



CORPORATE SECTOR VULNERABILITIES DURING THE COVID-19 OUTBREAK: ASSESSMENT AND POLICY RESPONSES

Lilas Demmou
OECD/ECO

Guido Franco
OECD/ECO

Sara Calligaris
OECD/STI

Dennis Dlugosch
OECD/ECO

GFP Webinar Series – June 5th, 2020



Outline

1. Presentation of main results from Demmou, Franco, Calligaris and Dlugosh (2020)
2. Brief discussion on the differences and similarities between the three models
3. Introduction to the policy discussion



Objectives of the note

1. Evaluate the extent to which firms may run into a liquidity crisis, focusing on the first-round effects of the containment measures.
2. Discuss the type of policies the most effective at reducing the risks and depth of such crisis.



Methodology (1): Modelling the economic shock

- Accounting exercise very similar to *Schivardi and Romano (2020)*: the economic shock is modeled as a change in firms' liquidity

$$Liquidity_{it} = Liquidity_{i,(t-1)} + AdjustedCashFlow_{it}$$

- The firm (i) and month (t) specific shock-adjusted cash flow is calculated as:

$$(1 - s_{st}) * Revenues_i - (1 - c * s_{st}) * Intermediates_i - (1 - w * s_{st}) WageBill_i - Taxes_i - DebtPayments_i$$

- Revenues, intermediates costs, wage bill, debt payments and taxation are annual values from “normal time” balance sheets (Orbis, 2018) divided by 12.
- s_{st} : size of the sales shock
- c : elasticity of intermediates cost to sales (0.8)
- w : elasticity of wage bill to sales (0.2)



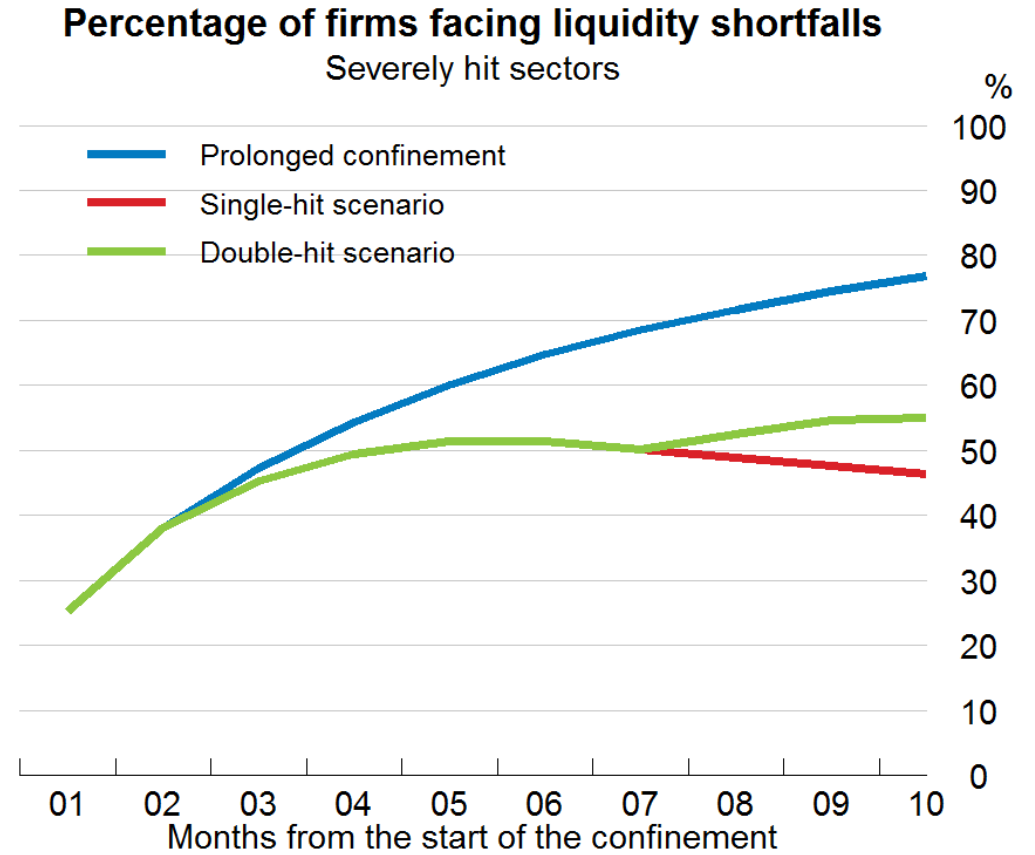
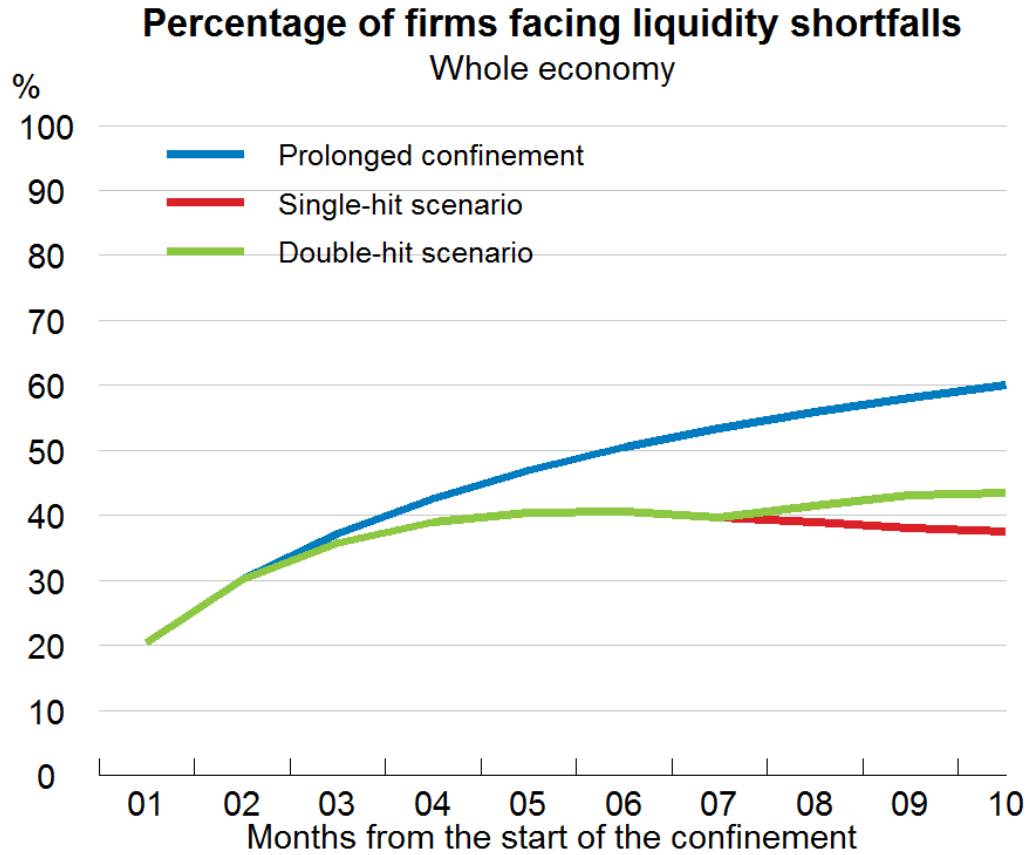
Methodology (1): Modelling the economic shock (cont'd)

- The revenues shock is **sector specific**, but **country invariant**.
- The size of the shock ranges between **50% and 100%** of revenues in the **most hit sectors** (see OECD, 2020), while **15%** in all **other sectors**.
- **Three alternative scenarios for the dynamics of the shock (S):**

Months from the start of the confinement	1	2	3	4	5	6	7	8	9	10
<i><u>Prolonged confinement</u></i>	S	S	S	S	S	S	S	S	S	S
Size of the shock <i><u>Single-hit scenario</u></i>	S	S	S*0.8	S*0.6	S*0.4	S*0.2	0	0	0	0
<i><u>Double-hit scenario</u></i>	S	S	S*0.8	S*0.6	S*0.4	S*0.2	0	S*0.5	S*0.5	S*0.25



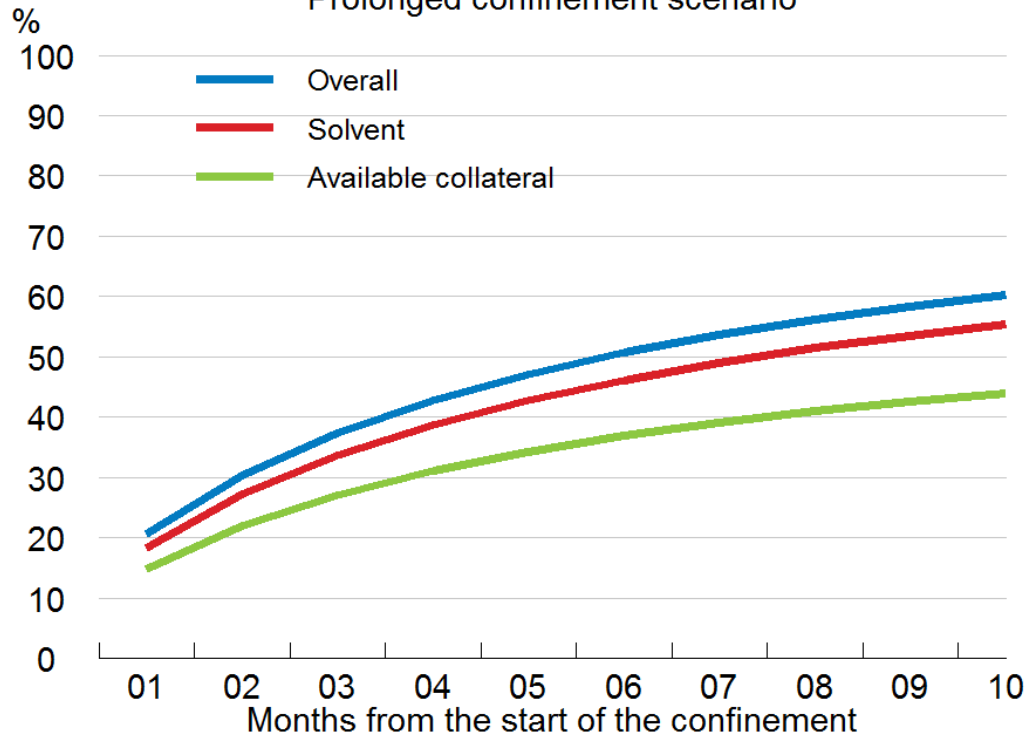
Results (1): The risk of liquidity shortages is high for a large portion of firms



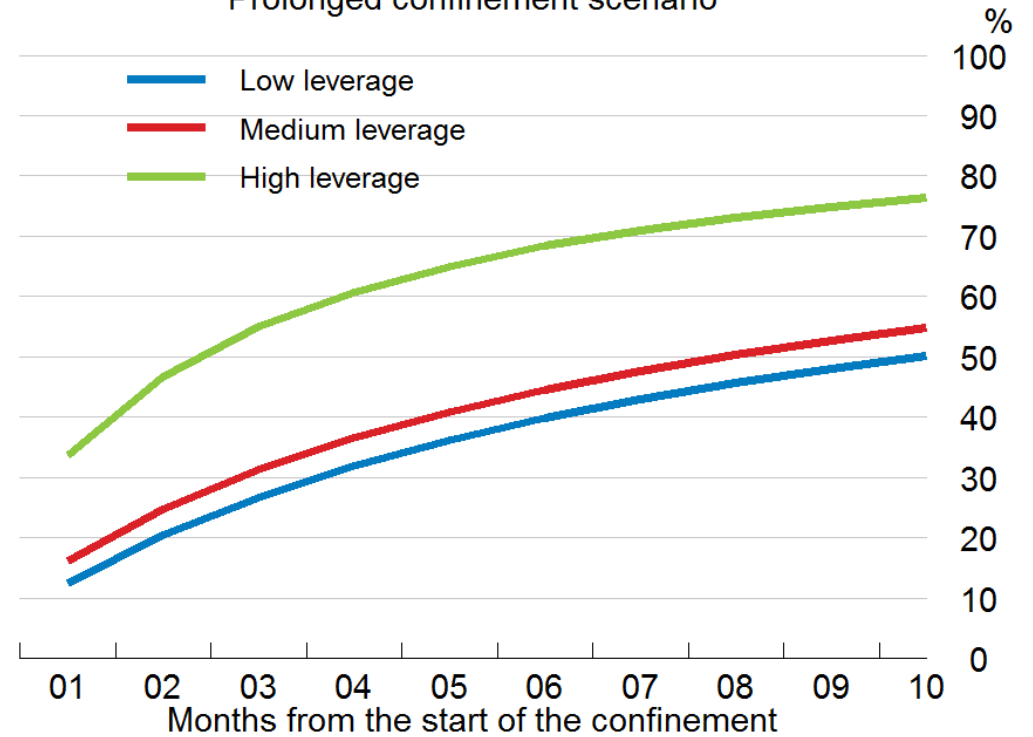


Results (2): Most firms facing shortages are potentially solvent, but may lack collateral and tend to be highly leveraged

Percentage of firms facing liquidity shortfalls, but solvent or with collateral
Prolonged confinement scenario



Percentage of firms facing liquidity shortfalls, by indebtedness level
Prolonged confinement scenario



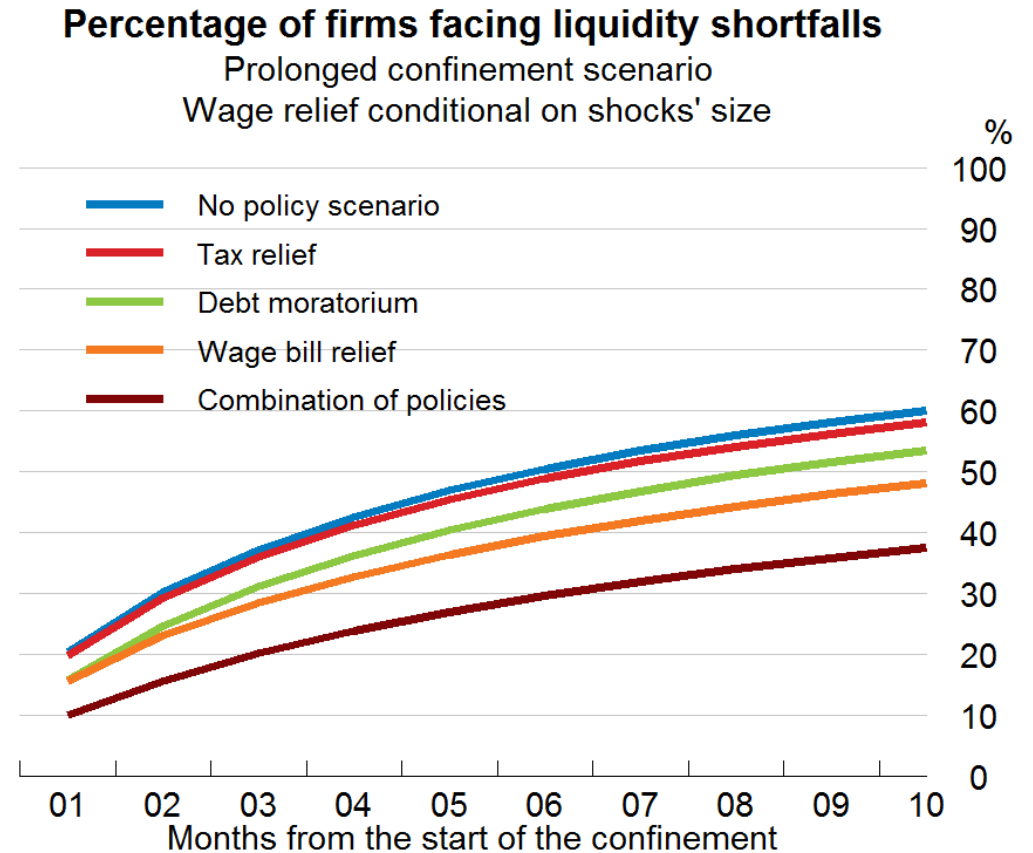
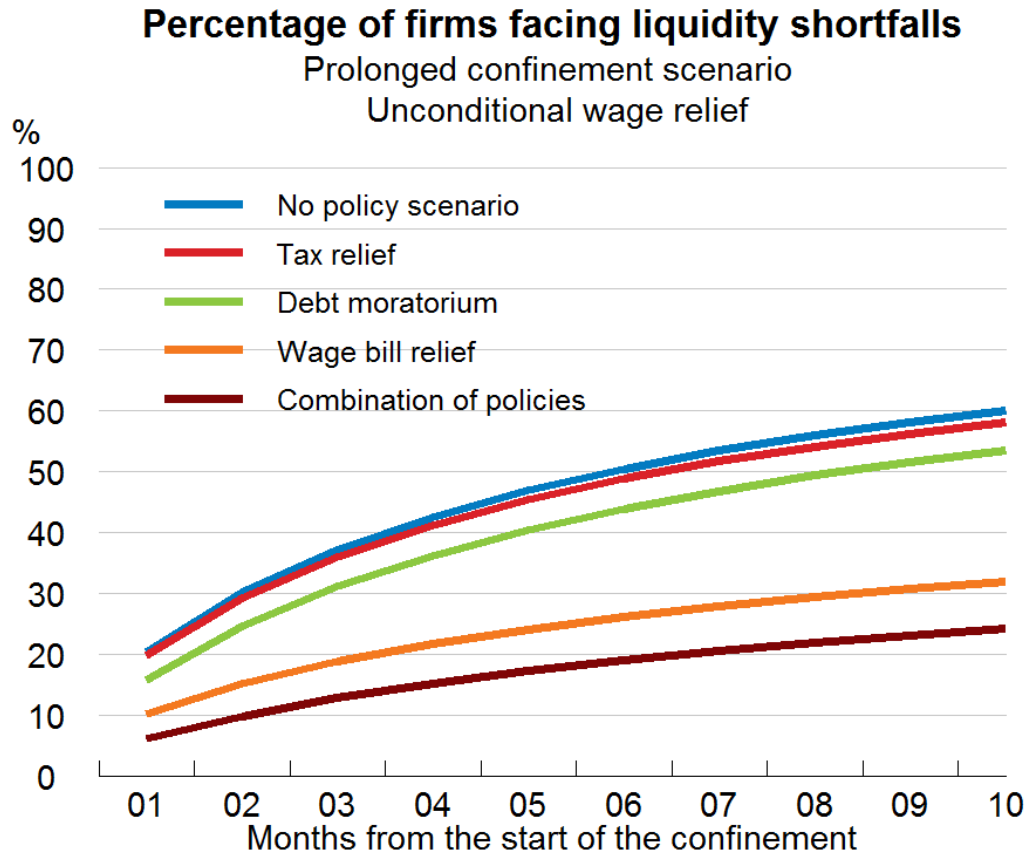


Methodology (2): Modelling policy intervention

- We use our simple model to illustrate the expected impact of stylised policy interventions to help firms dealing with the disruptions associated with COVID-19 in three areas:
 - **Deferral of tax.** It is modelled as a **moratorium of the (hypothetical) monthly tax payments.**
 - **Financial support for debt repayment.** The support is modelled as a **moratorium on short-term debt.**
 - **Temporary support to wage payments.** The support is modelled:
 - *Either* as an **unconditional reduction of the wage bill by 80% in all sectors;**
 - *Or* as a **support adjusted to the sectoral size of the shock and modelled through an increase to 0.8 of the elasticity of wage bill to sales.**



Results (3): Policies can significantly reduce liquidity shortfalls



Adding up the three different measures, public intervention after two months, for instance, could decrease the number of firms running out of liquidity from 30% to 10%.



Comparing the three analyses

- **The three approaches are complementary and deliver a similar message:**
 - COVID-19 epidemic has been very disruptive for firms liquidity, and has hit many viable firms.
 - Wage bill support appears as the most effective (but costly) policy in reducing liquidity shortfalls.
 - Concave curves: most firms facing shortages become illiquid very quickly, so that it is essential to intervene rapidly.

- There are some **differences with respect to the level of the estimate bankruptcy risk**. Potential drivers:
 - Nature of the studies.
 - Policy notes based on accounting exercises vs full paper featuring shock's modeling.
 - Inclusion/exclusion of firms that would have faced shortfalls or negative cash flows also in the absence of the epidemic.
 - Assumptions on the size and dynamics of the shock.
 - Structure and sectoral detail of the shock; assumed speed of the recovery.



Discussion: How to design policies for a fast recovery?

- **Country-specific dimensions.** Country-specific institutional settings may shape the efficiency of the policy response.
- **Widespread measures vs. specific needs.** short-term, cross-cutting policies might need to be refined and better targeted in the medium-term.
- **New normal. Uncertainty on future profits and extent to which economies are disrupted: need to find a good balance between preserving pre-crisis matches and allowing for reallocation.**
 - How to allocate the support across sectors and the risks between private and public sectors?
 - What are the options to avoid firms' over-indebtedness after the crisis?
- **Cross-corporate and financial sector contagion.** Potentially relevant cascading effects:
 - How to identify vulnerabilities in value chains and secure supplies? How will global value chains change?
 - Where are the most acute financial risks and how can these best be addressed?



THANK YOU !

CONTACTS:

Lilas Demmou: Lilas.Demmou@oecd.org

Guido Franco: Guido.Franco@oecd.org

Sara Calligaris: Sara.Calligaris@oecd.org

Dennis Dlugosch: Dennis.Dlugosch@oecd.org



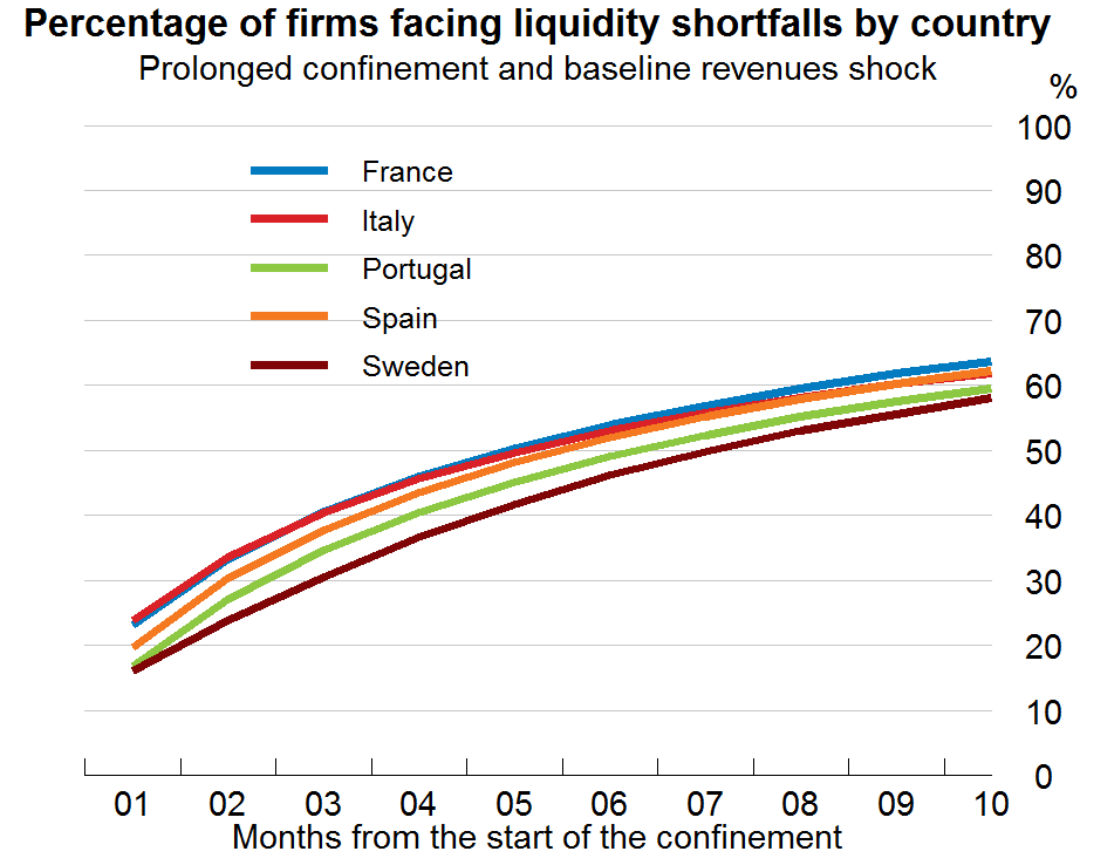
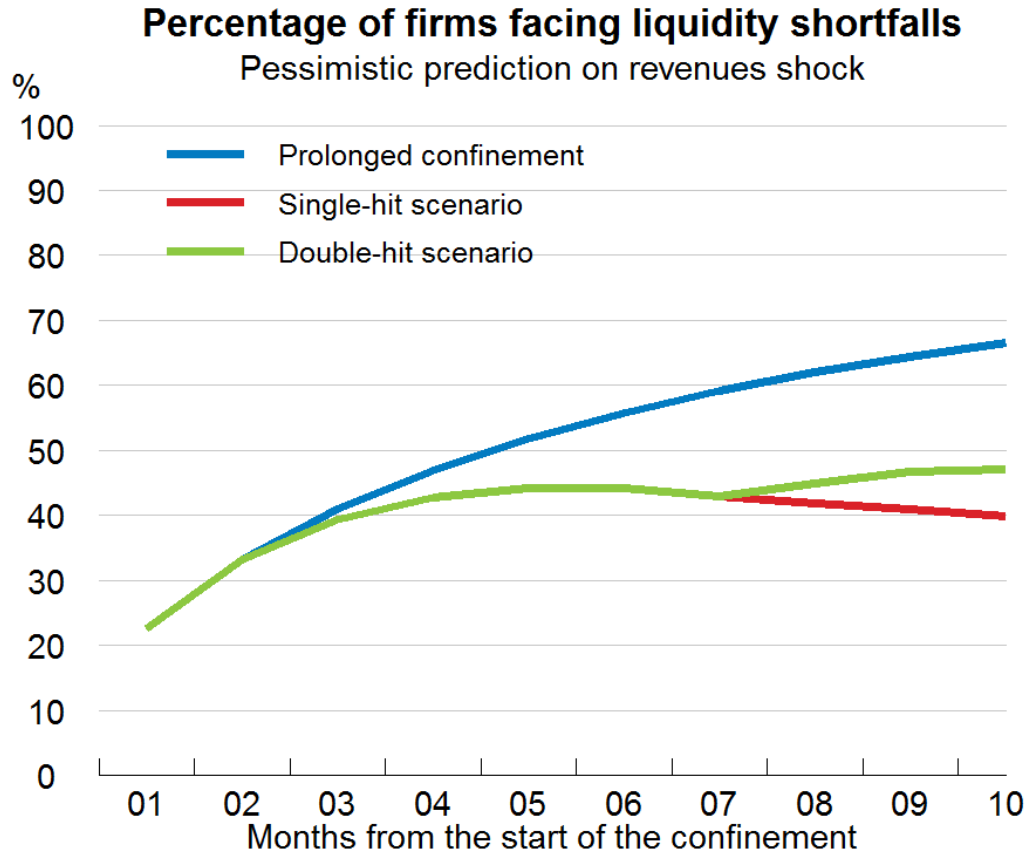


Appendix



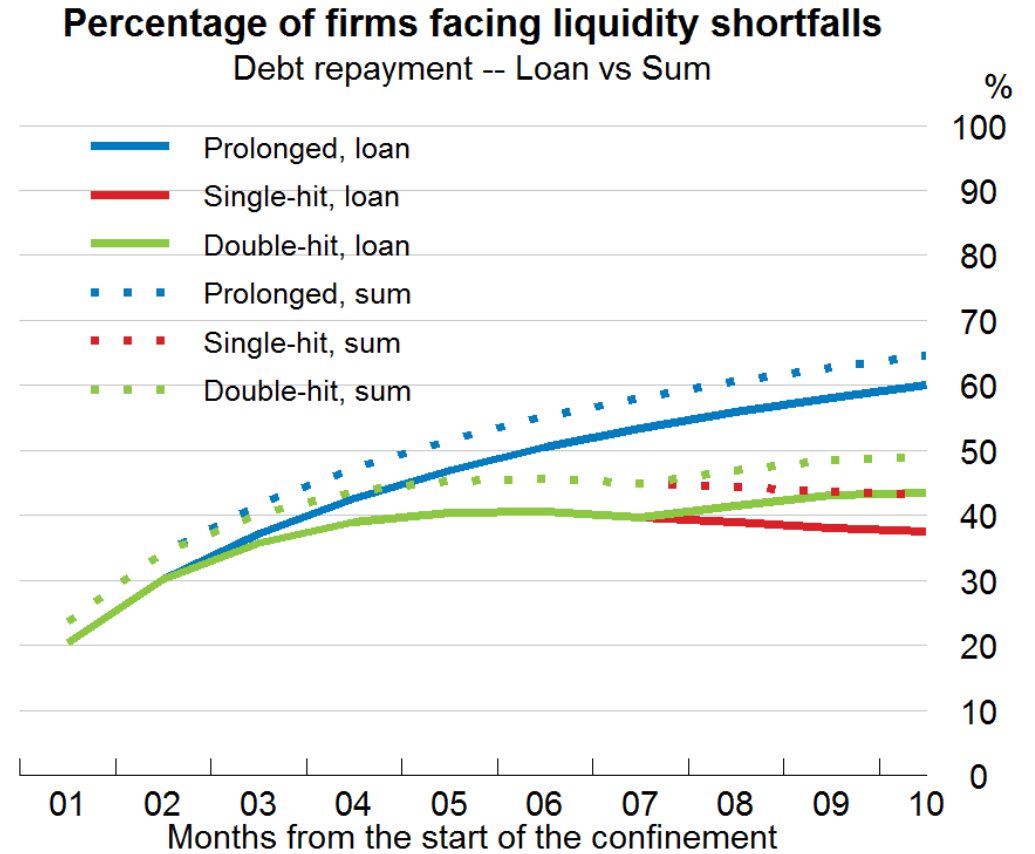
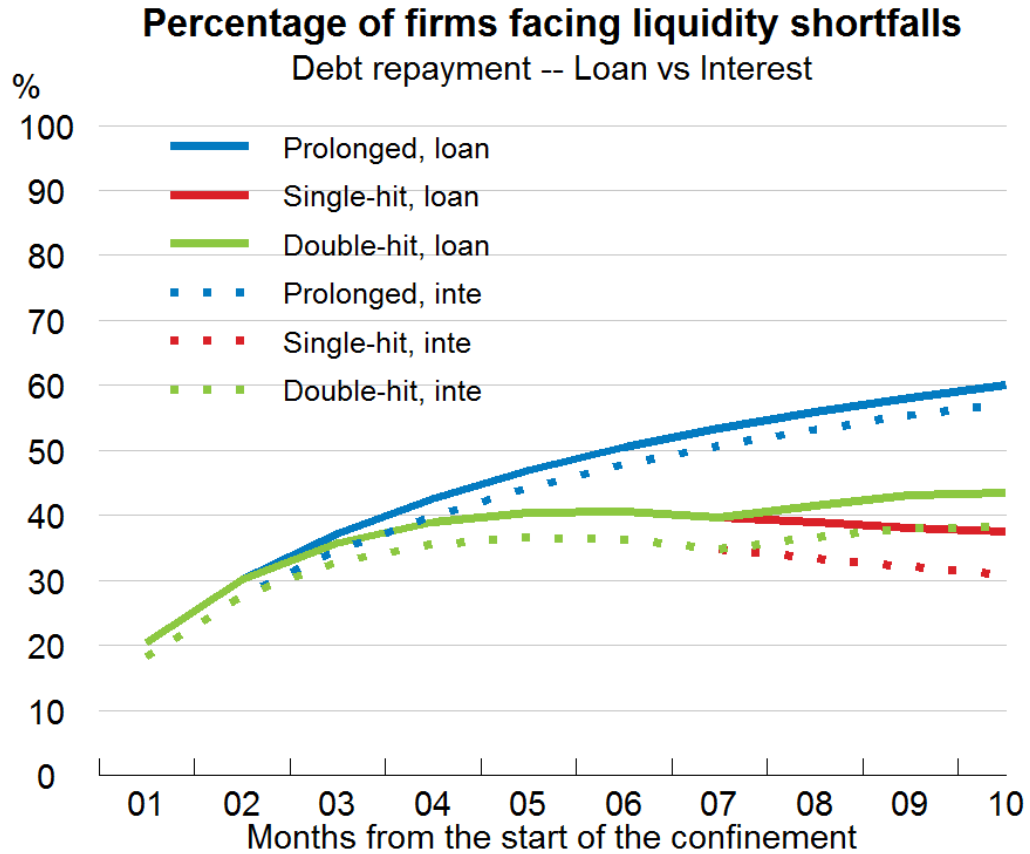


Results (A.1): Pessimistic prediction on revenues shock and baseline detail by country





Results (A.1): Alternative debt payments definition

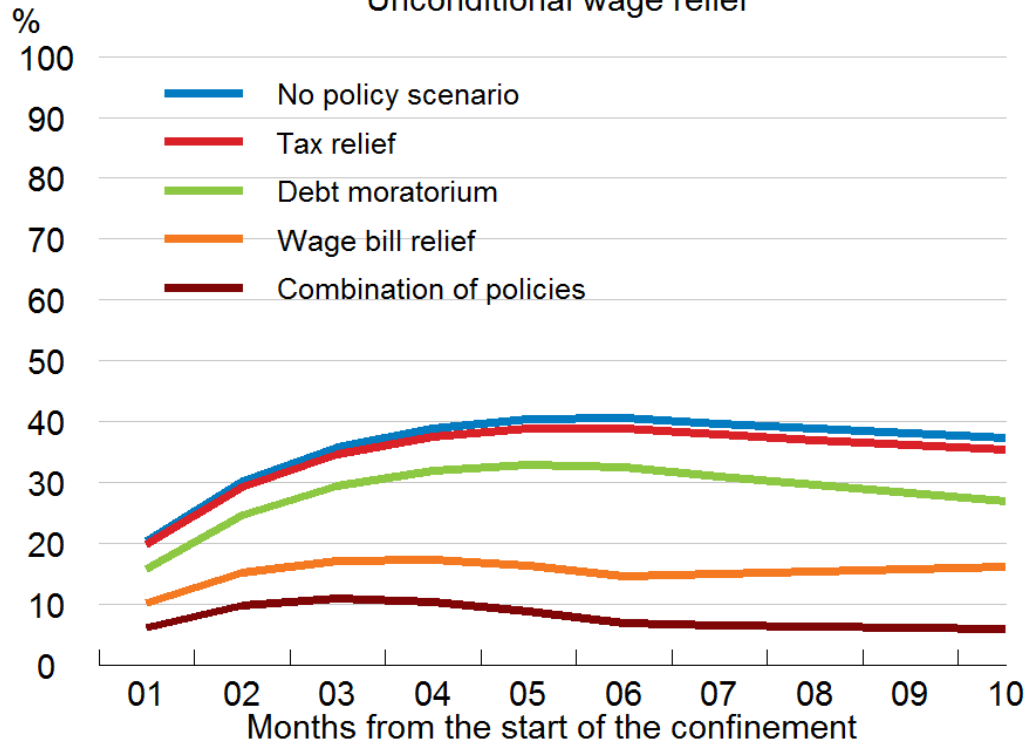




Results (A.3): Policies, alternative scenarios and unconditional wage relief

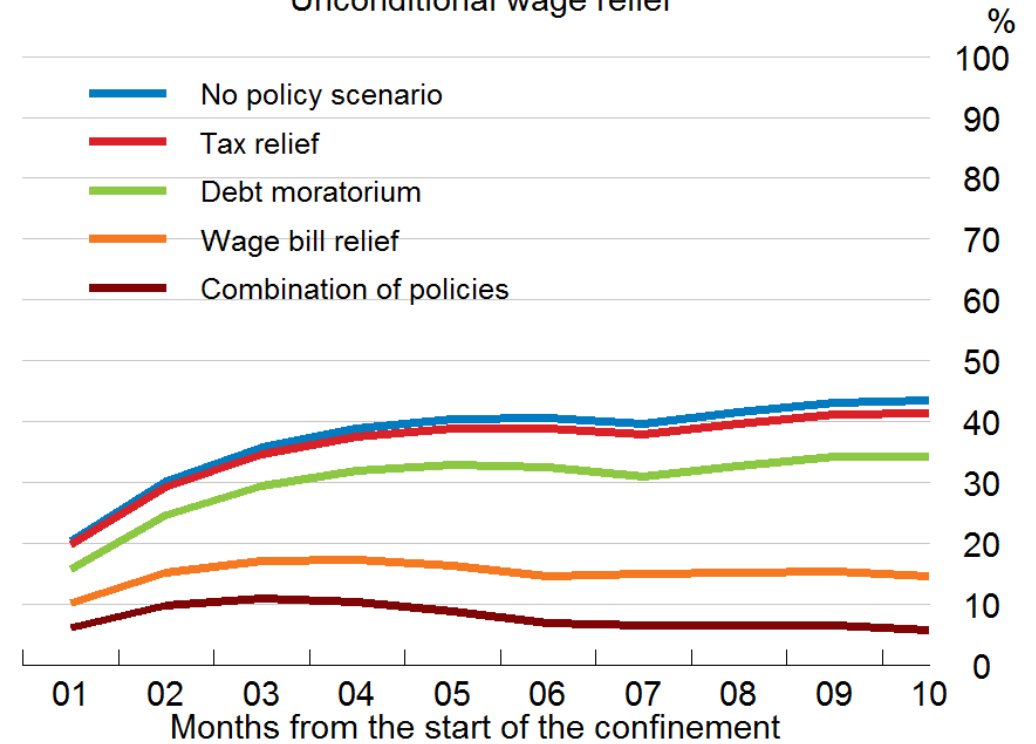
Percentage of firms facing liquidity shortfalls

Single-hit scenario
Unconditional wage relief



Percentage of firms facing liquidity shortfalls

Double-hit scenario
Unconditional wage relief



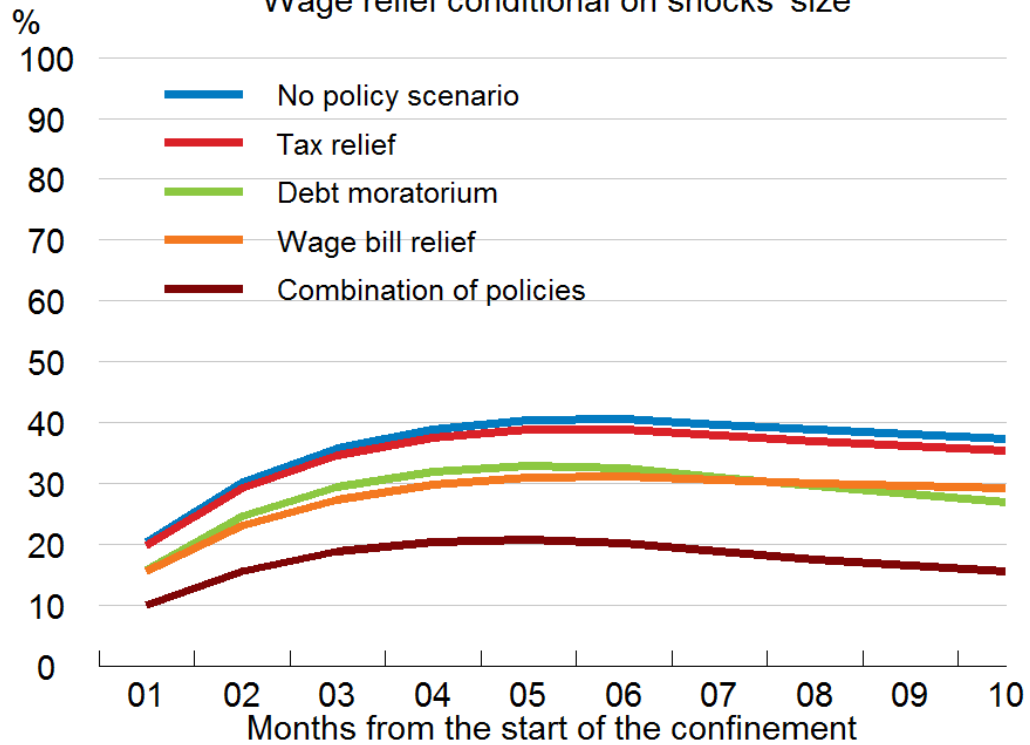


Results (A.3): Policies, alternative scenarios and conditional wage relief

Percentage of firms facing liquidity shortfalls

Single-hit scenario

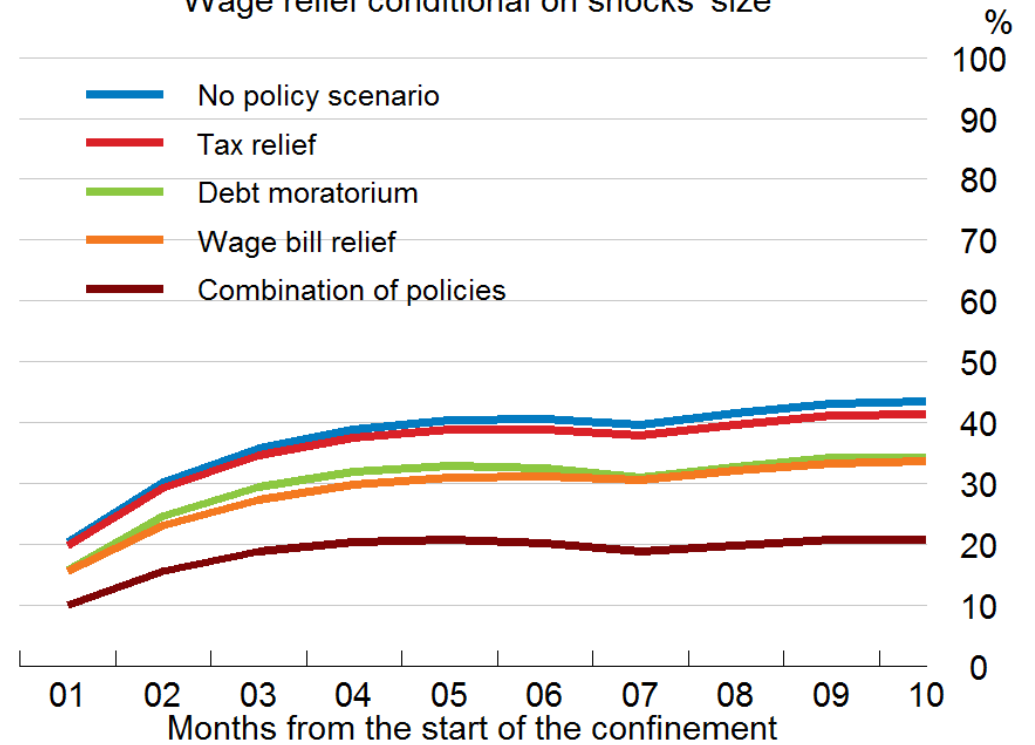
Wage relief conditional on shocks' size



Percentage of firms facing liquidity shortfalls

Double-hit scenario

Wage relief conditional on shocks' size





Comparing the three analyses, a summary

	Schivardi and Romano	Gourinchas et al.	Demmou et al.
<i>Target</i>	Policy note	Paper	Policy note
<i>Type of exercise</i>	Accounting	Model	Accounting
<i>Sample</i>	Italy	Cross-Country	Cross-Country
<i>Treatment of "not healthy" firms in normal time</i>	Exclusion of negative cash flow firms	Difference between covid and no-covid scenario	All firms
<i>Structure of the shock</i>	Revenues shock	Demand, Supply and Productivity Shock	Revenues shock
<i>Sectoral detail of the shock</i>	223 economic sectors	4-Digits	1 or 2 Digits
<i>Debt repayments</i>	Principal + Interests	Interests	Principal
<i>Explicit cash flow smoothing</i>	No	Yes	No
<i>Adjustment capacity</i>	Elasticity of inputs to outputs (IC=0.5; W=0.15)	Outcome of cost minimization	Elasticity of inputs to outputs (IC=0.8; W=0.2)
<i>Ability to raise credit</i>	No	No	No