from the firm does not decrease the probability of laying off workers as presented in the literature. On the contrary, the firm that received any government help is more likely to lay off workers by 5.1 percent. We assume that the reason for this divergence lays in the sequence of events. Most likely that after the pandemic started, firms faced a shock where they needed to take action (to lay off workers, in this case) immediately. Yet, firms did not receive government help right away – first, they took mitigating actions, then applied for the government help and only then, received it. As to the country breakdown, if Polish firms received government help, the probability of laying off workers increases by 7.7 percent. Since the percentage of the Albanian firms that received government help is lower than Polish firms (39 and 63 percent respectively), this may be the reason for this factor to be statistically insignificant.

Finally, the factor that controls for the country, where 1 denotes Poland, 0 – Albania, is positive and statistically significant. This result implies that Polish firms have a higher probability of laying off workers by 11.7 percent. This result is consistent with separate regressions for Poland and Albania, and it is evident that Polish firms are more likely to lay off workers as a mitigation strategy in response to the COVID-19 pandemic. We assume that this difference exists due to the fact that laid workers in Poland may receive greater government help rather than Albanian workers.

5.2 Estimation results for remote work increase

Next, we are interested in what factors affect the firms' decision to increase remote work and how these factors differ between Poland and Albania. Table 7 summarizes the marginal effects for the probit model.

Table 7. Marginal effects for probit model (dependent variable: remote work increase)

	Full sample	Poland	Albania
Small and medium firm (<100 employees)	-0.148*** (0.037)	-0.172*** (0.046)	-0.111* (0.059)
Export oriented	0.155*** (0.036)	0.225*** (0.046)	0.030 (0.053)
Retail and other services	0.040 (0.028)	0.006 (0.036)	0.078** (0.038)
Sales decreased	0.054** (0.025)	0.072** (0.031)	0.006 (0.046)
Received government help	-0.055** (0.028)	-0.057 (0.036)	-0.041 (0.037)
Government help is expected in 3 months	0.087* (0.051)	0.110* (0.061)	0.006 (0.098)
Poland	0.159*** (0.025)		
Observations	1,186	846	340

Source: author's calculations

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Firstly, if we consider the firm's characteristics such as size, firm being small- and medium-sized decreases the probability of remote work increase by 14.8 percent for the sample with both countries included. This pattern is consistent for both

Poland and Albania, where the probability of remote work increase reduces by 17.2 and 11.1 percent respectively for small- and medium-sized firms. This evidence is consistent with the literature presented in Chapter 2 and our hypothesis.

According to our hypothesis, export-oriented firms are more likely to increase remote work as one of the strategies focused on mitigating crisis consequences. With statistical significance at 1 percent for the full sample and Polish firms, the coefficients are equal to 0.155 and 0.225. This means the following, for the sample that includes firms from both Poland and Albania, the probability of remote work increase is 15.5 percent higher for export-oriented firms. For Polish firms, this increase in probability equals 22.5 percent. As to Albania, the factor is statistically insignificant.

Adding the dummy variable that holds for the sector to be retail and other services (0 – manufacturing), it is evident that it is statistically significant at a 5 percent confidence level only for Albanian firms. This implies that if the firm is functioning within the retail and other services sector, its probability of increasing remote work increases by 7.8 percent, which confirms our hypothesis. The shares of the Albanian and Polish firms in the retail and other services sector (62 and 25 percent respectively) may explain the statistical insignificance of the factor for the sample with Polish firms.

If we consider the decrease in sales, interestingly, it is statistically insignificant for the sample with Albanian firms. Nonetheless, it is significant at a 5 percent confidence level for the full sample and sample with Polish firms. Analyzing the full sample with firms from both countries, the firm, which sales decreased after the pandemic started, have a higher probability of remote work increase by 5.4 percent. Moreover, applying the same condition to Polish firms, the probability increases by 7.2 percent. Previously, we hypothesized that sales decrease should

negatively affect the probability of remote work increase. So, the hypothesis is confirmed.

Furthermore, analyzing the effect of the factor of receiving government help on the probability of increasing remote work by the firm, it is evident from the table that it is statistically significant at a 5 percent confidence level only in the full sample with a coefficient of -0.055. This result implies that if the firm received government help, the probability that this firm would increase remote work decreases by 5.5 percent, which is consistent with the literature and our hypothesis.

Additionally, we also included the dummy variable which controls for the firms expecting to receive government help in three months. Even though this factor is statistically insignificant for Albanian firms, it is significant for both the full sample and Polish firms at a 10 percent confidence level. Coefficients of 0.087 and 0.110 suggest that the probability of increasing remote work increases for the firm that expects to receive government help in three months by 8.7 percent for the full sample and 11 percent for Polish firms.

Finally, the probability of remote work increase is higher by 15.9 percent for Polish rather than Albanian firms. We presume that this is because Polish firms have more opportunities to sustain business while working remotely.

5.3 Estimation results for business online activity increase

Table 8 provides the marginal effects for the probit model with a business online activity increase as a dependent variable.

Table 8. Marginal effects for probit model (dependent variable: business online activity increase)

	Full sample	Poland	Albania
Small and medium firm (<100 employees)	-0.142*** (0.036)	-0.168*** (0.045)	-0.086 (0.061)
Export oriented	0.016 (0.031)	0.065* (0.040)	-0.066 (0.048)
Retail and other services	0.072*** (0.027)	0.052 (0.035)	0.082* (0.042)
Sales decreased	0.039 (0.024)	0.054* (0.029)	-0.027 (0.054)
Received government help	-0.010 (0.026)	0.015 (0.033)	-0.052 (0.041)
Government help is expected in 3 months	0.085* (0.051)	0.123** (0.061)	0.004 (0.108)
Poland	0.081*** (0.026)		
Observations	1,186	846	340

Source: author's calculations

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

After the literature review, we hypothesized that small- and medium-sized firms are more likely to increase business online activity as a response to the crisis caused by the COVID-19 pandemic. Yet, the marginal effect for probit models

for full sample and sample with Polish firms suggests otherwise. For the sample with both Polish and Albanian firms, if the firm is small- and medium-sized, its probability of increasing business online activity decreases by 14.2 percent. For the sample with Polish firms, the percentage equals 16.8. Therefore, we are to reject the hypothesis about the positive effect of the firm being small- and medium-sized on business online activity increase.

Regarding the other firm characteristics as being export-oriented, the coefficient is statistically significant at a 10 percent confidence level only for the sample with Polish firms. This coefficient equals 0.065 and it implies that if the firm is export-oriented, the probability of increasing business online activity increases by 6.5 percent.

Furthermore, considering the sector, it is evident from the table that coefficients are statistically significant only for a full sample and sample with Albanian firms. As a result, if the firm is in the retail and other services sector, the probability of increasing business online activity increases by 7.2 percent for the full sample and 8.2 – for the sample with Albanian firms.

Unexpectedly, the effect of the dummy variable which denotes the sales decreased is positive and statistically significant at a 10 percent confidence level while being insignificant for the full sample and sample with Albanian firms. Consequently, if sales of the Polish firms decreased, the probability that the firm will increase its business online activity increases by 5.4 percent. Therefore, we reject the hypothesis.

If we take into consideration the role of the government help in adopting this mitigation strategy, it is apparent from the table that expectations about future government help are significant. For the full sample, if the firm expects to receive government help in the next three months, the probability of increasing business

online activity increases by 8.5 percent, while for the sample with Polish firms – the probability increases by 12.3 percent.

Additionally, a firm being Polish increases the probability of increasing business online activity by 8.1 percent. In our opinion, it is caused by the differences in business online activity dynamic in Albanian and Polish firms - it increased for 19.6 percent of Polish firms, whereas for Albanian firms this figure equals 16 percent.

5.4 Estimation results for covered liquidity shortages

Table 9 provides marginal effects for the probit model in order to investigate the factors that affect whether the firm covered its liquidity shortages.

Table 9. Marginal effects for probit model (dependent variable: covered liquidity shortages)

	Full sample	Poland	Albania
Small and medium firm (<100 employees)	-0.069** (0.033)	0.013 (0.020)	-0.022 (0.049)
Export oriented	-0.002 (0.027)	-0.013 (0.019)	-0.024 (0.041)
Retail and other services	-0.016 (0.023)	-0.020 (0.016)	-0.038 (0.039)
Sales decreased	0.214*** (0.019)	0.068*** (0.017)	0.064* (0.037)

TABLE 9 - Continued

	Full sample	Poland	Albania
Received government help	0.051** (0.024)	0.040** (0.018)	0.026 (0.036)
Government help is expected in 3 months	0.059 (0.050)	0.016 (0.039)	0.010 (0.107)
Poland	0.117*** (0.021)		
Observations	1,186	846	340

Source: author's calculations

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

It is evident from the table that small- and medium-sized firms are statistically significant at a 5 percent confidence level only for the full sample. It implies that if the firm is small- and medium-sized, the probability that the firm will cover its liquidity shortages decreases by 6.9 percent. Yet, it is inconsistent with the literature and we reject our hypothesis.

Furthermore, a decrease in sales is statistically significant for all three samples (at 1 percent confidence level for full and Polish samples, at 10 percent – for Albanian sample) and is positive, so we can confirm our hypothesis. More precisely, if sales decreased for the firm from a full sample, the probability that a particular firm covers its liquidity shortages increases by 21.4 percent, for Polish firms the percentage is 6.8 percent, and for Albanian – 6.4 percent. Even though this relationship does not seem logical at first sight, we assume that once sales decreased, the firm applies for a loan or government help, which helps to cover

liquidity and cash flow shortages.

Additionally, analyzing the effect of received government help, it is statistically significant for a full sample as well as a sample with Polish firms at a 1 percent confidence level, and coefficients are equal to 0.051 and 0.040. This means the following: if the firm received government help, the probability that the liquidity shortages will be covered increases by 5.1 percent. Also, if the Polish firms received government help, the probability increases by 4 percent. The effect is consistent with the literature and we can confirm our hypothesis.

Finally, the probability of covered liquidity shortages is higher for Polish firms by 11.7 percent. We reckon that this is due to the fact that more Polish firms had received government help at the moment of surveying and therefore, were able to diminish financial losses.

5.5 Limitations and drawbacks

After the performed analysis, we have identified a small number of limitations caused by the data particularity.

Firstly, since the data is formed based on the firms' responses to general questions, responses lack precise numbers. As a result, we do not have information about workers' salaries, firms' age, and the amount of a loan received, for example. These answers would potentially provide us with a more detailed analysis.

Secondly, there were no requirements about the respondent's position in the firm. Therefore, we observed multiple responses such as 'do not know' to crucial questions because the respondent was not aware of the situation and figures from different departments.

Chapter 6

CONCLUSIONS

In this study, we investigate the role of government help in the implementation of mitigation strategies caused by the COVID-19 pandemic in Poland and Albania. In particular, we consider four crisis mitigation strategies: laying off workers; an increase of remote work; and business online activity increase; covered liquidity shortages. Additionally, we compare the factors that affect a firm's decision to implement a particular strategy between Polish and Albanian firms. For this, we use the first wave of the COVID-19 focused Enterprise Surveys conducted by the World Bank in 2020.

Due to the novelty of the problem and unusual origin of the current crisis, this study contributes to the rapidly evolving literature on COVID-19 by not only investigating the actions firms took as their response to the crisis but also considering the effect of the government help jointly with other factors.

According to the study, government help, which is received or expected to be received by the firm, influences the decision of implementing a strategy only for Polish firms. We can draw a conclusion that this factor performed to be insignificant for Albanian firms since the shares of the firms which received and expect to receive government help equal 39 percent and 3 percent respectively, whereas these shares are substantially higher (63 percent and 10 percent respectively) in Poland. Moreover, government help appears to increase the probability of Polish firms implementing all crisis mitigation strategies: laying off workers, increase of remote work, business online activity increase, and covered liquidity shortages.

As for the policy implications, the outcomes of the study might be beneficial for the government to help firms mitigate crisis consequences more easily. Firstly, in the estimation of the probability that a firm will lay off workers as a response to the crisis, it is evident that received government help increase the probability. This implies that firms lay off workers first and only then receive any government help. Hence, it would be useful to ease or speed up the process of applying for and receiving government help. Secondly, in Albania, where credit usage is substantially higher than in Poland, firms receive less government help, which may result in a higher percentage of closed firms.

Finally, considering the limitations of the dataset used in this study, it would be beneficial to consider conducting a survey that would include extended firms' characteristics such as monthly or yearly financial reports, salaries and firms' age. This way, future studies will provide more sophisticated detail and understanding of the actions firms took as a response to the COVID-19 pandemic or the reasons for these actions.

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APPENDIX

ESTIMATION RESULTS

Table 10. Estimation results for probit models

	Laying-off workers	Remote work increase	Business online activity increase	Covered liquidity shortages
Small and medium firm (<100 employees)	-0.281** (0.123)	-0.476*** (0.108)	-0.468*** (0.109)	0.007 (0.155)
Export oriented	-0.011 (0.120)	0.500*** (0.107)	0.059 (0.114)	-0.125 (0.150)
Retail and other services	-0.070 (0.106)	0.143 (0.099)	0.260*** (0.098)	-0.191 (0.129)
Sales decreased	1.067*** (0.115)	0.198** (0.093)	0.147 (0.093)	0.588*** (0.139)
Received government help	0.228** (0.109)	-0.197** (0.098)	-0.037 (0.098)	0.255* (0.130)
Government help is expected in 3 months	0.239 (0.184)	0.285* (0.156)	0.287* (0.159)	0.033 (0.248)
Poland	0.592*** (0.121)	0.651*** (0.117)	0.320*** (0.112)	-0.265** (0.135)
Constant	-2.032*** (0.182)	-1.105*** (0.155)	-0.928*** (0.153)	-1.722*** (0.216)
Observations	1,186	1,186	1,186	1,186
Log Likelihood	-485.012	-569.005	-564.856	-312.886
Akaike Inf. Crit.	986.025	1,154.010	1,145.713	641.772

Note: * p < 0.10, ** p < 0.05, *** p < 0.01

Table 11. Estimation results for probit models with a country breakdown

	Laying-off workers		Remote work increase		Business online activity increase		Covered liquidity shortages	
	Poland	Albania	Poland	Albania	Poland	Albania	Poland	Albania
Small and medium firm (<100 employees)	-0.313** (0.143)	-0.238 (0.252)	-0.507*** (0.125)	-0.473** (0.220)	-0.531*** (0.128)	-0.335 (0.219)	0.126 (0.207)	-0.119 (0.248)
Export oriented	0.119 (0.137)	-0.355 (0.273)	0.652*** (0.123)	0.141 (0.241)	0.219* (0.130)	-0.307 (0.247)	-0.129 (0.191)	-0.138 (0.250)
Retail and other services	-0.184 (0.128)	0.074 (0.212)	0.019 (0.116)	0.413* (0.215)	0.181 (0.116)	0.366* (0.199)	-0.194 (0.168)	-0.202 (0.204)
Sales decreased	1.107*** (0.121)	0.747** (0.341)	0.236** (0.102)	0.028 (0.235)	0.196* (0.104)	-0.110 (0.215)	0.616*** (0.157)	0.423 (0.299)
Received government help	0.326** (0.137)	0.013 (0.199)	-0.185 (0.115)	-0.209 (0.196)	0.056 (0.120)	-0.229 (0.184)	0.385** (0.191)	0.142 (0.193)
Government help is expected in 3 months	0.210 (0.209)	0.811* (0.443)	0.329* (0.171)	0.031 (0.472)	0.392** (0.177)	0.016 (0.455)	0.126 (0.297)	0.052 (0.556)
Constant	-1.506*** (0.178)	-1.719*** (0.403)	-0.464*** (0.142)	-1.031*** (0.310)	-0.664*** (0.146)	-0.741** (0.292)	-2.213*** (0.263)	-1.414*** (0.365)
Observations	846	340	846	340	846	340	846	340
Log Likelihood	-366.946	-111.721	-437.429	-125.421	-413.811	-144.313	-196.994	-114.789
Akaike Inf. Crit.	747.892	237.443	888.858	264.843	841.622	302.626	407.989	243.579

Source: author's calculations

Note: * p < 0.10, ** p < 0.05, *** p < 0.01