Price Frictions in Credit Markets: Evidence from Belgium's 2020 Credit Guarantee Scheme

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Aug 27th 2025

2025 EEA

Motivation: Price vs. Access

- How should governments stimulate the aggregate demand during crises? - Epicenter of macroeconomic debates.
- Most studies *access* constraints; we identify/study *price* frictions.
- Theory (Holmström & Tirole, 1997) implies distorted loan pricing can bite even when credit is available.
- COVID-era: Credit Guarantee Schemes (CGS) were the largest fiscal tool in the EU (share of total measures).

Our question
How do price-based credit interventions affect firm behavior and macroeconomics when access is held constant?

Contribution

- We make **two** contributions:

  1. Clearly identify a price channel with a RDD new!!!
  2. Provide a structural model that matches the **interest rate elasticity of investment** and **interest rate elasticity of debt** new!!!

Our question
How do price-based credit interventions affect firm behavior when access is held constant?

Belgium's 2020 CGS: Key facts

- Envelope: €50bn; maturity up to 12 months.
- Eligibility excludes refinancing and pre-2020 renewals; caps based on liquidity needs, wage bill, or turnover.
- Price discontinuity: SMEs pay 25 bp; large firms 50 bp; *fee paid to the government (not banks)*.

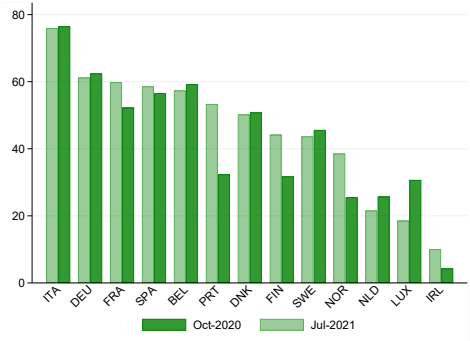


Figure 1: CGSs in the EU (share of GDP / fiscal measures)

Identification

- Running variable: 2018 employment relative to 50 FTE cutoff.
- Sharp RDD: firms just below 50 receive lower guarantee fee ($-25\,\mathrm{bp}$); access held constant.
- Clean price shock: fee goes to government $\Rightarrow$ no bank incentive to reallocate.

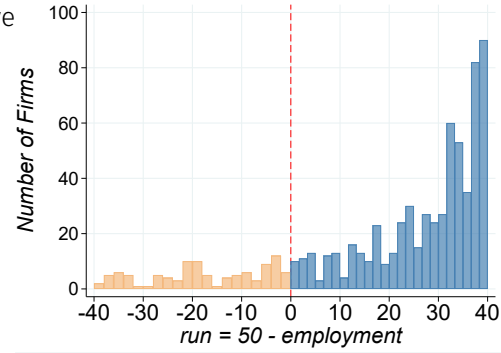
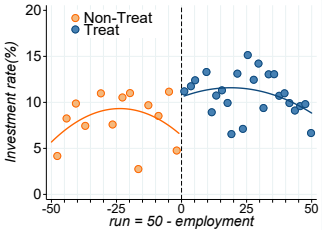
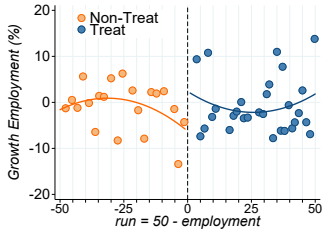


Figure 2: Treatment Distribution

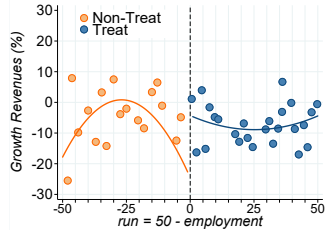
Firm-level outcomes



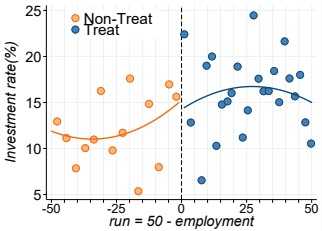
Investment: 2020



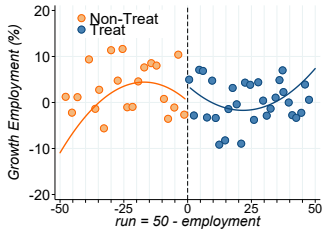
Employment: 2020



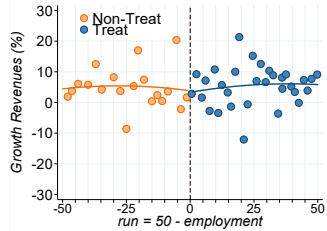
Revenues: 2020



Investment: 2019



Employment: 2019



Revenues: 2019

Firm-level outcomes

- Investment: $+0.20$pp
- Employment growth: $+0.28$pp
- Revenue growth: $+0.42$pp
- No pre-trends in 2018/2019

Mechanism: Debt substitution and cost of funds

Debt Substitution, Financial Burden, Debt Service, and Default Risk

	Guarant. Debt Accum.	Debt Subst.	Average Interest	ΔDebt Serv. Capacity	Exit Probability	
					Last Availab. Year	Legal Situation
	(1)	(2)	(3)	(4)	(5)	(6)
Sharp-RD	-0.076	-0.262*	-0.015***	0.283***	-0.033*	-0.086**
	(0.11)	(0.14)	(0.00)	(0.08)	(0.02)	(0.04)
Obs.	2,852	1,590	2,596	2,633	2,642	2,642
BW (in # emp)	13.2	13.0	8.7	8.7	7.1	7.3

Mechanism: Debt substitution and cost of funds

- Non-guaranteed debt: $-0.262\,\mathrm{pp}$ (substitution)
- Avg interest cost: $-0.015\,\mathrm{pp}$
- Debt service capacity (EBITDA/ST debt): $+0.283\,\mathrm{pp}$
- Exit probabilities: $\downarrow$ ($3.3\,\mathrm{pp}$ last-year; $8.6\,\mathrm{pp}$ legal exit)

Identification: Sorting and placebos

- No bunching at cutoff (McCrary test, $p = 0.87$).
- Placebo cutoffs: no effects.
- Donut-hole robustness: stable.
- Pre-determined covariates smooth at cutoff.

Why a quantitative model?

Why a quantitative model?

- Even though strong RDD is local (near-threshold, short-run).
- Need long-run, GE, extensive margin, and welfare.

Model ingredients
Two debt types (standard long-term, guaranteed short-term); dynamic investment; endogenous pricing; two representative firms to mirror RDD.

Validation: Empirical vs. model elasticities

	Empirical	Model
Investment $\partial I/\partial r$	-0.038	-0.022
Non-guaranteed debt $\partial b/\partial r$	$+0.023$	$+0.036$

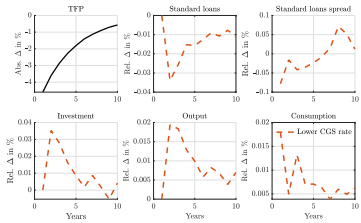
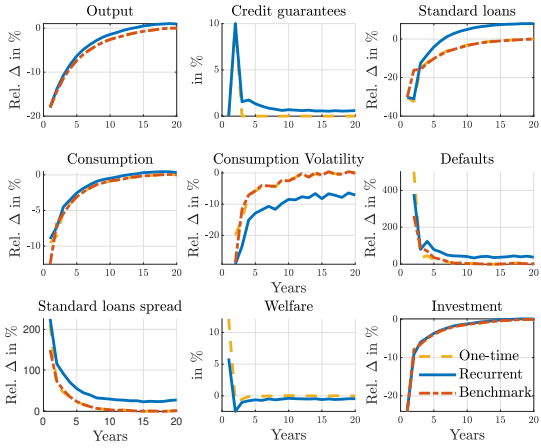


Figure 3: IRFs around policy

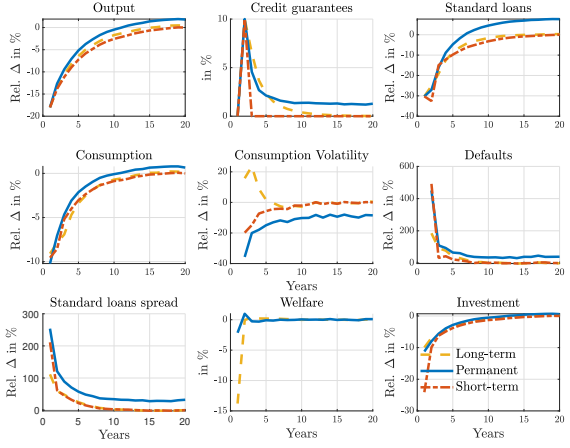
One-time vs. recurrent CGS

- Recurrent/anticipated: higher leverage and spreads; default risk up; possible welfare losses (esp. with risk-averse lenders).



Counterfactuals

- LT guarantees (one-time): exacerbates debt dilution at intro; weaker overhang relief.
- Perm access: conserves usage for bad times; higher spreads and leverage; welfare down.



Policy takeaways

- Price channel is first-order: small bp moves matter through debt substitution.
- One-time, unexpected guarantees outperform recurrent designs.
- Avoid long-term guarantees if debt dilution is a concern.
- Design *predictability* carefully: expectations shape leverage and spreads.

Paper. QR Code for the paper:

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