Expectation Channel of Mortgage Policy

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Motivation

Conventional Credit Constraint (CC) Channel. LTV/PTI affects borrowing and prices *mechanically*:

$$\text{Looser caps} \;\Rightarrow\; \text{Borrowing}\uparrow \Rightarrow\; \text{House prices}\uparrow$$

But, policies can work as signals and directly alter households' expectations:

$$\text{Looser caps as a } \textbf{Signal} \;\Rightarrow\; \text{Expectations}\uparrow \Rightarrow\; \text{Borrowing \& House prices}\uparrow$$

It is hard to separate these two channels as they are bundled:

Not only signals, but credit constraints themselves can also alter expectations (e.g., Johnson 2020; Kuang et al. 2026)

Setting

To separate the two channels, we need:

1. A nationwide policy signaling the government's stance
2. Both types of areas: Large expectation & small credit shocks, and vice versa
3. A credit instrument driven by expectations but orthogonal to LTV/PTI regulations

Korea's 2014 LTV/PTI relaxation delivers exactly this

1. First nationwide, unprecedented relaxation pattern
2. Explicitly framed as a housing-market stimulus
3. Two types of areas: "high expectation, low credit" vs. "low expectation, high credit"
4. A unique housing credit system orthogonal to LTV/PTI regulations — Chonsei system

Main Findings

After the 2014 relaxation:

1. House prices & expectations rose more in *expectation*-sensitive areas, not in credit-relaxed areas

   : Price divergence appeared in week 1, before new lending rules took effect

2. Chonsei-financed speculative purchases surged in expectation-sensitive areas

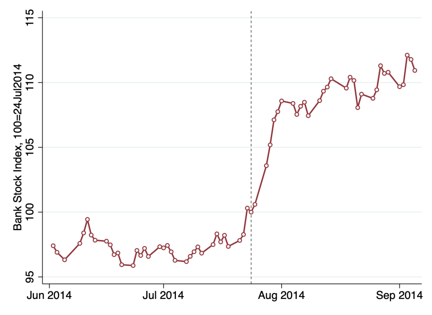
   & Unconstrained mortgages, cash purchases, and flipping also increased in those same areas

Alternative explanations (e.g., housing supply, interest rates, business cycle, and overall real-estate booms) are ruled out.

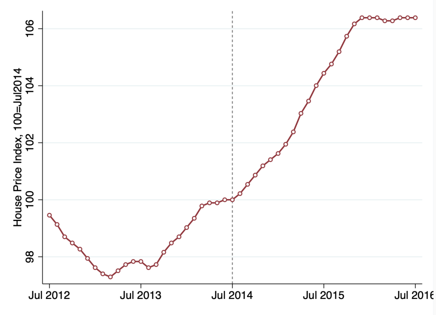
2014 LTV/PTI Relaxation

Announced July 24, implemented August 1, 2014

1. First *nationwide* relaxation — prior policies were local and countercyclical
2. Raised LTV/PTI caps to unprecedented levels (e.g., LTV: 50% → 70% in Seoul)
3. Explicitly framed as a "housing-market stimulus"



(a) Daily Bank Stock Prices



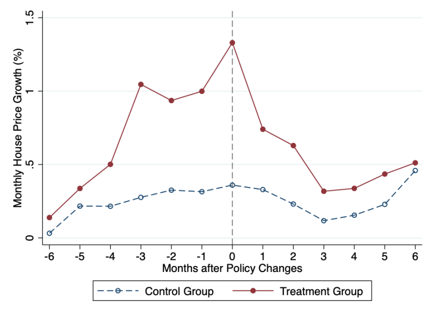
(b) Monthly House Prices

Two Exposure Measures: Signal Exposure

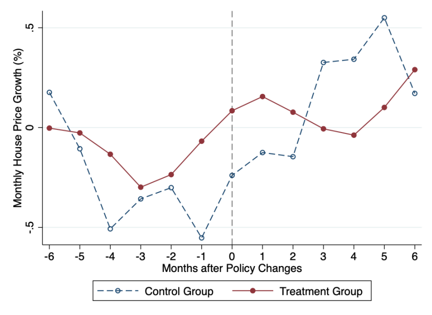
We use **DiD** with two exposure measures: **signal exposure** and **constraint exposure**.

Signal exposure: Months designated as a "Speculation Area" before 2012

Stronger past booms (higher expectations) ⇒ Longer designation ⇒ More suppressed expectations by sustained intervention ⇒ *More primed to rebound* when policy reversed in 2014

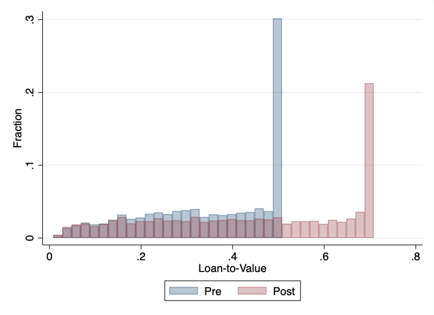


(a) Designation of Speculation Area

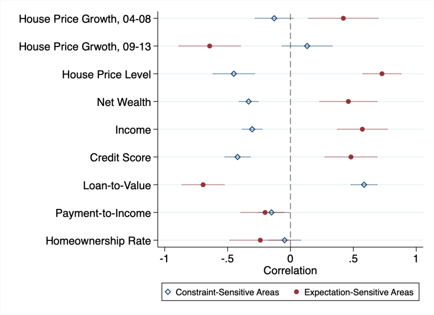


(b) De-Designation of Speculation Area

Constraint exposure: Share of pre-2014 mortgage loans originated within 2 pp of the LTV/PTI caps



(a) Changes in LTV



(b) Geographic Characteristics

Main Result 1: House Prices and Expectations

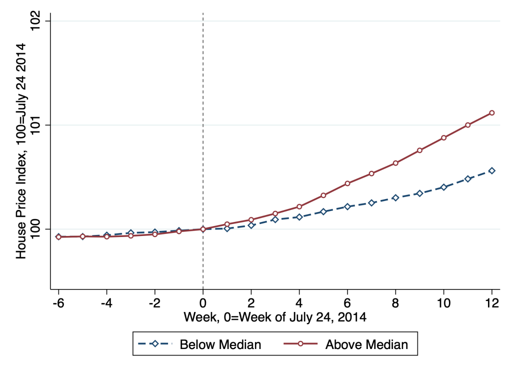
Price expectations rose more in expectation-sensitive areas

(Survey of Housing Finance, Aug 2013 & Aug 2014)

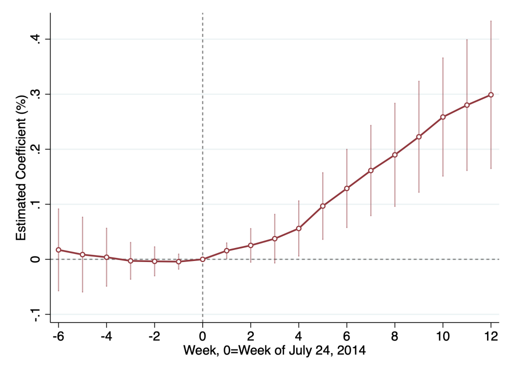
	(1)	(2)	(3)
Signal Exposure × Post	0.0179**	0.0183***	0.0161***
	(0.0069)	(0.0060)	(0.0057)
Signal Exposure	−0.0240***	−0.0179**	−0.0142*
	(0.0056)	(0.0082)	(0.0080)
Post	0.1067***	0.1070***	0.1042***
	(0.0084)	(0.0049)	(0.0061)
Province FEs		✓	✓
Controls			✓
Adj. R^2	0.0177	0.0191	0.0270
#Obs	6,276	6,276	6,276

Main Result 1: House Prices and Expectations

House prices rose more in expectation-sensitive areas



(a) Below vs. Above Median



(b) DiD

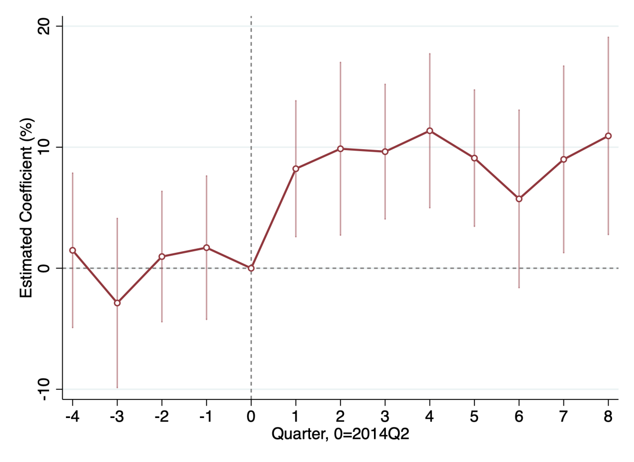
Main Result 1: House Prices and Expectations

House prices rose more in expectation-sensitive areas, not in credit-sensitive areas

LHS Variable =	Monthly House Price Growth (%)				
	(1)	(2)	(3)	(4)	(5)
Signal Exposure × Post	0.065***		0.057**	0.031**	0.046**
	(0.019)		(0.025)	(0.015)	(0.019)
Constraint Exposure × Post		−0.080**	−0.028	0.055	0.035
		(0.034)	(0.040)	(0.042)	(0.049)
City District FEs	✓	✓	✓	✓	✓
Year-Month FEs	✓	✓	✓		
Province × Year-Month FEs				✓	✓
Controls					✓
Adj. R^2	0.477	0.472	0.477	0.599	0.600
#Obs	3,216	3,216	3,216	2,931	2,931

Main Result 2: Credit Growth — Official Mortgages

Mortgage origination expanded in credit-relaxed areas, not in expectation-sensitive areas



Main Result 2: Credit Growth — Unregulated Chonsei Credits

Chonsei: Korea's Unique Housing Credit System

- Tenant pays a lump-sum deposit (60–80% of home value) to landlord in lieu of monthly rent
- Deposit is returned in full at the end of the lease (typically 2 years)
- Interest-free, peer-to-peer, and **outside LTV/PTI regulation**

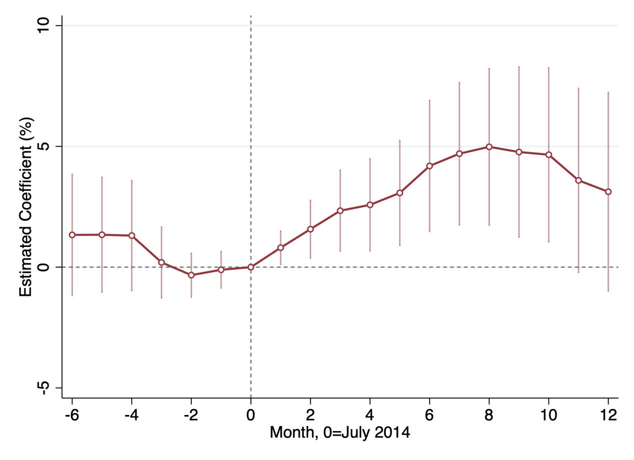
Why is this useful for identification?

- Chonsei credit is **unaffected by LTV/PTI regulations** — the use of Chonsei credit cannot be attributed to changes in credit constraints
- Buyers purchase homes for **speculative purposes** — what matters is expected future prices, not housing services

Thus, a surge in Chonsei-financed purchases is likely driven by changes in expectations!

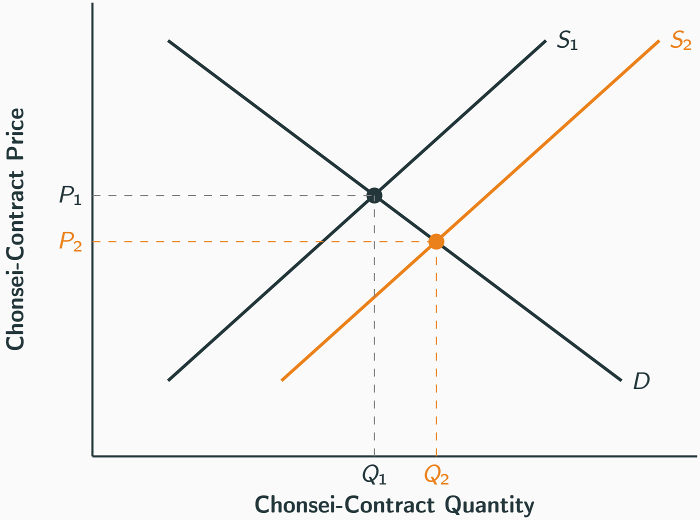
Main Result 2: Credit Growth — Unregulated Chonsei Credits

Housing credits orthogonal to LTV/PTI caps surged in expectation-sensitive areas



Additional Evidence: Supply vs. Demand of Chonsei Arrangement

Landlords supplying Chonsei arrangements vs. Tenants demanding Chonsei arrangements



Additional Evidence: Supply vs. Demand of Chonsei Arrangement

Chonsei became relatively cheaper than monthly rental

Dep. Var:	Chonsei Discount (%)			
	(1)	(2)	(3)	(4)
Signal Exposure × Post, Standardized	0.0400**	0.0748***	0.0468***	0.0444**
	(0.0175)	(0.0178)	(0.0173)	(0.0177)
City FEs	✓	✓		
Year-Month FEs	✓			
APT FEs			✓	✓
Province × Year-Month FEs		✓	✓	✓
Controls				✓
Adjusted R^2	0.211	0.217	0.401	0.402
#Obs	330,864	330,864	330,864	330,864

Additional Evidence: Expectation-Driven Transactions

LHS Variables =	% Changes in		
	Unconstrained Mortgages (1)	Cash Home Purchases (2)	Flipping Home Purchases (3)
Signal Exposure × Post	2.748**	6.021***	5.210***
	(1.345)	(2.005)	(1.157)
City District FEs	✓	✓	✓
Year-Month FEs	✓	✓	✓
Adj. R^2	0.559	0.160	0.319
#Obs	3,018	4,674	4,636

Robustness

Concern	Response
Monetary policy	Price divergence appeared in week 1, before the Aug 14 BoK rate cut; expectation-sensitive areas are not historically rate-sensitive (Tab C.3–C.4)
Macro shocks	Commercial real-estate prices show no differential response; expectation-sensitive areas are not differentially exposed to business cycle (Tab C.5 & Unreported Tab)
Supply/Income	Permits expanded and income trends were flat in expectation-sensitive areas after 2014 (Tab C.6–C.7)
Seoul outliers	Results unchanged when excl. Gangnam, Seocho, and Songpa (Tab C.8)

Conclusion

Mortgage policy operates through two distinct channels:

1. **Credit constraint channel:** Looser caps $\Rightarrow$ Borrowing $\uparrow$ $\Rightarrow$ House prices $\uparrow$
2. **Expectation channel:** Looser caps as a Signal $\Rightarrow$ Expectations $\uparrow$ $\Rightarrow$ Borrowing & House prices $\uparrow$

Key findings:

1. House prices rose more in expectation-sensitive areas, not in credit-relaxed areas
2. Price divergence appeared in week 1, before new lending rules took effect
3. Borrowing/home purchases unaffected by LTV/PTI policies surged in expectation-sensitive areas

Policy implication: The effectiveness of mortgage policy depends not only on its technical parameters, but also on the signals it sends to markets