



FSC and Affordable Mortgage Loan Performance Assessment: with REAL Data

Updated analysis



Centre for Affordable Housing Finance in Africa

A division of FinMark Trust





Agenda

Introduction

Portfolio overview

Performance overview



Loan definitions

FSC

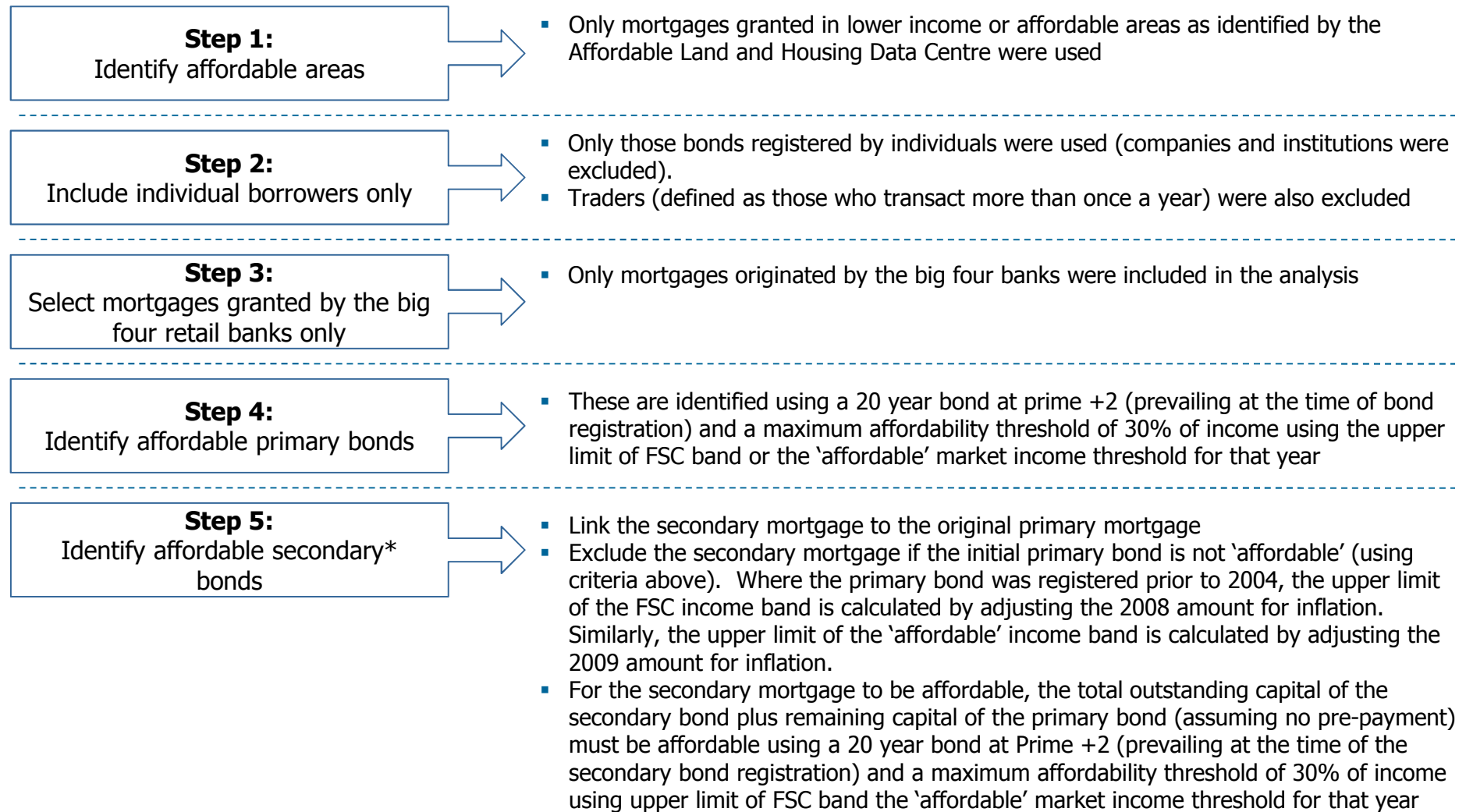
- FSC loans were originated between January 2004 and December 2008
- These loans were issued to households with a monthly income between R1,500 and R7,500 measured in 2004 Rands

Affordable

- Affordable loans were originated between January 2009 and September 2011
- These loans were issued to households with a monthly income of less than R15,142 in 2009 Rands



FinMark approached the CPA to obtain access to credit bureau data to assess mortgage performance for mortgages granted to lower income households. A key challenge is identifying FSC and so-called 'affordable' mortgages

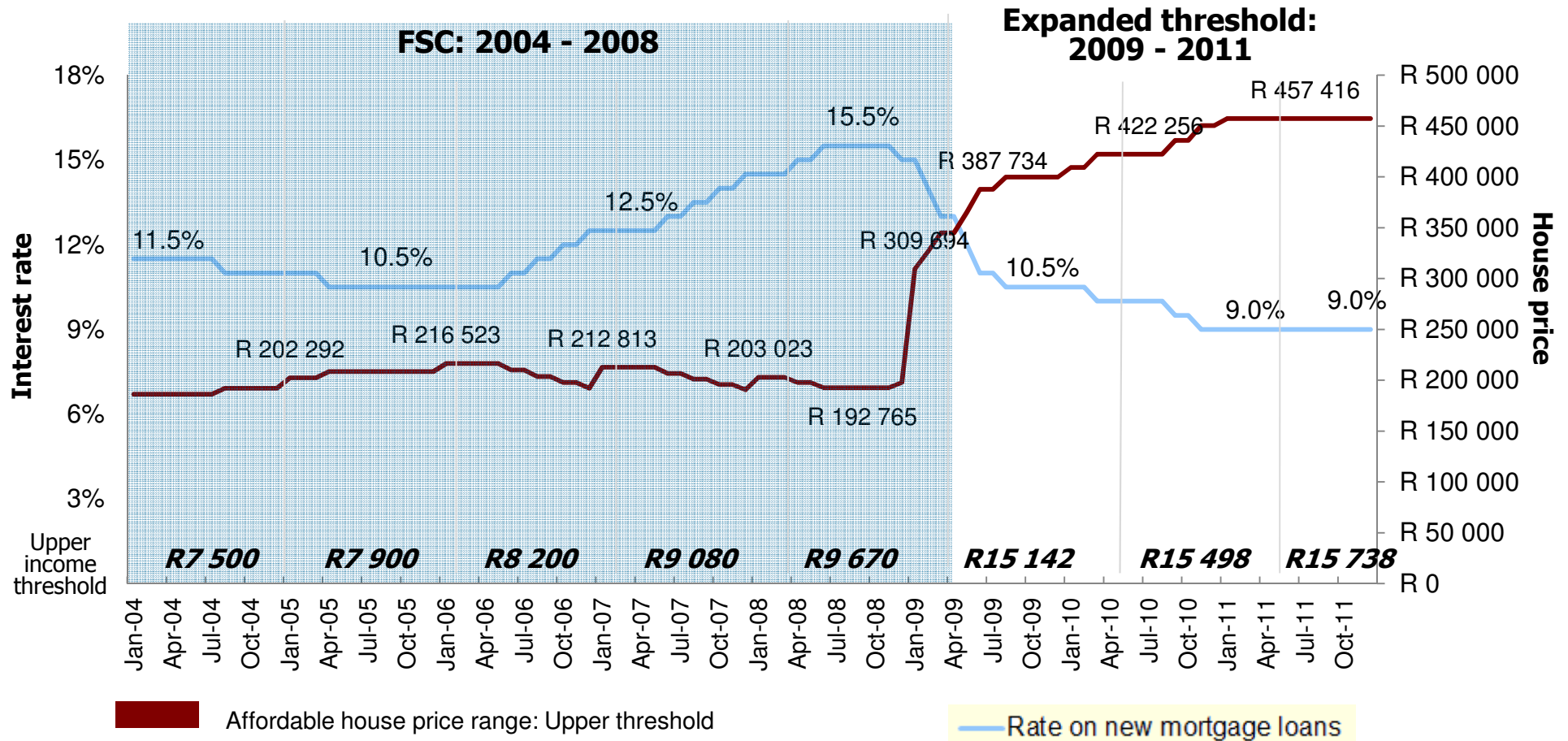


Note: The prime rate, as well as the inflation rate, was obtained from the South African Reserve Bank
 *A 'secondary bond' is a second loan on the same property



Affordability is a moving target, particularly in a variable rate environment

Dominant rate on new mortgages 2004 – 2011
Maximum 'affordable' house price



Note: The affordable house price range is determined using a 100%, 20 year mortgage at Prime plus 2% and 30% of household income



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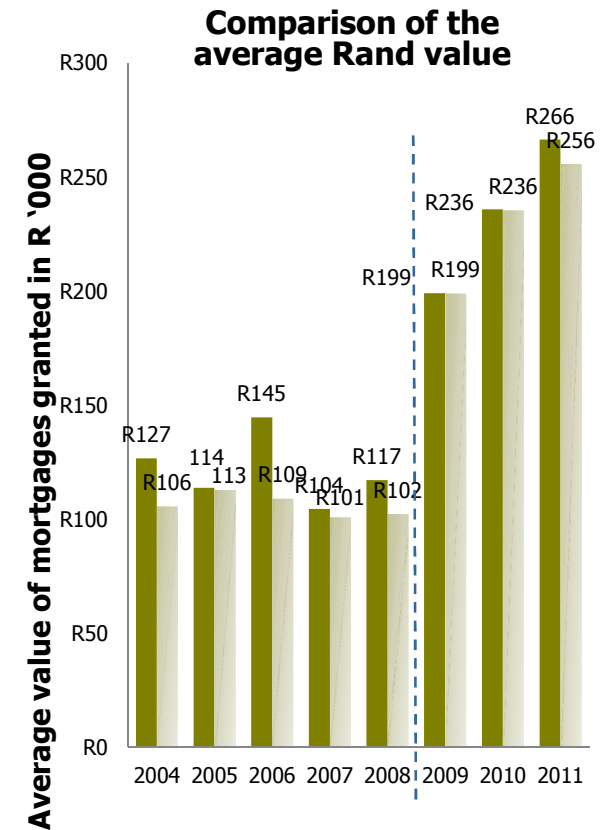
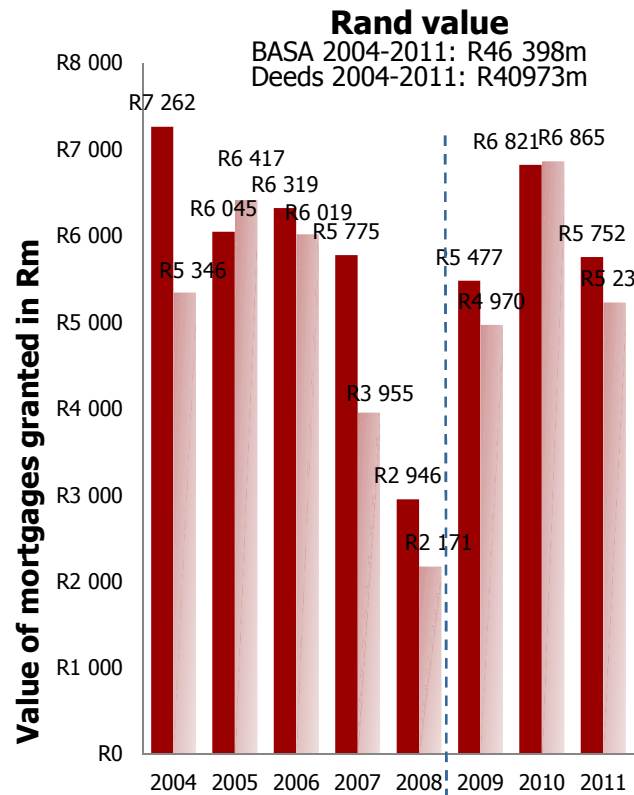
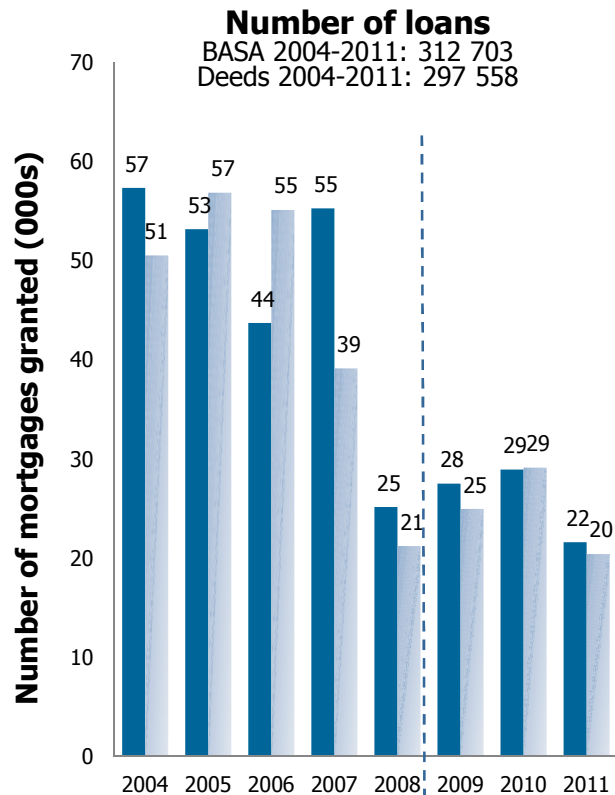
Portfolio overview

Performance overview

The analysis provides a sufficiently close match to enable further analysis. Both BASA and deeds data highlight the decline in origination in the FSC target market in 2008. Since then the value of loans granted has increased, but not the volume



Comparison between BASA data and Deeds data
(FSC target market: 2004 – 2008, Expanded threshold: 2009 - 2011)



■ BASA data ■ Deeds data

Source: BASA, deeds data sourced from the ALHDC
 Note: 2011 only includes bonds up to September 2011

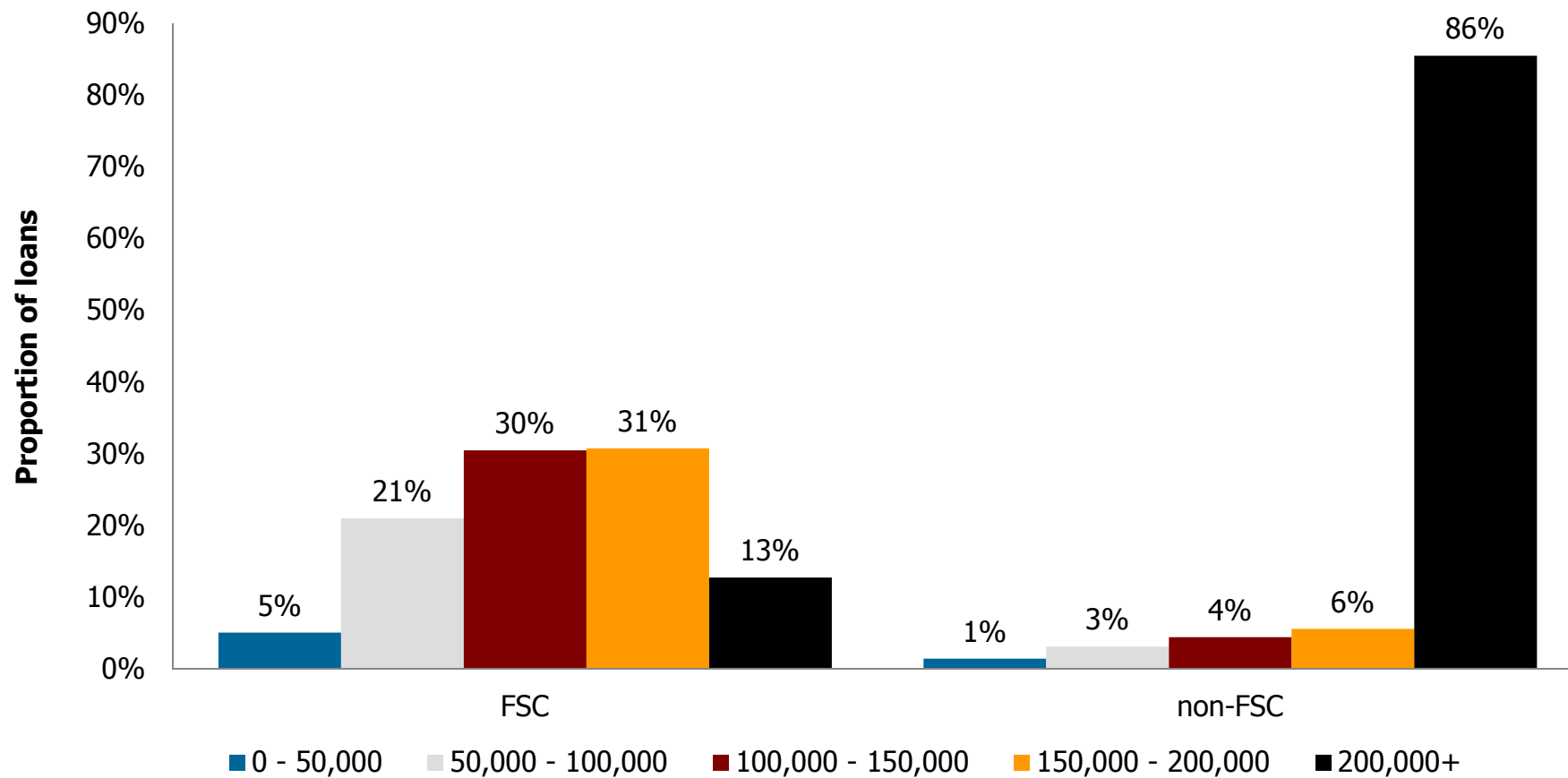
Note: The thresholds used to determine affordable bonds are as follows: 2004-2008 – FSC threshold, 2009-2011 – Expanded threshold. The BASA income cut offs are as follows: 2004-2008 - R10 000pm, 2009-2011 - R15 000pm

Note: In order to identify affordable loans an affordability threshold was calculated based on the prime interest +2% rate using a 30% income to instalment ratio



The loans sizes are very different for FSC Vs other mortgages

Distribution of opening balance amount
(Bonds originated between 2004 and 2008, mortgages from big 4 banks)

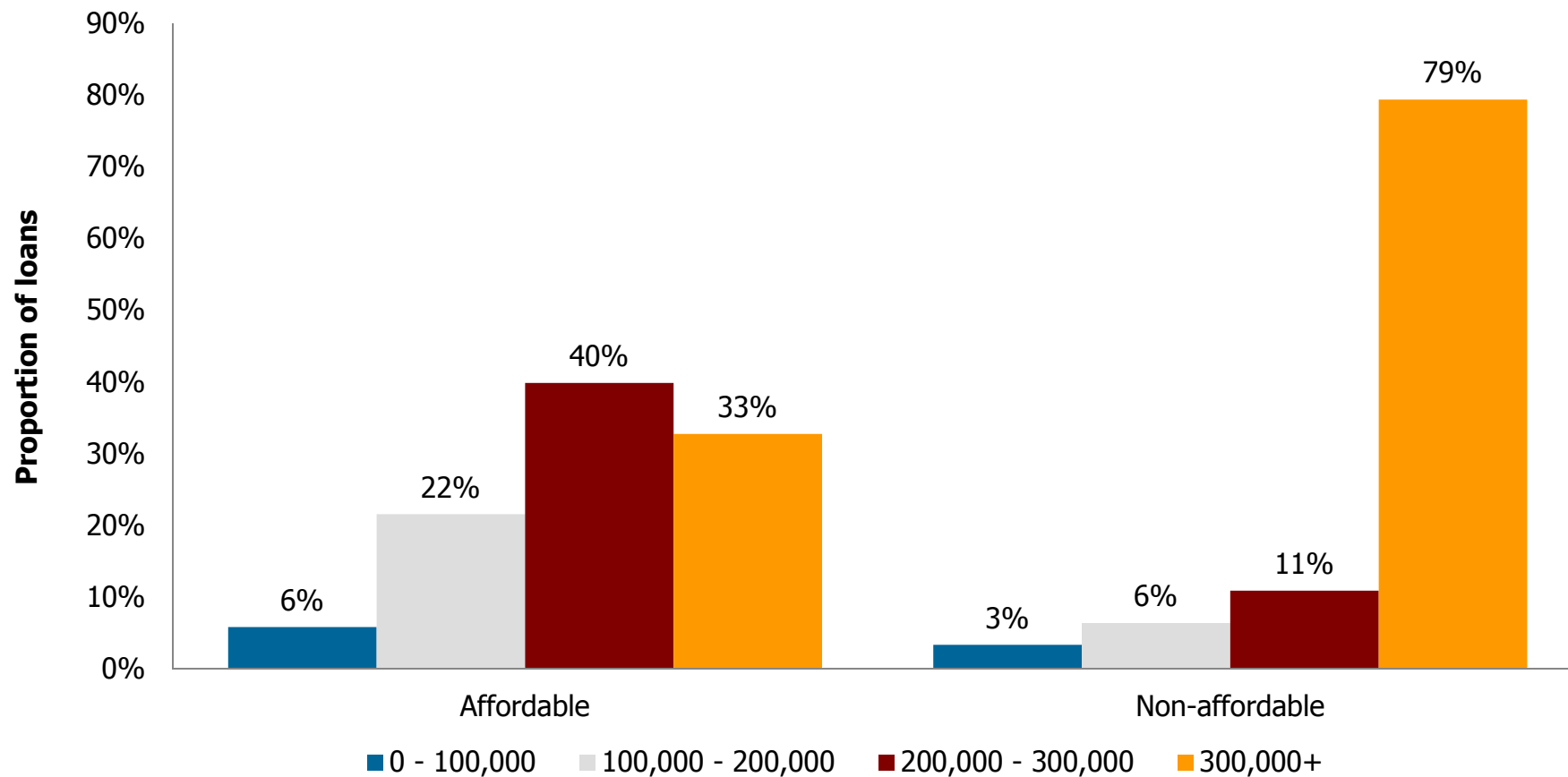


Source: Deeds office data sourced from the ALHDC and XDS



Affordable bond amounts tend to be between R200,000 and R300,000 whereas the non-affordable bond amounts are higher

Distribution of opening balance amount
(Bonds originated between 2009 and 2011, mortgages from big 4 banks)



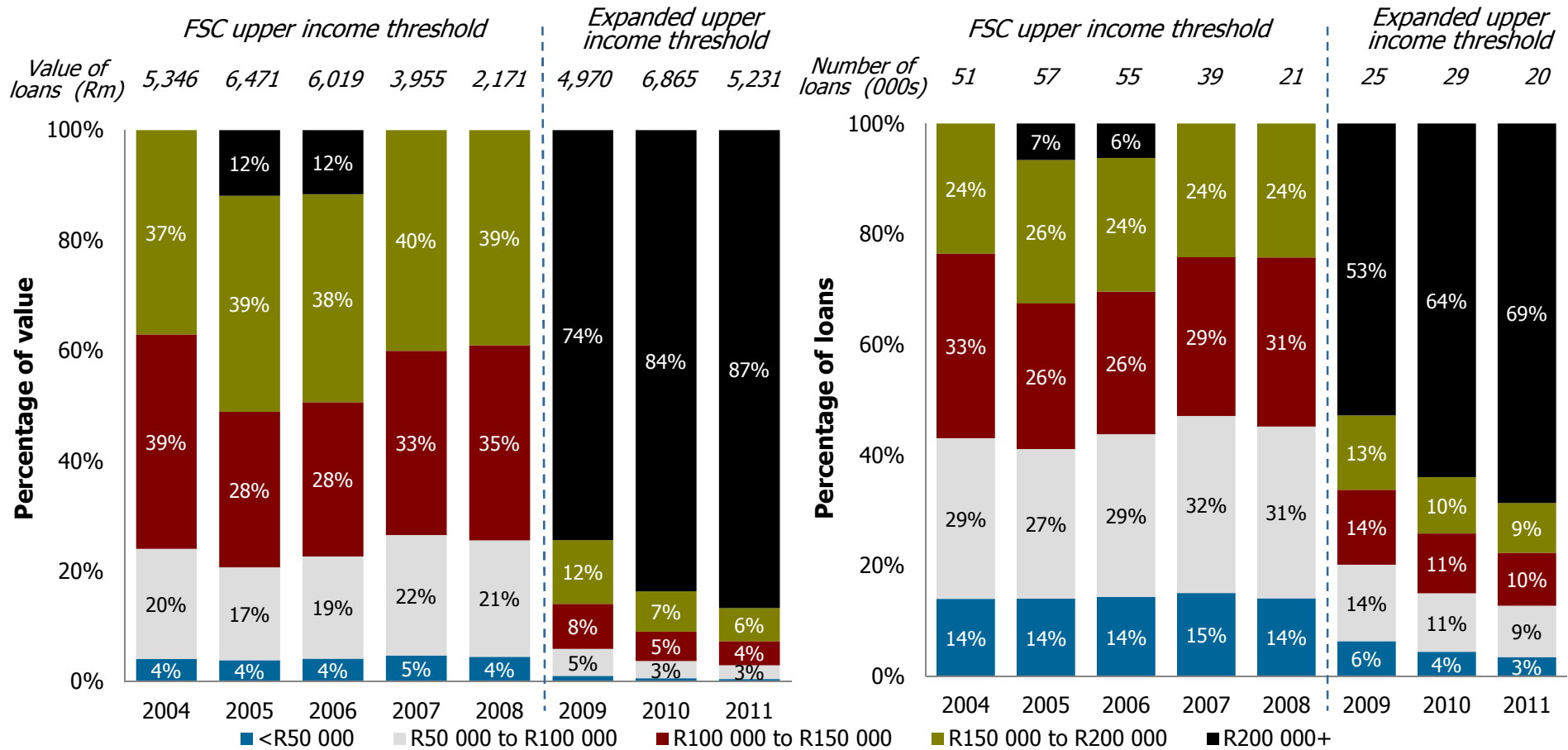
Source: Deeds office data sourced from the ALHDC and XDS
* Affordable loans are calculated in the same way as FSC bonds

Deeds office data indicates that between 2004 and 2008 around one quarter of loans by value and half of the number of loans originated were for less than R100,000. The increase in loan values during 2009, 2010 and 2011 is due to the significantly income threshold and decrease in interest rates over this period



Distribution of loans by Rand value

Distribution of loans by volume



Source: Deeds office data sourced from the ALHDC

Note: In order to identify affordable loans an affordability threshold was calculated based on the prime interest +2% rate using a 30% income to instalment ratio

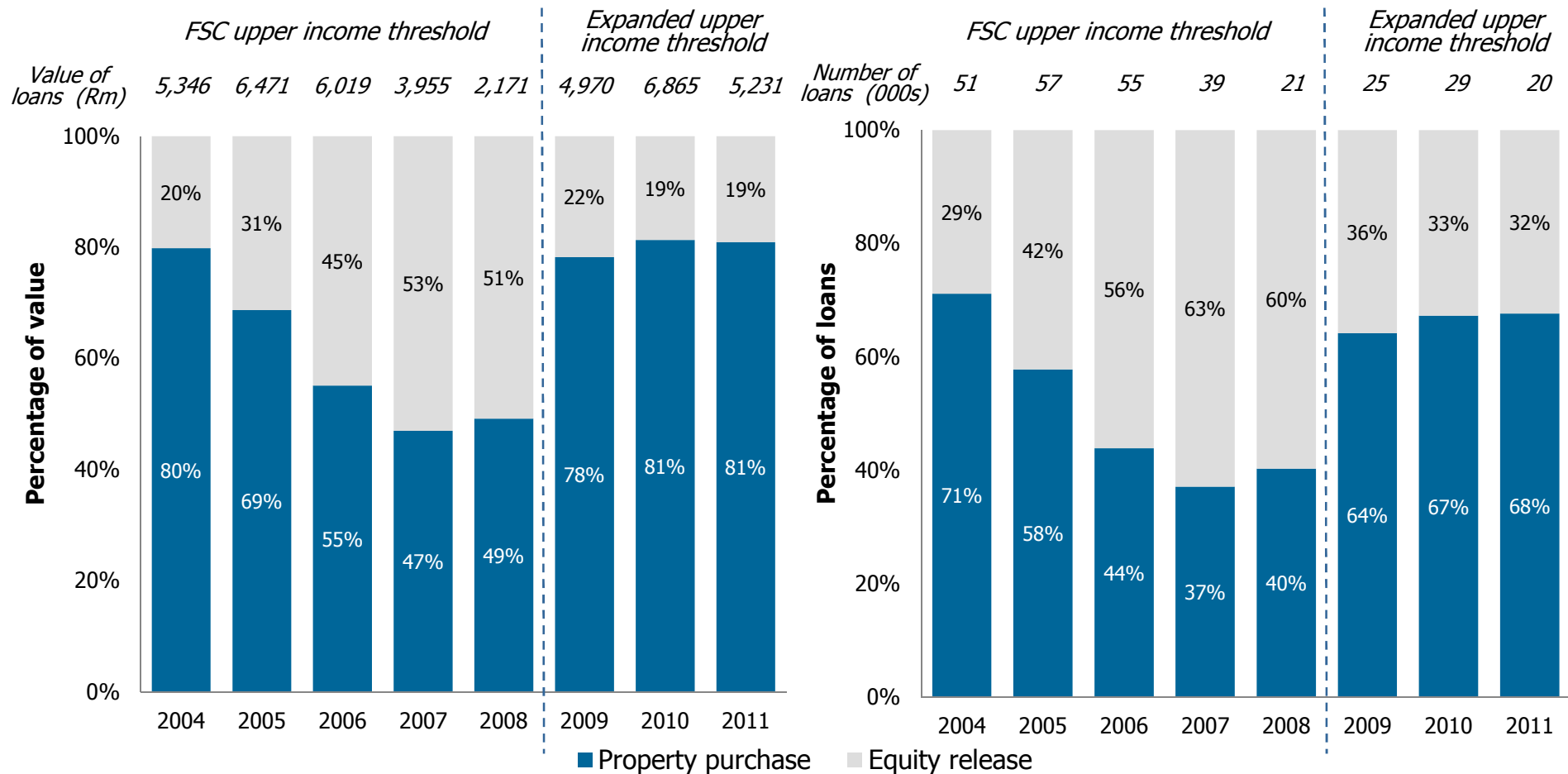
Note: 2011 deeds data only includes bonds up to September 2011. The thresholds used to determine affordable bonds are as follows: 2004-2008 – FSC threshold, 2009-2011 – Expanded threshold

It appears that a decreasing proportion of loans during 2004 to 2008 were used to purchase a property – possibly reflecting the lack of stock. This trend appears to have been reversed as higher value loans were granted



Distribution of loans by Rand value

Distribution of loans by volume



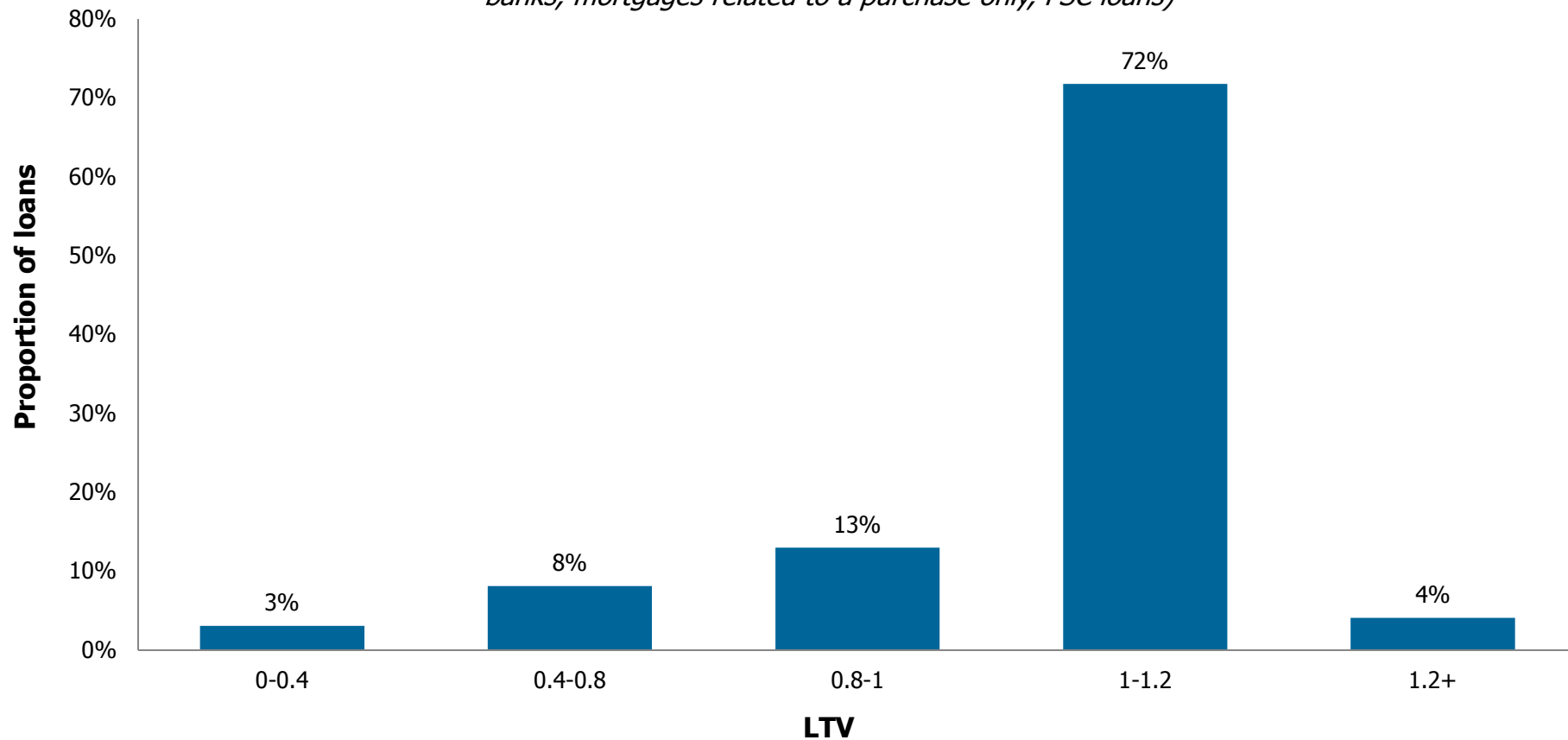
Source: Deeds office data sourced from the ALHDC
 Note: Records where there is no transaction value and where the bond registration is not on the same day as the property registration are regarded at equity release loans
 Note: 2011 deeds data only includes bonds up to September 2011. The thresholds used to determine affordable bonds are as follows: 2004-2008 – FSC threshold, 2009-2011 – Expanded threshold



Most FSC mortgages used to purchase a property have a loan to value between 100% and 120%

Distribution of loan to value

(Bonds originated between 2004 and 2008, mortgages from big 4 banks, mortgages related to a purchase only, FSC loans)



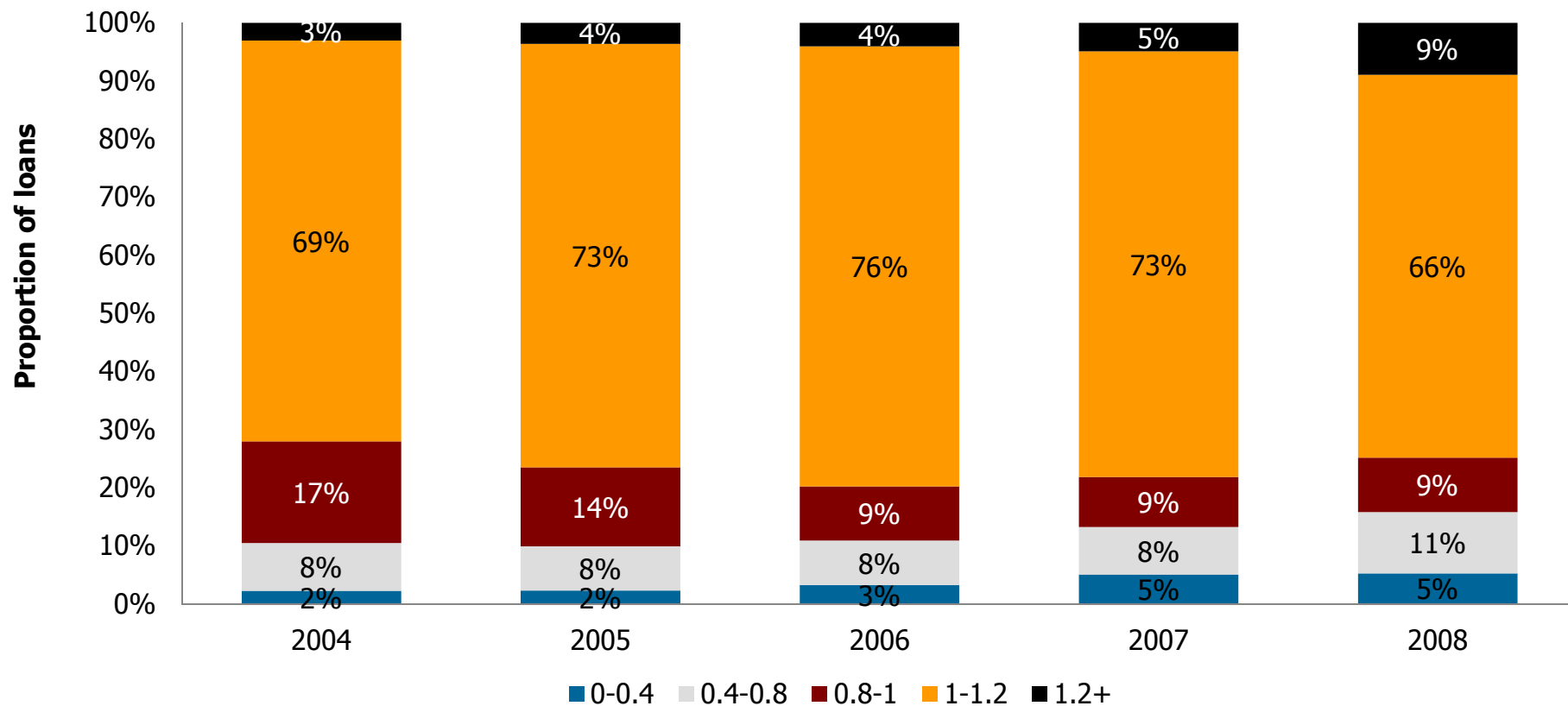
Source: Deeds office data sourced from the ALHDC and XDS

Note: The loan to value was calculated for loans where there is an associated property purchase, the price is greater than R55,000 and the LTV is less than 1.5



Most FSC mortgages used to purchase a property have a loan to value between 100% and 120%

Distribution of loan to value by origination year
(Bonds originated between 2004 and 2008, mortgages from big 4 banks, mortgages related to a purchase only, FSC loans)



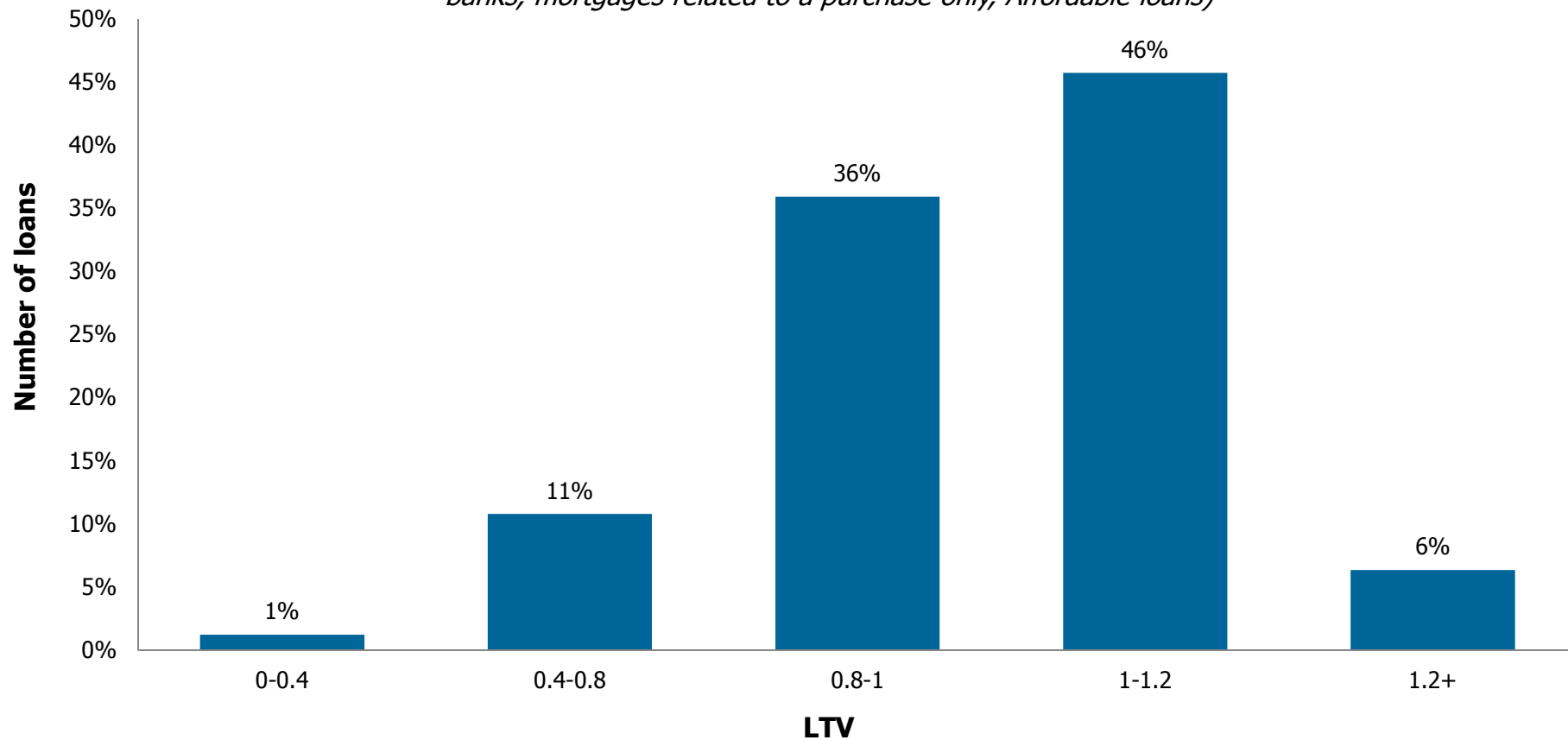
Source: Deeds office data sourced from the ALHDC and XDS
 Note: The loan to value is calculated for loans where there is an associated property purchase, the price is greater than R55,000 and the LTV is less than 1.5



The distribution of LTV differs for Affordable mortgages granted between 2009 and 2011

Distribution of loan to value

(Bonds originated between 2009 and 2011, mortgages from big 4 banks, mortgages related to a purchase only, Affordable loans)



Source: Deeds office data sourced from the ALHDC and XDS

Note: The loan to value is calculated for loans where there is an associated property purchase, the price is greater than R55,000 and the LTV is less than 1.5

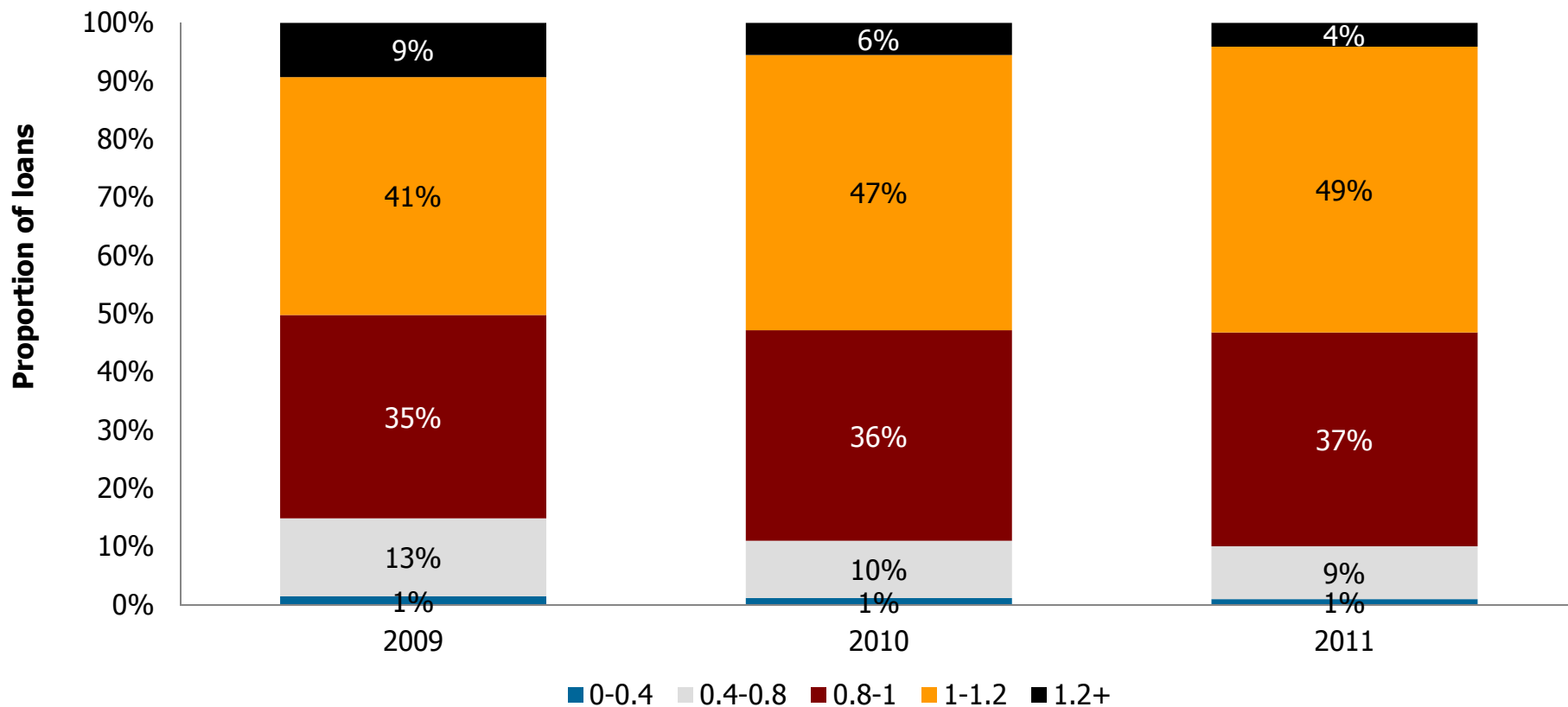
Note: Affordable loans are calculated in the same way as FSC bonds



The distribution of LTV doesn't appear to differ much across the years

Distribution of loan to value by origination year

(Bonds originated between 2009 and 2011, mortgages from big 4 banks, mortgages related to a purchase only, Affordable loans)



Source: Deeds office data sourced from the ALHDC and XDS

Note: The loan to value is calculated for loans where there is an associated property purchase, the price is greater than R55,000 and the LTV is less than 1.5

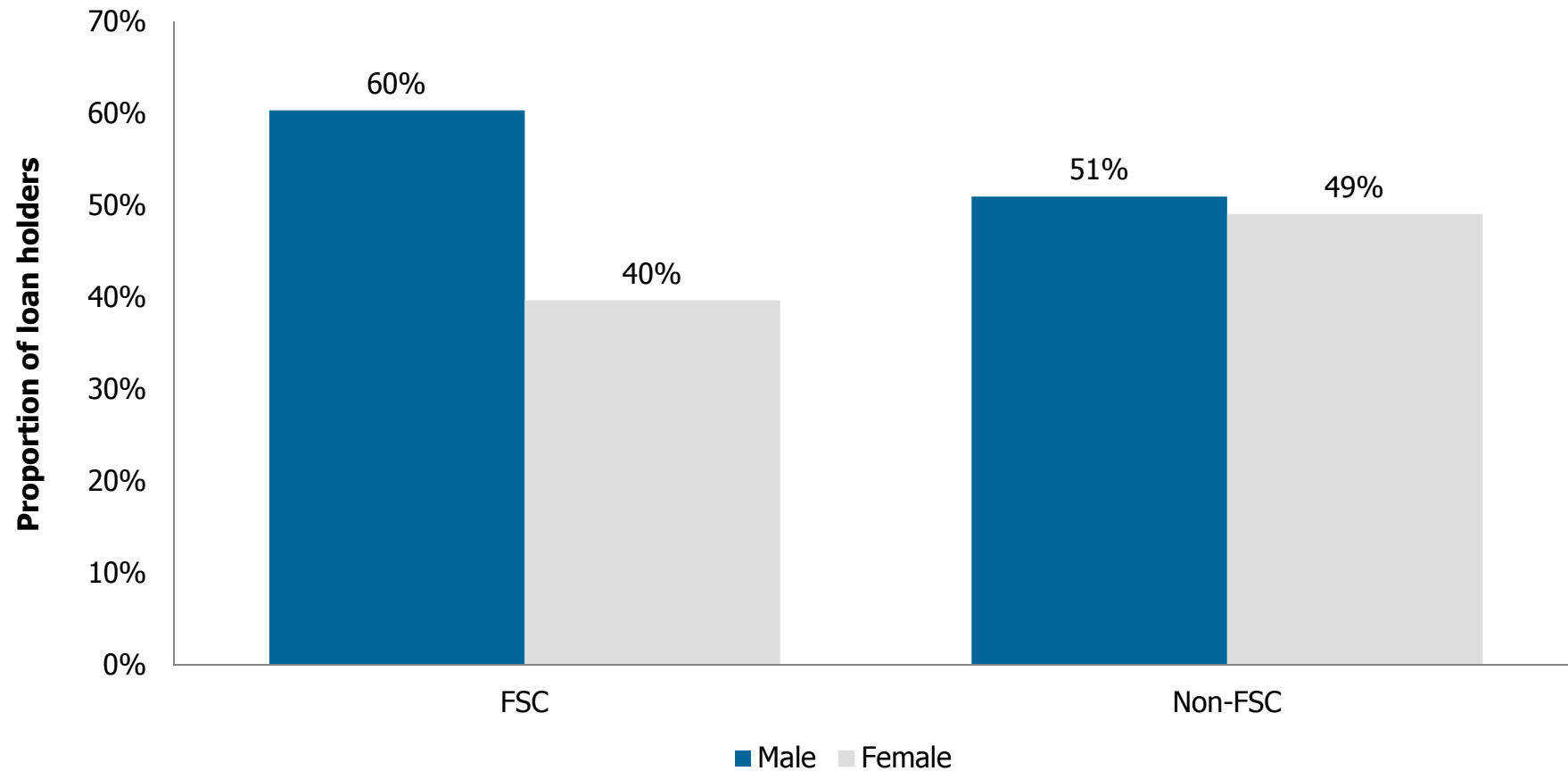
Note: Affordable loans are calculated in the same way as FSC bonds



FSC borrowers are more likely to be male

Distribution of gender

(Bonds originated between 2004 and 2008, mortgages from big 4 banks)



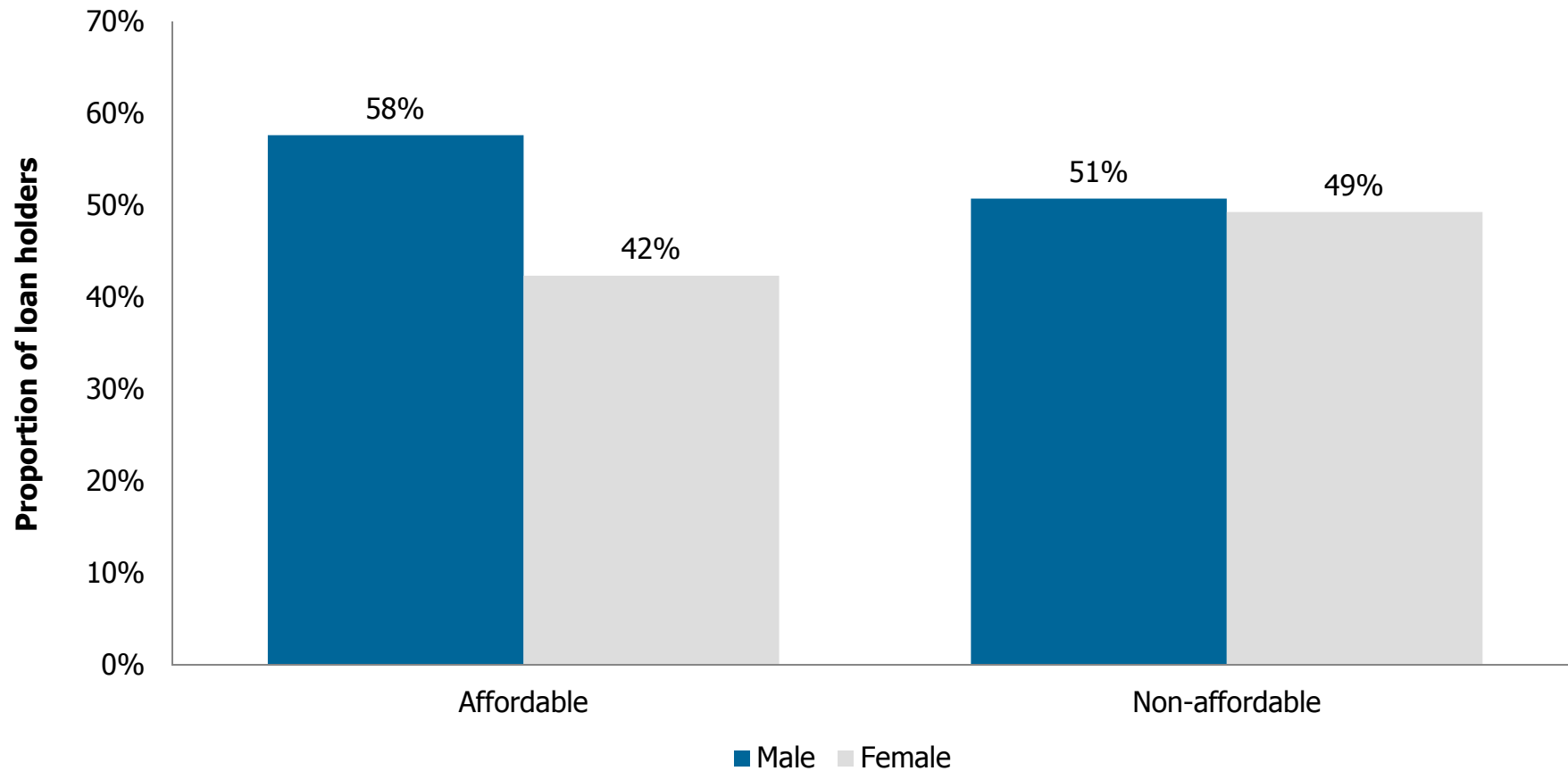
Source: Deeds office data sourced from the ALHDC and XDS



The same is true for 'Affordable' borrowers

Distribution of gender

(Bonds originated between 2009 and 2011, mortgages from big 4 banks)



Source: Deeds office data sourced from the ALHDC and XDS
 * Affordable loans are calculated in the same way as FSC bonds



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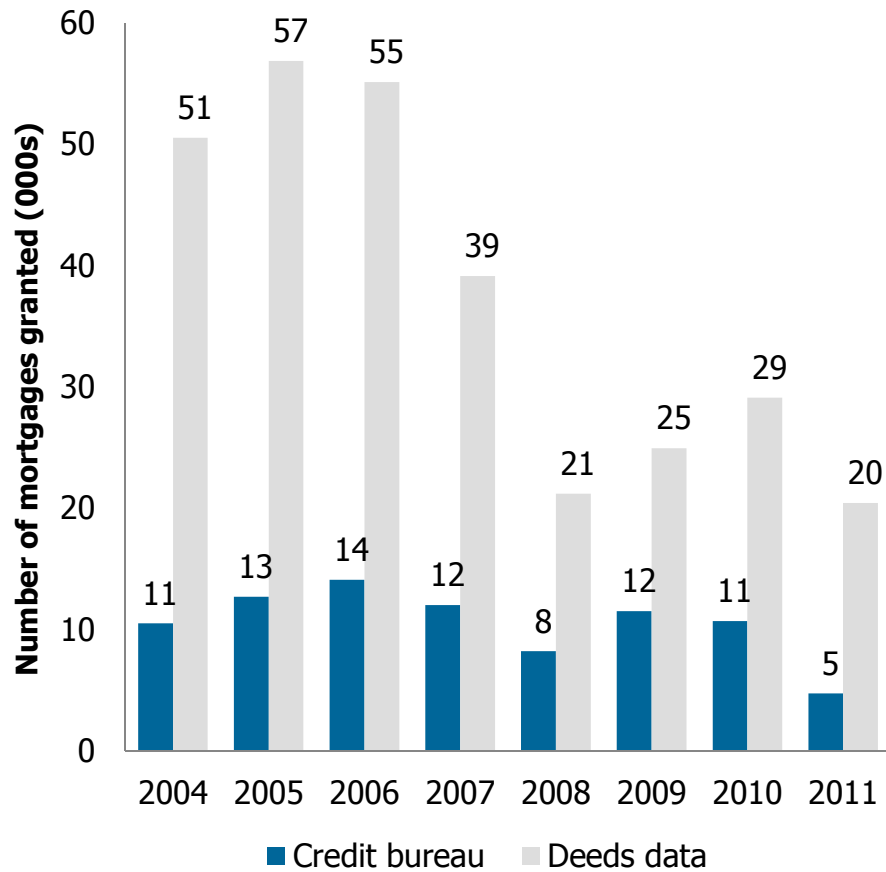
Portfolio overview

Performance overview

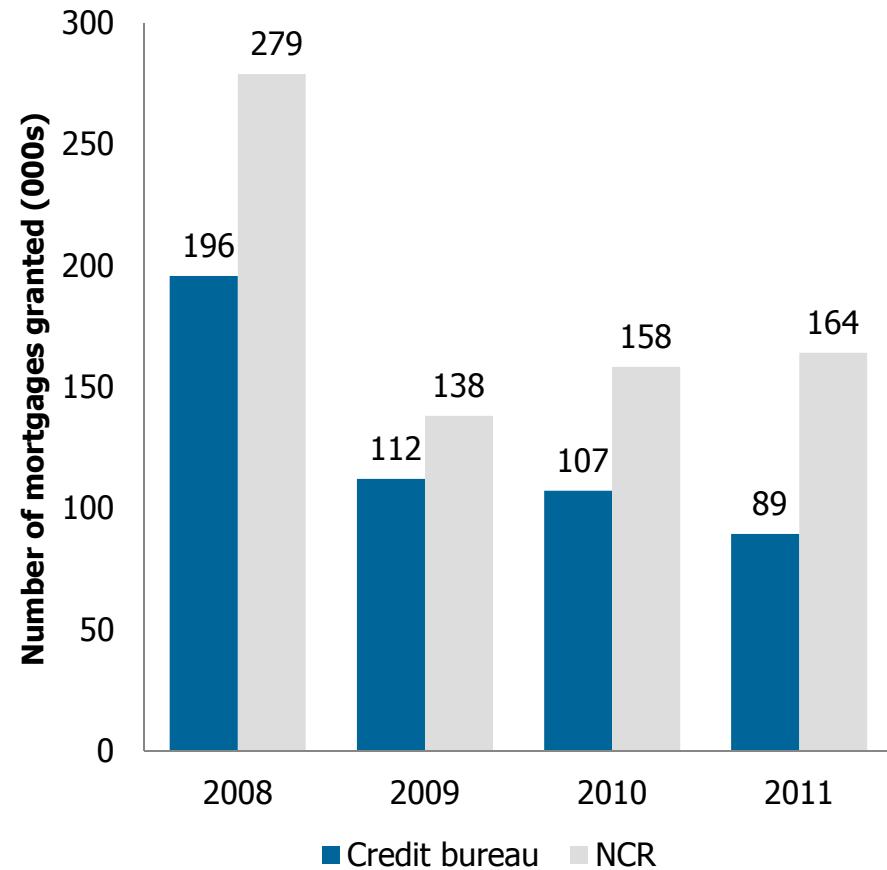
Data from the deeds registry was used to identify borrower IDs. These IDs were then cross referenced against credit bureau data. The credit bureau has fewer loans than other data sources



Comparison between credit bureau data and Deeds data
(FSC target market: 2004 – 2008, Affordable target market: 2009 – 2011)



Comparison between credit bureau data and NCR data
(Entire market)

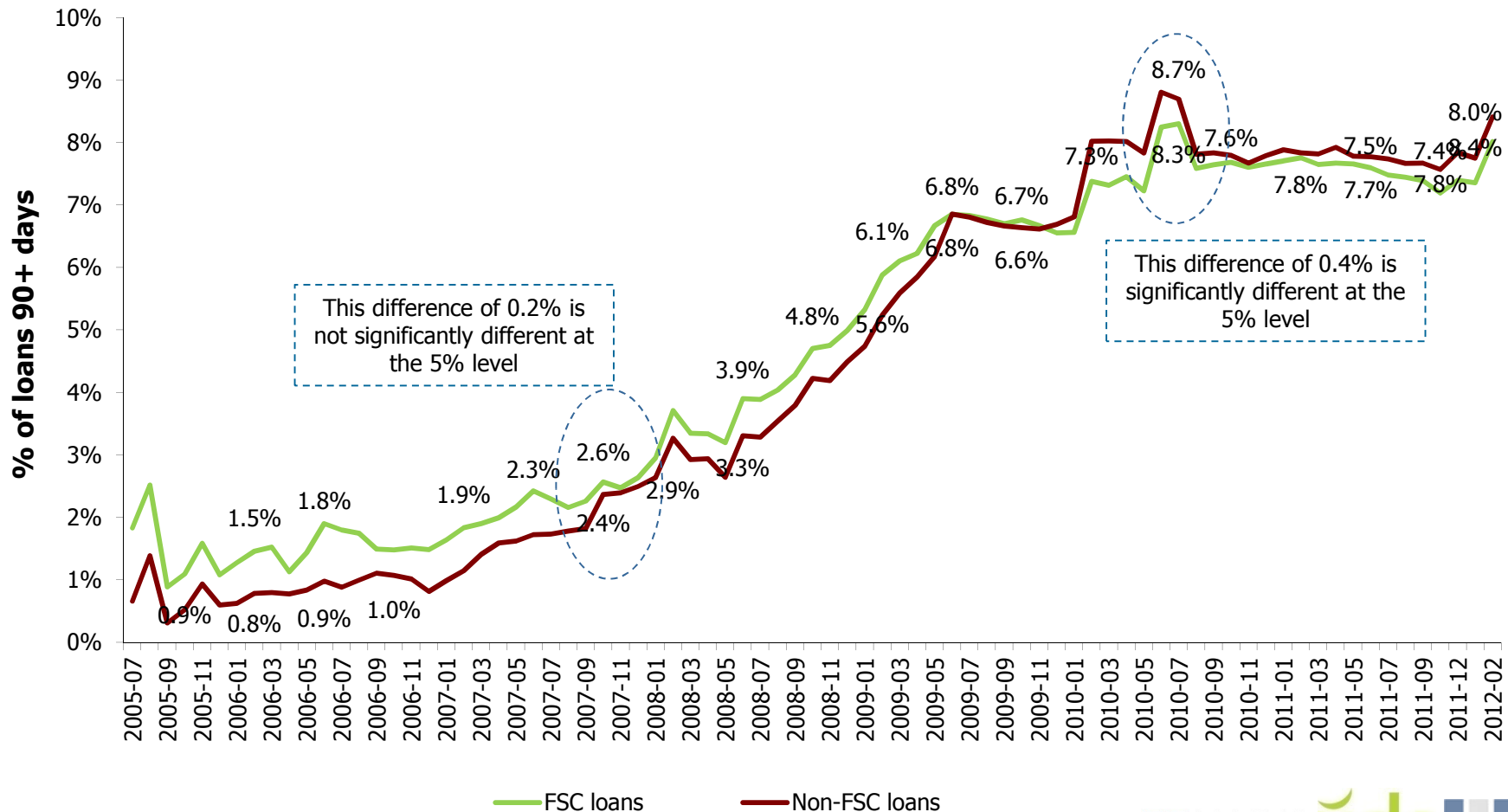


Source: Deeds office data sourced from the ALHDC , credit bureau data sourced from XDS, NCR
 Note: Affordable Market data for 2011 only includes bonds up to September 2011

The proportion of mortgages that are 90 days or more in arrears across FSC loans appears to be very similar to non-FSC loans. However there are times where the difference is statistically significant



NPL by calendar date
(Bonds originated between 2004 and 2008, mortgages from big 4 banks)

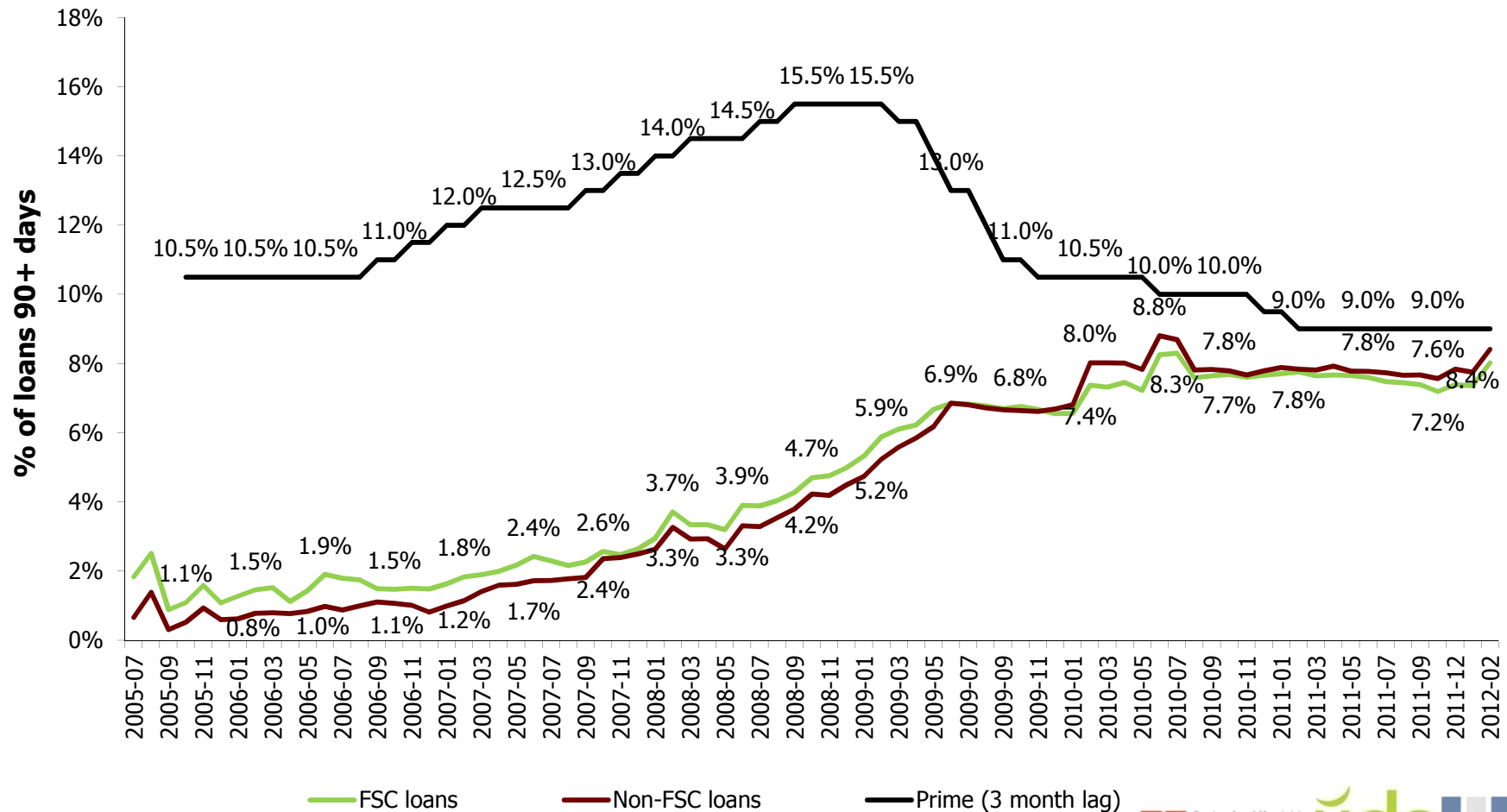


Source: Deeds office data sourced from the ALHDC and XDS



As interest rates increase, so does the proportion of non-performing loans

NPL by calendar date
(Bonds originated between 2004 and 2008, mortgages from big 4 banks)

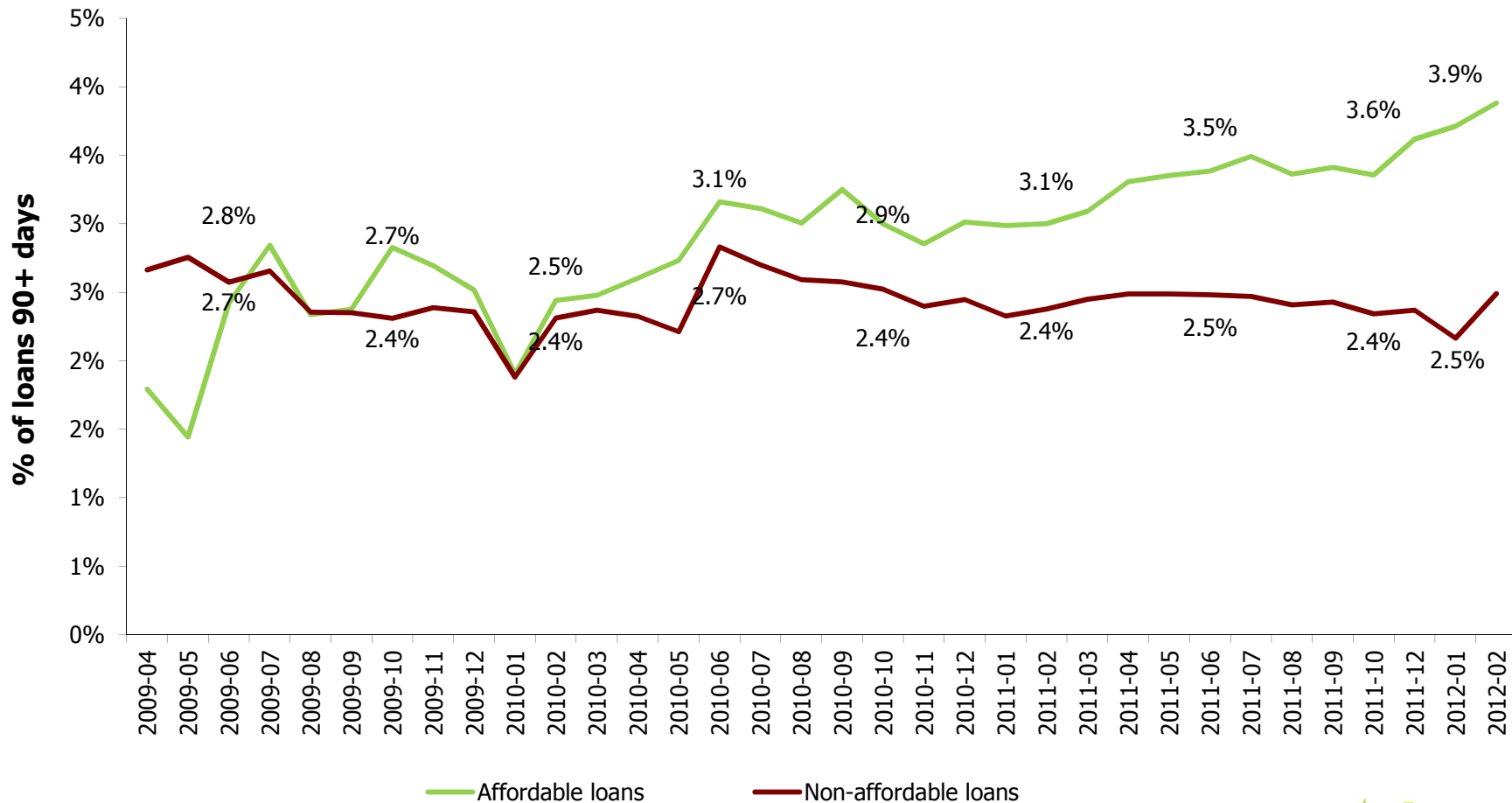


Source: Deeds office data sourced from the ALHDC and XDS



With regard to 'Affordable' mortgages 3.9% were 90 days or more in arrears in February 2012

NPL by calendar date
(Bonds originated between 2009 and 2011, mortgages from big 4 banks)

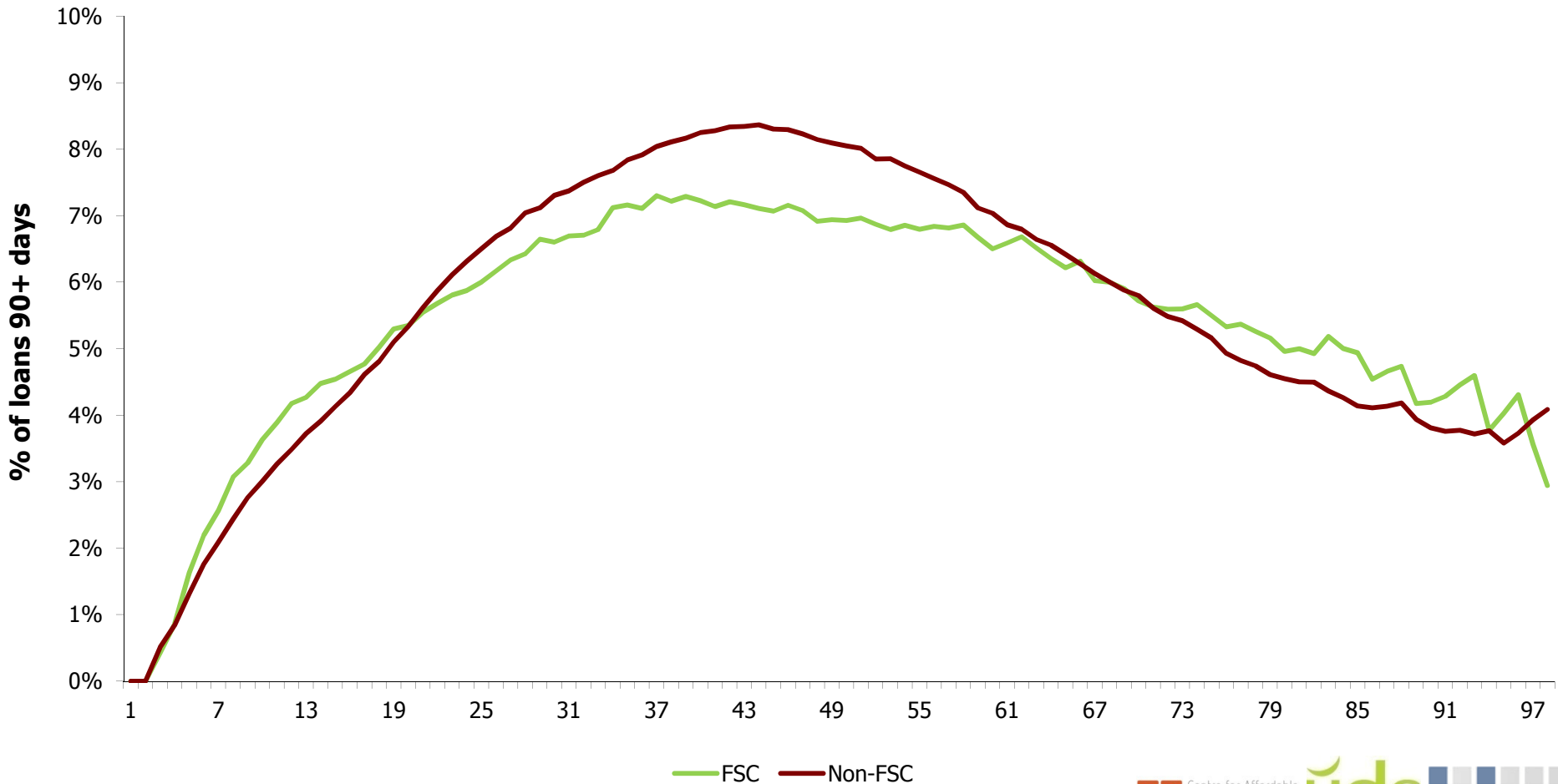


Source: Deeds office data sourced from the ALHDC and XDS
 Note: Affordable loans are calculated in the same way as FSC bonds



The pattern of default for FSC and non-FSC loans is broadly similar

NPL by months since inception
(Bonds originated between 2004 and 2008, mortgages from big 4 banks)

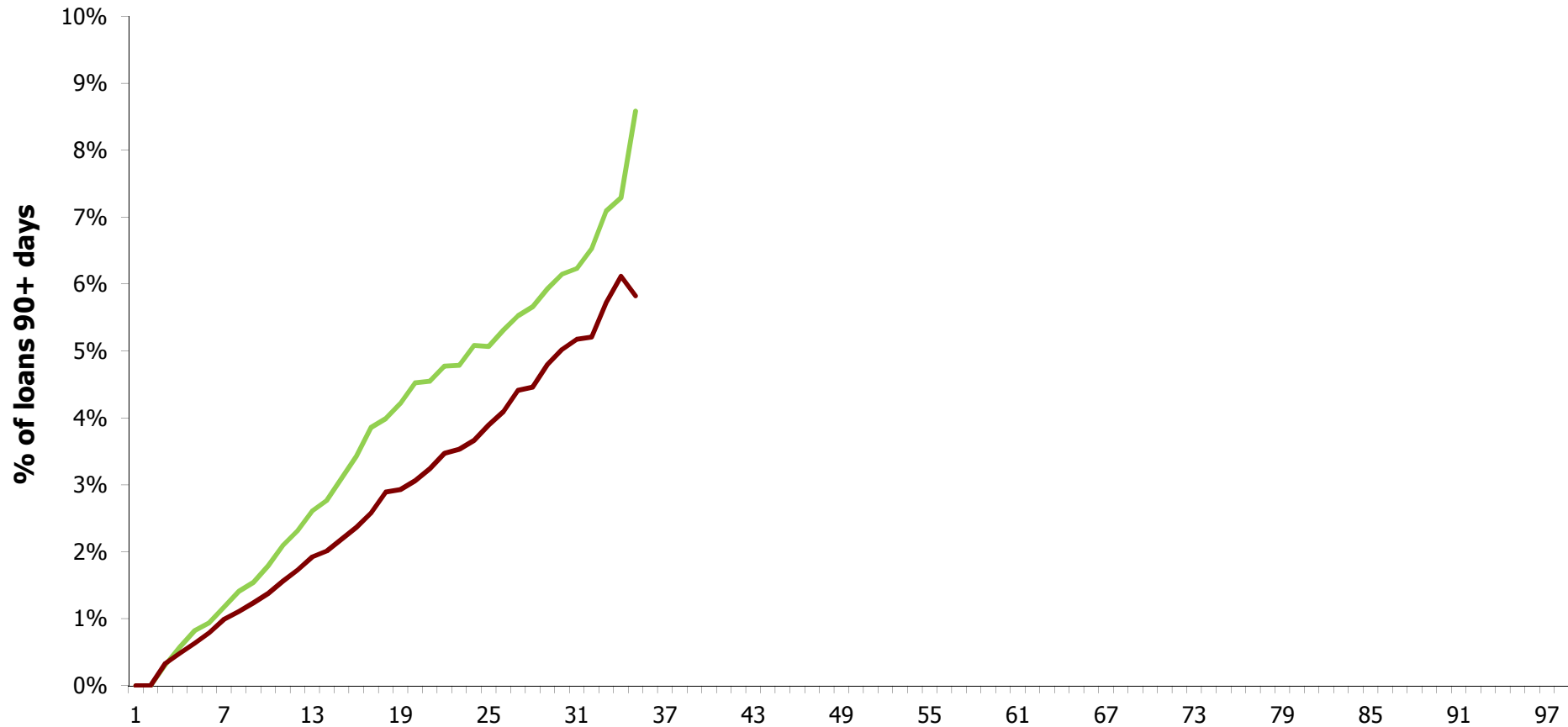


Source: Deeds office data sourced from the ALHDC and XDS



Because less time has elapsed since origination for the Affordable loans the pattern is incomplete

NPL by months since inception
(Bonds originated between 2009 and 2011, mortgages from big 4 banks)



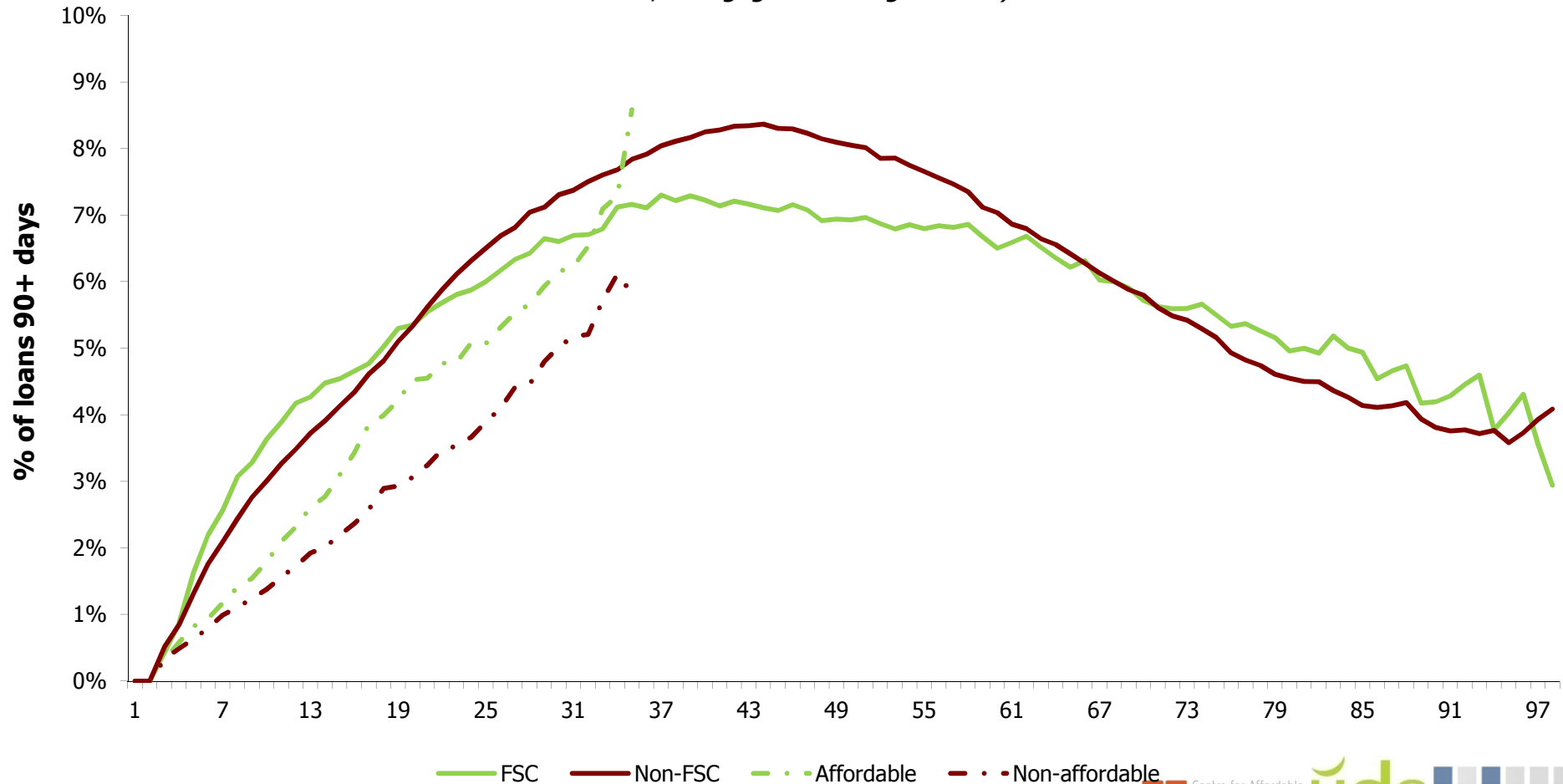
Source: Deeds office data sourced from the ALHDC and XDS
 Note: Affordable loans are calculated in the same way as FSC bonds



During the early months, FSC loans performed worse than the Affordable loans

NPL by months since inception

(FSC bonds originated between 2004 and 2008, Affordable bonds originated between 2009 and 2011, mortgages from big 4 banks)

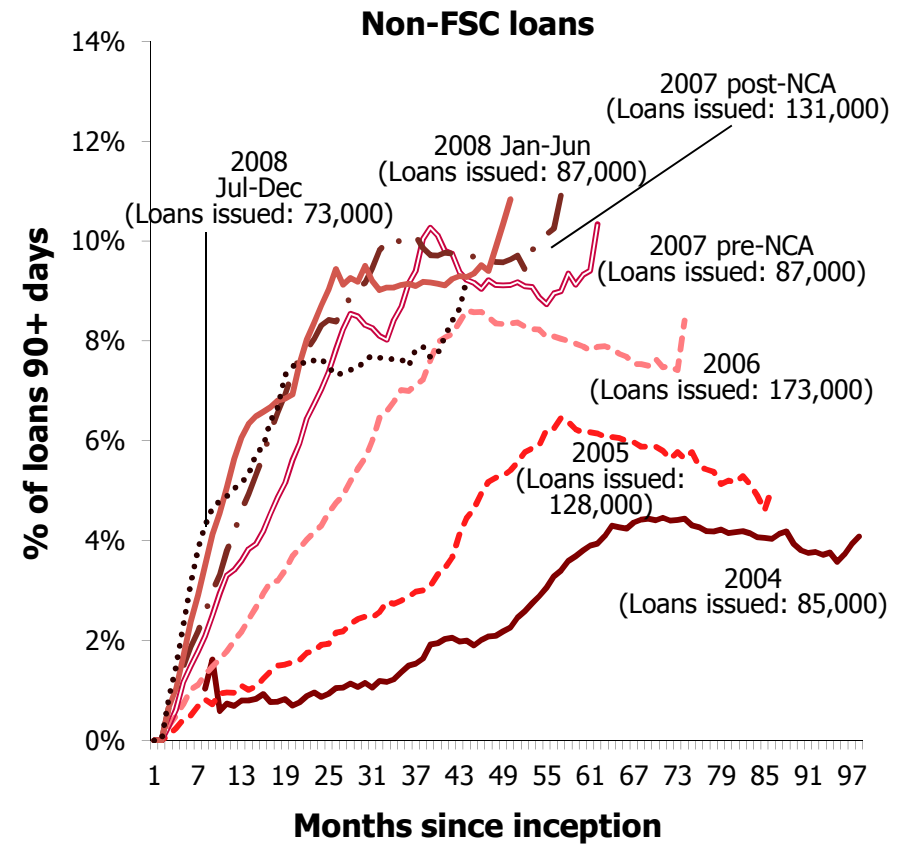
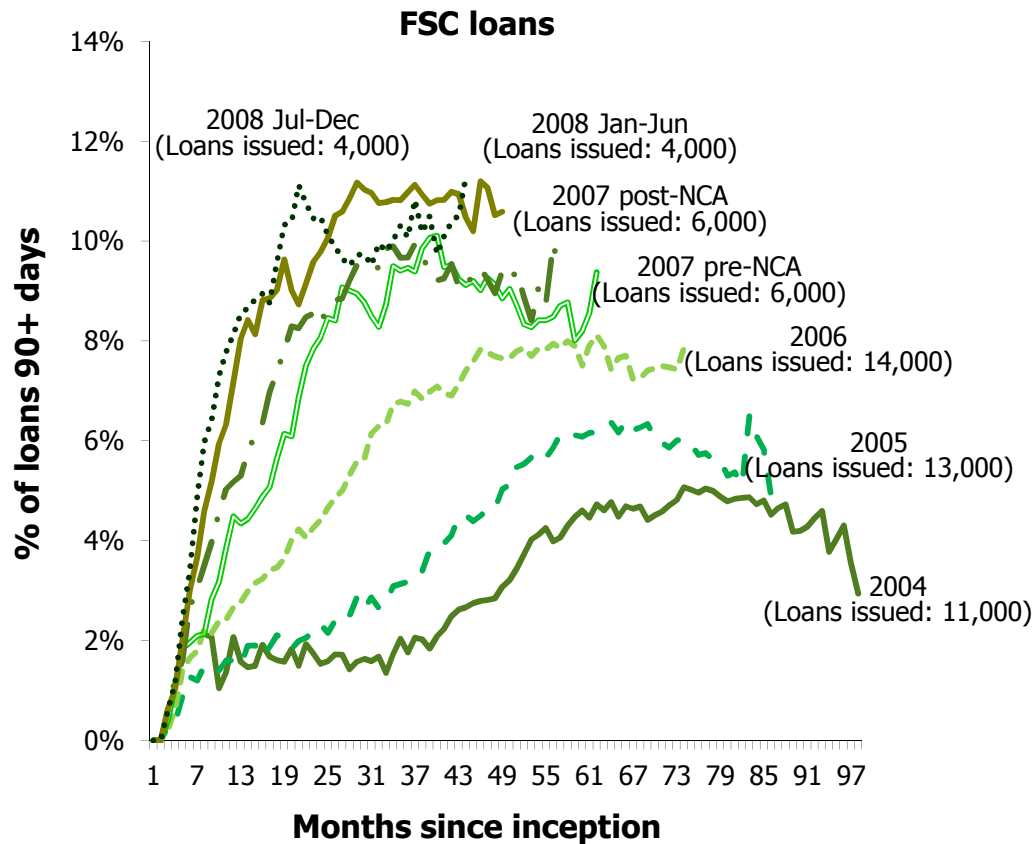


Source: Deeds office data sourced from the ALHDC and XDS



A vintage analysis highlights how this is impacted upon by the date of origination. The pattern across years is noticeably different

Vintage analysis: NPL by months since inception
(Bonds originated between 2004 and 2008, mortgages from big 4 banks)



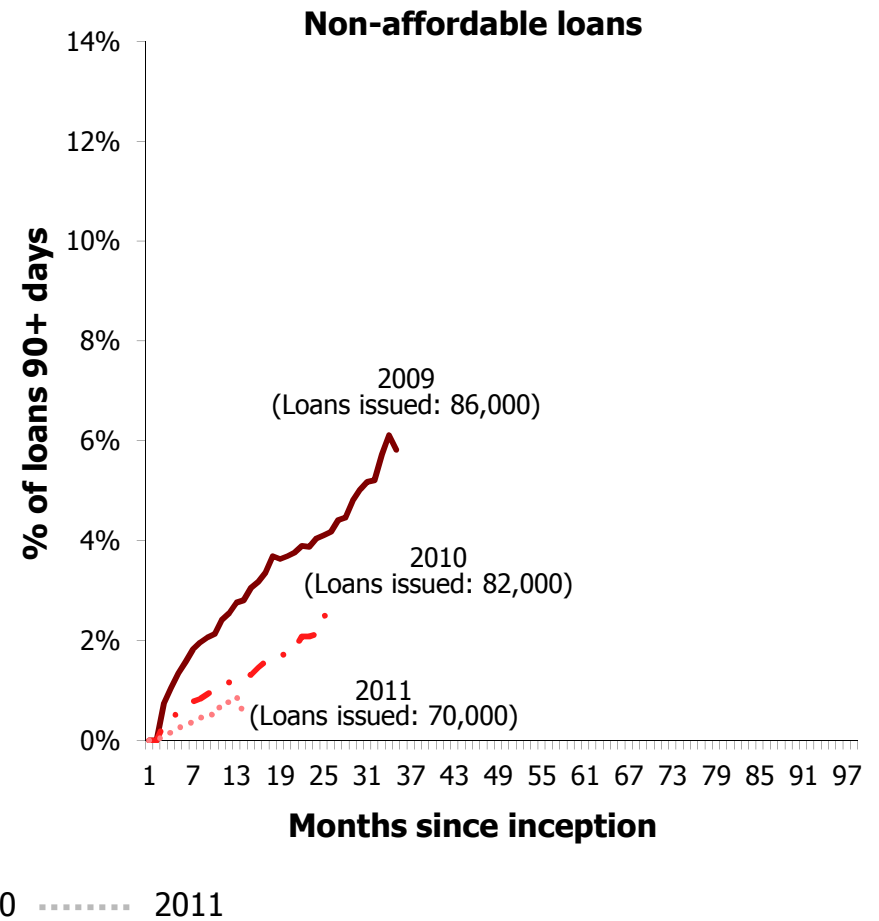
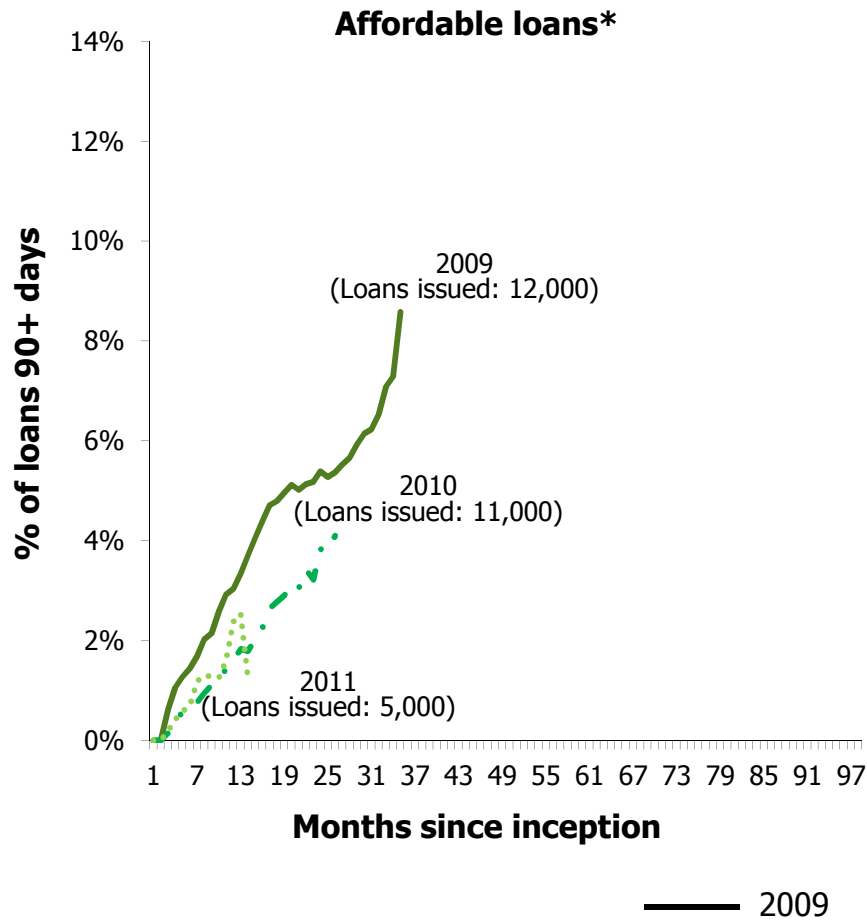
2004
 2005
 2006
 2007 pre-NCA
 2007 post-NCA
 2008 Jan-Jun
 2008 Jul-Dec

Source: Deeds office data sourced from the ALHDC and XDS



A vintage analysis highlights how this is impacted upon by the date of origination

Vintage analysis: NPL by months since inception
(Bonds originated between 2009 and 2011, mortgages from big 4 banks)



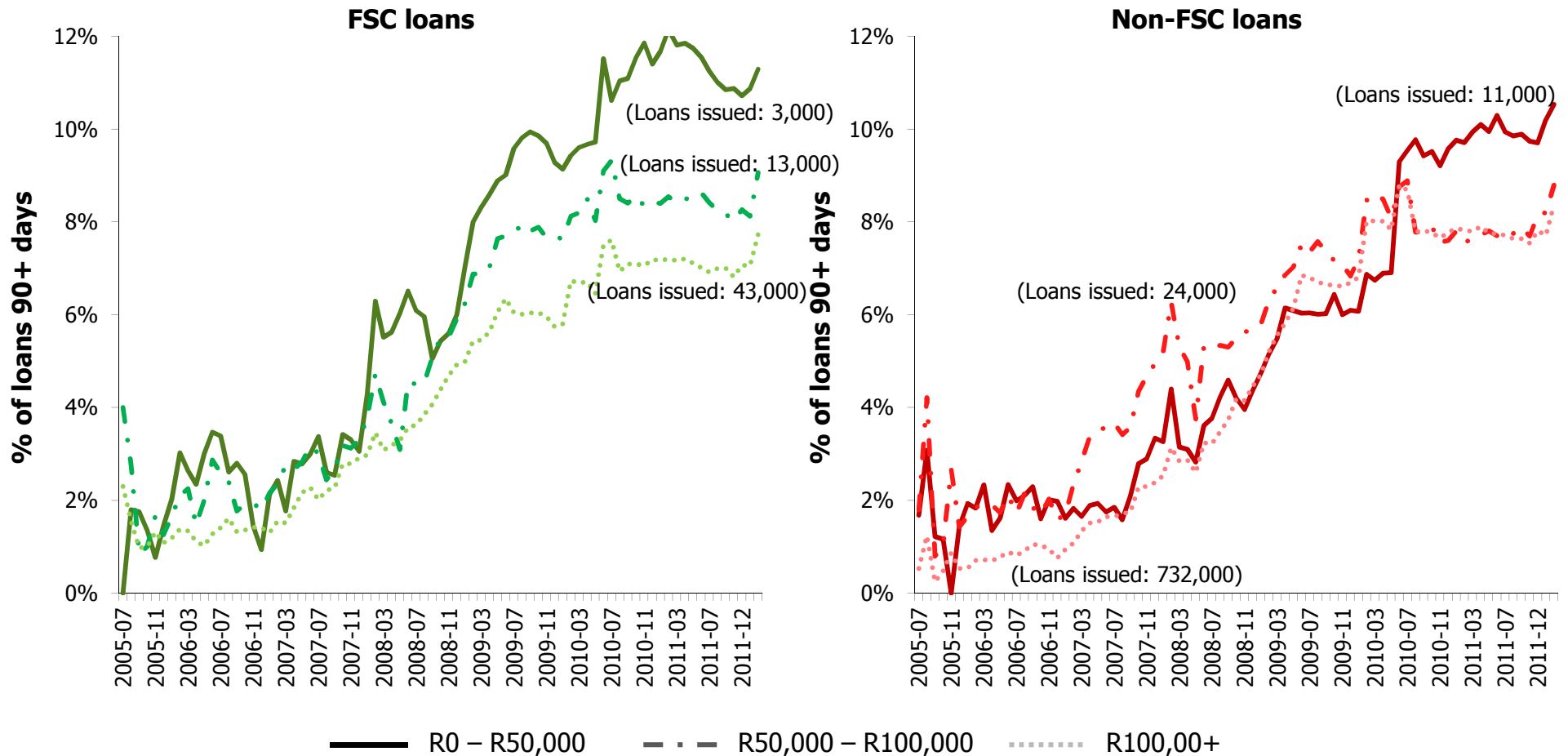
Source: Deeds office data sourced from the ALHDC and XDS
 * Affordable loans are calculated in the same way as FSC bonds



In general for loans originated between 2004 and 2008 the smallest loans appear to have performed worst. Note there is a wider spread of performance for FSC loans

NPLs by opening balance

(Bonds originated between 2004 and 2008, mortgages from big 4 banks)



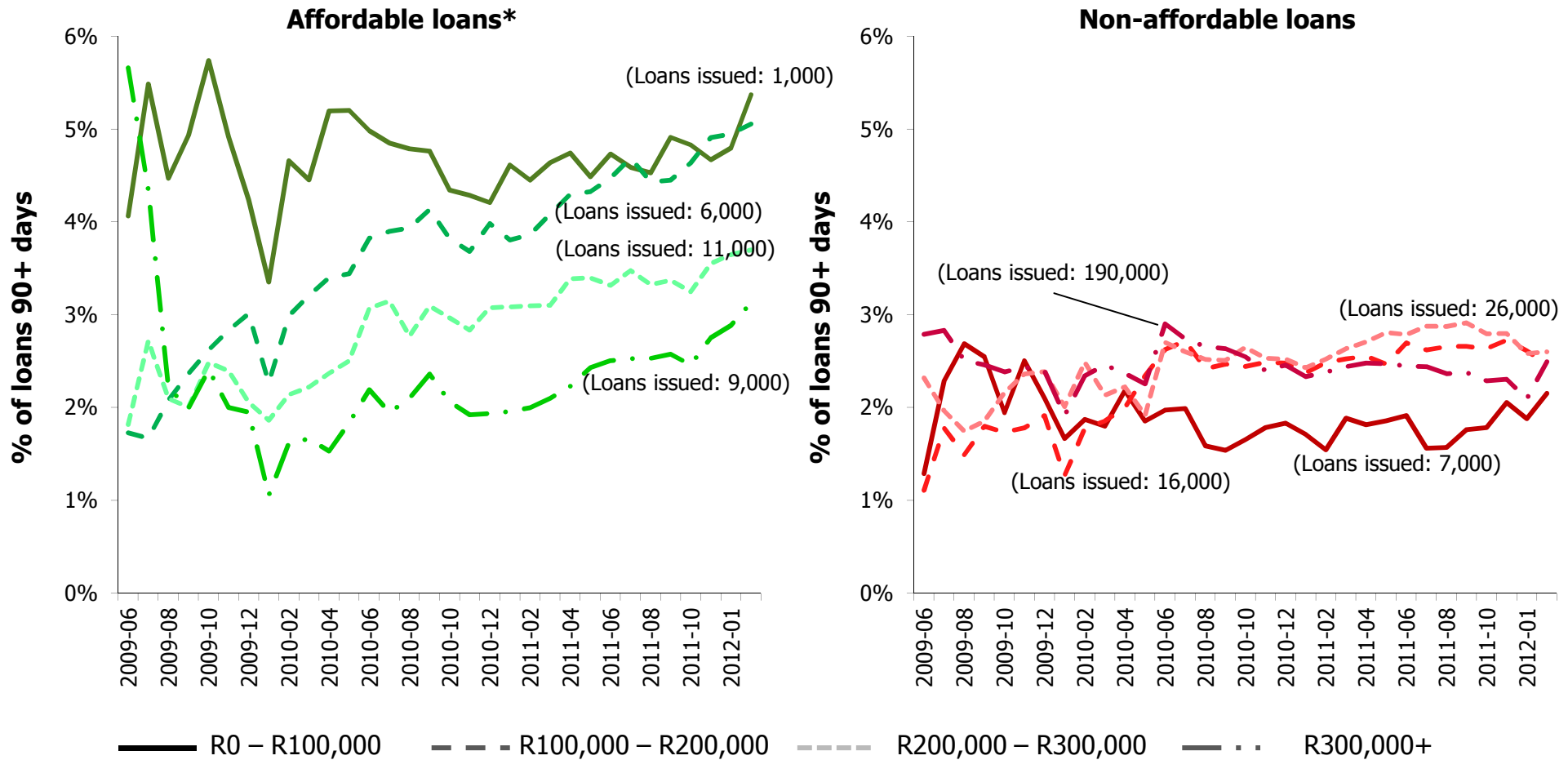
Source: Deeds office data sourced from the ALHDC and XDS

In general, the smallest affordable loans appear to have performed worst. Once again, the variability in performance is marked for Affordable loans



NPLs by opening balance

(Bonds originated between 2009 and 2011, mortgages from big 4 banks)

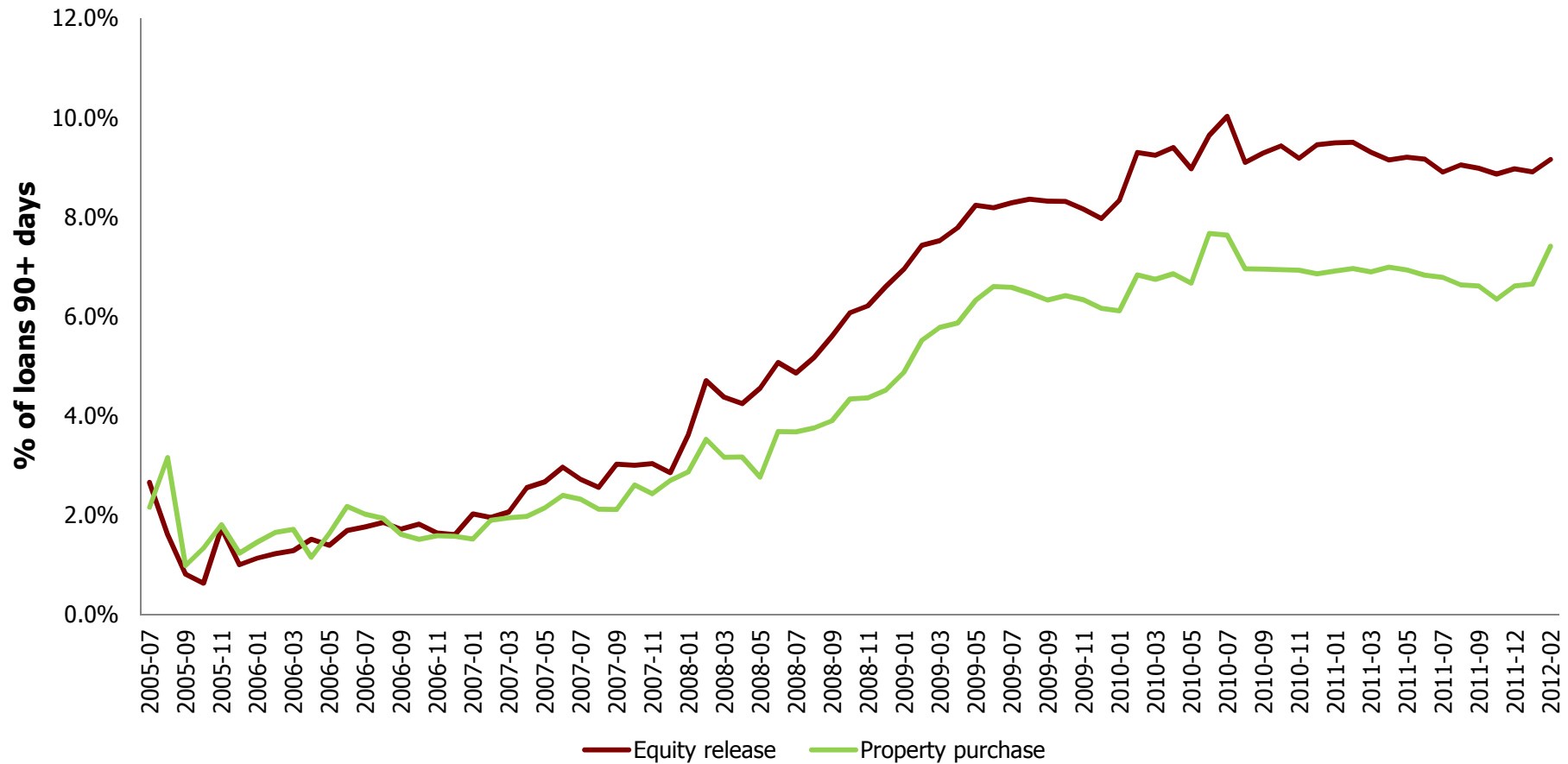


Source: Deeds office data sourced from the ALHDC and XDS
 * Affordable loans are calculated in the same way as FSC bonds



FSC loans used as an equity release tend to perform worse than those used to purchase a property

NPL by equity release/property purchase*
(Bonds originated between 2004 and 2008, mortgages from big 4 banks, FSC loans)

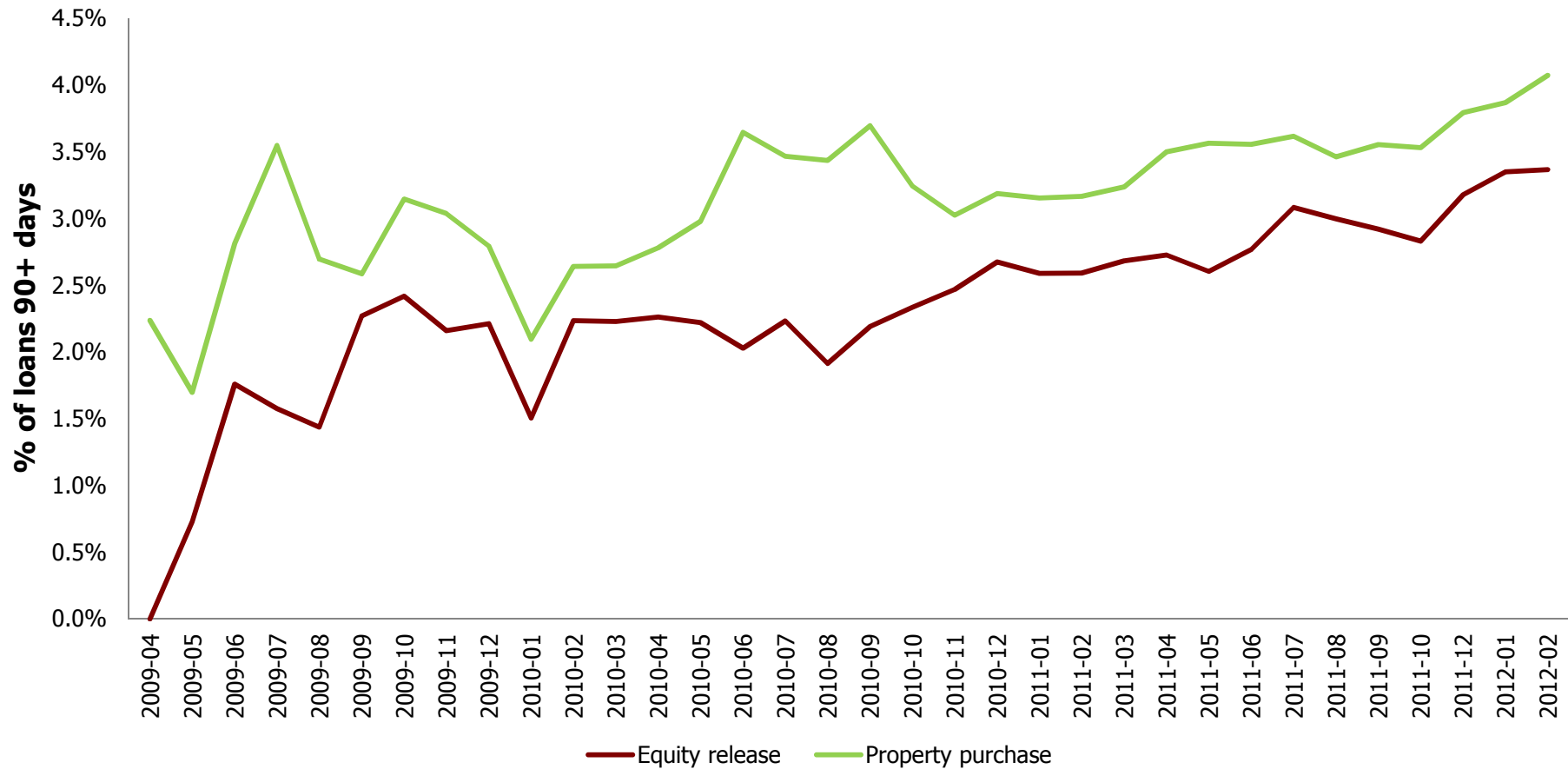


Source: Deeds office data sourced from the ALHDC and XDS
 * The property is said to be purchased if the property registration date is the same as the bond registration date.



This is reversed for affordable loans

NPL by equity release/property purchase*
(Bonds originated between 2009 and 2011, mortgages from big 4 banks, Affordable loans)



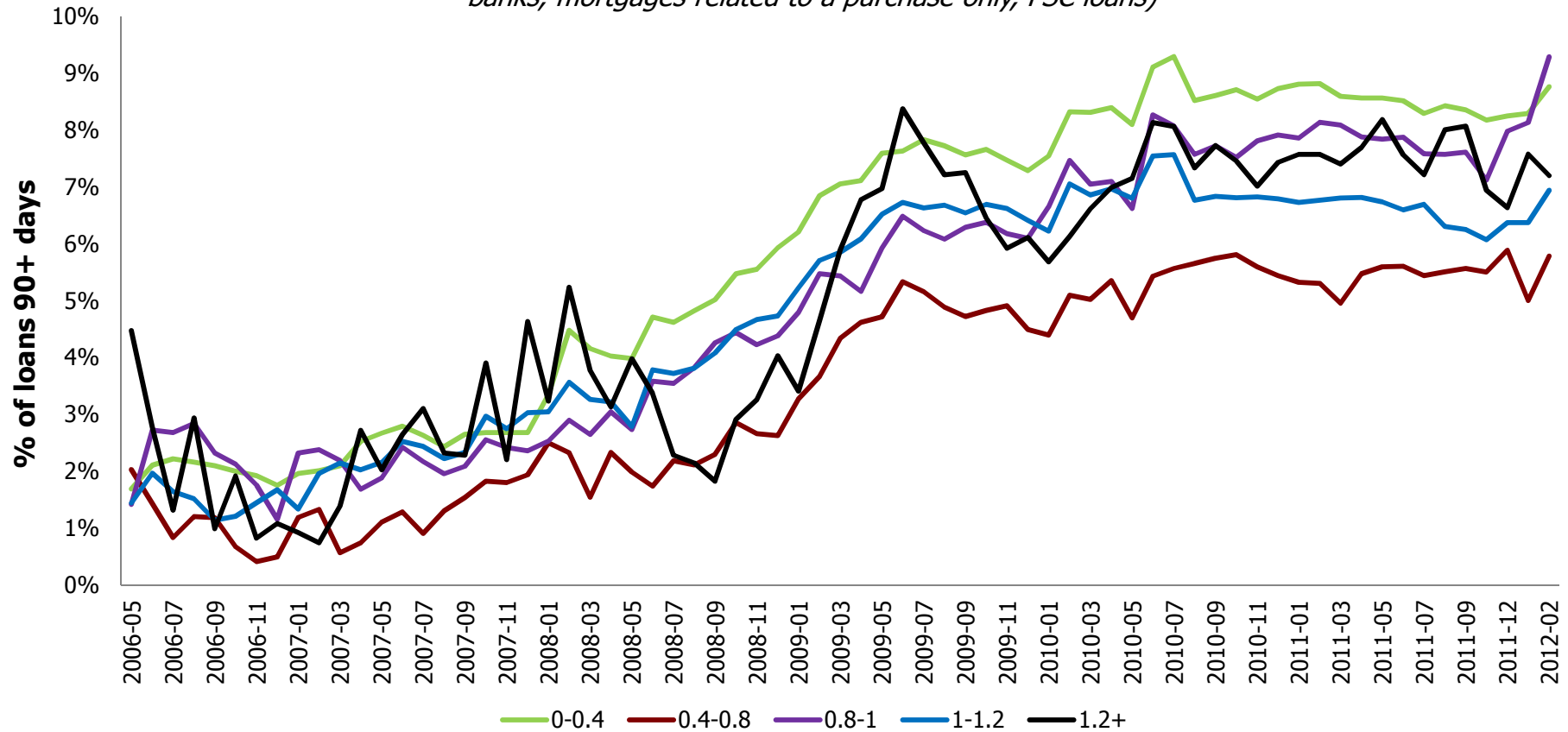
Source: Deeds office data sourced from the ALHDC and XDS
 * The property is said to be purchased if the property registration date is the same as the bond registration date.
 Note: Affordable loans are calculated in the same way as FSC bonds



The very low and very high loan to value loans tend to perform the worst. This is difficult to interpret

NPL by loan to value

(Bonds originated between 2004 and 2008, mortgages from big 4 banks, mortgages related to a purchase only, FSC loans)



Source: Deeds office data sourced from the ALHDC and XDS

Note: The loan to value is calculated for loans where there is an associated property purchase, the price is greater than R55,000 and the LTV is less than 1.5

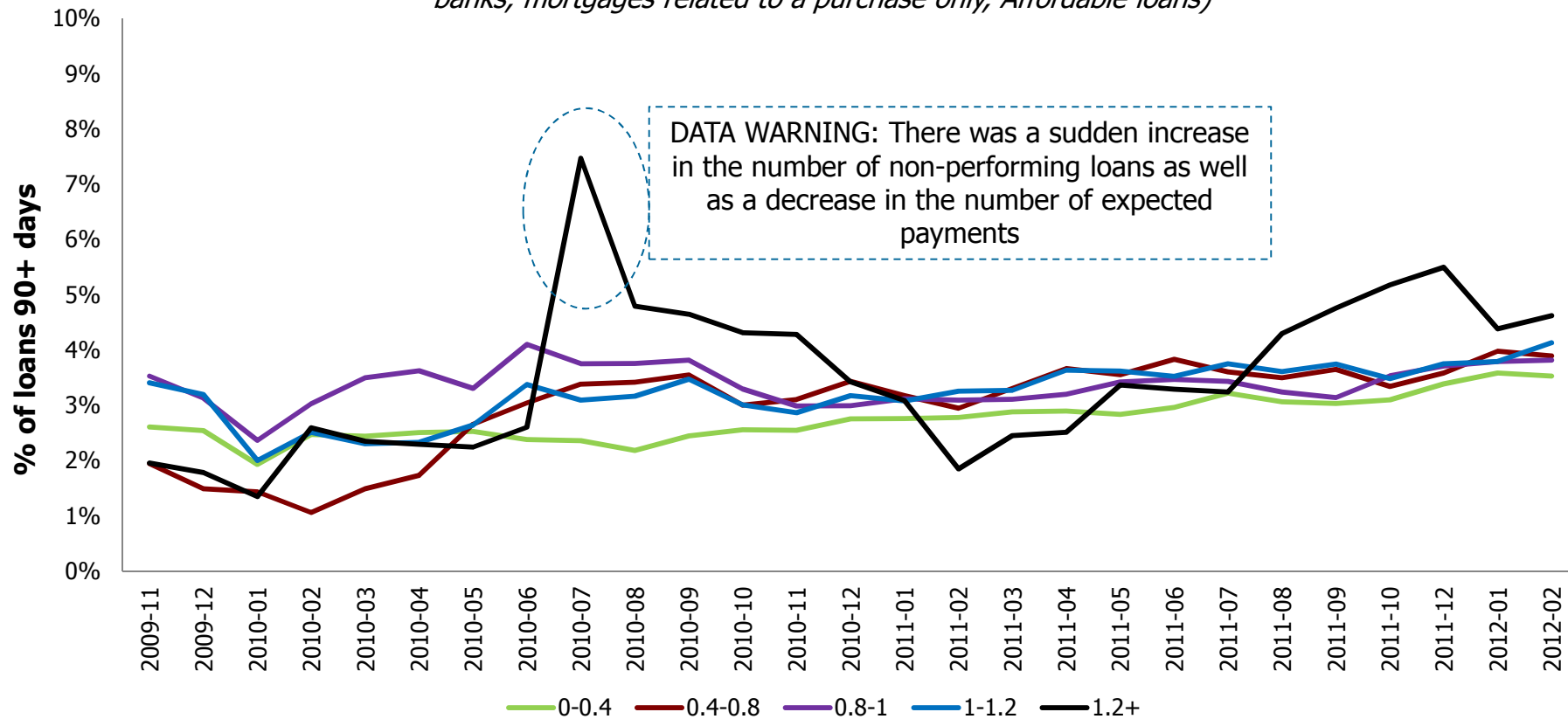
Note: This analysis only takes into account the months where the number of loans is at least 50 in all LTV groups



For the Affordable book the very small loan to values tend to perform the best. Note there is some instability in the data

NPL by loan to value

(Bonds originated between 2009 and 2011, mortgages from big 4 banks, mortgages related to a purchase only, Affordable loans)

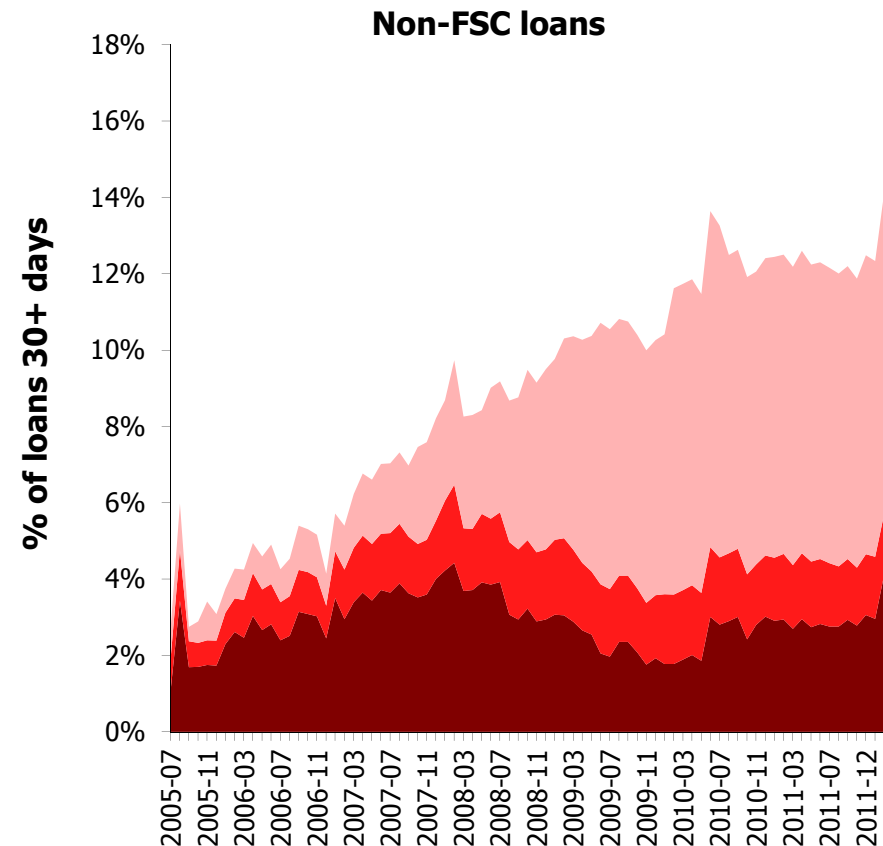
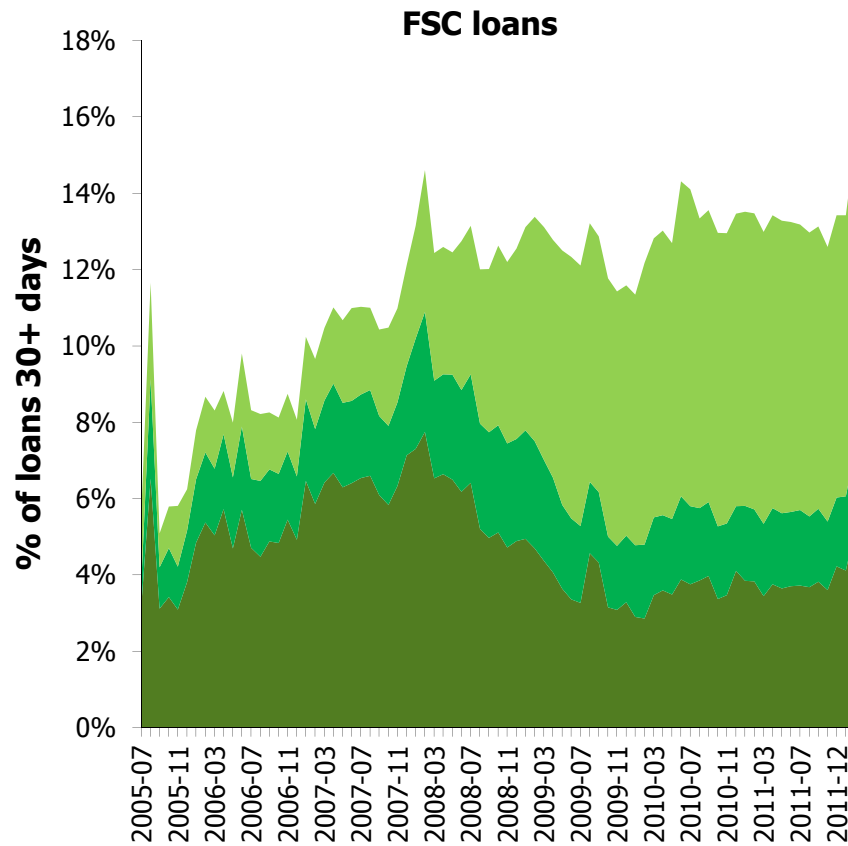


Source: Deeds office data sourced from the ALHDC and XDS
 Note: The loan to value can only be calculated for loans where there is an associated property purchase, the price is greater than R55,000 and the LTV is less than 1.5
 Note: Affordable loans are calculated in the same way as FSC bonds
 Note: This analysis only takes into account the months where the number of loans is at least 50

While the proportion of loans that are 90 days or more in arrears is broadly the same for FSC and non-FSC loans, an aging analysis highlights noticeable differences. FSC loans appear to have a more erratic payment pattern



Aging analysis over time (cumulative)
(Bonds originated between 2004 and 2008, mortgages from big 4 banks)



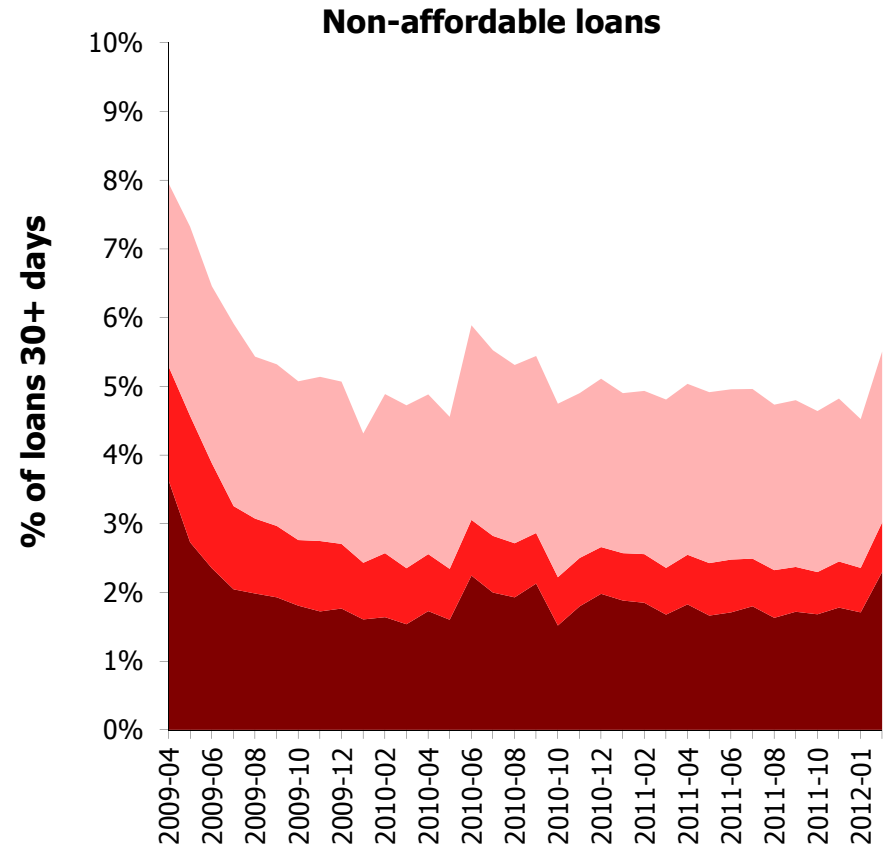
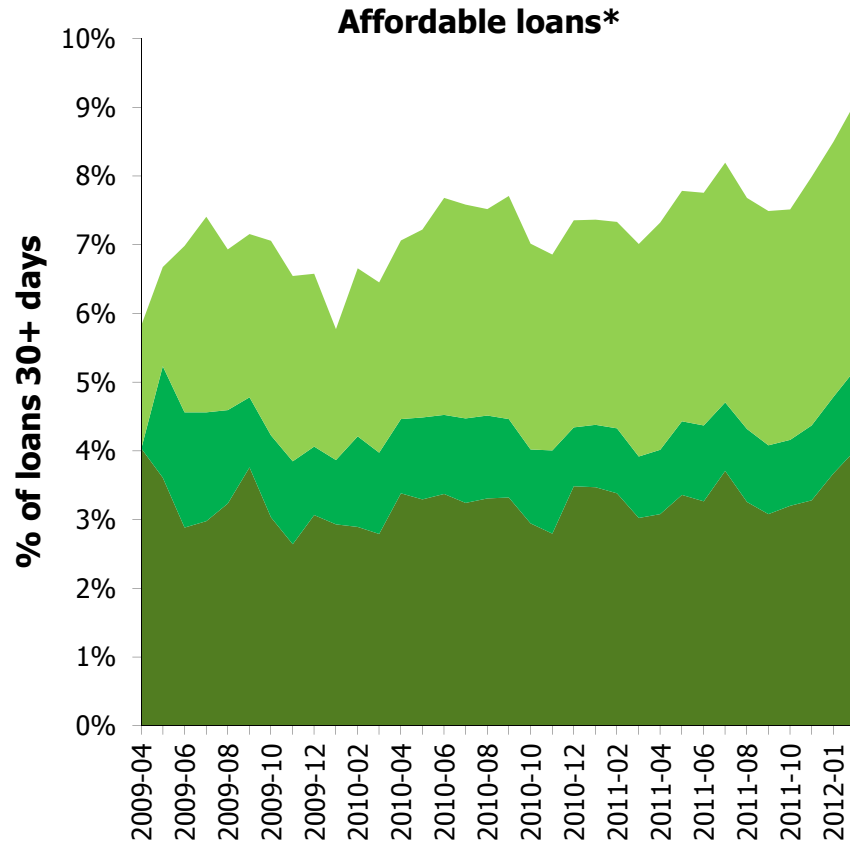
30 – 60 days
 60 – 90 days
 90+ days

Source: Deeds office data sourced from the ALHDC and XDS



This may also be true for Affordable loans

Aging analysis over time (cumulative)
(Bonds originated between 2009 and 2011, mortgages from big 4 banks)



30 – 60 days
 60 – 90 days
 90+ days

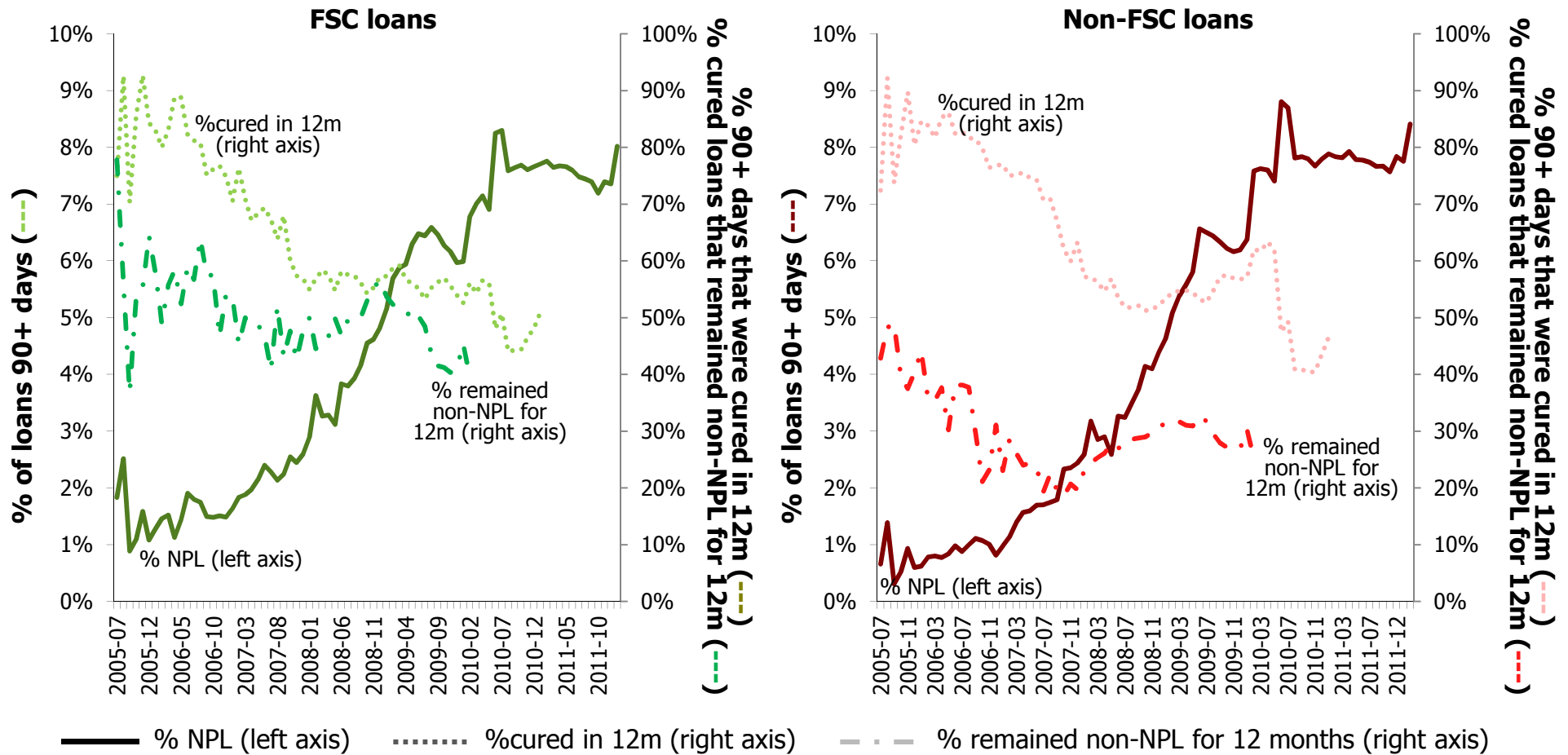
Source: Deeds office data sourced from the ALHDC and XDS
 * Affordable loans are calculated in the same way as FSC bonds

The analysis explored the likelihood of defaulting loans becoming 'cured'. For the FSC period, cure rates declined steadily as did the proportion of cured loans that remained cured for 12 months



Cure rates

(Bonds originated between 2004 and 2008, mortgages from big 4 banks)



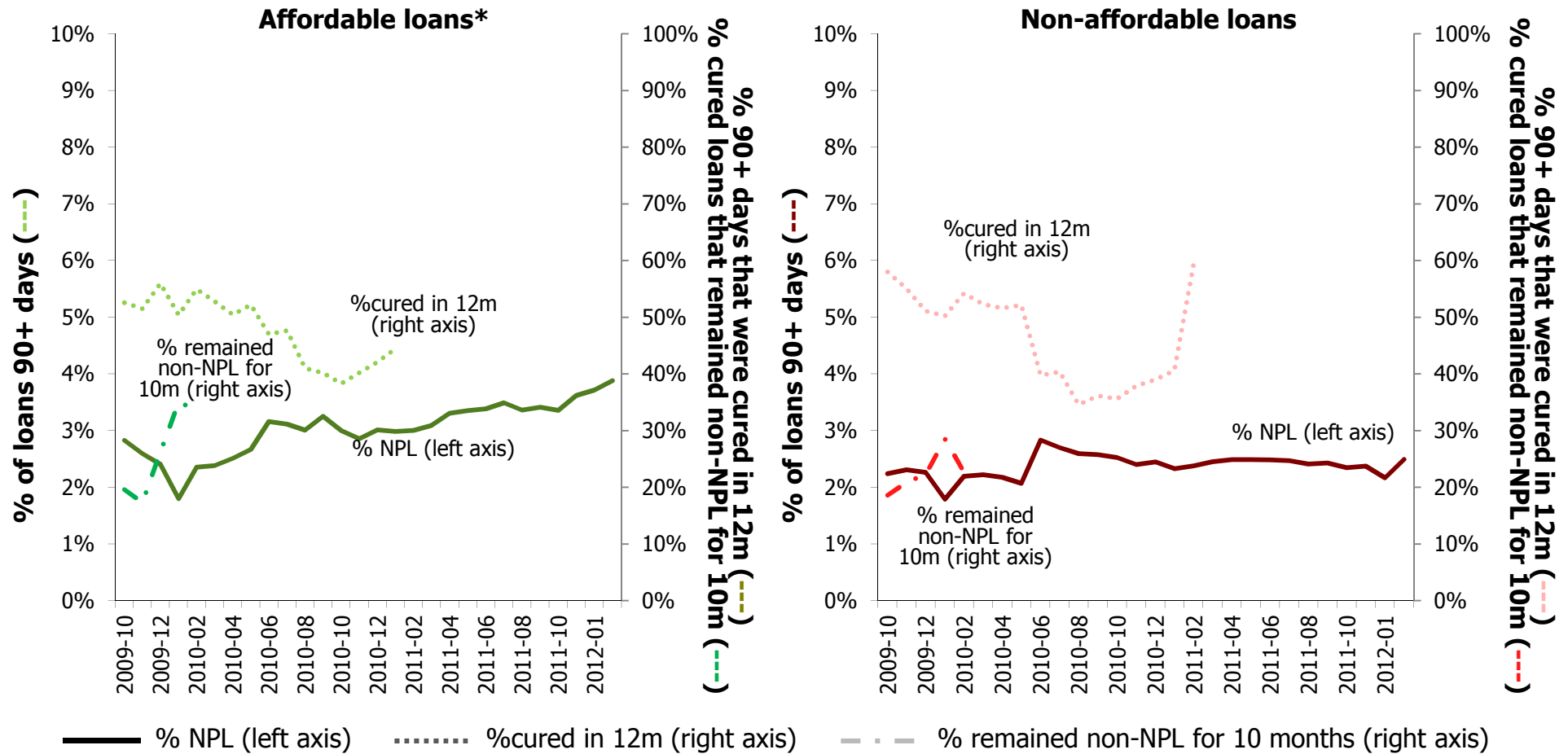
Source: Deeds office data sourced from the ALHDC and XDS



We have begun to track this for Affordable loans

Cure rates

(Bonds originated between 2009 and 2011, mortgages from big 4 banks)



Source: Deeds office data sourced from the ALHDC and XDS
 * Affordable loans are calculated in the same way as FSC bonds



The analysis also explored performance by area. This varies significantly

NPL by suburb: 10 worst performing areas
(Bonds originated between 2004 and 2008, mortgages from big 4 banks)

	2006 % NPL (Number of loans)	2007 % NPL (Number of loans)	2008 % NPL (Number of loans)	2009 % NPL (Number of loans)	2010 % NPL (Number of loans)	2011 % NPL (Number of loans)	
FSC loans	Protea Park	0.0 (55)	1.4 (142)	0.9 (226)	13.6 (269)	26.1 (423)	24.6 (499)
	Saxonsea	2.5 (121)	1.9 (211)	8.5 (340)	15.3 (437)	25.4 (751)	24.4 (881)
	High Gate	0.0 (50)	0.0 (86)	3.6 (138)	8.2 (171)	14.2 (281)	21.8 (312)
	Louvville	0.0 (112)	1.2 (166)	3.1 (287)	13.2 (356)	15.0 (546)	21.6 (610)
	North End	0.0 (51)	6.3 (63)	1.2 (85)	7.7 (177)	6.6 (182)	20.3 (207)
	Ongegund	1.1 (92)	0.0 (111)	2.9 (208)	5.8 (276)	16.5 (382)	20.1 (428)
	Cleveland	0.0 (60)	0.0 (54)	7.0 (57)	21.0 (62)	15.5 (84)	20.0 (85)
	Sherwood	6.7 (75)	1.2 (83)	1.9 (162)	5.9 (186)	12.7 (299)	18.8 (373)
	Florida	0.3 (359)	2.5 (436)	4.5 (558)	14.8 (620)	18.7 (819)	18.6 (807)
	New Eastridge	12.0 (133)	5.3 (285)	13.9 (453)	21.9 (625)	22.5 (1,025)	18.5 (1,033)
Non-FSC loans	Mitchells Plain	2.1 (187)	8.6 (395)	6.7 (849)	10.3 (1,128)	16.4 (7,078)	18.0 (9,200)
	Vredenburg	0.6 (623)	0.9 (975)	3.5 (2,303)	5.5 (2,893)	13.2 (6,896)	14.6 (8,279)
	Brits	1.4 (781)	1.5 (1,443)	4.3 (3,558)	8.2 (4,509)	13.9 (9,688)	13.6 (1,0871)
	Brakpan	1.7 (976)	3.8 (1,833)	8.1 (3,262)	11.7 (3,951)	12.9 (11,065)	13.3 (13,629)
	Krugersdorp	2.5 (709)	3.0 (1,275)	6.4 (2,932)	11.9 (3,668)	13.3 (9,720)	13.1 (11,623)
	Grassy Park	1.6 (701)	3.8 (1,186)	5.8 (2,394)	8.6 (2,995)	12.6 (9,475)	12.9 (12,038)
	Portland	1.3 (300)	4.4 (724)	5.7 (1,318)	13.1 (1,745)	13.2 (6,039)	12.7 (7,571)
	Germiston	0.2 (589)	2.8 (1,237)	7.2 (2,476)	10.4 (3,465)	12.8 (9,694)	12.6 (11,706)
	Belhar	2.2 (417)	3.0 (889)	7.7 (1,695)	15.6 (2,147)	13.2 (8,398)	11.9 (10,424)
	Kempton Park	1.2 (1,340)	3.5 (2,527)	6.1 (5,387)	10.7 (7,380)	11.7 (21,118)	11.9 (26,350)

Source: Deeds office data sourced from the ALHDC and XDS

Note: Only areas with at least 50 loans in each year are included



The analysis also explored performance by area. This varies significantly

NPL by suburb: 10 worst performing areas

(Bonds originated between 2009 and 2011, mortgages from big 4 banks, mortgages from big 4 banks)

		2009	2010	2011
		% NPL (Number of loans)	% NPL (Number of loans)	% NPL (Number of loans)
Affordable loans*	Likole	3.6 (55)	19.0 (242)	22.5 (347)
	Marble Hall Ext 6	5.4 (130)	14.6 (362)	21.8 (467)
	Tokoza Ext 2	7.7 (52)	20.7 (145)	15.2 (191)
	Laaiplek	3.7 (107)	3.9 (595)	9.2 (610)
	Weltevreden Valley	3.4 (145)	10.5 (856)	9.2 (1,233)
	Khayletisha	8.1 (185)	7.7 (1,249)	8.7 (2,178)
	Pretoria Central	5.1 (118)	4.3 (766)	7.4 (1,077)
	Yeoville	10.7 (75)	6.2 (251)	7.1 (301)
	Wildtuin Park	0.0 (70)	0.0 (251)	7.0 (301)
	Beacon Valley	0.0 (52)	1.6 (374)	6.6 (590)
Non-affordable loans	Sebokeng	8.0 (113)	9.8 (843)	10.2 (1,368)
	Rocklands	0.0 (70)	9.1 (678)	7.6 (1,186)
	Germiston	2.3 (128)	4.9 (2,237)	4.9 (4,167)
	Phoenix	38.6 (101)	6.5 (1,573)	6.8 (2,711)
	Mabopane	1.1 (174)	6.1 (1,124)	6.6 (1,688)
	Mitchells Plain	0.0 (27)	5.3 (1,100)	6.6 (2,091)
	Ermelo	4.3 (139)	7.1 (858)	6.2 (1,357)
	Tembisa	7.1 (168)	6.0 (1,740)	6.0 (2,804)
	Goodwood	6.8 (190)	7.0 (2,513)	5.8 (4,451)
	Vosloorus	12.0 (100)	6.3 (811)	5.6 (1,258)

Source: Deeds office data sourced from the ALHDC and XDS
 Note: Only areas with at least 50 loans in each year are included

* Affordable loans are calculated in the same way as FSC bonds



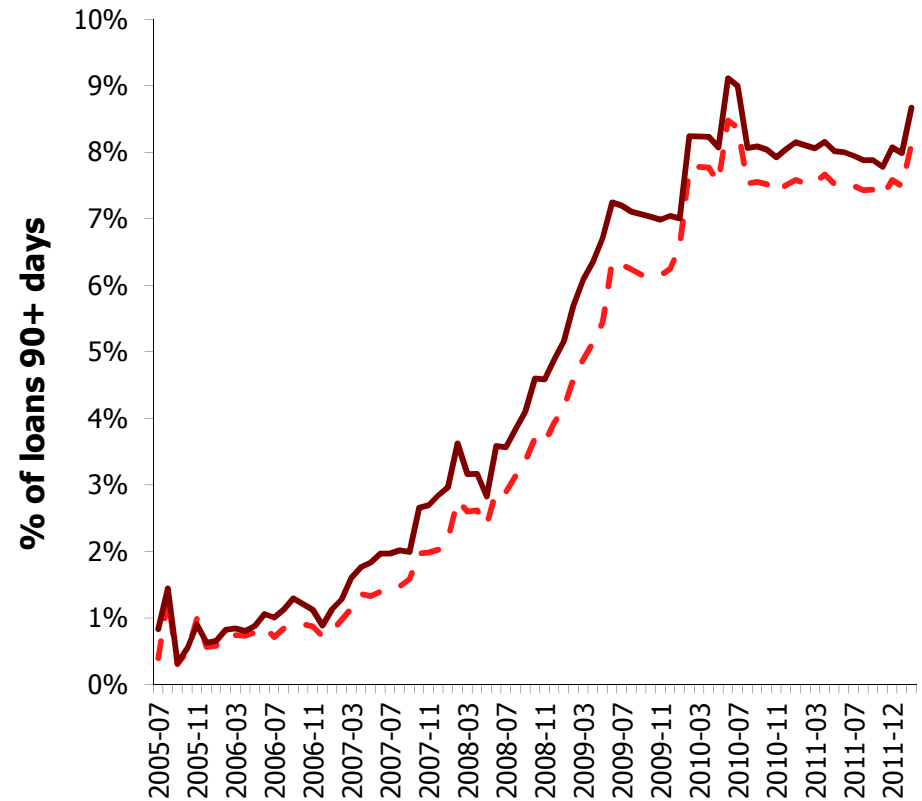
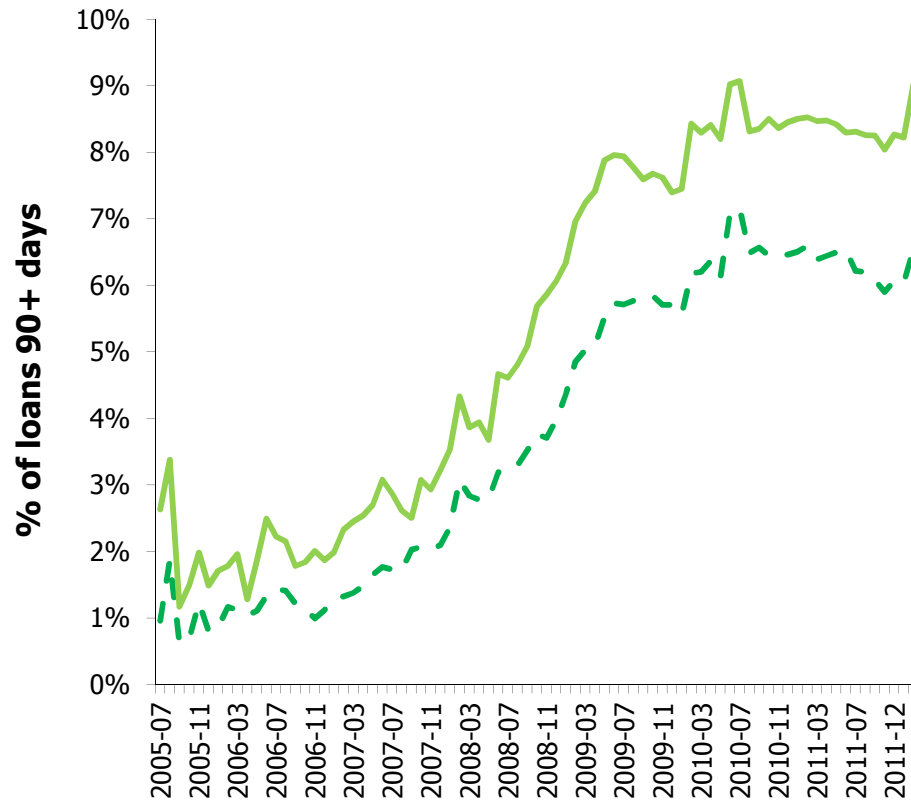
We can segment the loans by a range of dimension to explore how the probability of default differs across segments

NPLs by gender

(Bonds originated between 2004 and 2008, mortgages from big 4 banks)

FSC loans

Non-FSC loans



— Male - - - Female

Source: Deeds office data sourced from the ALHDC and XDS



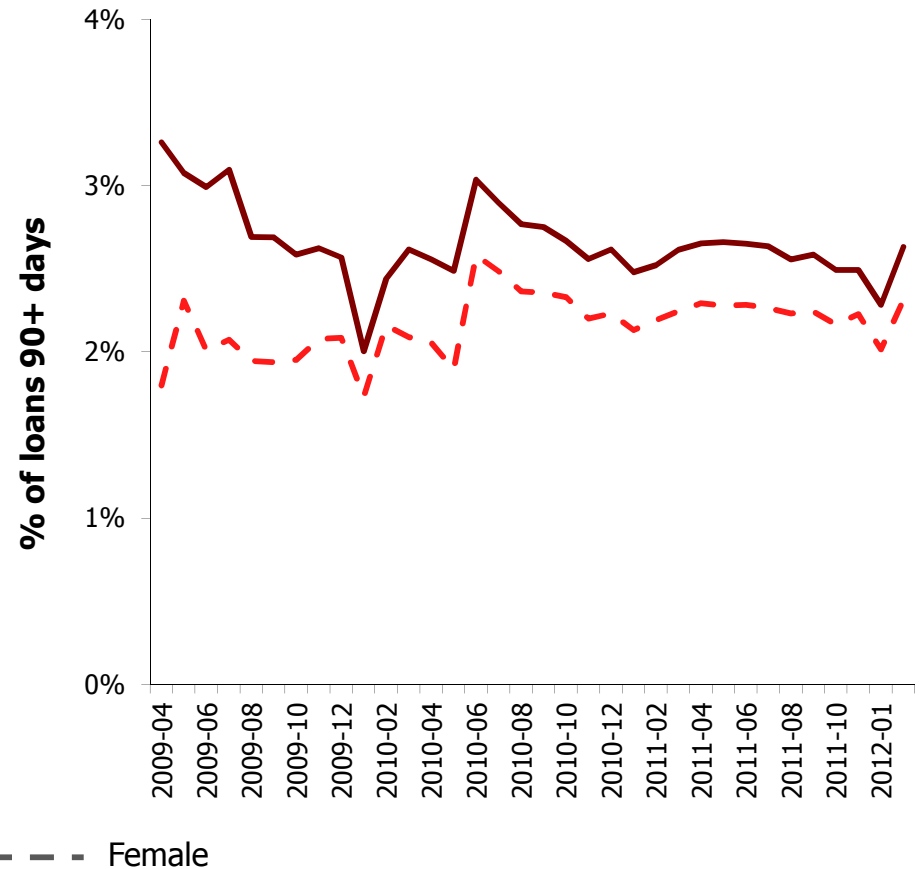
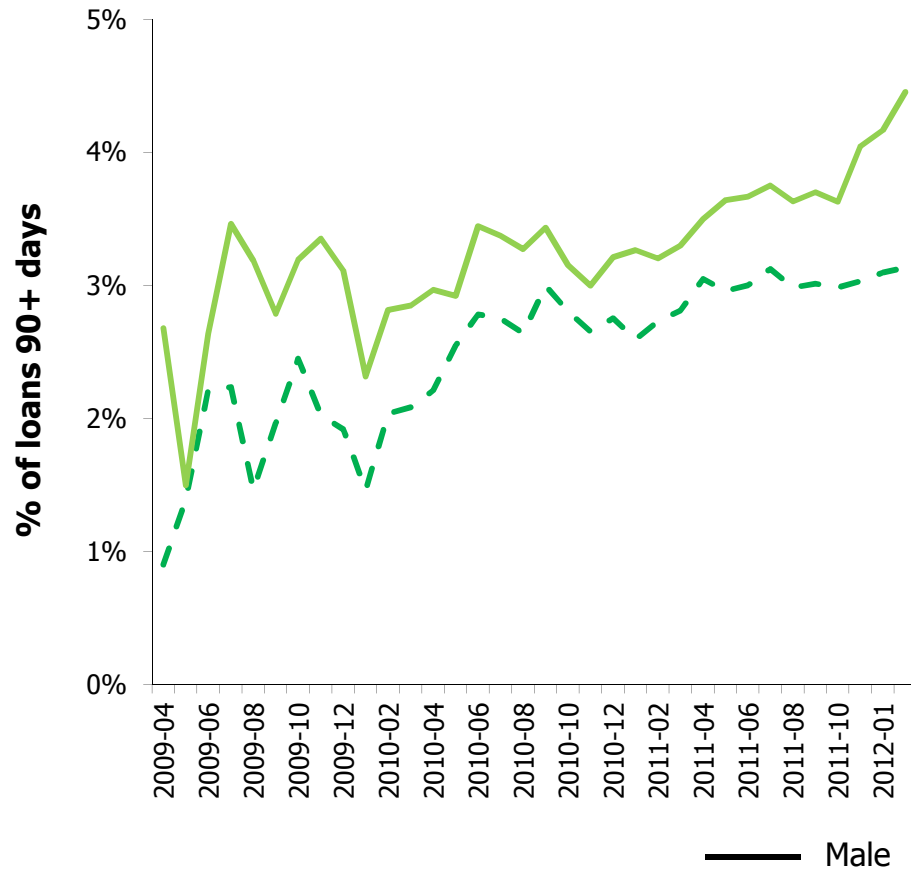
We can segment the loans by a range of dimension to explore how the probability of default differs across segments

NPLs by gender

(Bonds originated between 2009 and 2011, mortgages from big 4 banks)

Affordable loans*

Non-affordable loans

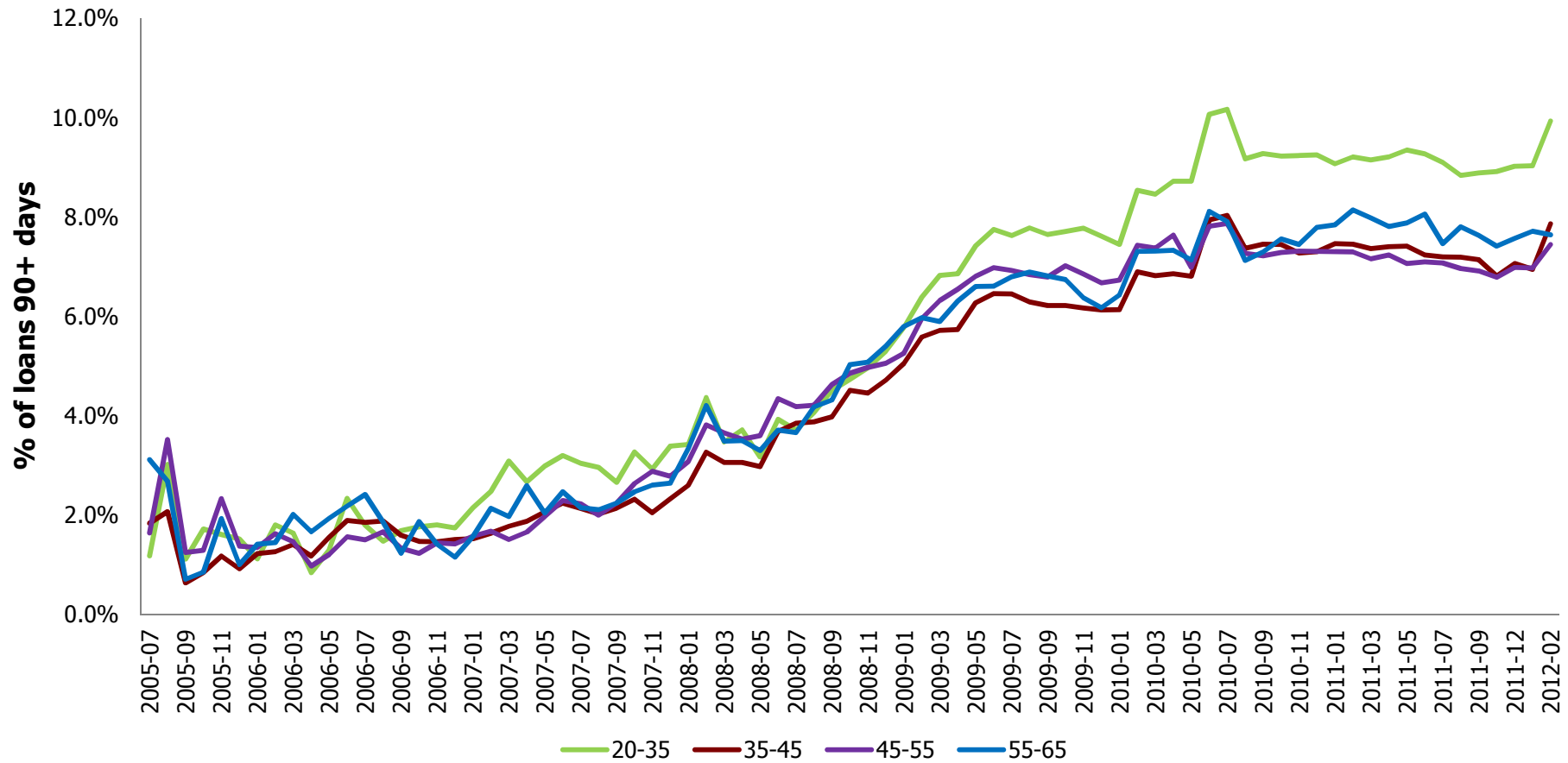


Source: Deeds office data sourced from the ALHDC and XDS
 * Affordable loans are calculated in the same way as FSC bonds



Generally, younger borrowers have worse performing loans

NPL by age of borrower
(Bonds originated between 2004 and 2008, mortgages from big 4 banks, FSC loans)



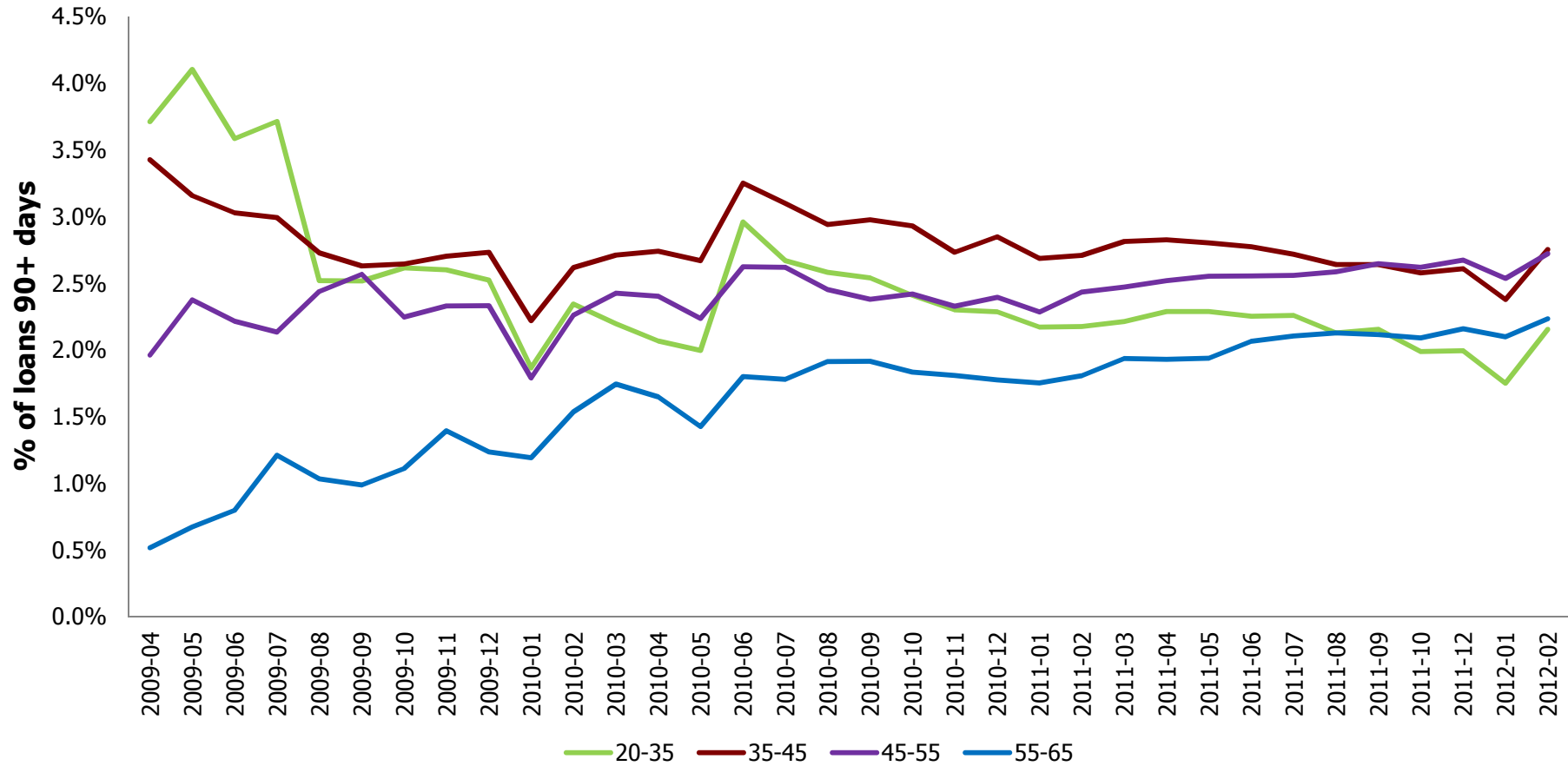
Source: Deeds office data sourced from the ALHDC and XDS



This is not mirrored with affordable loans

NPL by age of borrower

(Bonds originated between 2009 and 2011, mortgages from big 4 banks, Affordable loans)



Source: Deeds office data sourced from the ALHDC and XDS
 Note: Affordable loans are calculated in the same way as FSC bonds