

# IMPACT OF THE COVID-19 CRISIS ON FIRMS

FINDINGS FROM THE ENTERPRISE SURVEY  
FOLLOW-UP IN GEORGIA AND ARMENIA



**SUMMER UNIVERSITY**  
July 10, 2020

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# ENTERPRISE SURVEYS

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## Context and Methodology

# Background on Enterprise Surveys

- **Objectives**

1. To obtain an overall description of the business environment in a country, which is comparable across the world.
2. To obtain basic financial information that allows measuring the effect of the environment on selected quantitative variables (productivity, performance, access to credit, growth, employment).

- **Coverage**

- Standard Enterprise Surveys administered to over **165,000** firms in **144** countries.

- **Standard Methodology**

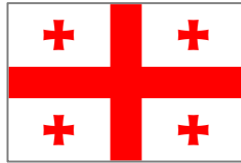
- Representative sample of the non-agricultural, non-extractive formal private economy.
- Survey results are comparable across countries.
- Stratification by three dimensions.
  - Sector
  - Firm Size
  - Geographic Location

- The **Enterprise Surveys in Armenia and Georgia** were part of a larger joint project with EBRD and EIB in 43 economies in ECA and MENA.

- The Armenia and Georgia projects were expanded through cooperation between **DEC** and **POV** to include a module on Micro firms.

# Baseline Survey Details

## Georgia



- Fieldwork Period: **March - December 2019**
- Sample Size: **701** interviews
- Coverage: Entire country in 4 regions
- Size Categories:
  - Micro (1-4)
  - Small (5-19)
  - Medium (20-99)
  - Large (100+)
- Universe Source: GeoStat

## Armenia



- Fieldwork Period: **December 2019 - Ongoing**
- Sample Size (Target): **700** interviews
- Coverage:
  - Yerevan
  - Gyumri
  - Vanadzor
- Size Categories:
  - Micro (1-4) **COMPLETED**
  - Small (5-19)
  - Medium (20-99)
  - Large (100+)
- Universe Source: Statistical Committee of Republic of Armenia
  - Sampling Frame self-constructed through block enumeration

# Sectoral Coverage

## **ISIC Rev.3.1**

**A** - Agriculture, hunting and forestry

**B** - Fishing

**C** - Mining and quarrying

**D** - Manufacturing

**E** - Electricity, gas and water supply

**F** - Construction

**G** - Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods

**H** - Hotels and restaurants

**I** - Transport, storage and communications

**J** - Financial intermediation

**K** - Real estate, renting and business activities

**L** - Public administration and defense; compulsory social security

**M** - Education

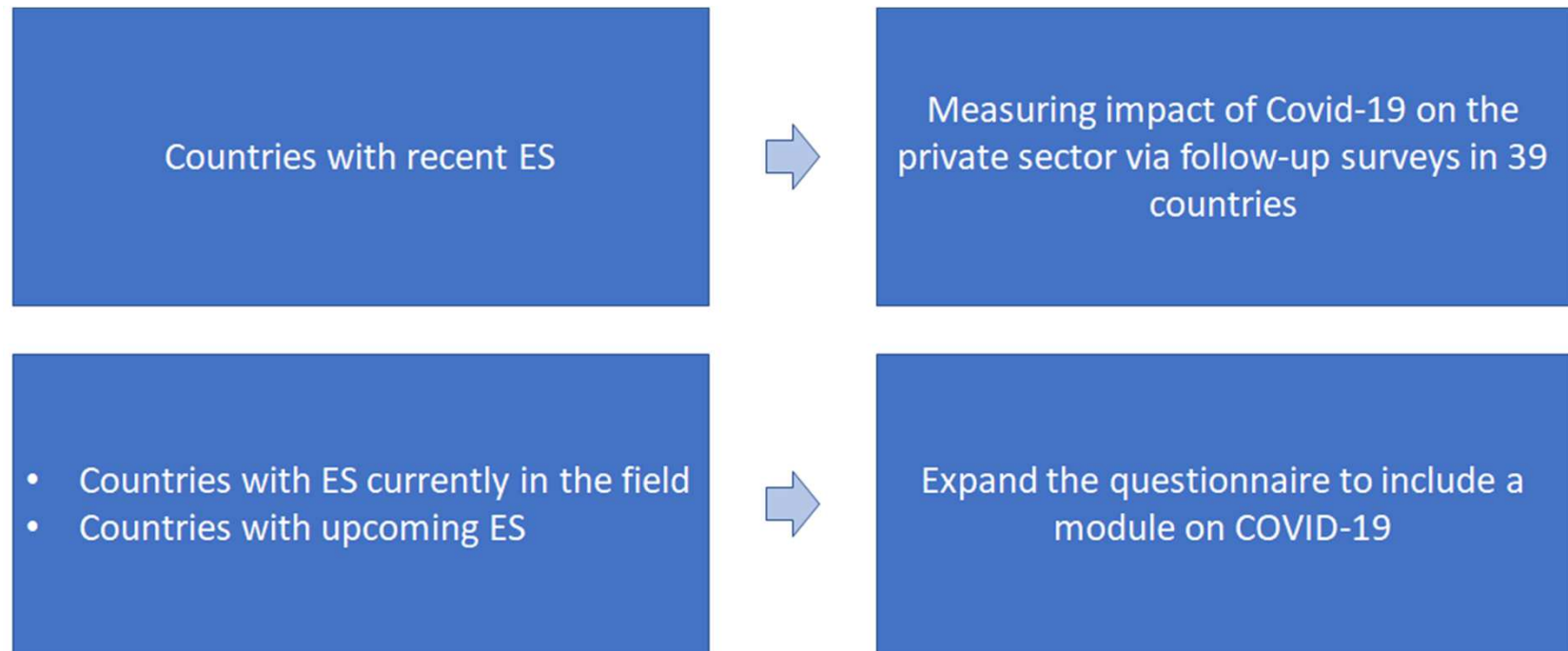
**N** - Health and social work

**O** - Other community, social and personal service activities

**P** - Activities of private households as employers and undifferentiated production activities of private households

**Q** - Extraterritorial organizations and bodies

# COVID-19 Emerges – how can we assess the Impact on the private sector?

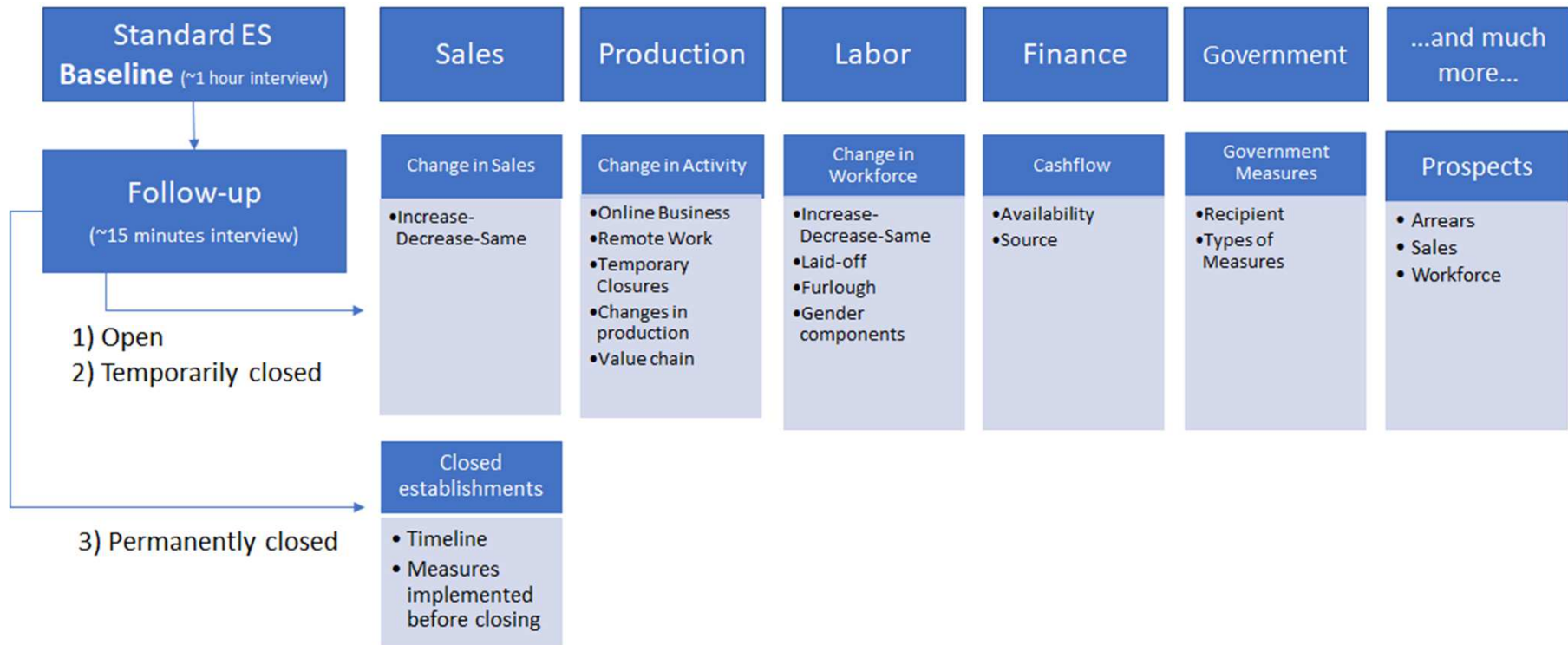


# Why a Follow-up Survey?

- **Analytical (Natural Experiment):**
  - Full baseline data pre-outbreak enables *before and after* analysis
  - Representative sample of the private sector excluding agriculture and extractive industries provides metrics of *exit* and *magnitude* of changes
- **Implementation:**
  - Existing contracts with local vendors allows *faster* contracting
  - **Existing processes** (Samples/Training/Quality Assurance)
  - Existing relationship with respondents along with full **updated contact information** (phone numbers and emails)



# Baseline and Follow-up Questionnaires



# Implementation

- Phone interviews using CATI system for about 15 minutes
- All contacts on the baseline are attempted
- 3 waves:
  - ASAP
  - After 3 months
  - After 6 months
- Questionnaire to be adapted with the evolution of the crisis
- Collection time: approximately 2 weeks

Country	Average Interview Time	Length of Fieldwork	Response Rate
Armenia (June)	17 Minutes	9 Days	87.5%
Georgia (June)	11 Minutes	8 Days	87.6%
Moldova (May)	16 Minutes	9 Days	79.4%



# Universe Projections

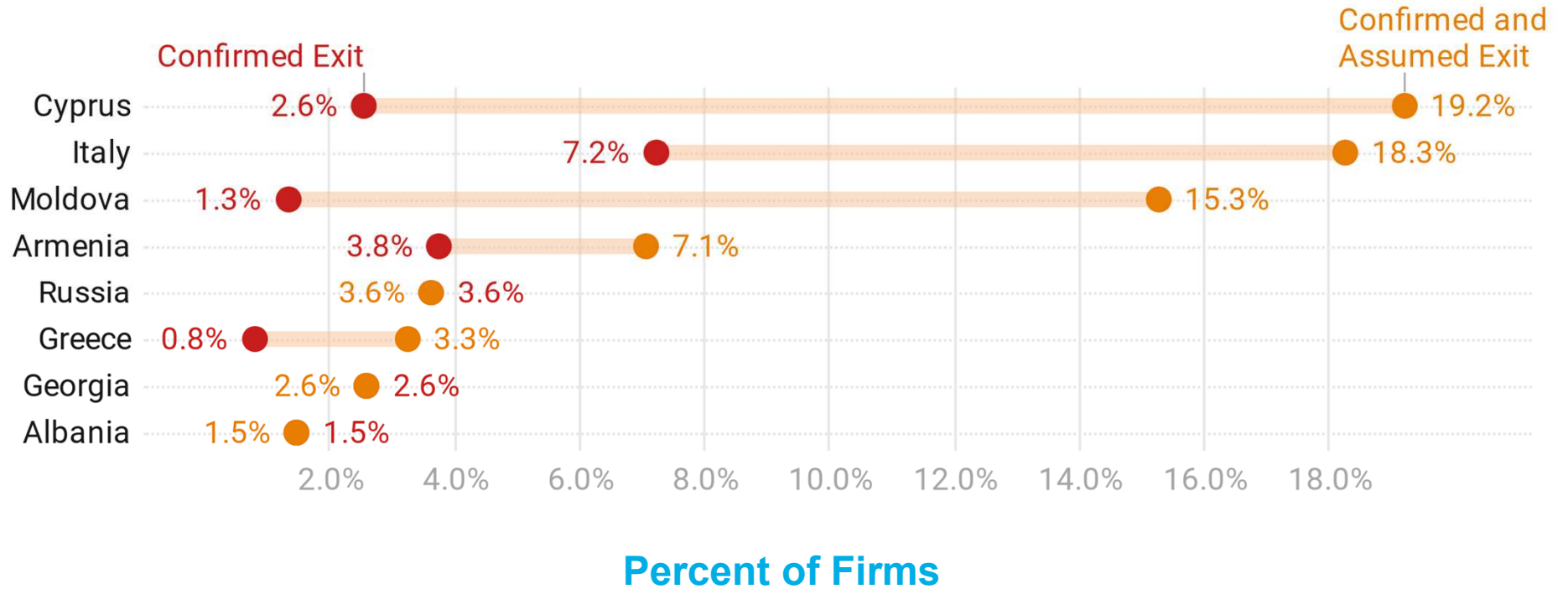
- In Standard ES, the probability of selection is: 
$$p_{ijh} = \frac{n_{ijh}}{N_{ijh}}$$

Therefore, the sampling weights are: 
$$w_{ijh} = \frac{1}{p_{ijh}} = \frac{N_{ijh}}{n_{ijh}}$$

- The Follow-up Survey datasets provides a set of 3 weights to users:
  - wmedian\_ES** (baseline weights with no adjustments) - used to compute exit rates.
  - wmedian\_COVID** (assuming unreachable contacts have discontinued) - used to compute indicators.
  - wweak\_COVID** (assuming unreachable contacts continue to exist).

Recorded Status	Median Assumption	Weak Assumption
Eligible Firm	Confirmed Survivor	Confirmed Survivor
The firm discontinued businesses - (Establishment went bankrupt)	Confirmed Exit	Confirmed Exit
The firm discontinued businesses - (Original establishment disappeared and is now a different firm)	Confirmed Exit	Confirmed Exit
The firm discontinued businesses - (Establishment was bought out by another firm)	Confirmed Exit	Confirmed Exit
The firm discontinued businesses - (It was impossible to determine for what reason)	Confirmed Exit	Confirmed Exit
The firm discontinued businesses - (Other)	Confirmed Exit	Confirmed Exit
Refuses to answer the follow-up	Likely Survivor	Likely Survivor
No reply after having called in different days of the week and in different business hours	Likely Exit	Likely Survivor
Line out of order	Likely Exit	Likely Survivor
No tone	Likely Exit	Likely Survivor
Phone number does not exist	Likely Exit	Likely Survivor
Answering machine	Likely Survivor	Likely Survivor
Fax line- data line	Likely Survivor	Likely Survivor

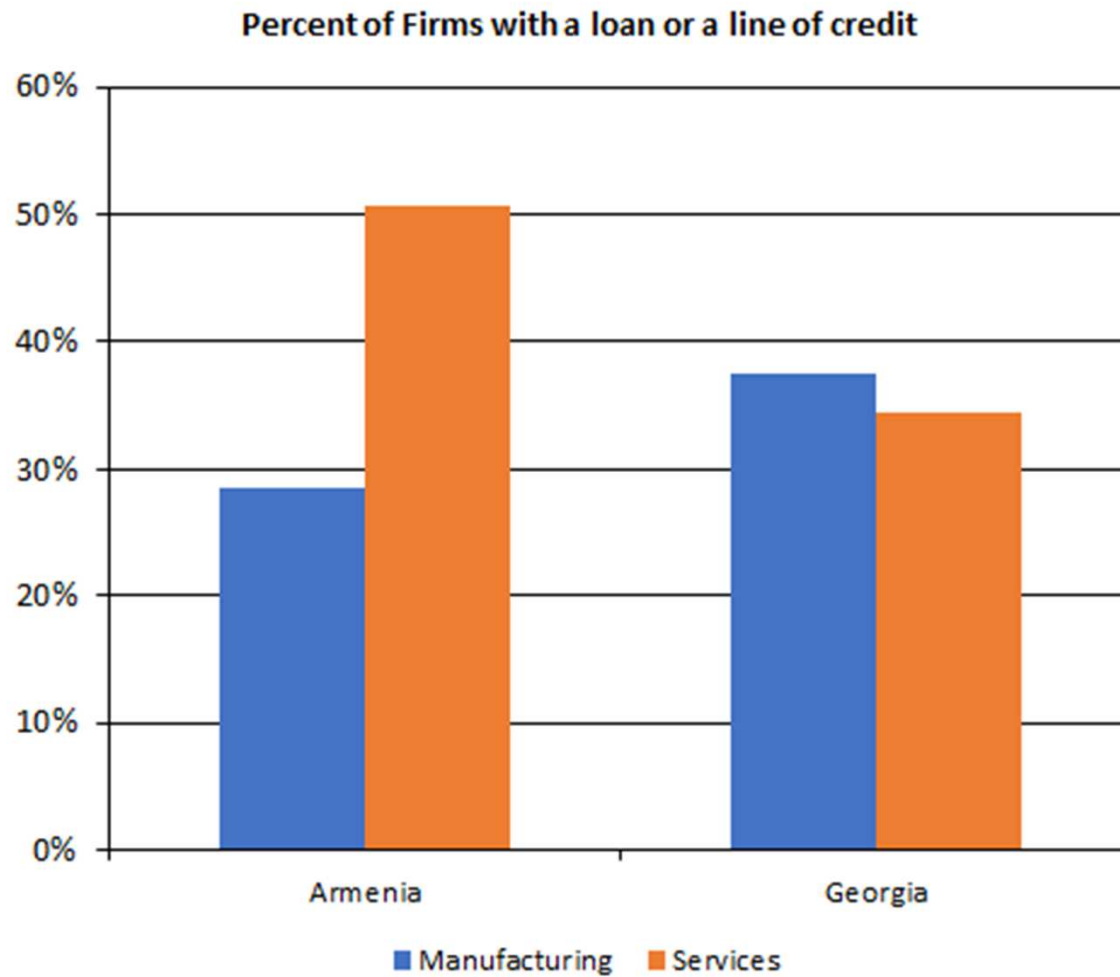
# Estimated Exit Rates



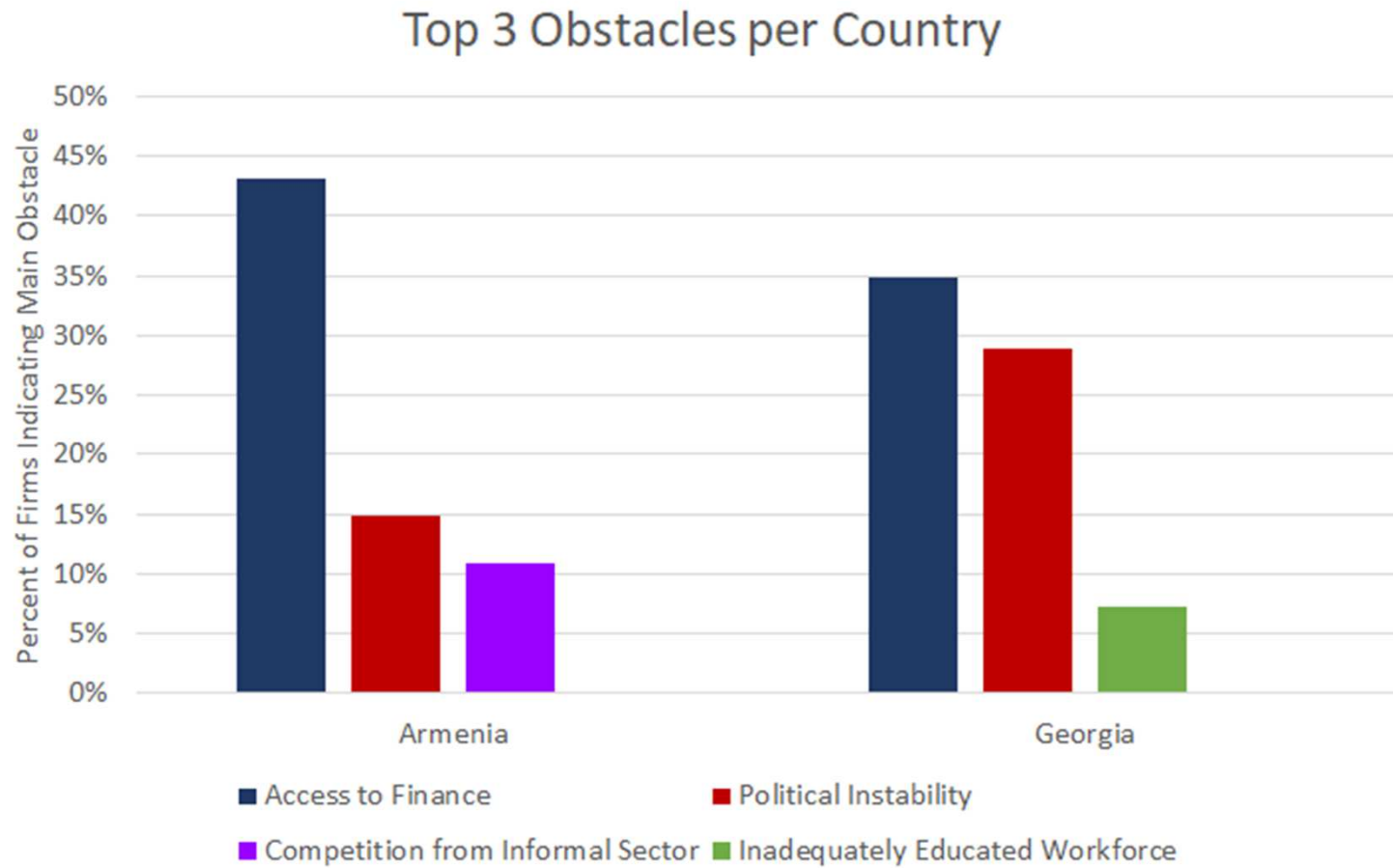
# BASELINE RESULTS

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# Financial Integration pre-COVID

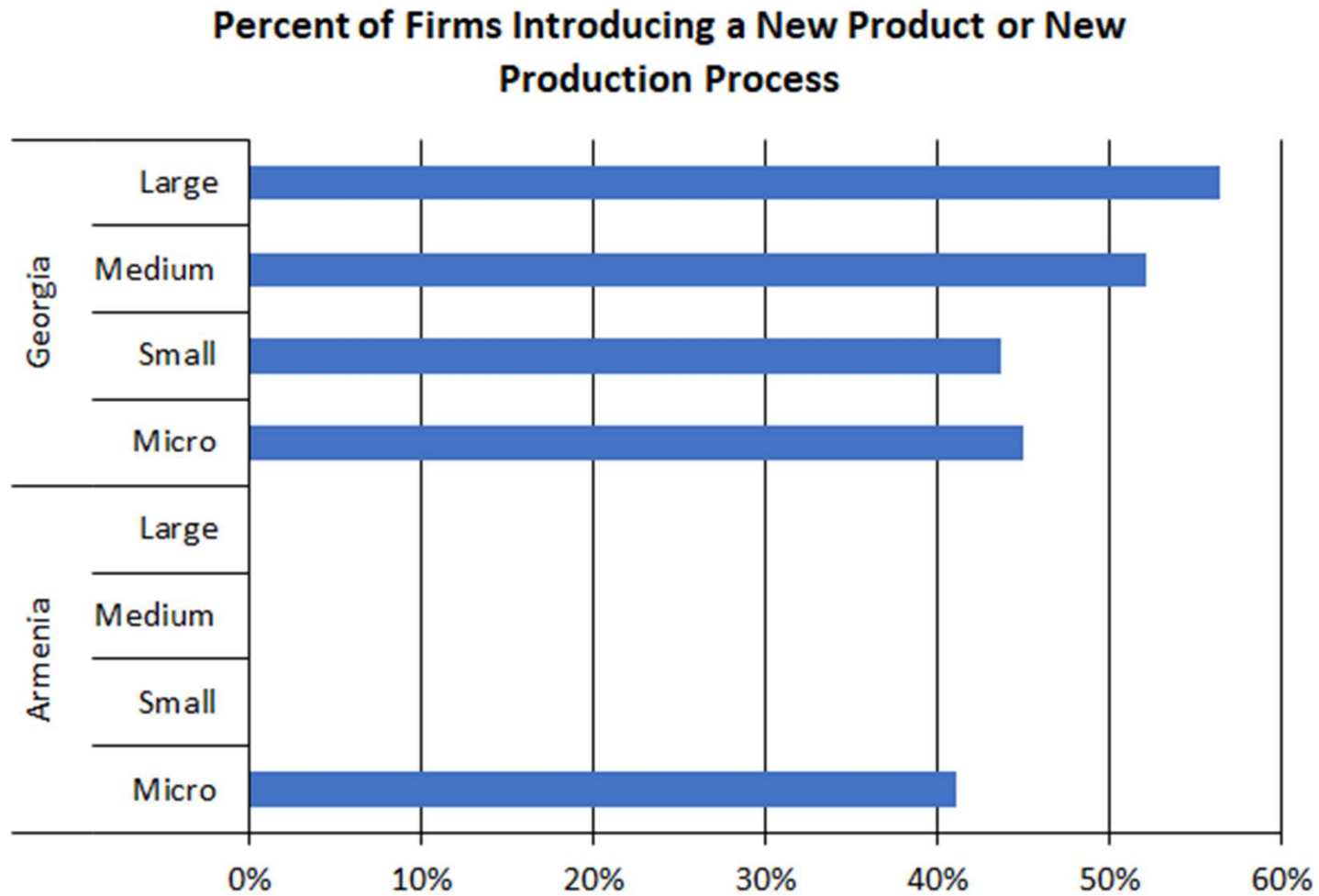


# Main Obstacles to Firms pre-COVID





# Innovators may be able to adapt

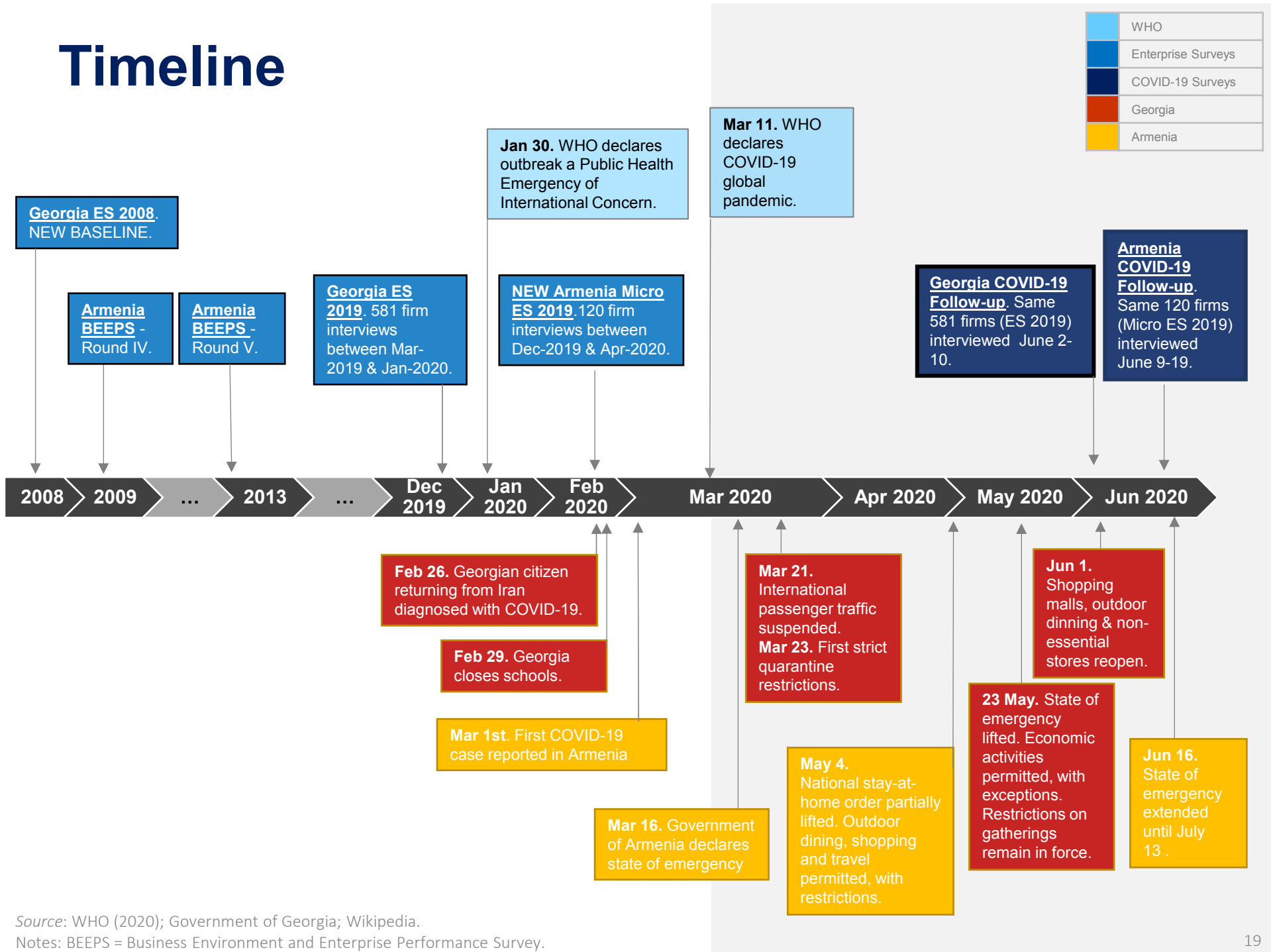


# COVID-19 FOLLOW-UP

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## Key Findings

# Timeline



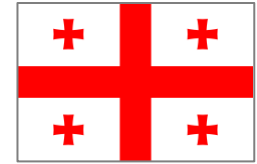
Source: WHO (2020); Government of Georgia; Wikipedia.  
 Notes: BEEPS = Business Environment and Enterprise Performance Survey.

# COVID-19 FOLLOW-UP

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## Key Findings in Georgia

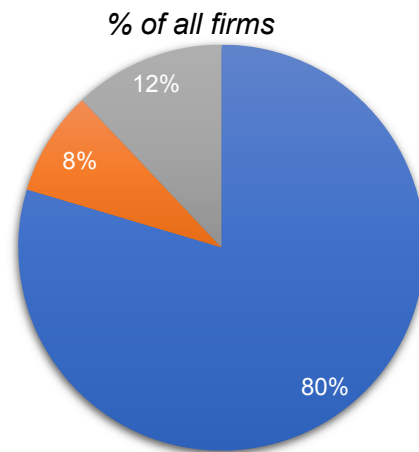
# 1) External shock



## Observed changes in demand and supply (compared to the same month in 2019)

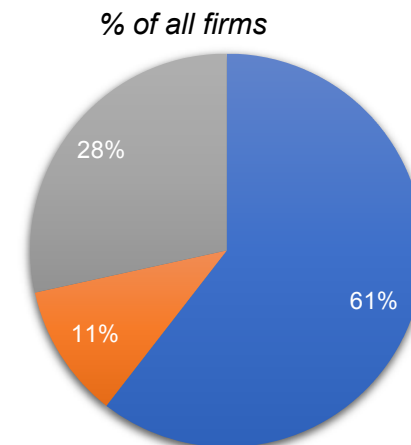
### Demand for products and services

- Decreased demand for products or services
- Increased demand for products or services
- None

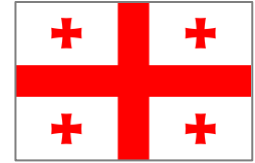


### Supply of inputs, raw materials, or other intermediate inputs

- Decreased supply of inputs, raw materials, or other intermediate inputs
- Increased supply of inputs, raw materials, or other intermediate inputs
- None

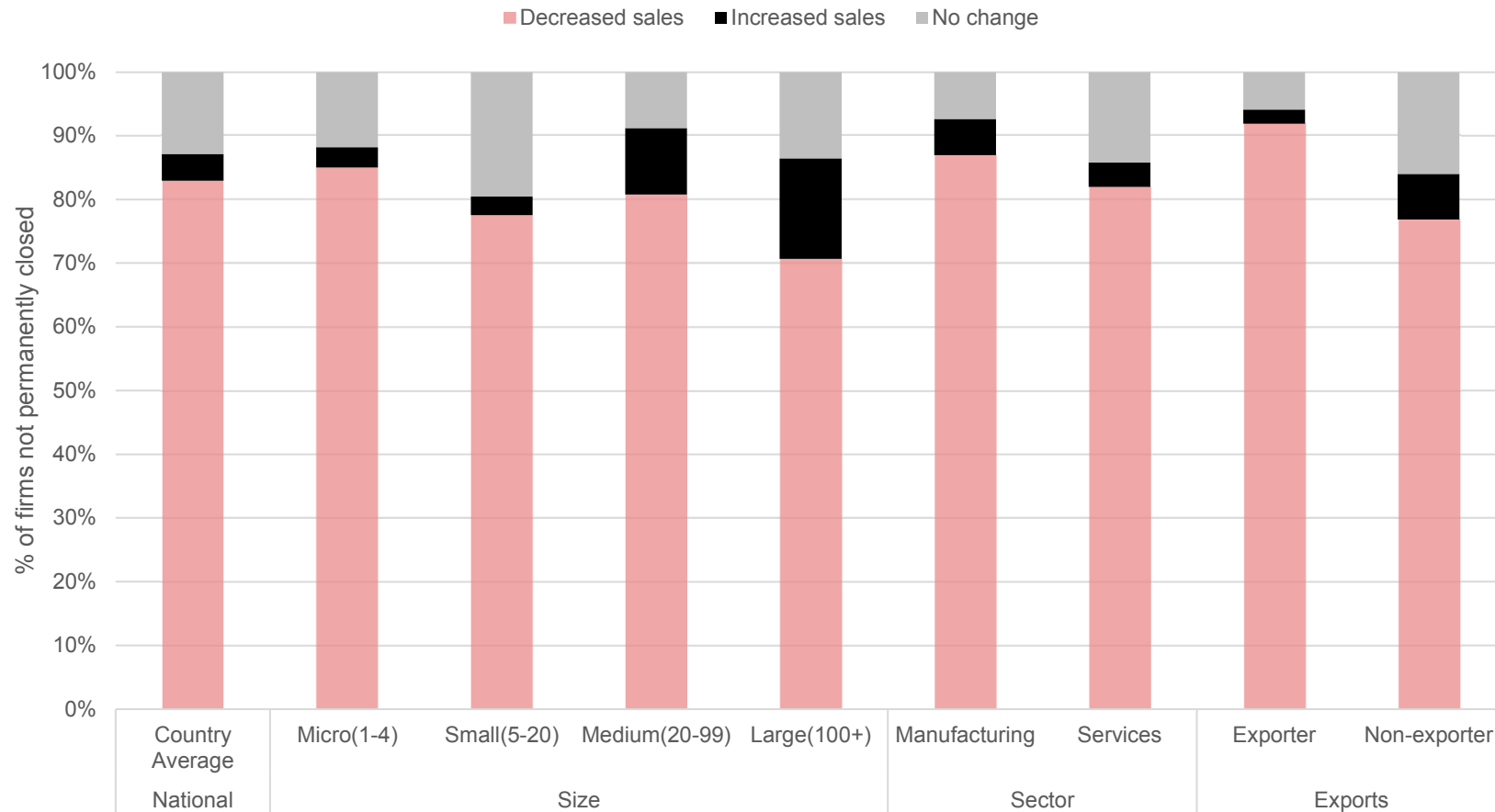


# 1) External shock

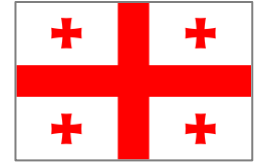


## Impact on sales

Observed changes in monthly sales, compared to one year ago

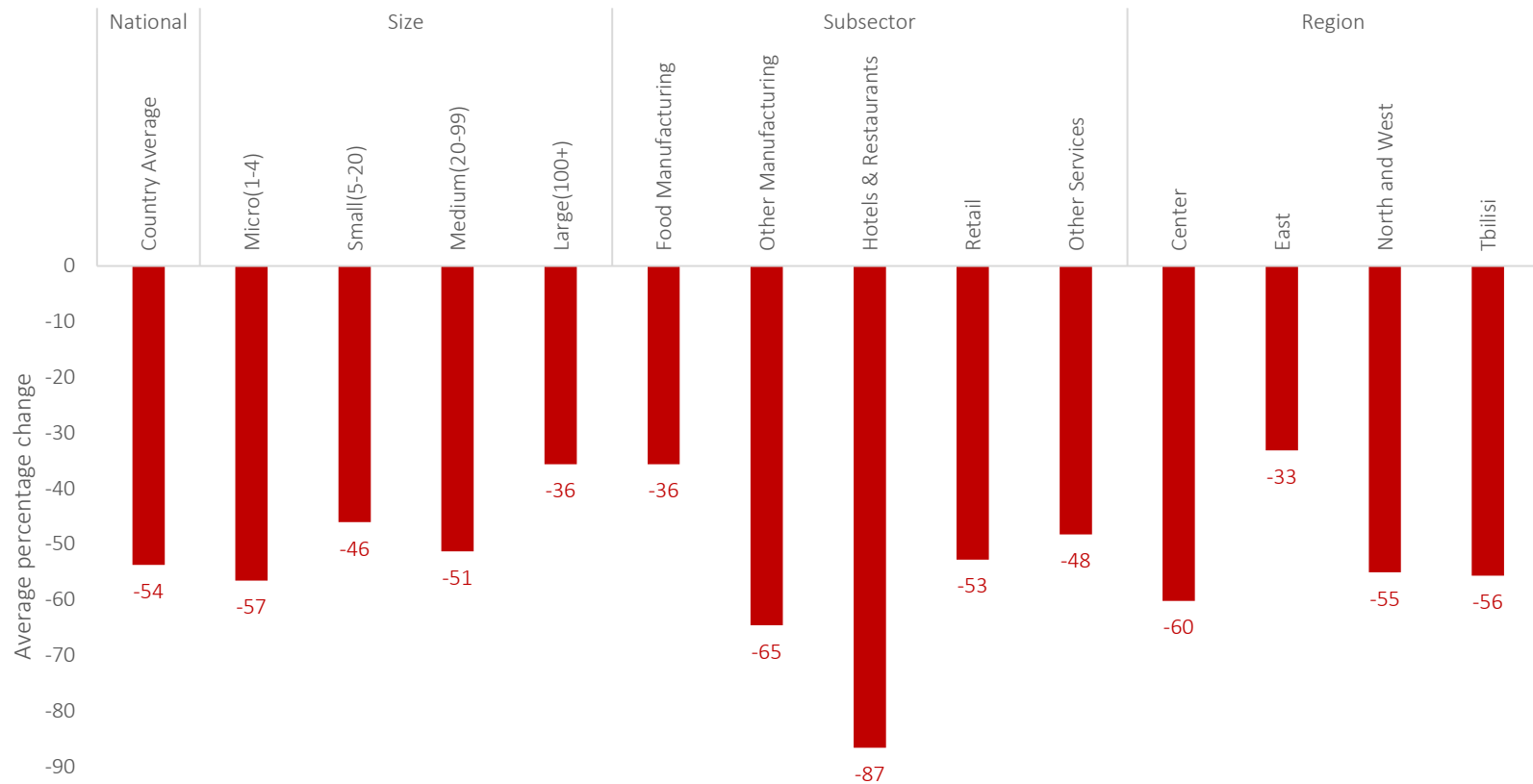


# 1) External shock

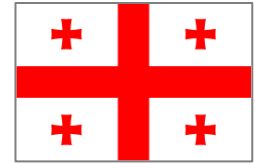


## Impact on sales in Georgia

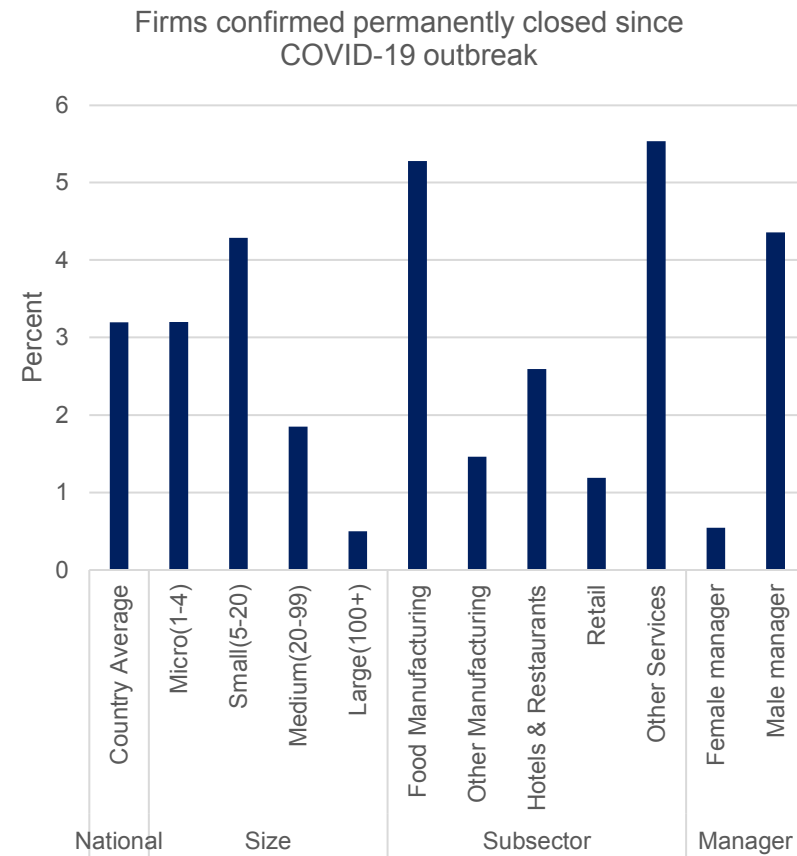
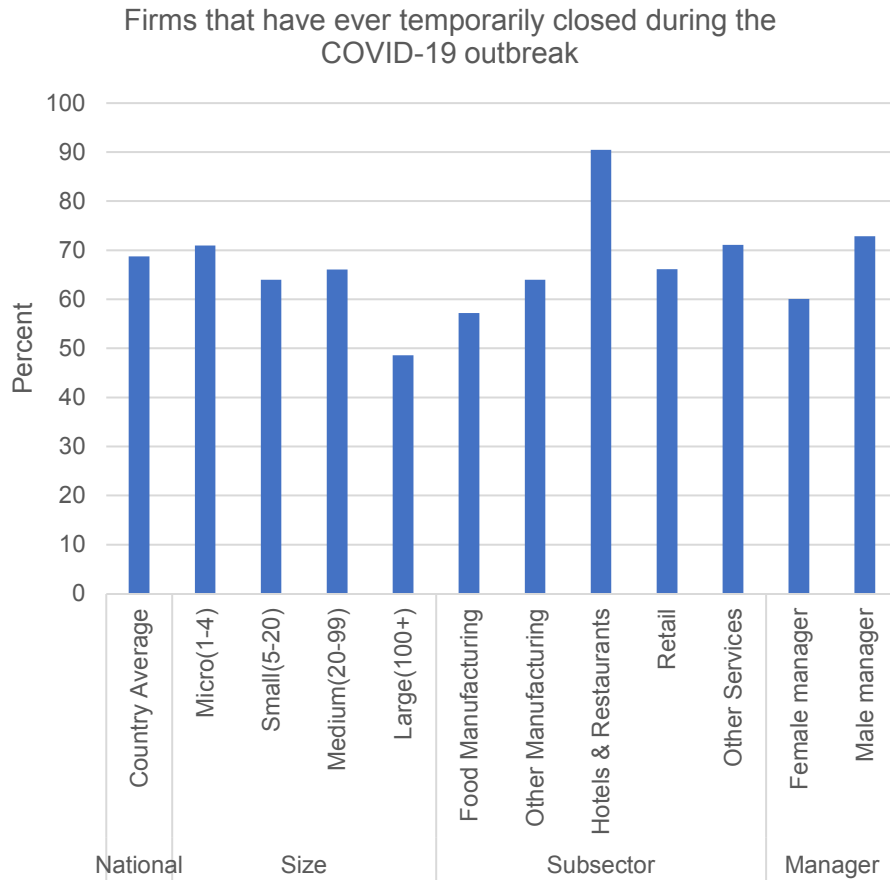
Change in monthly sales compared to one year ago



# 2) Firm adjustments: Closures

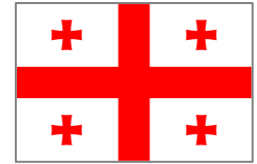


## Temporary and permanent closures





# 2) Firm adjustments: Closures

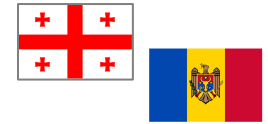


## Temporary and permanent firm closures

	Ever temporarily closed during the COVID-19 outbreak (% of surviving firms)	Permanently closed since COVID-19, confirmed (% of contacted firms)
Country Average	68.7	3.2
Georgia		
Center	61.5	3.0
East	72.5	0.2
North and West	70.2	1.7
Tbilisi	69.7	4.6

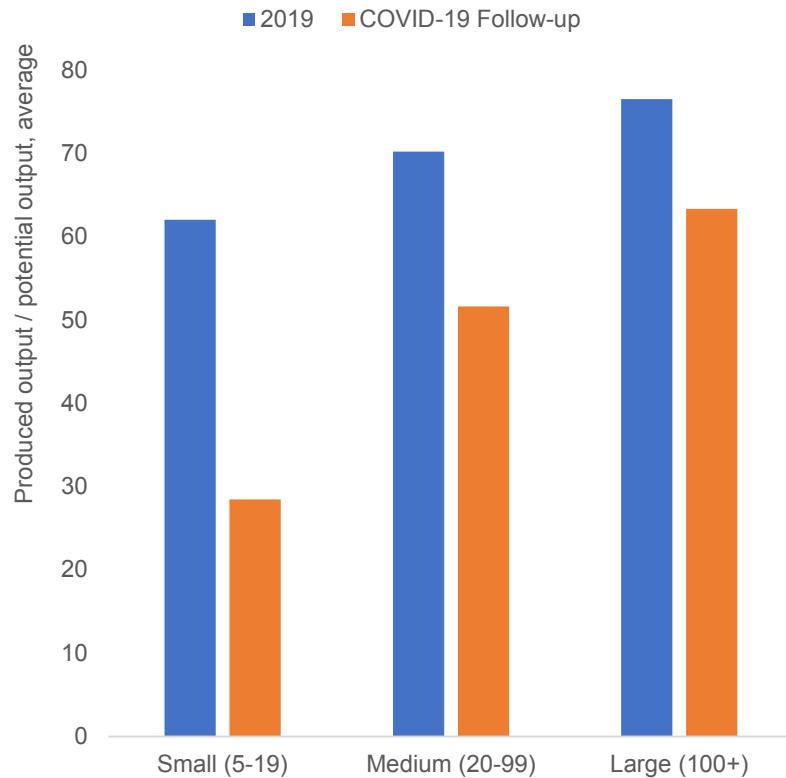


# 2) Firm adjustments: Operations

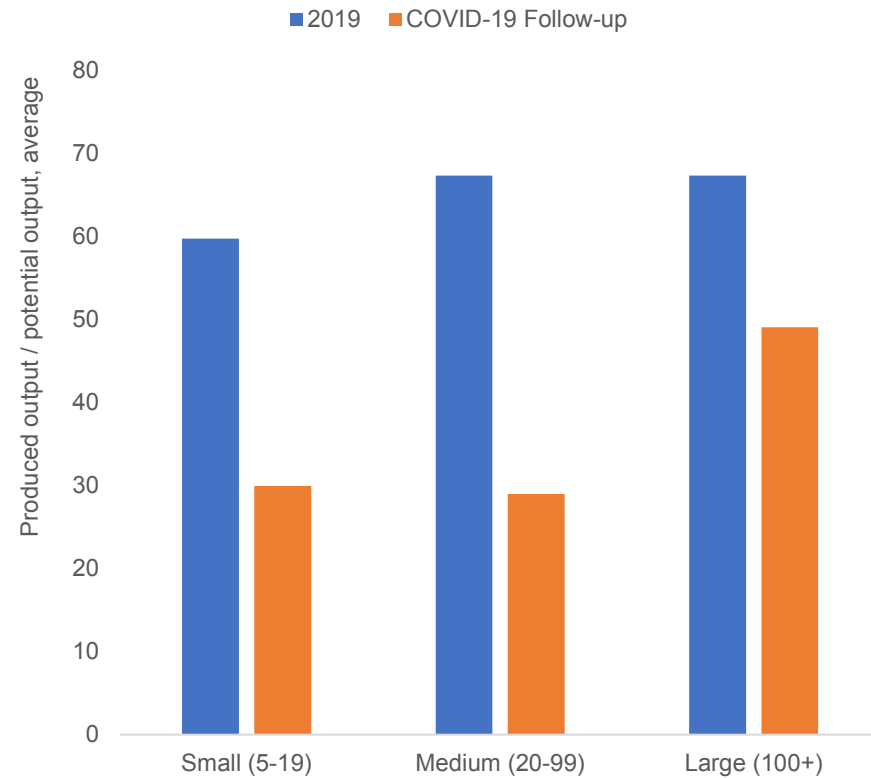


## Capacity adjustments in manufacturing, Georgia and Moldova

Capacity utilization in Georgia (%)

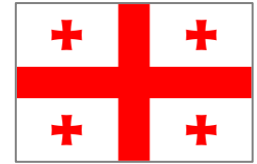


Capacity utilization in Moldova (%)

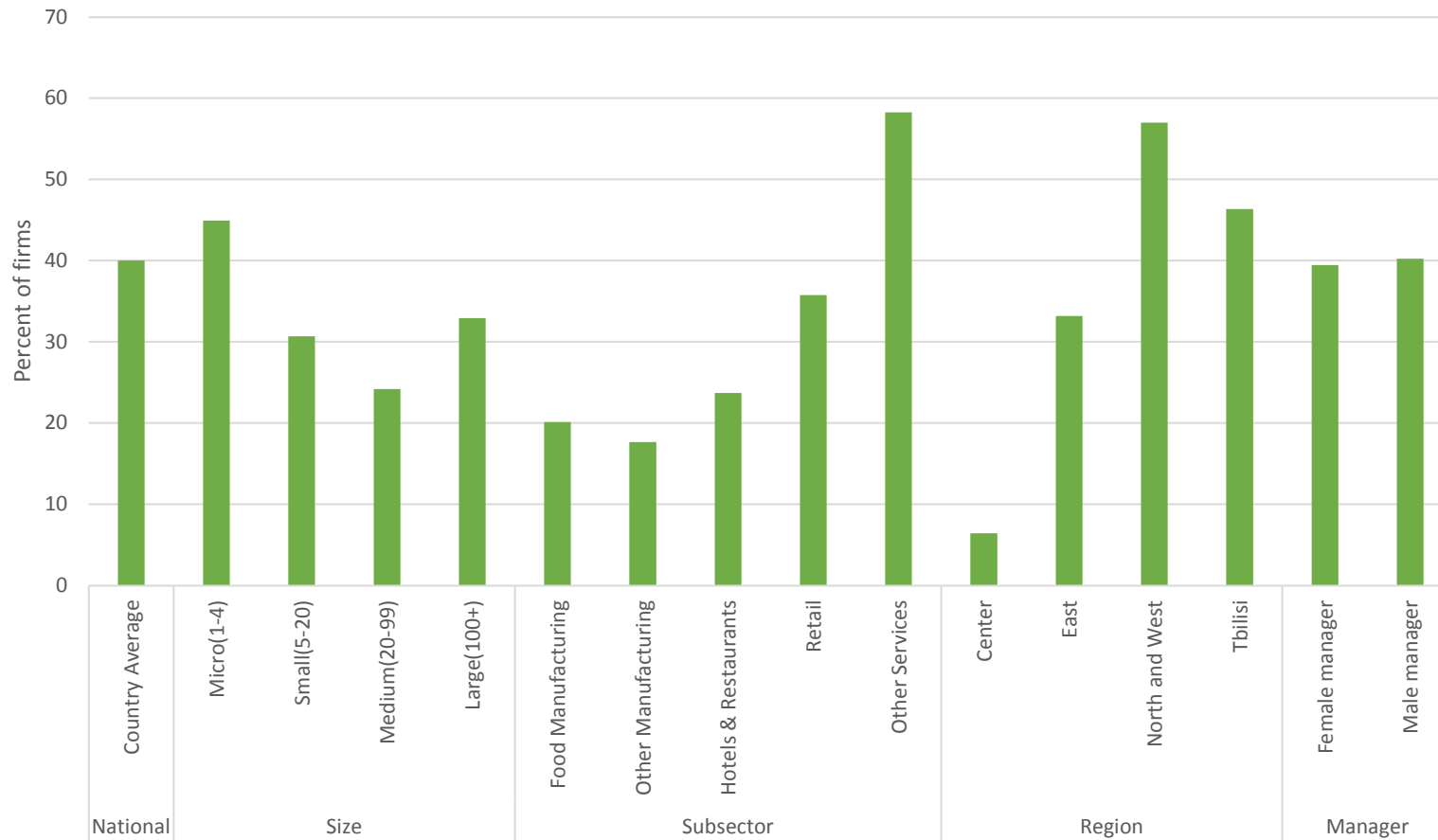


Source: Enterprise Survey 2019 and Enterprise Survey Follow-Up. Notes: Capacity utilization is calculated based on the question “[...] what was this establishment’s output produced as a percentage of the maximum output possible if using all the physical capital available (capacity utilization)?”. Only manufacturing firms answer this question. 26

## 2) Firm adjustments: Operations



### Firms adjusting or converting their production or services

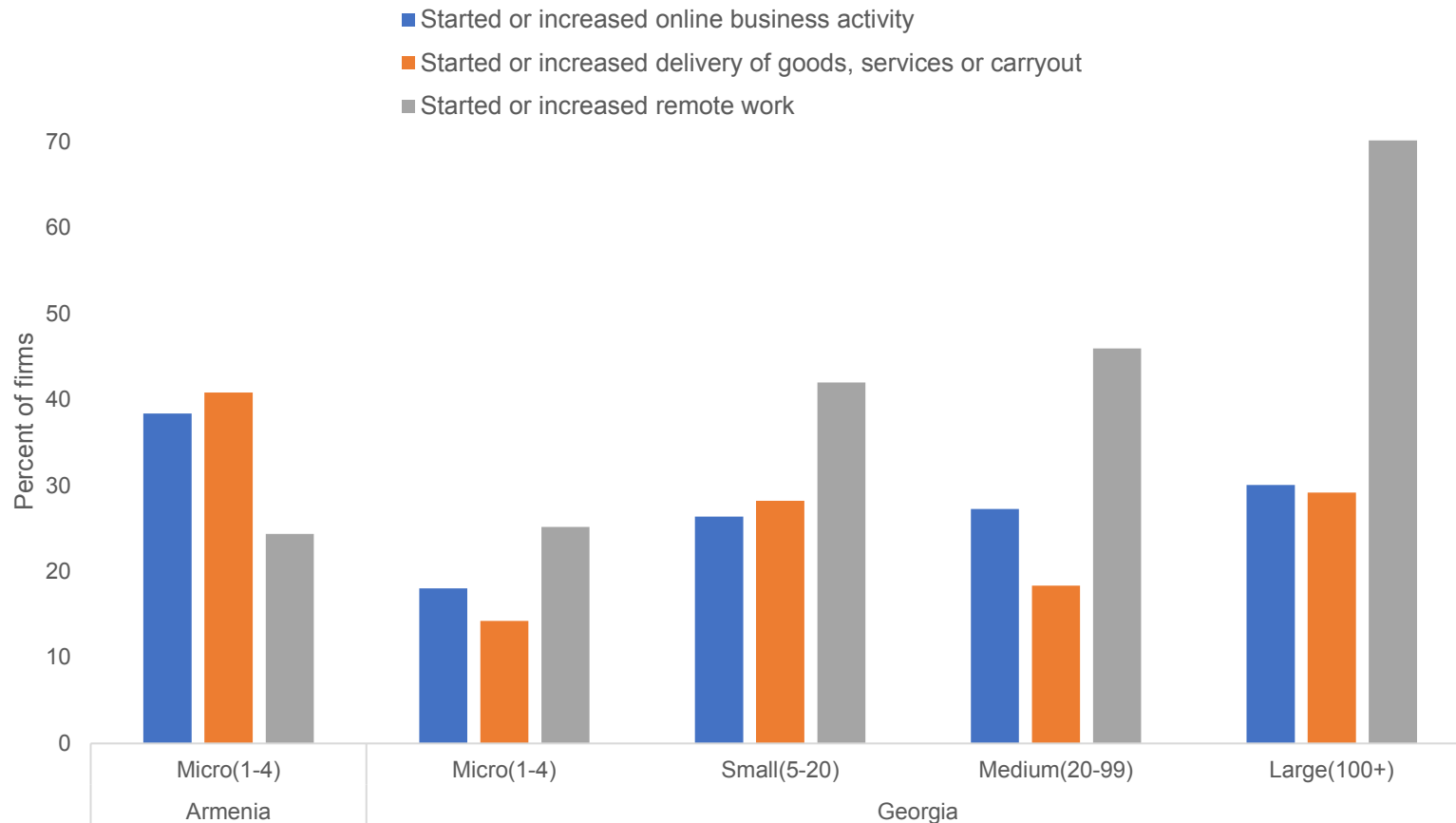


Source: Enterprise Survey Follow-Up. Notes: Responding to the question “Has this establishment adjusted or converted, partially or fully, its production or the services it offers in response to the COVID-19 outbreak?”

## 2) Firm adjustments: Coping strategies



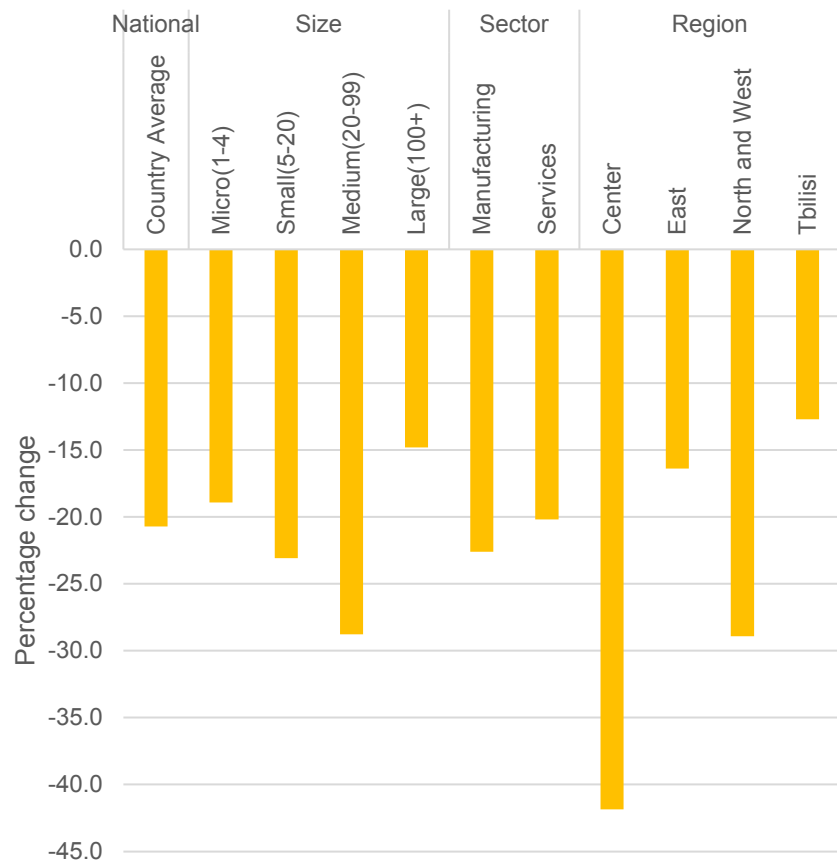
### Coping strategies and innovation



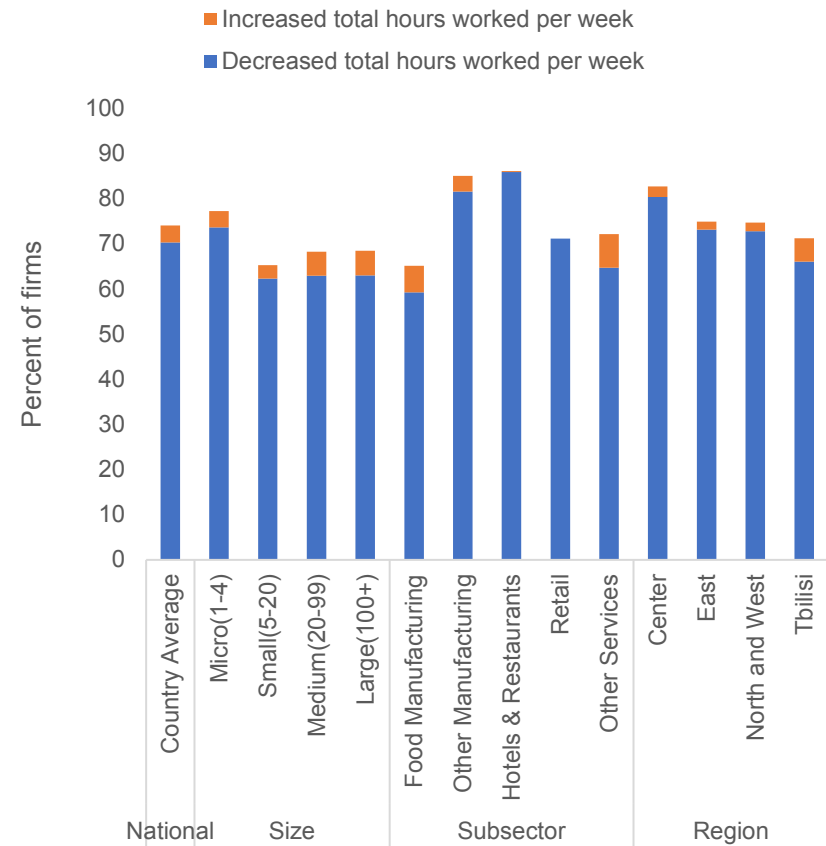
# 2) Firm adjustments: Workforce

## Impact on full-time employment and hours worked

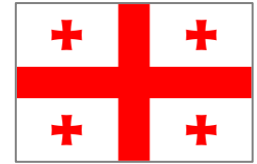
Change of permanent full-time workers since ES interview



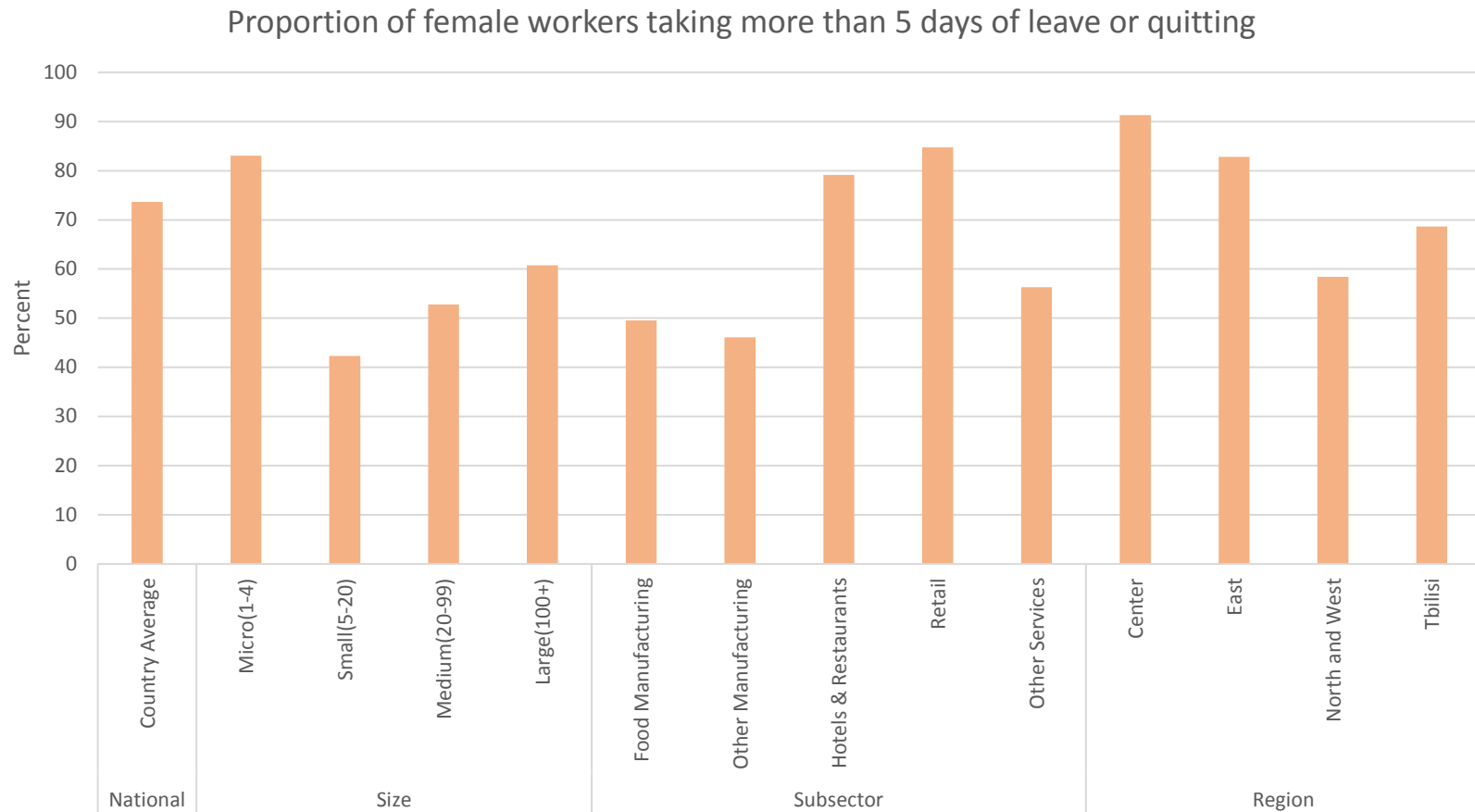
Changes in total hours worked per week



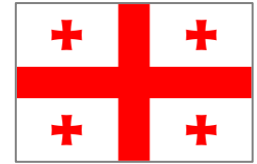
# 2) Firm adjustments: Workforce



## Impact on female workers



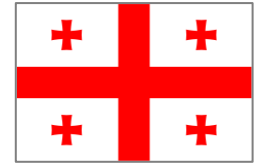
# 2) Firm adjustments: Workforce



## Impact on female workers



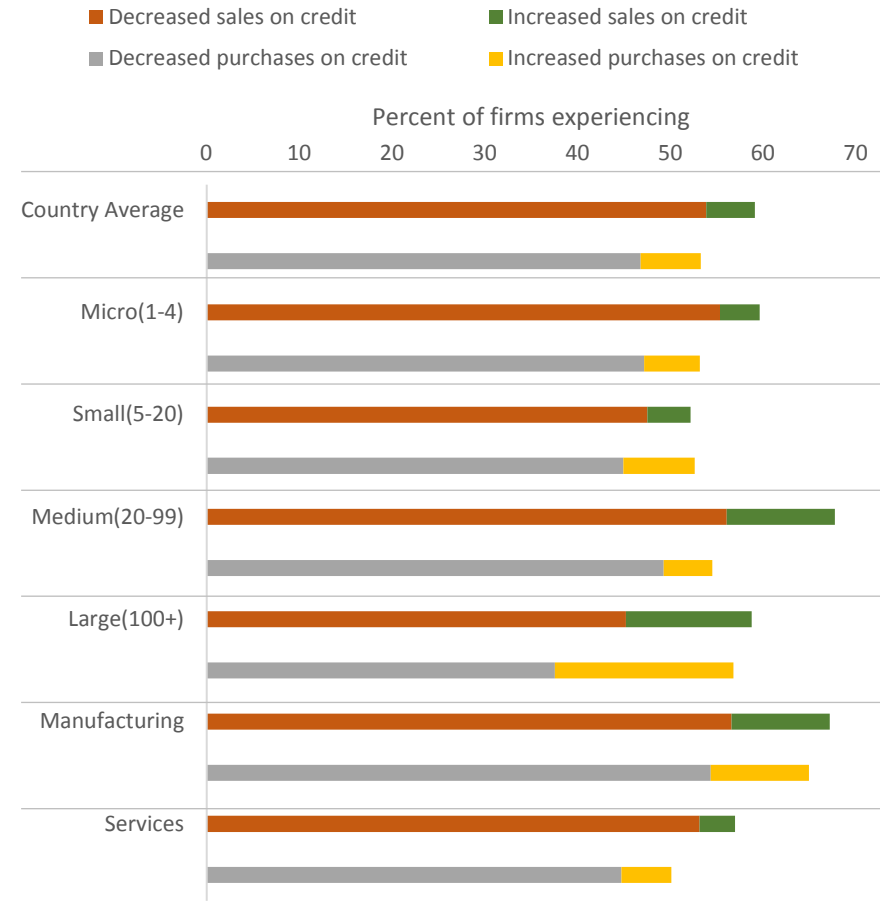
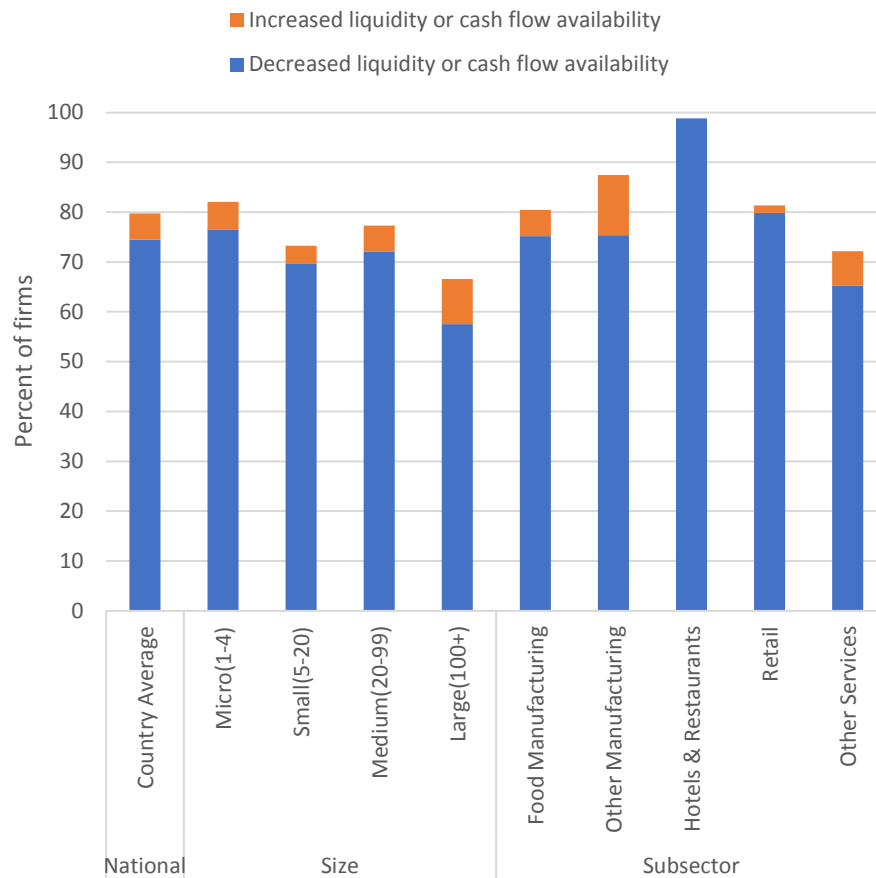
# 2) Firm adjustments: Finance



## Cashflow shortages

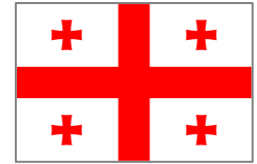
Firms experiencing changes in cash flows

Use of credit

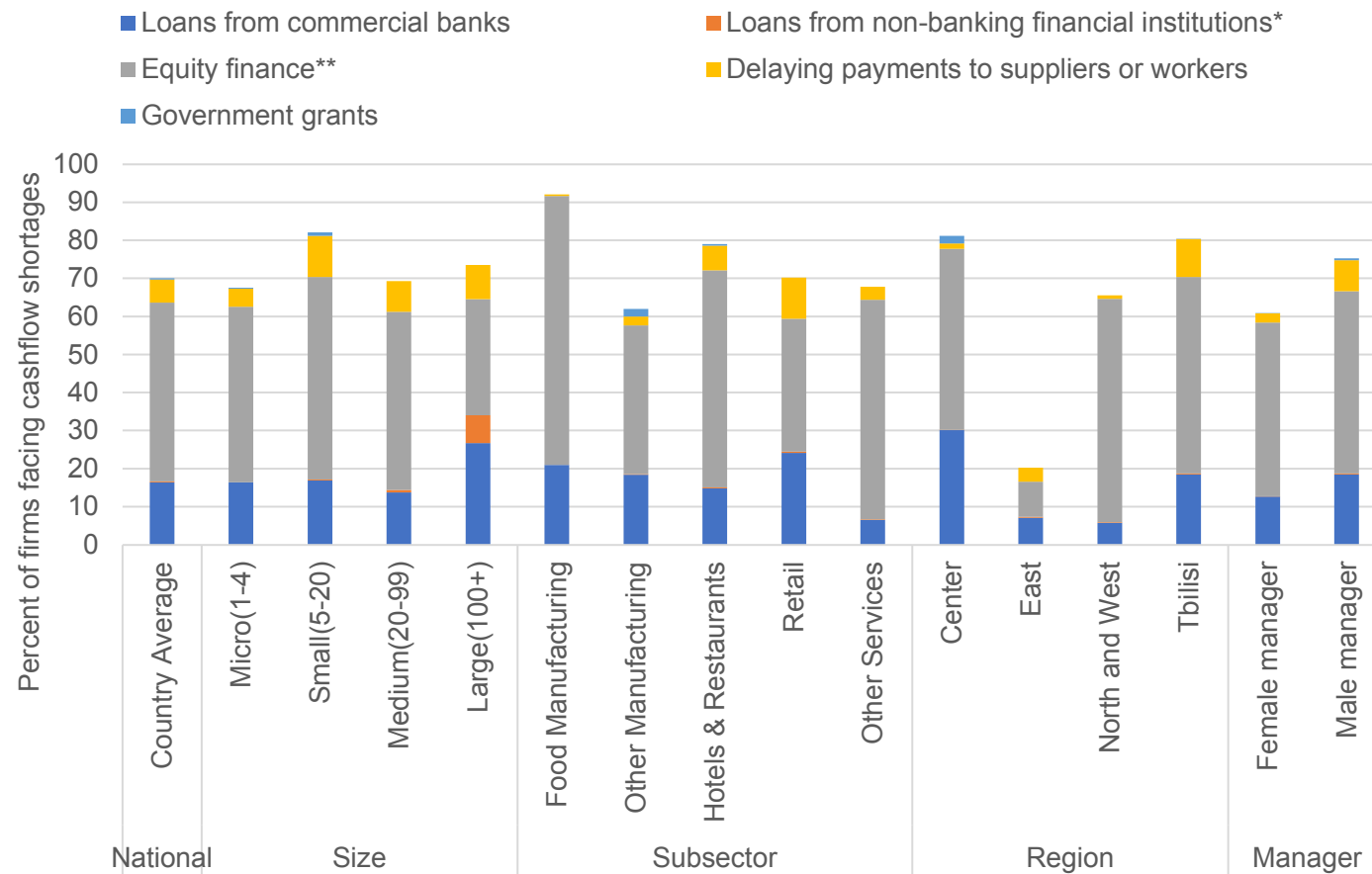




## 2) Firm adjustments: Finance

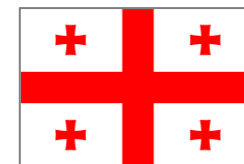


### Main source of finance to face cashflow shortages



Source: Enterprise Survey Follow-Up. Notes: \*Loans from non-banking financial institutions include "microfinance institutions, credit cooperatives, credit unions, or finance companies". \*\* Equity finance refers to "increase contributions or capital from existing owners/shareholders or issuing new shares".

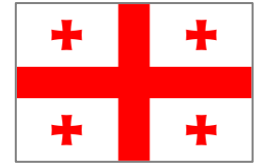
# 3) Government support



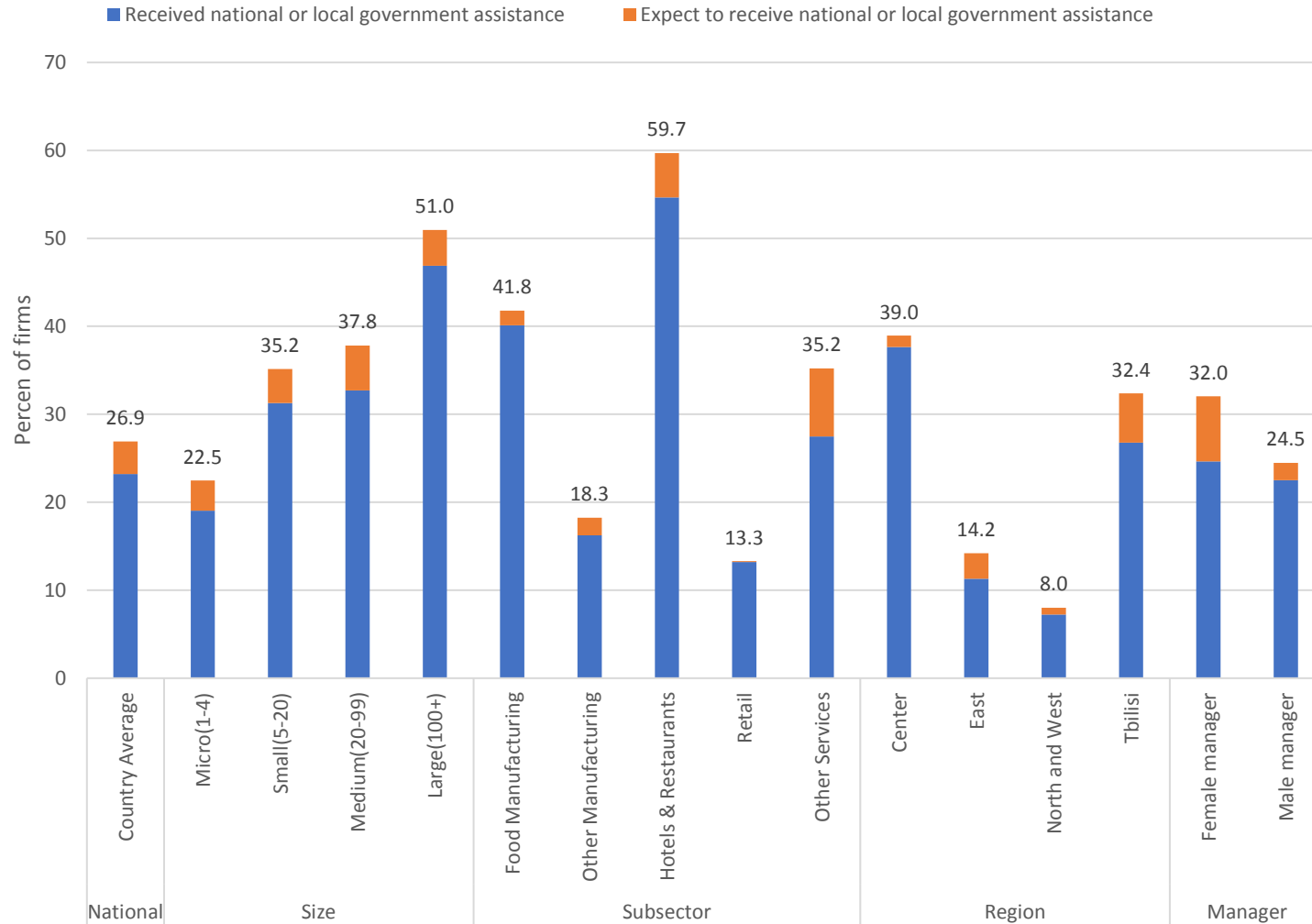
## Policy responses targeted at businesses

Category	Policy	Objective	Instrument	Eligibility and Details
Initial Support (Stage 1 & 2)	Fiscal stimulus	• Contain immediate impact of crisis on tourism firms.	• Tax deferral	• Property and income tax deferral until November 1st 2020 for firms in tourism.
		• Stimulate economic growth and support entrepreneurs.	• Tax returns	• Automatic VAT return.
	Access to finance	• Access to finance. • Improved liquidity. • Adequate risk management.	• Credit subsidy for small hotels.  • Partial credit guarantees.  • Micro-grants.	• Co-financing Mechanism for Supporting Family-owned, Small and Medium-size Hotels. Subsidizes 80 percent of interest payments during 6 months for small hotels (4 to 50 rooms).  • Collateral scheme for SMEs in industries directly affected by the crisis. GEL 330 M allocated as credit collateral (secures approx. GEL 2 billion credit portfolio).  • Development grants for small business, with increased amount.
		• Increase banking finance supply.	• Long-term deposits.	• 600 M GEL long-term deposits to increase liquidity of commercial banks
Sectoral Support (Stage 3)	Recovery Plan for Tourism	• Foster sectoral recovery and economic activity.	• Fiscal and financial instruments	• Continue several fiscal and financial incentives for tourism (Stage 1 & 2). • Credit-guarantees for public catering. Subsidize guarantees for travel agencies and tour-operators.
	Recovery Plan for Construction	• Foster sectoral recovery and economic activity.	• Credit subsidies. • Guarantees. • Public investment.	• Subsidy of ≤4% of nominal interest rate of mortgage contracts. • State guarantee of mortgage portfolio (issued 01/06/2020 –01/01/2021). • Bulk State purchase of residential property by the State. State guarantee scheme for completion of residential property projects.
Other	Subsidy for Employers	• Retain employment	• Wage subsidy.	• State subsidy for every retained job for 6 months.
	Other financial assistance	• Access to finance. • Safeguard financial system.	• Financial instruments and regulations.	• Restructuring support for entities with difficulties servicing loans. • Three-month bank loan service deferral for individuals & legal entities. • NBG measures to support capital & liquidity, safeguard financial system. • Amendments to Enterprise Georgia State program: increase co-funding periods; broader range of activities; lower minimal loan; funding ≤ 80% of floating assets.

# 3) Government support

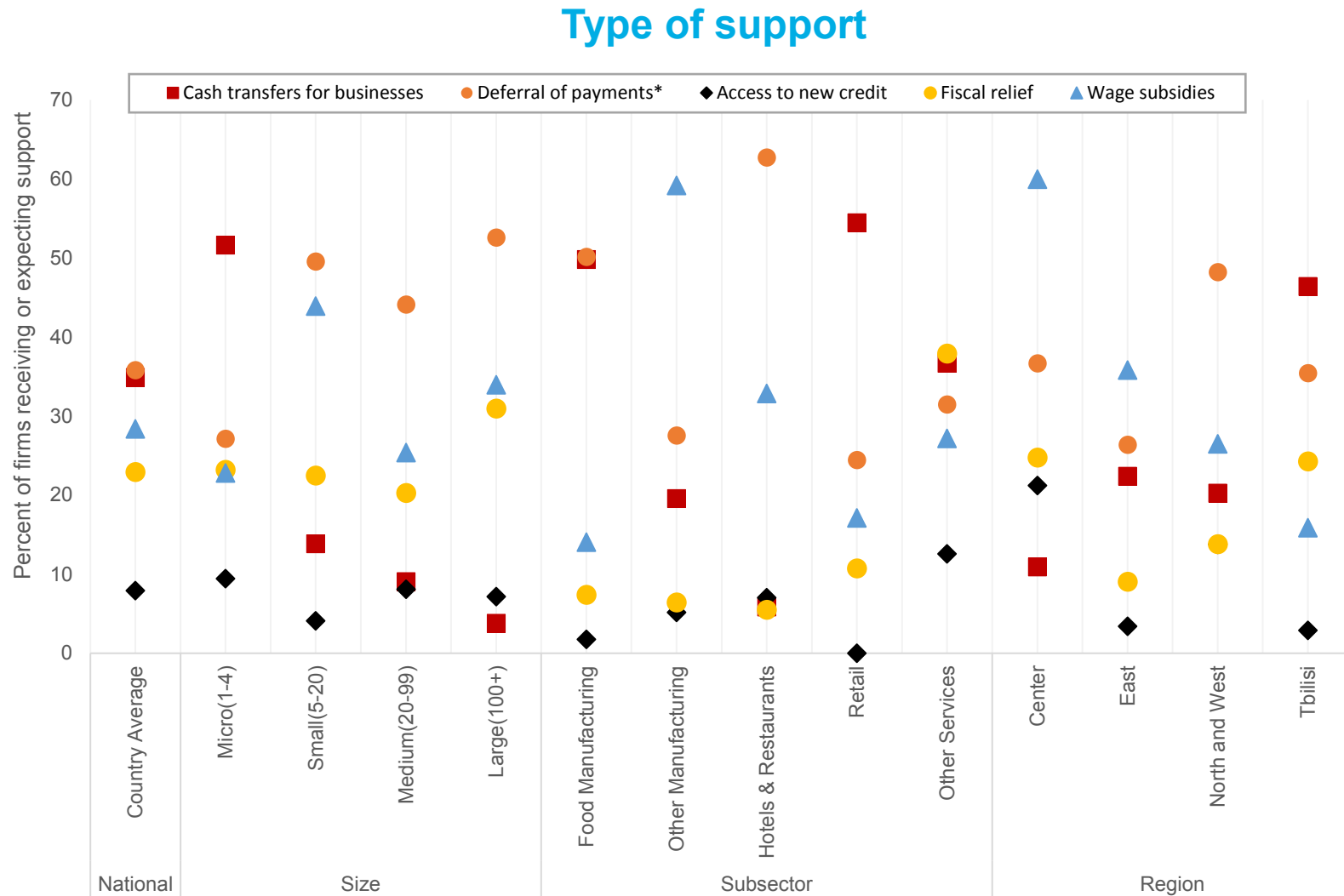
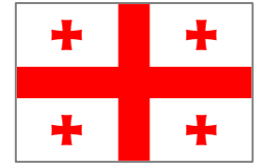


## Coverage across firms



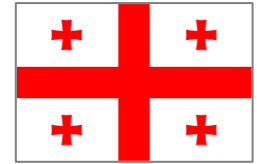
Source: Enterprise Survey COVID-19 Follow-up.

# 3) Government support

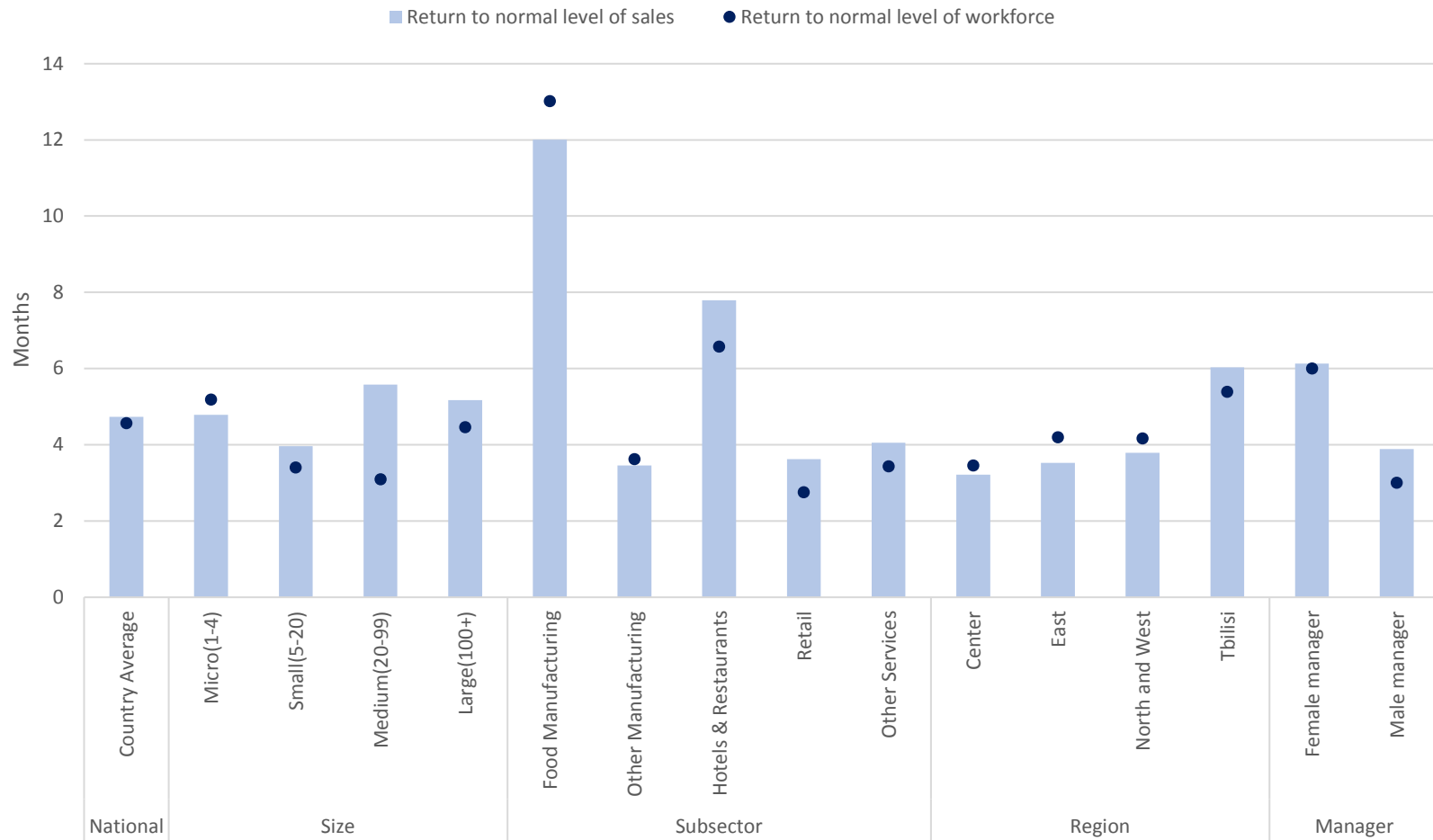


Source: Enterprise Survey COVID-19 Follow-up. Note: \* Deferral of payments refers to “Deferral of credit payments, rent or mortgage, suspension of interest payments, or rollover of debt.” The category “Other assistance” is not presented in the graph due to limited observations.

# 4) Looking ahead

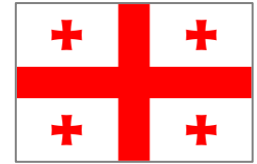


## Expected time to return to normal



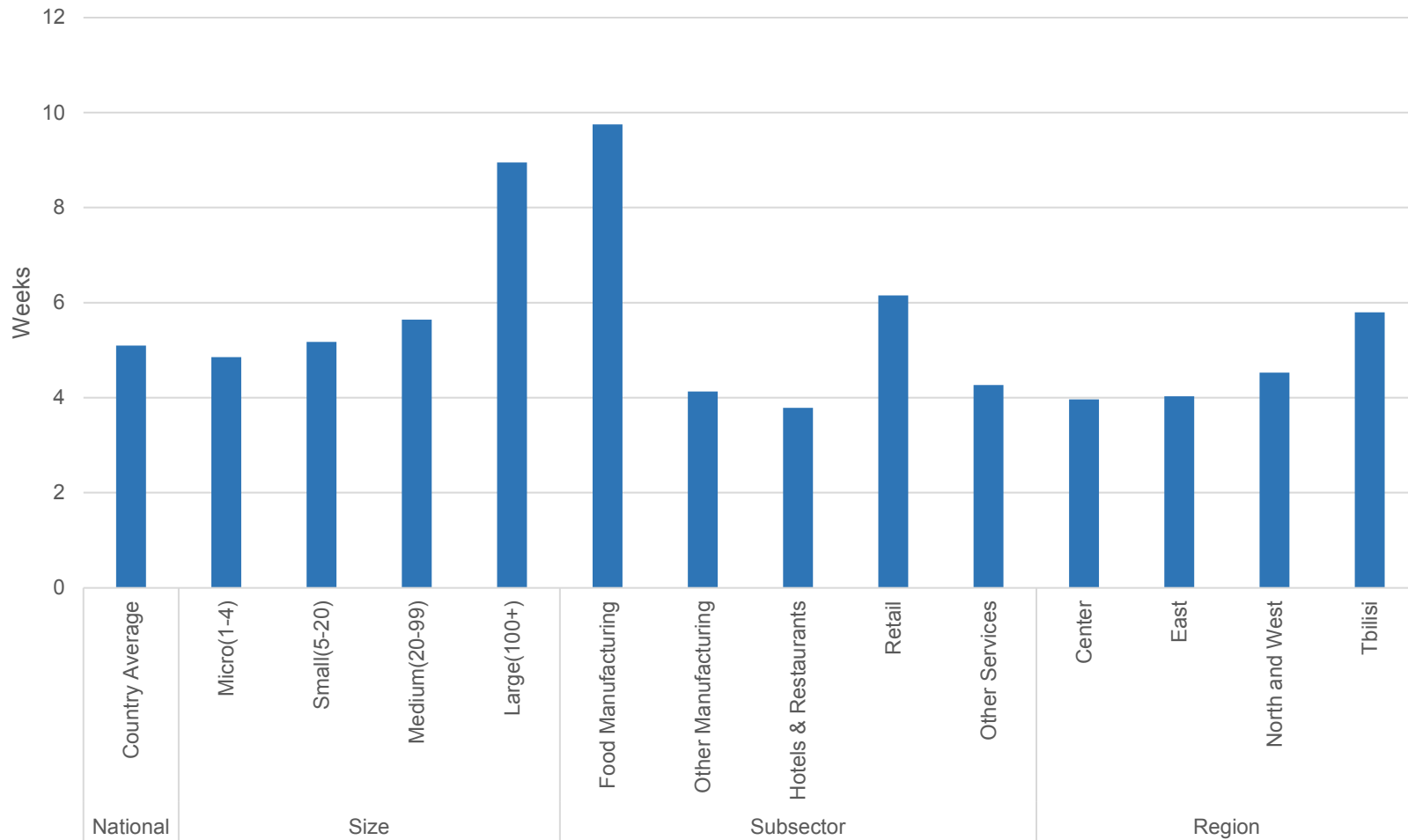
Source: Enterprise Survey COVID-19 Follow-up. Note: Only firms that are not at normal levels of sales and workforce are included.

# 4) Looking ahead



## Survival and Liabilities

If sales stopped, average duration of establishment survival



Source: Enterprise Survey COVID-19 Follow-up.

# COVID-19 FOLLOW-UP

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## Key Findings in Armenia

# 1) External shock

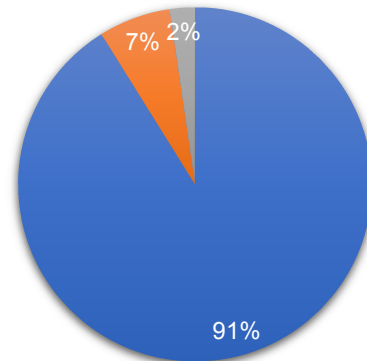


## Observed changes in demand and supply (compared to the same month in 2019)

### Demand for products and services

- Decreased demand for products or services
- Increased demand for products or services
- None

% of all (micro) firms

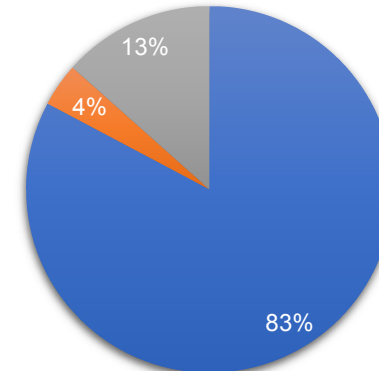


Armenia

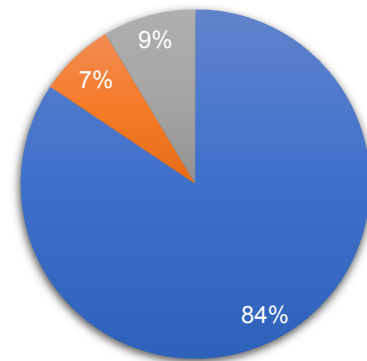
### Supply of inputs, raw materials, or other intermediate inputs

- Decreased supply of inputs, raw materials, or other intermediate inputs
- Increased supply of inputs, raw materials, or other intermediate inputs
- None

% of all (micro) firms

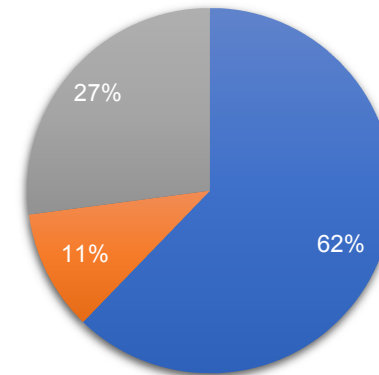


% of micro firms



Georgia

% of micro firms



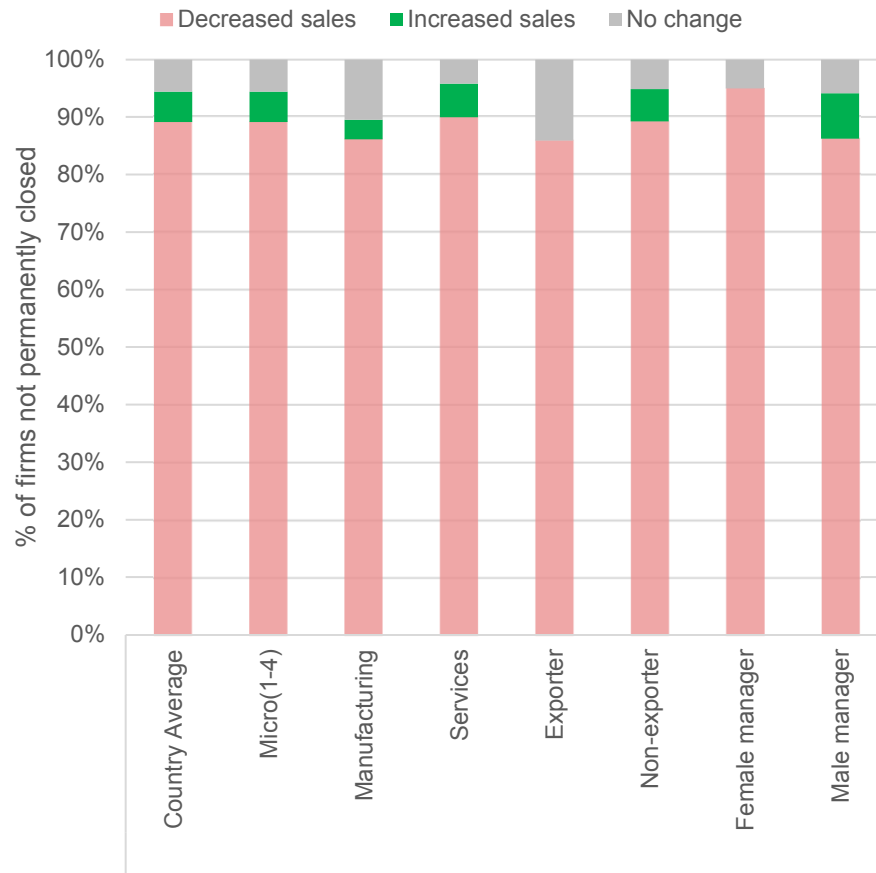


# 1) External shock

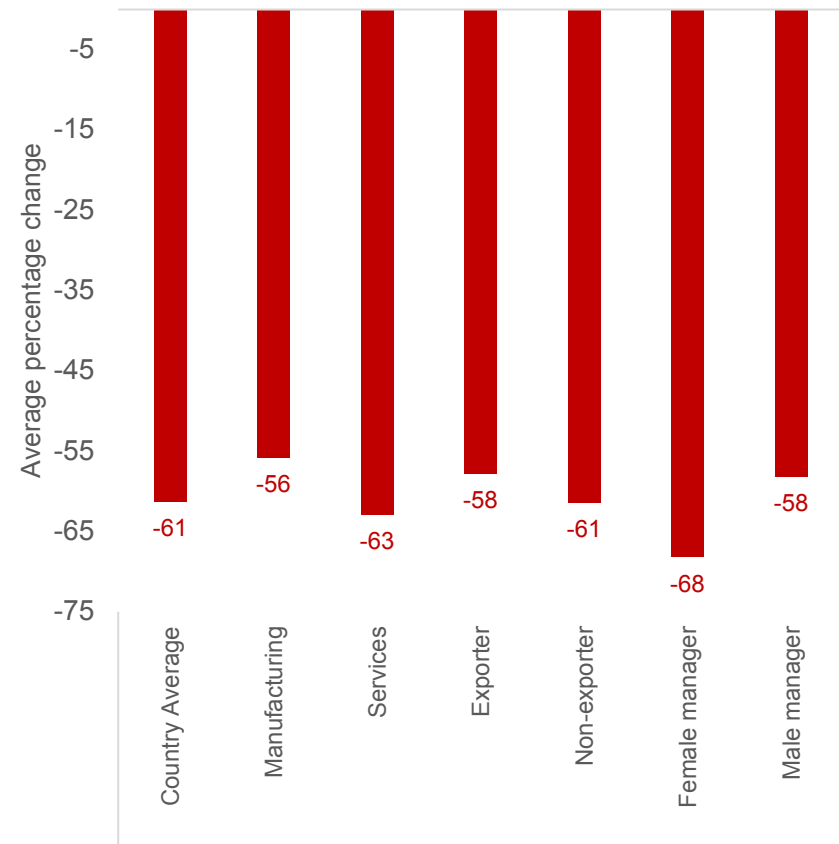


## Impact on sales in Armenia

Observed changes in monthly sales compared to one year ago



Change in monthly sales compared to one year ago

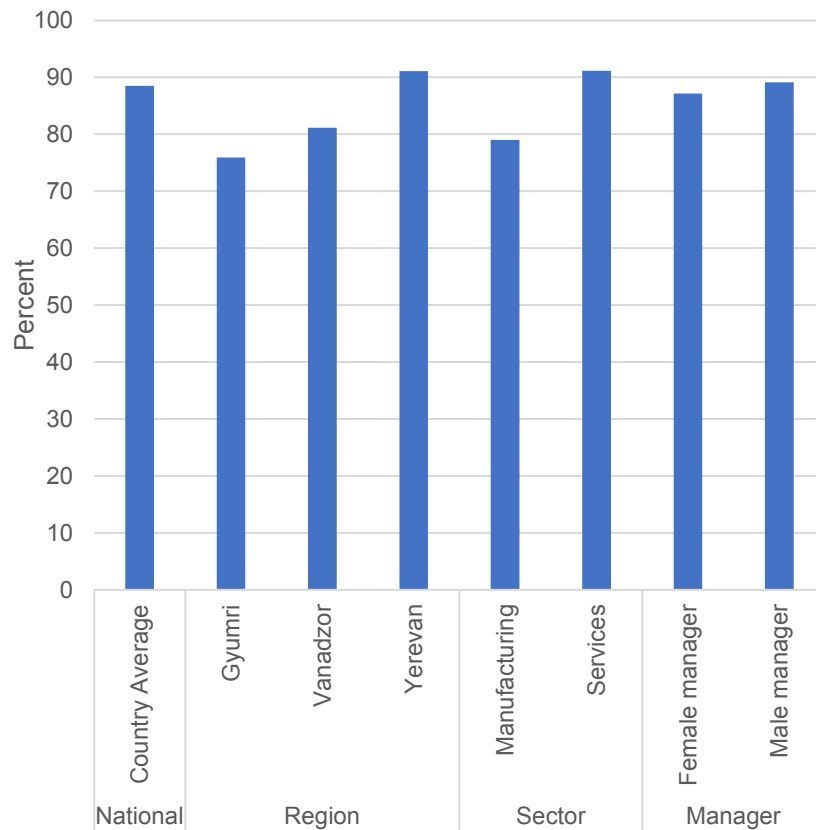


# 2) Firm adjustments: Closures

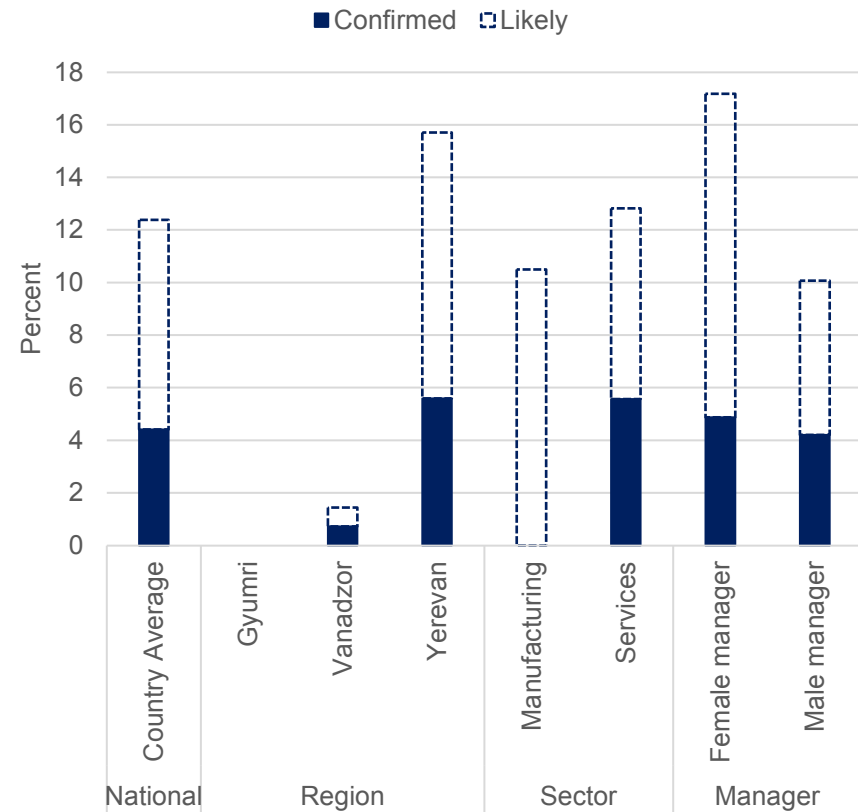


## Temporary and permanent closures

Firms that have ever temporarily closed during the COVID-19 outbreak



Firms permanently closed since COVID-19 outbreak



## 2) Firm adjustments: Closures



### Temporary and permanent closures

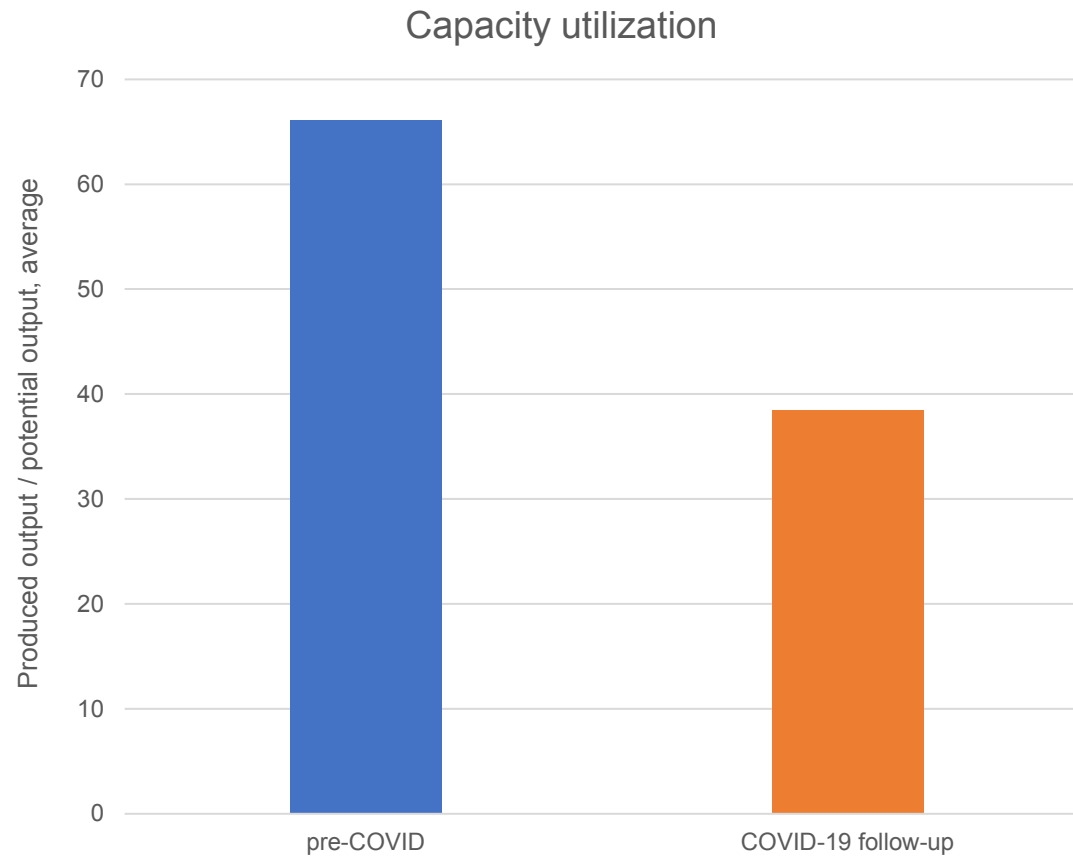


		Ever temporarily closed during the COVID-19 outbreak (% of surviving firms)	Permanently closed since COVID-19, confirmed (% of contacted firms)	Permanently closed since COVID-19, unconfirmed (% of contacted firms)
Armenia	Country Average	88.5	4.4	3.6
	Gyumri	75.9	-	-
	Vanadzor	81.1	0.7	-
	Yerevan	91.1	5.6	4.5

## 2) Firm adjustments: Operations



### Capacity adjustments in manufacturing, Armenia

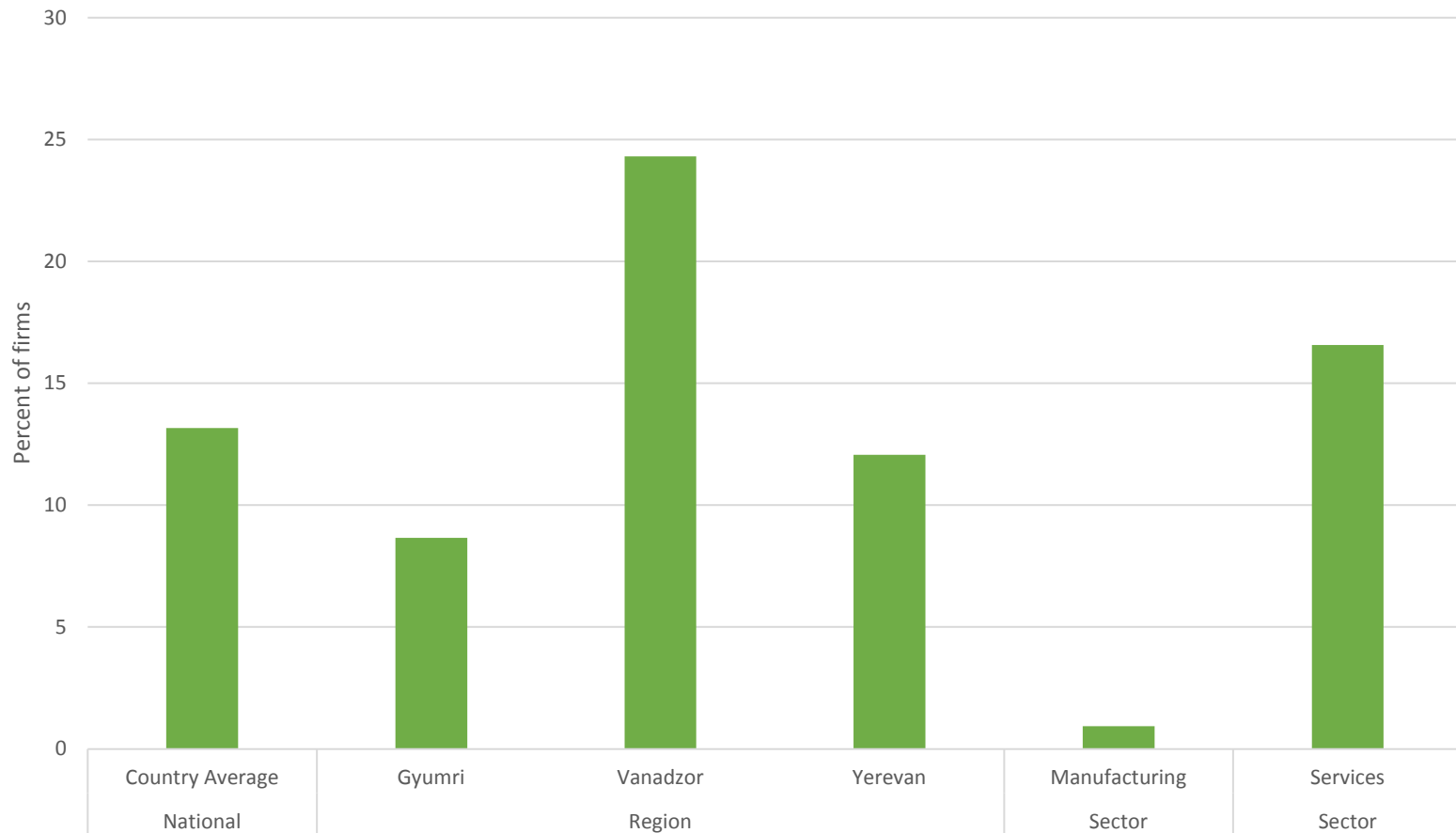


Source: Enterprise Survey 2019 and Enterprise Survey Follow-Up. Notes: Capacity utilization is calculated based on the question “[...] what was this establishment’s output produced as a percentage of the maximum output possible if using all the physical capital available (capacity utilization)?”. Only manufacturing firms answer this question. 44

## 2) Firm adjustments: Operations



### Firms adjusting or converting their production or services

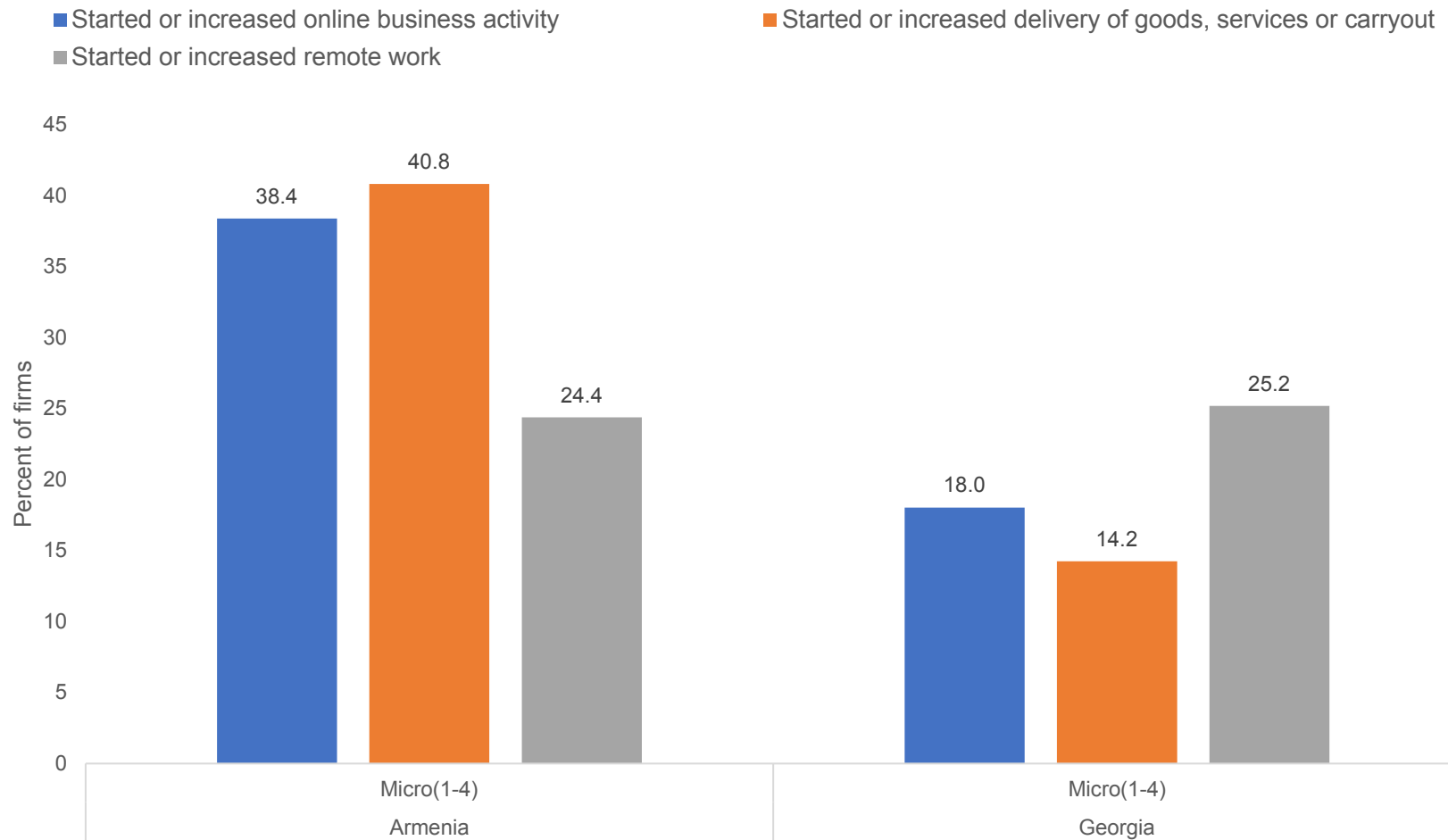


Source: Enterprise Survey Follow-Up. Notes: Responding to the question “Has this establishment adjusted or converted, partially or fully, its production or the services it offers in response to the COVID-19 outbreak?”.

## 2) Firm adjustments: Coping strategies



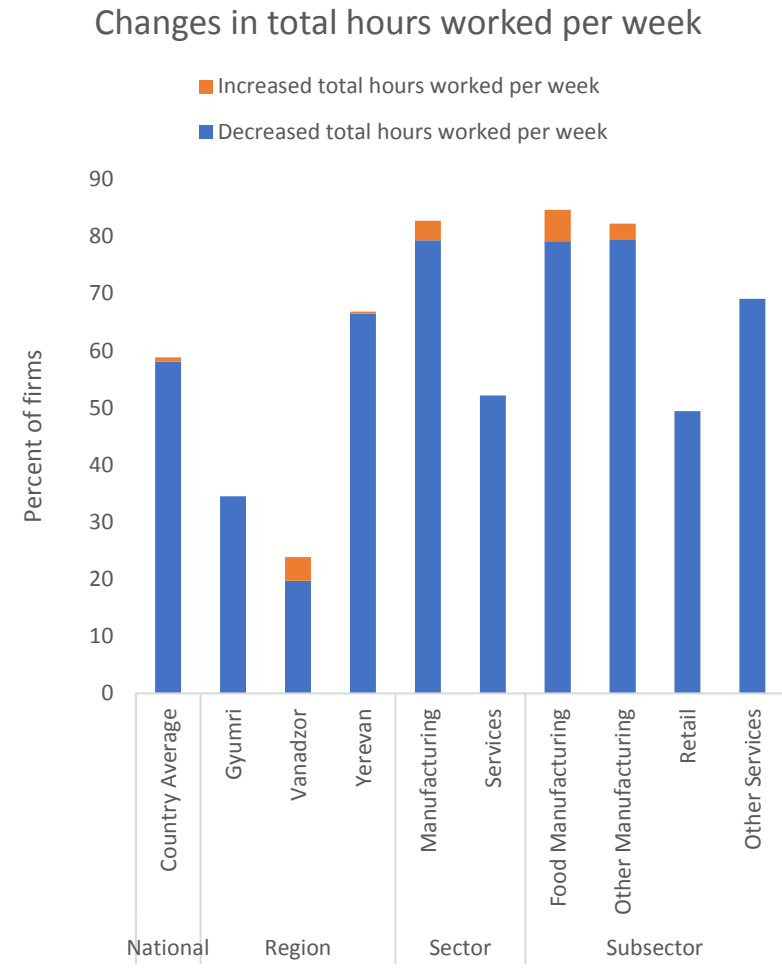
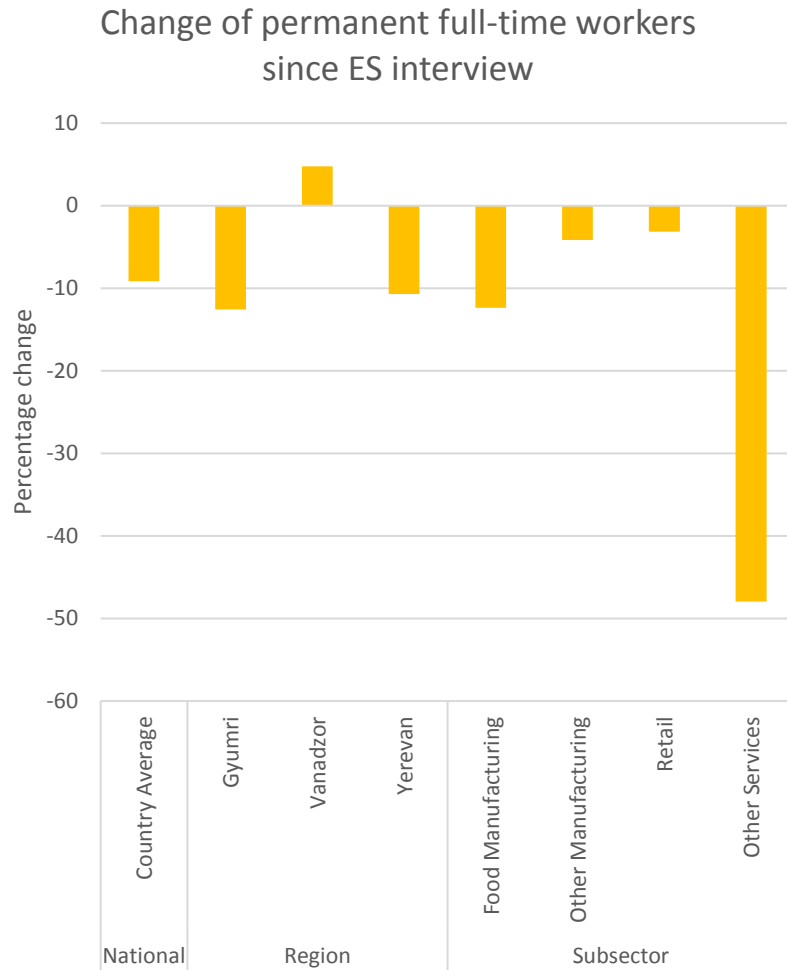
### Coping strategies and innovation of micro-firms, Armenia and Georgia



# 2) Firm adjustments: Workforce



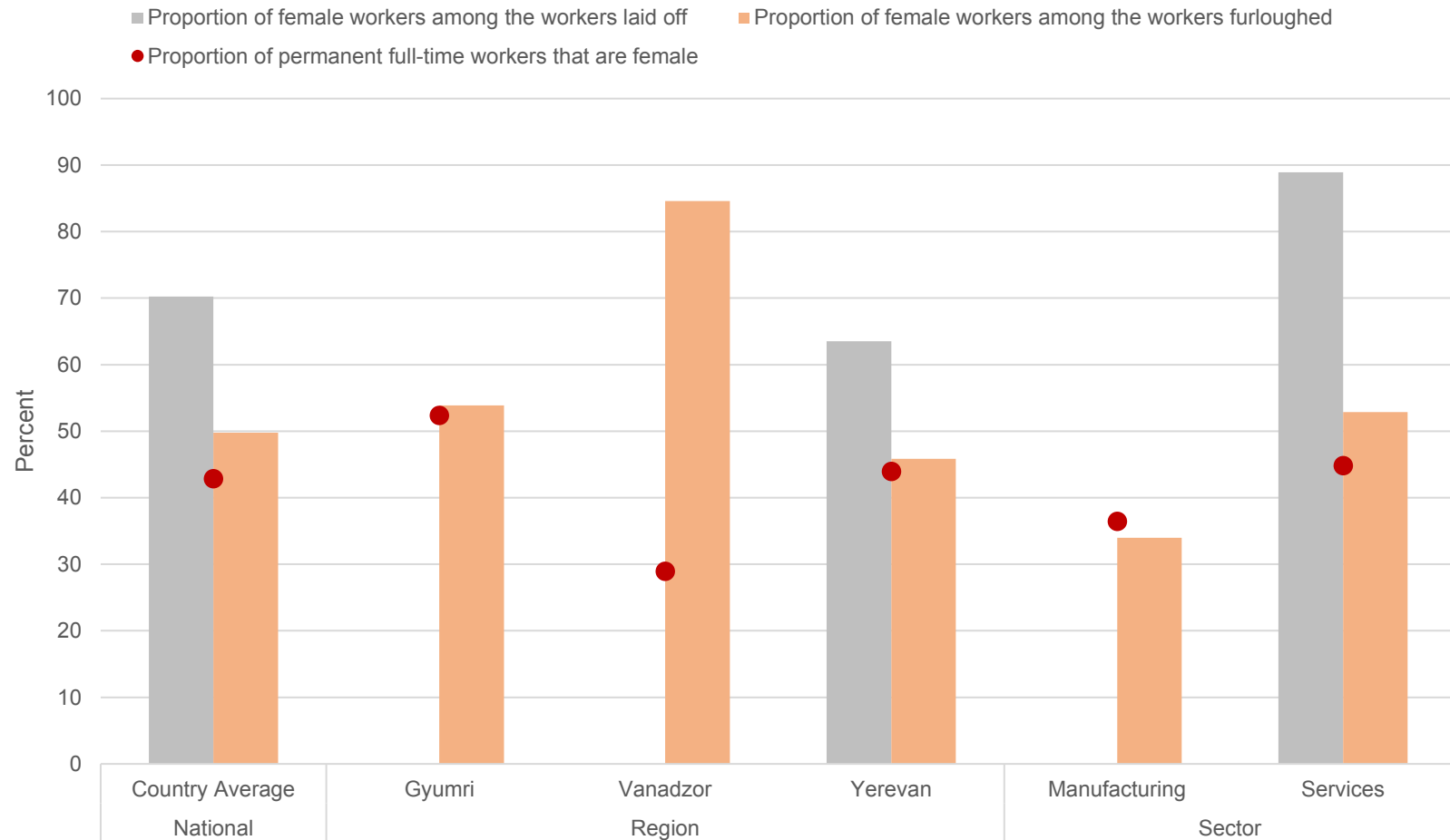
## Impact on full-time employment and hours worked



# 2) Firm adjustments: Workforce



## Impact on female workers



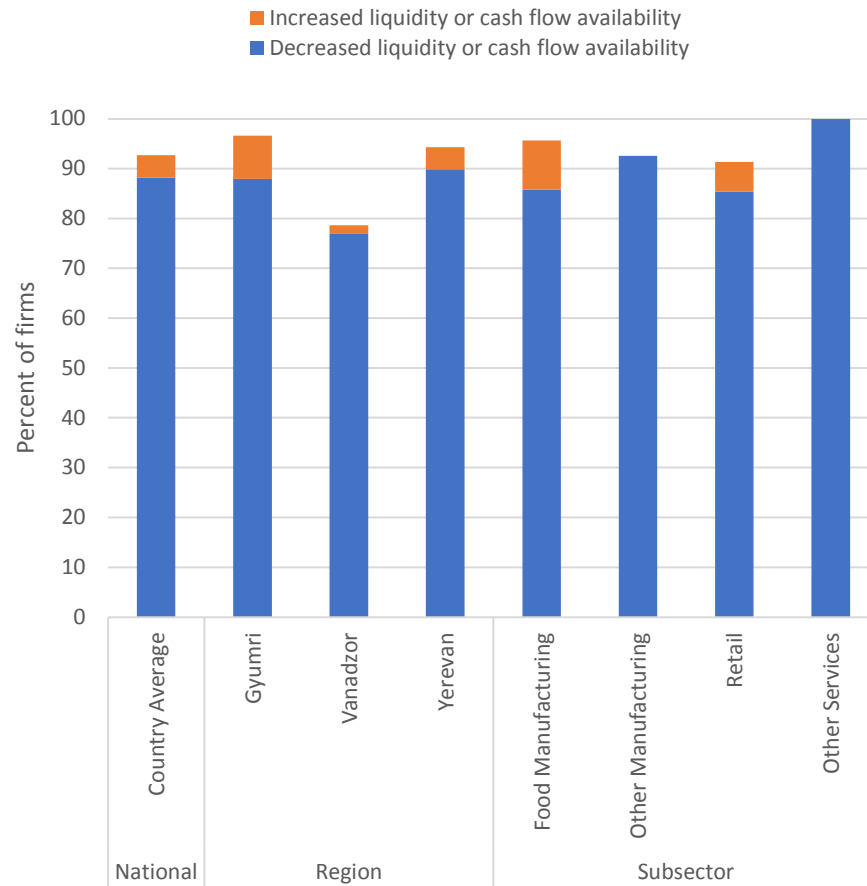


# 2) Firm adjustments: Finance



## Cashflow shortages

Firms experiencing changes in available cashflows

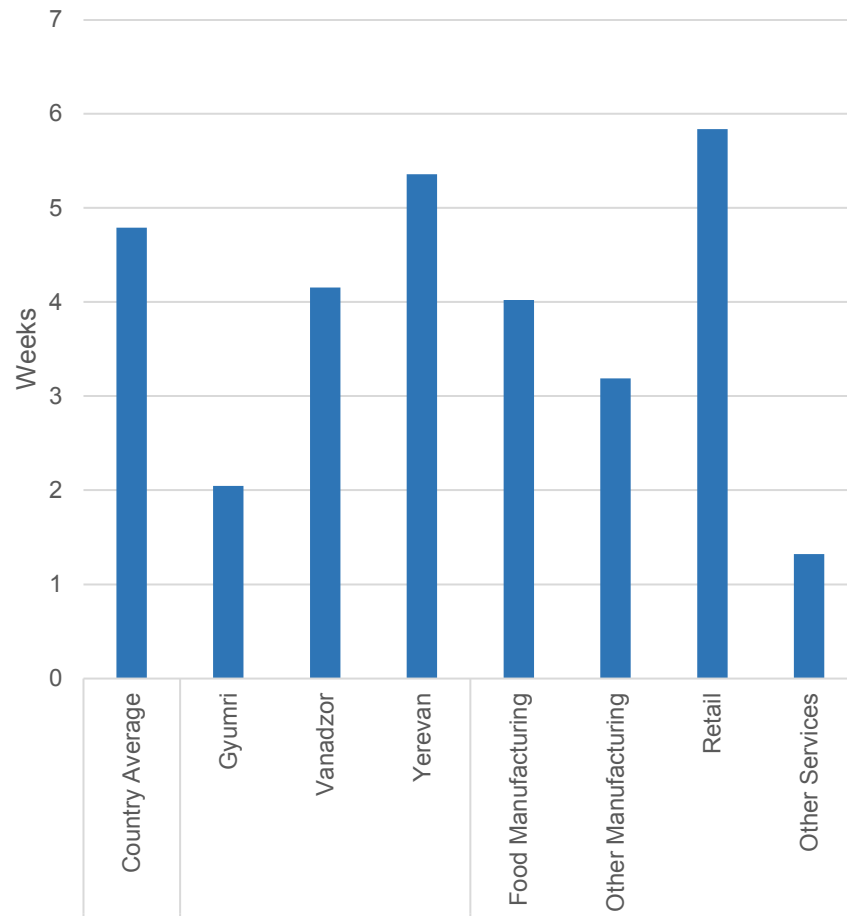


# 2) Firm adjustments: Finance

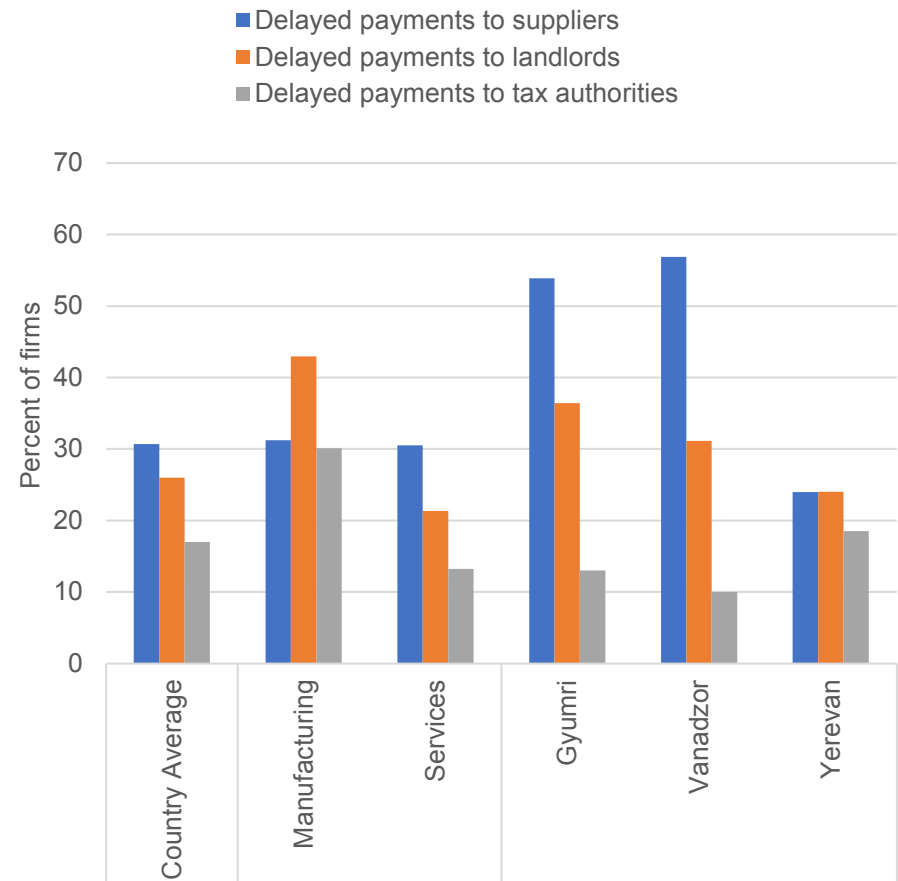


## Survival and Liabilities

If sales stopped, average duration of establishment survival



Delayed payments due to the COVID-19 outbreak for more than one week

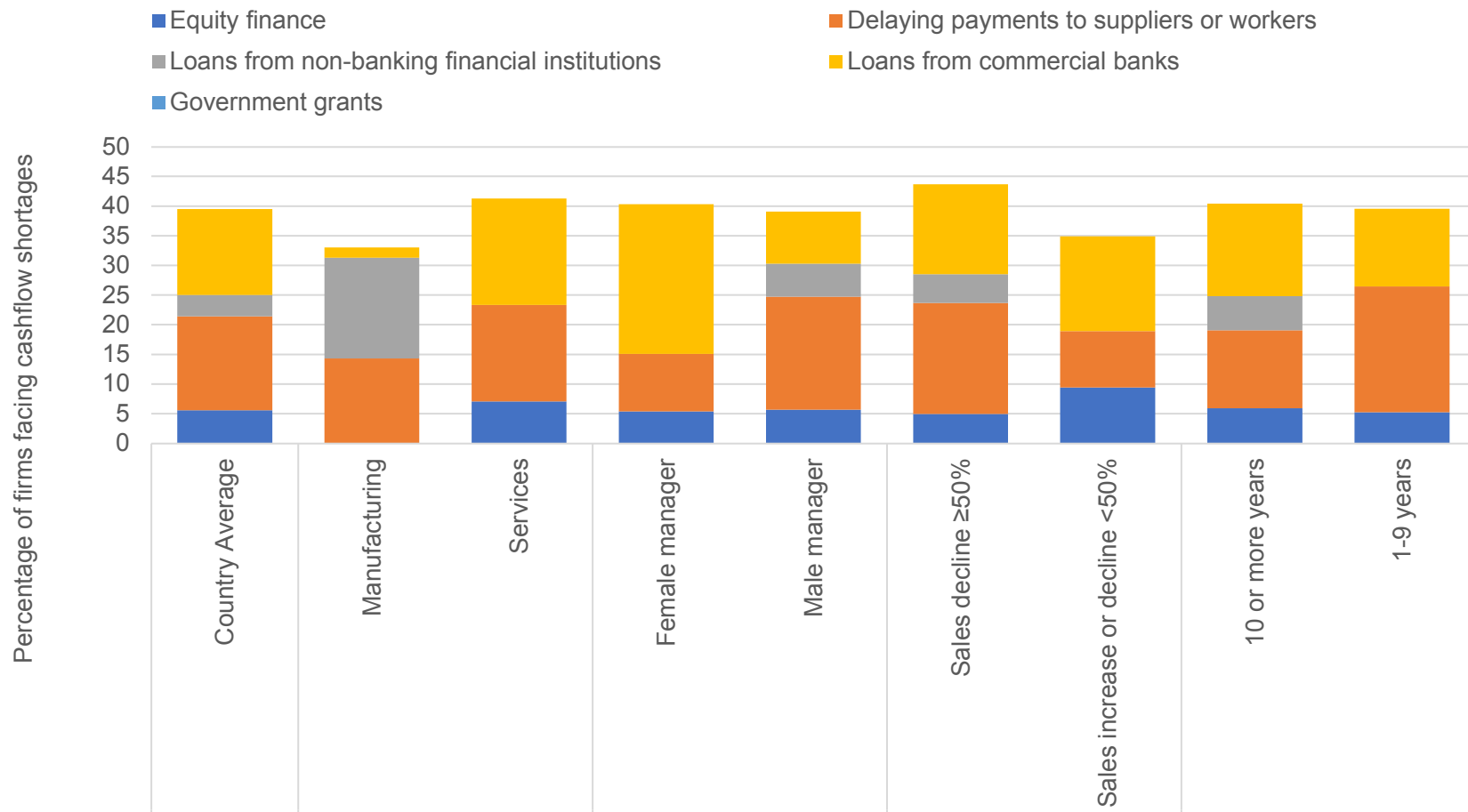


Source: Enterprise Survey COVID-19 Follow-up.

## 2) Firm adjustments: Finance



### Main source of finance to face cashflow shortages



Source: Enterprise Survey Follow-Up. Notes: Loans from non-banking financial institutions include “microfinance institutions, credit cooperatives, credit unions, or finance companies”. Equity finance refers to “increase contributions or capital from existing owners/shareholders or issuing new shares”.

# 3) Government support



## Policy responses targeted at businesses

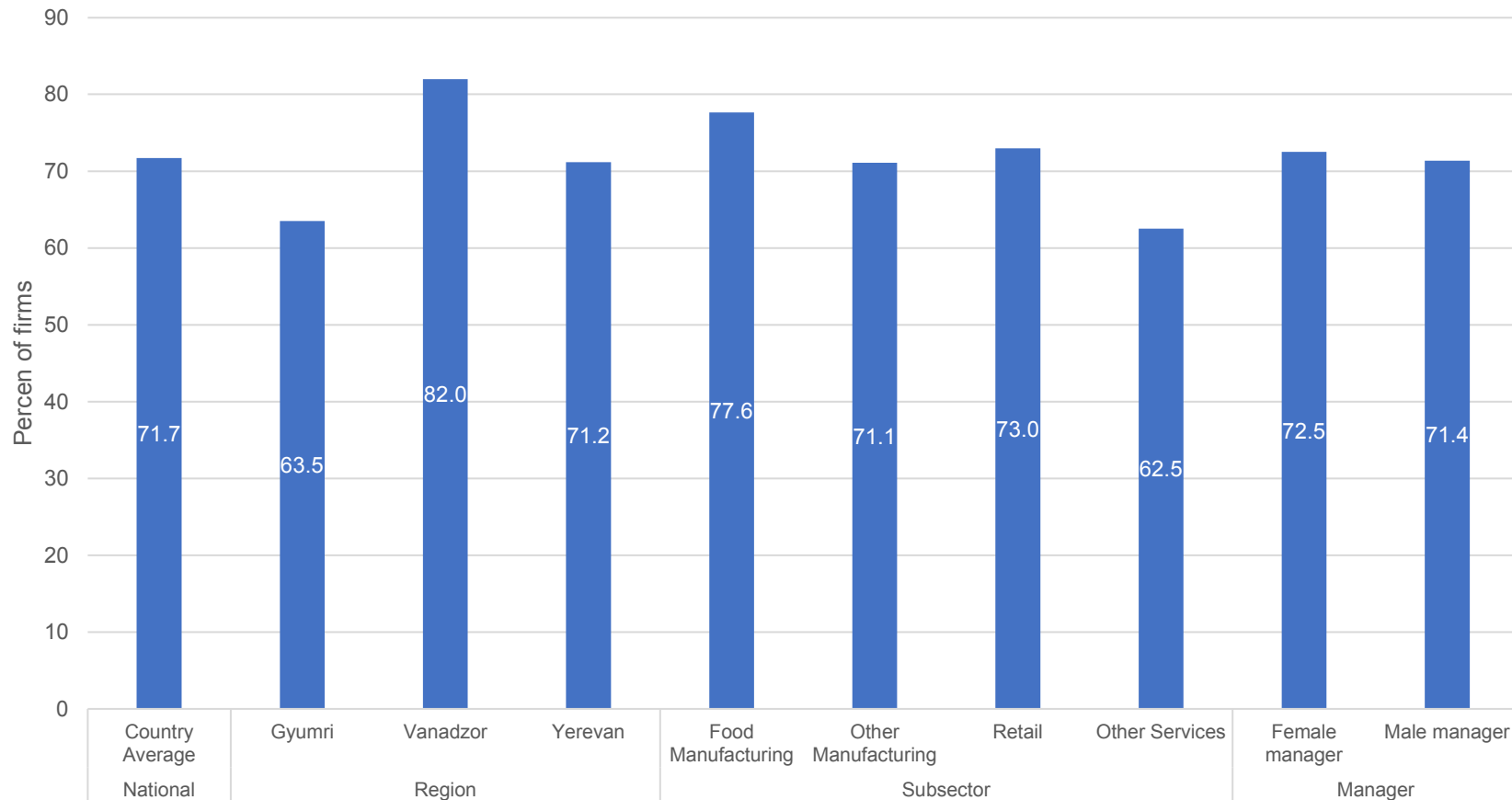
Package	Objective	Instrument	Eligibility and Details
<b>Low interest rates for large enterprises</b> (Package #1)	<ul style="list-style-type: none"> <li>• Address liquidity shortages.</li> <li>• Ensure continuity of economic activity.</li> <li>• Maintain employment.</li> </ul>	<ul style="list-style-type: none"> <li>• Co-financing, refinancing and subsidizing high interest rates.</li> </ul>	<ul style="list-style-type: none"> <li>• Loans provided by banks &amp; financial institutions.</li> <li>• 24-months maturity.</li> <li>• Maximum amount of AMD 500 million &amp; maximum interest rate of 6%.</li> </ul>
<b>Loans for SMEs in most affected sectors</b> (Package #3)	<ul style="list-style-type: none"> <li>• Maintain employment and salary payments.</li> </ul>	<ul style="list-style-type: none"> <li>• Loans of the Investor Support Center. Licensed banks and credit institutions act as servicing agents.</li> </ul>	<ul style="list-style-type: none"> <li>• Firms with turnover AMD 24 million to 500 million in 2019.</li> <li>• Sectors: manufacturing; accommodation &amp; public catering; transportation &amp; storage; tourism; other services.</li> <li>• 36 months maturity without loan repayment in 1st year.</li> <li>• Maximum loan of AMD 50 million &amp; ≤10% of turnover in 2019.</li> </ul>
<b>Grants to businesses up to 50 employees</b> (Package #5)	<ul style="list-style-type: none"> <li>• Preserve productive jobs.</li> </ul>	<ul style="list-style-type: none"> <li>• Lump sum payment.</li> </ul>	<ul style="list-style-type: none"> <li>• Businesses (≤50 employees) keeping the wage bill &amp; number of employees the same as before the crisis.</li> <li>• Size of grant is the average salary for each 5th employee.</li> </ul>
<b>Supplementary income transfer for workers in tourism/hospitality and other services</b> (Package #8)	<ul style="list-style-type: none"> <li>• Supplement income of workers in vulnerable sectors.</li> </ul>	<ul style="list-style-type: none"> <li>• One-time income transfer to employees or entrepreneurs.</li> </ul>	<ul style="list-style-type: none"> <li>• Current workers in tourism/hospitality; hairdressers; retail stores (except selling food, tobacco and alcohol); pharmacies.</li> <li>• Amount based on Jan-Feb average salary or 10% of sales turnover during 2019-Q4. Maximum of AMD 136,000.</li> </ul>
<b>Cash payment for microbusinesses</b> (Package #10)	<ul style="list-style-type: none"> <li>• Assistance for microbusinesses.</li> </ul>	<ul style="list-style-type: none"> <li>• One-time assistance payment.</li> </ul>	<ul style="list-style-type: none"> <li>• Microbusinesses with annual turnover &lt; AMD 24 million.</li> <li>• Payment of 10% of turnover in 2020-Q1.</li> </ul>

# 3) Government support



## Coverage across firms

Firms that received national or local government assistance

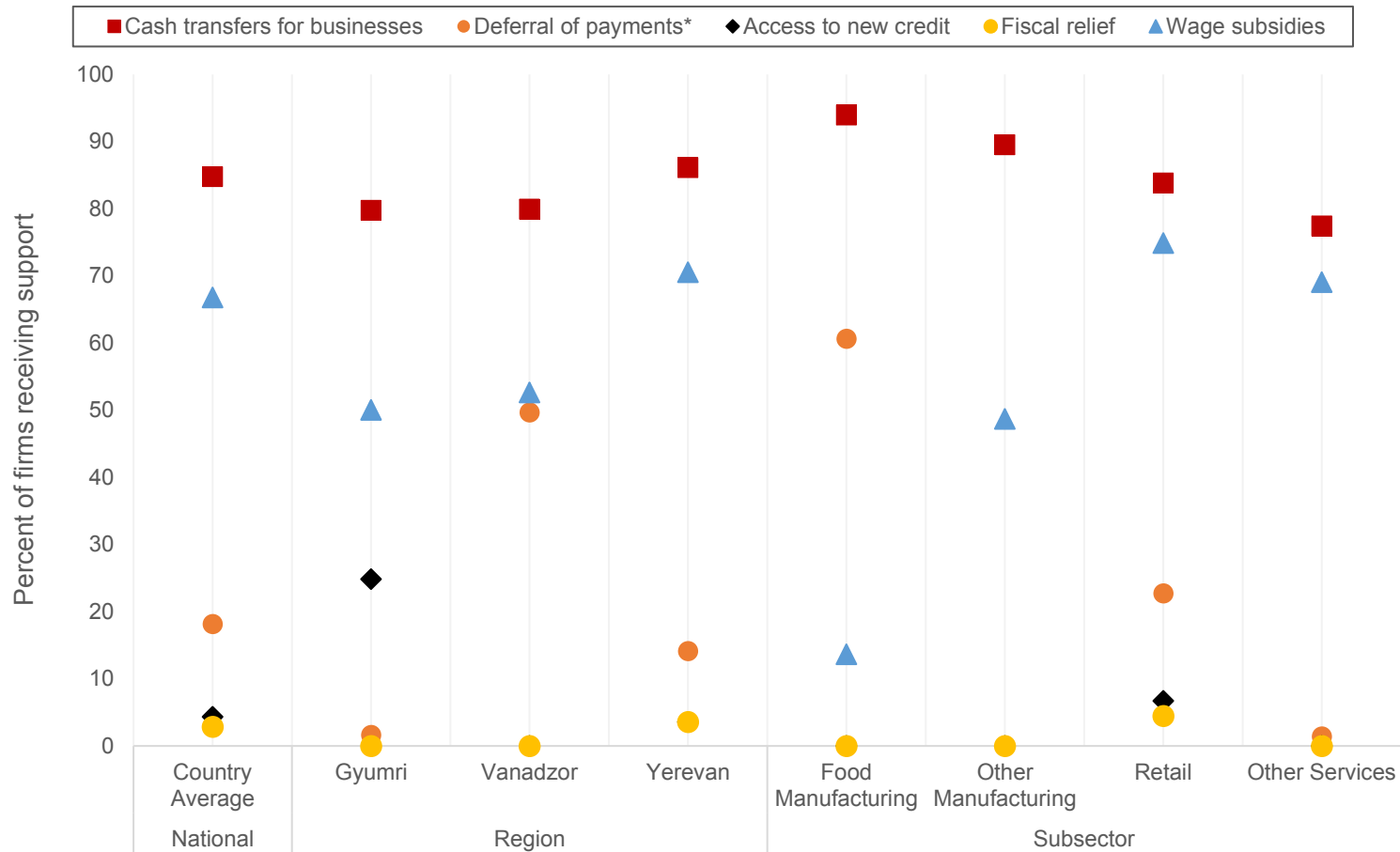


Source: Enterprise Survey COVID-19 Follow-up.

# 3) Government support



## Type of support

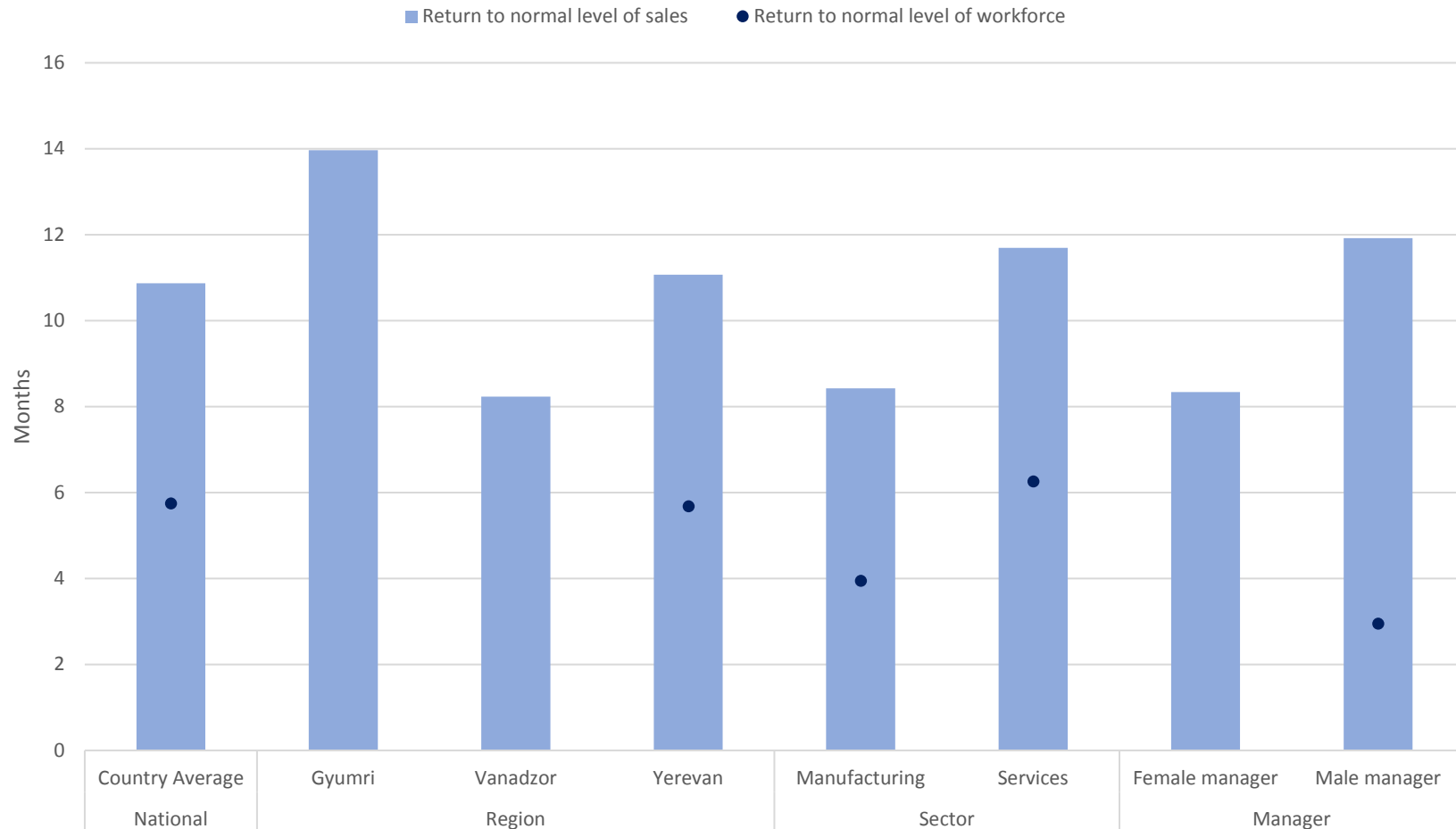


Source: Enterprise Survey COVID-19 Follow-up. Note: \* Deferral of payments refers to “Deferral of credit payments, rent or mortgage, suspension of interest payments, or rollover of debt.” The category “Other assistance” is not presented in the graph due to limited observations.

# 4) Looking ahead



## Expected time to return to normal



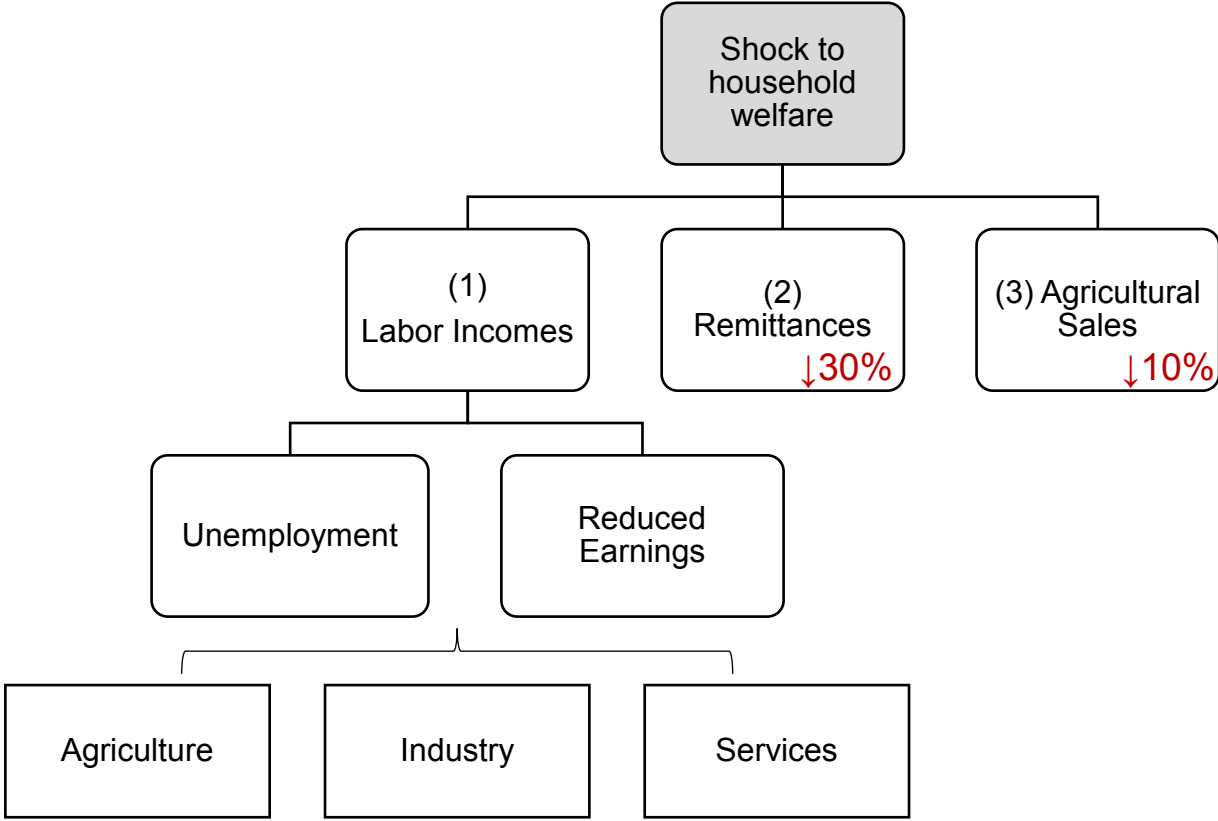
# COVID-19 IMPACT

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## Micro-simulation Results



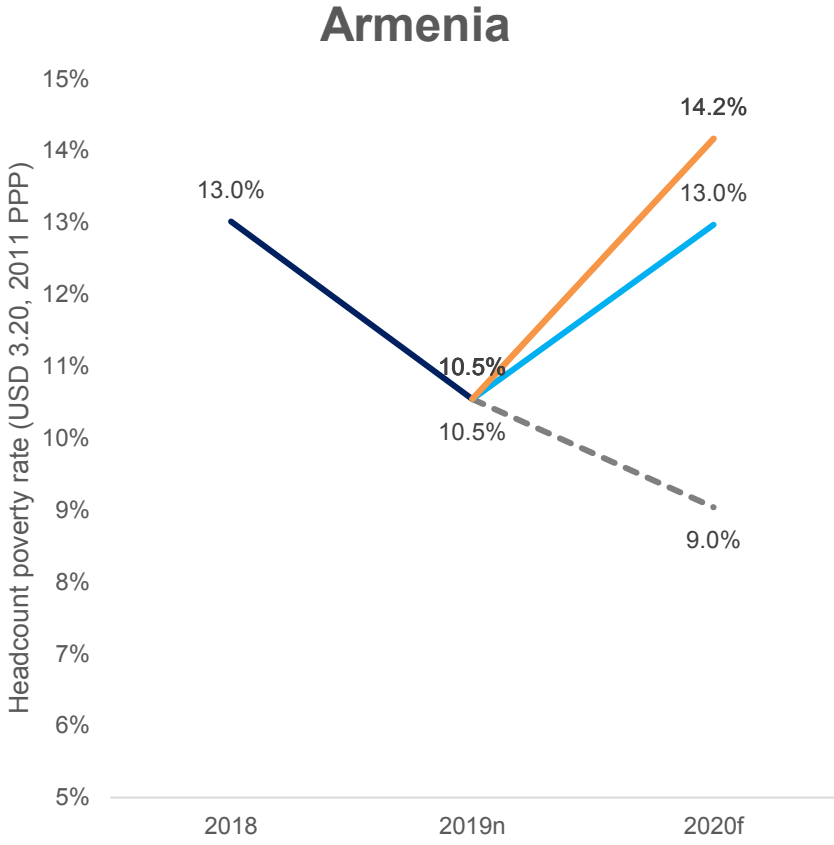
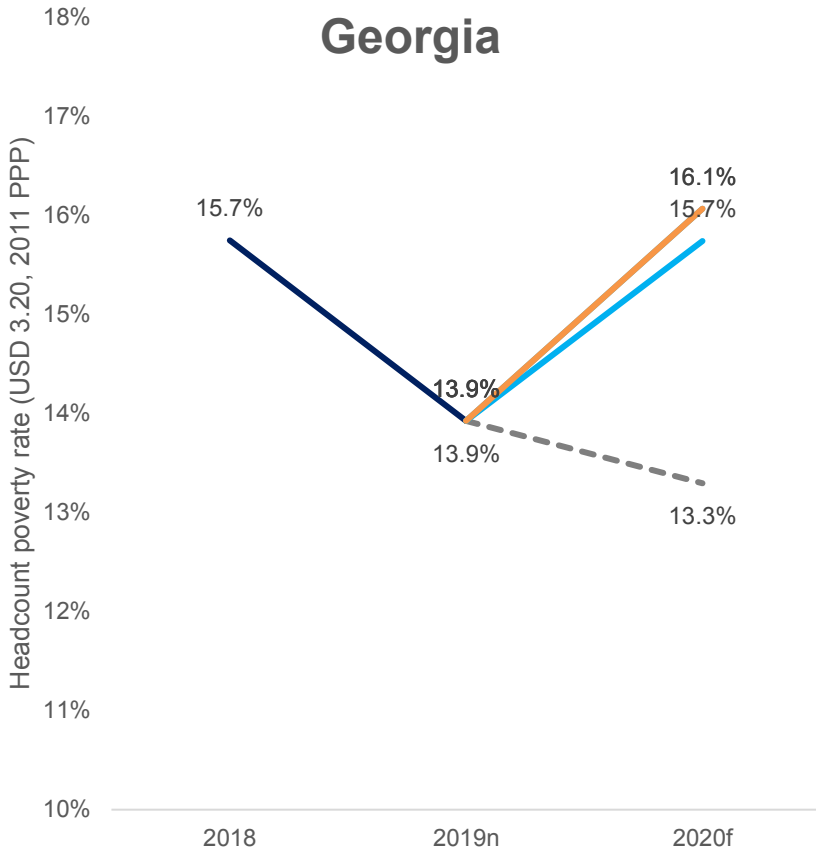
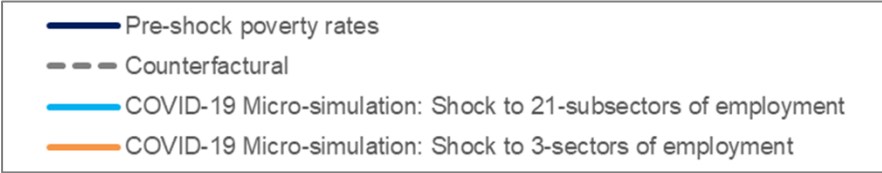
# Microsimulation: Basic Methodology



Probability of unemployment	0	0.1	0.3
Earnings loss among workers	↓10%	↓20%	↓30%

Source: South Caucasus Poverty and Equity Team.

# Microsimulations: Poverty Changes



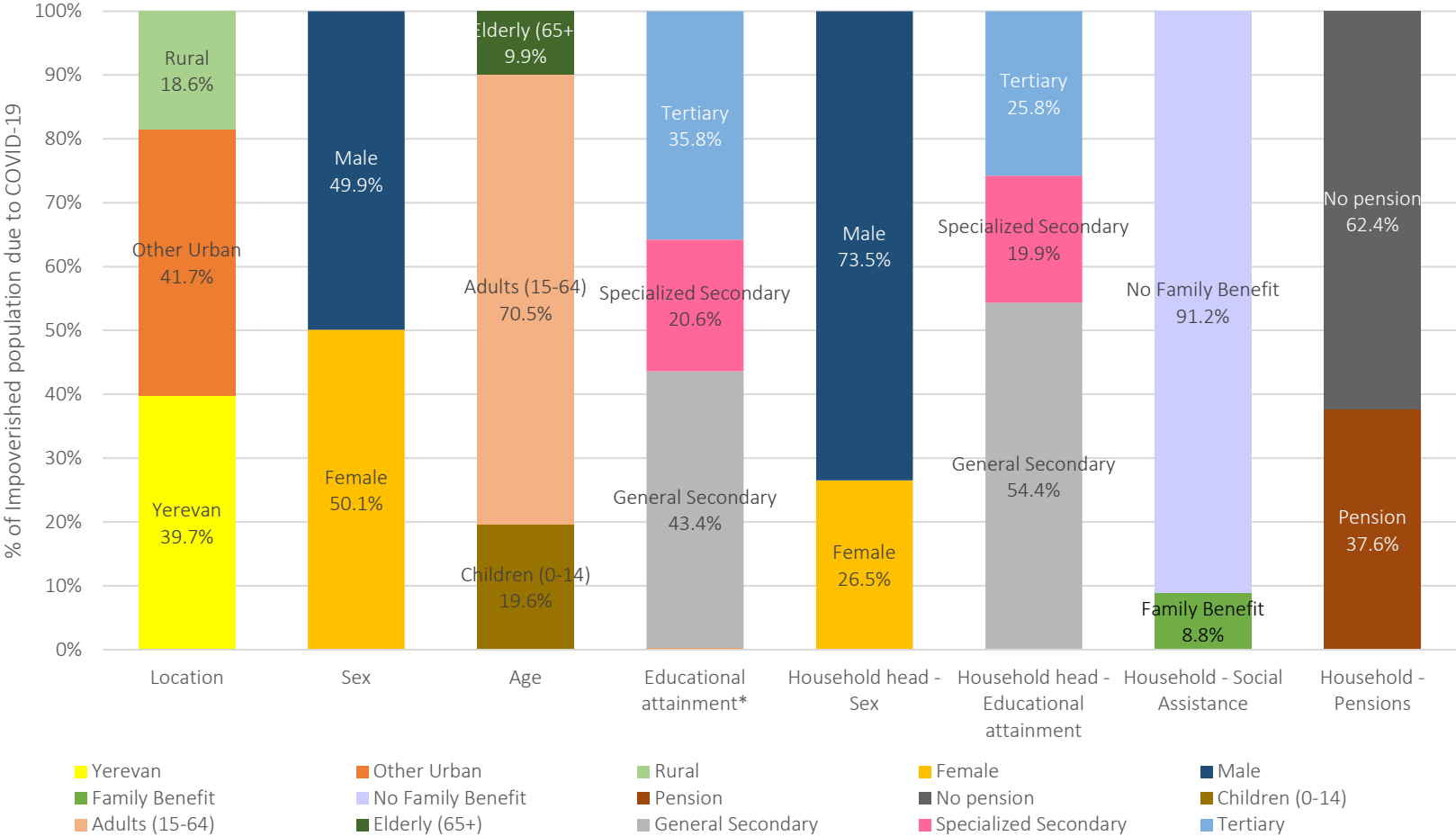
Source: South Caucasus Poverty and Equity Team. Notes: Using the USD 3.20 / per day (2011 PPP) international poverty line. n= Nowcasted, f= Forecasted.



# Microsimulation Results

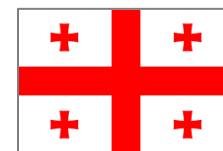
## Who will be impoverished in Armenia?

Household and individual characteristics



Source: South Caucasus Poverty and Equity Team. Notes: Using the USD 3.20 / per day (2011 PPP) international poverty line.

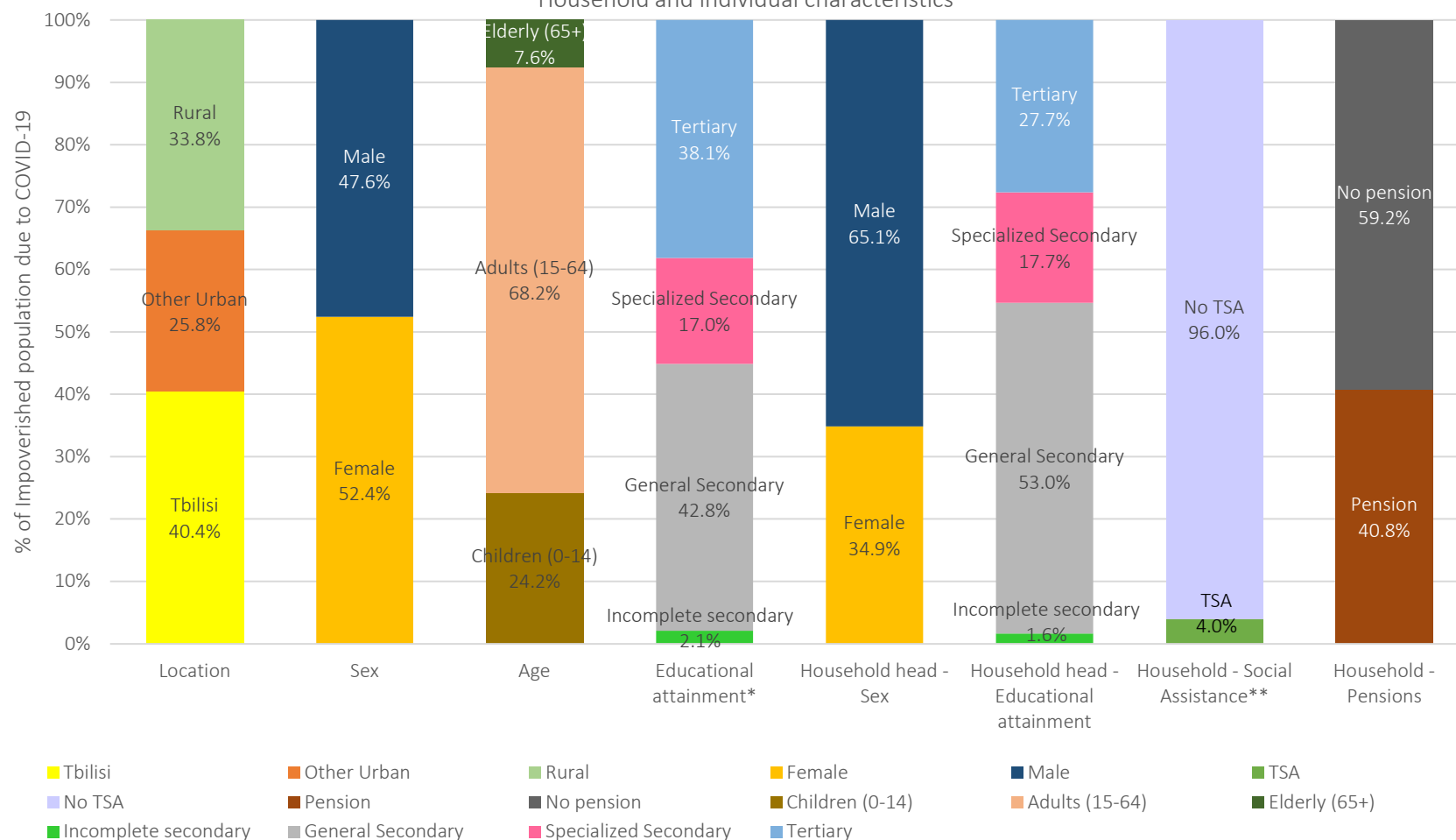
\* Restricted to individuals 25 years-old and older.



# Microsimulation Results

## Who will be impoverished in Georgia?

Household and individual characteristics



Source: South Caucasus Poverty and Equity Team. Notes: Using the USD 3.20 / per day (2011 PPP) international poverty line.

\* Restricted to individuals 25 years-old and older. \*\* Based on imputed eligibility (SPJ Estimates).

# THANK YOU!

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# APPENDIX

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# Representativeness across countries

		Armenia	Georgia	Moldova
Size	Micro (1-4 employees)			
	Small (5-20 employees)			
	Medium (20-99 employees)			
	Large (100+ employees)			
Sector	Manufacturing			
	Services			
Subsector	Food			
	Manufacturing			
	Hotels & Restaurants			
	Retail			
	Other Services			
Own...	Domestic			
	Foreign			