Loan Conditions When Bank Branches Close and Firms Transfer to Another Bank

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Motivation

What happens when firms switch banks?

Theoretical and empirical evidence shows that switchers initially get lower interest rates:

Ioannidou and Ongena, JF, 2010: -89 bps

Barone, Felici and Pagnini, IJIO, 2011: -44 bps

Motivation

Why a discount?

To compensate firms for non-monetary «shoe leather» costs of switching?

Klemperer (QJE 1987)

Or because of information asymmetries?

Fischer (1990), Sharpe (JF 1990), Rajan (JF 1992), Hauswald & Marquez (RFS 2003), **von Thadden (FRL 2004)**, Hauswald & Marquez (RFS 2006), Egli, Ongena & Smith (FRL 2006), Black (FRL 2011), Karapetyan & Stacescu (RoF 2014), ...

Motivation

What happens when firms switch banks after a branch closes?

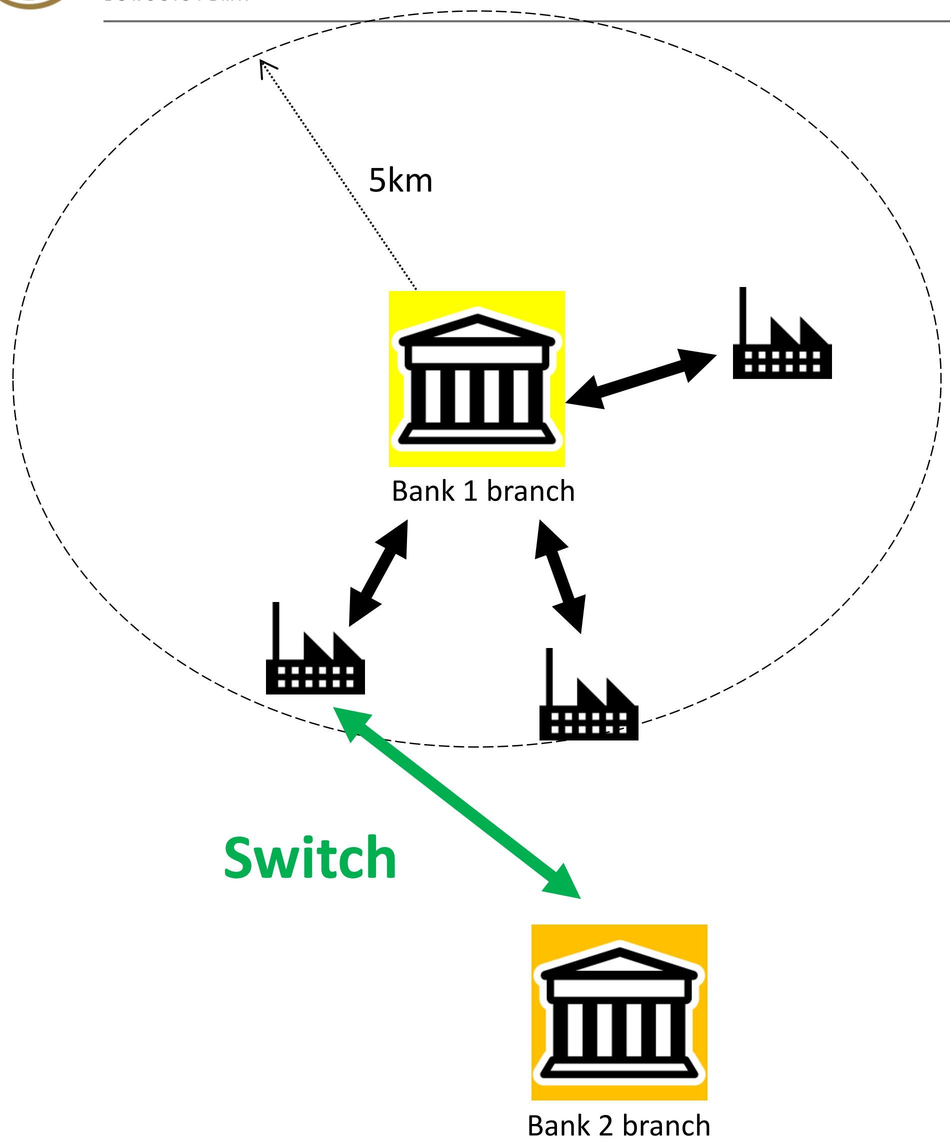
There is a loss of information.

Outside banks deal with many new applicants at once, about whom they know very little.

Theory suggests that the outside bank will pool-price the new loans (von Thadden, 2004).

This setting allows us to test (for the first time in the literature) if the discounts are driven by «shoe leather» costs or by information asymmetries.

Definitions

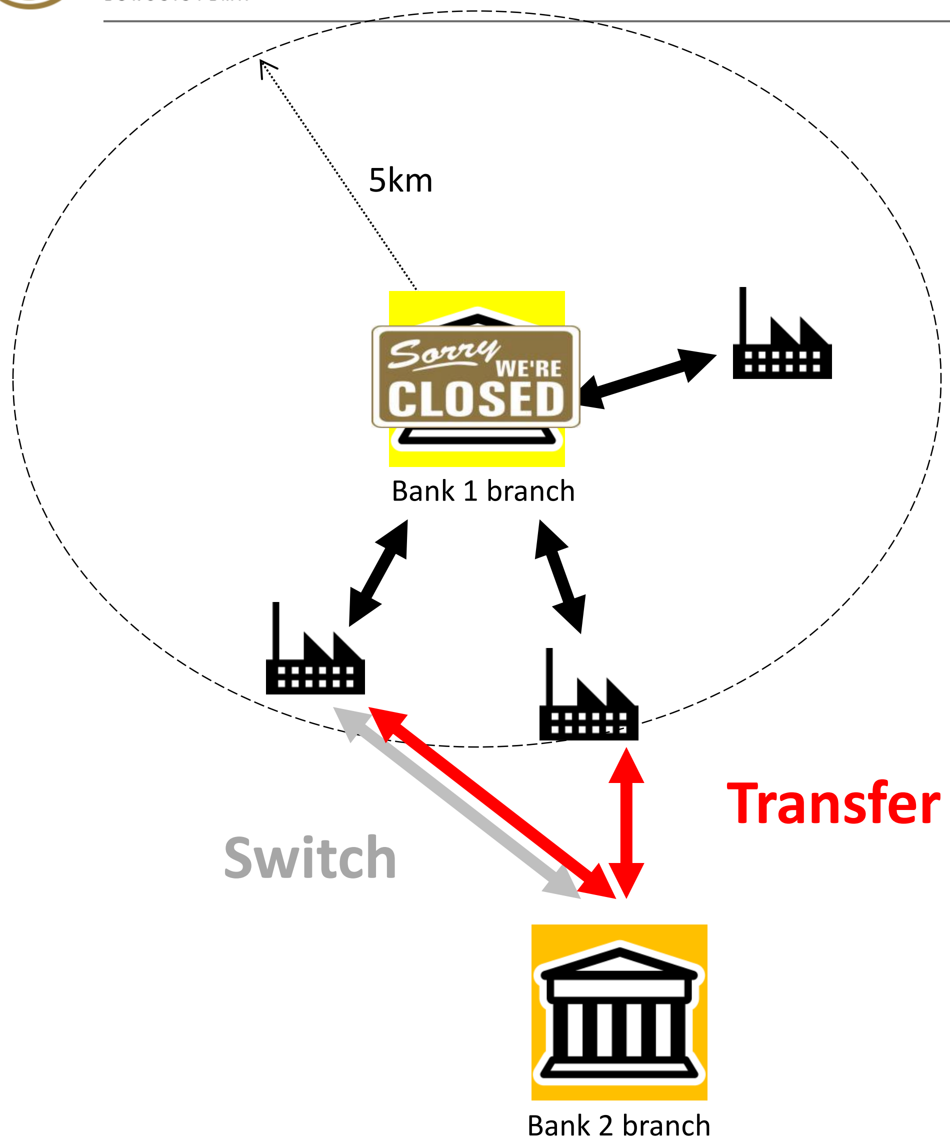


Switch:

If the firm gets a new loan from a bank from whom it hasn't borrowed in the last 12 months (**outside bank**).

The firm had a relationship with at least one other bank for at least 12 months (**inside bank**).

Definitions



Transfer loan: subgroup of switching loans.

A switching loan is a transfer loan if the closest branch of one of the inside bank closes before a new loan is granted by an outside bank.

- After the closure, the closest branch from the inside bank must be more than 5 km away from the firm.

Switch

Transfers

Branch closure

There are **839** branch closures in our sample.

Quasi-natural experimental setting

- Some of the largest banks were recapitalized with funds from the bailout package agreed with the IMF, the ECB and the European Commission

- These banks had to submit restructuring plans, with the aim of improving profitability and solvency.

- Prime cost-cutting measures: reductions in branches and staff members, implemented in a very short time frame.

Data

Credit register: monthly loan data on all exposures.

New operations database: monthly information on interest rates on all new loans granted by the largest banks.

Branch register: list of all bank branches of resident financial institutions with postal codes, opening day and closing day.

Period: 2012:06 to 2015:05 .

We cover: 1,363,121 new loans to 94,281 firms.

Matching

Ideal setting: we would need to know the interest rate offered to the firm for a nonswitching loan.

Solution: matching on observables:

- quarter
- firm characteristics (credit rating, region and sector)
- loan characteristics (collateral, maturity, loan amount, floating rate loan)

(similar to Ioannidou and Ongena, JF, 2010)

Matching

Empirical strategy: we match all switching/transfer loans with nonswitching loans that have the same characteristics and calculate the spread between the interest rate on these loans.

We regress the spread on a constant and weigh by one over the total number of comparable nonswitching loans per switching loan.

For instance, if transfer *i* has 6 matches, each match will have a weight of 1/6 in the regression.

We cluster at the switching-firm level.

Spreads on switches

			Benchmark	
Matching Variables	I	II	III	IV
Quarter	Yes	Yes	Yes	Yes
Inside bank	Yes	Yes		
Outside bank			Yes	
Foreign bank		Yes		
Firm				Yes
Credit rating	Yes	Yes	Yes	Yes
Region	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
Legal structure	Yes	Yes	Yes	Yes
Collateral	Yes	Yes	Yes	Yes
Loan maturity	Yes	Yes	Yes	Yes
Loan amount	Yes	Yes	Yes	Yes
Floating loan rate	Yes	Yes	Yes	Yes
Number of switching loans	6.265	4.231	6.931	1.639
Number of nonswitching loans	31.560	20.531	23.892	3.382
Number of observations (matched pairs)	50.915	28.181	33.274	12.906
Interest rate difference with matching	-122.37***	-88.96***	-58.53***	-91.93***
	(-7.87)	(7.00)	(4.60)	(12.37)
Interest rate difference without matching	-149.07***	-107.83***	-53.28***	-64.67**
	(8.25)	(9.01)	(8.60)	(31.56)

Take away on switches

Matching on	Estimated Discount on Switching Loans (in basis points)	
	Our Results	Ioannidou & Ongena (JF 2010)
Inside bank	-88.96 ***	-89.00 ***
Outside bank	-58.53 ***	-86.90 ***
Firm	-91.93 ***	n/a
Mean Interest Rate for Switching loans	*755*	*1,328*

Spreads on transfers

	Switching	*Transfer*		
Period since the branch closure	Before	1-6 months after	7-12 months after	>12 months after
Number of switching / transfer loans	230	68	78	236
Number of nonswitching loans	878	295	338	986
Number of observations (matched pairs)	1.050	305	535	1.371
Interest rate difference with matching	-62.81***	15.62	-57.30*	-94.21***
	(23.66)	(29.55)	(33.85)	(16.84)
Interest rate difference without matching	-79.73***	-180.55***	-209.16***	-263.39***
	(21.07)	(29.88)	(28.61)	(21.78)

Take aways:

No discount on transfer loans.

Transferring after 6 months similar to switching.

First vs Later transfers

	Switching	*First Transfer*		
Period since the branch closure	Before	1-6 months after	7-12 months after	>12 months after
Number of switching / first transfer loans	230	62	39	155
Number of nonswitching loans	878	283	185	659
Number of observations (matched pairs)	1.050	289	235	783
Interest rate difference with matching	-62.81***	25.06	0.77	-96.89***
	(23.66)	(31.13)	(25.38)	(22.18)

	Switching	*Later Transfer*		
Period since the branch closure	Before	1-6 months after	7-12 months after	>12 months after
Number of switching loans	230	6	39	81
Number of nonswitching loans	878	16	189	336
Number of observations (matched pairs)	1.050	16	300	588
Interest rate difference with matching	-62.81***	-81.96	-115.38**	-89.09***
	(23.66)	(74.82)	(51.13)	(24.20)

Other loan terms - switches

	I Rate	II Collateralized loans	III Maturity	IV Loan amount
Quarter, bank, credit rating, region, industry, legal structure, floating loan rate	Yes	Yes	Yes	Yes
Loan rate		Yes	Yes	Yes
Collateral	Yes		Yes	Yes
Loan maturity	Yes	Yes		Yes
Loan amount	Yes	Yes	Yes	
Number of switching loans	6.931	5.997	8.361	10.321
Number of nonswitching loans	23.892	19.197	33.275	68.297
Number of observations (matched pairs)	33.274	26.532	51,443	122,053
Difference in loan conditions (at time of the switching loan)	-58.53***	-0.01	0.63***	1,621.66
	(4.60)	(0.01)	(0.24)	(3,132.36)
Ioannidou & Ongena (JF 2010)	−86.9*** (17.5)	26.86** (11.50)	6.43*** (1.37)	86,164 (79,837)

Other loan terms - transfers

	I Rate	II Collateralized loans	III Maturity	IV Loan amount
Panel A: The Difference in Loan Conditions on Transfer and New Nonswitching Loans Obtained (by Other Firms) from the Switchers' Outside Bank				
Number of transfer loans	146	125	158	207
Number of nonswitching loans	633	549	856	1,736
Number of observations (matched pairs)	840	786	1,306	2,903
Difference in loan conditions (at time of the switching loan)	-23.34 (24.40)	-0.08* (0.05)	-0.46 (1.52)	-12,365.28 (8,804.40)

Robustness

Subsample periods

2012:06 to 2014:12: only banks with an annual volume of new loans to firms greater than EUR 50 million have to report the interest rates of new loans.

2015-01 - now: all resident banks have to.

Remove Lisbon and Porto

Many closures but distance may not play a great role.

Include only branch closures by banks that were recapitalized with bailout funds

More externally imposed.

Robustness

Further tests:

- By impact of branch closure on local bank competition (high vs low).
- Matching on municipality.
- Matching on local branch density.
- Matching on single vs multiple relationship.
- Matching by firm size.
- Sample splits by credit rating.
- Closure of branch from main lender.

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Summing up

We **confirm** the findings of previous papers:

- **switching** loans get lower interest rates than nonswitching loans (58 bps).

We obtain **new results**:

- after the **closure** of a branch of an inside bank, firms that transfer to another bank close by do not get lower interest rates (evidence of **pool pricing**).

- for **later transfers**, the switching discount is again observed.

This evidence is consistent with the **information asymmetry hypothesis**:

- under competitive conditions, shoe-leather switching costs would also yield discounts for transfer loans.

Thank you!!