The Effectiveness of Housing Collateral Tightening Policy

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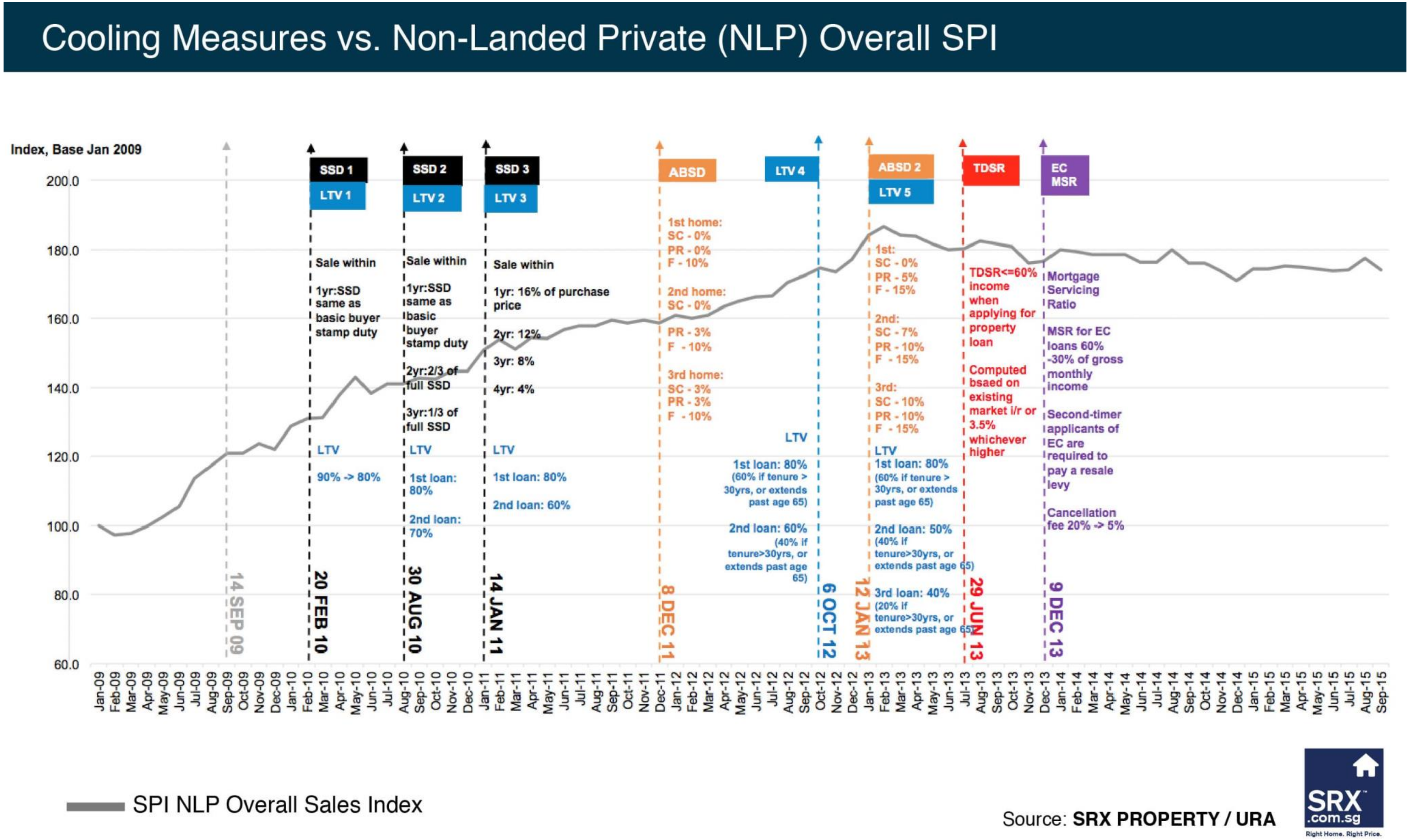
Overview

- Question: What happened to the composition of borrowers after a housing collateral tightening policy
- Policy context: On August 31, 2010, the MAS reduced the upper limit on LTV ratios for borrowers that had at least one loan outstanding from 90 to 80 percent and raised the cash down-payment requirement from 5 to 10 percent of the collateral value.
- Finding: riskier borrowers are selected into the second loan, who have lower behavioral credit scores and worse histories of credit card repayment

Overall impression

- Adverse selection of buyers after collateral tightening policy—one of the first evidence
- Optimistic belief about housing prices may drive such adverse selection
- Strong relevance to policy makers on the effectiveness of cooling measures

Comment-confounding policies



Comment-observed and unobserved characteristics

- What is the reason behind such a huge difference in credit card debt and behavioral credit score? (check specific categories?)

Observed borrower characteristics				
Average age *(years)*	41.19	44.48	39.44	43.96
Average income per year *('000s)*	\$140.67	\$182.90	\$103.43	\$144.46
Length of tenure with the bank *(years)*	14.73	16.08	13.87	16.32
Foreign national *(share)*	0.30	0.23	0.32	0.21
Male *(share)*	0.76	0.83	0.75	0.81
Married *(share)*	0.58	0.70	0.53	0.71
Professional occupations *(share)*	0.52	0.51	0.50	0.44
Administrative occupations *(share)*	0.21	0.28	0.19	0.26
Graduate and postgraduate education *(share)*	0.72	0.83	0.67	0.75
Unobserved borrower behavior				
Credit card debt	\$469.60	\$589.19	\$327.82	\$765.71
Delinquency *(>30 days, frequency)*	0.25	0.26	0.21	0.34
Behavioural credit score *(units)*	752.24	762.61	762.61	543.57

Comments-treatment effects

- Selection and Treatment Effect

$$y_{i,t,n} = \delta_t + \alpha 1_{post} + \underbrace{\beta 1_{n=2}}_{\text{Characteristics}} + \underbrace{\gamma 1_{post} 1_{n=2}}_{\text{Selection effect}} + \underbrace{\tau 1_{post} 1_{n=2} 1_{obs}}_{\text{Treatment effect}} + \varepsilon_{i,t,n}$$

- Three windows

- control: Apr-Aug 2010
- Treatment: Sep 2010-Jan 2011
- Observation: Feb-June 2011

Comments-treatment effects

- Selection and Treatment Effect

$$y_{i,t,n} = \delta_t + \alpha 1_{post} + \underbrace{\beta 1_{n=2}}_{\text{Characteristics}} + \underbrace{\gamma 1_{post} 1_{n=2}}_{\text{Selection effect}} + \underbrace{\tau 1_{post} 1_{n=2} 1_{obs}}_{\text{Treatment effect}} + \varepsilon_{i,t,n};$$

- The observation window is definitely affected by the new wave of cooling measure in Jan 2011
- How about dropping the treatment effect term and studying the dynamics of selection effect over months (Sep 2010-Jan 2011)
- The treatment effect is cleaner by adopting individual fe model (restricting sample to before Jan 2011)

Comments-spillover effect

- The incidence of penalties is 3.7 percent higher on the first loan and 2.3 percent higher on the second loan, relative to the period pre-policy period.
- If spillover effect is the story, you may observe that penalties for the second loan occurred prior to the penalties for the first loan?

	Mortgage loan penalties
Log borrower's income	0.001
	(0.011)
Log loan amount	-0.001
	(0.002)
Mortgage interest rate	0.001
	(0.003)
First loan (Post-policy)	0.037*
	(0.020)
Second loan (Post-policy)	0.023*
	(0.013)
Borrower fixed effects	Yes
Number of observations	276
Adjusted R^2	0.261[8]

Comment—who is to be blamed?

- What is the incentive for the bank to lend money to these risky borrowers?

- They don't know they are risky (no information about their behavioral score and credit card debt when assessing the loan?)
- They profit from it (increased mortgage interest rate spread and penalty)
- The bank is especially interested in lending money to the borrowers from high housing price growth areas
- Adverse selection from the bank's side or the borrower's side?
- Can you observe rejected mortgage applications to differentiate these two stories?

A very interesting and important paper!