

Efficient Programs
to Support Businesses
during Crises

Thomas Philippon

NYU

Covid Recession

- Large and Unexpected Shocks to Supply and Demand
- First Reponse similar to 2008-9
 - Cut rates and buy MBS
 - Global dollar swap lines and FIMA Repo Facility
 - The alphabet soup strikes back: CPFF, MLF, PDCF, PMCCF & SMCCF, TALF
 - Same with ECB
- Lessons from 2008 used to react quickly
- Good... But this is not 2008

Phase 1: Panic and Lockdown

- Firm profits

$$\pi = pf(n) - wn - k$$

- Shutdown

- $f(n)$ down in 80% of sectors, 0 in some

- Deal with wages

- EU: keep n , but Govt covers part of wn

- US: let n file for u , Govt pays u -benefits

- Deal with k and leftover wages

- Loans $L = k + \text{some of } wn$

- Either direct lending by govt, or loan guarantees

Job Retention Schemes

	US	UK	Germany	France
Name	Paycheck Protection Program	Coronavirus Job Retention Scheme	Kurzarbeitgeld	Chômage partiel / activité partielle
Principle	Loans convertible into grants if retain workers	Govt refunds 80% of gross wage of furloughed workers	Govt refunds 60% of net w of furl. workers	Govt refunds 84% of net wage of furl. workers
Social insurance contributions	Refunded	Refunded	Exempted	Exempted for w < 3 min. w
Eligibility	SMEs (less than 500 employees)	All firms	All firms if h down 10% for 10% of n	All firms
Maximum wage	No requirement	£2500 per month	€4687 per month	€5485 per month
Conditions	Guaranteed loans by banks	Agreement with the employee	Collective agreement	Authorization by govt agency
Work requirements	No requirement	No work during hours covered, no other work	No work during hours covered, no other work	No work during hours covered, no other work

Credit Programs

US

- Corporate credit facilities for large firms
- Main street facilities for firms <15,000 employees
- SBA PPP

	UK	Germany	France
Name	Coronavirus Business Interruption Loan Scheme	Wirtschaftsstabilisierungsfond + KfW Special Program	Prêt garanti par l'État
Principle	Guarantees	Guarantees on bank loans + subsidized KfW credits	Guarantees on bank loans
Coverage of guarantee	100% up to GBP 250K, 80% above	90% for small firms; 70% for large ones	90% for small firms; 80% for larger ones
Rate	No interest for 12 months, then terms set by lender	Several sub-schemes with different rates	No interest for 6 months, then low rate
Maturity	Up to 6 years	Up to 5 years	1 year, extendable to 5 years
Eligibility	SMEs	All firms	All firms

Theory: Guarantees

- Why loan guarantees?
- State has not much information and not much time
- If credit market freezes then debt guarantee is optimal
 - Philippon & Skreta, AER 2012
 - Interesting mechanism design issue: endogenous stigma
 - Minimizes expected cost to government for any level of credit
- But this is not 2008. Main issue is insolvency.

Theory: Debt Overhang

- A lot of debt + A lot of uncertainty \Rightarrow Debt Overhang
 - Demand & Productivity shocks: permanent vs. transitory ?
 - Survey data from FR

Sectors	% where output fell	% who think shock will be persistent
Electric Equip & Machines	88%	28%
Transport Equipment	99.4%	41.8%
Construction	96.6%	8.3%
Hotels & Restaurants	99%	28.3%

Theory: Debt Overhang

- Private debt D , Government loans L
- Firm value $V = E[V']$
 - If there is a state where $V' < D + L$, then debt overhang
 - If $V > D + L$, then firm is insolvent at current market value
- What should government do?
- Answer: it depends on what the constraints are.

2009 Debt Overhang & Systemic Risk

- If D cannot be renegotiated (runnable claims, systemic risk)
- Then optimal intervention is **Cash injection in exchange for Preferred Stock and Warrants**
 - Philippon & Schnabl (JF, 2013)
 - Cash to lower risk
 - Preferred to avoid adding debt overhang
 - Warrants to screen out opportunistic participation
 - See also Hanson, Stein, Sunderam, and Zwick (2020)

But Why Bail out D in 2020?

- Today the issues are:
 - Large number of SMEs in distress. In the US (FB survey):
 - 31% of SME currently not operating; 52% of personal businesses; 1/3 say biggest challenge is cash flows over next few months
 - Liquidation likely with small firms, even more when macro uncertainty is high, and courts are overwhelmed
- Default itself would not create a disaster...
- .. but excessive liquidation from a *social* perspective

Optimal Triage (Blanchard, Philippon, Pisani)

- **V, D, L**
 - normalized by pre-crisis book assets. D, L pari-passu
- Three key parameters
 - **R**: recovery value of assets under liquidation
 - Low and uncertain
 - **S**: social value of business
 - Labor market (shadow value of labor $< w$),
supplier/customer networks
 - **E**: non-pledgeable inside equity
 - Standard leverage constraint at time of refinancing

Triage under Full Information

Suppose Govt knows V , R and can estimate E and S

- $V+S > R$: business should continue
 - $V > D+L$: nothing to do
 - $V < D+L$: reduce D and L to (D', L') so that $D'+L' = V-E$
 - Thus $D' = D * (V-E)/(D+L)$
- $V+S < R$: liquidate
 - $L' = R*L/(D+L)$

Triage under Full Information

- If Govt knows V , R it can implement most efficient triage
 - Only restructure viable firms that are insolvent
 - Only close non-viable firms; Bear minimal haircuts
- But there are way too many SME loans
 - FR: 385,000 loans for total of 100 billion euros

Triage under Limited Information

- Information
 - Bank knows V and R
 - Govt can estimate E and S
- Problem
 - Offer a menu $L'(D',E,S)$ upon continuation such that
 - If $V+S > R$: business should continue
 - If $V+S < R$: business should close
- Can it obtain efficient outcome?

Private Liquidation

- Suppose government lets banks decide and only claim its pari-passu rank
- Bank will liquidate if and only if

$$R * D / (D + L) > (V - E) * D / (D + L)$$

- We simply get the efficient liquidation rule for the bank

$$R > V - E$$

- When $R - S < V < R + E$, liquidation is socially inefficient

Continuation Premium

- Now suppose the Govt offers something else than $L'/L = D'/D$
- What could that be?

Consider the marginal firm $V = R - S$

You want bank to be indifferent to liquidate/continue

$$RD/(D+L) = D'$$

Since $L' + D' = V - E$ that is $L' = R - RD/(D+L) - S - E$, or

$$L'/L = R/(D+L) - (S+E)/L$$

Proposition: Continuation Premium

Efficient triage under limited information can be achieved by the following scheme:

- If private creditors decide to liquidate, government will claim its rights as a creditor
- If private creditors decide to continue with a reduction D'/D , then Government *automatically* agrees to reduce its claim to

$$L'/L = D'/D - (S+E)/L$$

Conclusion

- Efficient triage
- Automatic mechanism
- Extend to equity injection