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FIRM LEVEL POLICY SUPPORT DURING THE CRISIS: SO FAR, SO GOOD?

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Overview

Massive and very diverse policy support, from central banks, financial supervisory agencies, sovereigns and the EU.

We focus on firm level policy support.

Being mostly untargeted, it raises concerns about side effects in the long-term, so-called zombie lending. We take benefit of the **EIBIS 2021** to shed light on the debate.

We focus on the distribution of the policy support and show that it has been allotted mostly owing to the sales losses during the crisis, going to firms most affected during the crisis.

We show that the policy supports the investment recovery, especially for investment in digital technologies.

Outline

1. The EIB Investment Survey (EIBIS)
2. Allotment of the firm level policy support
3. Policy effectiveness

The EIB Investment Survey, EIBIS (1/2)

- 12000 EU firms surveyed each year since 2016 (two-third renewed each year). Augmented by 500 UK and 500 US firms.
- Between 250 and 650 firms per country.
- Sampling to be representative at the country, sectors (4), size level (firms above 5 employees, 4 size classes)
- Questions about the firm, its activity, investments (past and future), financing, climate risk and environmental considerations…
- We use the 2021 vintage of the EIBIS:
  Interviews were conducted between Beginning of April and end May 2021.
  We focus on the questions related to the policy support and the Covid-19 impact.

The EIB Investment Survey, EIBIS, (2/2)

- In the 2021 vintage, four types of firm level policy support are distinguished:

    1. **New subsidized or guaranteed credits** (e.g. loan, overdraft or credit card from a bank or other finance provider) that will need to be paid back in the future but may have preferential or reduced interest rates and/or an extended repayment plan
    2. **Deferral of payments** which still leave a liability to be paid by the company in the future (e.g. deferral of tax payments, deferral of rent or mortgage for commercial property, suspension of interest payments),
    3. **Subsidies or any other type of financial support** that the company will not have to pay back in the future, a type of support that comprises job retention policies
    4. any other type of financial support.

- At the firm level, survey answers are matched with pre-Covid balance sheet characteristics and P&L information (taken from ORBIS).

1. The EIB Investment Survey (EIBIS)

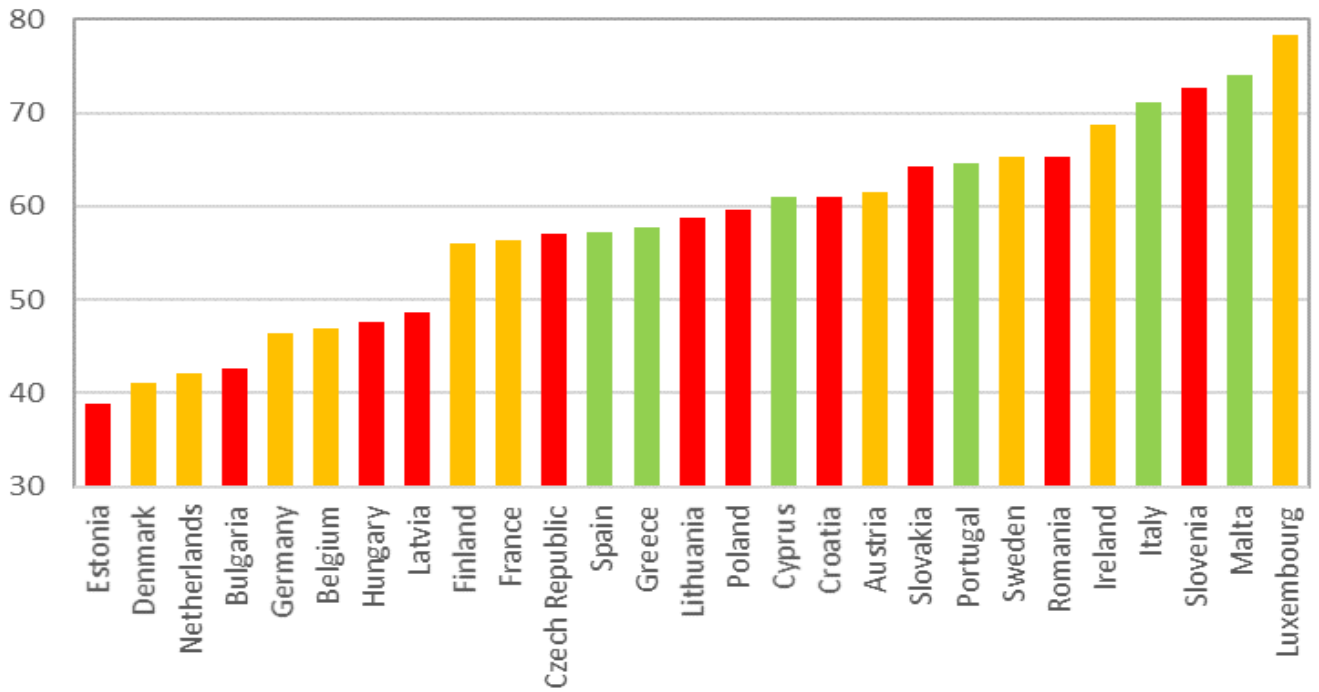
2. Allotment of the firm level policy support

3. Policy effectiveness

Diversity of the support inside and across economies

Intensity of the policy support across European economies

(% of firms)



Source: Calculations based on the EIBIS 2021. ***Note:*** % of firm having benefitted from at least one type of support. The color reflects the region in which the economy is located: Red indicates Central and Eastern economies, Green indicates Southern economies and Orange indicates Northern and Western economies.

In Europe, 56% of firms got support via at least one specific policy.

The majority of the firms received only one type of support.

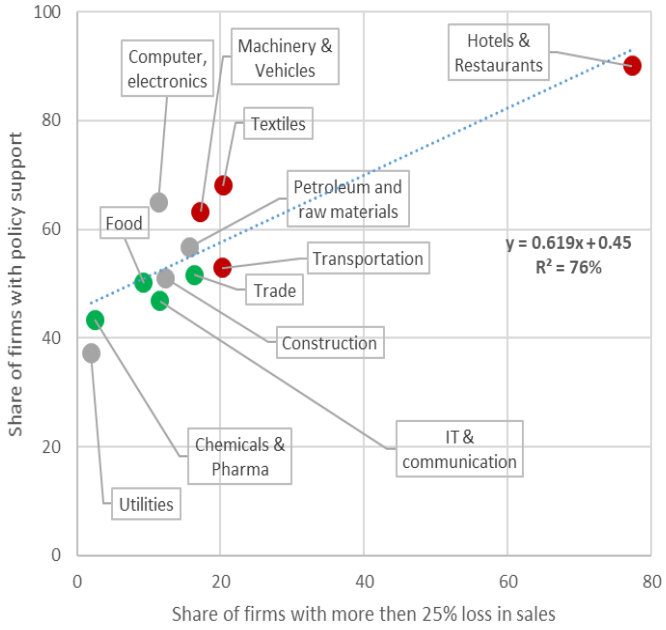
Around a third of companies that received support benefitted from two types of policies (12% of firms at the EU level).

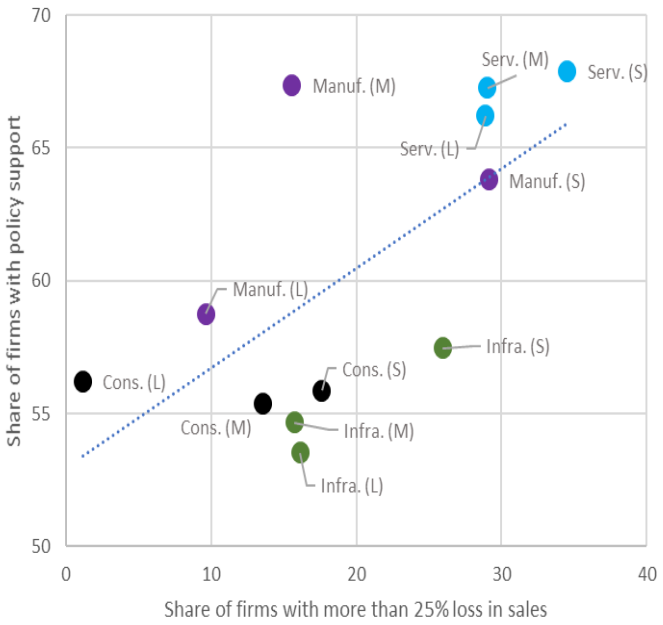
Among types of policy support, subsidies and other financial support (type 3) is the most common, used by 36% of the firms.

A similar share of firms, 16-17%, benefitted from the deferral of payments or credit support to be paid back.

The support went to the firms most affected by the crisis

Determinant of the allotment of policy support *(% of firms)*





***Source**: Calculations based on EIBIS 2021. **Note:** Any type of policy support is considered simultaneously.*

Services comprise some of the sectors most hit,, and some not or positively affected.

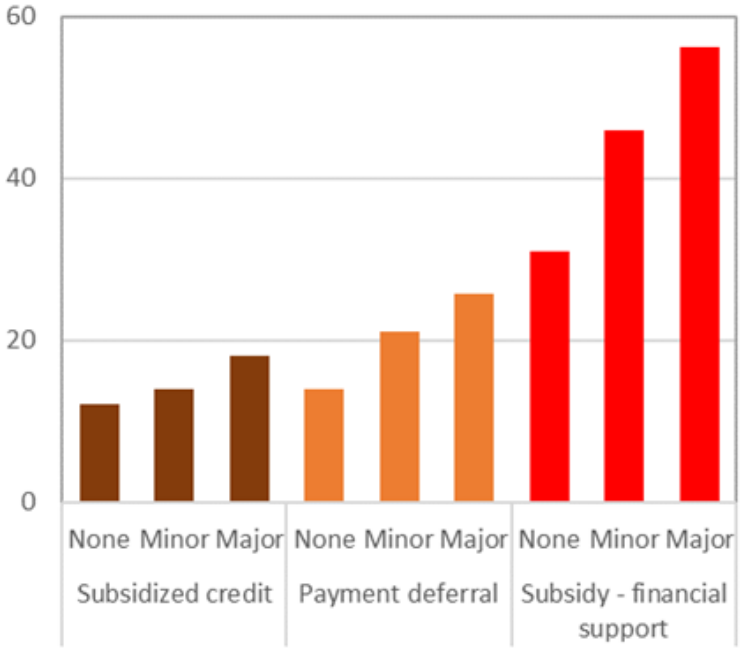
The stronger the decline in turnover in the sector, the higher the intensity of the policy support.

For each of the four sectors considered separately, the proportion of allotment to smaller companies is higher than for larger companies.

Smaller firms more likely than larger ones to suffer large sales losses: 29.1% vs 9.1% (manufacturing sector), 34.5% vs 28.9% (services sector), 17.6% vs 1.2% (construction sector) and 25.9% vs 16.1% (infrastructure sector).

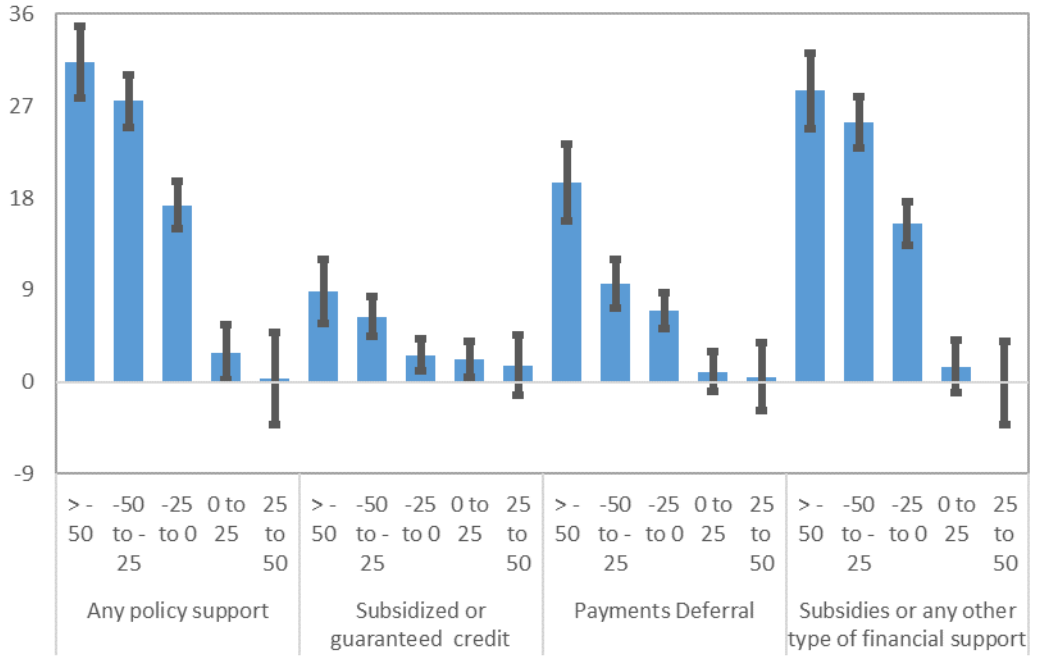
The support went to the firms most affected by the crisis

Allotment and sales losses *(% of firms)*



Source: *Calculations based on the EIBIS 2021.* ***Note:*** *The y-axis indicate the proportion of firms having benefitted from the support. Minor (Major) change corresponds to less (more) than 25%.*

Impact of sales loss on the likelihood of getting supported *(Change in probability, pp.)*

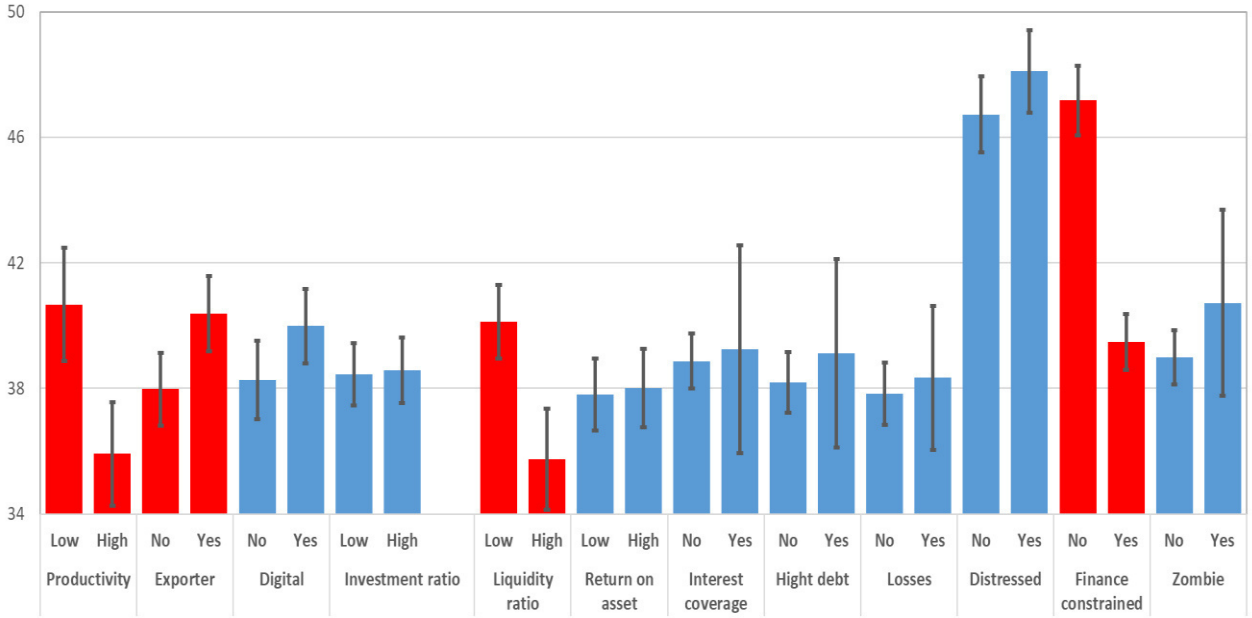


$$q^{k}_{i,c,s} = \alpha Sales_i + \theta_c + \theta_{sec} + \theta_{size} + \varepsilon_i$$

Recording a decline in sales increases the probability to be supported by 21 pp. The intensity of the effect increases with the magnitude of the decline. This is even more pronounced for subsidies and other policy support, a component that includes labour support more linked to sales drops.

The allotment is mostly unrelated to pre-crisis weakness

Predicted probability of getting supported conditional n pre-Covid firm characteristics *(Probability, pp.)*



Source: *Estimations based on the EIBIS2021 matched with the ORBIS database.* ***Note:*** *The vertical line reports the 95% interval confidence of the conditional probability of getting the support (see EQ2). Two overlapping lines indicate that the factor does not alter significantly the probability. Red bars indicate when the characteristic is statistically discriminant.*

The previous model is put in a logit form and augmented by a firm characteristic, real and financial

$$q^{k}_{i,c,s} = Probit(\alpha Sales_i + characteristic + \theta_c + \theta_s) + \varepsilon_i$$

Productivity appears when the two extreme deciles are considered. This mostly reflects the fact that the most productive firms did not take the support. Being an exporter also significantly matters.

Firms with low liquidity, are more likely to get policy support. Those in distress, with low return on assets, recording losses, highly indebted are more likely to get support, but the difference is not significant.

The primary goal of the policy support, avoiding a liquidity dry-out was reached.

1. The EIB Investment Survey (EIBIS)

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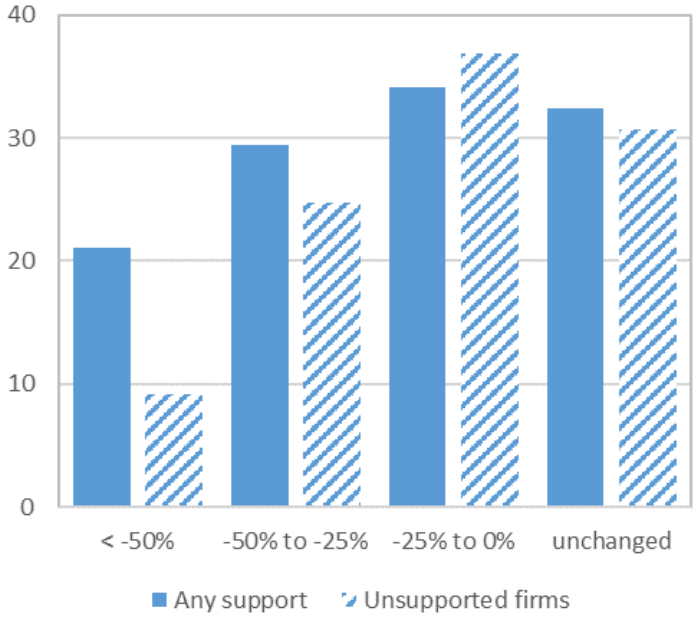
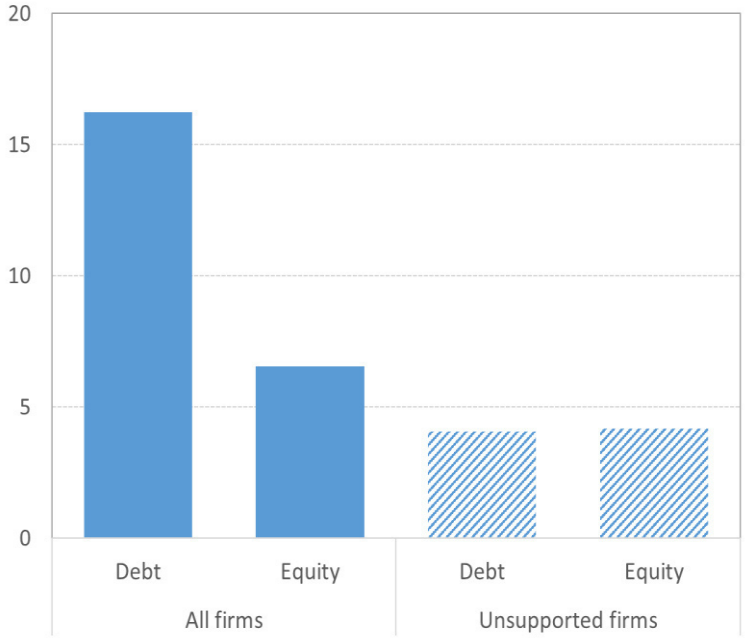
Supported firms plan to raise investment by more

Investment plans conditional on sales losses and policy support *(% firms)*



***Source**: computations based on the EIBIS 2021. **Note**: the x-axis reflects the sale losses reported by the company. The y-axis reports the percentage of firms surveyed that plan to raise investment in the current financial year.*

Policy support and balance sheet expansion *(% firms)*



***Source:** computations based on the EIBIS 2021.*

For the same level of losses, supported firms plan to raise investment by more. The difference is especially pronounced for large sales losses.

Leverage increased for 17% of firms and supported firms strengthened their equity base by more.

Supported firms more likely to recapitalize (7% compared to 4%).

The policy support contributes to the investment rebound

Factors explaining the likelihood of increasing investment in the current financial year *(diff and diff estimates)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Policy support	0.014	**0.024****	0.014	0.007	**0.023****	**0.020***	0.010	0.002	0.019
	[0.011]	[0.011]	[0.012]	[0.013]	[0.011]	[0.012]	[0.013]	[0.014]	[0.012]
Covid-year sales loss above 25%		**-0.076*****	**-0.069*****	**-0.057*****	**-0.075*****	**-0.093*****	**-0.086*****	**-0.082*****	**-0.091*****
		[0.013]	[0.014]	[0.016]	[0.013]	[0.022]	[0.024]	[0.029]	[0.022]
Covid-year sales loss above 25% X						0.025	0.025	0.035	0.023
						[0.027]	[0.029]	[0.035]	[0.027]
Pre-covid Productivity	0.004	0.002	-0.001	0.004	0.003	0.002	-0.001	0.004	0.003
	[0.007]	[0.007]	[0.007]	[0.009]	[0.007]	[0.007]	[0.007]	[0.009]	[0.007]
Financial leverage			0.004				0.004		
			[0.006]				[0.006]		
Firm in distress				0.021				0.021	
				[0.017]				[0.017]	
Capital ratio					-0.029				-0.029
					[0.022]				[0.022]
Observations	8,823	8,823	7,796	6,091	8,545	8,823	7,796	6,091	8,545
R-squared	0.018	0.022	0.022	0.019	0.021	0.022	0.022	0.019	0.021
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	yes	yes	yes	yes	yes	yes	yes	yes	yes

Source: *Authors' estimations based on EIBIS21 matched with firm-level ORBIS information.* ***Note:*** *Linear Probability Model estimated with firm size dummies and firm age dummies. Constant not reported. Robust standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1. The coefficients reported in bold are significant at 10% or below.*

$$q_{i,c,s} = \alpha.Sales_i + \beta.Pol_i^k + \gamma.Sales_i \times Pol_i^k + Z_i + \theta_{sect} + \theta_{size} + \theta_c + \varepsilon_i$$

Pol indicates that the firm has benefitted from at least one policy support measure.

Z is a set of firm characteristics, related to its balance sheet structure or P&L.

Firms which benefitted from policy support are more likely to increase investment in 2021.

Firms reporting a sales loss of more than 25% are 6 to 9 pp less likely to increase investment.

The positive coefficient on Sales × Policy indicates that for the same decline in losses, investment prospects are more positive for firms that have been supported.

The policy support fosters recapitalization

Factors explaining recapitalization *(diff and diff estimates)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Policy support	**0.024*** **	**0.017*** **	**0.015*** **	**0.018*** **	**0.013** **	**0.019*** **	**0.017*** **	**0.019*** **	**0.015*** **
	[0.005]	[0.005]	[0.006]	[0.006]	[0.006]	[0.006]	[0.006]	[0.007]	[0.006]
Covid-year sales loss above 25%		**0.048*** **	**0.045*** **	**0.038*** **	**0.047*** **	**0.055*** **	**0.054*** **	**0.045*** **	**0.055*** **
		[0.008]	[0.009]	[0.010]	[0.008]	[0.014]	[0.015]	[0.017]	[0.015]
Covid-year sales loss above 25%						-0.010	-0.013	-0.009	-0.011
						[0.017]	[0.018]	[0.021]	[0.017]
Pre-covid Productivity	**-0.016*** **	**-0.015*** **	**-0.015*** **	**-0.012** **	**-0.011*** **	**-0.015*** **	**-0.015*** **	**-0.012** **	**-0.011*** **
	[0.004]	[0.004]	[0.004]	[0.005]	[0.004]	[0.004]	[0.004]	[0.005]	[0.004]
Financial leverage			**0.008** **				**0.008** **		
			[0.003]				[0.003]		
Firm in distress				**0.056*** **				**0.056*** **	
				[0.010]				[0.010]	
Capital ratio					**-0.071*** **				**-0.071*** **
					[0.011]				[0.011]
Observations	8,823	8,823	7,796	6,091	8,545	8,823	7,796	6,091	8,545
R-squared	0.032	0.037	0.031	0.049	0.042	0.037	0.031	0.049	0.042
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	yes	yes	yes	yes	yes	yes	yes	yes	yes

Source: *Authors' estimations based on EIBIS21 matched with firm-level ORBIS information.* ***Note:*** *The dependent variable is the dummy indicating whether the firm has raised equity. Linear Probability Model estimated with firm size dummies and firm age dummies. Constant not reported. Robust standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1. The coefficients reported in bold are significant at 10% or below.*

Policy support raises the likelihood of increasing the equity base, an effect always significant at a 1% confidence level.

Sales losses also raise the probability of increasing the equity base.

These two effects suggest that recapitalization needs resulting from large losses become more likely with the policy allotment. Getting it would facilitate crowding-in equity investors.

Such interpretation is somewhat supported by the estimated impact of firm characteristics. The higher the financial leverage and the lower the capital ratio pre-Covid19, the more likely the increase in the equity base.

Hence, the change in the financial structure possibly corrects balance sheet weakness.

The policy support fastens firms digitalisation

Factors explaining the likelihood of becoming more digital

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Policy support	**0.046*** **	**0.053*** **	**0.055*** **	**0.052*** **	**0.052*** **	**0.045*** **	**0.047*** **	**0.045*** **	**0.043*** **
	[0.011]	[0.011]	[0.011]	[0.013]	[0.011]	[0.012]	[0.013]	[0.014]	[0.012]
Covid-year sales loss above 25%		**-0.060*** **	**-0.055*** **	**-0.051*** **	**-0.058*** **	**-0.092*** **	**-0.088*** **	**-0.085*** **	**-0.094*** **
		[0.013]	[0.014]	[0.016]	[0.013]	[0.020]	[0.022]	[0.027]	[0.021]
Covid-year sales loss above 25% X						**0.047***	**0.049***	**0.048**	**0.053** **
						[0.025]	[0.027]	[0.032]	[0.026]
Pre-covid Productivity	**0.043*** **	**0.042*** **	**0.038*** **	**0.031*** **	**0.038*** **	**0.042*** **	**0.038*** **	**0.031*** **	**0.038*** **
	[0.007]	[0.007]	[0.007]	[0.008]	[0.007]	[0.007]	[0.007]	[0.008]	[0.007]
Debt increase	**0.050*** **	**0.058*** **	**0.062*** **	**0.050*** **	**0.060*** **	**0.058*** **	**0.062*** **	**0.050*** **	**0.060*** **
	[0.015]	[0.015]	[0.016]	[0.017]	[0.015]	[0.015]	[0.016]	[0.017]	[0.015]
Equity injection	**0.036***	**0.041** **	**0.048** **	**0.044***	**0.041***	**0.042** **	**0.049** **	**0.044***	**0.042***
	[0.021]	[0.021]	[0.023]	[0.026]	[0.021]	[0.021]	[0.023]	[0.026]	[0.021]
Financial leverage			**-0.010***				**-0.010***		
			[0.005]				[0.005]		
Firm in distress				-0.024				-0.024	
				[0.016]				[0.016]	
Capital ratio					0.018				0.018
					[0.021]				[0.021]
Observations	8,823	8,823	7,796	6,091	8,545	8,823	7,796	6,091	8,545
R-squared	0.067	0.070	0.076	0.072	0.070	0.070	0.076	0.073	0.070
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	yes	yes	yes	yes	yes	yes	yes	yes	yes

Source: *Authors' estimations based on EIBIS21 matched with firm-level ORBIS information.* ***Note:*** *Linear Probability Model estimated with firm size dummies and firm age dummies. Constant not reported. Robust standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1. The coefficients reported in bold are significant at 10% or below.*

$$q_{i,c,s} = \alpha.Sales_i + \beta.Pol_i^k + \gamma.Sales_i \times Pol_i^k + \emptyset.Fin.Expansion_i + Z_i + \theta_{sec} + \theta_{size} + \theta_c + \varepsilon_i$$

Sales losses has a negative impact on digitalisation, reducing the likelihood to digitalize more by 5 to 10 pp. However, the effect is compensated by the policy support.

Firms not in distress, having a lower leverage or higher capital base, are more likely to digitalize. These effects are not significant at 10%.

In all the cases, firms that have increased their external financing are more likely to digitalize, an effect that is always significant at 10% at least.

Hence, increased equity raises the probability to digitalize by 4 to 5 pp. A similar, but slightly stronger effect is found for debt.

Concluding remarks

Initial fears of massive bankruptcies did not materialize so far. Corporate investment hit below expectations and ongoing recovery.

These favorable developments much rely on the massive policy support still in place across EU economies. When discussion its phasing out, the benefits have to be balanced with the costs.

Focusing on firm level policy support:

We do not find evidence that it was tilted towards firms with pre-crisis weakness.

We find some signs that it fostered recapitalization.

Beneficent firms tend to be more optimistic regarding their investment plans.

The impact is especially pronounced for investment in digital technologies.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Broad overview of the literature (1/2)

The impact of some policies expanded during the crisis is already documented for normal times.

Significant positive impact of guarantee programmes on firms' revenues, employment, investment and survival (Asdrubali and Signore, 2015; Bertoni et al., 2018) and innovation (Bertoni et al., 2019; Brault and Signore, 2019).

Past subsidized loan programmes for SMEs have been found to have positive effects on job creation, investment and productivity in Bulgaria (Erhardt, 2017) and Hungary (Horvath & Lang, 2021, Endresz et al., 2015).

Firm-level evidence shows that job retention schemes prevent layoffs and safeguard firms´ survival, see e.g. Hoffman and Schneck (2011), Cahuc et al. (2018), Lydon et al. (2019), Kopp and Siegenthaler (2019) and Guipponi and Landais (2020).

Model-based simulation exercises have highlighted the potential of support measures to reduce liquidity shortfalls, bankruptcies, as well as output and employment losses relative to a no-policy scenario (Barnes et al., 2021, Blanco et al., 2021, Demmou et al., 2021, Díez et al., 2021, Ebeke et al., 2021, Gourinchas et al., 2021, Lopez-Garcia, 2020, Maurin and Pal, 2020).

Broad overview of the literature (2/2)

The true realized impact can only be gauged as detailed firm records become available and one and a half years into the pandemic, ex-post firm-level evidence is emerging.

Hadjibeyli et al. (2021), for example, perform a microsimulation exercise using French firm-level data up to December 2020. The simulations show a 12 pp. lower increase in illiquidity and a 5.3 pp. lower increase in insolvencies when accounting for short-time work, direct subsidies and tax reliefs relative to a scenario without such policies.

Alternatively, Drabancz et al. (2021) employ firm records up to December 2020 to provide causal evidence for Hungary's subsidized loan programmes, showing a 4% higher headcount in firms with five or more employees that received support.

Lalinsky and Pal (2021) use firm-level data from Slovakia for March-June 2020 to investigate government wage subsidies. They find significant drops in firms' probability of illiquidity (3.5%) and insolvency (3.5%) when granted support. The authors find stronger effects for smaller firms.

But the true realized impact can only be gauged as detailed firm records become available.