
Financial Media as a Money Doctor: Evidence from Refinancing Decisions

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Motivation

- Academic and policy debate
 - Households make costly financial mistakes
 - Extensive policy effort to help: education, disclosure, protective legislation
- **Research question:**

Can **private information intermediaries** help households avoid mistakes?
- **Focus on Business TV: CNBC, Fox Biz, Bloomberg**
 - TV is the primary information source for 57% of households, reaches even the most remote and underbanked consumers
 - Privately funded
- **Household decisions: Home refinancing**
 - 65% of households own a home → usually the **most valuable** asset
 - Failure to refinance → **one of the costliest fin. mistakes** (Campbell 2006)

Financial TV and Refinancing

1. Financial awareness and education

- Programming dedicated **exclusively to refinancing**
 - Example: educational series **Refi-Nation** (Fox Business Network, 2011-2013)
 - Sample segments: “How to refinance your home” and “When should I refinance?”
- Broad **personal finance** shows → cover managing debt
 - Example: The Suze Orman Show (CNBC, 2002–2015), The Dave Ramsey Show (FBN)
 - Sample segments: “Refinance, please”, “What to know before you refinance”

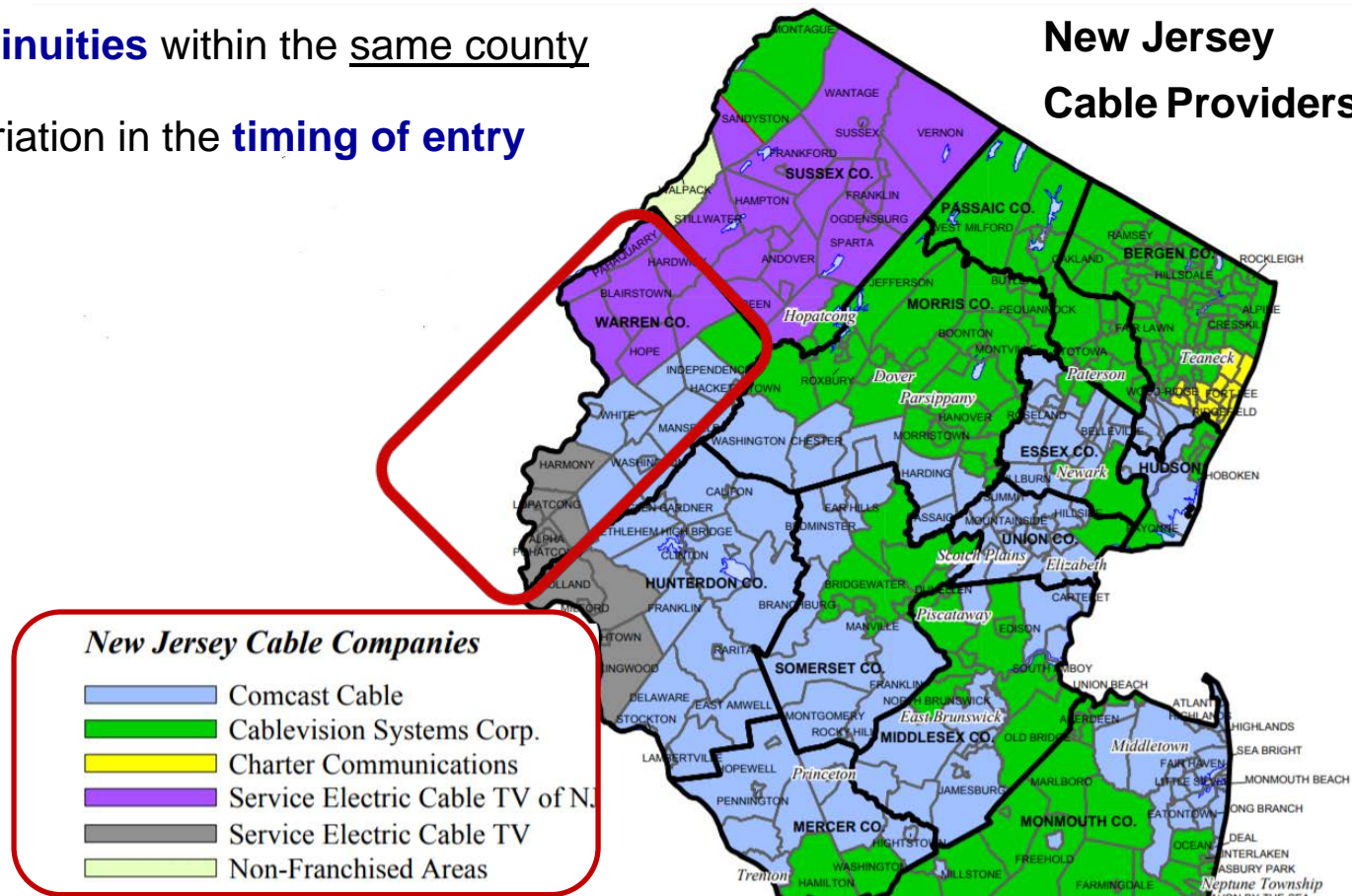
2. Reminder against inertia

Households who are aware of a zero-cost refinancing option but fail to exercise it cite **inattention** (25%) or **procrastination** (33%) as the chief reasons (Keys et al. 2016)

- Interest rates often appear in the **ticker tape** → salient reminder
- Significant developments in refinancing get **news coverage**
- **Refinancing advertisements** → reminder and easy way to follow up

Staggered Fin Channel Entry into zip codes

- Most zip codes have only **1 cable provider** due to high cost of laying cable
- **Spatial discontinuities** within the same county
- Idiosyncratic variation in the **timing of entry**



Channels are faster to enter larger & richer states, but within each county, **entry into zips** is driven by **cable laying borders** → **exploit spatial discontinuity**

Channel Position as a Driver of Viewership

- Secondary source of variation in biz TV viewership:
 - Rule-driven variation in channels' **ordinal position** in the cable lineup
 - The same channel is more likely to be watched if it's **closer to the top of the lineup**
 - More likely to be discovered via channel surfing (20% of viewership time)
 - The channel's slot is **unique to the local system**, driven by rules:
 - Group channels by: **genre, network, or regional focus**
 - Allocate new channels: **end of the lineup** or **best available slot**

Colfax Cable Co. Spokane, WA

2	KREM	36	SPIKE
3	KAYU	37*	FX
4	KXLY	38	SCI-FI
6	KHQ	39	AMC
7	CNN	40	TLC
8	CNBC	41*	NATGEO
9	FOX NEWS	42	DISCOVERY
10	ESPN	43	HISTORY
11	ESPN2	44	HALLMARK
12	ESPN CLASSIC	45	TCM

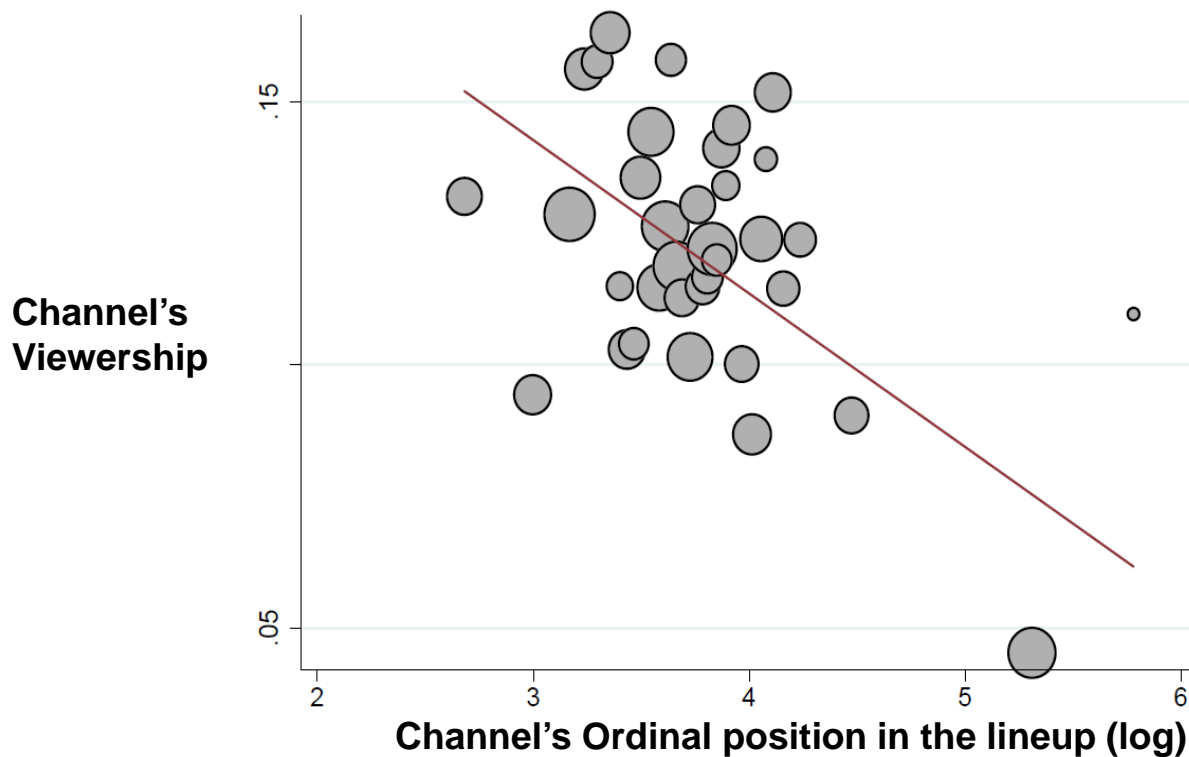
CNBC is grouped
with news:
→ **Channel 8**

xfinity Houston

37	Fox Sports Houston
38	Fox News *
40	Lifetime
41	Disney Channel *
42	Animal Planet *
43	Nickelodeon
44	E! *
45	CNBC
46	BET *
47	HGTV
48	Spike TV *

CNBC is grouped
with entertainment:
→ **Channel 45**

Channel's Order and Viewership



- The same channel reaches **15% more households** in a zip code if it appears one st. dev. closer to the top (e.g., as channel # 15 vs. # 50)
- A channel's position in a zip code has an **idiosyncratic component** driven by (1) local channel allocation rules, (2) vacant slots available, and (3) timing of system upgrades → **exploit for identification**

Main Findings

▪ Effect on refinancing

- Financial TV raises households' propensity to refinance when doing so is beneficial
- The entry of Fox Business News is associated with a **14% increase** in local refinancing volume in response to a 100 bps drop in interest rates
- Confirm the effect by instrumenting TV viewership with channels' ordinal positions: a one std. dev. move closer to the top of the lineup increases refinancing by **3.5%**
- Average household effect: **197 bps** lower int. rate → nominal savings of **\$63,220**

▪ Mechanisms

- Greater **fraction of refinancing households**
- **Faster** to refinance, given the same incentives → **greater attention**
- More likely to **complete** initiated applications → **less inertia**
- More **comparison shopping** → multiple applications → a further **11 bps** drop in int. rate

▪ Who is more affected?

- Those with **less access to fin advice**: minorities, lower income, less fin. literacy

Novel evidence on media as an **educator** and a **reminder against inertia**

1. Motivating Evidence:

Does Media affect Refinancing Decisions?

Where do refinancing borrowers get info?

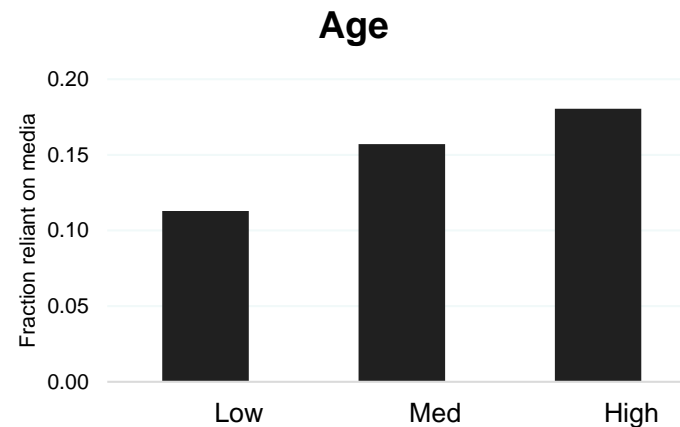
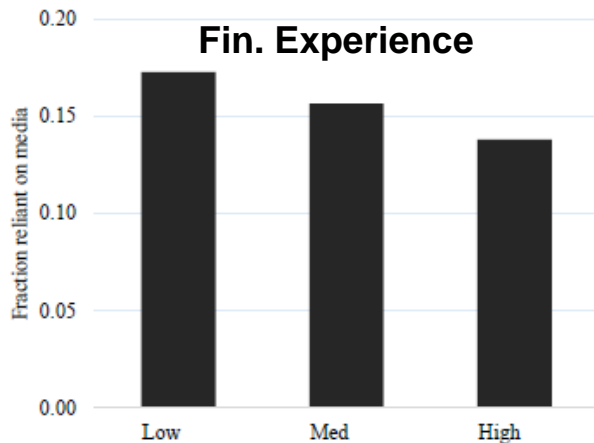
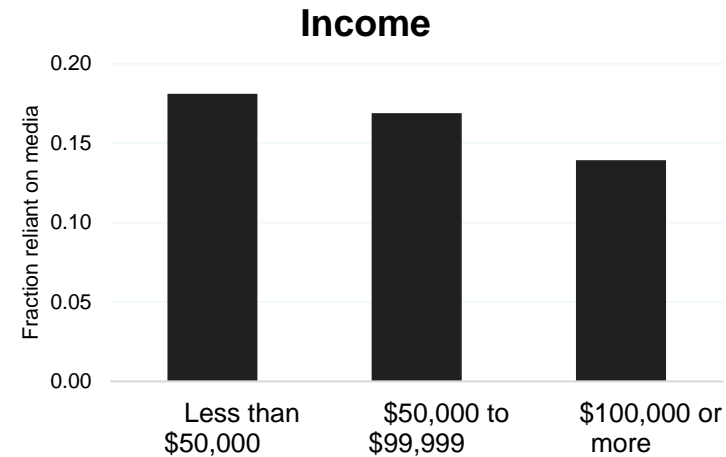
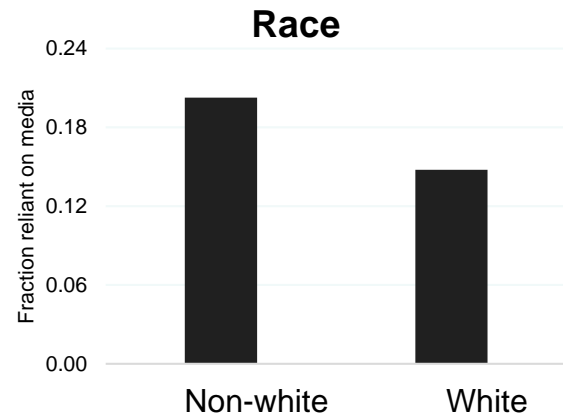
National Survey of Mortgage Originators (a nationally representative sample, n = 8,315)

Information Source	Percent of refinancing borrowers
Lenders or brokers	40.3%
Bankers or financial planners	30.4%
Media	15.6%
Real estate agents or builders	14.8%
Housing counselors	3.5%

1. About **16%** of borrowers use information from the media in refinancing decisions
2. Media is as important as real estate agents and **several times more important than housing counselors**, the main [policy effort](#) in mortgage education

Who Uses Media in Refinancing Decisions?

Fraction of **borrowers who rely on media in refinancing**, by demographics:



1. Media even more important for **seniors, minorities, and less experienced**
2. For these groups, refinancing likely to impact **solvency & spending**

Use of Media and Approach to Refinancing

“Naïve” regression evidence (linear probability models):

	Dependent Variable:			
	Self-initiated the refinancing process	Evaluated rates across multiple lenders	Submitted multiple applications	Willing to refinance again in the future
Media use in refinancing	0.030** (2.32)	0.148*** (9.92)	0.073*** (6.58)	0.042*** (3.42)
Controls for borrower demographics	Age, gender, minority race status, financial literacy, risk aversion, number of borrowers per loan			
Controls for property and mortgage type	metropolitan vs. rural location maturity, interest rate spread			
Controls for loan risk	Loan-to-value ratio, credit score			
Income category FE	Yes	Yes	Yes	Yes
Education level FE	Yes	Yes	Yes	Yes
Loan type FE	Yes	Yes	Yes	Yes
Loan amount group FE	Yes	Yes	Yes	Yes
Originat. mo. & yr. FE	Yes	Yes	Yes	Yes
Observations	8,315	8,315	8,315	8,315

Borrowers who use media in their refinancing decisions are:

3 p.p. (or 4%) more likely to **self-initiate the refinancing process**

14.8 p.p. (or 30%) more likely to **evaluate multiple lenders**

4.2 p.p (or 19%) more likely to **refinance again in the future**

2. Data:

Television Viewership and Refinancing Activity

1. TV viewership: (1) Nielsen Local TV and (2) Nielsen Focus

- Panel **zip-level** data on **channels offered** and **their arrangement** in the local lineup for each local cable system (**10,000** systems nationwide)
- Viewership data for all business channels

2. Refinancing activity: Home Mortgage Disclosure Act (HMDA) database

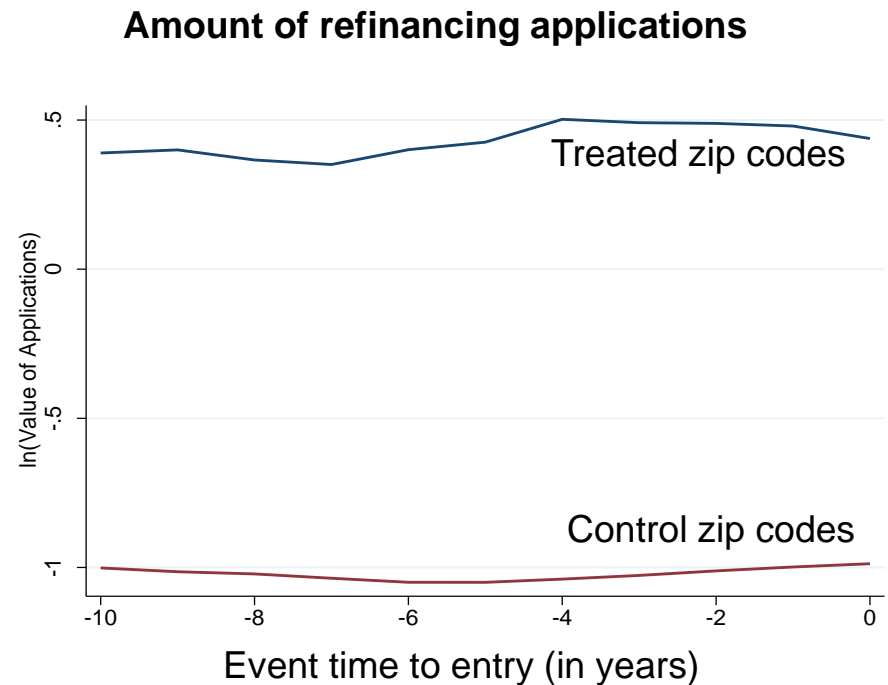
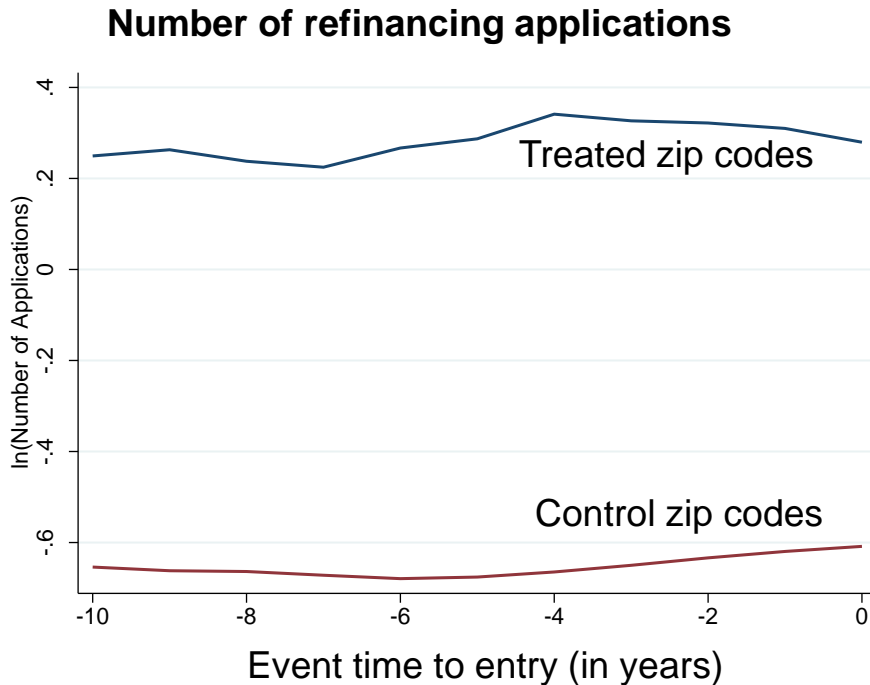
- **Nearly the universe** of refinancing activity in 1990-2017
- **Application-level** data with borrower demographics:
 - **approved & denied** applications
 - **borrower actions**: withdraw, leave incomplete, reject/accept bank offer

3. Main Results:

Entry of Financial TV and Refinancing

Fox Business Channel Entry (2007-2016)

- **No pre-trends** in refinancing applications before channel entry



Fragmentation of the local cable markets at the zip level, driven by the infrastructure of cable systems → **identifying variation at the zip level**

Verify conditional random assignment at the zip level: within counties, **entry into zips is uncorrelated with** prior refinancing or demographics

FBN Entry and Refinancing

	(1) Log(Number of applications)	(2) Log(Value of applications)
Treated × Post	-0.0969 (0.0681)	-0.0846 (0.0649)
Beneficial to Refinance × Treated × Post	0.223*** (0.0670)	0.222*** (0.0673)
Observations	810,639	810,639
R-squared	0.950	0.970
Control	Yes	Yes
Zip FE	Yes	Yes
Zip FE × Time trend	No	No
County-Year FE	Yes	Yes

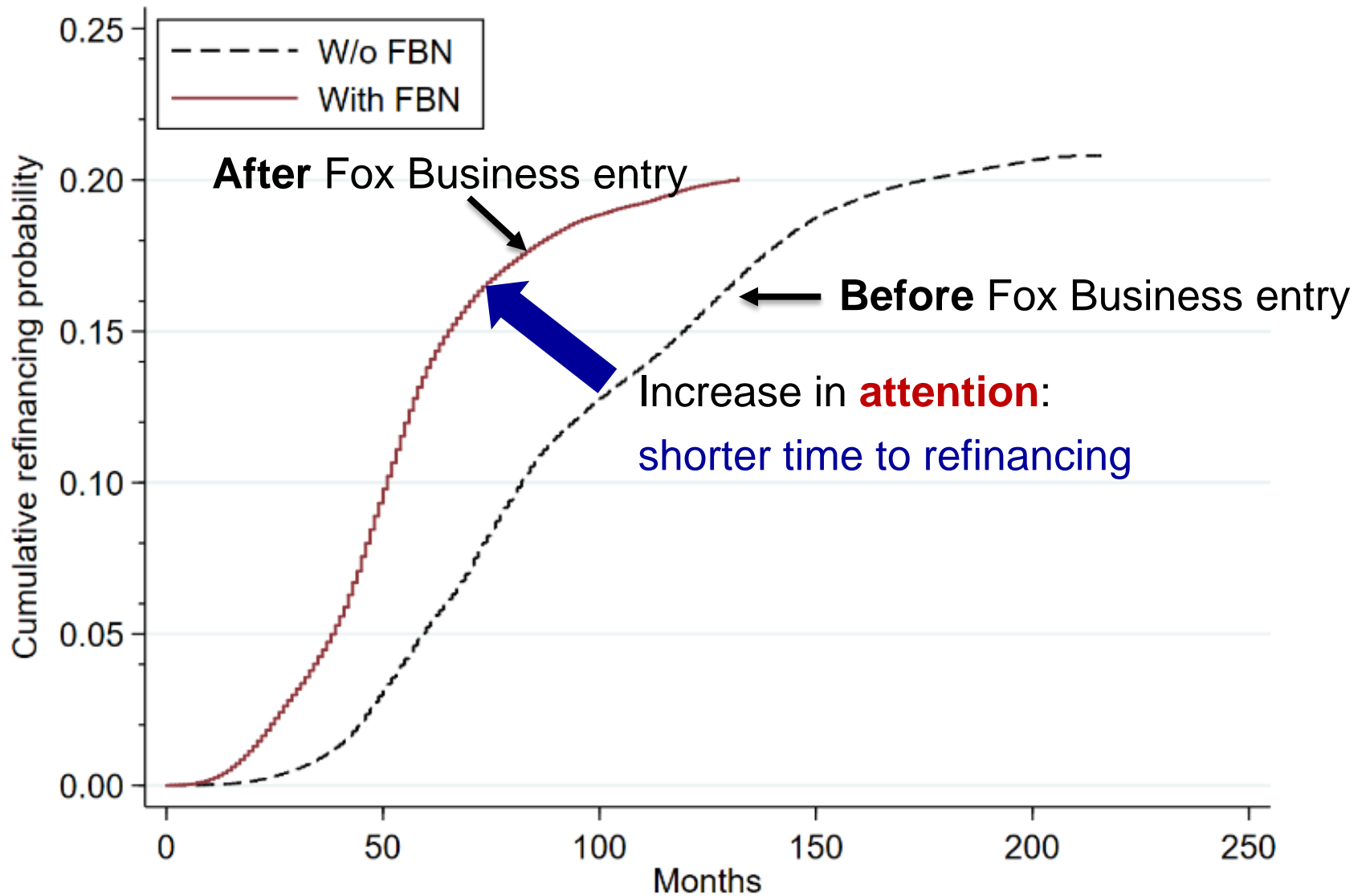
1. After FBN enters a zip code, its residents are **more likely to refinance** when **refinancing becomes beneficial** (mortgage interest rates drop by 100+ bps)
2. No increase in refinancing activity if interest rates do not drop
3. Effects account for **zip-level heterogeneity** and **county-year FE**

Economic Channels: Household Activity

	Google SVI for "refinance"	Share of Incomplete Applications
Treated × Post	0.180 (0.767)	-5.27e-05 (0.000313)
Beneficial to Refinance × Treated × Post	4.285* (2.278)	-0.000885** (0.000395)
Observations	2,912	681,671
R-squared	0.738	0.562
Control	No	Yes
Zip FE	No	Yes
County-Year FE	No	Yes
Year FE	Yes	No
Designated Market Area FE	Yes	No

1. Local residents increase online searches for “refinancing” consistent with the **education channel**
2. After FBN entry, local residents are less likely to leave applications incomplete, consistent with the **nudge channel**

Time to Refinance, Given Same Incentives



Summary of Cross-Sectional Evidence

- Across financial channels:
 - Entry of **Bloomberg** and **CNBC** produces similarly positive effects on refinancing, but with smaller econ magnitudes
- Across borrowers:
 - Minorities, moderate income, govt-supported borrowers
 - Effect concentrated among the **groups that rely more on media** in refinancing decisions and may lack alternative sources of fin. advice
- Across locations:
 - Effects are magnified in the **proximity of bank branches** which facilitate physical application submission

4. Validation:

Evidence from Channel Lineup

Effect from the Channel Lineup

Validate the effect of fin. TV on refinancing: **variation in the ordinal positions** of biz channels

	(1) Log(Number of applications)	(2) Log(Value of applications)
Beneficial to Refinance × Min log(Lineup)	-0.0364*** (0.00311)	-0.0344*** (0.00379)
Constant	2.306*** (0.139)	3.600*** (0.206)
Observations	442,539	442,539
R-squared	0.959	0.977
Control	Yes	Yes
Zip FE	Yes	Yes
County-Year FE	Yes	Yes

A one standard deviation move of a business channel (35 positions) closer to the top of the lineup is associated with a **3.4-3.6%** increase in refinancing activity

Conclusion

- Exposure to business television increases households' propensity to refinance when doing so is financially advantageous
- Media could help reach underbanked households that lack other sources of financial advice

→ One of the first to document positive effects of media on households' decisions