

Mortgage performance initial findings for comment




Prepared for CAHF and the NHFC with support from The FinMark Trust

 Centre for Affordable Housing Finance in Africa
 NHFC
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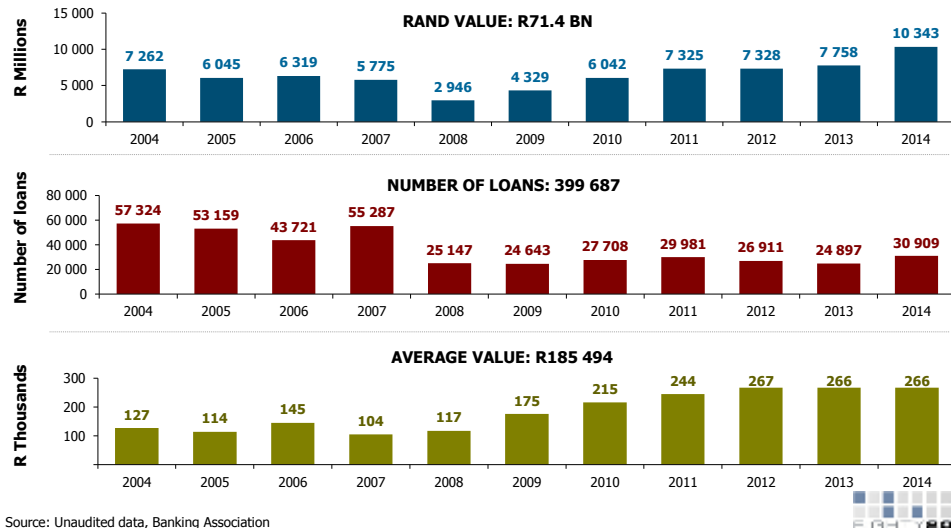
Agenda

- Introduction**
- Loan level performance
- Borrower characteristics
- Conclusion



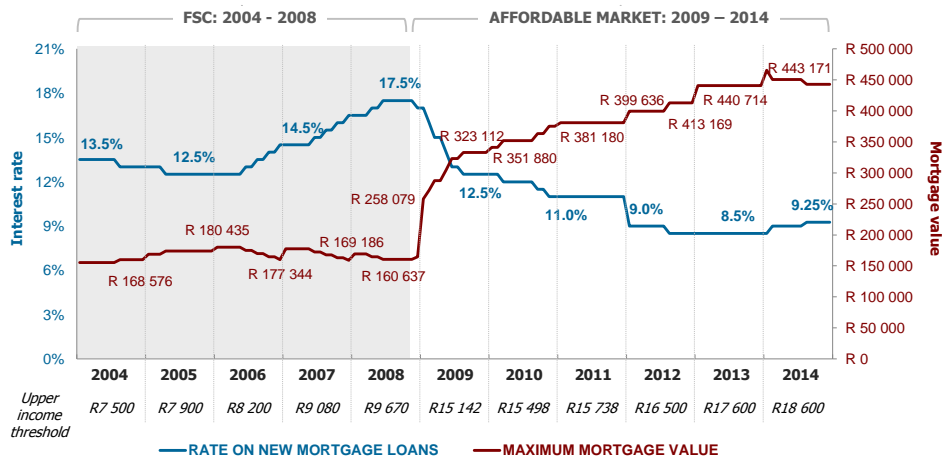
BASA reports on mortgage origination in the FSC / Affordable Target Market for the big four banks. What about performance?

FSC MORTGAGE ORIGINATION: 2004 – 2014



A key challenge is identifying FSC or so-called 'Affordable Market' mortgages. We can define the market, in part, by the size of the mortgage

DOMINANT RATE ON NEW MORTGAGES 2004 – 2014 (Maximum mortgage value)



Note: The maximum mortgage value is determined using a 100%, 20 year mortgage at Prime plus 2% and 25% of household income

The analysis is based on deeds data and detailed payment data reported by lenders to the CPA



STEP 1: Identify affordable areas

- Only mortgages granted in lower income or affordable areas as identified by the Centre for Affordable Housing Finance's CityMark initiative. Affordable areas are defined as those with average property prices below R600 000 in 2014.



STEP 2: Identify mortgage borrowers

- Lightstone provided the ID numbers of all mortgage borrowers in those areas.



STEP 3: Determine affordability thresholds

- Affordability thresholds were determined based on the upper income threshold for the Affordable Market as per BASA. The analysis assumes a maximum instalment to income ratio of 25% using a 20 year mortgage at prime +2 (prevailing at the time of mortgage registration).



STEP 4: Obtain bureau data

- Monthly payment and arrears status data was obtained from XDS. 'Affordable' / FSC MARKET LOANS were flagged. Note we can only access payment data for the past five years.



STEP 5: Analyse the data

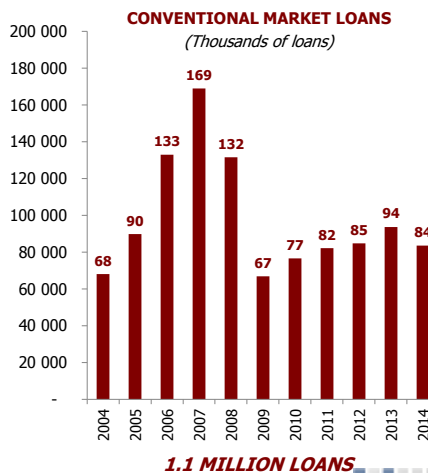
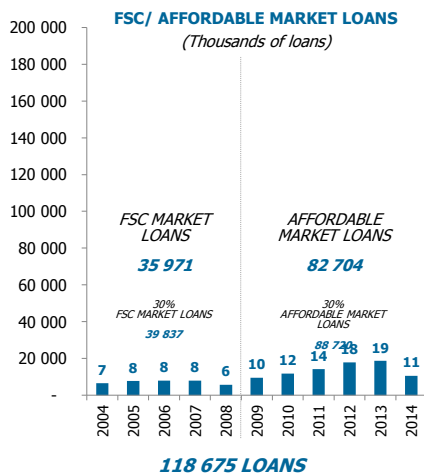
- The analysis was prepared in Vertica.
- It differs in some respects from previous years .
 - In the past more detailed deeds records were purchased. Due to budgetary constraints data purchases were kept to a minimum.
 - Because of this we could not flag secondary mortgages (they were included in the analysis without reference to the size of the primary mortgage).

Note: The prime rate, as well as the inflation rate, was obtained from the South African Reserve Bank



We find a sample of loans. The key question for our analysis is whether this sample is representative. We think it is

TOTAL LOANS OPEN AS AT NOVEMBER 2014 BY ORIGINATION DATE *25% threshold*



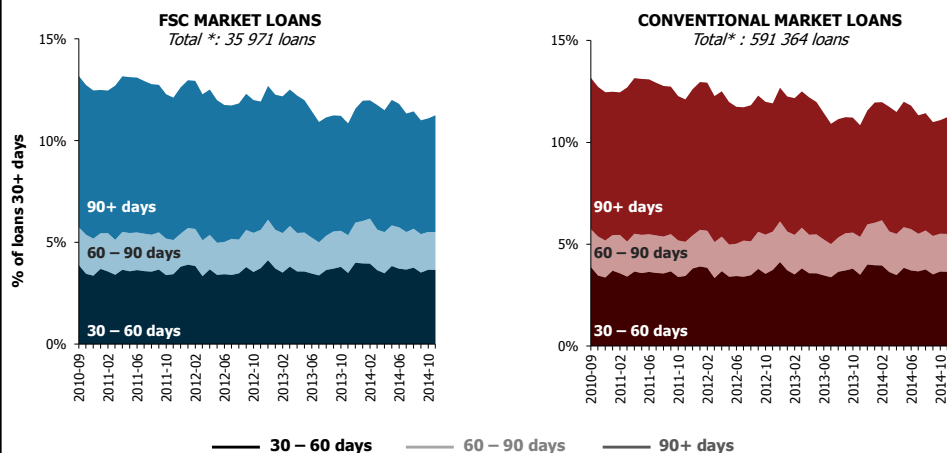
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For the FSC period, there is a difference in performance between mature FSC and Conventional Market loans, although it is not so large

AGEING ANALYSIS OVER TIME (CUMULATIVE)
 (Mortgages originated between 2004 and 2008, mortgages from big 4 banks)



Note: total loans open as at November 2014

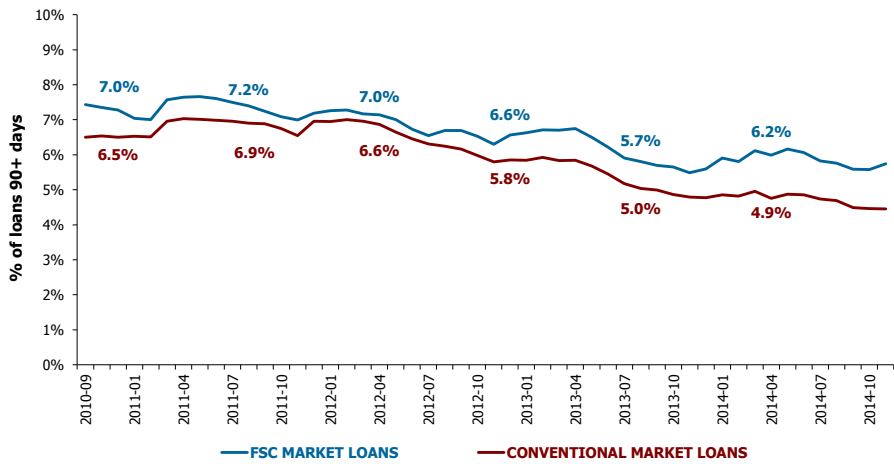


Loans that are 90 days or more outstanding on the FSC portfolio tracked Conventional Market loans fairly closely between 2010 / 09 and 2012 / 09. They have diverged since with conventional market loans improving at a faster rate. Is that because of overhang (loans moving out of NPL into write off or other legal processes)?



NPL BY CALENDAR DATE

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

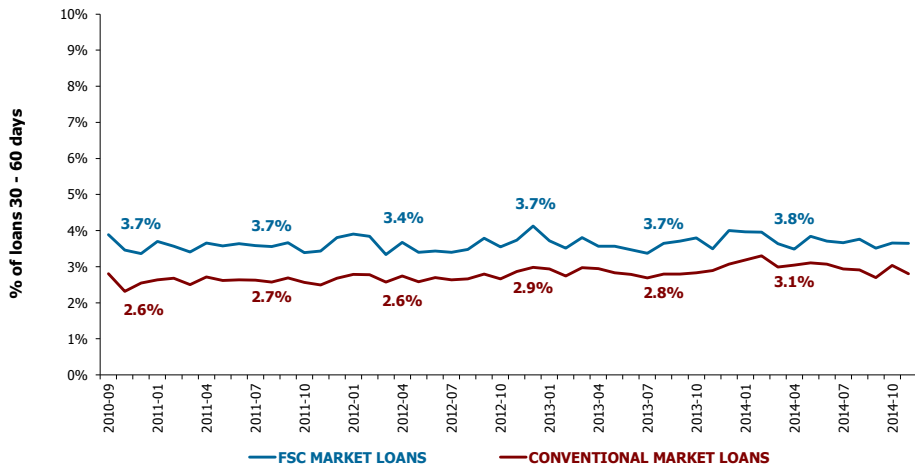


There is a noticeable difference on 30-60 days. FSC Market loans have a noticeably more erratic payment pattern



LOANS 30 - 60 DAYS BY CALENDAR DATE

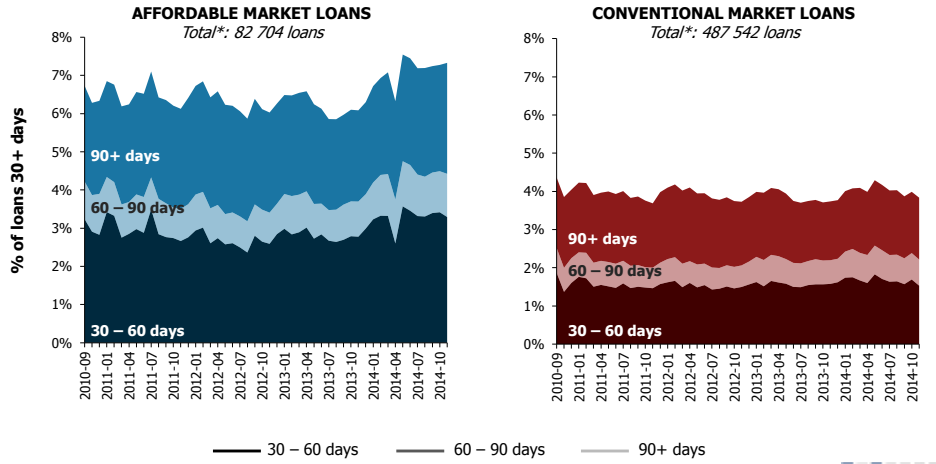
(Mortgages originated between 2004 and 2008, mortgages from big 4 banks)



There is a far more noticeable difference in performance of loans written since 2009



AGEING ANALYSIS OVER TIME (CUMULATIVE)
 (Mortgages originated between 2009 and 2014, mortgages from big 4 banks)

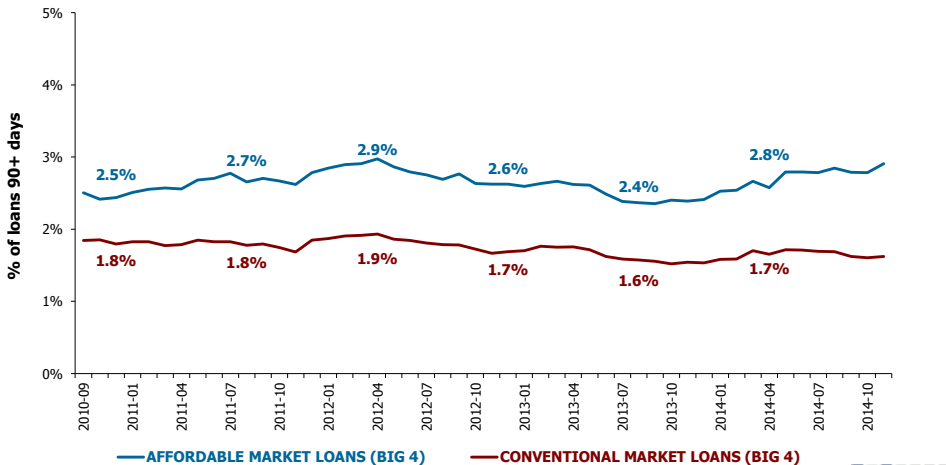


Note: total loans open as at November 2014

The difference in the percentage of Affordable Market loans that are 90 days or more outstanding exceeds that of the rest of the market by around one percentage point – a significant difference given the low base



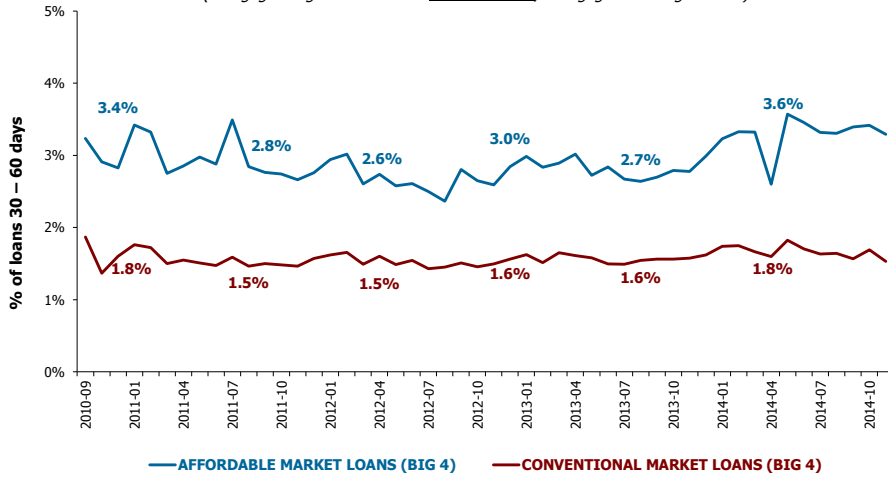
NPL BY CALENDAR DATE
 (Mortgages originated between 2009 and 2014, mortgages from big 4 banks)



Once again, Affordable Market loans appear to have a noticeably more sporadic payment pattern



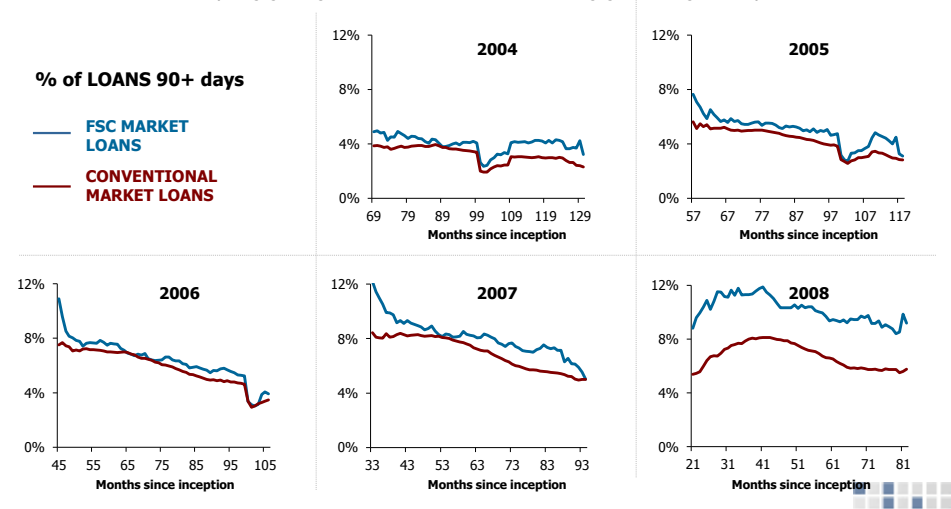
LOANS 30 – 60 DAYS BY CALENDAR DATE
 (Mortgages originated between 2009 and 2014, mortgages from big 4 banks)



The difference in performance is most significant for the 2008 loan cohort

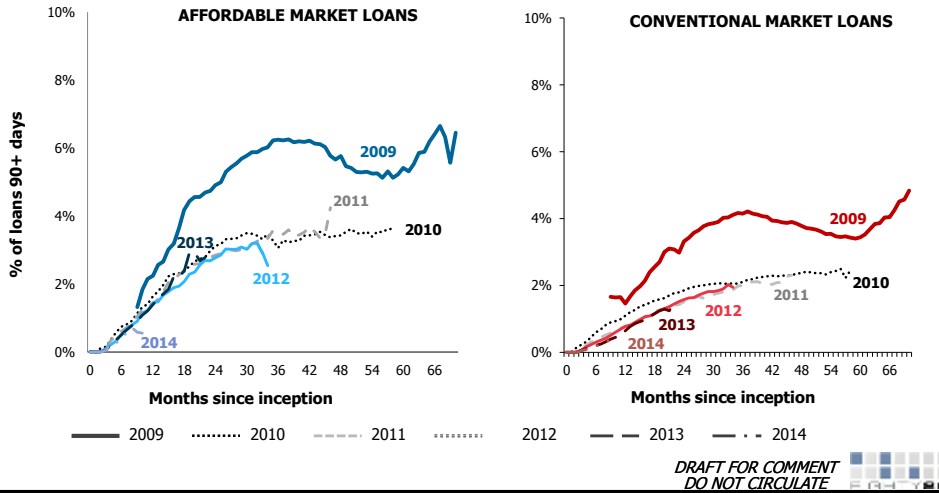


VINTAGE ANALYSIS: NPL BY MONTHS SINCE INCEPTION
 (Mortgages originated between 2004 and 2008, mortgages from big 4 banks)



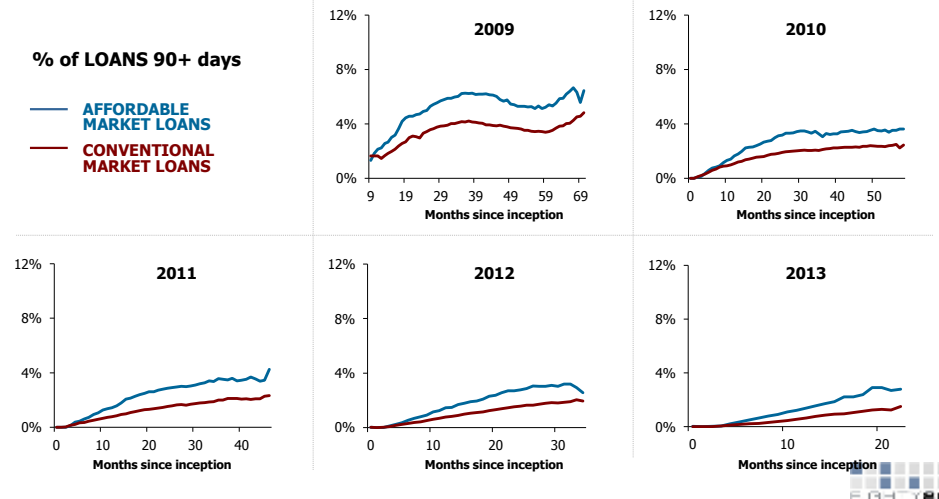
Vintages improved strongly after 2009 and have stabilised

VINTAGE ANALYSIS: NPL BY MONTHS SINCE INCEPTION
 (Mortgages originated between 2009 and 2014, mortgages from big 4 banks)



There is a noticeable deterioration in performance on the 2009 cohort, across the book as a whole

VINTAGE ANALYSIS: NPL BY MONTHS SINCE INCEPTION
 (Mortgages originated between 2009 and 2014, mortgages from big 4 banks)



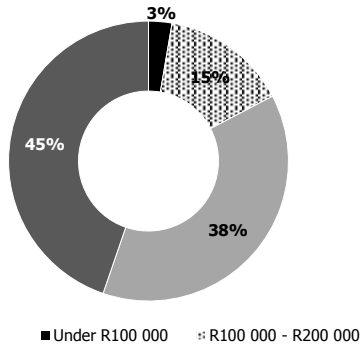
Over half of affordable market loans have an opening balance of less than R300 000



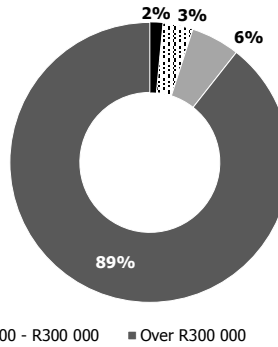
OPENING BALANCES: OCTOBER 2014

(Mortgages originated between 2009 and 2014, mortgages from big 4 banks)

AFFORDABLE MARKET LOANS



CONVENTIONAL MARKET LOANS



■ Under R100 000 ■ R100 000 - R200 000 ■ R200 000 - R300 000 ■ Over R300 000

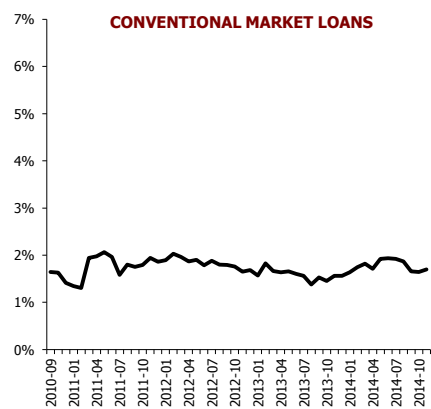
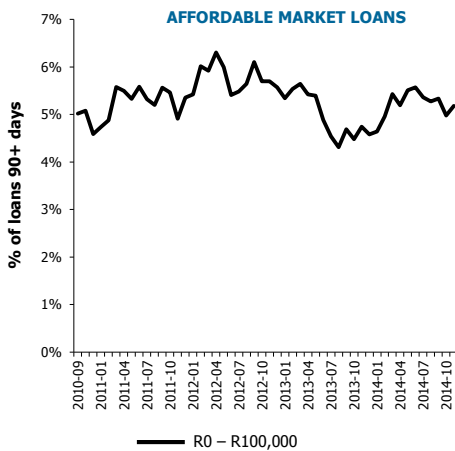


With regard to Affordable Market loans the difference in performance by loan size is stark



NPLS BY OPENING BALANCE

(Mortgages originated between 2009 and 2014, mortgages from big 4 banks)



— R0 - R100,000

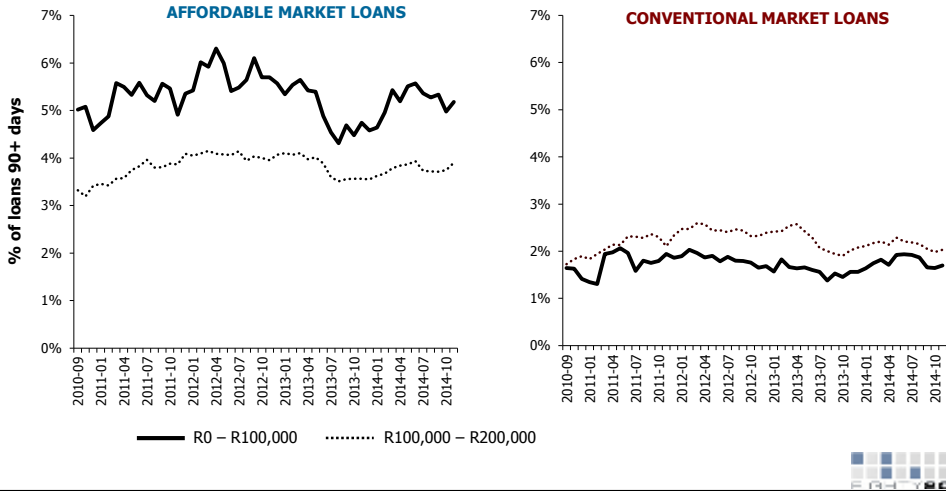


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NPLS BY OPENING BALANCE

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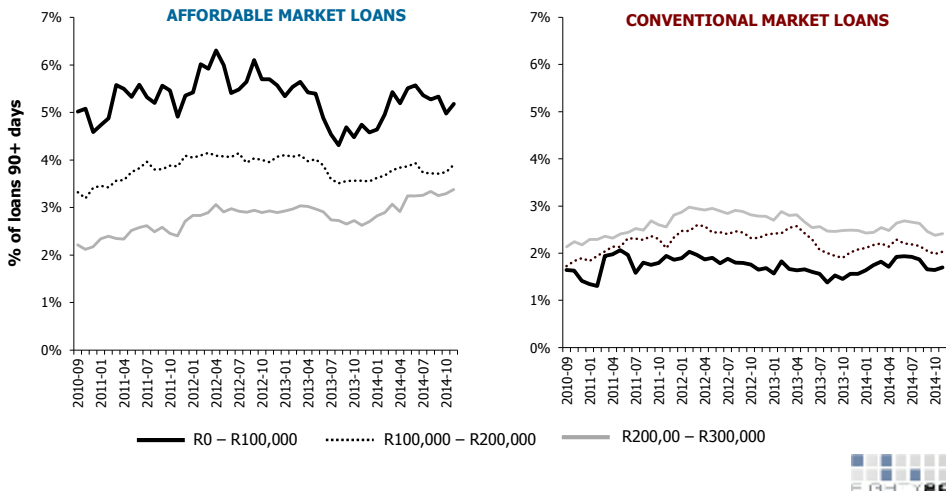


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NPLS BY OPENING BALANCE

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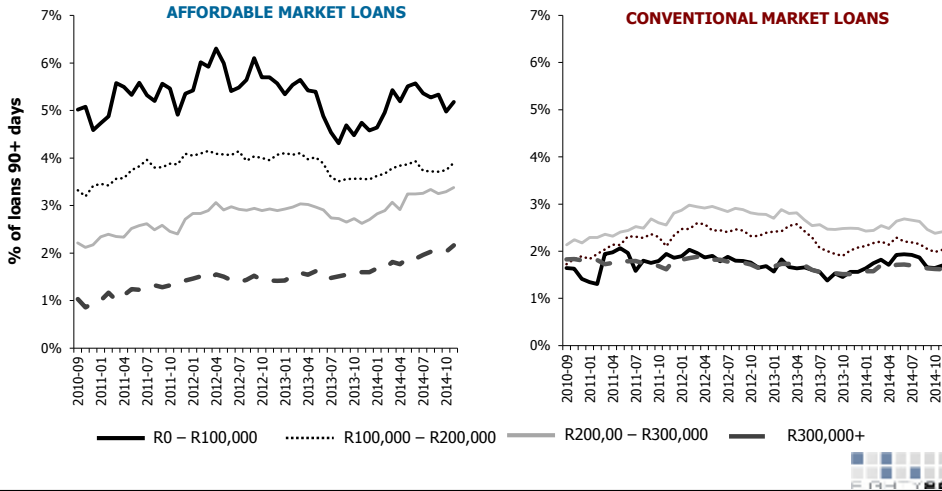


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NPLS BY OPENING BALANCE

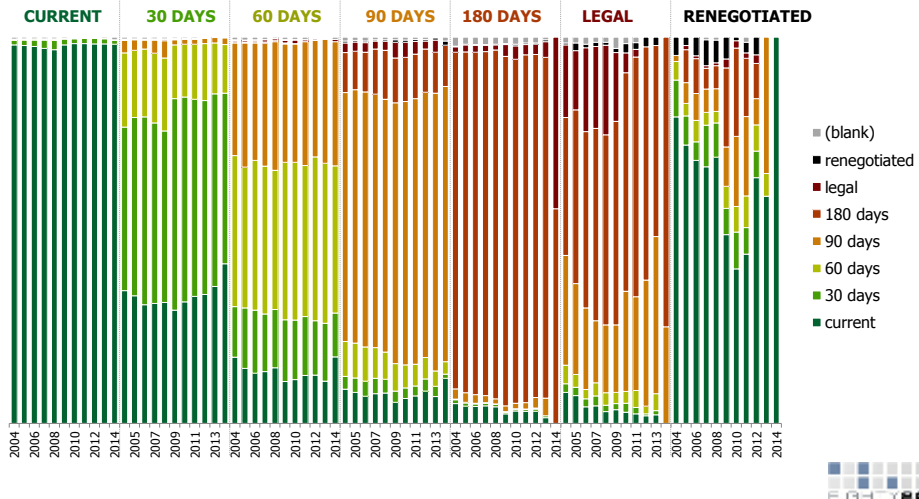
(Mortgages originated between 2009 and 2014, mortgages from big 4 banks)



The transition matrix below shows the percentage of loans in a particular state in any month moving to any other state the following month



**TRANSITION MATRIX: FSC/ AFFORDABLE MARKET LOANS
ART BY DEFAULT**



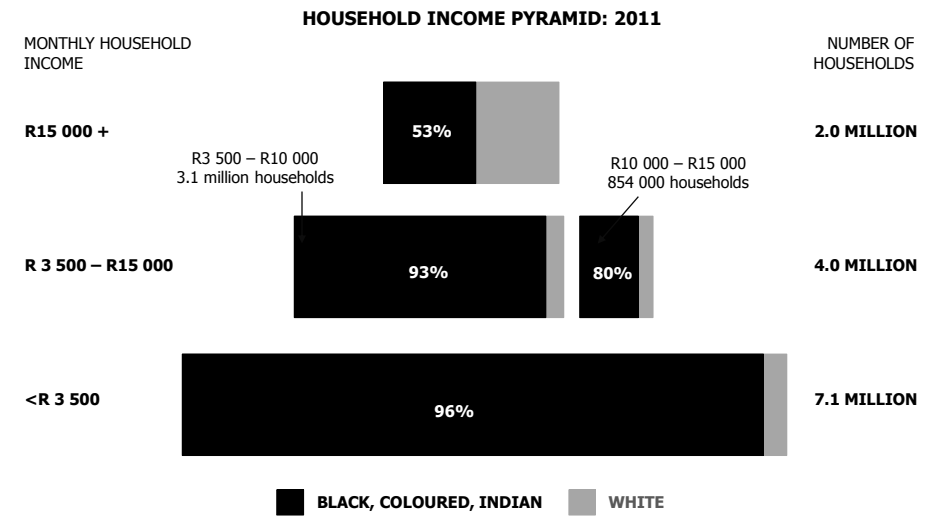


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What about borrower characteristics? In 2011 there were 854 000 households with a monthly household income of between R10 000 and R15 000



Source: IES 2011



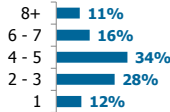
Previously disadvantaged affordable market households are larger on average, have more female household heads and are younger than conventional market households

HH income: R10 000 - R15 000
HH head is black, coloured or indian

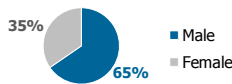
PD AFFORDABLE MARKET HOUSEHOLDS

854 000 (7% OF HOUSEHOLDS)

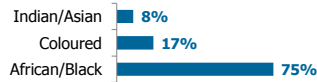
HOUSEHOLD SIZE



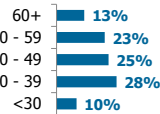
GENDER OF HOUSEHOLD HEAD



POPULATION GROUP OF HH HEAD



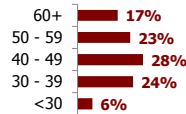
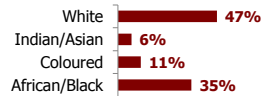
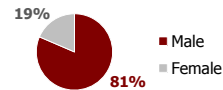
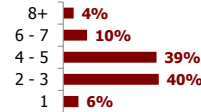
AGE GROUP OF HH HEAD



CONVENTIONAL MARKET HOUSEHOLDS

2.0 MILLION (16% OF HOUSEHOLDS)

HH income > R15 000

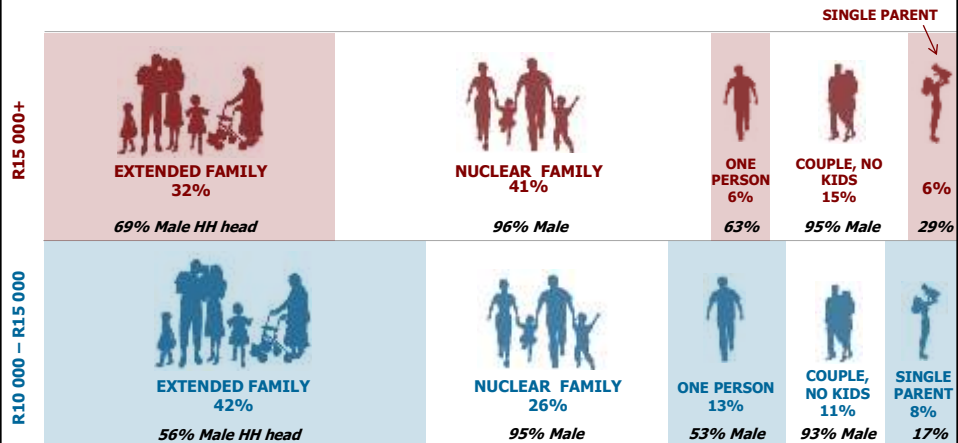


Source: IES 2011

Households with a household income of between R10 000 and R15 000 are more likely to be extended families. Those with an income of more than R15 000 are more likely to be nuclear families

MONTHLY HH INCOME

HOUSEHOLD COMPOSITION

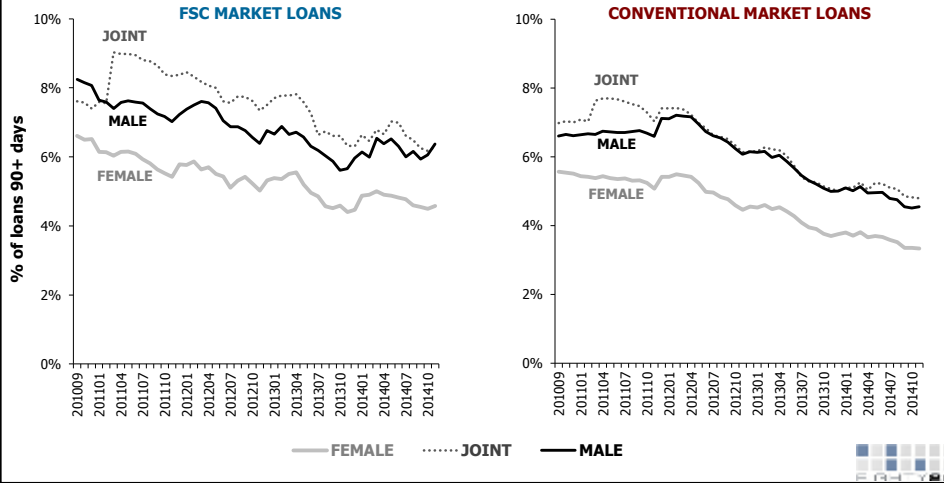


Source: IES 2011

Women appear to be better payers by quite a noticeable margin in the FSC book

NPL BY GENDER

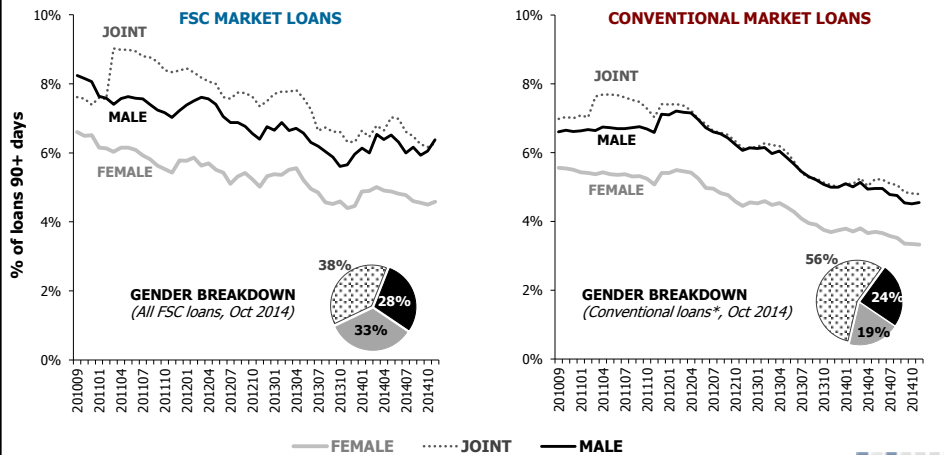
(Mortgages originated between 2004 and 2008, mortgages from big 4 banks)



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NPL BY GENDER

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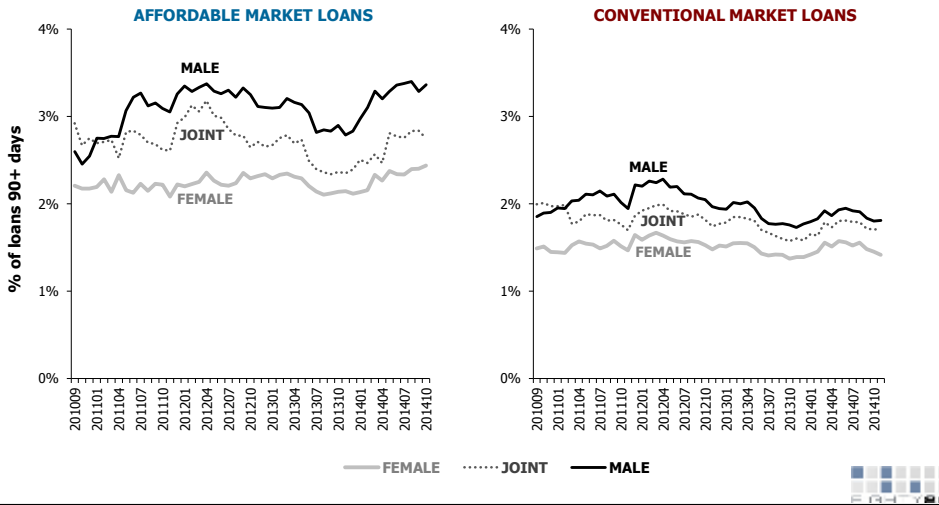


Note*: All Conventional market loans originated between 2004 and 2008

The same pattern is evident with Affordable Market loans

NPL BY GENDER

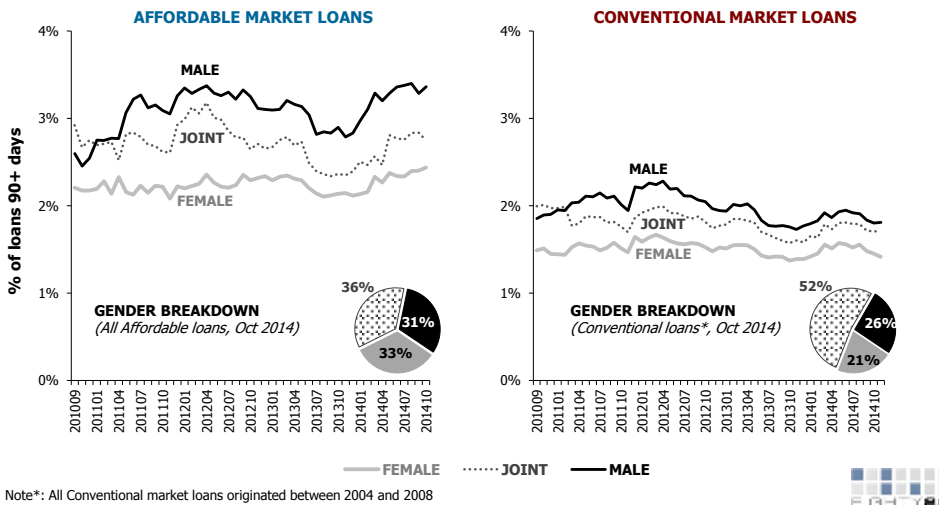
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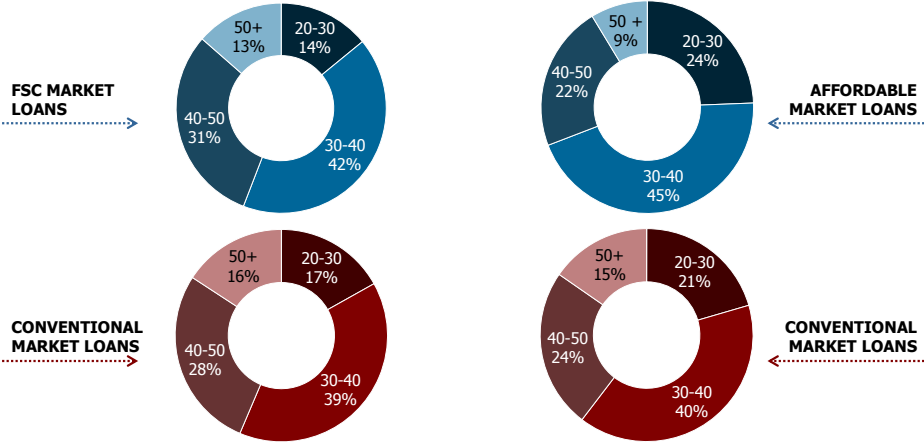
Borrowers in the Affordable Market appear to be younger than in the past. Almost a quarter are under the age of 30, compared to 14% in the FSC time period



NUMBERS OF LOANS BY AGE BAND AT ORIGINATION

Mortgages originated between 2004 and 2008

Mortgages originated between 2009 and 2014



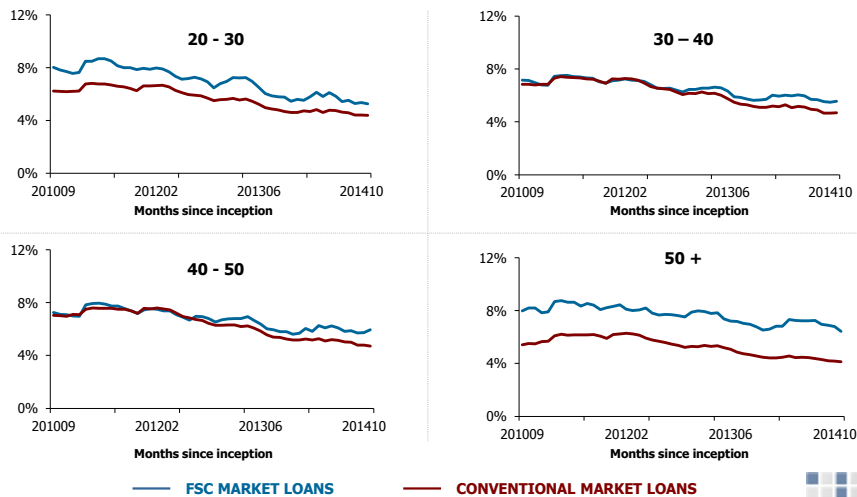
Note: for joint mortgages, one participant was randomly selected and their age group was used

The difference in performance in the FSC and Conventional Market books is significant in the post 50 age brackets



NPLS BY AGE BAND: % OF LOANS 90 DAYS +

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



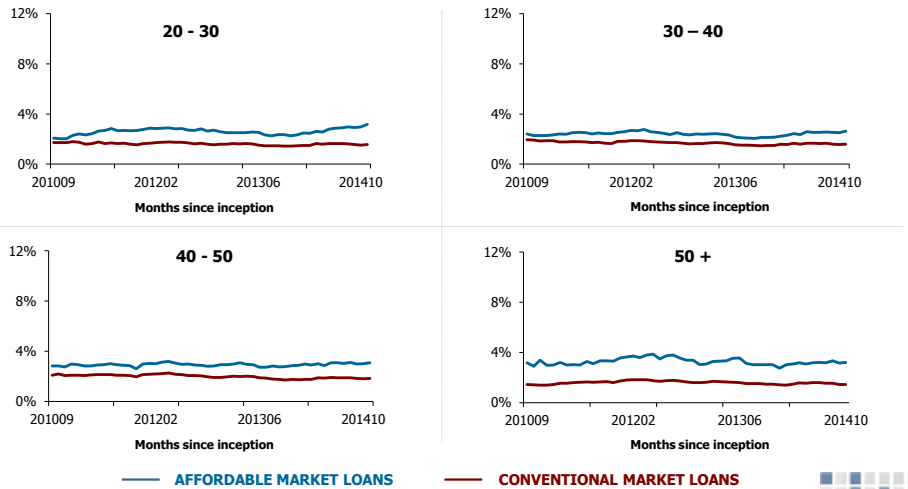
— FSC MARKET LOANS

— CONVENTIONAL MARKET LOANS

The same pattern is evident with respect to Affordable Market loans

NPLS BY AGE BAND: % OF LOANS 90 DAYS +

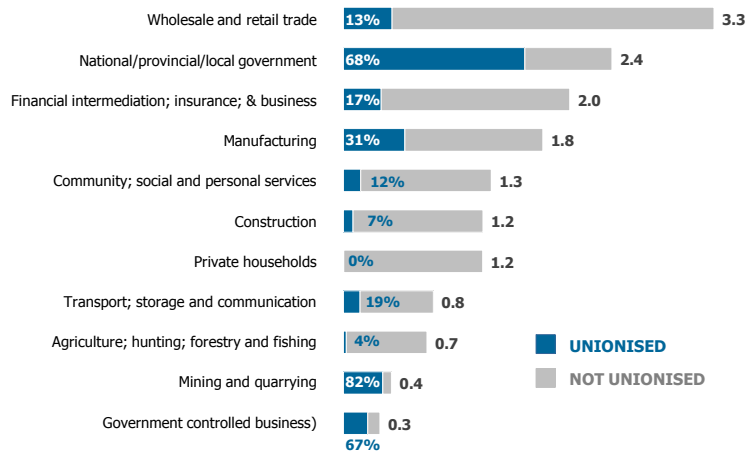
(Mortgages originated between 2009 and 2014, mortgages from big 4 banks)



Sector of employment is obviously important. Unionisation rates differ as will the impact of industrial action

MAIN SECTORS BY UNIONISATION

(Number of workers in millions)

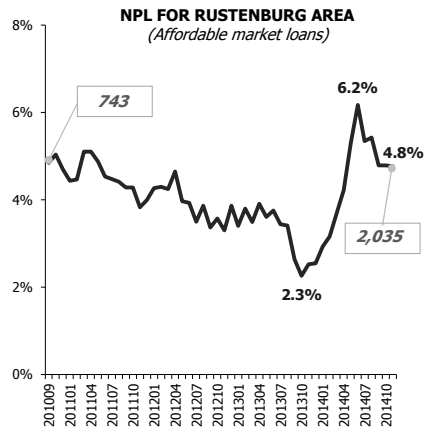
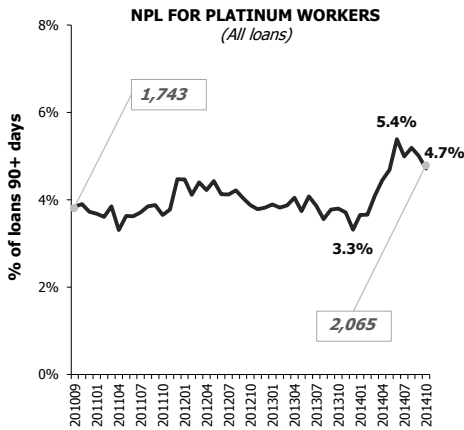


Source: LFS 2014 Q4
 Note: All public sector workers are accounted for in 'National/provincial/local government' and 'Government controlled business'. All other industries are private sector or private households

We can pick up some of this in the analysis using imperfect data on employers in the credit bureau



NPLs FOR MINE WORKERS



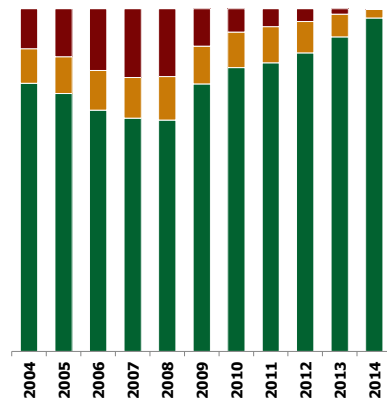
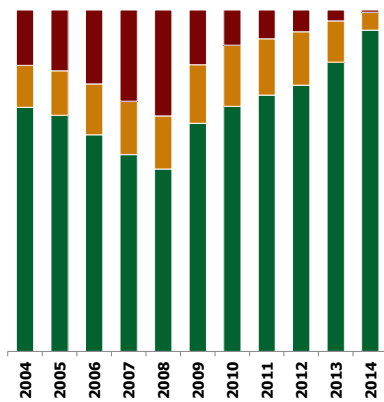
Of course there is more to performance than NPLs as measured. We have started to look at a borrower centric segmentation based on payment patterns



SEGMENT

FSC/ AFFORDABLE MARKET LOANS

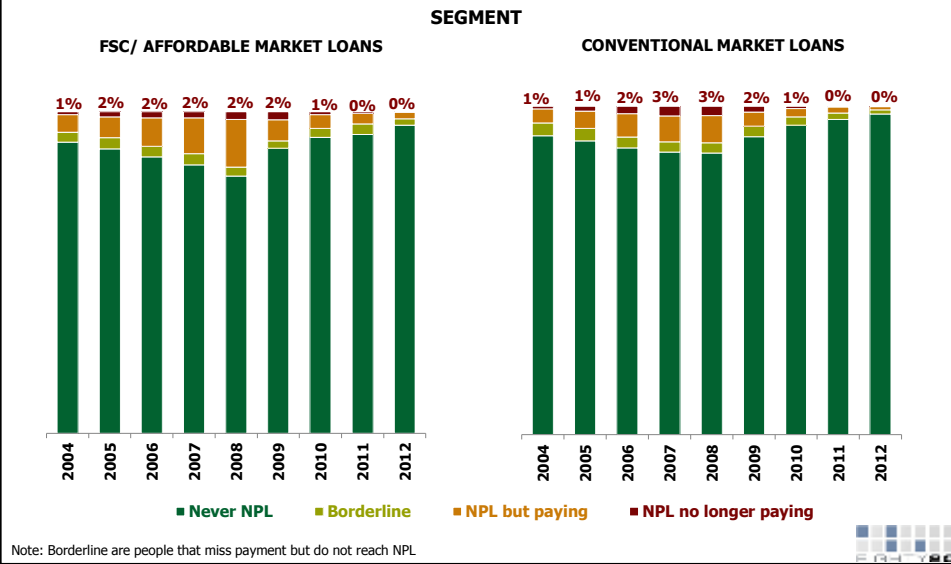
CONVENTIONAL MARKET LOANS



■ **NEVER**
Never in arrears
■ **ALMOST**
Max 2 months in arrears
■ **EVER**
3 months in arrears for at least 1 month



We can explore this in some detail



Agenda

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Loan level performance

Borrower characteristics

Conclusion



To sum up

Unsurprisingly performance differs

Some segments of the Affordable Market are not the same as the conventional market

There is a lot we don't know

*Some of it we could know: relationship to LTV, area
Some we need to find out: triggers of default, loss given default*

From insight to action

*Lender level: Marketing, Pricing, Product design,
Servicing models, Analytics
Policy / industry level: risk underpins, other market support mechanisms*

Track the borrower

Segmentation of borrowers by payment patterns is critical – helps to answer some key questions

Always room for improvement

Comments and questions please

