



# 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

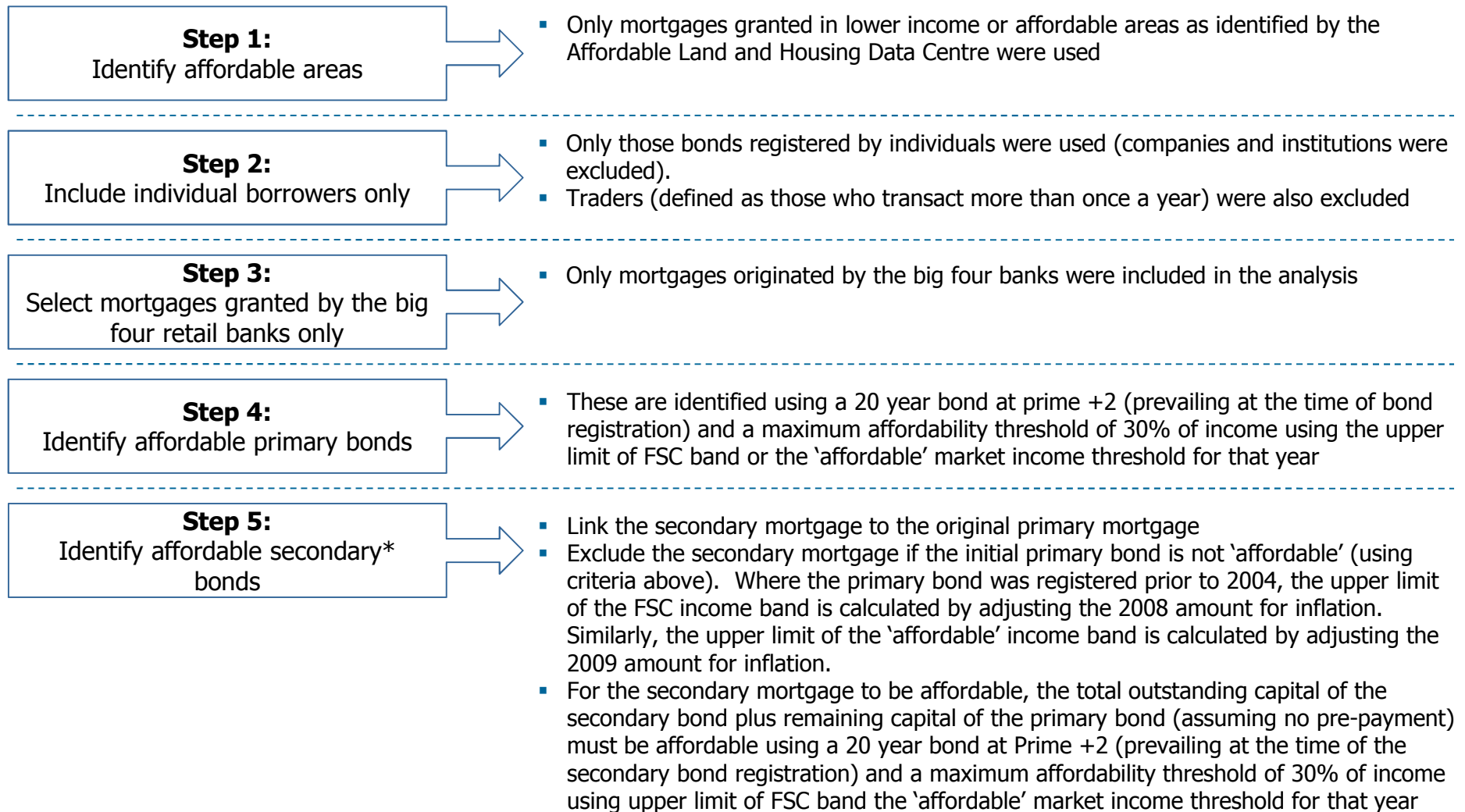
- FSC loans were originated between January 2004 and December 2008
- These loans were issued to households with a monthly income between R1,500 and R7,500 measured in 2004 Rands

### 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

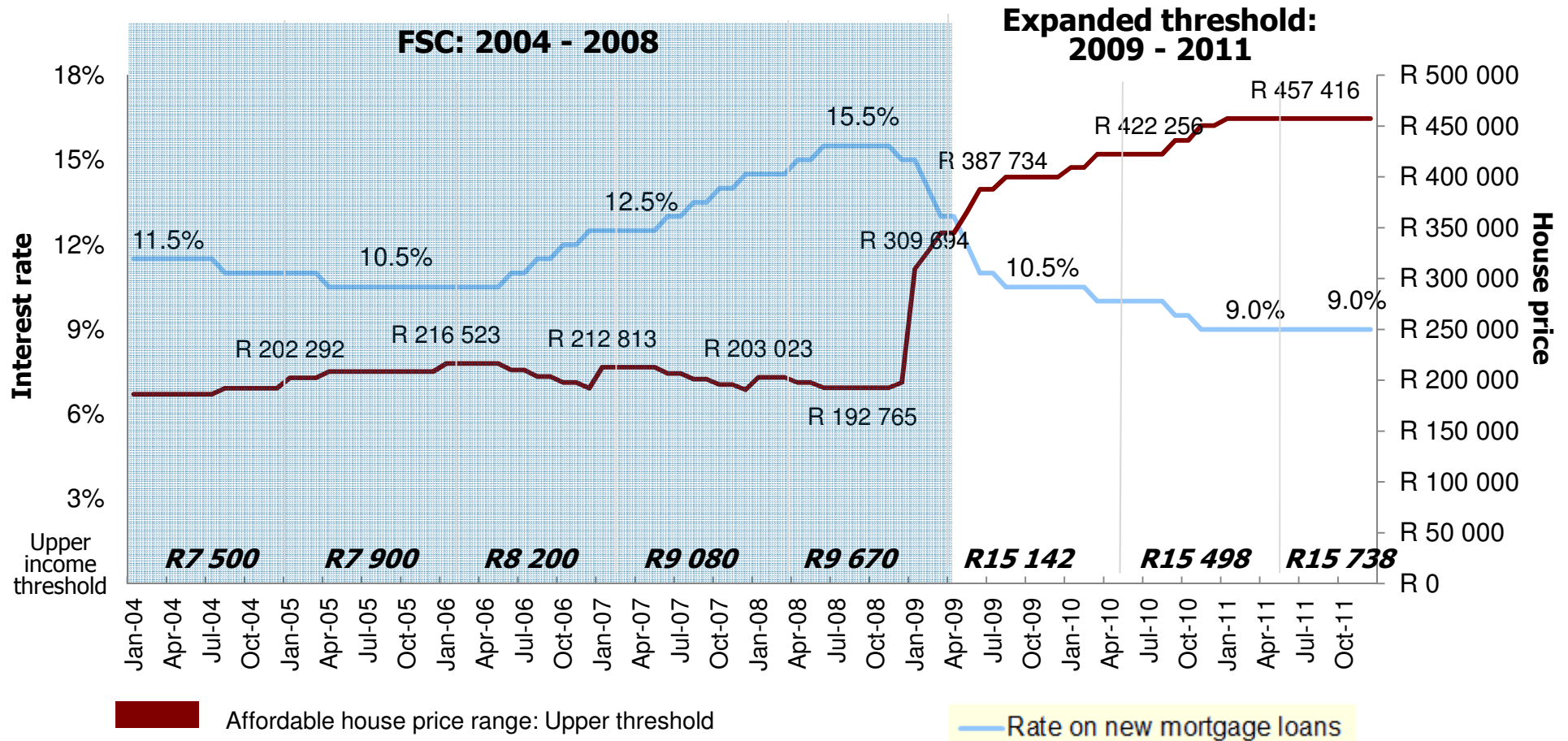


Note: The prime rate, as well as the inflation rate, was obtained from the South African Reserve Bank  
 \*A 'secondary bond' is a second loan on the same property



# 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



# Agenda

Introduction

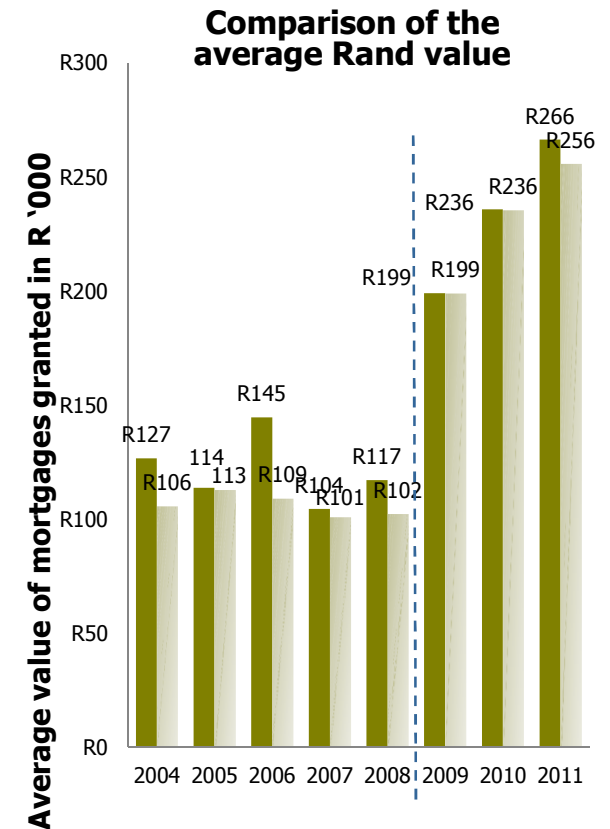
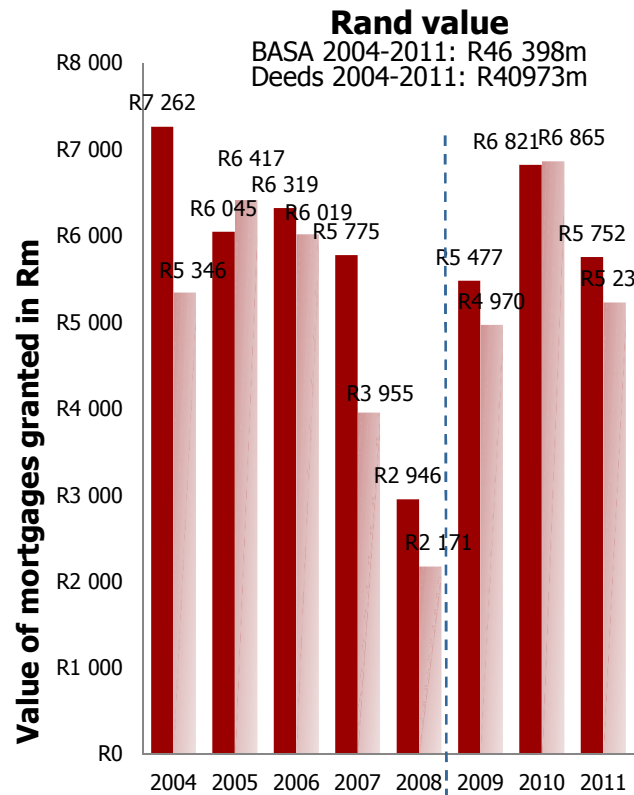
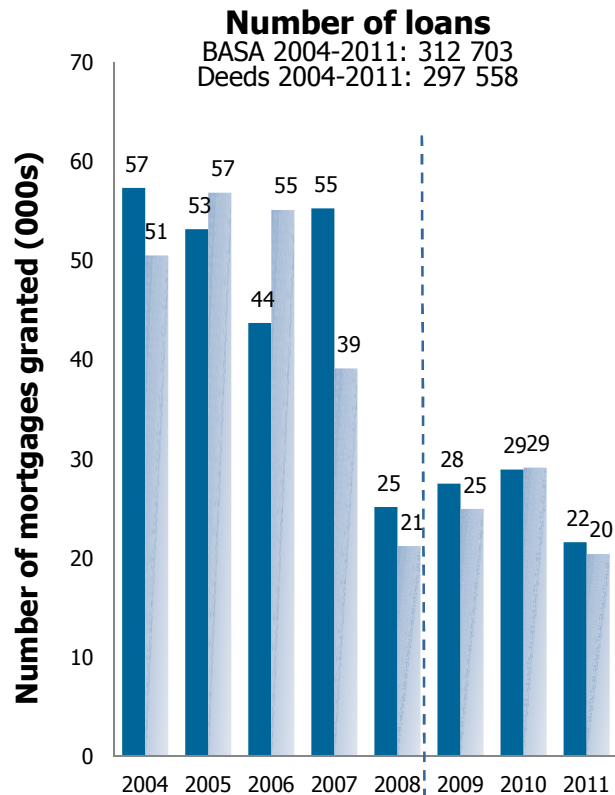
***Portfolio overview***

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

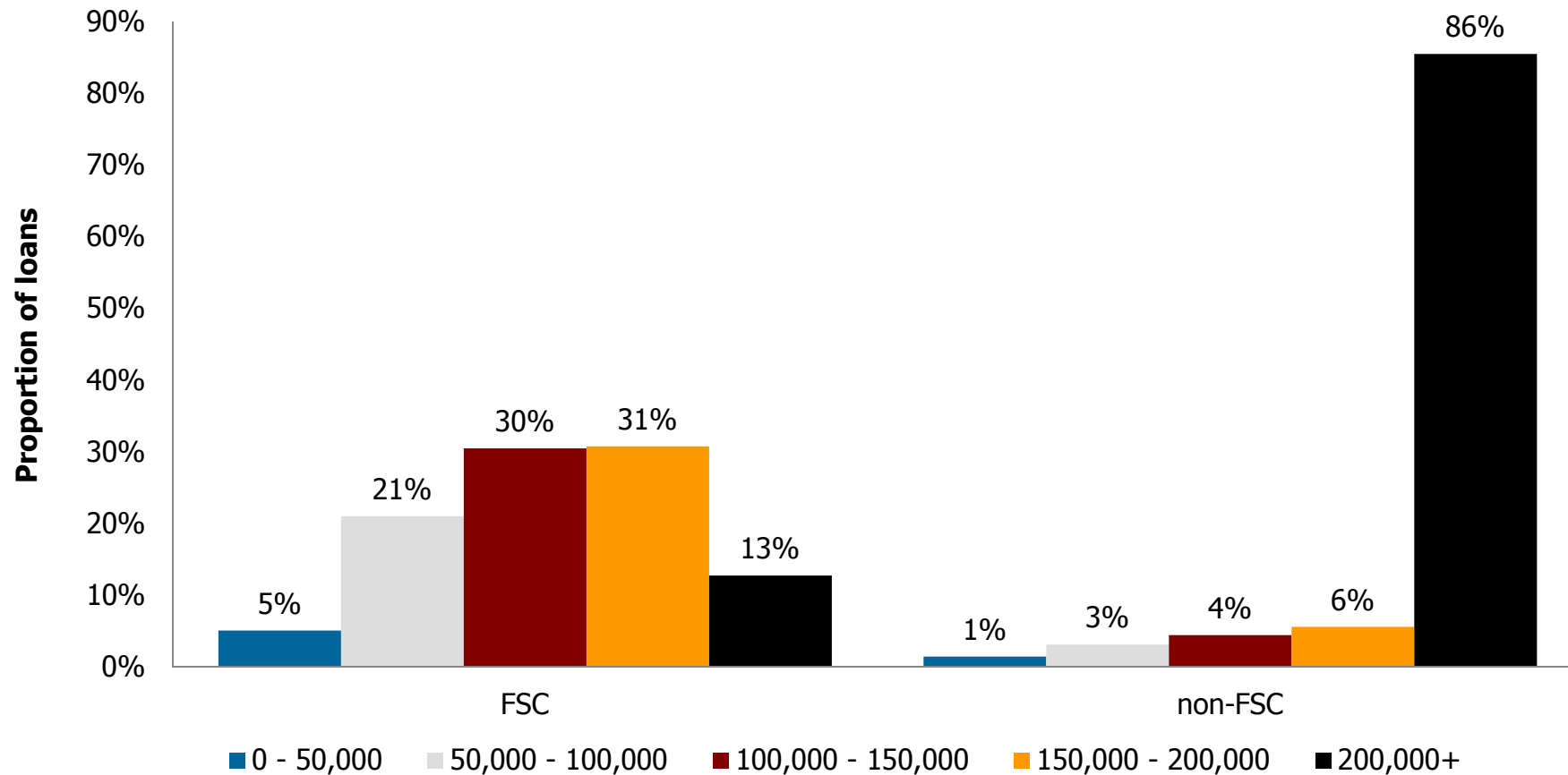
Note: The thresholds used to determine affordable bonds are as follows: 2004-2008 – FSC threshold, 2009-2011 – Expanded threshold. The BASA income cut offs are as follows: 2004-2008 - R10 000pm, 2009-2011 - R15 000pm

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 by the big four banks)*



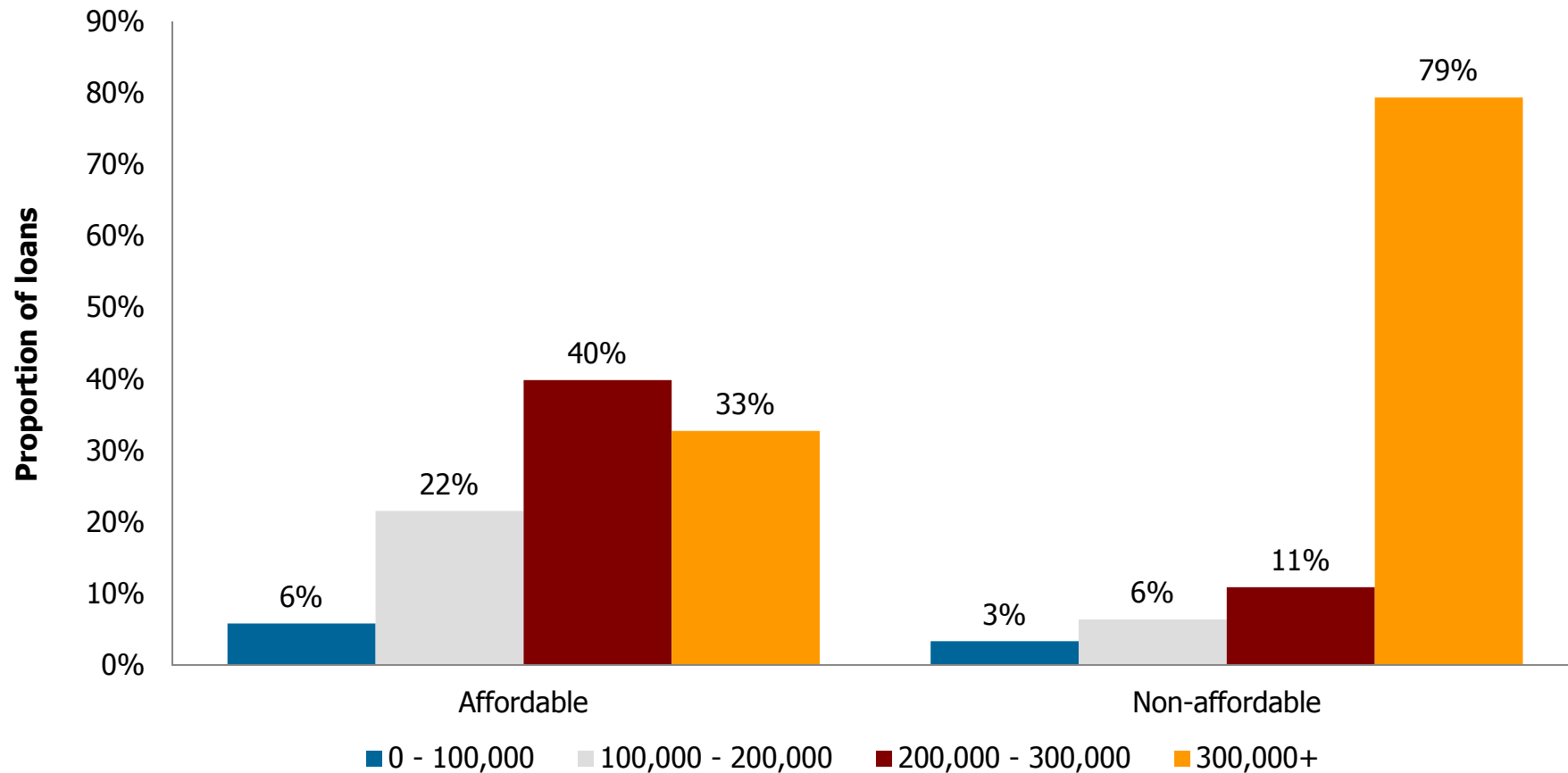
Source: Deeds office data sourced from the ALHDC, bureau data from XDS





**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 by the big four banks)



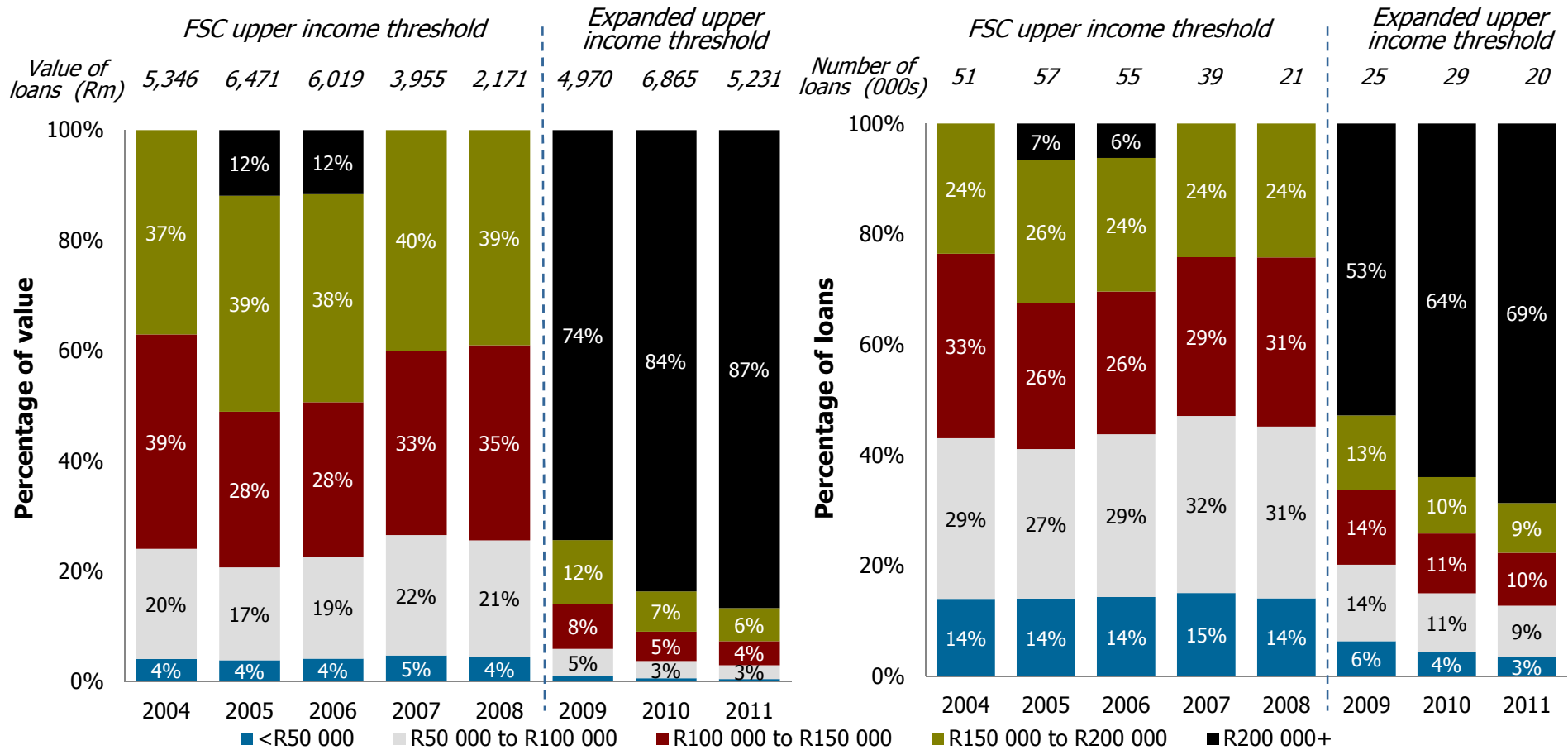
Source: Deeds office data sourced from the ALHDC, bureau data from XDS

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

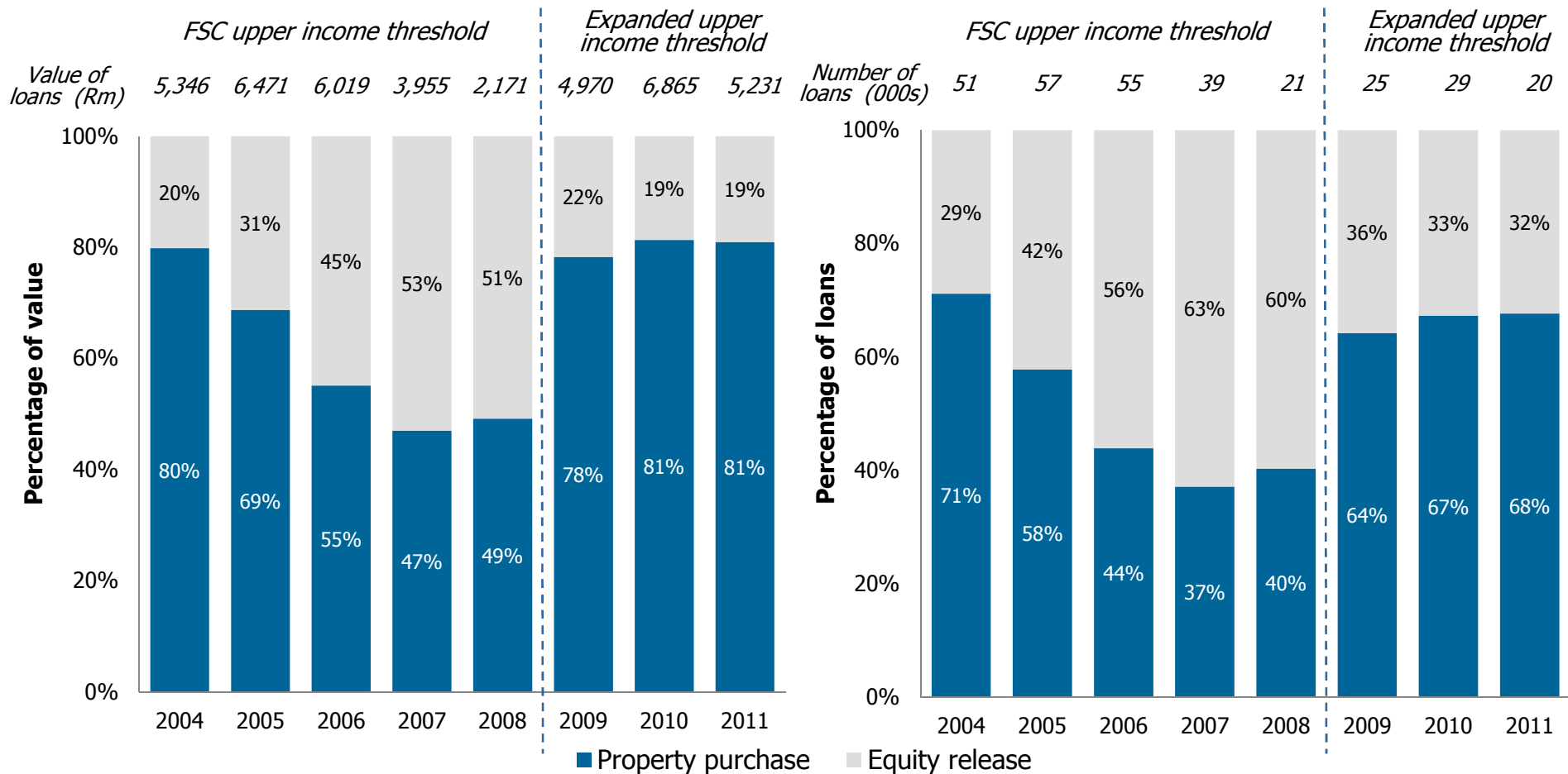
Note: 2011 deeds data only includes bonds up to September 2011. The thresholds used to determine affordable bonds are as follows: 2004-2008 – FSC threshold, 2009-2011 – Expanded threshold

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**



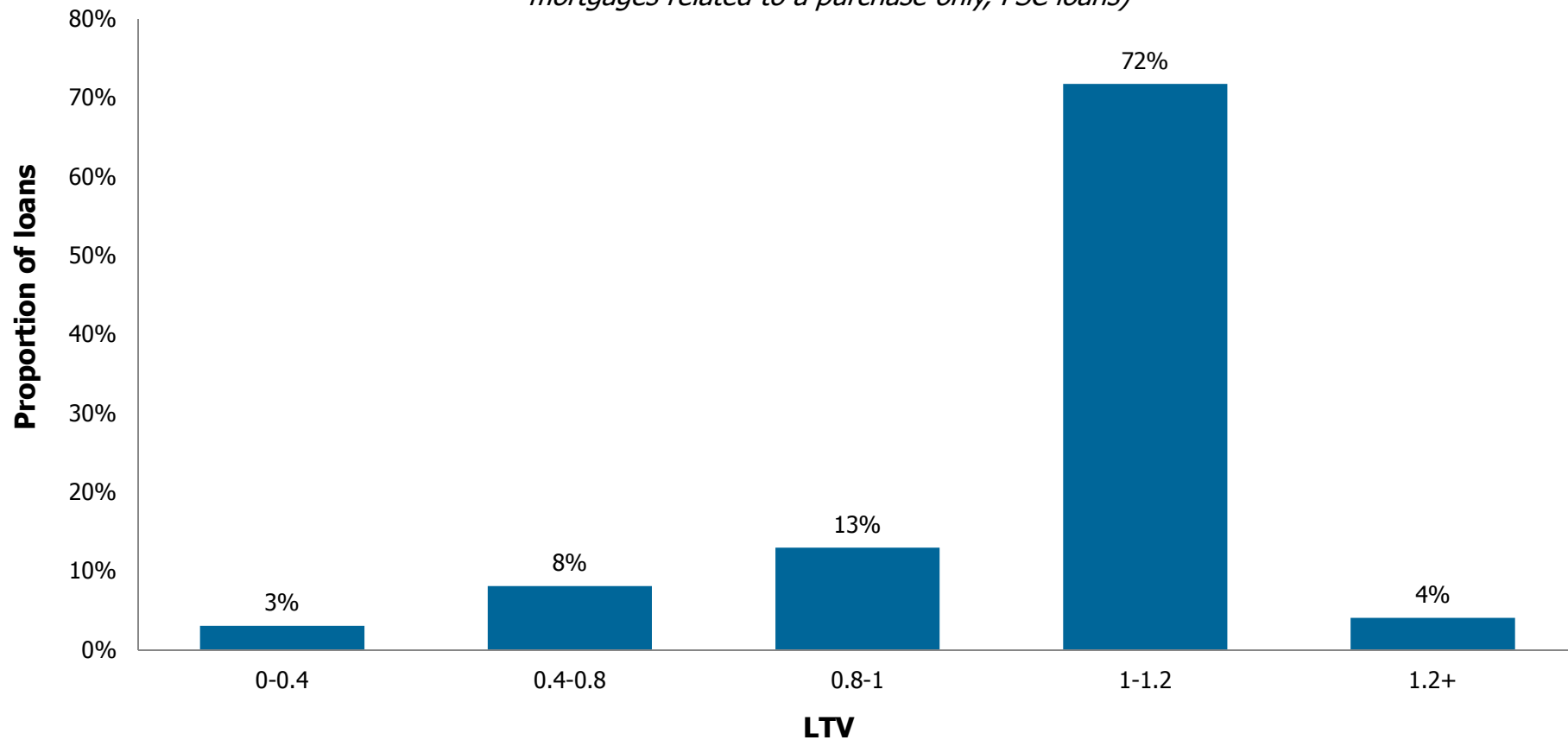
Source: Deeds office data sourced from the ALHDC  
 Note: Records where there is no transaction value and where the bond registration is not on the same day as the property registration are regarded at equity release loans  
 Note: 2011 deeds data only includes bonds up to September 2011. The thresholds 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 by the big four banks, mortgages related to a purchase only, FSC loans)*



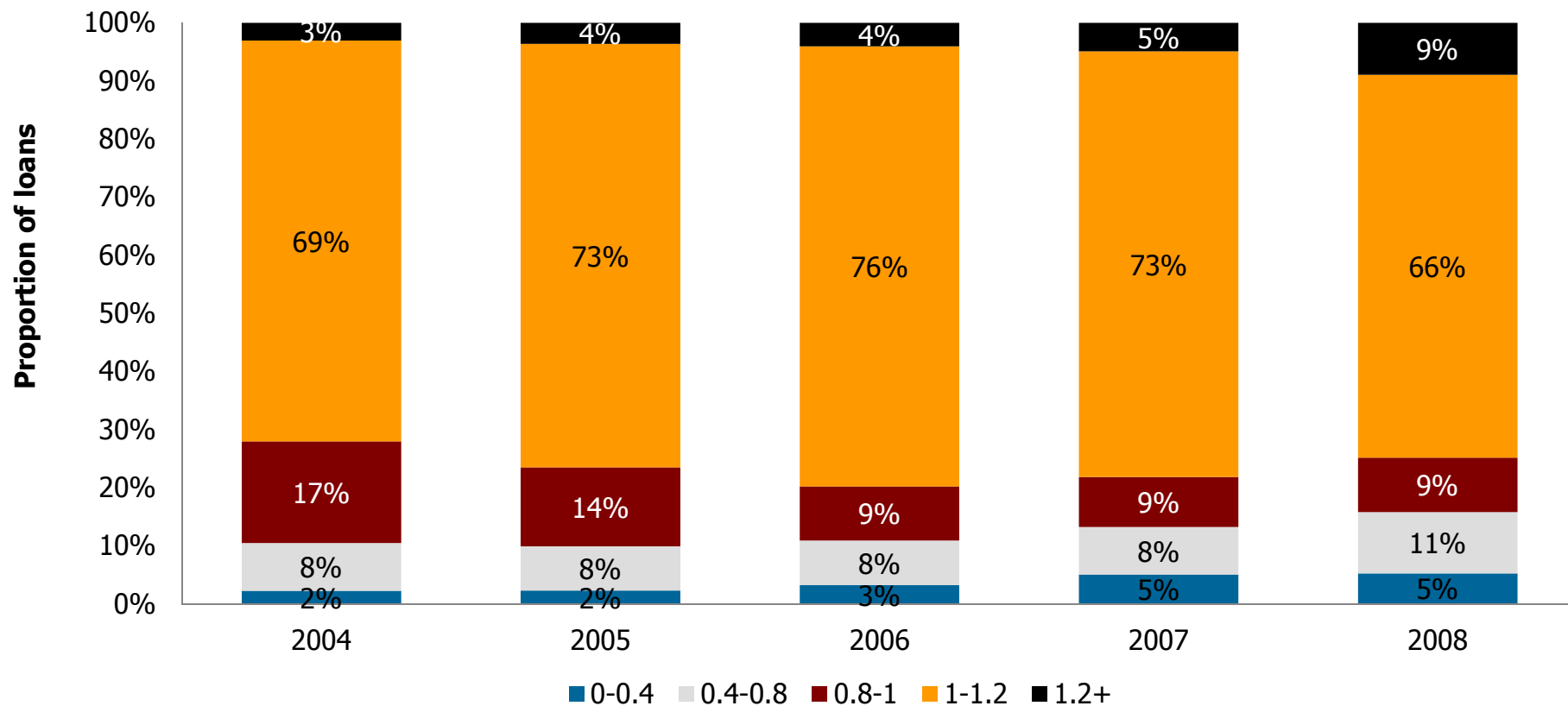
Source: Deeds office data sourced from the ALHDC, bureau data from XDS

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 by the big four banks, mortgages related to a purchase only, FSC loans)*



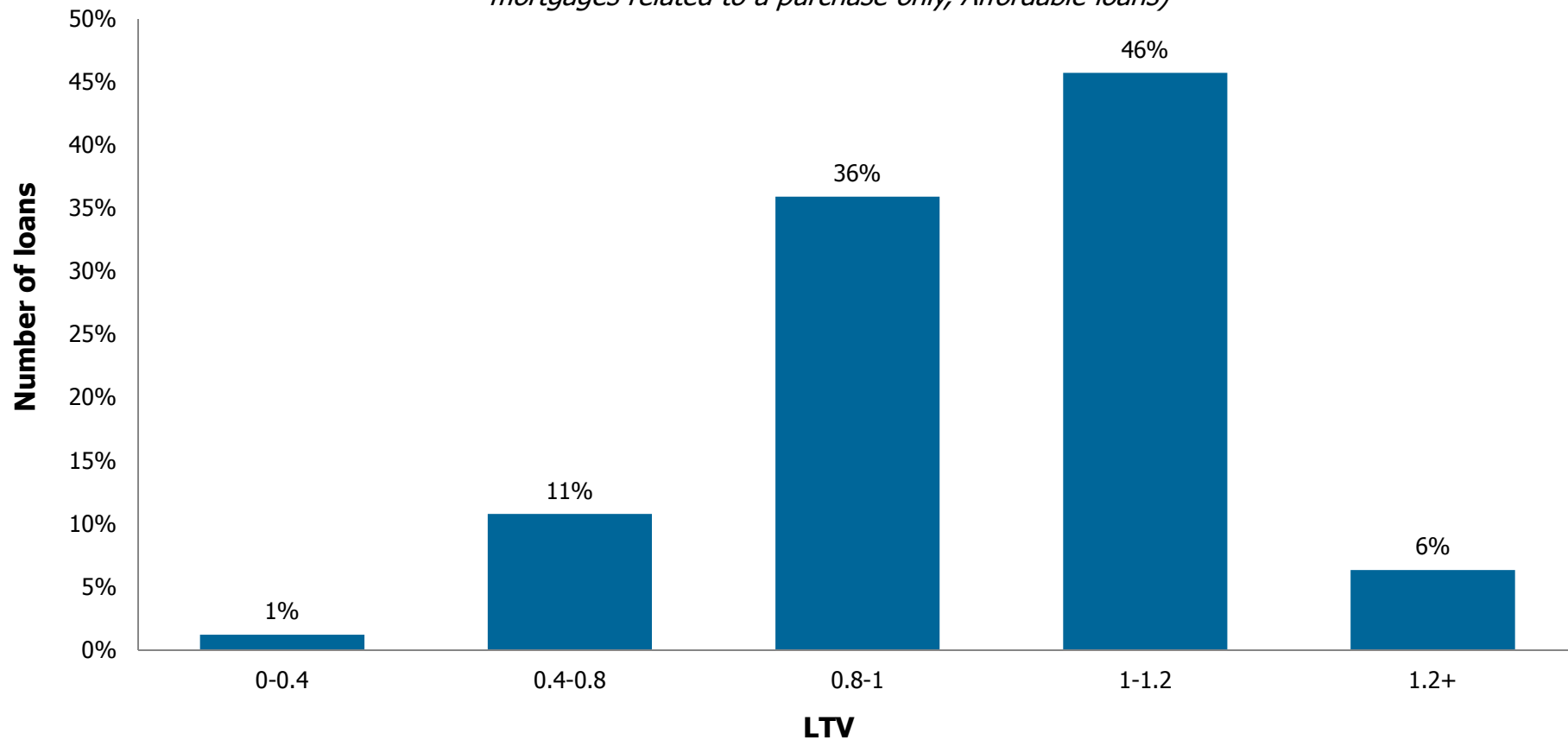
Source: Deeds office data sourced from the ALHDC, bureau data from XDS  
 Note: The loan to value is calculated for loans where there is an associated property purchase, the price is greater than R55,000 and the LTV is less than 1.5



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

### Distribution of loan to value

*(Bonds originated between 2009 and 2011 by the big four banks, mortgages related to a purchase only, Affordable loans)*



Source: Deeds office data sourced from the ALHDC, bureau data from XDS

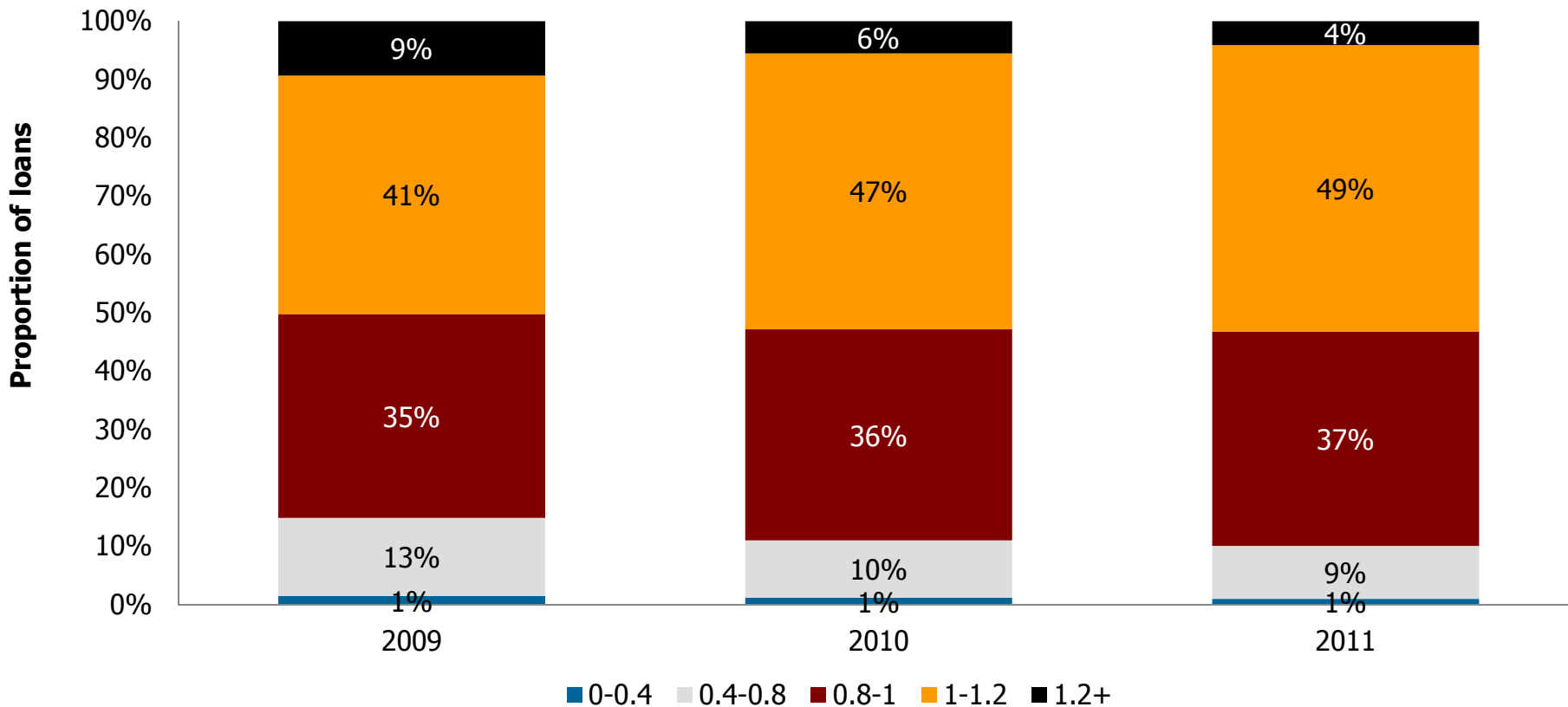
Note: The loan to value is calculated for loans where there is an associated property purchase, the price is greater than R55,000 and the LTV is less than 1.5

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 by the big four banks, mortgages related to a purchase only, Affordable loans)*



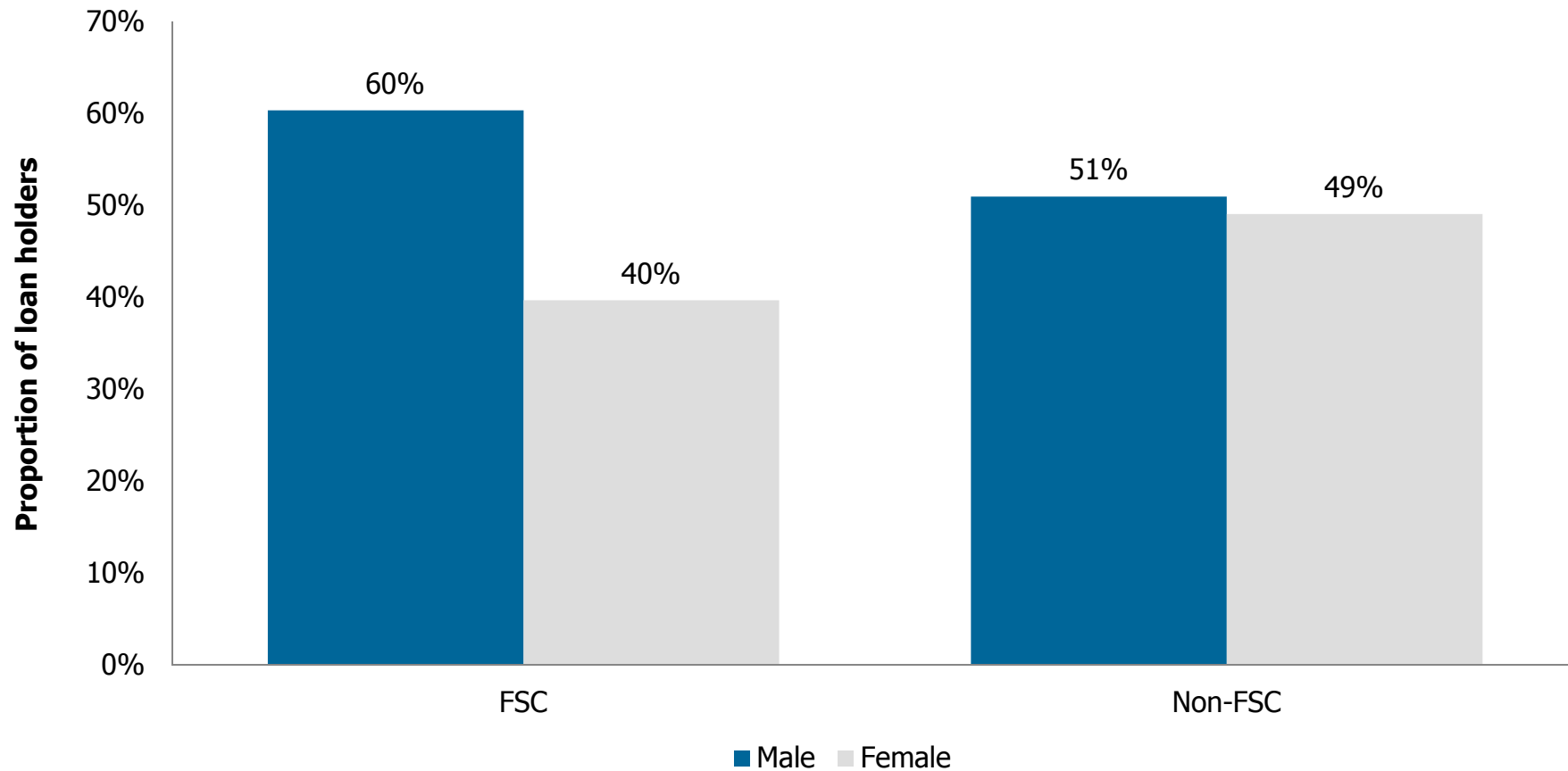
Source: Deeds office data sourced from the ALHDC, bureau data from XDS  
 Note: The loan to value is calculated for loans where there is an associated property purchase, the price is greater than R55,000 and the LTV is less than 1.5  
 Note: Affordable loans are calculated in the same way as FSC bonds



## FSC borrowers are more likely to be male

### Distribution of gender

(Bonds originated between 2004 and 2008 by the big four banks)



Source: Deeds office data sourced from the ALHDC, bureau data from XDS

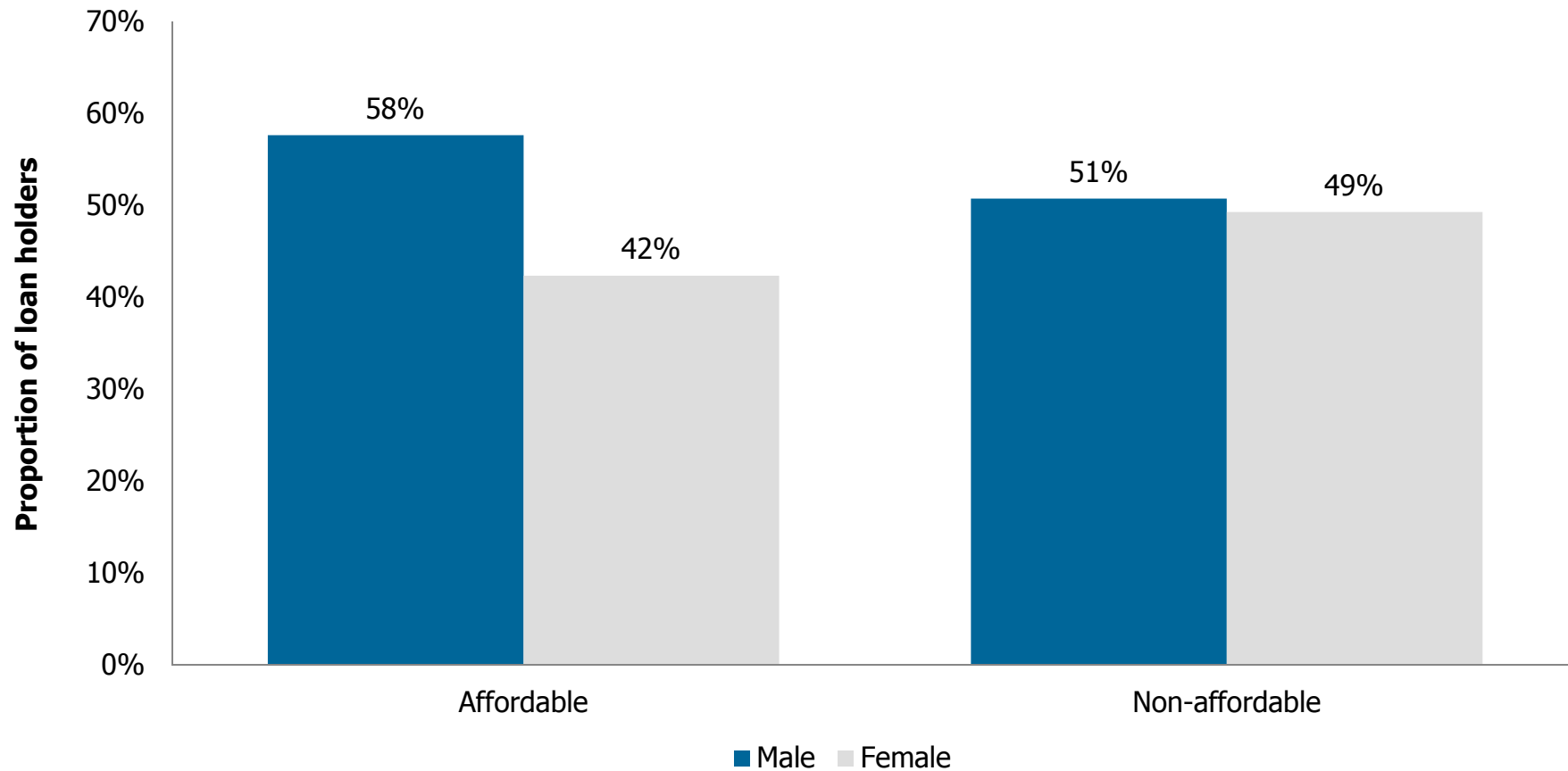




## The same is true for 'Affordable' borrowers

### Distribution of gender

(Bonds originated between 2009 and 2011 by the big four banks)



Source: Deeds office data sourced from the ALHDC, bureau data from XDS



# Agenda

Introduction

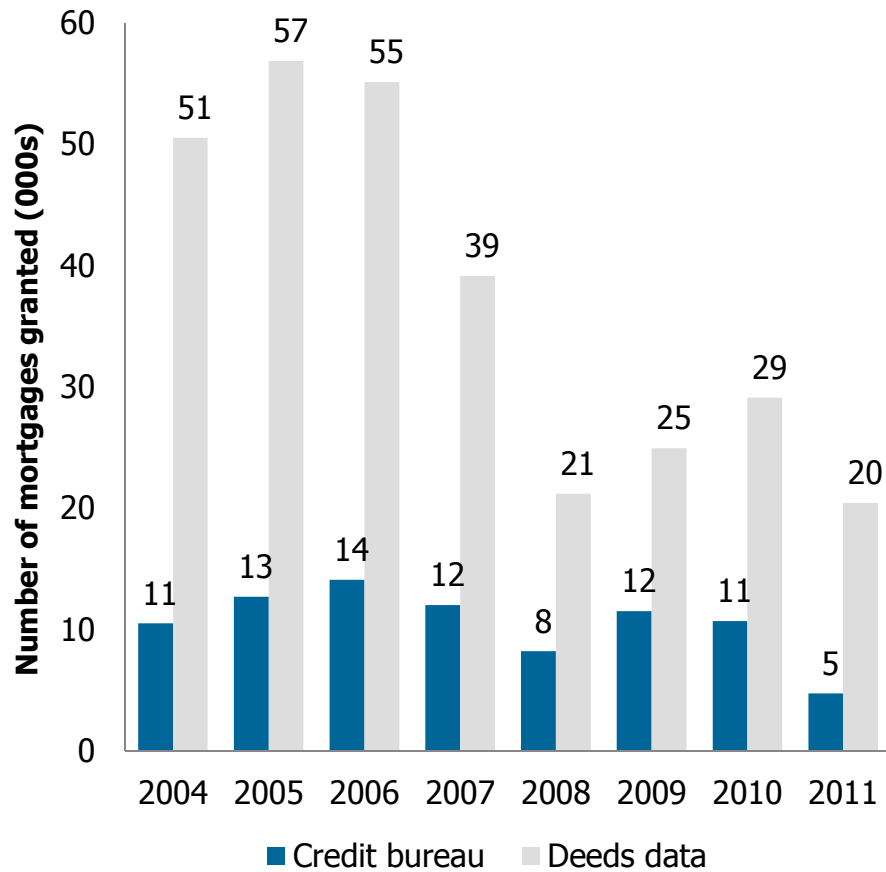
Portfolio overview

***Performance overview***

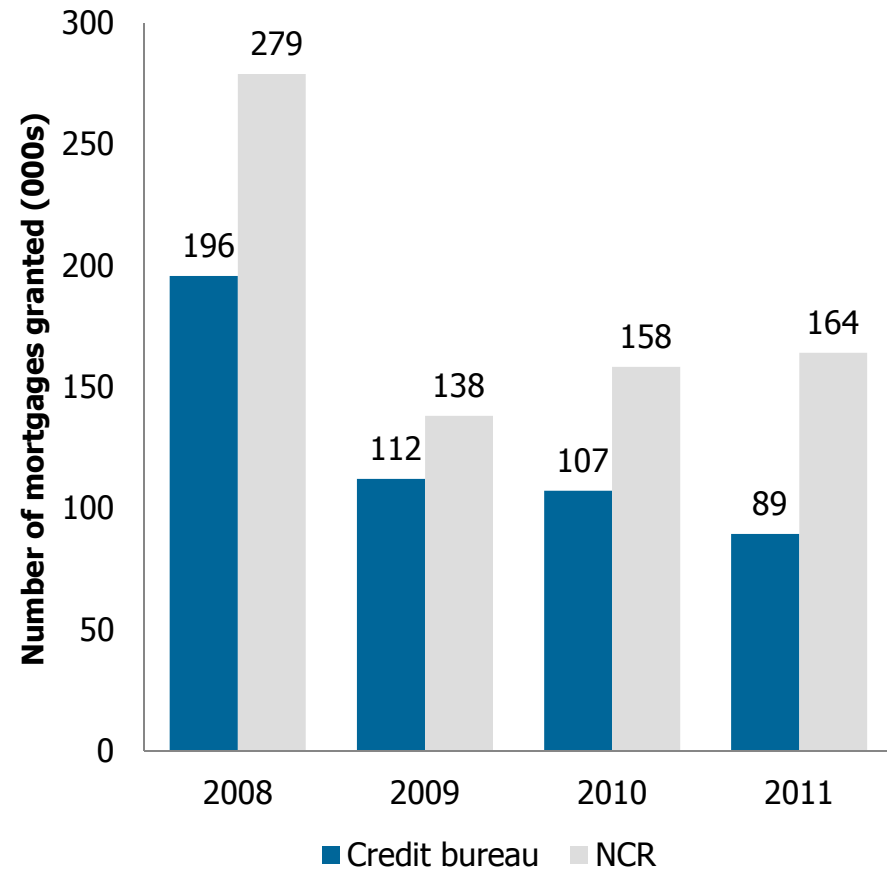
# Data from the deeds registry was used to identify borrower IDs. These IDs were then cross referenced against credit bureau data. The credit bureau has fewer loans than other data sources



**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)*

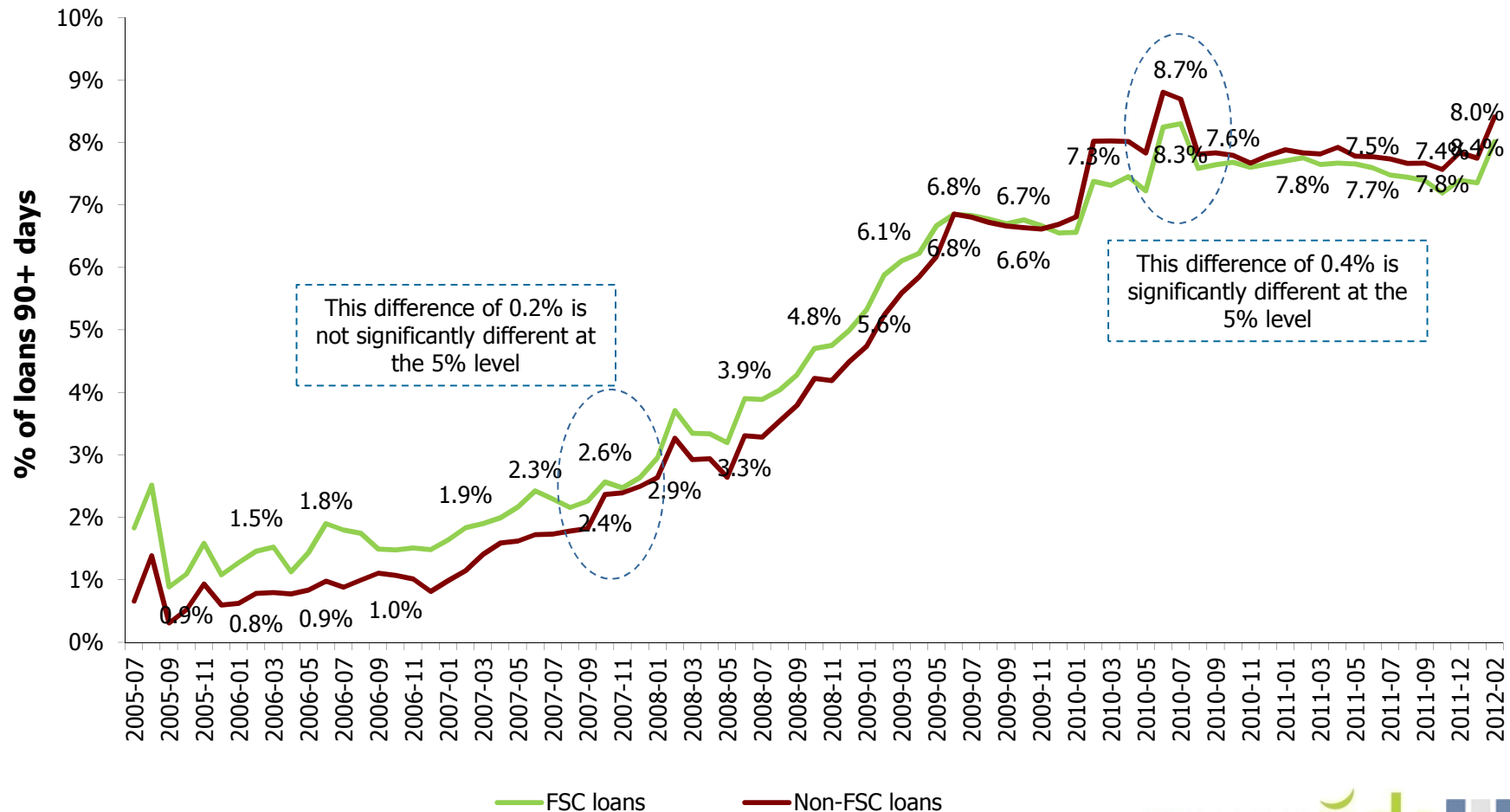


Source: Deeds office data sourced from the ALHDC , credit bureau data sourced from XDS, NCR  
 Note: Affordable Market data for 2011 only includes bonds up to September 2011

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 by the big four banks)*

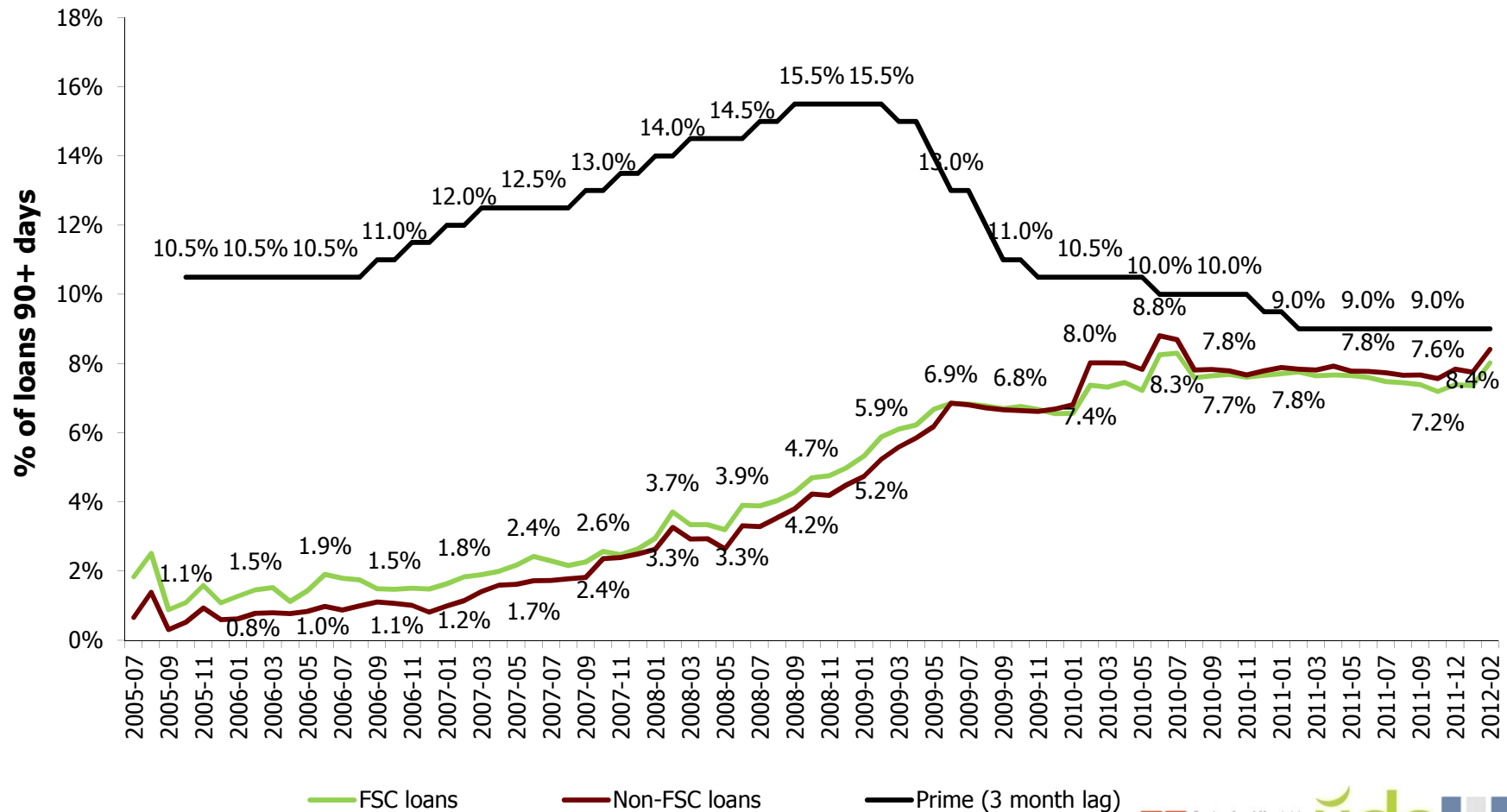


Source: Deeds office data sourced from the ALHDC, bureau data from XDS



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

**NPL by calendar date**  
*(Bonds originated between 2004 and 2008 by the big four banks)*

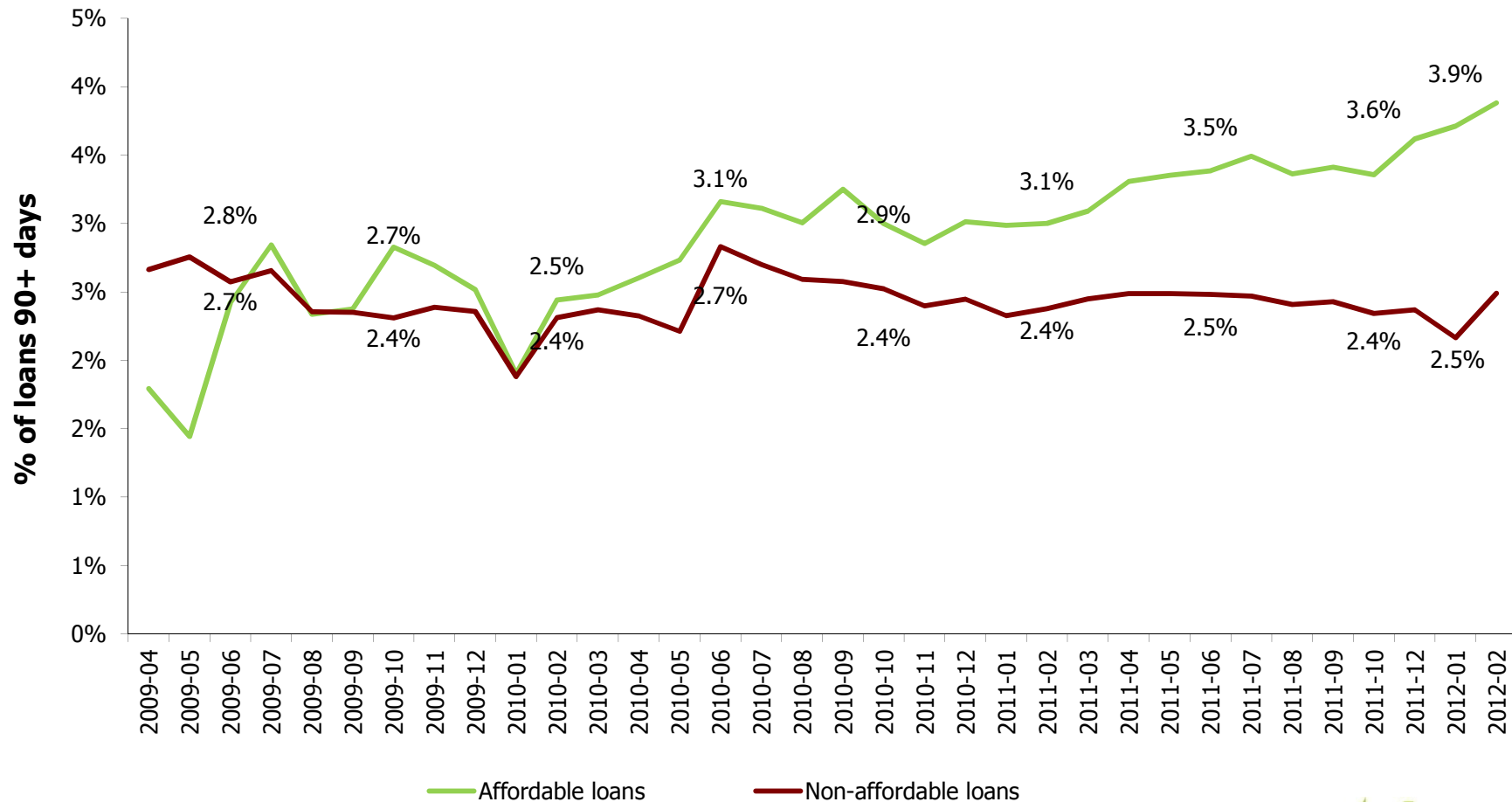


Source: Deeds office data sourced from the ALHDC, bureau data from XDS



# 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 by the big four banks)*

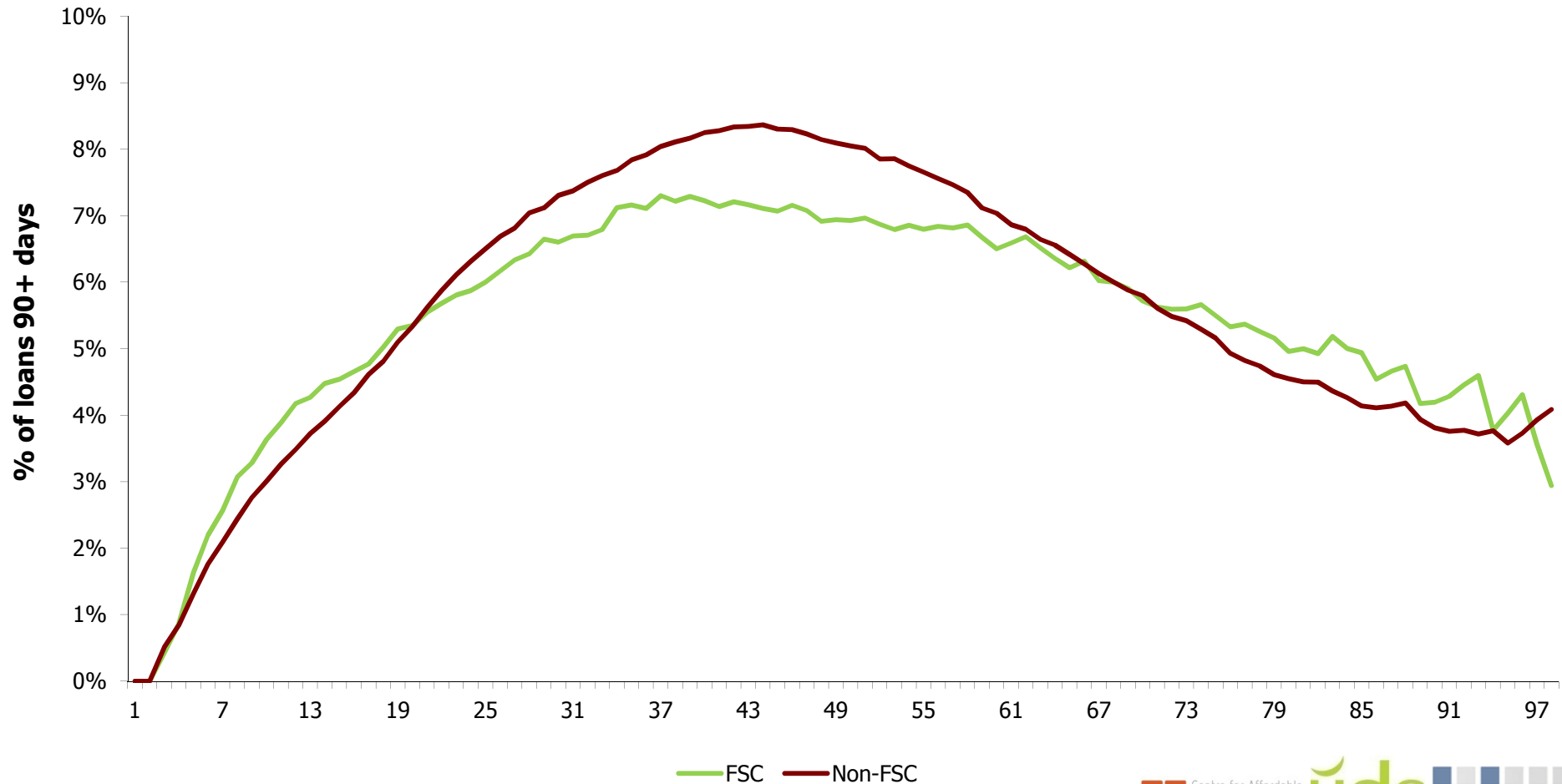


Source: Deeds office data sourced from the ALHDC, bureau data from XDS  
 Note: Affordable loans are calculated in the same way as FSC bonds



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

**NPL by months since inception**  
*(Bonds originated between 2004 and 2008 by the big four banks)*

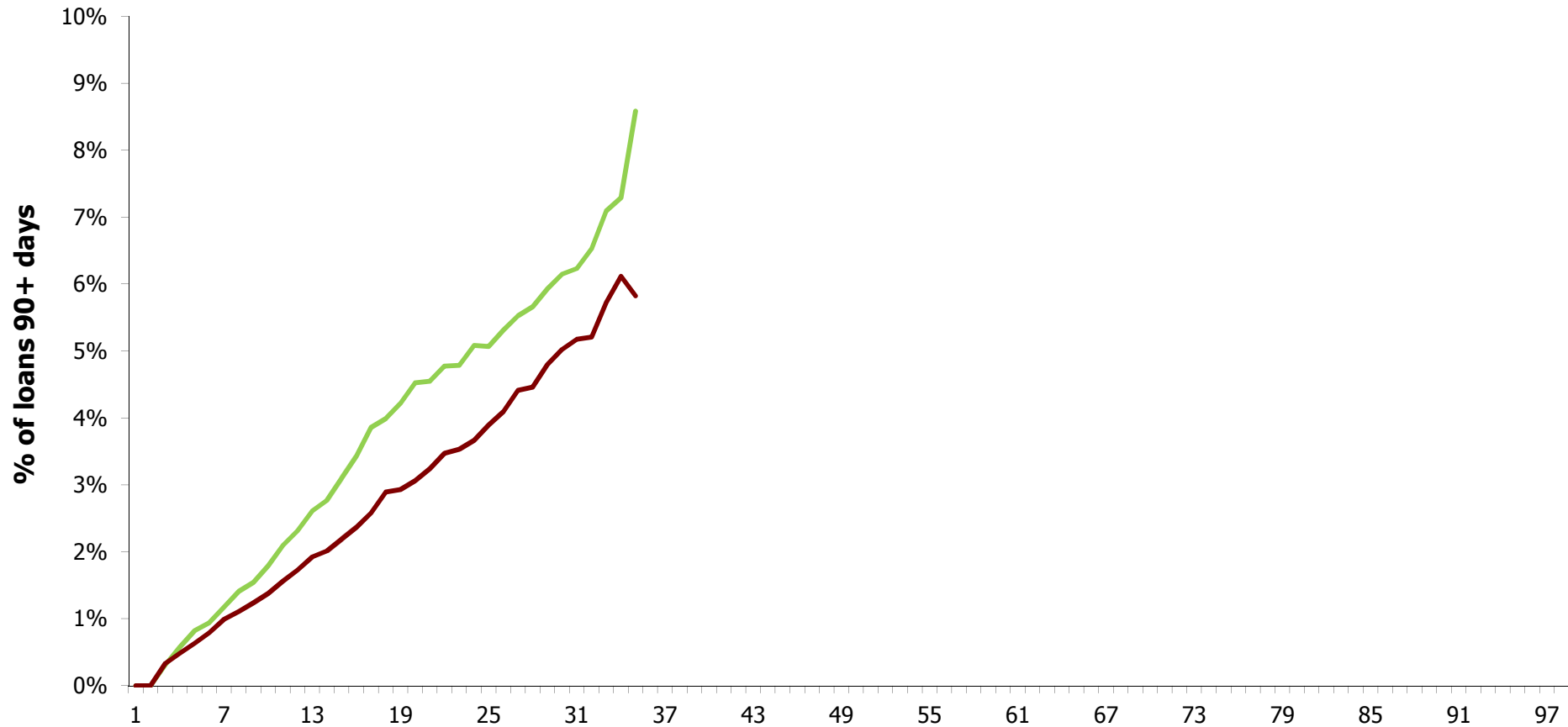


Source: Deeds office data sourced from the ALHDC, bureau data from XDS



# 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 by the big four banks)*



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

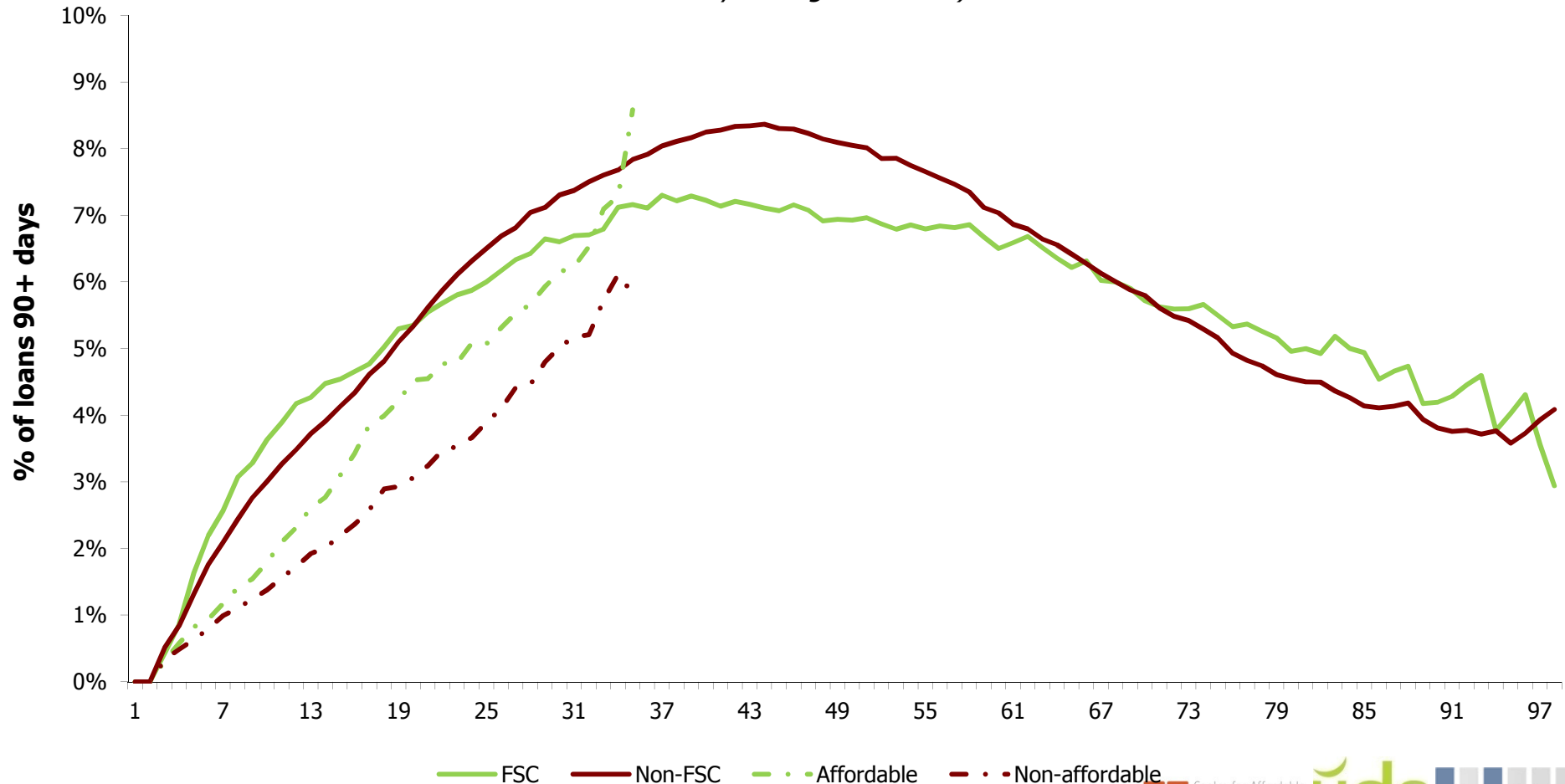




# During the early months, FSC loans performed worse than the Affordable loans

## NPL by months since inception

*(FSC bonds originated between 2004 and 2008, Affordable bonds originated between 2009 and 2011 by the big four banks)*

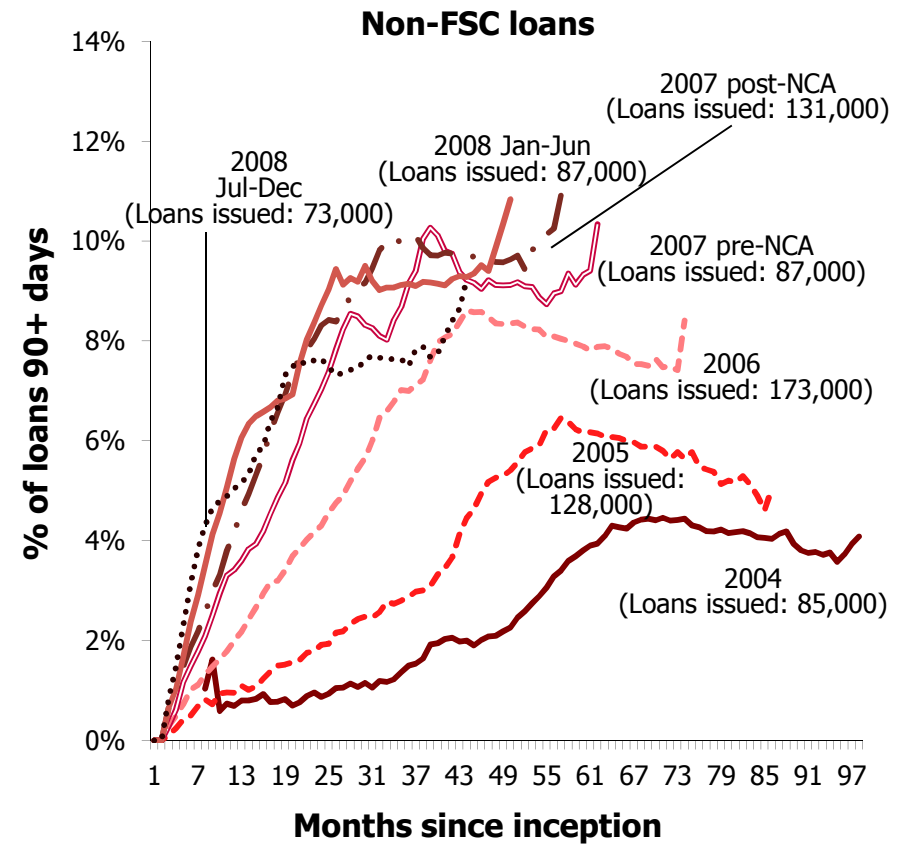
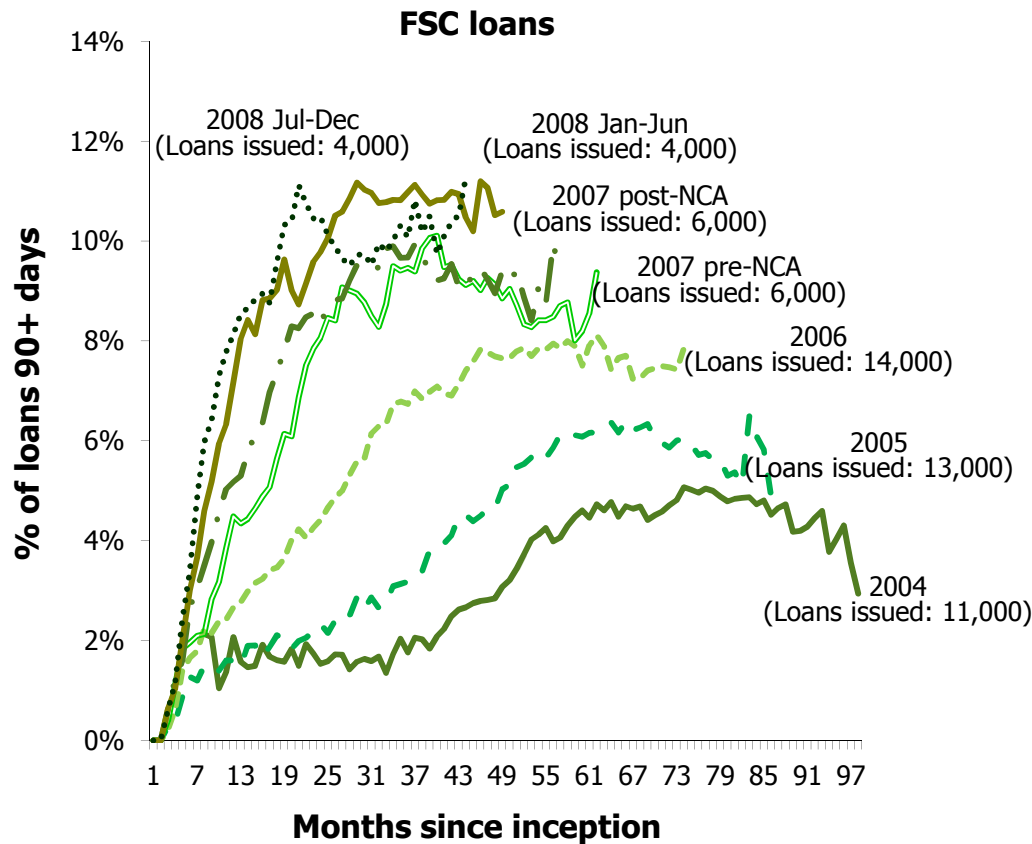


Source: Deeds office data sourced from the ALHDC, bureau data from XDS



# 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 by the big four banks)*



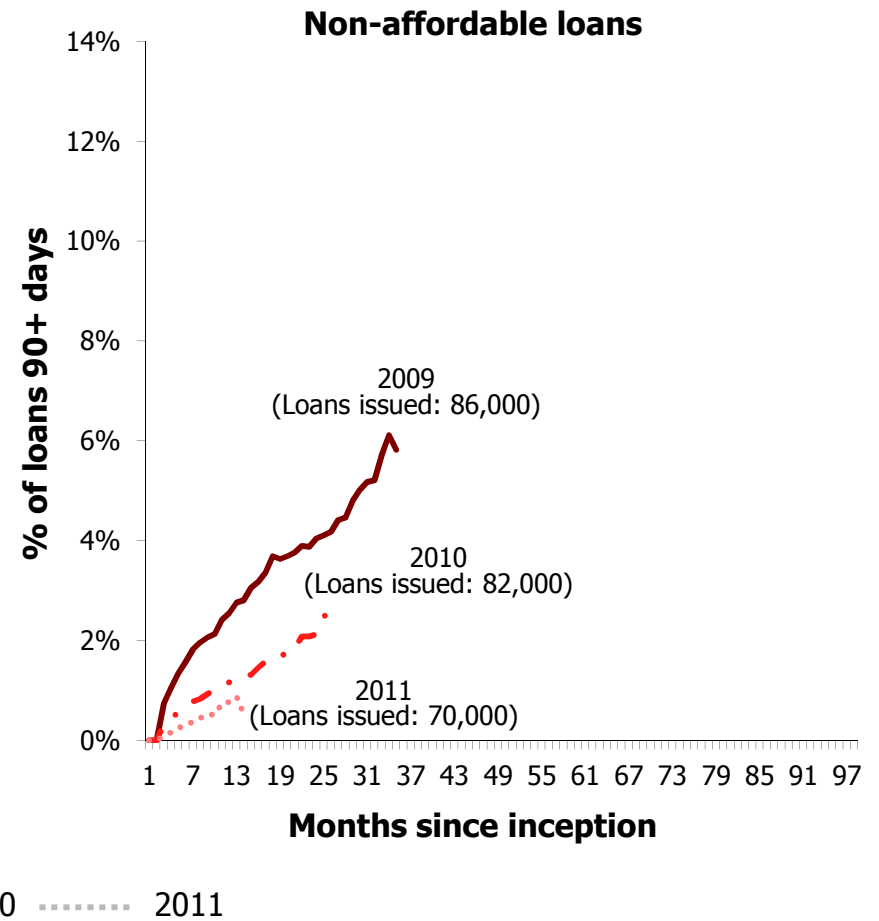
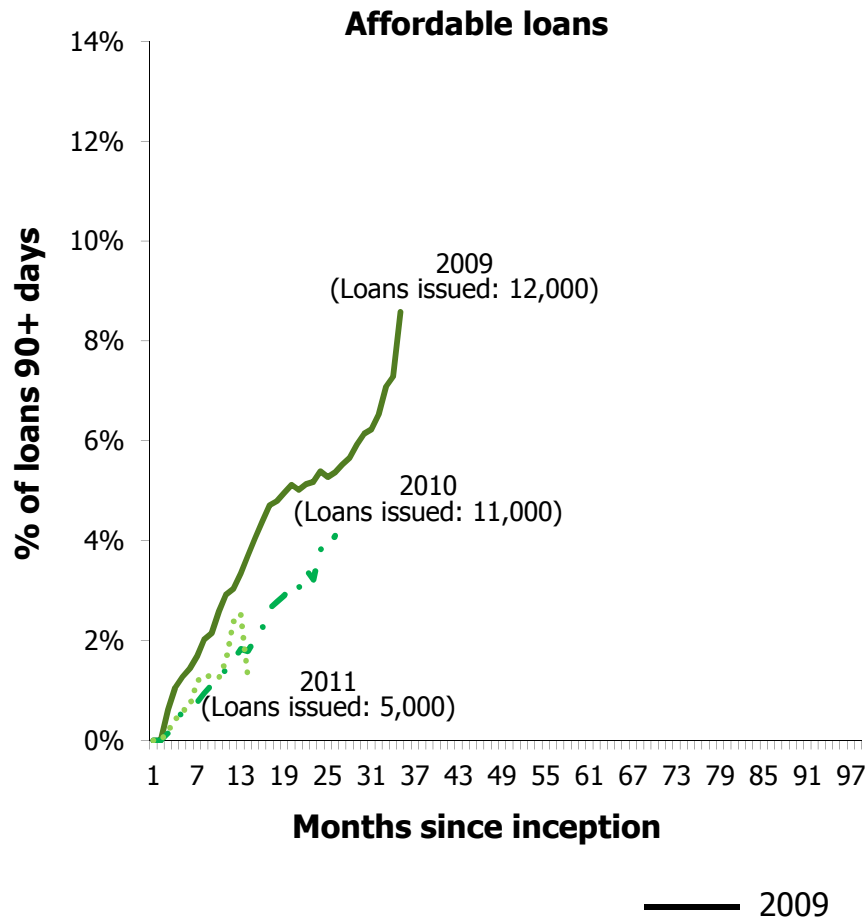
— 2004    - - - 2005    - - - - 2006    = = = 2007 pre-NCA  
 = = = 2007 post-NCA    ——— 2008 Jan-Jun    ..... 2008 Jul-Dec

Source: Deeds office data sourced from the ALHDC, bureau data from 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 by the big four banks)*



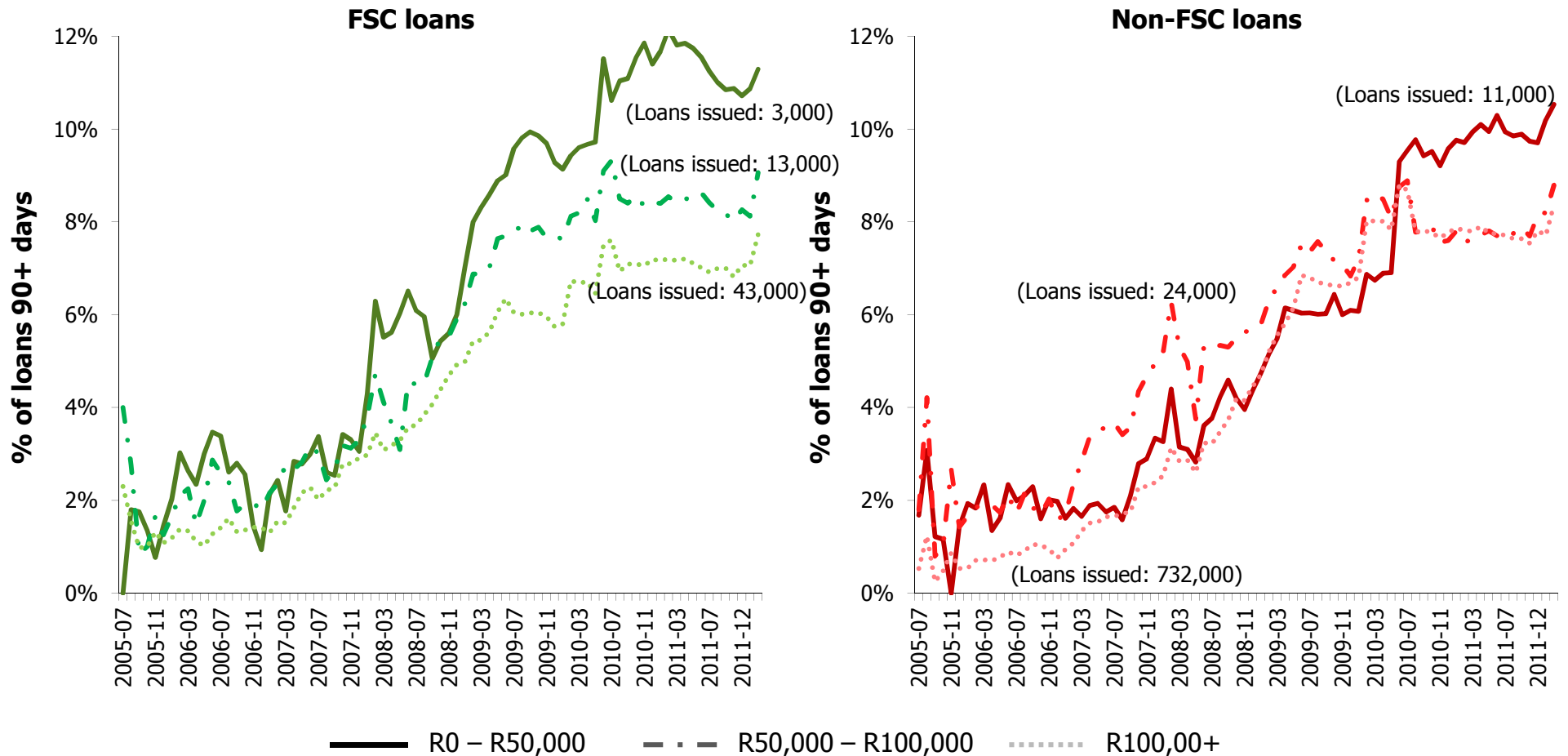
Source: Deeds office data sourced from the ALHDC, bureau data from XDS



**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 by the big four banks)*



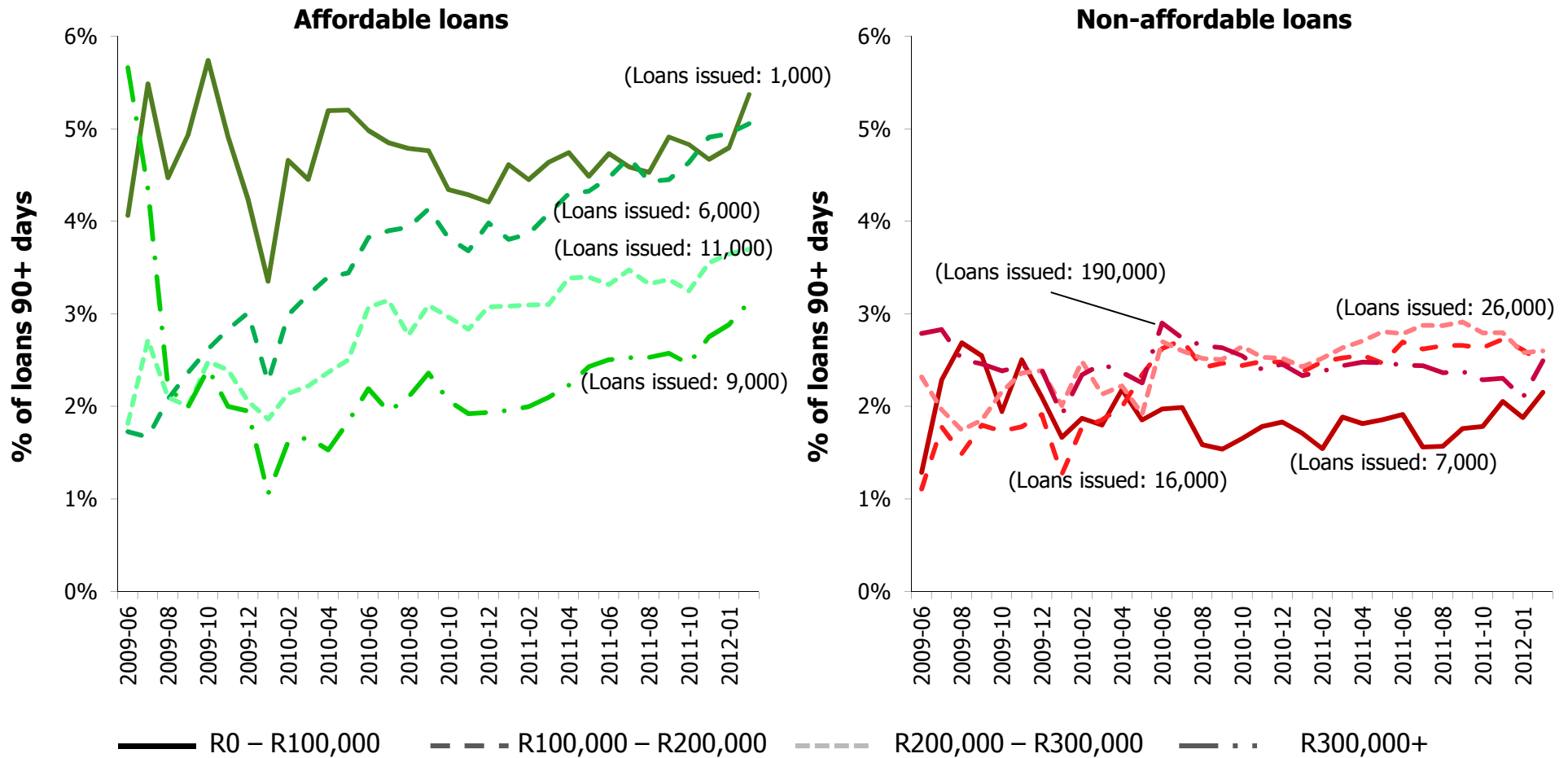
Source: Deeds office data sourced from the ALHDC, bureau data from XDS

**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 by the big four banks)*

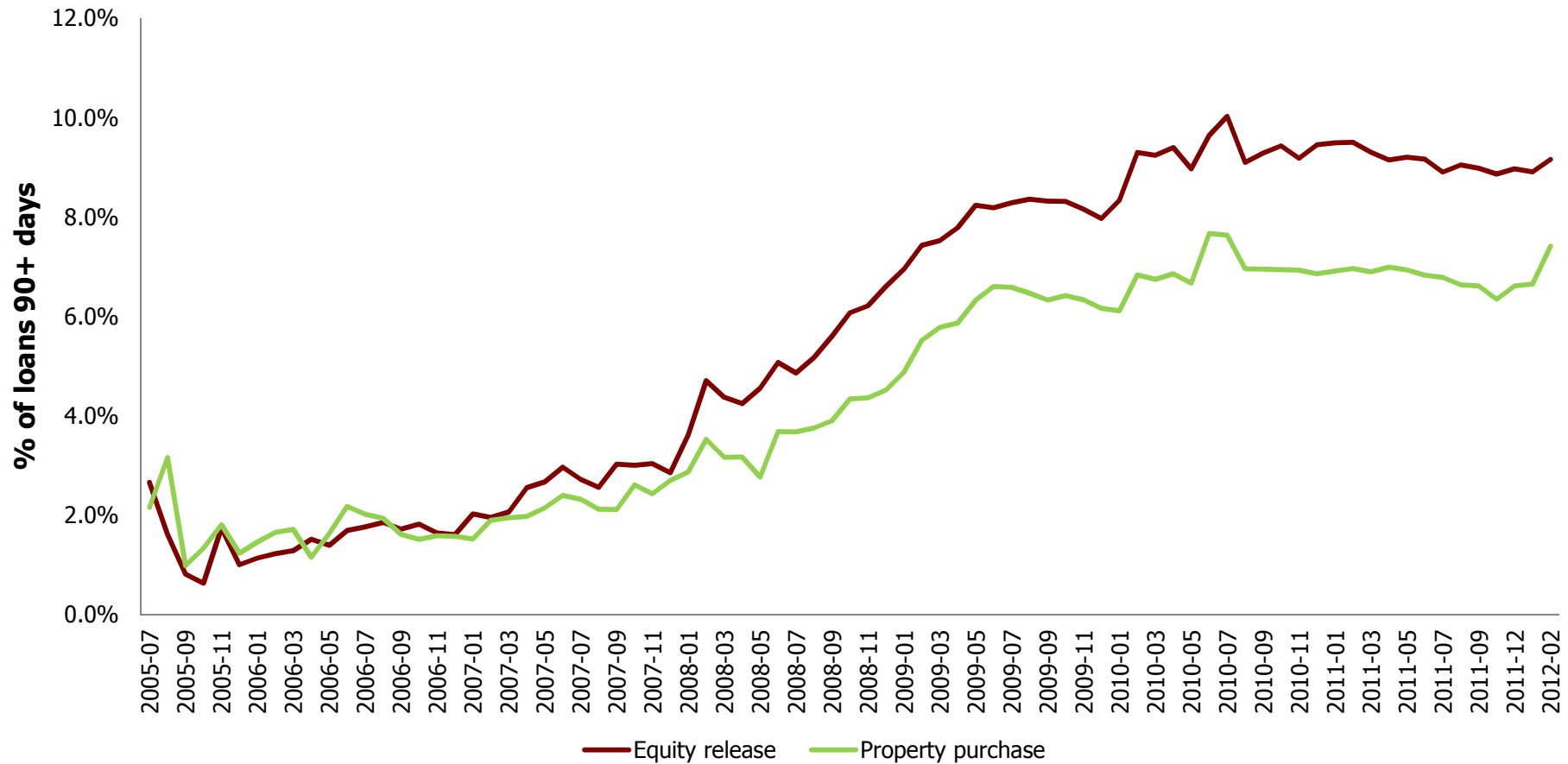


Source: Deeds office data sourced from the ALHDC, bureau data from XDS



# 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 by the big four banks, FSC loans)*



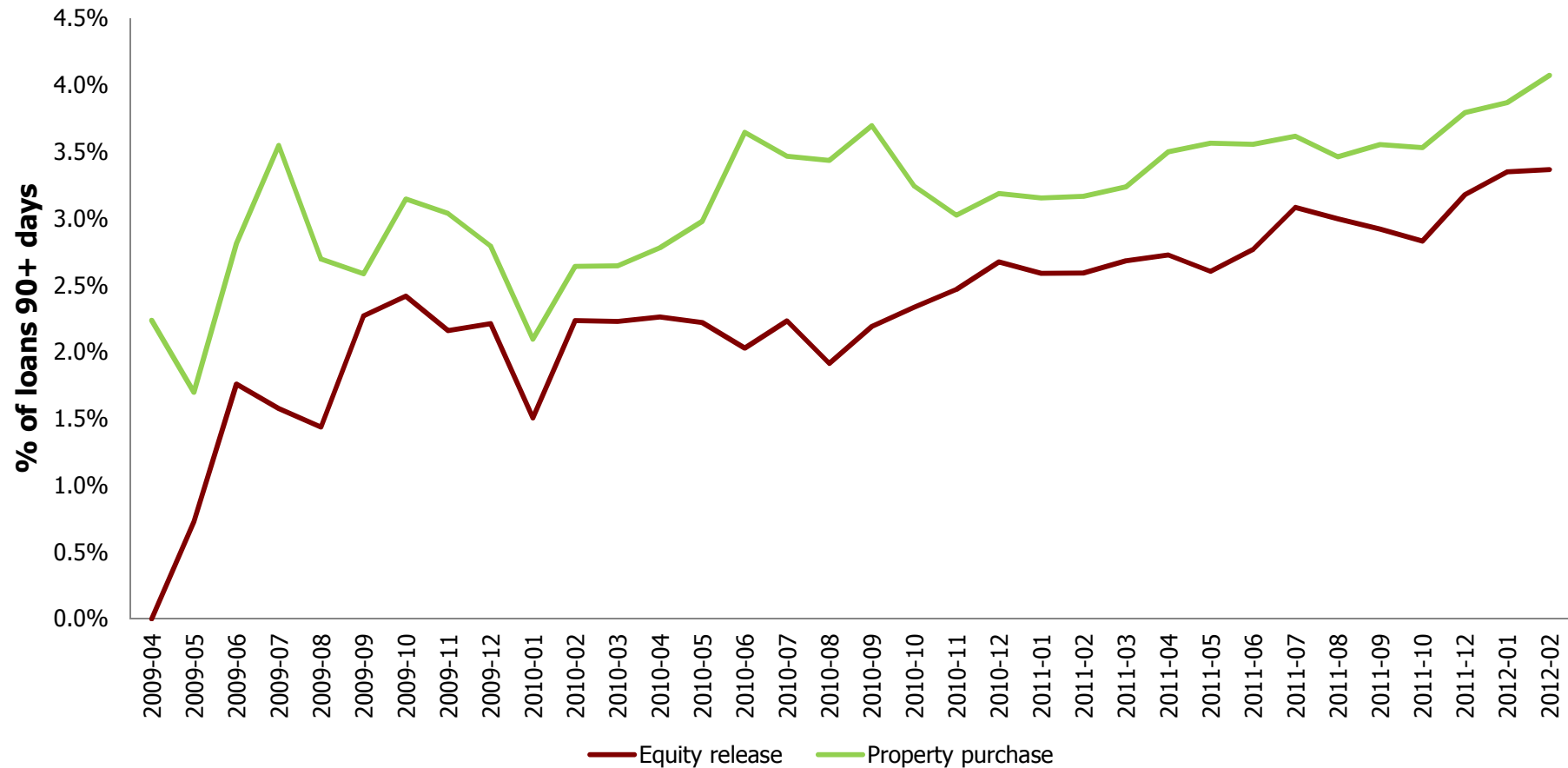
Source: Deeds office data sourced from the ALHDC, bureau data from XDS  
 \* The property is said to be purchased if the property registration date is the same as the bond registration date.



## This is reversed for affordable loans

### NPL by equity release/property purchase

(Bonds originated between 2009 and 2011 by the big four banks, Affordable loans)



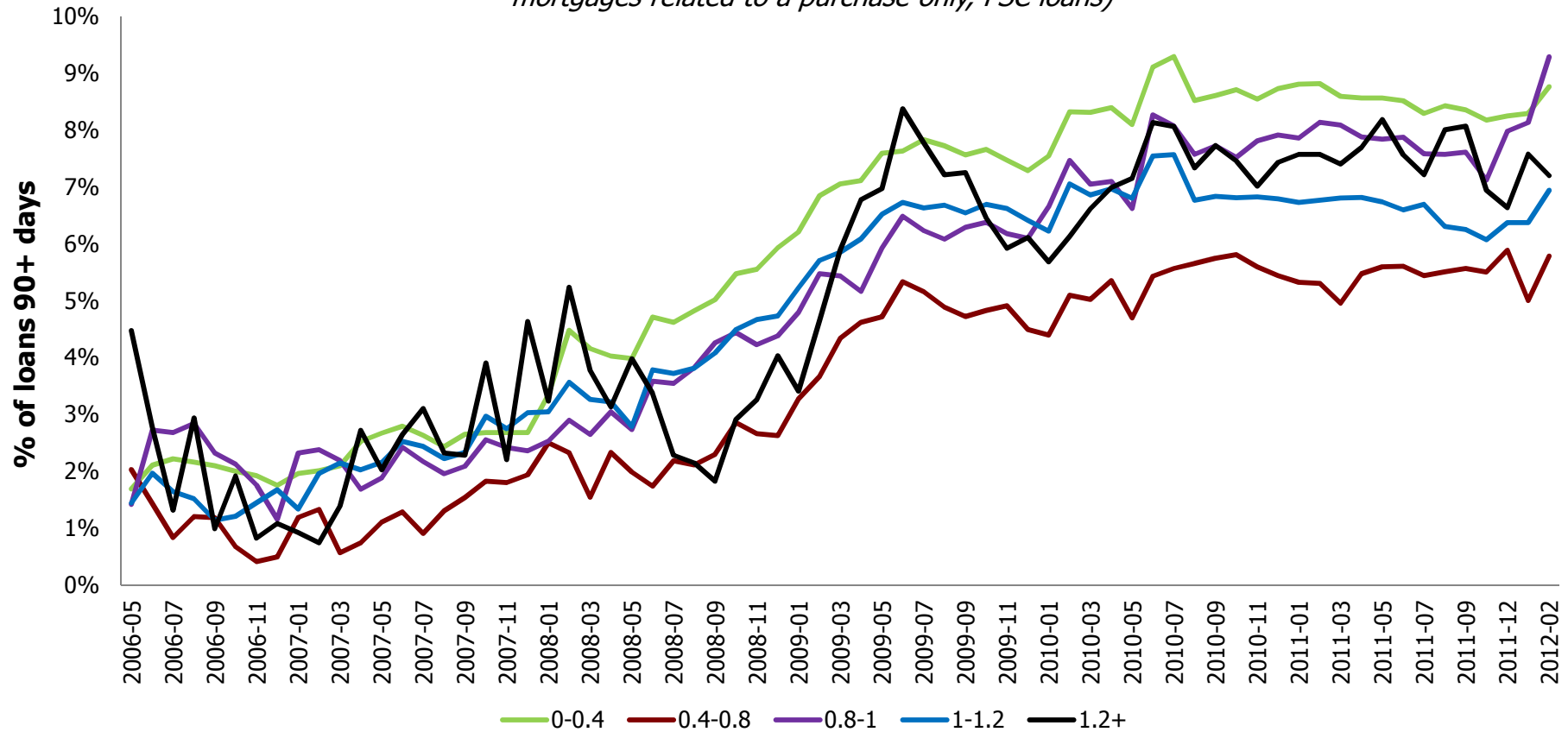
Source: Deeds office data sourced from the ALHDC, bureau data from XDS

\* The property is said to be purchased if the property registration date is the same as the bond registration date



# 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 by the big four banks, mortgages related to a purchase only, FSC loans)*



Source: Deeds office data sourced from the ALHDC, bureau data from 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

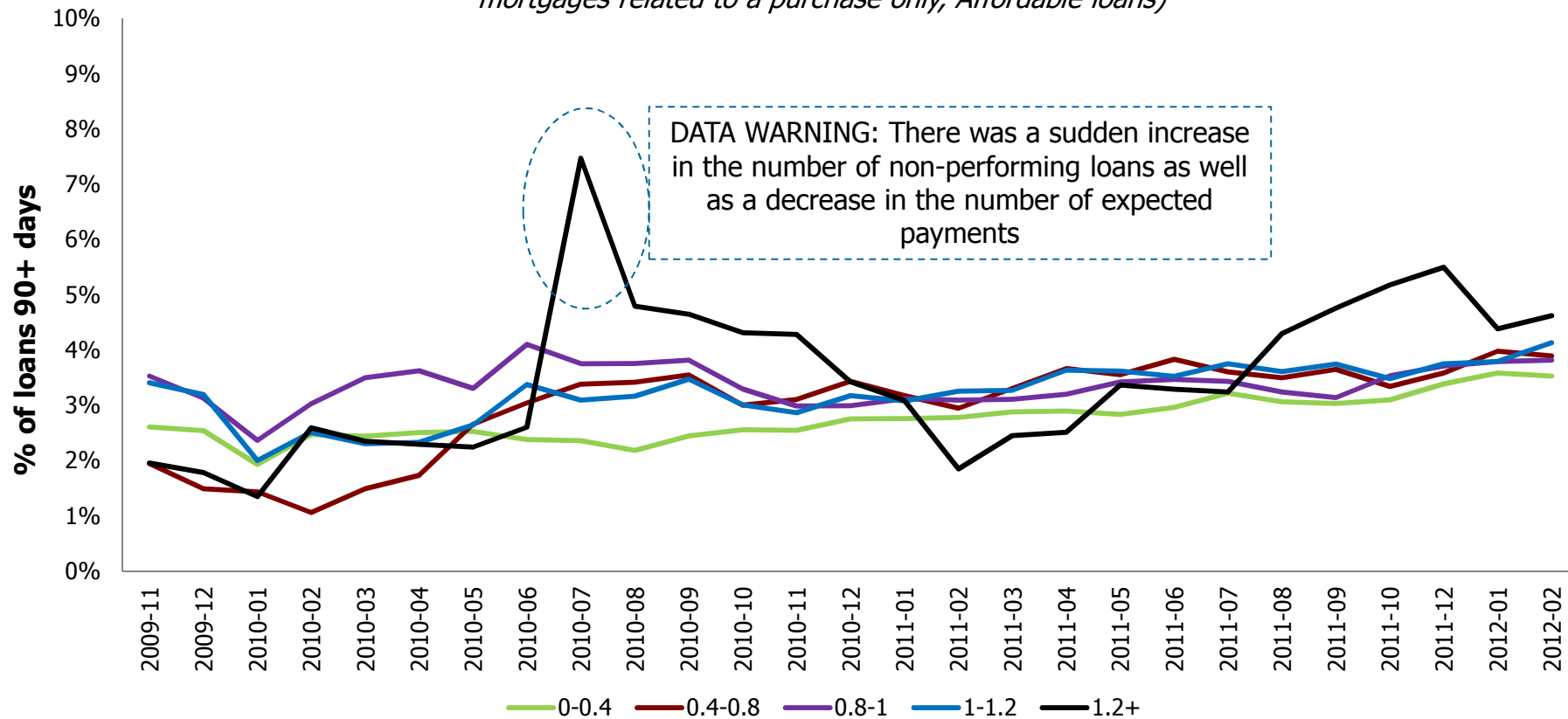




**For the Affordable book the very small loan to values tend to perform the best. Note there is some instability in the data**

**NPL by loan to value**

*(Bonds originated between 2009 and 2011 by the big four banks, mortgages related to a purchase only, Affordable loans)*

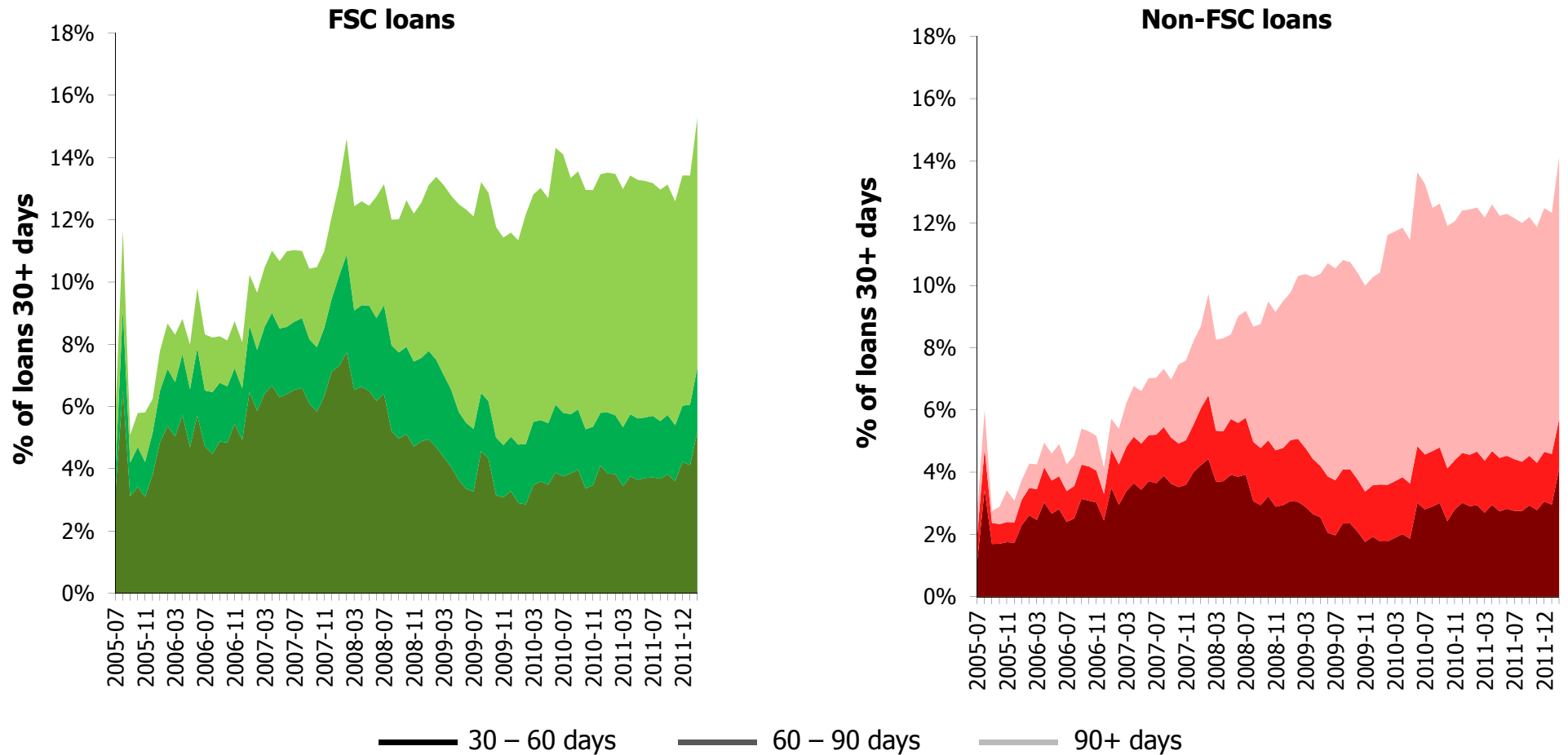


Source: Deeds office data sourced from the ALHDC, bureau data from XDS  
 Note: The loan to value can only be calculated for loans where there is an associated property purchase, the price is greater than R55,000 and the LTV is less than 1.5  
 Note: Affordable loans are calculated in the same way as 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 by the big four banks)*

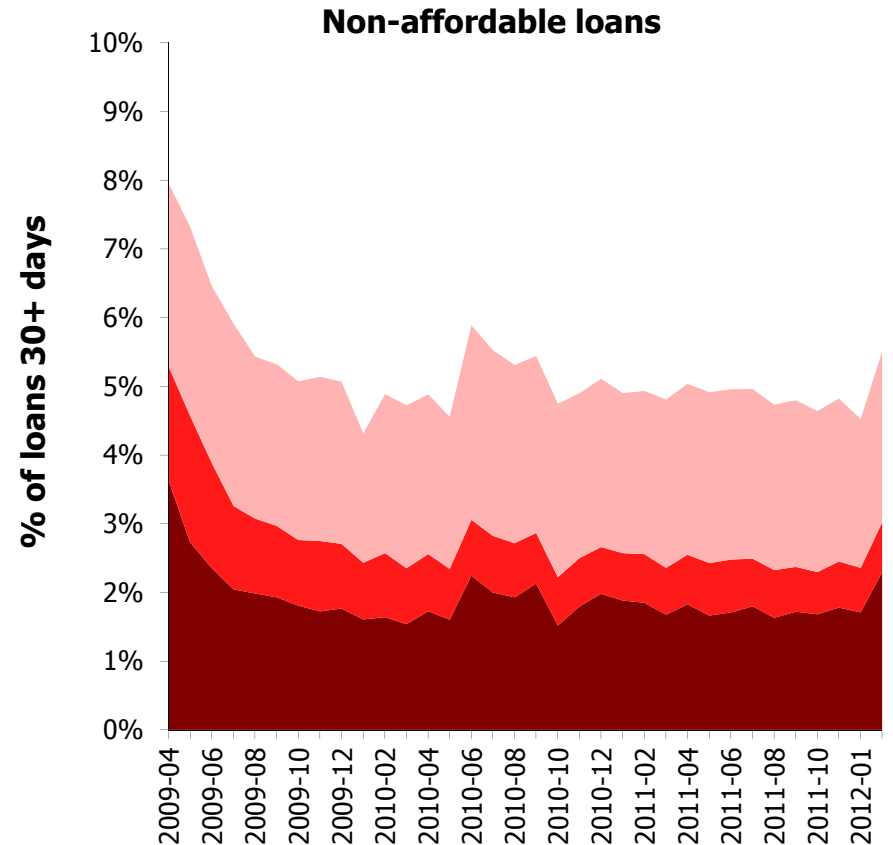
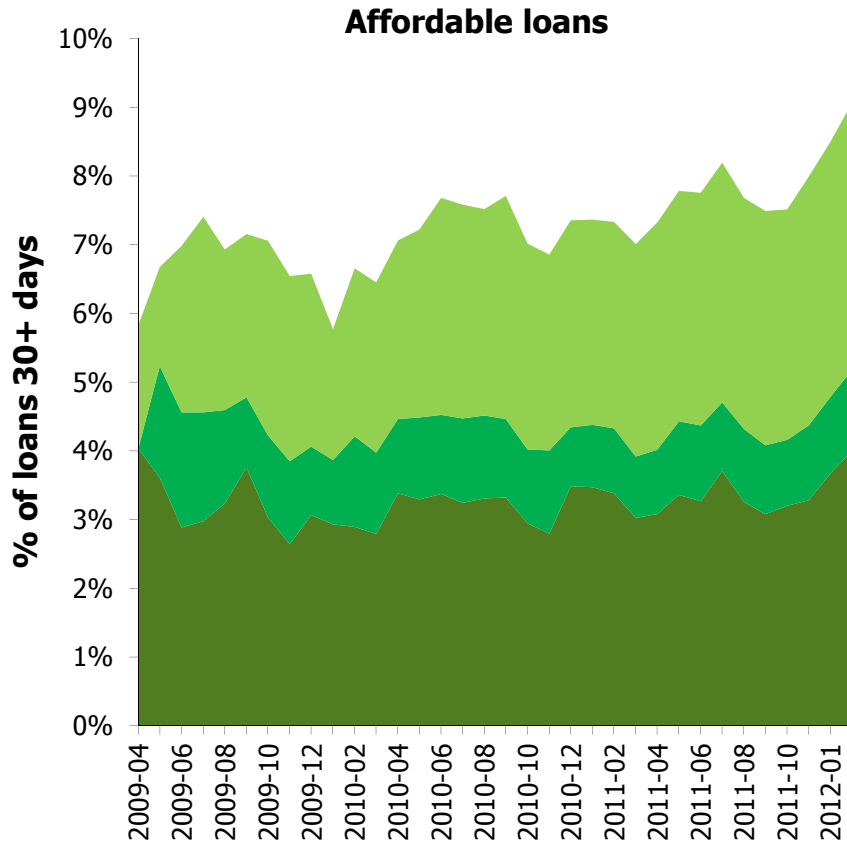


Source: Deeds office data sourced from the ALHDC, bureau data from XDS



# This may also be true for Affordable loans

**Aging analysis over time (cumulative)**  
*(Bonds originated between 2009 and 2011 by the big four banks)*



30 – 60 days    
  60 – 90 days    
  90+ days

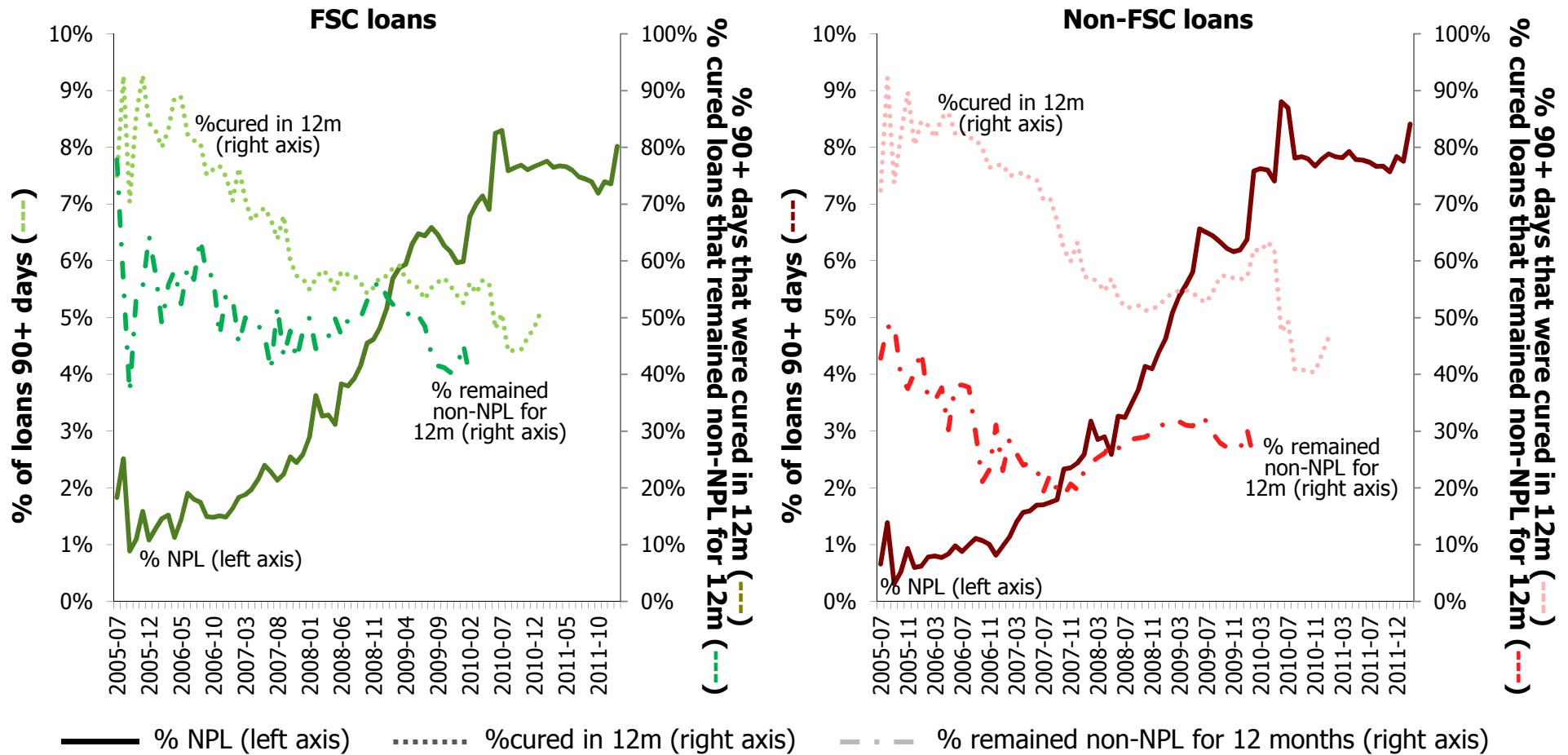
Source: Deeds office data sourced from the ALHDC, bureau data from XDS

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 by the big four banks)



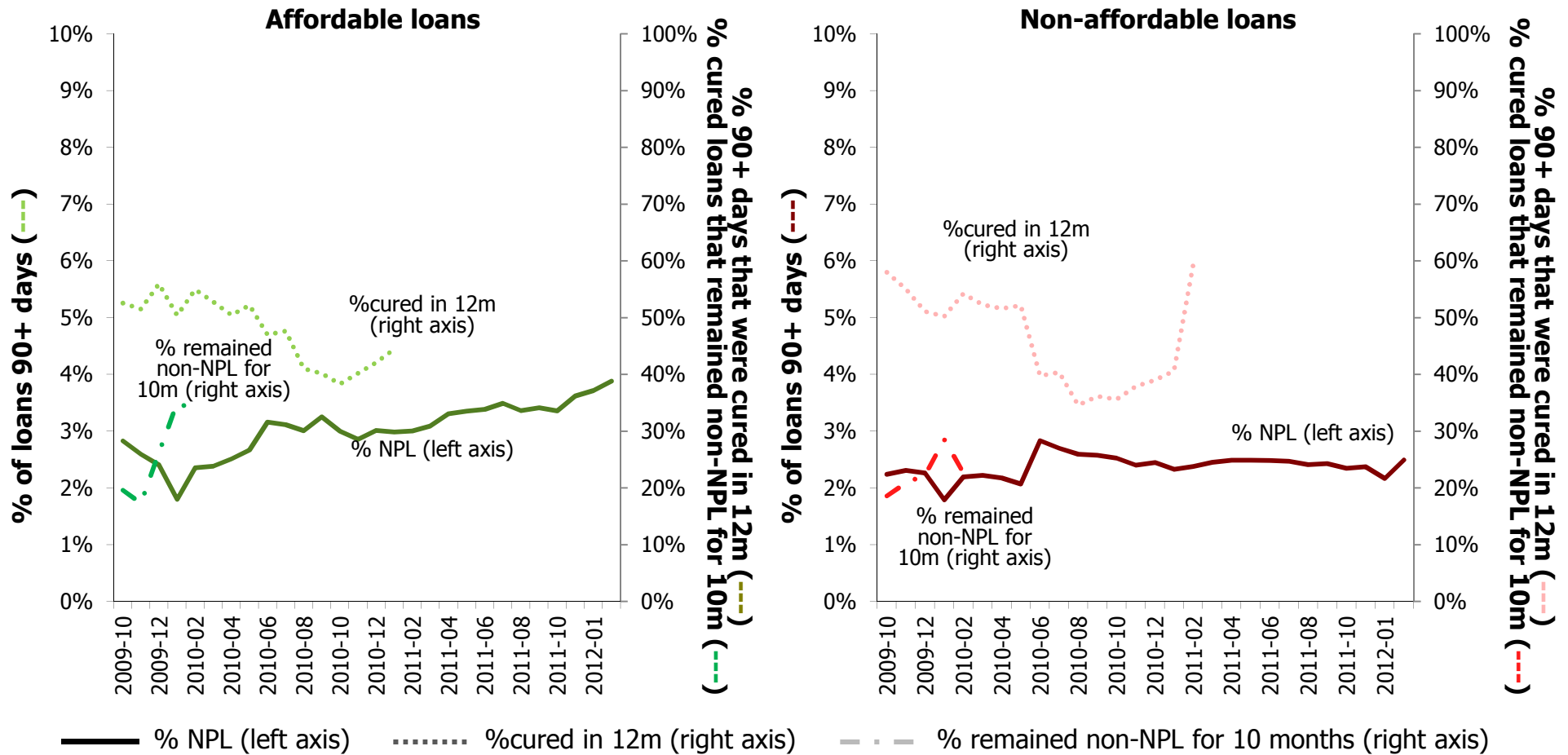
Source: Deeds office data sourced from the ALHDC, bureau data from XDS



# We have begun to track this for Affordable loans

## Cure rates

(Bonds originated between 2009 and 2011 by the big four banks)



Source: Deeds office data sourced from the ALHDC, bureau data from XDS



The analysis also explored performance by area. This varies significantly

**NPL by suburb: 10 worst performing areas**  
(Bonds originated between 2004 and 2008 by the big four 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)	
<b>FSC loans</b>	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)
<b>Non-FSC loans</b>	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, bureau data from 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 by the big four banks)*

	2009	2010	2011	
	% NPL (Number of loans)	% NPL (Number of loans)	% NPL (Number of loans)	
<b>Affordable loans</b>	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)
	Khayelitsha	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)
<b>Non-affordable loans</b>	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, bureau data from XDS  
 Note: Only areas with at least 50 loans in each year are included



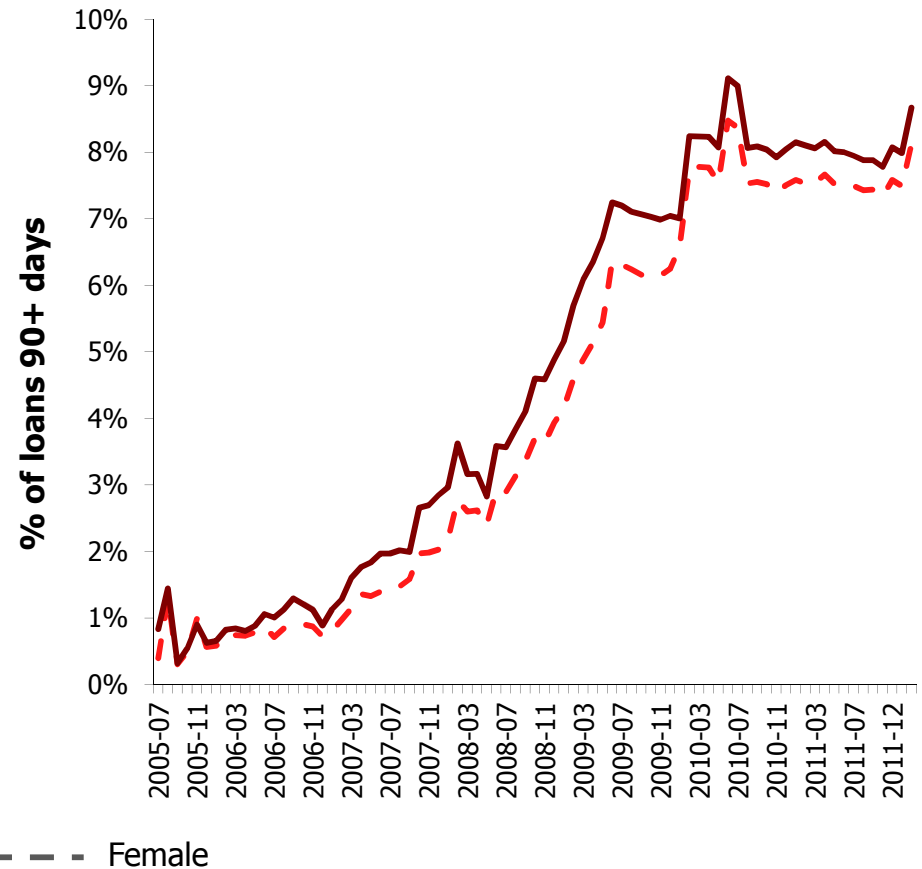
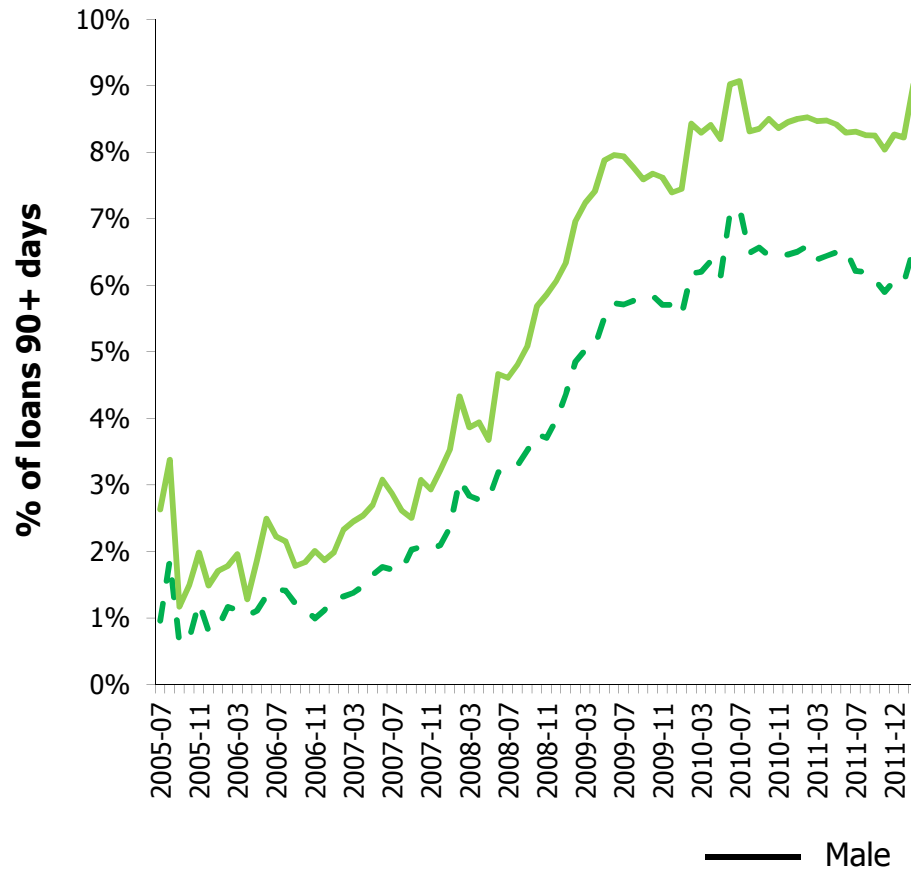
# We can segment the loans by a range of dimension to explore how the probability of default differs across segments

## NPLs by gender

(Bonds originated between 2004 and 2008 by the big four banks)

FSC loans

Non-FSC loans



Source: Deeds office data sourced from the ALHDC, bureau data from XDS





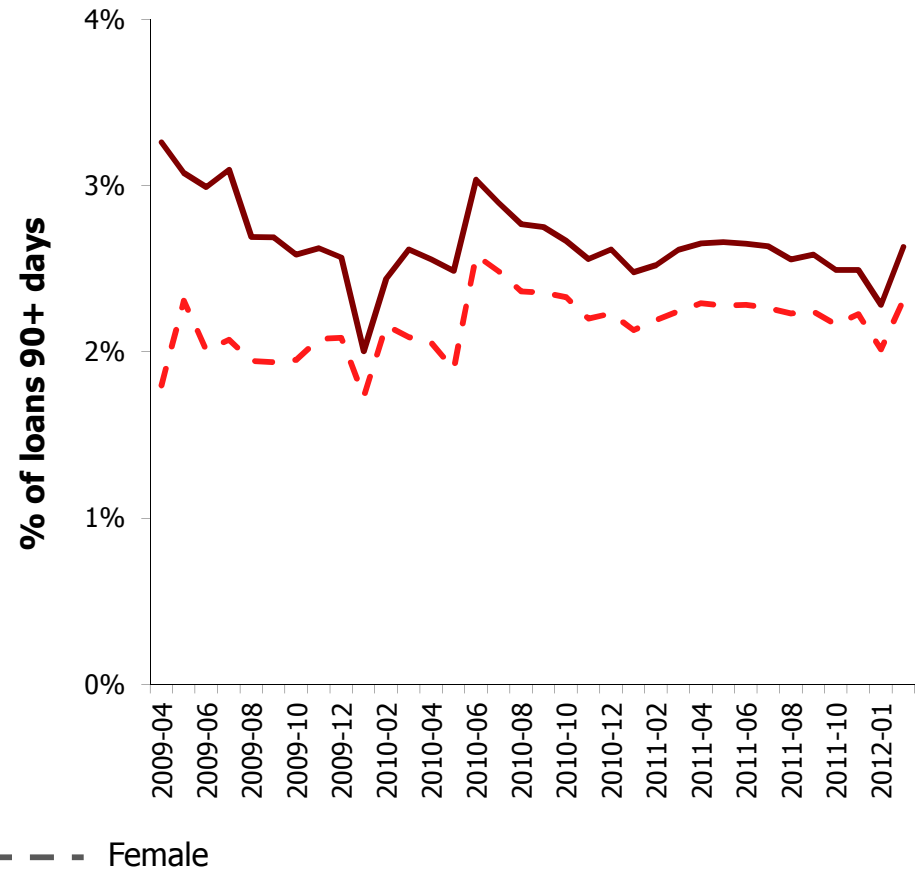
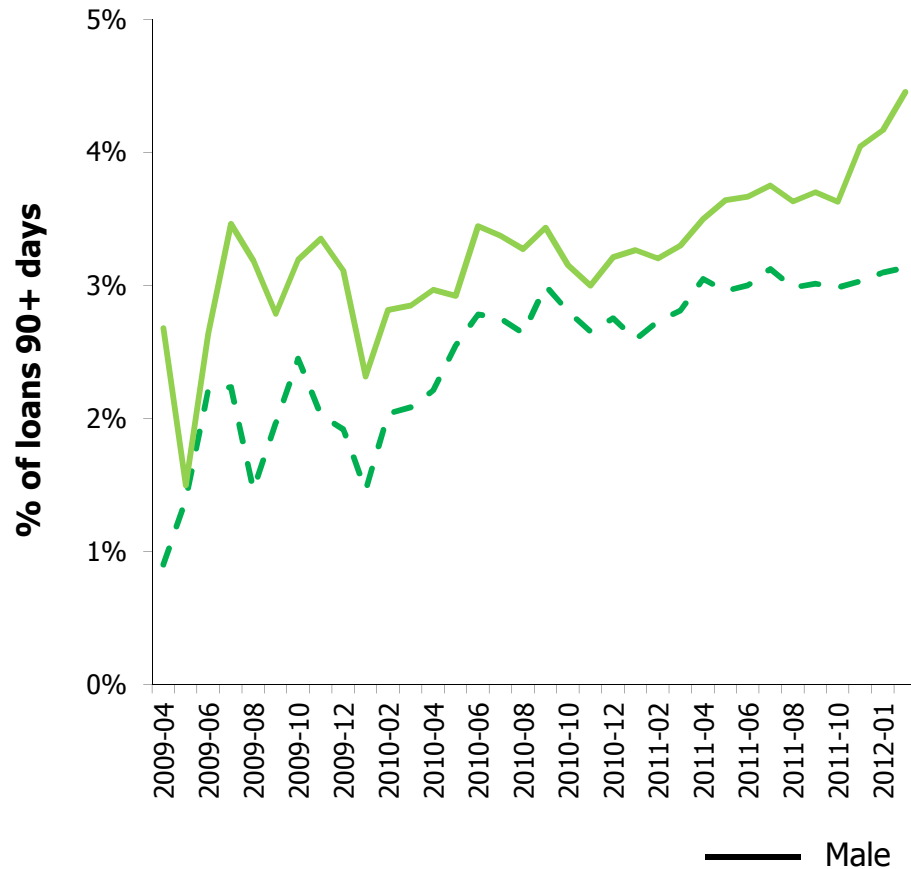
# We can segment the loans by a range of dimension to explore how the probability of default differs across segments

## NPLs by gender

(Bonds originated between 2009 and 2011 by the big four banks)

**Affordable loans**

**Non-affordable loans**

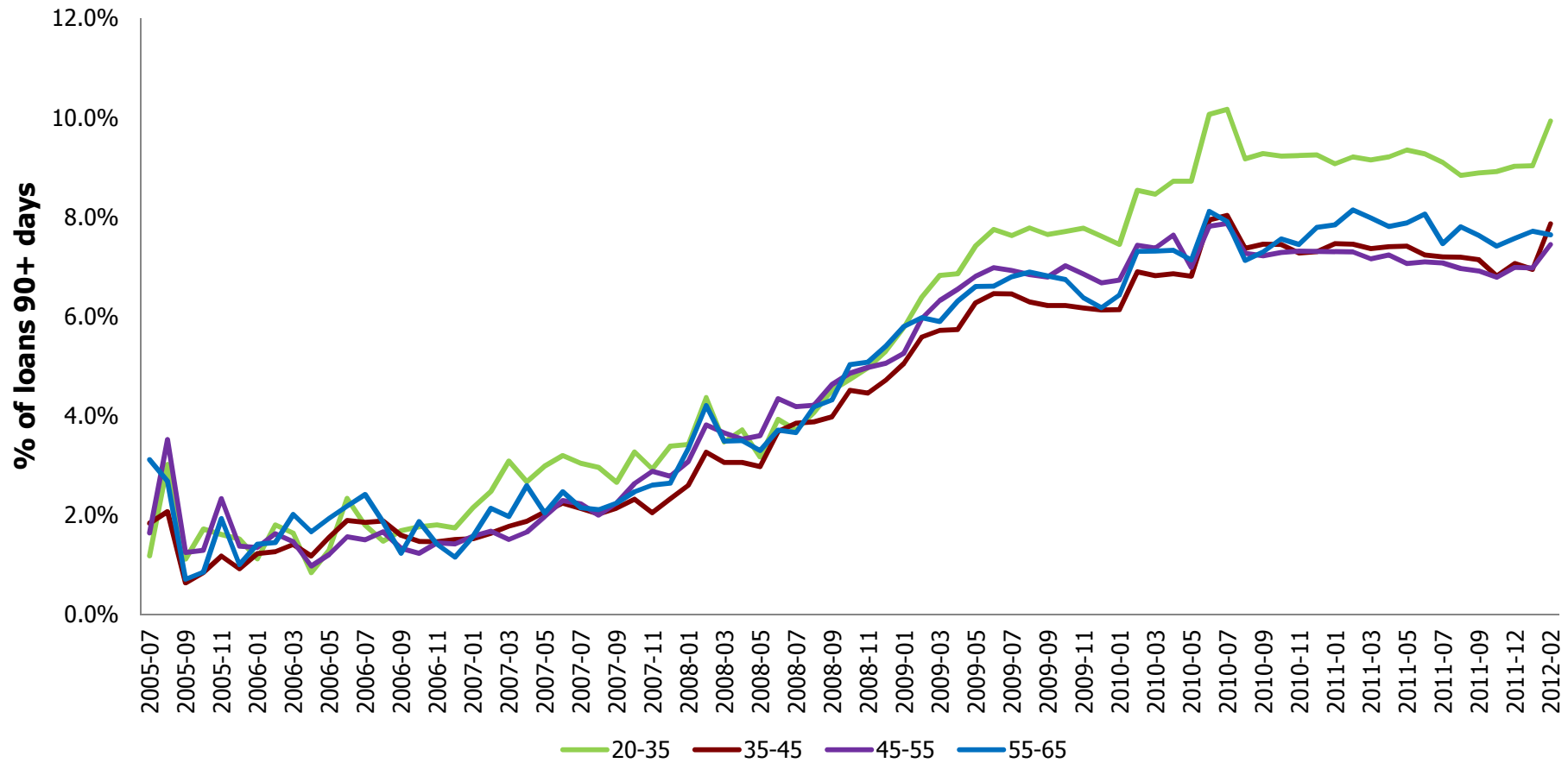


Source: Deeds office data sourced from the ALHDC, bureau data from XDS



# Generally, younger borrowers have worse performing loans

**NPL by age of borrower**  
*(Bonds originated between 2004 and 2008 by the big four banks, FSC loans)*

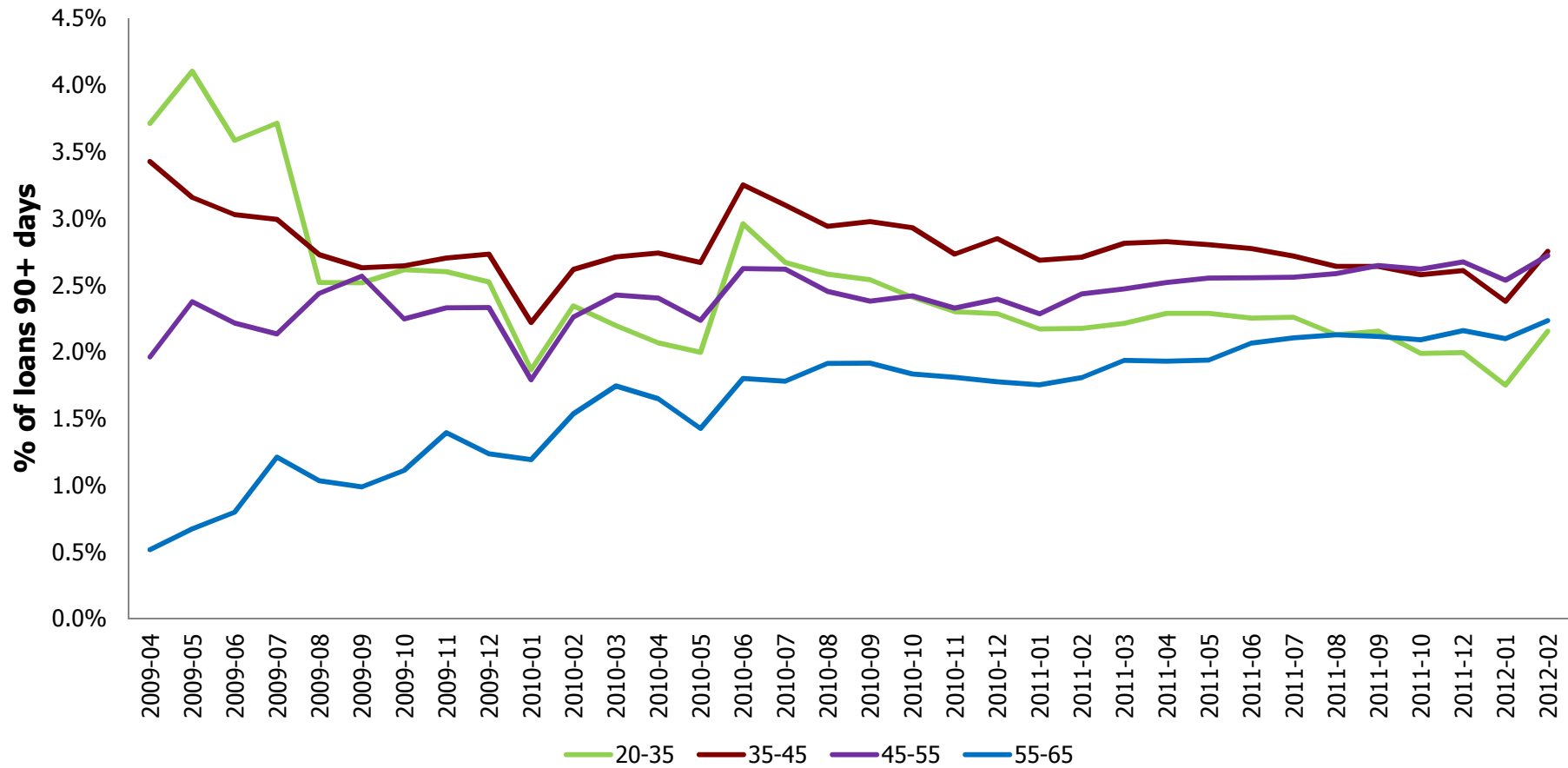


Source: Deeds office data sourced from the ALHDC, bureau data from XDS



# This is not mirrored with affordable loans

**NPL by age of borrower**  
*(Bonds originated between 2009 and 2011 by the big four banks, Affordable loans)*



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