Banc Ceannais na hÉireann
Central Bank of Ireland
Eurosystem

Impact Assessment of Borrower-Based (LTV/LTI) Measures in Ireland

Mark Cassidy, Central Bank of Ireland

Lietuvos Bankas, 12 May 2017

Presentation Overview

- Brief recap of Irish LTV/LTI measures: objectives, rationale, design;
- First annual review of impact and effectiveness:
  - Scope of review
  - Analytical and policy projects
  - Consultation process
  - Key findings
- Amendments to the measures
- Final thoughts

Introductory Remarks

- LTV / LTI caps introduced from February 2015.
- Commitment to regular reviews of the measures (as with CCyB and O-SII capital buffers).
- Results of first review published in November 2016 including some changes to the measures.
- Fully acknowledge it is very early to expect to be able to assess many aspects of the impact that the measures have had.

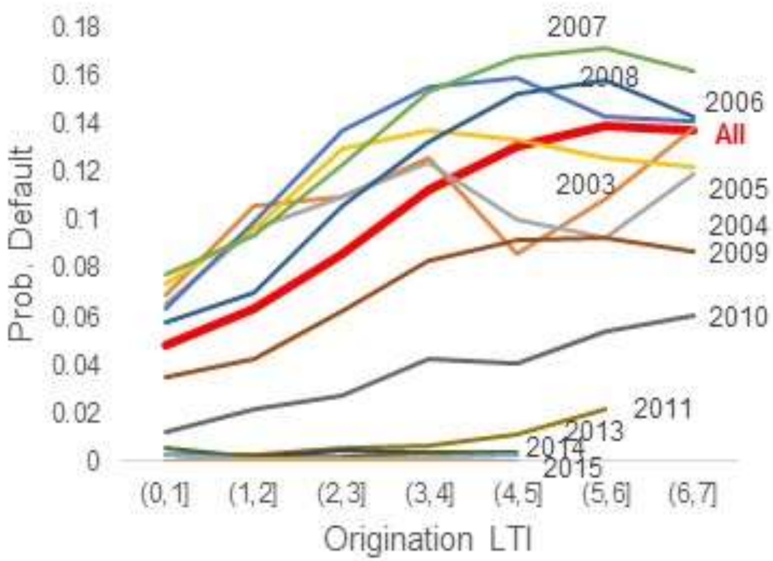
Details of the measures

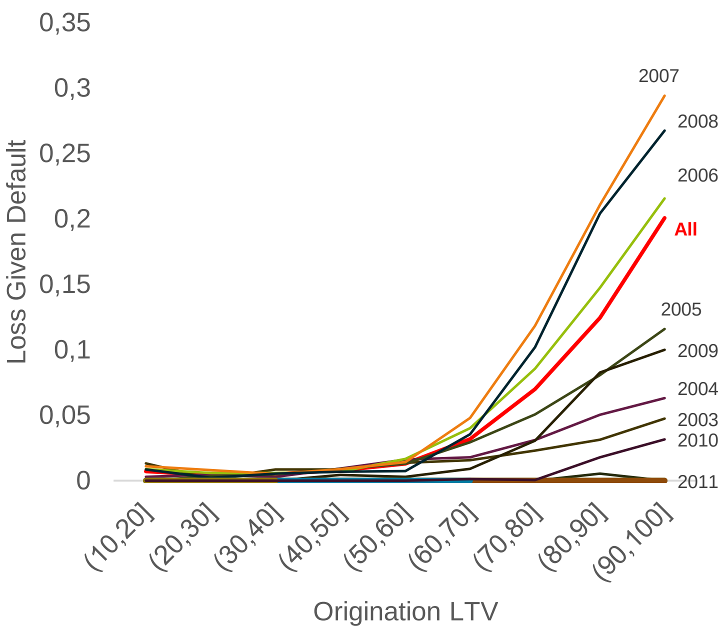
Loan-to-value limits	**Primary dwelling homes**	**FTBs:** Sliding LTV limit from 90% **Non FTBs:** 80%	To be exceeded by no more than 15% of new lending
	Investors	70% LTV limit	To be exceeded by no more than 10% of new lending
Loan-to-income limits	**Primary dwelling homes**	3.5 times LTI limit	To be exceeded by no more than 20% of new lending
Exemptions	**From LTV:** Borrowers in negative equity	**From LTI:** Borrowers for investment properties	**From both:** Switcher mortgages Restructuring of mortgages in arrears

Objectives of the Measures

- Primary Objective: Enhance the resilience of banking and household sectors to financial shocks
- Secondary Objective: Dampen the inherent pro-cyclical dynamics between property lending and housing prices and
- Create a framework that allows for parameters to be adjusted in order to influence housing/credit current market conditions
- Should be able to stand the test of time and become a generally accepted standing feature of the mortgage market

Rationale for measures: Higher LTV and LTI ratios at origination are associated with an increased likelihood of subsequent default and higher loss given default





First review of impact and effectiveness published 23 Nov. 2016

Loan-to-Value Limits	**Primary dwelling homes**	***Until 31/12/16***	**Allowance**
		FTBs: **Sliding** LTV limit from 90%* linked to house value Non-FTBs: 80% limit	15% of all new lending allowed above limits
	Outcome of 1st review (Nov. '16) →	***From 01/01/17***	
		FTBs: 90% limit	5% of new lending to FTBs allowed above 90% limit
		Non-FTBs: 80% limit	20% of non-FTB new lending allowed above 80% limit
	Investors	70% limit	10% of new lending above the investor limit is allowed
Loan-to-Income Limits	**Primary dwelling homes**	3.5 times income	20% of new lending above the LTI limit is allowed
Exemptions	**From LTV limit:**	**From LTI limit:**	**From both limits:**
	Borrowers in negative equity	Borrowers for investment properties	Switcher mortgages Restructuring of mortgages in arrears

Notes: * A limit of 90 per cent LTV applies on the first € 220,000 of the value of a residential property and a limit of 80 per cent LTV applies on any value of the property thereafter.

Scope of First Annual Review

Market overview

How have housing and credit markets developed before and after measures?

Borrower impact

Is there evidence of adverse effects for particular borrower groups?

How have allowances to the proportionate caps been used?

How has lending under the exemptions evolved?

Borrower and bank resilience

Has bank and borrower resilience changed since the measures?

Have banks effectively incorporated the measures into their day-to-day operations?

Real-financial feedback loops

Has there been a change in house price-credit dynamics since the introduction of the measures?

Other sectors

Is there any evidence of a change in rental market dynamics since the measures?

Any evidence of leakages, e.g. rise in unsecured lending?

Micro Data: Monitoring Templates

- Under the legislation, lenders are required to submit a return called SI 47 Monitoring Template
- This is a detailed loan-by-loan submission that includes a range of loan and borrower characteristics
  - Loan term, balance, interest rate, rate type, LTV, LTI, type, house type, location, and many more
  - Borrower age, income, employment status, gender etc
- Compliance is tested on a full year basis but data drops are received twice a year (20 working days after the end of period)
- Submitted to banking supervision division and cleaned and managed by cross divisional data management group. Two separate teams clean and check data and then results are commonly verified
- For comparative purposes, data can be compared to pre-measures data from Loan-level dataset (from December 2010)

Title	Authors	Publication	Summary
Macroprudential measures and Irish mortgage lending: H1 2016 review	Kinghan, C., Lyons, P., McCarthy, Y. and C. O'Toole	Economic Letter Vol 2016, No. 6	Examines mortgage lending in Ireland in H1 2016 following the introduction of the mortgage measures. Differences in the characteristics of borrowers with and without an allowance to exceed the limits of the measures are noted.
The macroeconomic effects of the regulatory LTV/LTI ratios in the CBI's DSGE model	Lozej, M. and A. Rannenberg	Economic Letter Vol 2017, No. 4	Uses DSGE model to investigate impact of LTV/LTI measures. Finds that while the measures dampen economic activity in the short run they bring benefits in the long run.
Model-based estimates of the resilience of mortgages at origination **Originating loan to value ratios and the resilience of mortgage portfolios.**	Joyce, J. and F. McCann McCann, F. and E. Ryan	Economic Letter Vol 2016, No. 9 Economic Letter Vol 2016, No. 10	Assesses the risk characteristics of loans issued between 2003 and 2016. Authors note a reduction in the probability of default of loans issued since 2011. Examines another channel through which lower LTV lending can lead to improvements in banks balance sheet resilience, the lowering of losses in the event of a default.
Assessing the sustainability of Irish residential property prices: 1980Q1 to 2016Q2	Kennedy, G., O'Brien, E. and M. Woods	Economic Letter Vol 2016, No. 11	Employs a suite of models to assess house price developments relative to long-term and fundamental values. At 2016Q2, house prices assessed to be just below fundamental values with no evidence of emerging bubble-like behaviour.
Rental markets, savings and the accumulation of mortgage deposits	Kelly, C. and F. McCann	Central Bank of Ireland Quarterly Bulletin Articles, Vol 2016, No. 4	Estimates the number of months required to save for a downpayment to purchase a property. Notable differences observed across regions in Ireland.
Designing macroprudential policy in mortgage lending: do first time buyers default less?	Central Bank of Ireland	Review of Residential Mortgage Lending Requirements, pp. 28-29, based on CBI Research Technical Papers, Vol. 2015(2)	The differential default risk between FTBs and SSBs is estimated using a panel of loan-level data. Authors find that the default rate of FTBs is lower than SSBs across all time periods and house prices.

Evaluation Public Consultation

Public call for submissions on the impact of the measures

- launched 15 June, closed 31 August
- 51 responses from 27 Institutions/Academics & 24 Individuals

Loan-to-Income

- Measure too restrictive
  - proposals to raise to between 3.75 – 4.5 times gross income
- Alternative of affordability test rather than a strict LTI limit proposed

Loan-to-Value

- Difficulties saving for a deposit:
  - Deposit requirement too high despite differential treatment for FTBs

Rental Market

- Rents increasing due to decrease in house purchases
- Rental payments reduce ability to save for deposit

Some misunderstanding of Regulations was apparent

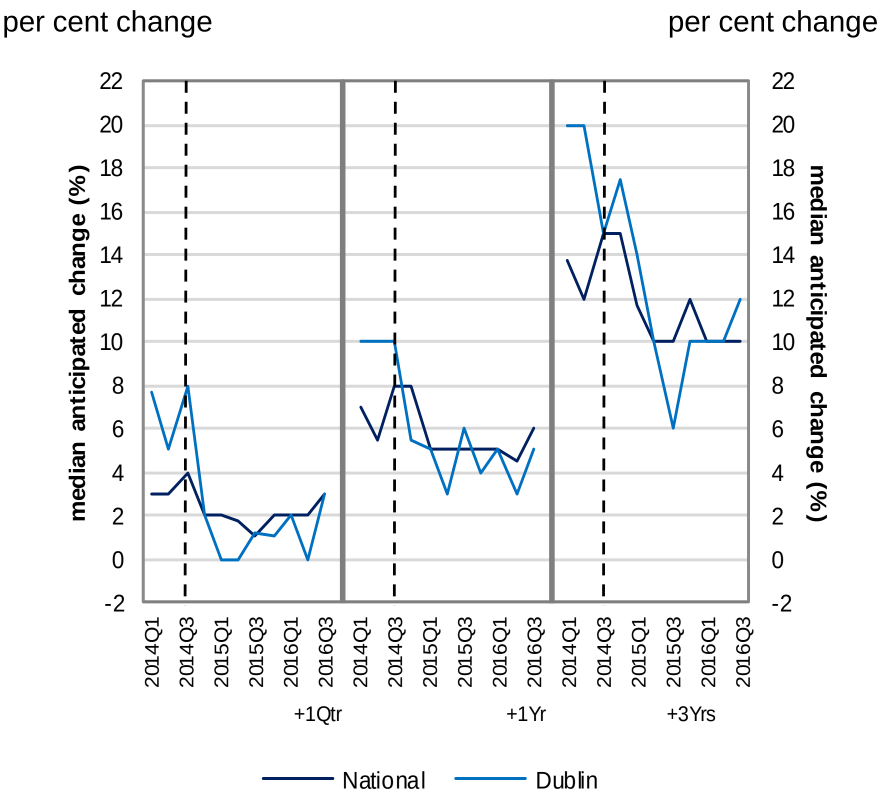
Calls also for the Central Bank not to bow to pressure

Overview of Key Findings

- Causal impact in dampening price expectations; moderation also in actual price increases – price dynamics mainly supply driven;
- Reduction in high LTV/ LTI mortgages – although mean LTV and LTIs actually increased and some upward drift of LTIs towards thresholds;
- Only minor changes in borrower characteristics – incl. modest shift towards higher income borrowers and couples;
- Simulations from loan loss forecasting model indicate that resilience of banks and households (PDs and LGDs) has improved;
- Interesting differences in characteristics of borrowers granted allowances from LTV and LTIs;
- Previous findings of lower credit risk for FTBs now found to hold at all price levels;
- Rents appear to exceed levels justified by fundamentals – but no evidence that measures contributed to a change in the trend.
- No evidence of impact of measures on non-mortgage credit or other leakages.

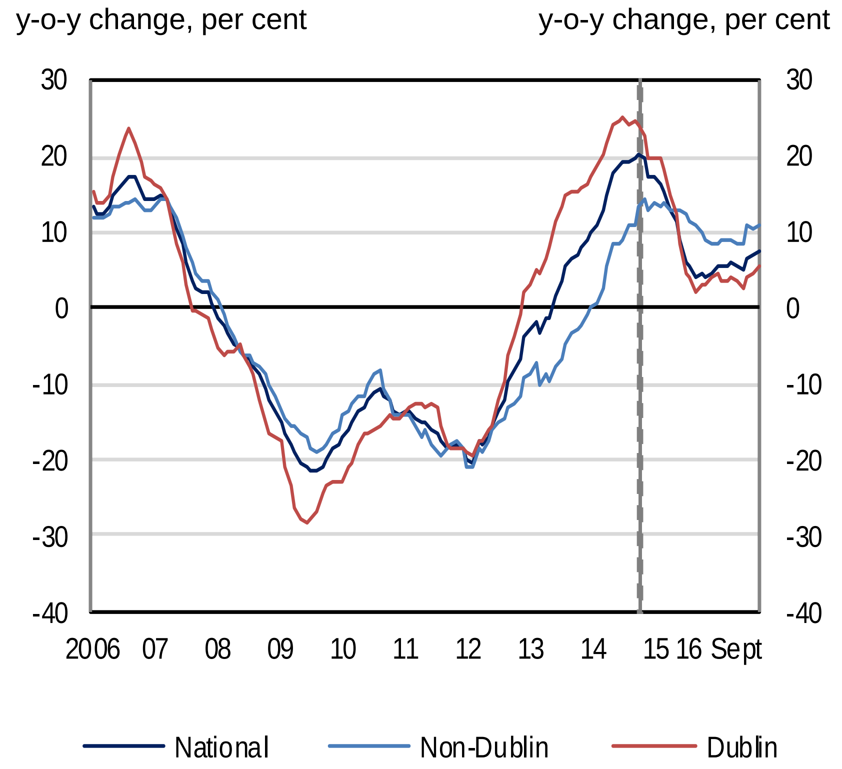
PRICE EXPECTATIONS / PRICES

Median expected change in residential property prices over 1 Quarter, 1 Year, and 3 Year time horizons: National & Dublin



Source: Central Bank of Ireland / SCSI Property Survey
Note: Dashed lines correspond to announcement of mortgage measures

Annual house price growth



Source: CSO
Note: Dashed lines correspond to announcement of mortgage measures

Controlling for the same borrower purchasing the same property type: how have average credit conditions changed over time?

Table 3: Impact on LTV and LTI ratios, post-measures

	FTBs	SSBs
Impact at Mean		
LTV	1.3185***	1.1428***
	(0.228)	(0.325)
LTI	0.2006***	0.2867***
	(0.010)	(0.012)
Impact - Higher Leverage Group		
LTV	−0.4953***	−4.0476***
	0.073)	(0.178)
LTI	−0.0051	−0.0340*
	(0.009)	(0.017)

Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Model includes controls for borrower and property characteristics, loan origination month and bank.
The table reports the coefficient on the *Post* variable from the models specified in Section 4.1.

Characteristics of borrowers receiving allowances

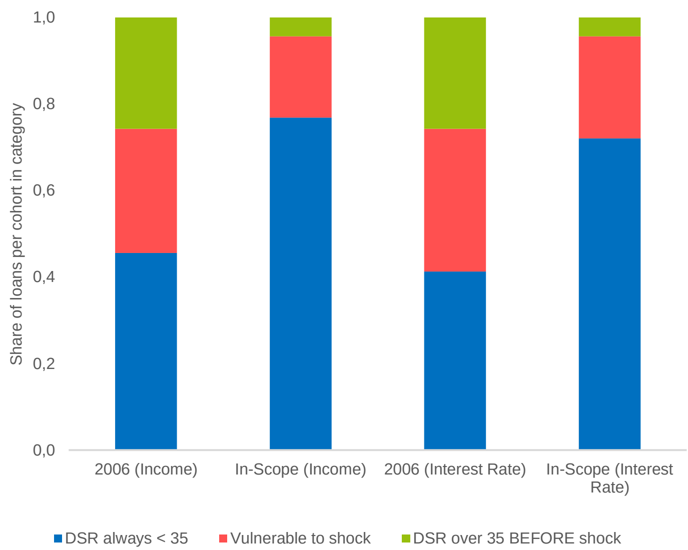
- LTV Allowance:
  - Among PDH borrowers (both FTB and SSB): higher average income and larger share of couples relative to borrowers without an allowance. Also higher loan size
  - Additionally, a larger share of first-time buyers of PDHs with an allowance resided in Dublin
  - Among BTL: higher average income and larger share of couples relative to borrowers without an allowance. Also larger share of Dublin borrowers
- LTI Allowance:
  - Among PDH borrowers: lower average incomes, lower average age, a higher proportion of single people and a higher proportion residing in Dublin, relative to borrowers without an allowance
- Implications for market access if allowances are changed in order to tighten/loosen stance

Has borrower and banking resilience changed since the measures?

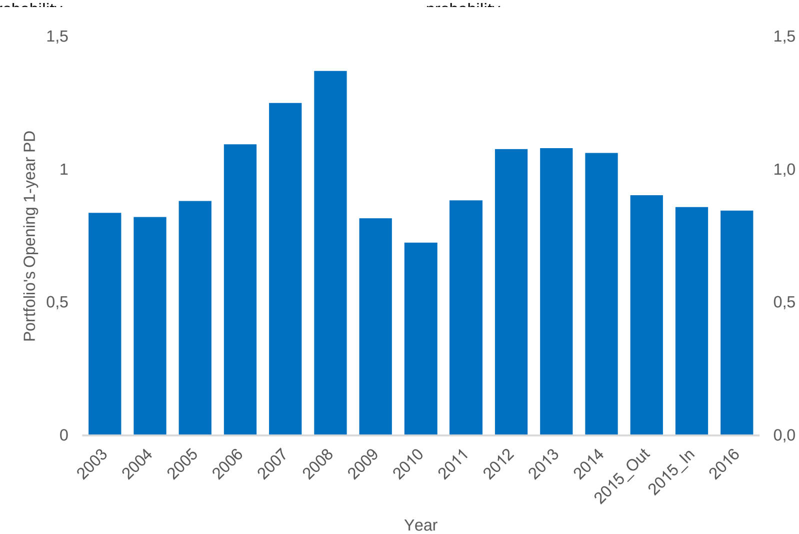
- Evidence confirms that higher LTV and LTI ratios at origination are associated with increased likelihood of subsequent default and higher loss given default
- The affordability of mortgages issued under the Regulations is more resilient to hypothetical interest rate and income shocks than loans issued up to 2008
- The probability of default for loans originated under the Regulations is lower than pre-Regulations lending, partly reflecting the reduction in high LTV and LTI lending
- The magnitude of loss experienced in the event of default would be lower for the portfolio of loans originated under the Regulations, assisting banking resilience
- The default risk of FTBs is lower than that for SSBs. Furthermore, using the most recent data, the difference in default rate between FTBs and SSBs is now no lower for buyers who purchased lower valued houses

Enhanced Bank and Household Resilience

Mortgages with DSR above and below 35% under income and interest rate shock



Share of originated loan balance predicted to enter default over one year by cohort



Lower Credit Risk for First Time Buyers – at all house price levels

See Central Bank or Ireland (2016) "Review of residential mortgage lending requirements", page 29

Other sectors / side effects: key messages

- There has been a strong rebound in the rental market in recent years; rental price increases and reductions in supply levels have been a feature of the market since 2011.
- Under a range of assumptions, the time-to-save for a mortgage deposit (TTS), given rental levels and house prices at 2016 Q2, is between 2.5 and 4 years in Dublin, 1.5 years in other cities, and under one year in the rest of the country. In Dublin, this represents an increase of over one year relative to 2014 Q2.
- Using a range of models, rents nationally are shown to have moved into a period of high growth and above levels expected by demand- and supply-side factors in 2013, in advance of the Regulations. This pattern is confirmed in the case of Dublin and its commuter belt in a regional model.
- New non-mortgage lending remains low by historical reference. There is no evidence of significant increases in non-mortgage credit following the introduction of the measures.

Outcome of review and conclusions

- The overall framework of the measures is appropriate. The measures are contributing to financial and economic stability.
- Two main structural changes:
  - The property value threshold of €220,000 for the LTV limit for first-time buyers (FTBs) is removed, such that a 90 per cent LTV limit applies to FTBs => reduces complexity and uncertainty over the threshold
  - The structure of the proportionate caps is amended. To provide flexibility to adjust the allowances in a targeted way if threats to financial stability emerge in the future, separate LTV allowances for FTBs and SSBs are introduced
- The review highlighted a need to extend the requirement for a property valuation to take place within two months of mortgage drawdown to four months, as this was causing operational challenges.
- There was a technical amendment to the 70 per cent LTV limit for investors / purchasers of non-primary dwelling homes so that large commercial landlords and developers are not in-scope of the mortgage measures.
- The measures are intended as a permanent feature of the market. An annual review will take place

Annexe Slides

Differences in characteristics

Table 1: FTB Loan and Borrower Characteristics - Pre and Post Measures

	Pre	Post	Diff
Loan Characteristics			
Loan Size (€)	150,512	175,569	25,056***
Property Value (€)	224,146	243,796	19,650***
Loan-to-Value (%)	75.1	78.5	3.4***
Loan-to-Income	2.7	2.9	0.2***
Borrower Characteristics			
Real Income (€)	56,162	59,865	3,704***
Real Income - Couples (€)	67,403	70,533	3,130***
Real Income - Single (€)	50,049	52,320	2,271***
Borrower Age (Years)	34	34	0
Marital Status, of which:			
Couples (%)	36.3	41.6	5.3***
Single (%)	61.8	57.3	-4.5***
Other (%)	2.0	1.1	-0.8***
Occupation			
Employed (%)	90.8	90.1	-0.7*
Region			
Dublin (%)	35.4	34.7	-0.7
% of loans	53.3	50.0	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

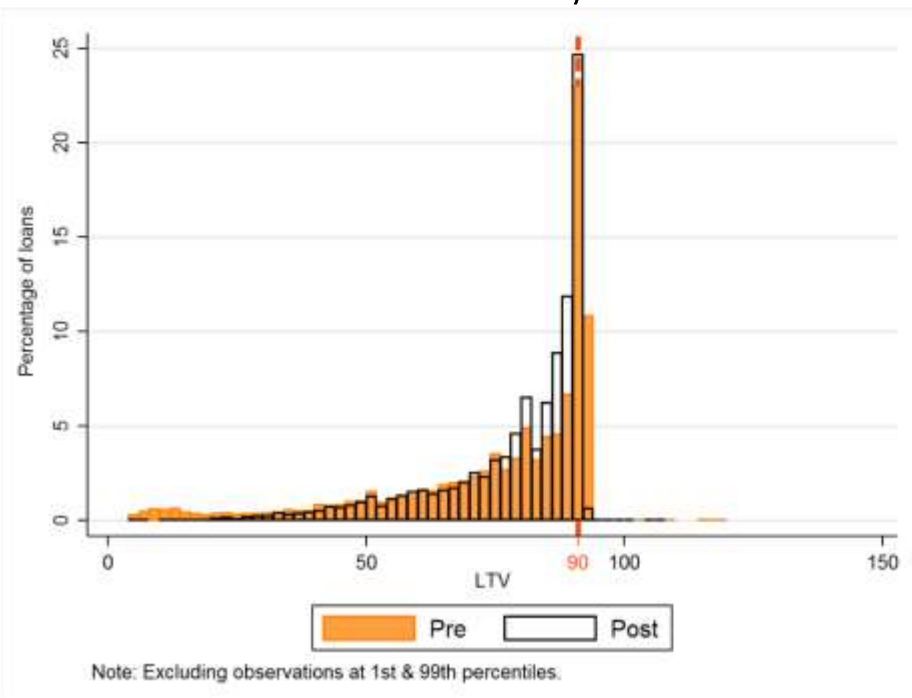
Note: 1) Incomes deflated by annual CPI to obtain real values.
2) Sample sizes may differ per variable due to missing observations.

Differences in characteristics

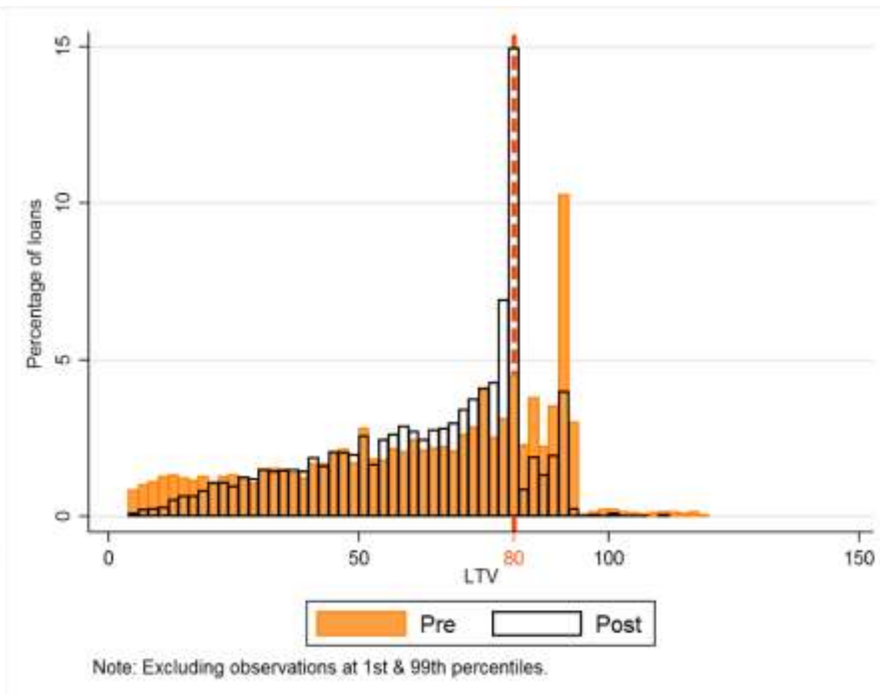
	Pre	Post	Diff
Second and Subsequent Buyers			
Loan Characteristics			
Loan Size (€)	182,602	182,259	-342
Property Value (€)	333,661	380,762	47,102***
Loan-to-Value (%)	61.6	62.8	1.3***
Loan-to-Income	2.0	2.3	0.3***
Borrower Characteristics			
Real Income (€)	95,343	94,714	-630
Real Income - Couples (€)	106,612	103,671	-2,941***
Real Income - Single (€)	75,255	71,109	-4,146**
Borrower Age (Years)	41	41	0
Marital Status			
Couples (%)	70.0	73.3	3.4***
Single (%)	20.9	19.8	-1.1*
Other (%)	9.1	6.9	-2.2***
Occupation			
Employed (%)	87.9	89.2	1.4**
Region			
Dublin (%)	40.1	40.6	0.4
% of loans	42.7	44.3	

Changes in LTV distribution – pre and post

First Time Buyers



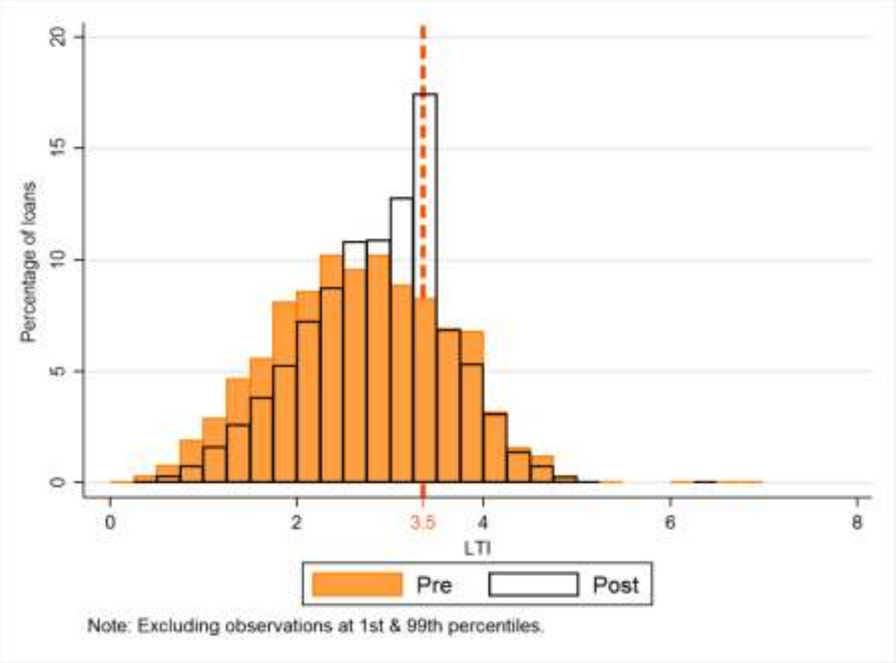
Second and Subsequent Borrowers



Source: Kinghan et al. (2016)

Changes in LTI distribution – pre and post

First Time Buyers



Second and Subsequent Borrowers