

# Unshrouding Effects on Demand for a Costly Add-on: Evidence from Bank Overdrafts in Turkey

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# Background: Bank overdrafts as a costly add-on

- Base good: (“free”) checking account
- Add-on: overdraft line of credit
- Is tied add-on pricing deceptive and/or inefficient?
  - Priced expensively around the world
  - Many recent regulatory actions
  - Economically important
    - \$32 billion in revenue for U.S. banks in 2013
    - Turkish rate cap in June 2013 -> 1.4% fall in bank share prices



# Theory Motivations and Key Questions

- Models of shrouded equilibria (Gabaix and Laibson 2006; Heidhues, Koszegi, and Muroka 2014)
  - Q1. Do firms have incentives to shroud (vs. compete) add-ons?
- Models of consumer (in)attention to add-ons (above + Bordalo, Gennaioli, and Shleifer 2015; Grubb 2015)
  - Q2. Which aspects of add-ons, have, or lack, salience?
- *Our experiment addresses these questions*
  - Evidence lacking, particularly w/r/t overdrafts (Stango and Zinman 2014 being an exception)
- Sharp evidence lacking, what does descriptive evidence suggest?...



# Descriptive evidence on shrouding and consumer (in)attention in overdraft market

- Banks rarely market, at least at customer acquisition stage
- Banks often blur lines between positive and negative balances: report available-to-withdraw amount instead
- Overdrafts happen passively for consumers (contrast with most credit card txns, or *taking out* installment loan)
- Consumers seem to underestimate overdraft likelihood and costs (Armstrong and Vickers 2012; SZ 2014; Grubb 2015)



## **\*Descriptive evidence:**

### **But do shrouding models really get it right?**

- **Low balances common but *not* typically followed by costly overdrafts (Stango and Zinman 2014)**
- **Many accountholders report willingness-to-pay high/market price to settle even small-dollar overdrafts (SZ 2014)**
- **Bulk of overdraft costs paid by few serial overdrafters (CFPB, U.K. Financial Conduct Authority)**
  - **Raises broader question: (how much) does experience lead to unshrouding, or bounding the distortions or duration of a shrouded equilibrium?**
  - **E.g., do firms have incentive to shroud at customer acquisition stage but then unshroud + cut prices?**



# Setting During Study Period: Turkish Retail Banking Market

- **\*Implementing bank is one of Turkey's largest: Yapi Kredi**
- **Turkey has innovative retail banking market (biometric ATMs, money transfers on Facebook)**
- **Highest rate of mobile banking among Internet users in Europe**
- **\*91% of Turkish adults have a cell phone**



# Setting During Study Period: Turkish Overdraft Market

- \*Standard overdraft product at time in Turkey (Sept-Dec 2012)**
- **Underwritten line of credit**
  - Smaller lines than credit cards
  - About 55% approval rate
  - Opt-out for those approved
- **60% APR**
  - Much higher than credit cards
- **\*Little upfront marketing/disclosure**
- **\*After customer acquisition**
  - Promotions common
  - Difficult for customer to track usage and costs
    - Available-to-withdraw figure is prominent
    - Overdraft balance and finance charge not prominent



# Study Sample

- **\* 108,000 existing customers**
- **Limited demographic info:**
  - **29% female, 57% married, 77% in 4 largest cities**
- **\*Almost none of 108,000 had used overdraft in 3 months prior to start of campaign (May-July 2012)**
- **\*But 18.4% overdrafted at least once Sept 2011-April 2012**
- **31% overdraft at least once during campaign**
- **46% overdraft at least once during Sept 1 2012- June 30 2013**
  - **Mean finance charges paid Sept 1 2012-June 2013 = \$17 (95<sup>th</sup> percentile = \$128)**
- **15 to 24% overdraft in any given month**



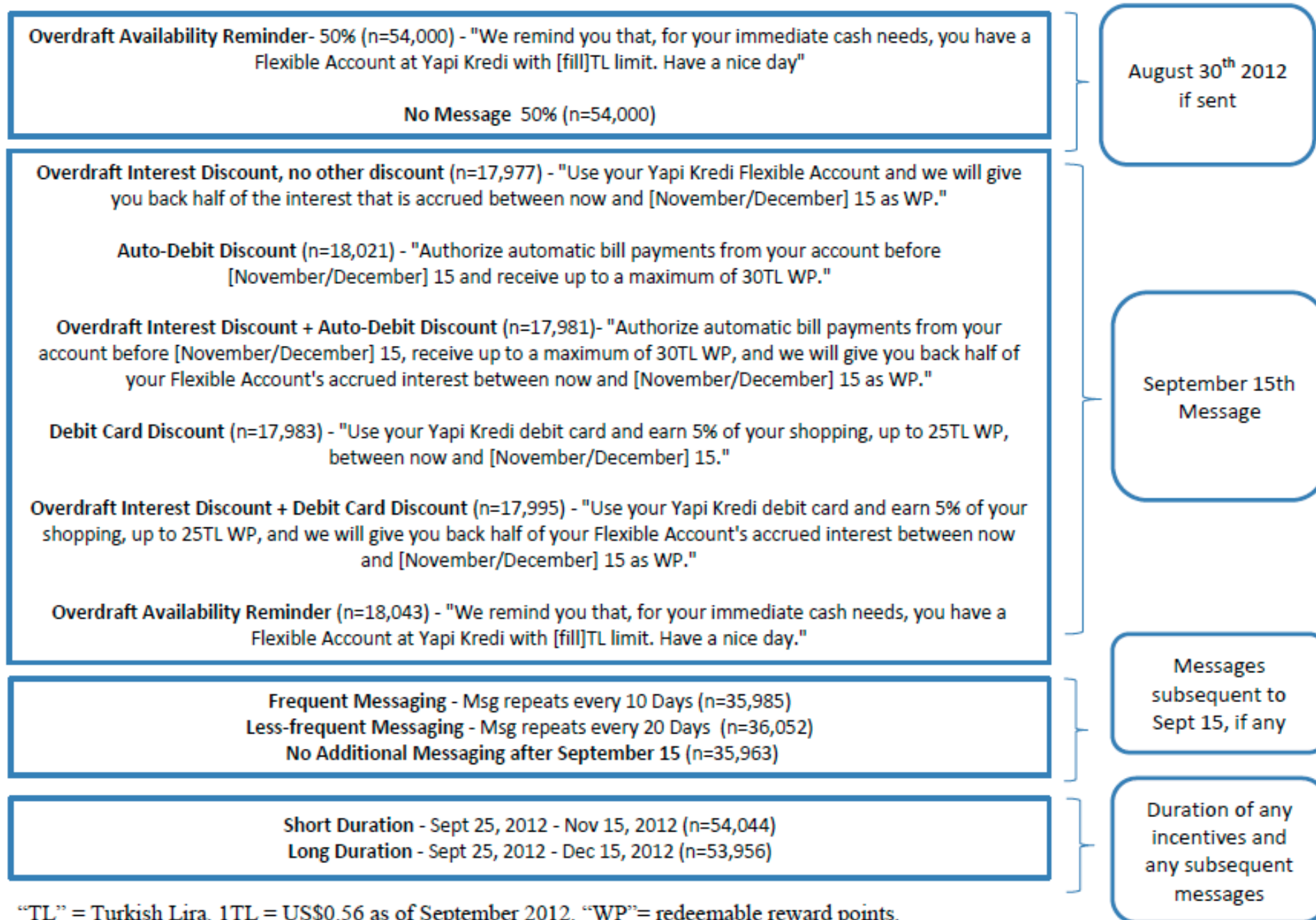


# Experimental Design: High-Level

- All messages *randomly assigned* (“AB testing”)
- Sent by SMS
- Bank did not send any other messages to study sample during “campaign period” Sept 15-Dec 15 2012
- Messages varied in
  - **\*Content:** promotional discounts on overdraft and other features, information/persuasion, etc.
  - Frequency: one-shot vs. every 10 days vs. every 20 days
  - Duration: campaign ends Nov 15 vs. Dec 15
- Customers assigned  $> 1$  message got same message throughout the campaign



**Figure 1. Experimental Design**



“TL” = Turkish Lira. 1TL = US\$0.56 as of September 2012. “WP”= redeemable reward points.  
 Yapi Kredi = the implementing bank.

# Key Test: How does overdraft price promotion affect demand?

Q1. Do firms have incentives to shroud (vs. compete) add-ons?

About half of the sample offered a big discount:

*“Use your Yapi Kredi Flexible Account and we will give you back half of your Flexible Account’s accrued interest...”*

- **Result: Offering discount decreased overdraft usage by about 2%.**
  - No effect?
  - Upward-sloping demand?
  - Decreased?



**Table 2: Effects of First Two Overdraft Messages on Overdraft Usage, During Experiment**

	Overdraft Account Used	Days with Overdraft Balance
September 15 Message: Overdraft Interest Discount (2)	-0.0065**	-0.0728**
Omitted cat for (2): No Overdraft Interest Discount	(0.0028)	(0.0365)



# Interpretation of perverse price effect

- Upward-sloping demand? No.
- Advertising price does not just change price, it brings price to mind.
  - Consistent with consumers underestimating marginal costs and/or likelihood of overdrafting in the absence of messaging (unshrouding)



# Reality check: How do other price promotions affect demand?

- Some evidence that bonuses for debit card use and auto-debit (for billpay) enrollment *increase* usage of those services
  - As we would normally expect
- No evidence that these bonuses decrease usage
  - In contrast to overdrafts



## 2<sup>nd</sup> Key Test: How does overdraft availability promotion affect demand?

- About 1/6 of the sample never offered an overdraft discount, instead got:

*“We remind you that, for your immediate cash needs, you have a Flexible Account at Yapi Kredi with [customfill] TL limit...”*

- **Result: Availability promotion increased overdraft usage by about 4%.**
  - No effect?
  - Decreased?



**Table 2: Effects of First Two Overdraft Messages on Overdraft Usage, During Experiment**

	Overdraft Account Used		Days with Overdraft Balance	
(1) 8/30 Message: Overdraft Availability Reminder	0.0007 (0.0028)	0.0007 (0.0028)	0.0869** (0.0365)	0.0869** (0.0365)
Omitted cat for (1): No 8/30 Msg				
(2) 9/15 Message: Overdraft Interest Discount	<b>-0.0065**</b> <b>(0.0028)</b>		<b>-0.0728**</b> <b>(0.0365)</b>	
Omitted cat for (2): No OI Discount				
(3) 9/15 Message: Overdraft Interest Discount; No Other Discount		0.0020 (0.0042)		0.0467 (0.0550)
(4) 9/15 Message: Overdraft Interest Discount; Auto-Debit Discount		-0.0048 (0.0042)		-0.0564 (0.0544)
(5) 9/15 Message: Overdraft Interest Discount; Debit Card Discount		-0.0078* (0.0042)		-0.0763 (0.0541)
(6) 9/15 Message: Overdraft Availability Reminder		<b>0.0089**</b> <b>(0.0042)</b>		<b>0.1321**</b> <b>(0.0553)</b>
Omitted cat for (3)-(6): No Mention of Overdraft				





**Table 2 (cont): Effects of First Two Overdraft Messages on Overdraft Usage, During Experiment**

	Overdraft Account Used		Days with Overdraft Balance	
p-value on F-test of equality between rows (3) & (6)		0.1588		0.1824
p-value on F-test of equality between rows (3) & (4)		0.1592		0.1035
p-value on F-test of equality between rows (3) & (5)		0.0432		0.0509
p-value on F-test of equality between rows (4) & (6)		0.0048		0.0030
p-value on F-test of equality between rows (5) & (6)		0.0006		0.0010
Mean of Dependent Variable	0.3077	0.3077	2.7676	2.7676
std dev	(0.46)	(0.46)	(6.05)	(6.05)
Observations	108,000	108,000	108,000	108,000



# Interpretation of Overdraft Availability Reminder effect

- Overdrafts far from top of mind, period. (Not just price.)
  - Overdrafting done passively.
- Could be that some consumers perceive cost of overdrafting as *higher* than it actually is
  - Heterogeneity vis a vis cost perceptions
  - Important because assumptions about cost perceptions are key inputs to models of add-on pricing and competition
- Could be that the Availability Reminder distracts consumers from thinking about price => consumer overreacts to availability
  - This is “salience” a la Bordalo et al (2015)



# **3<sup>rd</sup> Key Test: Does Behavior Change Persist, Post-Experiment?**

- **No: little evidence of habit formation**
  - contra the UK's Financial Conduct Authority's assertion
- **Consistent with Bordalo et al (2015)**



**Table 6: Effects of First Two Overdraft Messages on Overdraft Usage, After Experiment**

	Overdraft Account Used		Avg Overdraft Account Balance (TL)	
(1) 8/30 Message: Overdraft Availability Reminder	-0.0004 (0.0029)	-0.0004 (0.0029)	0.7385 (0.6262)	0.7383 (0.6262)
Omitted category for (1): No 8/30 Msg				
(2) 9/15 Message: Overdraft Interest Discount	-0.0013 (0.0029)		0.1405 (0.6242)	
Omitted cat for (2): No OI Discount				
(3) 9/15 Message: OI Discount + No Other Discount		0.0031 (0.0044)		0.9005 (0.9471)
(4) 9/15 Message: OI Discount + Auto-Debit Discount		-0.0012 (0.0044)		-0.6743 (0.9127)
(5) 9/15 Message: OI Discount + Debit Card Discount		-0.0004 (0.0044)		0.2274 (0.9532)
(6) 9/15 Message: Overdraft Availability Reminder		0.0055 (0.0044)		0.0320 (0.9344)
Omitted cat for (3)-(6): No Mention of Overdraft				



**Table 6 (cont): Effects of First Two Overdraft Messages on Overdraft Usage, After Experiment**

	Overdraft Account Used		Avg Overdraft Account Balance (TL)	
p-value on F-test of equality between rows (3) & (6)		0.6312		0.4310
p-value on F-test of equality between rows (3) & (4)		0.4042		0.1463
p-value on F-test of equality between rows (3) & (5)		0.4933		0.5473
p-value on F-test of equality between rows (4) & (6)		0.1884		0.5101
p-value on F-test of equality between rows (5) & (6)		0.2434		0.8597
Mean of Dependent Variable	0.3713	0.3713	34.0032	34.0032
std dev	(0.48)	(0.48)	(103.98)	(103.98)
Observations	108,000	108,000	108,000	108,000



# Recap

- Advertising overdraft price reduces demand, even when the advertisement offers a 50% discount!
- Advertising overdraft availability– with no mention of price– increases demand
- These effects disappear quickly once ads stop
- Results suggest that:
  - Overdrafts not at top of mind for consumers
    - Interaction between limited memory and limited attention key (Bordalo et al 2015)
    - No habit formation
  - Banks lack incentive to compete on price, or to draw any sort of attention to overdraft costs





# Implications for Theory

- Firm behavior: our results consistent with reliance on expensive “add-ons” (overdraft charges) to a cheap “base” good (“free” checking account) and with an equilibrium where add-ons are “shrouded”
- Consumer behavior: our results consistent with two behavioral limitations interacting: limited attention *and* limited memory (Bordalo et al 2015)
- Overdrafts not “top of mind” for consumers
  - Bringing costs to mind, even by offering a big discount, reduces usage
  - Bringing availability to mind– without mentioning cost– increases usage
    - This sort of message may distract consumers from cost (Bordalo et al 2015)
  - These effects disappear quickly post-advertising (again consistent with Bordalo et al)





# Implications for Banks

- Turkish banks lacked incentives to compete on price
  - Or draw attention to price



# Implications for Policy

- Lack of incentives for price competition is concerning
- Evidence of limited consumer attention, limited memory/knowledge is concerning
- The battle for attention
- Regulation on transparent pricing an obvious approach
  - Caution: how will banks respond? Flood with other info? How tightly can one regulate the requirement? Costs w/r/t email/texting close to zero if not zero.



**Table 3a: Effects of Auto-Debit and Debit Card Messages on Auto Debit and Debit Card Usage, During Experiment**

	Any Debit Card Purchase Transactions		Any Bill Payment Registered for Auto-Debit	
Debit Card Discount Only	0.0055 (0.0038)	0.0067* (0.0039)		
Overdraft Interest Discount + Debit Card Discount		0.0059 (0.0039)		
Auto-Debit Discount Only			0.0010 (0.0010)	0.0014 (0.0010)
Overdraft Interest Discount + Auto-Debit Discount				0.0022** (0.0010)



**Table 3b. Effects of Auto-Debit and Debit Card Messages on Auto Debit and Debit Card Usage, During Experiment**

	Any Debit Card Purchase Transactions	Any Bill Payment Registered for Auto-Debit
(1) Debit Card Discount (w/o OI Discount) + Subsequent Messages	0.0074 (0.0045)	0.0086* (0.0046)
(2) Debit Card Discount (w/o OI Discount) + No Subsequent Messages	0.0017 (0.0062)	0.0029 (0.0062)
(3) Debit Card Discount (w/ OI Discount) + Subsequent Messages		0.0084* (0.0046)
(4) Debit Card Discount (w/ OI Discount) + No Subsequent Messages		0.0009 (0.0062)
(5) Auto-Debit Discount (w/o OI Discount) + Subsequent Messages		-0.0005 (0.0011)
(6) Auto-Debit Discount (w/o OI Discount) + No Subsequent Messages		0.0039** (0.0017)
(7) Auto-Debit Discount (w/ OI Discount) + Subsequent Messages		0.0023* (0.0012)
(8) Auto-Debit Discount (w/ OI Discount) + No Subsequent Messages		0.0021 (0.0016)



**Table 3: Effects of Auto-Debit and Debit Card Messages on Auto Debit and Debit Card Usage, During Experiment**

	Any Debit Card Purchase Transactions		Any Bill Payment Registered for Auto-Debit	
(5) Auto-Debit Discount (w/o OI Discount) + Subsequent Messages			-0.0005 (0.0011)	-0.0000 (0.0011)
(6) Auto-Debit Discount (w/o OI Discount) + No Subsequent Messages			0.0039** (0.0017)	0.0044** (0.0018)
(7) Auto-Debit Discount (with OI Discount) + Subsequent Messages				0.0023* (0.0012)
(8) Auto-Debit Discount (with OI Discount) + No Subsequent Messages				0.0021 (0.0016)
p-value of f-test of equality between rows (1) & (2)	0.4410	0.4409		
p-value of f-test of equality between rows (3) & (4)		0.3054		
p-value of f-test of equality between rows (5) & (6)			0.0285	0.0285
p-value of f-test of equality between rows (7) & (8)				0.9034
Mean (standard deviation) dependent variable	0.3367 (0.47)	0.3367 (0.47)	0.0141 (0.12)	0.0141 (0.12)
Observations	108,000	108,000	108,000	108,000



**Table 4: Effects of Message Frequency on Overdraft Usage, During Experiment**

	Overdraft Account Used		Days with Overdraft Balance	
(1) OI Discount + No Messages after 9/15	-0.0044 (0.0040)	-0.0044 (0.0040)	0.0374 (0.0525)	0.0374 (0.0525)
(2) OI Discount + Messages after 9/15	-0.0076** (0.0031)		-0.1278*** (0.0404)	
(3) OI Discount + More-Frequent Messages		-0.0100** (0.0039)		-0.1690*** (0.0508)
(4) OI Discount + Less-Frequent Messages		-0.0051 (0.0040)		-0.0865* (0.0511)
(17) O Availability Reminder + No Messages after 9/15			0.0003 (0.0064)	0.0003 (0.0064)
(18) O Availability Reminder + Messages after 9/15			0.0132*** (0.0049)	
(19) O Availability Reminder + More-Frequent Messages				0.0136** (0.0065)
(20) O Availability Reminder + Less-Frequent Messages				0.0127** (0.0065)



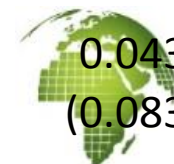
**Table 4: Effects of Message Frequency on Overdraft Usage, During Experiment**

	Overdraft Account Used	Days with Overdraft Balance
p-value on F-test of equality between rows (1) & (2)	0.4461	0.0028
p-value on F-test of equality between rows (3) & (4)	0.3103	0.1838
p-value on F-test of equality between rows (17) & (18)	0.0785	



**Table 5: Effects of Message and Discount Duration on Overdraft Usage, During Experiment**

	Overdraft Account Used		Days with Overdraft Balance	
(1) OI Discount: long duration	-0.0075**		-0.0587	
	(0.0034)		(0.0448)	
(2) OI Discount: short duration	-0.0055		-0.0868*	
	(0.0034)		(0.0444)	
(3) OI Discount: long duration + Messages after 9/15	-0.0102***	-0.0072*	-0.1392***	-0.0952*
	(0.0040)	(0.0042)	(0.0510)	(0.0541)
(4) OI Discount: short duration + Messages after 9/15	-0.0049	-0.0020	-0.1163**	-0.0722
	(0.0040)	(0.0042)	(0.0509)	(0.0540)
(5) OI Discount: long duration + No Messages after 9/15	-0.0021	0.0009	0.1020	0.1461**
	(0.0052)	(0.0054)	(0.0705)	(0.0727)
(6) OI Discount: short duration + No Messages after 9/15	-0.0067	-0.0037	-0.0276	0.0165
	(0.0052)	(0.0054)	(0.0686)	(0.0709)
(7) O Availability Reminder: long duration + Messages after 9/15		0.0154**		0.1719**
		(0.0065)		(0.0857)
(8) O Availability Reminder: short duration + Messages after 9/15		0.0109*		0.1811**
		(0.0065)		(0.0853)
(9) O Availability Reminder + No Messages after 9/15		0.0003		0.0430
		(0.0064)		(0.0835)





**Table 5: Effects of Message and Discount Duration on Overdraft Usage, During Experiment**

	Overdraft Account Used			Days with Overdraft Balance		
p-value on F-test of equality between rows (1) & (2)	0.6185			0.5849		
p-value on F-test of equality between rows (3) & (4)	0.2764	0.2764		0.7113	0.7112	
p-value on F-test of equality between rows (3) & (5)	0.1706	0.1706		0.0022	0.0022	
p-value on F-test of equality between rows (3) & (6)	0.5526	0.5526		0.1481	0.1481	
p-value on F-test of equality between rows (5) & (6)	0.5011	0.5011		0.1556	0.1556	
p-value on F-test of equality between rows (7) & (8)		0.5931				0.9346
p-value on F-test of equality between rows (7) & (9)		0.0738				0.2460
Mean of Dependent Variable	0.3077	0.3077	0.3077	2.7676	2.7676	2.7676
std dev	(0.46)	(0.46)	(0.46)	(6.05)	(6.05)	(6.05)
Observations	108,000	108,000	108,000	108,000	108,000	108,000



# Recent Developments in the Turkish Overdraft Market

- Interest rate ceiling of about 24% APR imposed May 2013 by Central Bank
- Fines levied on 12 banks in July 2013 for loan price-fixing, by Turkish Competition Authority
- Both of these events post-experiment



# Differences from Stango & Zinman (2014)

- Turkey vs. U.S.
- Random vs. quasi-random variation
- Advertising vs. survey content
- \* Randomly assigned price variation vs. not
- \* Some attention shocks that do not mention price



# Direct and Indirect Paths

- **Direct:**
  - Overdraft option: price and availability → Overdraft usage
- **Indirect:**
  - Debit & Auto-pay → lower account balances → overdraft usage



# Estimating Treatment Effects

$$(1) Y_i = a + BT_i + CX_i + e$$

$i$  = accountholder

$Y$  = overdraft usage some other outcome, measured:

Over campaign period (Sept-Dec 2012)

Post- campaign period (Jan-May 2013)

$T$  = some vector of treatment assignments

$X$  = stratification variables



# Interpreting the Magnitudes

**Is a 2% reduction or 4% increase big? We think yes.**

- **Messaging about costs without offering big discount– as a social marketing campaign might do-- could presumably decrease demand even more**
- **Mentioning cost *level*– which the messages here do not-- could also depress demand even more**
- **Messaging costs low, so bank strategy sensitive to small changes in demand**
- **Some messages ignored, presumably. So if we think about a long-run equilibrium where everyone's attention were drawn to costs, effects would be bigger.**



# Some other findings

- **Some evidence that bundled discounts depress overdraft demand even more (Tables 2 and 4)**
  - E.g., overdraft discount+ debit card discount
  - Interpretation: Bundling creates associations between checking account usage and likelihood of overdraft costs?
    - Similar results in Stango and Zinman (2014)
- **More-intense messaging drives the key findings (Table 4)**
  - Jump from zero follow-on to one every 20 days seems to matter more than jump from every 20 to every 10 days
  - Interpretation: the more you bring costs to mind, the less people overdraft



# Some other findings

- **A bit of evidence that one-shot messaging about the overdraft discount *increases* demand (Tables 4 and 5)**





**Table 4: Effects of Message Frequency on Overdraft Usage, During Experiment**

	Overdraft Account Used	Days with Overdraft Balance	Average Overdraft Account Balance (TL)
(1) OI Discount + No Messages after 9/15	-0.0044 (0.0040)	0.0374 (0.0525)	1.2119* (0.6885)
(2) OI Discount + Messages after 9/15	-0.0076** (0.0031)	-0.1278*** (0.0404)	-0.7636 (0.5187)
(5) OI Discount + No Other Discount + No Messages after 9/15	-0.0037 (0.0064)	0.1136 (0.0858)	1.5653 (1.0885)
(6) OI Discount + No Other Discount + Messages after 9/15	0.0049 (0.0049)	0.0132 (0.0631)	0.1441 (0.7838)
(9) OI Discount + Auto-Debit Discount + No Messages after 9/15	0.0026 (0.0064)	0.1158 (0.0856)	2.5741** (1.1938)
(10) OI Discount + Auto-Debit Discount + Messages after 9/15	-0.0085* (0.0048)	-0.1426** (0.0620)	-1.4901* (0.7665)
(13) OI Discount + Debit Card Discount + No Messages after 9/15	-0.0031 (0.0064)	0.0148 (0.0839)	0.4512 (1.0820)
(14) OI Discount + Debit Card Discount + Messages after 9/15	-0.0101** (0.0048)	-0.1216** (0.0619)	0.0111 (0.8535)
(17) Overdraft Availability Reminder + No Messages after 9/15	0.0003 (0.0064)	0.0429 (0.0835)	-0.3107 (1.0420)
(18) Overdraft Availability Reminder + Messages after 9/15	0.0132*** (0.0049)	0.1765*** (0.0644)	1.5874* (0.8283)

**Table 4: Effects of Message Frequency on Overdraft Usage, During Experiment**

	Overdraft Account Used		Days with Overdraft Balance		Avg Overdraft Account Bal (TL)	
p-value on F-test of equality between rows (1) & (2)	0.4461		0.0028		0.0066	
p-value on F-test of equality between rows (5) & (6)	0.2359		0.2991		0.2437	
p-value on F-test of equality between rows (9) & (10)	0.1265		0.0070		0.0018	
p-value on F-test of equality between rows (13) & (14)	0.3291		0.1478		0.7266	
p-value on F-test of equality between rows (17) & (18)	0.0785		0.1623		0.1167	
Mean of Dependent Variable (std dev)	0.3077 (0.46)	0.3077 (0.46)	2.7676 (6.05)	2.7676 (6.05)	26.8511 (77.97)	26.8511 (77.97)
	No	No	No	No	No	No
Omitted category	Overdraft Discount	Mention Overdraft	Overdraft Discount	Mention Overdraft	Overdraft Discount	Mention Overdraft
Observations	108,000	108,000	108,000	108,000	108,000	108,000



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(2) OI Discount + Messages after 9/15	-0.0076** (0.0031)	-0.1278*** (0.0404)	-0.7636 (0.5187)
(5) OI Discount + No Other Discount + No Messages after 9/15	<b>-0.0037</b> (0.0064)	<b>0.1136</b> (0.0858)	<b>1.5653</b> (1.0885)
(6) OI Discount + No Other Discount + Messages after 9/15	0.0049 (0.0049)	0.0132 (0.0631)	0.1441 (0.7838)
(9) OI Discount + Auto-Debit Discount + No Messages after 9/15	<b>0.0026</b> (0.0064)	<b>0.1158</b> (0.0856)	<b>2.5741**</b> (1.1938)
(10) OI Discount + Auto-Debit Discount + Messages after 9/15	-0.0085* (0.0048)	-0.1426** (0.0620)	-1.4901* (0.7665)
(13) OI Discount + Debit Card Discount + No Messages after 9/15	<b>-0.0031</b> (0.0064)	<b>0.0148</b> (0.0839)	<b>0.4512</b> (1.0820)
(14) OI Discount + Debit Card Discount + Messages after 9/15	-0.0101** (0.0048)	-0.1216** (0.0619)	0.0111 (0.8535)
(17) Overdraft Availability Reminder + No Messages after 9/15	0.0003 (0.0064)	0.0429 (0.0835)	-0.3107 (1.0420)
(18) Overdraft Availability Reminder + Messages after 9/15	0.0132*** (0.0049)	0.1765*** (0.0644)	1.5874* (0.8283)

**Table 5: Effects of Message and Discount Duration on Overdraft Usage, During Experiment**

	Overdraft Account Used		Days with Overdraft Balance		Avg Overdraft Account Balance (TL)	
(3) OI Discount: long duration + Messages after 9/15	-0.0102*** (0.0040)	-0.0072* (0.0042)	-0.1392*** (0.0510)	-0.0952* (0.0541)	-1.4967** (0.6487)	-1.1777* (0.6858)
(4) OI Discount: short duration + Messages after 9/15	-0.0049 (0.0040)	-0.0020 (0.0042)	-0.1163** (0.0509)	-0.0722 (0.0540)	-0.0323 (0.6648)	0.2866 (0.7005)
(5) OI Discount: long duration + No Messages after 9/15	<b>-0.0021</b> (0.0052)	<b>0.0009</b> (0.0054)	<b>0.1020</b> (0.0705)	<b>0.1461**</b> (0.0727)	<b>1.7020*</b> (0.9366)	<b>2.0211**</b> (0.9619)
(6) OI Discount: short duration + No Messages after 9/15	<b>-0.0067</b> (0.0052)	<b>-0.0037</b> (0.0054)	<b>-0.0276</b> (0.0686)	<b>0.0165</b> (0.0709)	<b>0.7186</b> (0.8987)	<b>1.0371</b> (0.9256)
(7) O Availability Reminder: long duration + Msg after 9/15		0.0154** (0.0065)		0.1719** (0.0857)		3.1078*** (1.1832)
(8) O Availability Reminder: short duration + Msg after 9/15		0.0109* (0.0065)		0.1811** (0.0853)		0.0710 (1.0162)
(9) O Availability Reminder: No Messages after 9/15		0.0003 (0.0064)		0.0430 (0.0835)		-0.3088 (1.0420)



**Table 5: Effects of Message and Discount Duration on Overdraft Usage, During Experiment**

	Overdraft Account Used		Days with Overdraft Balance		Avg Overdraft Account Bal (TL)	
p-value on F-test of equality between rows (3) & (4)	0.2764	0.2764	0.7113	0.7112	0.0692	0.0692
p-value on F-test of equality between rows (3) & (5)	0.1706	0.1706	0.0022	0.0022	0.0021	0.0021
p-value on F-test of equality between rows (3) & (6)	0.5526	0.5526	0.1481	0.1481	0.0277	0.0278
p-value on F-test of equality between rows (5) & (6)	0.5011	0.5011	0.1556	0.1556	0.4179	0.4176
p-value on F-test of equality between rows (7) & (8)		0.5931		0.9346		0.0370
p-value on F-test of equality between rows (7) & (9)		0.0738		0.246		0.0206
Mean of Dependent Variable	0.3077	0.3077	2.7676	2.7676	26.8511	26.8511
std dev	(0.46)	(0.46)	(6.05)	(6.05)	(77.97)	(77.97)
Omitted Category	No Mention of Overdraft		No Mention of Overdraft		No Mention of Overdraft	
Observations	108000	108000	108000	108000	108000	108000

