

DEMONETISATION & UNDER-REPORTING OF ECONOMIC ACTIVITY

EVIDENCE FROM REAL ESTATE

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DEMONETIZATION

In Nov 2016, the Government of India invalidated ₹500 and ₹1,000 notes which constituted 86% of the currency in circulation

AIM

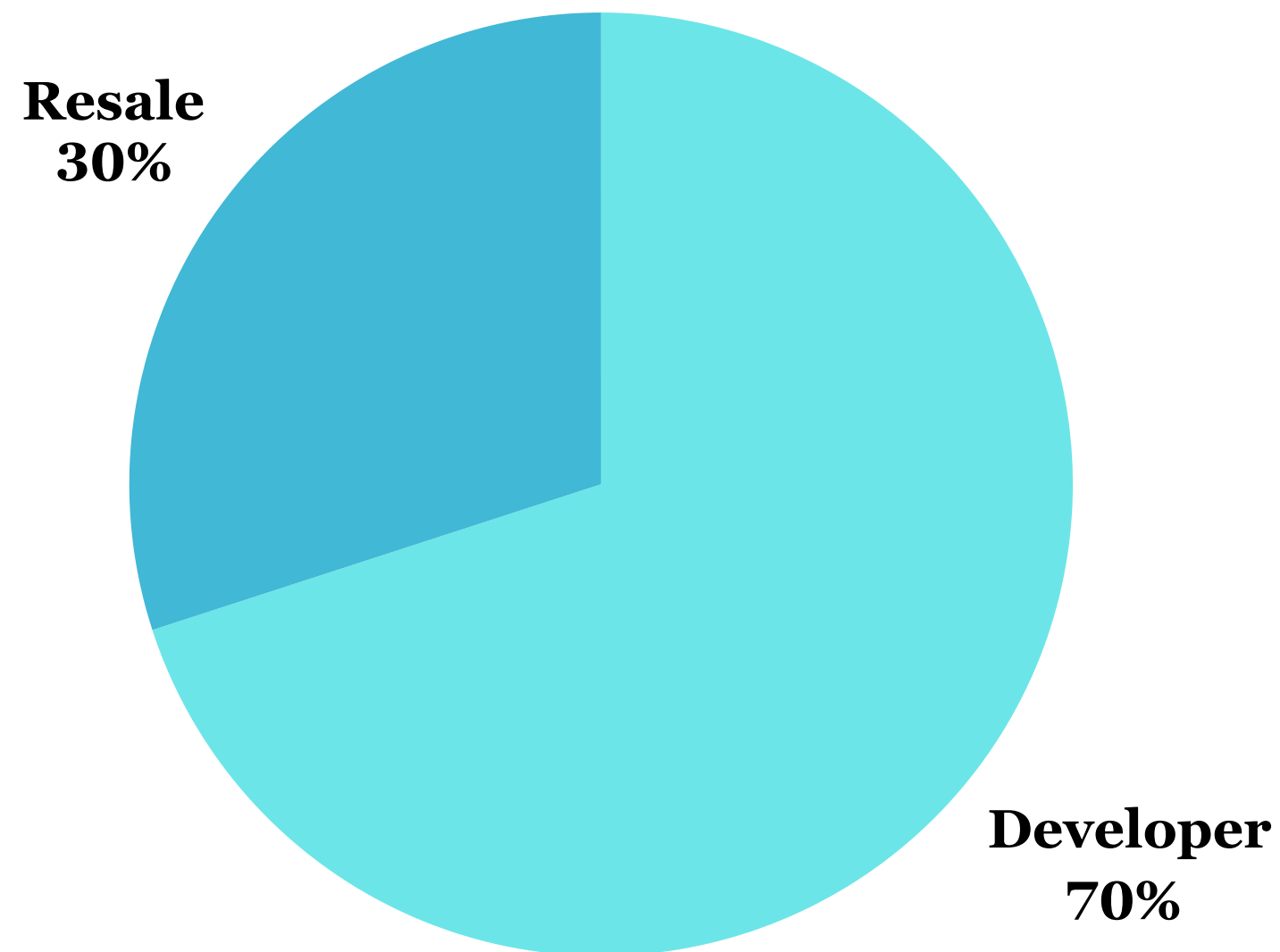
- To target black money and curb corruption
- Push the economy toward formalisation and digital payments

EFFECTS

- Liquidity shock to the economy
- Nature of transactions shifted from cash to online and banking

TRANSACTIONS: REAL ESTATE MARKET

COMPOSITION



Primary Market: Developers (70%)
Secondary Market: Individuals (30%)

ISSUES

Inefficiency in tax collection leads to:

- Eroding of property tax revenue
- Incorrect Loan-to-Value ratios
- Reduces price informativeness

WHAT'S REQUIRED

- Halting of illegal transactions due to liquidity shock
- Induce correct reporting of asset value
- Track origin and ownership of cash

MOTIVATION & RELEVANCE

Viksit Bharat's vision requires sustained **8%** per capita income growth



With **private investment sluggish**, the government's capital expenditure is carrying growth. But how long can this continue with **limited fiscal capacity**?



India's tax effort is stagnating at **70%** (gap between potential vs. actual collections)



Real estate tax evasion is a **major contributor** to this shortfall

RESEARCH QUESTION

Whether Demonetization reduced property-value under-reporting in Mumbai's real estate transactions

In other words, did the sudden scarcity of cash stop sellers from not reporting true property price?

RELATED LITERATURE

Lahiri (2020)

Focus: Overview of demonetization policy and its goals

Findings: Major disruptions (liquidity shortages, informal sector decline); almost 99% of notes returned implying a limited success in curbing black money

Chodorow-Reich et al. (2020)

Focus: Short-run macroeconomic effects using firm & household data

Findings: GDP growth dropped ~2% in the following quarter; cash-intensive sectors hit hardest

Das et al. (2023)

Focus: Tax data study on firms' reporting behaviour

Findings: More sales/taxes reported in cash-exposed areas, driven by digital adoption which shows a short-run reduction in tax evasion

Prior studies (Fan et al. 2022; Agarwal et al. 2020a, 2020b) show systematic under-reporting of property values in China using brokerage data. Anagol et al. (2024) apply a structural model to Mumbai real estate with similar data. This paper builds on that work by examining how demonetization affected under-reporting behavior.

DATASET & MARKET PRICE ESTIMATION

The researchers linked two private and one official dataset

IGR

Official Government Registry of
Real Estate Transactions

Propstack

Record of property price as per
sale deed

Propequity

Collect estimates of real
market prices.

- Propstack was matched with the Inspector General of Registration and Controller of Stamps (IGR) data
- Propequity data is collected through repeated ‘Mystery Shopping’ exercises, Investor surveys, and rigorous data analysis

UNDER-REPORTING

Under-Reporting refers to when the **declared sale price** of a property is **below its true market value**, enabling buyers and sellers to **evade stamp duties or other transaction taxes**

RELEVANCE

- Captures the magnitude of evasion
- This shows whether the total amount of tax revenue lost actually changed.

FORMULA (weekly under-reporting rate)

$$\frac{p_w - t_w}{p_w}$$

p_w Aggregate Estimated Transaction Value in the week (from Propequity data)

t_w Aggregate “**tax-base**” value of transaction values in the week,

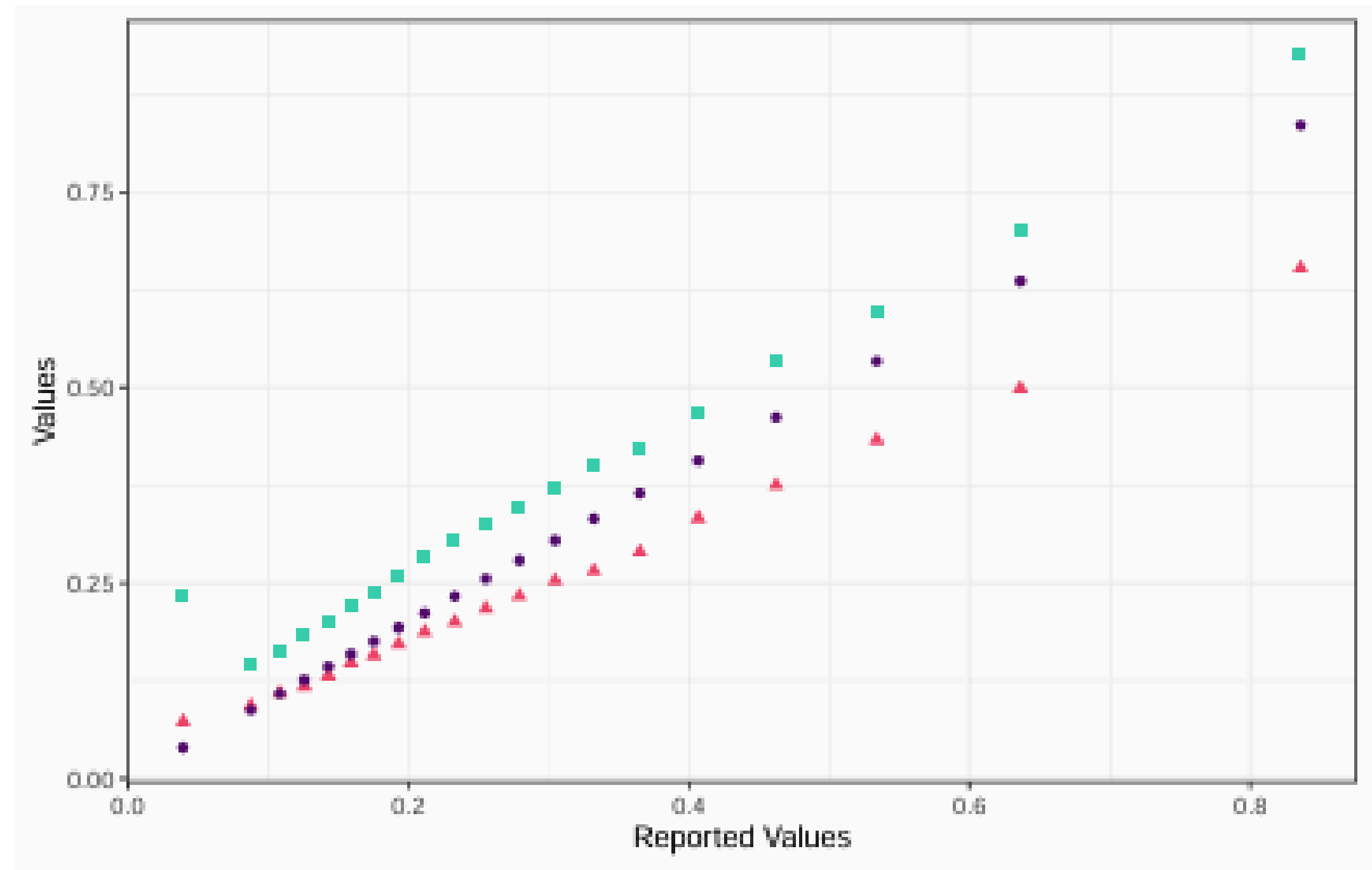
Max {Reported value, Guidance value}

RELATIONSHIP BETWEEN GUIDANCE, REPORTED AND PROPEQUITY VALUES

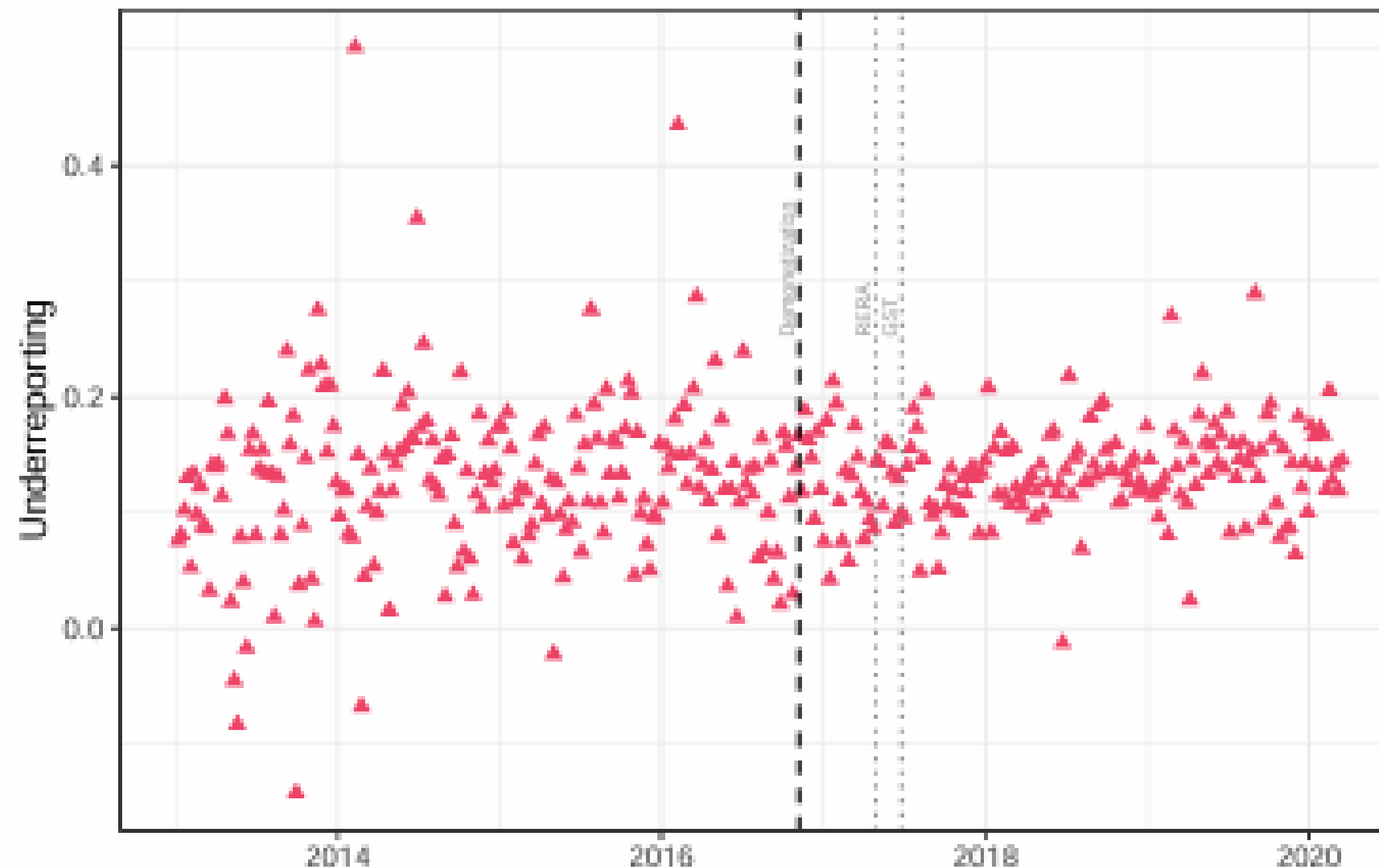
All three measures are strongly correlated:

- Propequity market values are consistently the highest (cyan)
- Reported transaction values sit in the middle (purple)
- Government guidance values are the lowest (red)

The strong and stable correlation shows that the propequity prices track markets really well



UNDER-REPORTING RATE



There is no significant aggregate decline in tax evasion/under-reporting, meaning cash withdrawal alone did not curb overall misreporting.

BUNCHING

Bunching refers to **clustered transaction values** at or just below guidance value. This **indicates strategic under-reporting** to minimize taxes

RELEVANCE

- This widens the gap between reported values and true market prices
- Leads to revenue loss and distorted real estate data

FORMULA

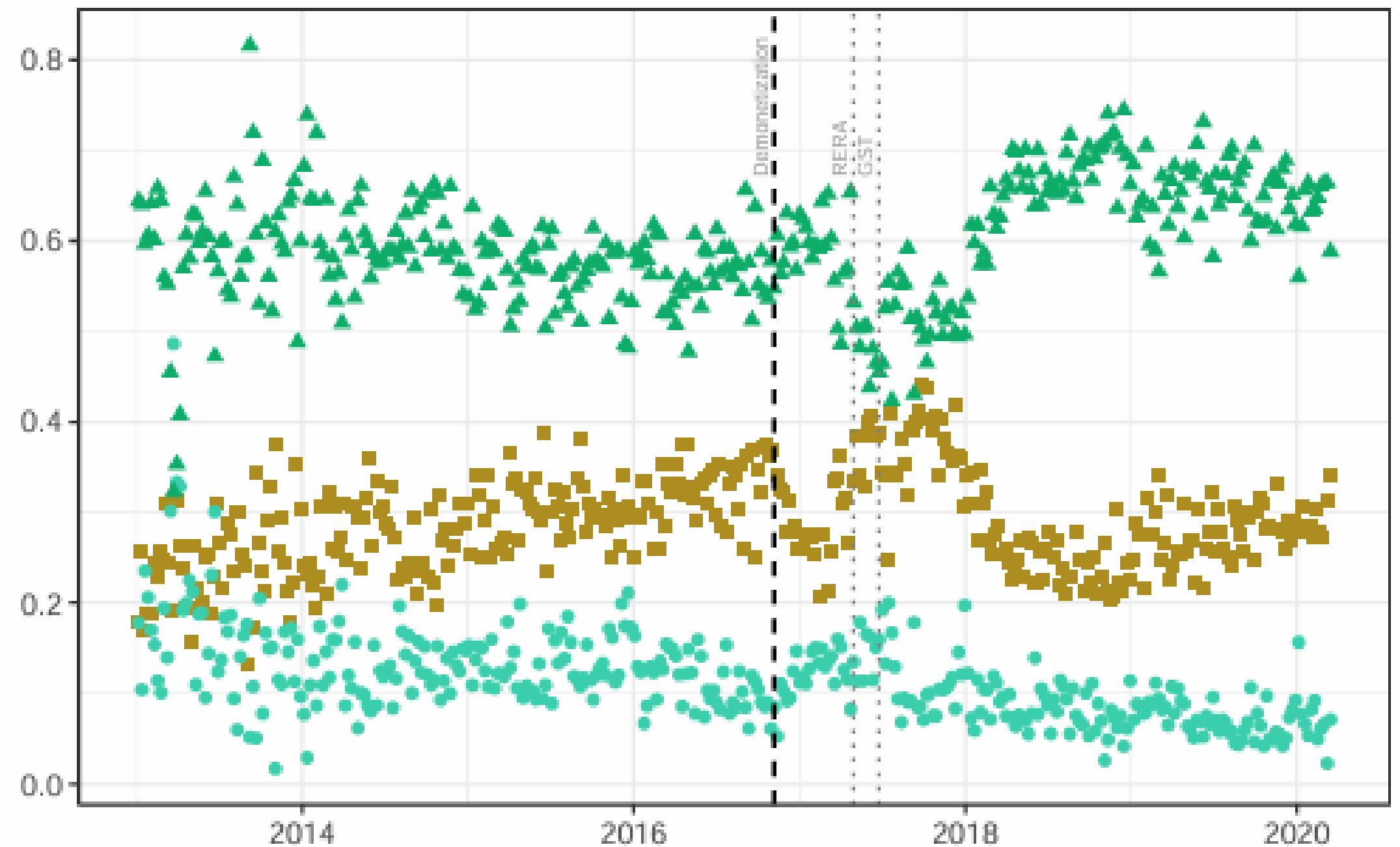
$$\frac{r - c}{c}$$

r Reported transaction value

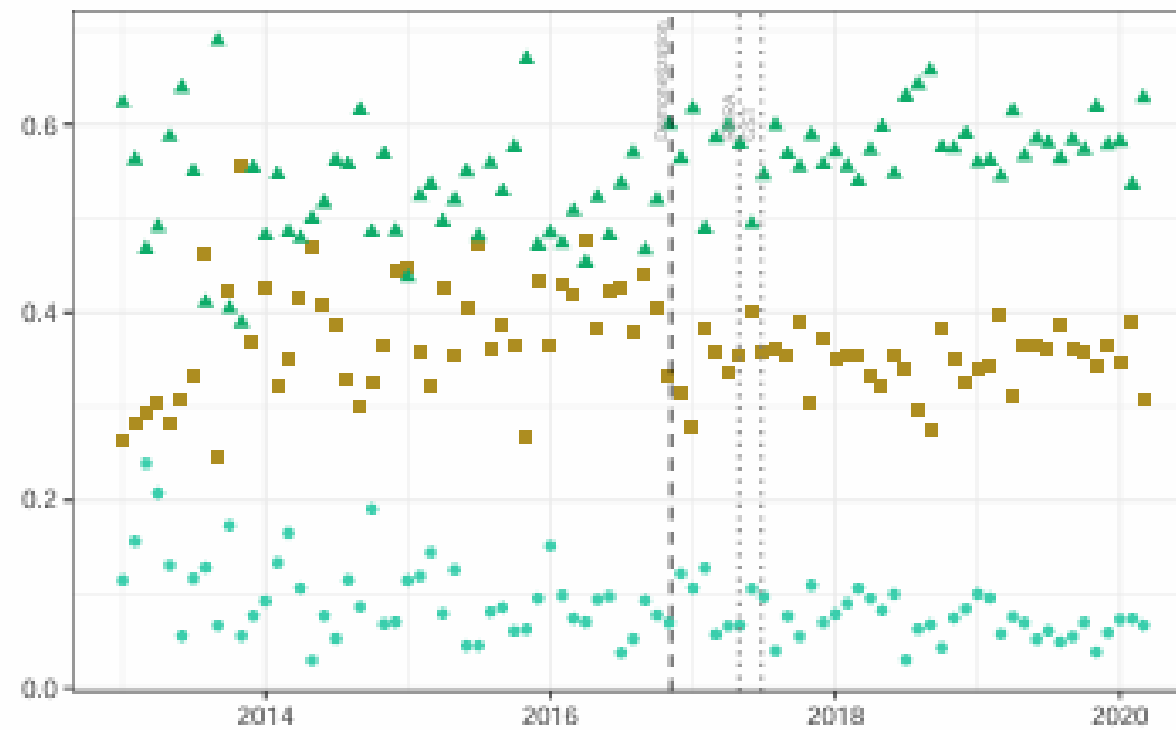
c Guidance value

BUNCHING BEHAVIOUR AROUND DEMONETIZATION

- Green triangles (>10 % above guidance)
- Within ± 10 % of the guidance value (Brown Squares)
- Cyan dots (>10 % below guidance)

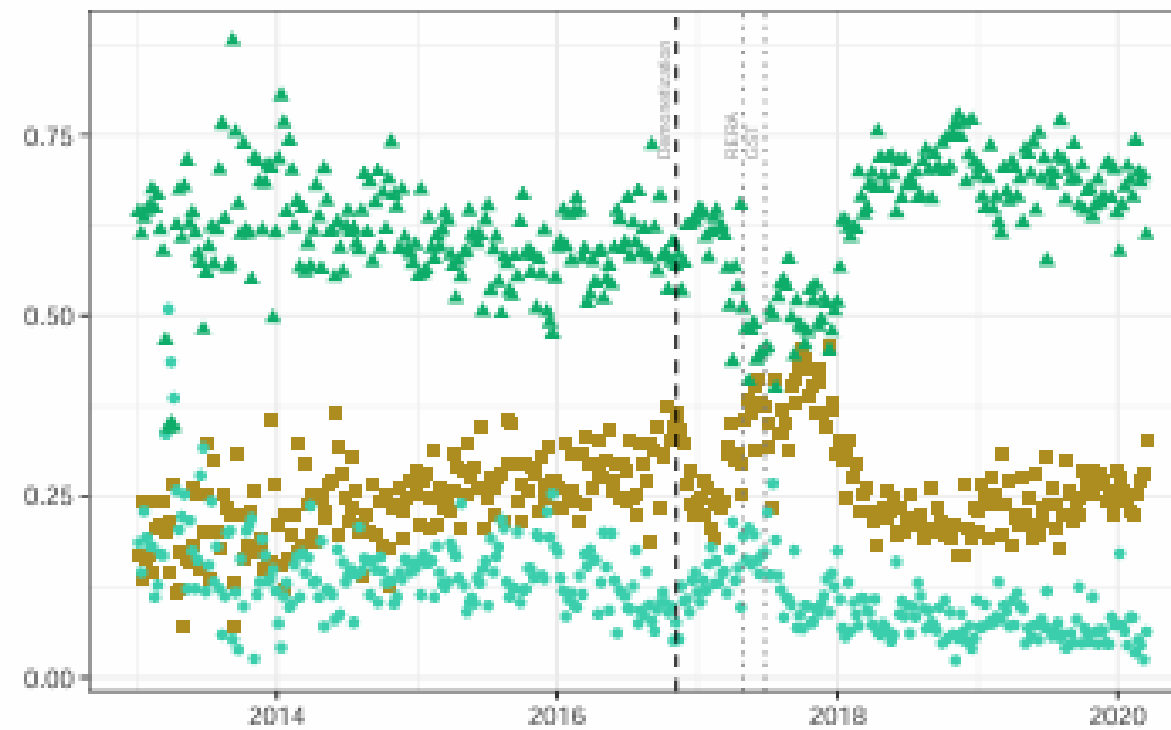


RESULTS: BUNCHING RATE



RESALE TRANSACTIONS

- Decline in the share of transactions within $\pm 10\%$ of the guidance value. Matches the decline in the resale under-reporting rate. This indicates that resale buyers and sellers shifted away from under-reporting practices.

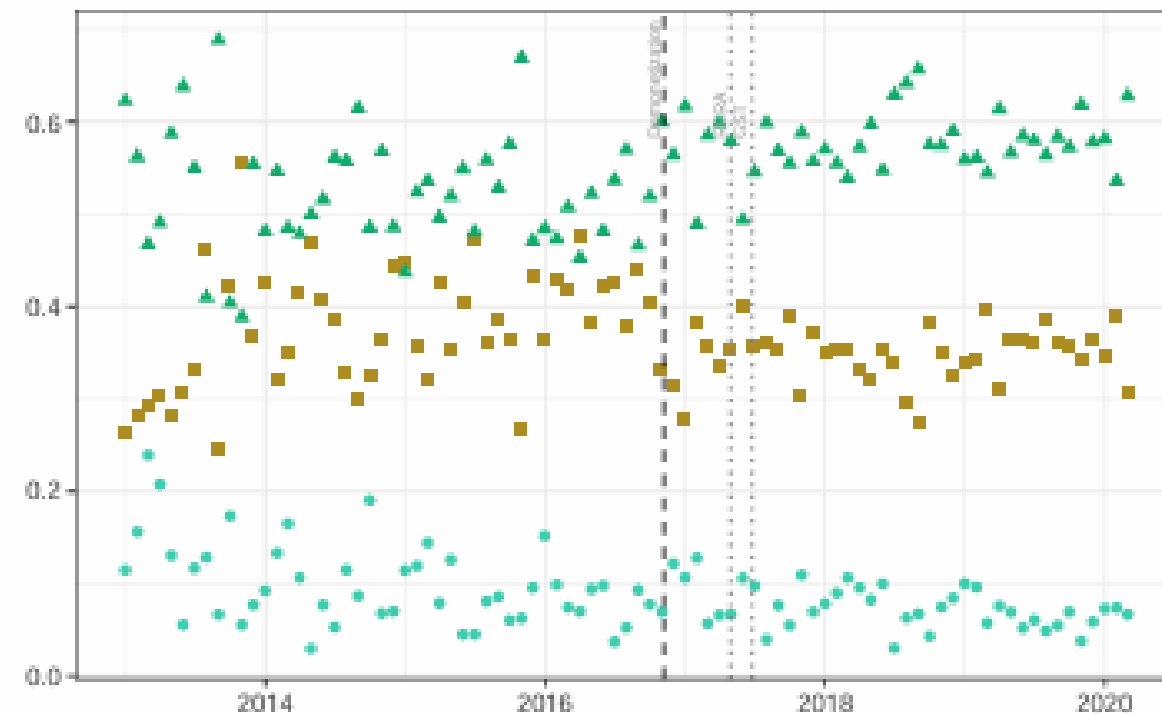


DEVELOPER SALES

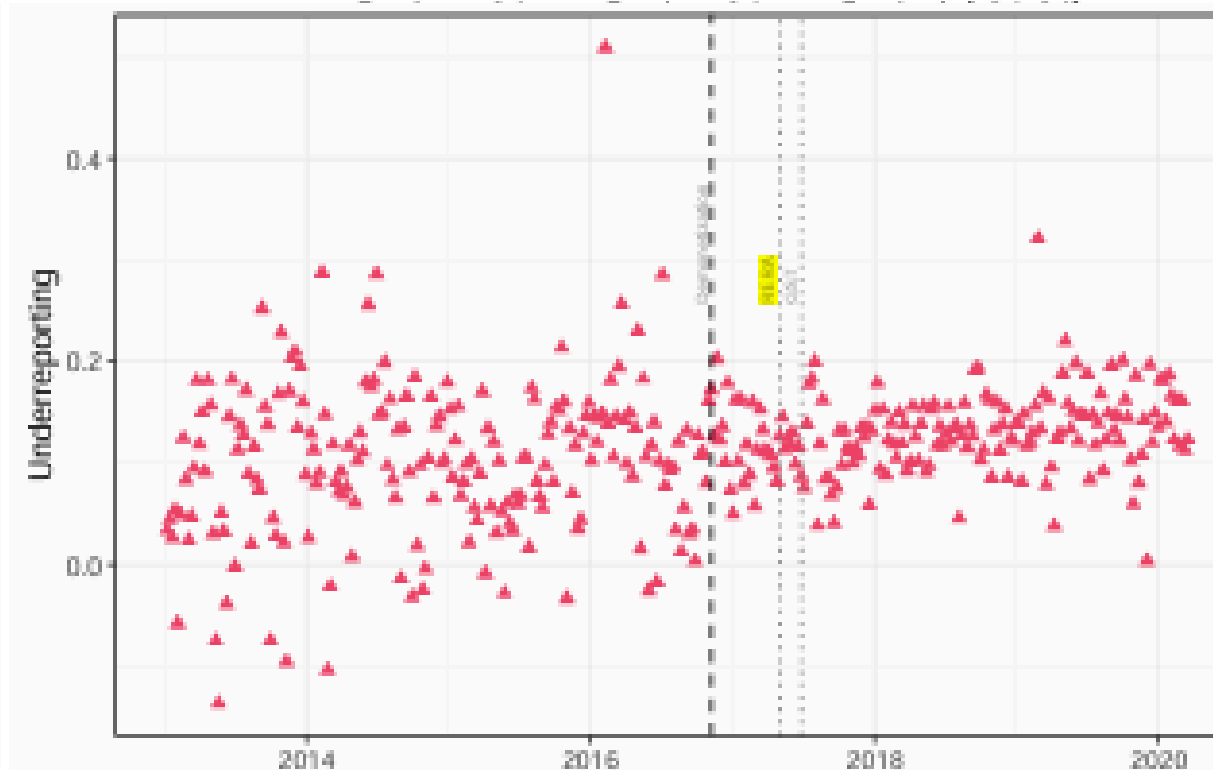
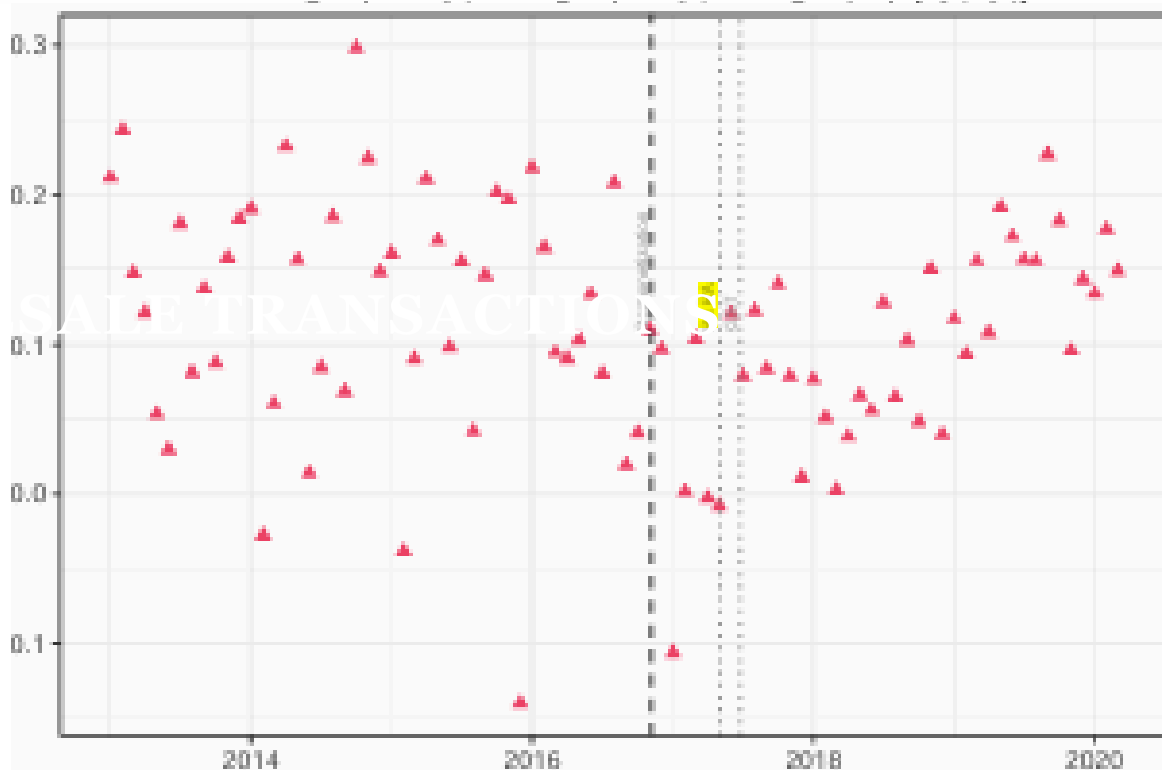
- There is a slight decline in bunching, but these transactions appear not to have high enough value to affect overall under-reporting.

RESULTS: BUNCHING BEHAVIOUR

Bunching Behaviour



DEVELOPER
SALES



Under-Reporting Rate

Background

Paper

Critique

Takeaway

REGRESSION FRAMEWORK

$$y_w = \beta_0 + \beta_1 Post_w + \beta_2 Post * Week_w + \beta_3 Week_w + \epsilon_w$$

Y: Weekly under-reporting rate or bunching fraction

Post: Dummy (1 = post-demonetization, 0 = pre-demonetization)

Week: Time trend (centered at demonetization week)

β_1 (Main Interest): Immediate level shift from demonetization

β_2 & β_3 : Control for changes in long-term & pre-existing trends

RESULTS: UNDER-REPORTING RATE

(a) Under-reporting

	Full Sample	Developer Sales	Resale
Post-Demonetization (β_1)	-0.016 (0.012)	-0.003 (0.013)	-0.065* (0.029)
Num. Obs.	376	376	376
Std. Errors	IID	IID	IID

AGGREGATE SAMPLE

Not statistically significant



No reduction in tax evasion in the Mumbai's real estate market

DEVELOPERS

Not statistically significant



Adaption to non-cash evasion methods like dual-invoicing

RESALE

Statistically significant



Transactions are simpler and it is a cash-dependent sector

RESULTS: BUNCHING RATE

(b) Bunching

	Full Sample	Developer Sales	Resale
Post-Demonetization (β_1)	-0.009 (0.009)	0.019* (0.011)	-0.077*** (0.022)
Num. Obs.	376	376	376
Std. Errors	IID	IID	IID

AGGREGATE SAMPLE

Not statistically significant



Shows some decline but
modest effect overall

DEVELOPERS

Statistically significant



Increased slightly which
seems counterintuitive

RESALE

Statistically significant



Shifted away from under-
reporting at the guidance value

CRITICAL REVIEW: STRENGTHS

RELEVANCE

Examines black money in real estate, a key demonetization target, & integral for Viksit Bharat given the sector's weak regulation

METHODOLOGY

Uses under-reporting & bunching rates, finds no aggregate change post-demonetization

INSIGHTS

Reveals alternative underreporting mechanisms like dual invoicing. Showing practices beyond cash limits policy effectiveness

POLICY IMPLICATIONS

Points to policy failure, calls for audits, revised tax rules, and updated guidance values

CRITICAL REVIEW: CRITIQUES

Confounding Variables

→ GST and RERA passed around the same time as sample data collected, possible confounders

Lacking External Validity

→ Extrapolating conclusions to all of India and emerging markets using only data from Mumbai is problematic

Validity of Proxies

→ Difficult to validate how Propequity's method gauges the "true value", along a with 12-week time lag of price calculations

IMPROVEMENTS

SAMPLE

Add more cities in the sample to get rid of city-specific traits causing bias in the data (eg, Bangalore, Indore, Sonipat)

METHEDODOLOGY

Check for dual-invoicing changes in the underreporting behavior in the presence and absence of a service charge on property invoices

FURTHER RESEARCH

Future research could focus on buyer and seller behavior, since stricter regulation alone has proven ineffective

Future research could focus on the effects of a portfolio of formalization policies

THANK
YOU!

