The dynamics of overdraft fees and incidence

Trevor Bakker[†], Éva Nagypál[†], Colin Watson[††]

[†]Office of Research
Consumer Financial Protection Bureau

[††]University of Michigan

October 16, 2014

The views expressed are those of the authors and do not necessarily reflect those of the Consumer Financial Protection Bureau or the United States.

The $38 latte

The emergence of overdraft

- Scenario: Consumer attempts to spend or withdraw funds exceeding available funds in checking account.
- This used to result in denial and non-sufficient funds (NSF) fee.
- Over time, depository institutions (DIs) started covering such transactions on a manual courtesy basis, resulting in an overdraft with an overdraft fee (usually the same as the NSF fee).
- During the 2000s, overdraft programs became more automated, especially at larger DIs.

Overdraft today

- 70%+ of large DIs have automated programs.
- Median and modal overdraft fee today is $35 among top 50 by consumer checking balances.
- Largest source of fees at DIs big and small.
- Consumer advocacy groups, such as CRL, argue that overdraft is abusive.
- Class action lawsuits and settlements regarding posting order and overdraft have proliferated.
- Limited adoption of more consumer-friendly policies like de minimis and posting order has occurred.

Regulation E change

- In mid-2010, the Federal Reserve Board prohibited DIs from charging overdraft fees unless account holder “opted into” overdraft.
- This applied to ATM and non-recurring point of sale debit card transactions, meaning “opted out” may still be charged overdraft fees on check, ACH, etc.

Motivation

- The nature and effect of bank policies on overdraft is starting to be understood (e.g., FDIC Overdraft Study, CFPB White Paper).
- The distribution of overdraft is known to be concentrated among few consumers, e.g., over 70% of fees from 8% (CFPB Data Point).
- There is little systematic study of how consumers use overdraft, including how this use changes over time.

Data source

- CFPB confidential supervisory information
- Several large banks with over 20 million checking accounts at the end of 2010
- Randomly sampled a fraction of the banks' account holders
- Transaction-level: January 2011–June 2012
- Account-level: January 2010–June 2012

Transaction data

- Every transaction
- Transaction date, time, amount, and type (e.g., check deposit, recurring debit card purchase, ATM withdrawal, etc.)
- Posting date, posting order
- Ledger balance
- Overdraft/NSF flag

Monthly account data

- Account activity
  - monthly total deposits ($)
  - monthly debit card transactions (#)
  - monthly other debit transactions (#)
  - monthly overdraft/NSF fees ($)
- Deposit balances and credit available in other accounts (linked and unlinked) at end of month
- Opt-in status
- Overdraft coverage availability
- Customer year of birth, singly or jointly-held account, zip code, account type
- Account open and close date, close reason

Sample construction

Accounts	Opted-in
Complete sample	152,930
AND tenure greater than 3 months and less than 10 years	111,681
AND with a positive overdraft limit	102,550
AND incurred some OD/NSF fees over the sample period	54,752
AND has corresponding average daily balance	54,523

Accounts	Opted-out
Complete sample	928,988
AND tenure greater than 3 months and less than 10 years	688,487
AND with a positive overdraft limit	640,430
AND incurred some OD/NSF fees over the sample period	183,065
AND has corresponding average daily balance	181,934

Accounts	Opt-status changers
Complete sample	18,248
AND tenure greater than 3 months and less than 10 years	15,437
AND with a positive overdraft limit	13,392
AND incurred some OD/NSF fees over the sample period	8,541
AND has corresponding average daily balance	8,533

Source: Sample banks' microdata, Jan. 2011 through June 2012.

Sample construction

Accounts	Opted-in
Complete sample	152,930
AND tenure greater than 3 months and less than 10 years	111,681
AND with a positive overdraft limit	102,550
AND incurred some OD/NSF fees over the sample period	54,752
AND has corresponding average daily balance	54,523

Accounts	Opted-out
Complete sample	928,988
AND tenure greater than 3 months and less than 10 years	688,487
AND with a positive overdraft limit	640,430
AND incurred some OD/NSF fees over the sample period	183,065
AND has corresponding average daily balance	181,934

Accounts	Opt-status changers
Complete sample	18,248
AND tenure greater than 3 months and less than 10 years	15,437
AND with a positive overdraft limit	13,392
AND incurred some OD/NSF fees over the sample period	8,541
AND has corresponding average daily balance	8,533

Source: Sample banks' microdata, Jan. 2011 through June 2012.

Sample construction

Accounts	Opted-in
Complete sample	152,930
AND tenure greater than 3 months and less than 10 years	111,681
AND with a positive overdraft limit	102,550
AND incurred some OD/NSF fees over the sample period	54,752
AND has corresponding average daily balance	54,523

Accounts	Opted-out
Complete sample	928,988
AND tenure greater than 3 months and less than 10 years	688,487
AND with a positive overdraft limit	640,430
AND incurred some OD/NSF fees over the sample period	183,065
AND has corresponding average daily balance	181,934

Accounts	Opt-status changers
Complete sample	18,248
AND tenure greater than 3 months and less than 10 years	15,437
AND with a positive overdraft limit	13,392
AND incurred some OD/NSF fees over the sample period	8,541
AND has corresponding average daily balance	8,533

Source: Sample banks' microdata, Jan. 2011 through June 2012.

Model specification

- Weighted fixed-effects panel data OLS
- Dependent variables: OD/NSF fees ($) and indicator for OD/NSF incidence in the month
- Overdraft limit, balance, and deposits are transformed by inverse hyperbolic sine function
- Average daily balance is Winsorized at 99%
- Separate runs for opted-in and opted-out accounts
- Identifying assumption: no tenure effect after 5 years

Summary statistics

	Mean
Opted-in accounts	
Indicator for incurring an OD/NSF fee	26.72%
Monthly OD/NSF fees	29.24
Opted-out accounts	
Indicator for incurring an OD/NSF fee	14.72%
Monthly OD/NSF fees	10.25

Source: Sample banks' microdata, Jan. 2011 through June 2012.

Sample: Accounts with tenure greater than 3 months but less than 20 years with a positive overdraft limit that incurred some OD/NSF fees over the sample period.

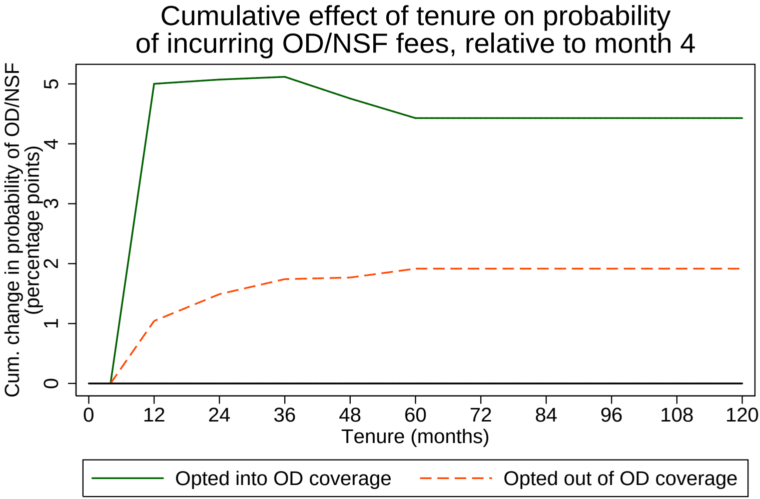
Summary statistics

	Mean
Opted-in accounts	
Indicator for incurring an OD/NSF fee	26.72%
Monthly OD/NSF fees	29.24
Opted-out accounts	
Indicator for incurring an OD/NSF fee	14.72%
Monthly OD/NSF fees	10.25

Source: Sample banks' microdata, Jan. 2011 through June 2012.

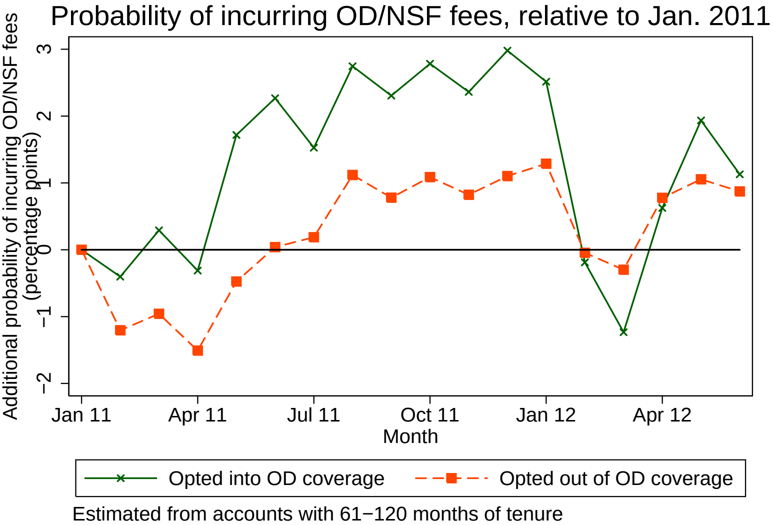
Sample: Accounts with tenure greater than 3 months but less than 20 years with a positive overdraft limit that incurred some OD/NSF fees over the sample period.

Implied path of incidence



Changes are zero after 60 months of tenure by construction

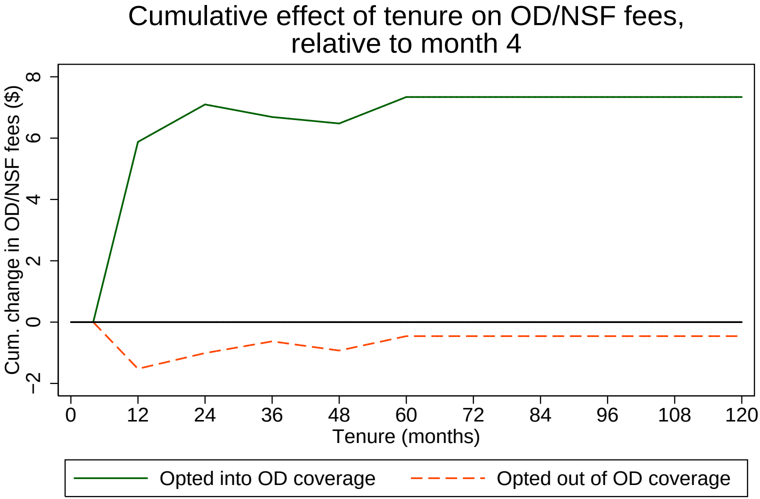
Time dummies for incidence



Robustness

- Top-coding all dollar variables has no appreciable impact
- Results for below-median and above-median accounts:
  - proportional effects similar
  - effects more pronounced for above-median accounts
  - explanatory power higher for above-median accounts
- Fee persistence month-to-month: 9%-14%

Implied path of fees



Changes are zero after 60 months of tenure by construction

Possible explanations

- Increase in deliberate overdrafts and bounced checks in presence of financial distress — neoclassical model
- Declining attention paid to overdraft
  - account opening especially after Regulation E is shock to consumer attention, as in Stango and Zinman (2014)
  - salience declining with tenure
- Declining knowledge about overdraft policies or opt-in status, as in Frank and Smith (2011)

Future work

- Separately analyze OD and NSF fees using the transaction data
- Separately analyze by age
- Check robustness using more banks
- Develop theoretical model