USING CREDIT BUREAU DATA TO UNDERSTAND CREDIT CONSUMERS - A CASE STUDY FROM SOUTH AFRICA

FEBRUARY 2016

This presentation is incomplete without the accompanying oral commentary

Agenda

Overview

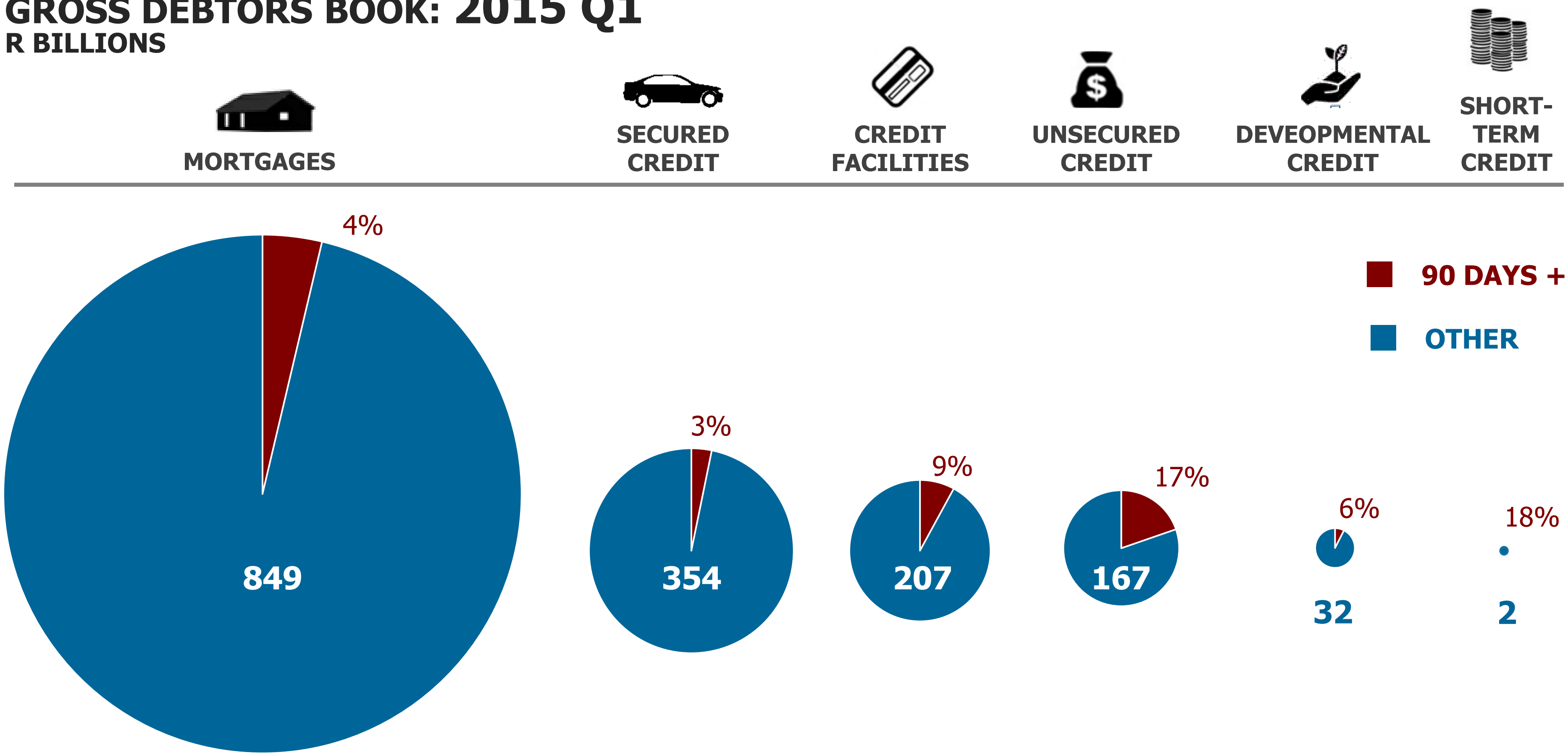
Beyond published data

The process

The benefits

The National Credit Regulator collects and publishes data from lenders on the size and performance the book

GROSS DEBTORS BOOK: 2015 Q1
R BILLIONS



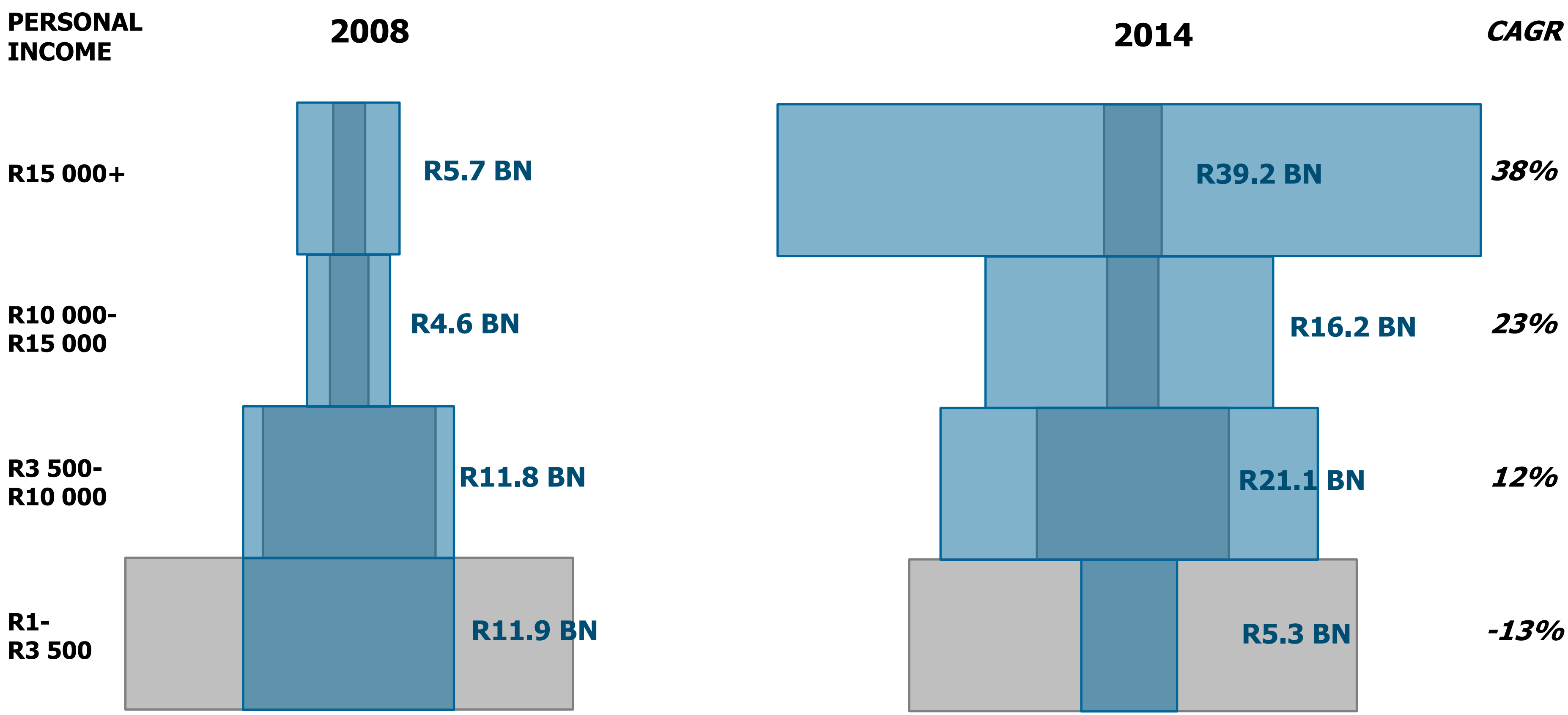
ACCOUNTS (000'S)	***1 824***	***4 404***	***26 189***	***7 087***	***1 189***	***923***
% 90 days or more in arrears	*3%*	*14%*	*12%*	*24%*	*3%*	*16%*

Source: NCR Consumer credit report. Developmental credit is provided by lenders registered as developmental credit providers and includes educational loans; small business loans; loans for the acquisition, rehabilitation, building or expansion of low income housing

EIGHTY20

The regulator also publishes data on lending activity by segment

VALUE OF UNSECURED & SHORT TERM LOANS GRANTED



VALUE OF LOANS GRANTED: R34.1 BILLION

VALUE OF LOANS GRANTED: R81.7 BILLION

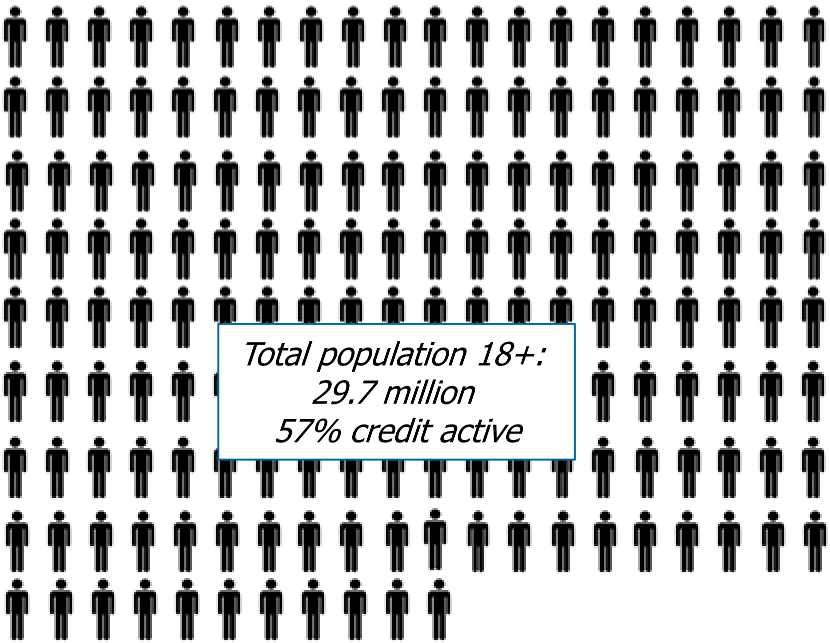
Source: NCR Consumer credit report, AMPS 2012B

EIGHTY20

Aside from data submitted by lenders, the regulator also publishes borrower-level data based on credit bureau data

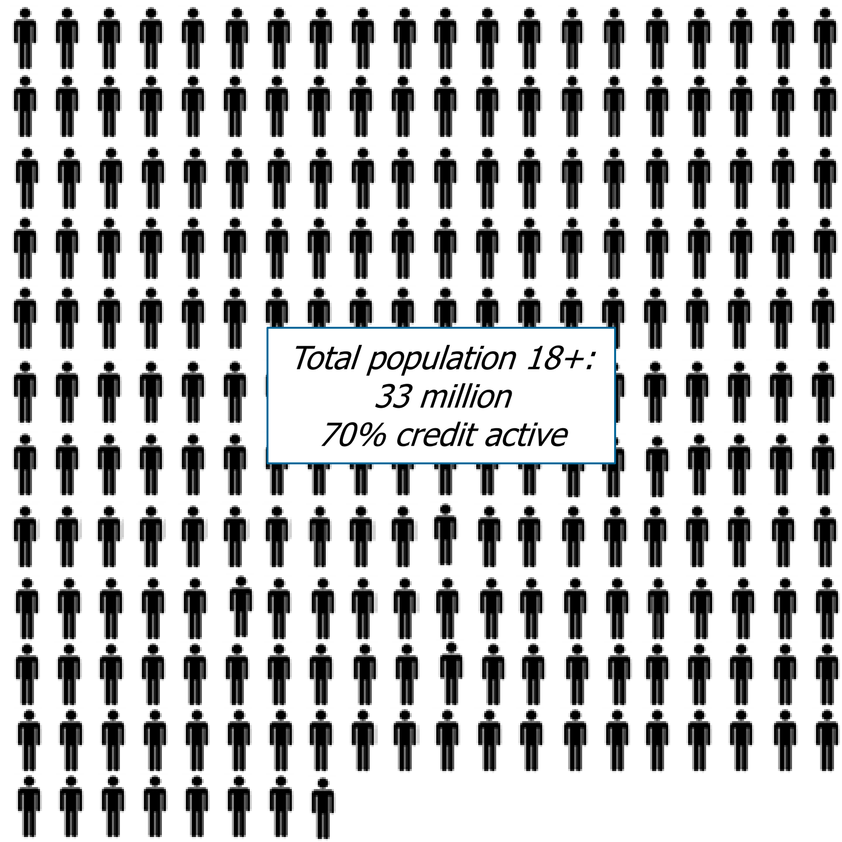
CREDIT STANDING OF CREDIT ACTIVE CONSUMERS

2007 Q4



17.1 MILLION

2015 Q1

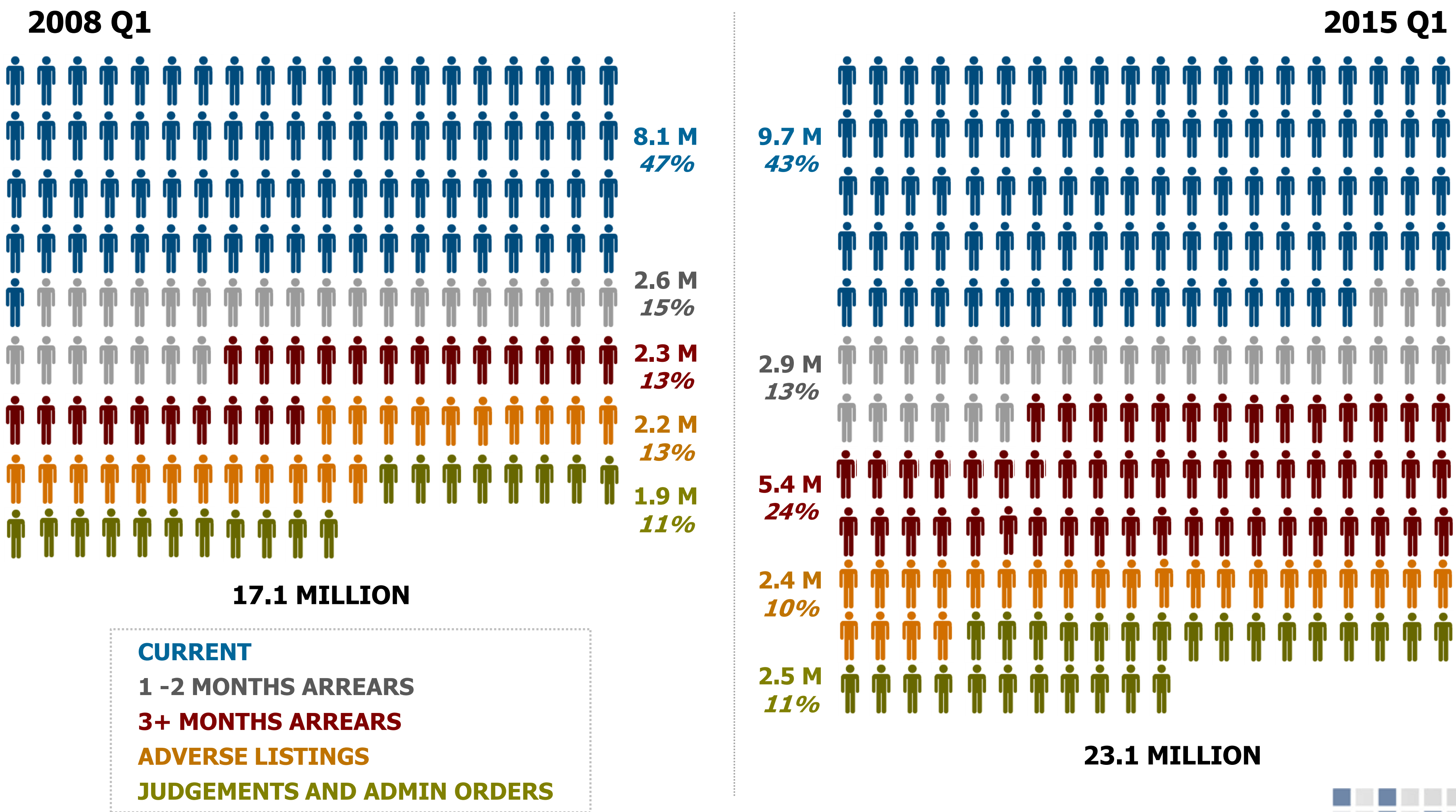


23.1 MILLION

Source: NCR, Stats SA LFS 2007, 2015

This data categorises borrowers based on the performance of their account. Less than half of those who are credit active are current on all their accounts

CREDIT STANDING OF CREDIT ACTIVE CONSUMERS



Source: NCR: Adverse - Accounts with adverse classifications such as 'handed over' and/or 'written-off'.

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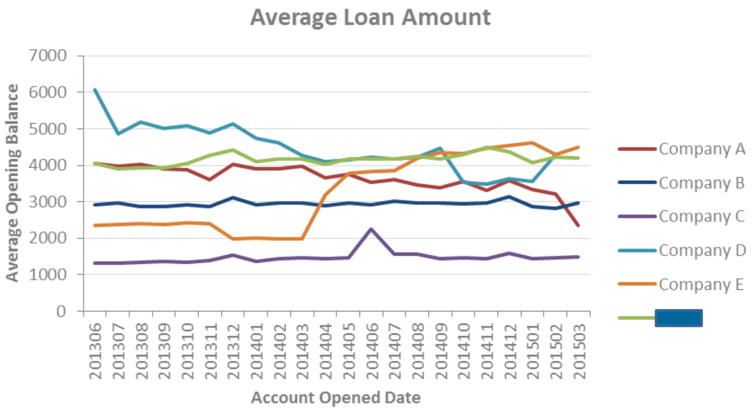
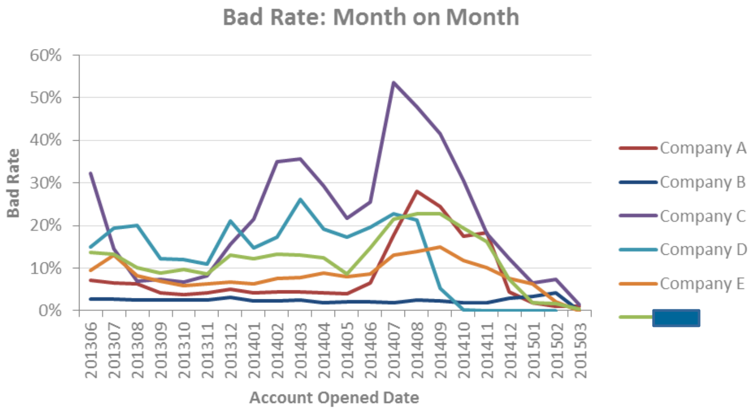
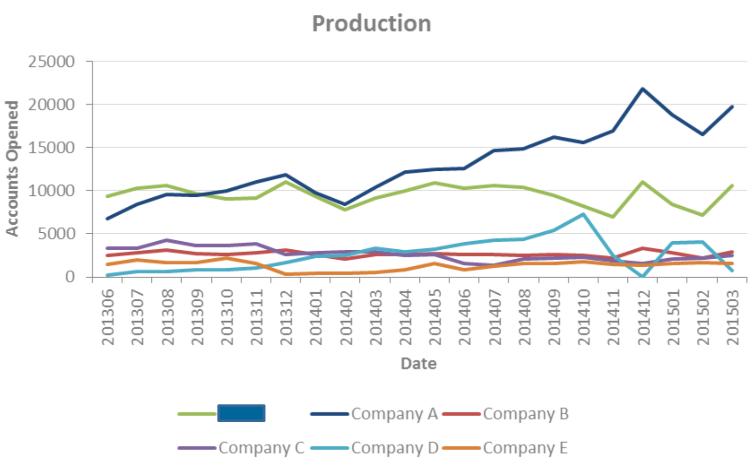
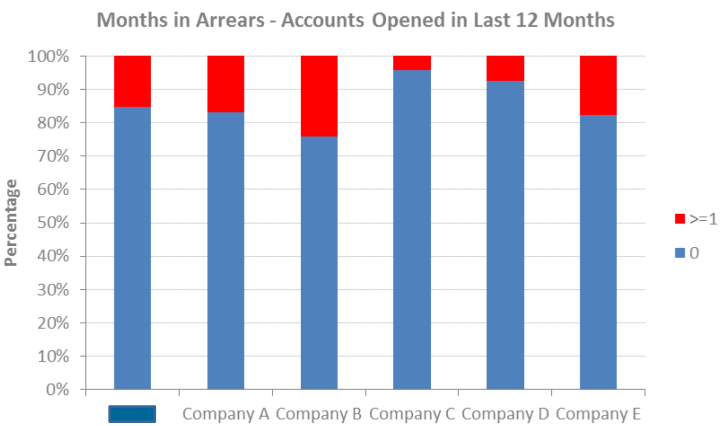
Aside from using bureau data to assess borrowers, lenders receive masked comparative reports from bureaus benchmarking their production, performance and positioning against competitors









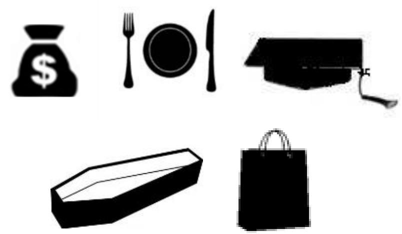
EIGHTY20

We began looking at bureau data to understand key credit consumer trends across the market as a whole

ANALYSIS OF MORTGAGE PERFORMANCE BY SEGMENT

HOW DO MORTGAGES GRANTED UNDER THE FINANCIAL SECTOR CHARTER PERFORM RELATIVE TO THOSE IN THE 'CONVENTIONAL MORTGAGE' MARKET?

PROFILE OF BORROWERS DRIVING GROWTH IN UNSECURED CREDIT



WHAT IS THE PROFILE OF BORROWERS WITH UNSECURED CREDIT? WHAT OTHER PRODUCTS DO THEY HAVE? WHAT DO THEY USE THE MONEY FOR?

UNDERSTANDING PATTERNS OF DEFAULT

WHO IS IN DEFAULT ON WHAT PRODUCTS? WHAT DEFAULT PATTERNS DO WE SEE? WHAT GOES FIRST?

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The analysis of mortgage performance begins with a segmentation of the market based on two dimensions; area and loan size. We use deeds office records to locate mortgage loans and match these with mortgage data in the credit bureau

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 the past five years payments data
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

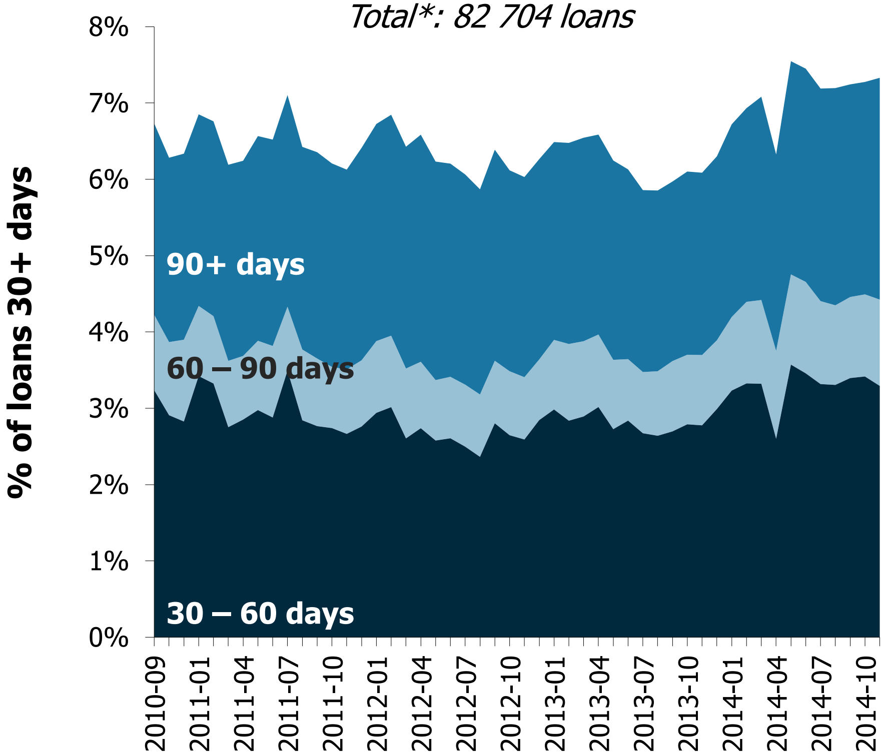
The key indicator we track is NPLs defined as 90 days or more in arrears

AGEING ANALYSIS OVER TIME (CUMULATIVE)

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

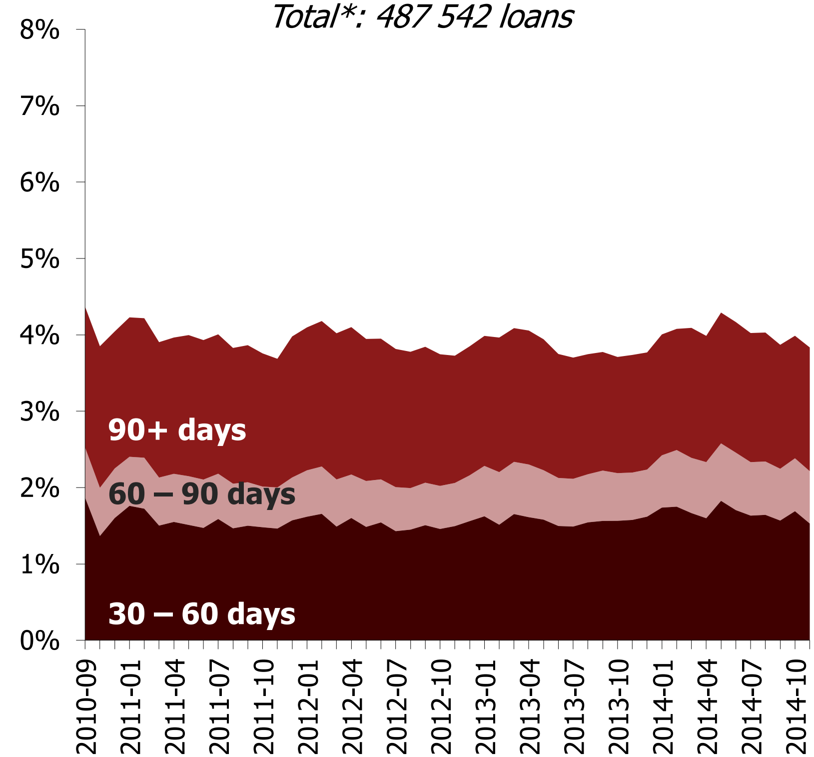
AFFORDABLE MARKET LOANS

Total: 82 704 loans*



CONVENTIONAL MARKET LOANS

Total: 487 542 loans*

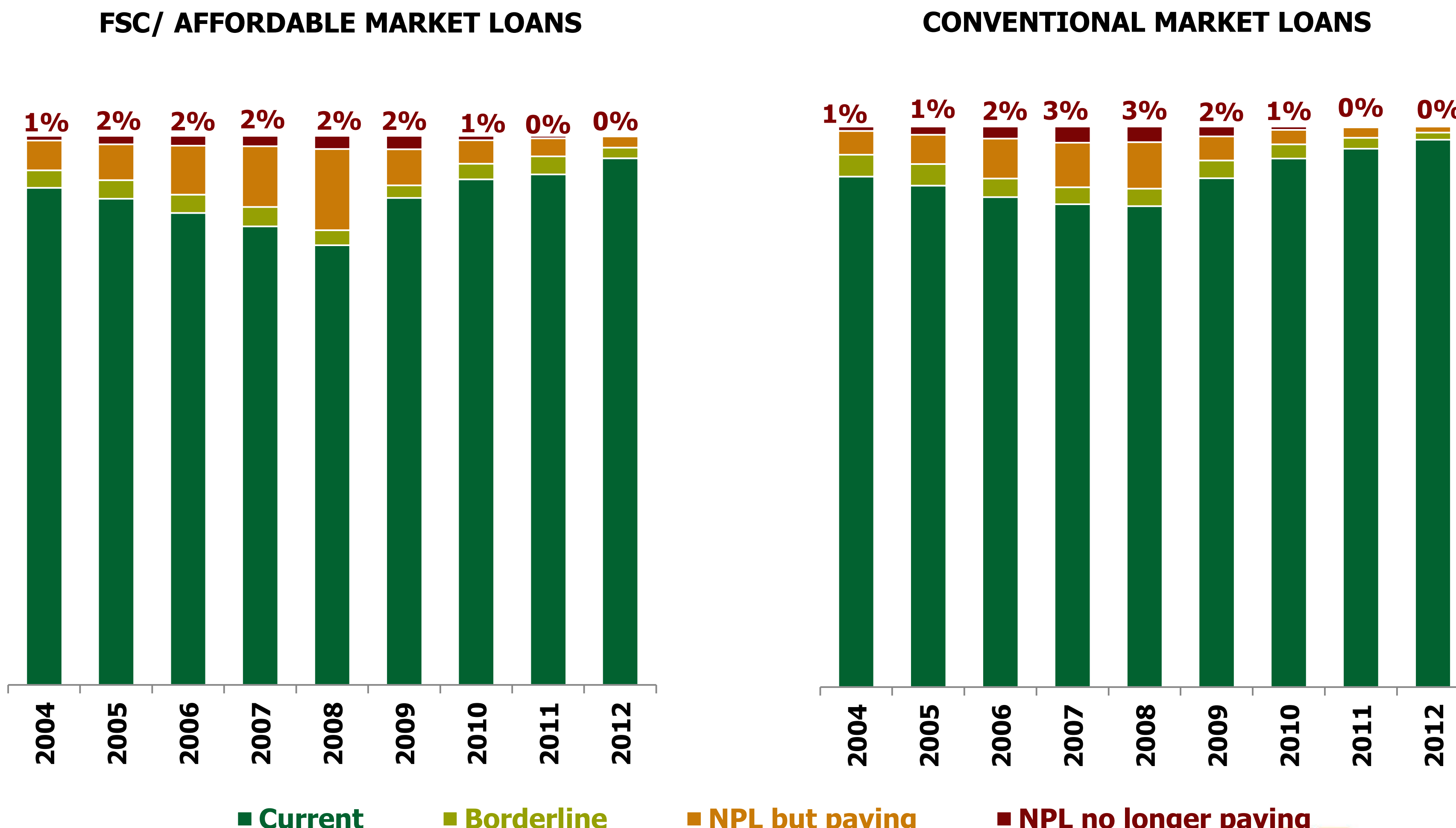


30 – 60 days　60 – 90 days　90+ days

Note: total loans open as at November 2014

Because we are working with monthly payment data we can explore performance in a far more nuanced way

SEGMENT

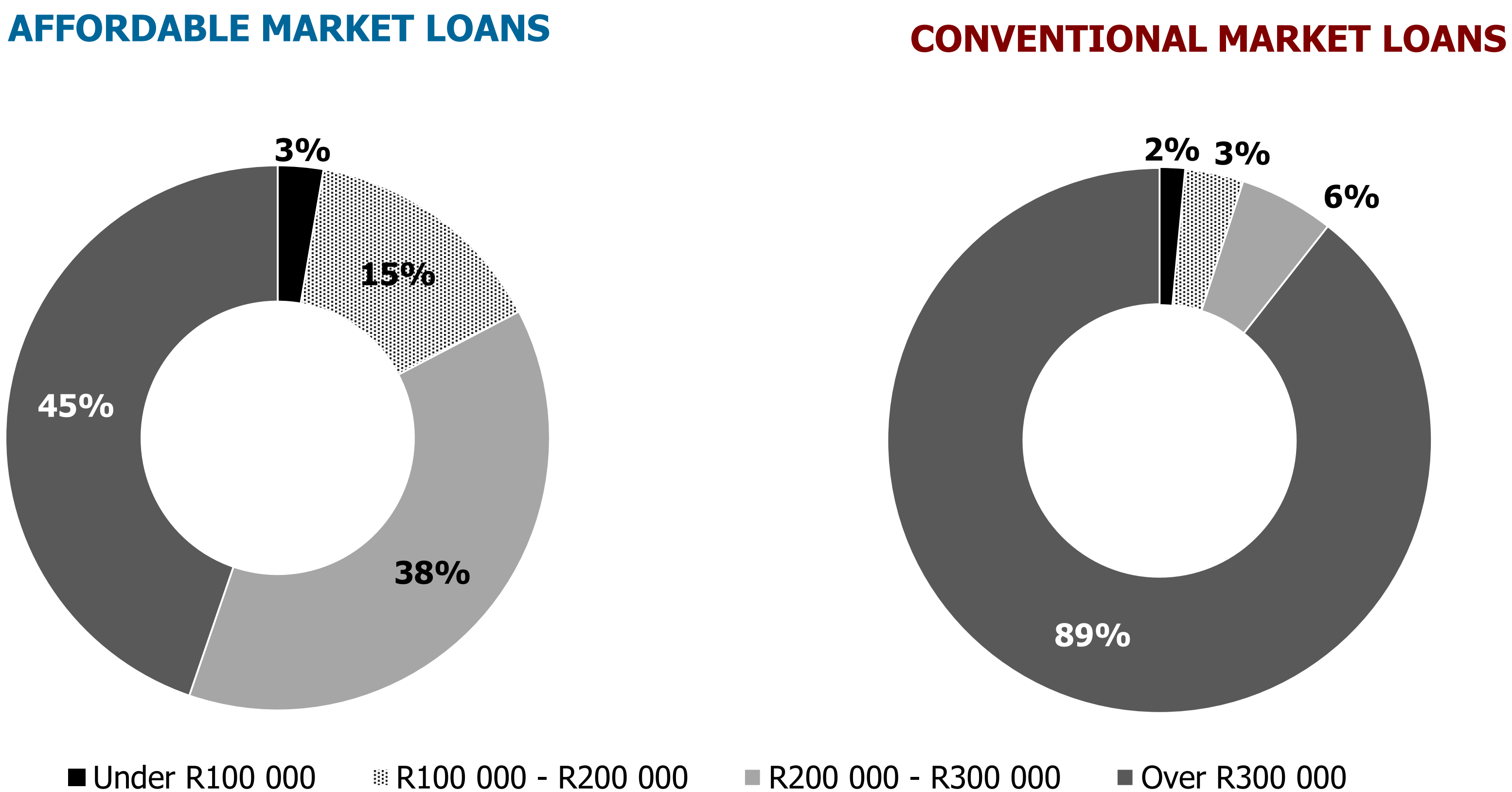


Note: Borderline are people that miss payments but do not reach NPL

We can track performance by various loan and borrower characteristics. Over half of affordable market loans have an opening balance of less than R300 000

OPENING BALANCES: OCTOBER 2014

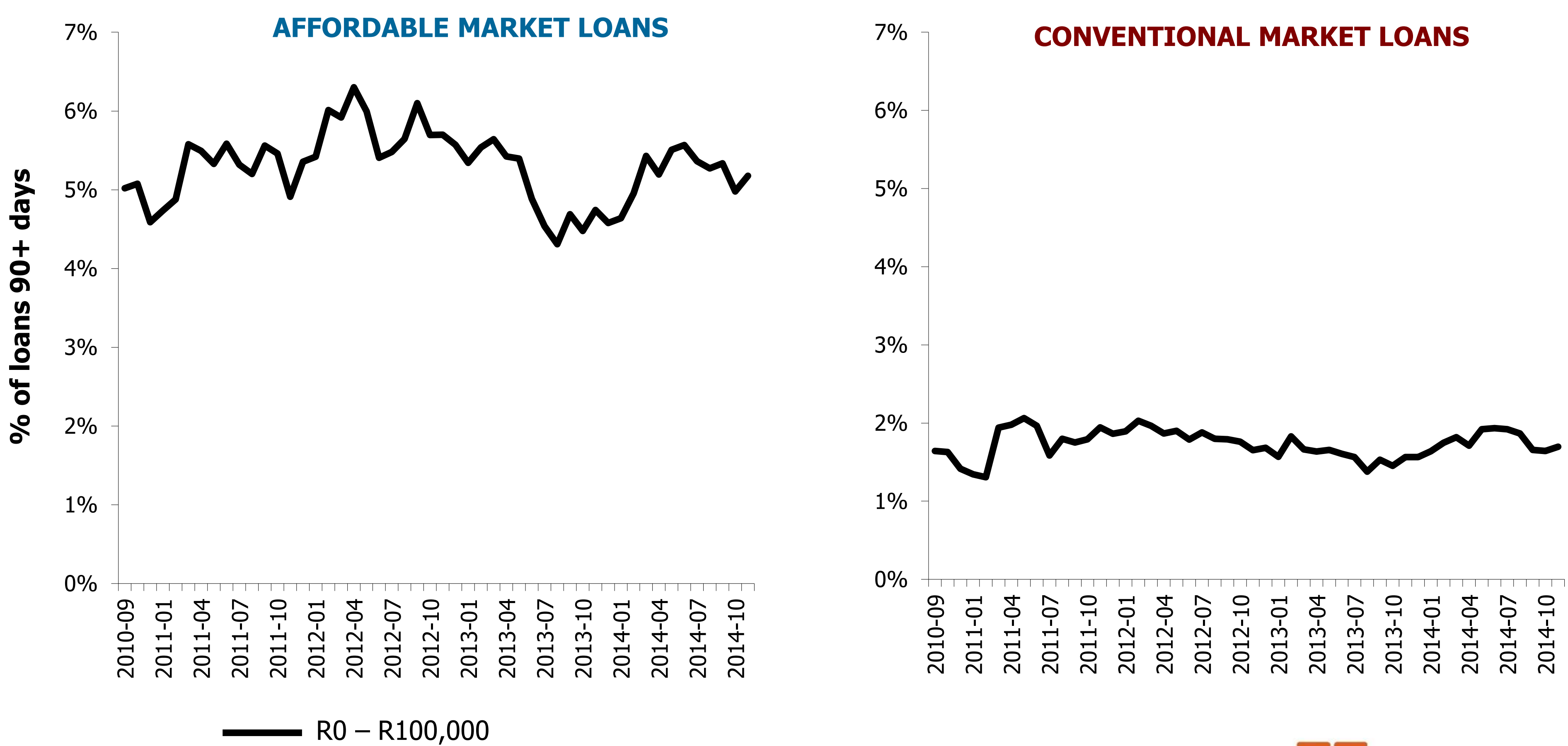
(Mortgages originated between 2009 and 2014, mortgages from big 4 banks)



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)



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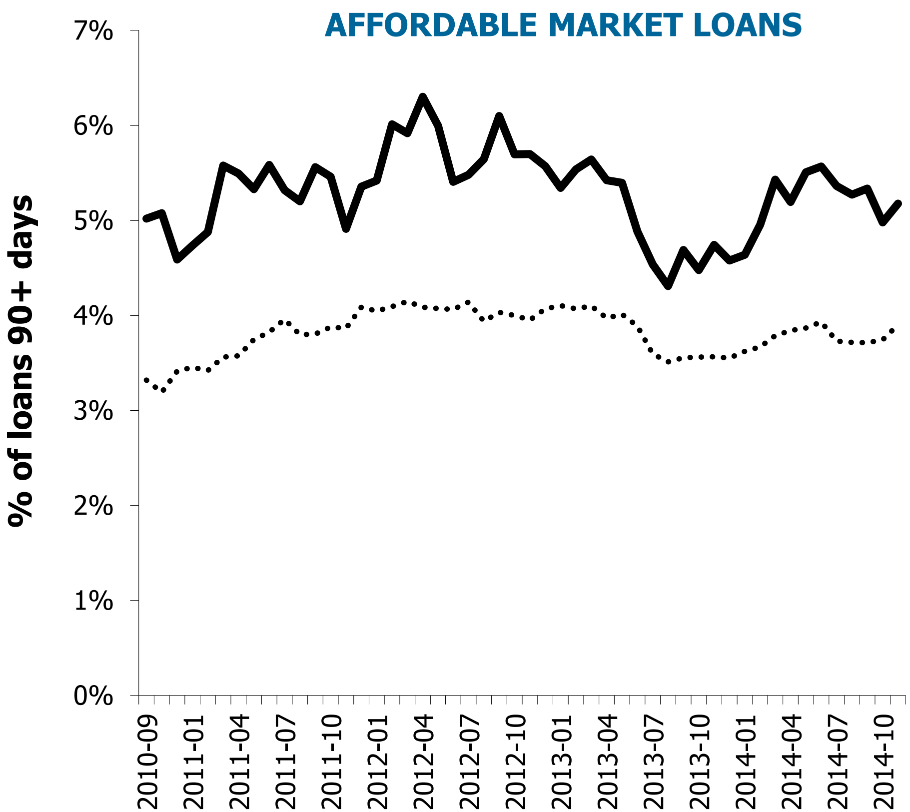

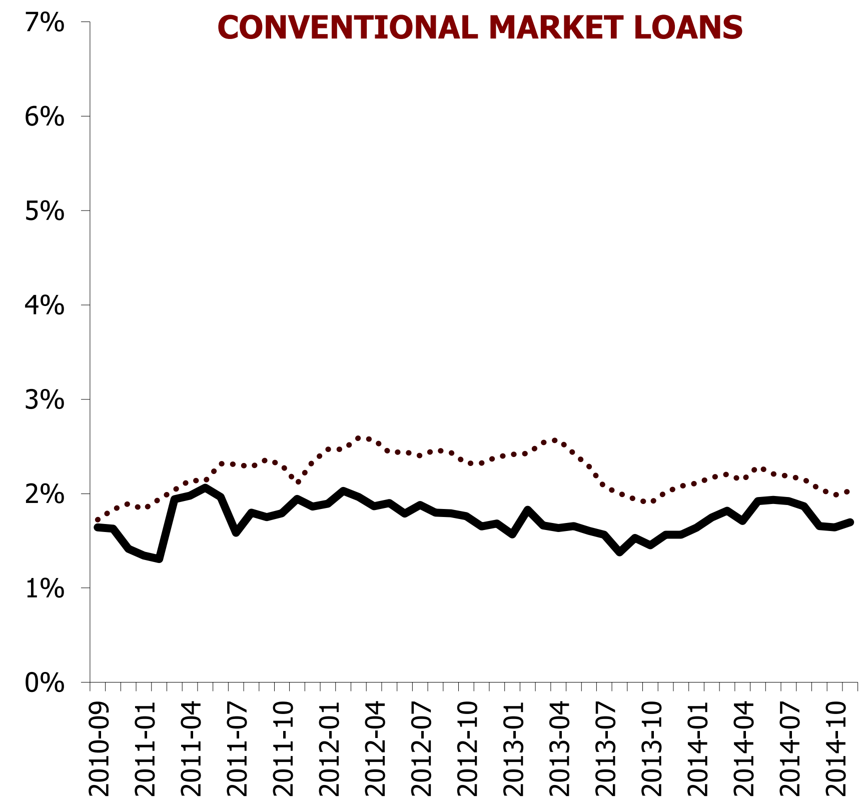

R0 – R100,000 R100,000 – R200,000

CAHF EIGHTY20

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

NPLS BY OPENING BALANCE

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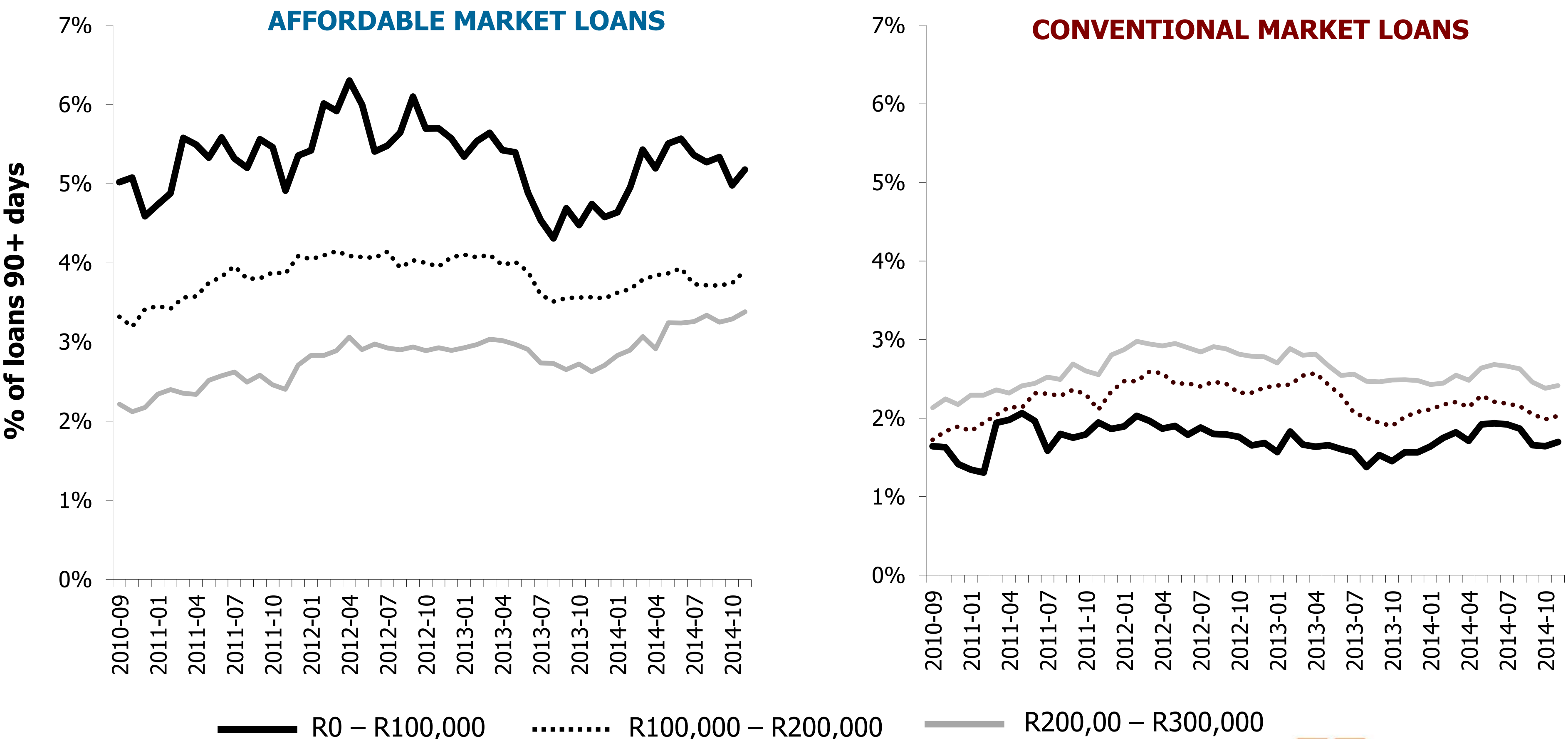

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NPLS BY OPENING BALANCE

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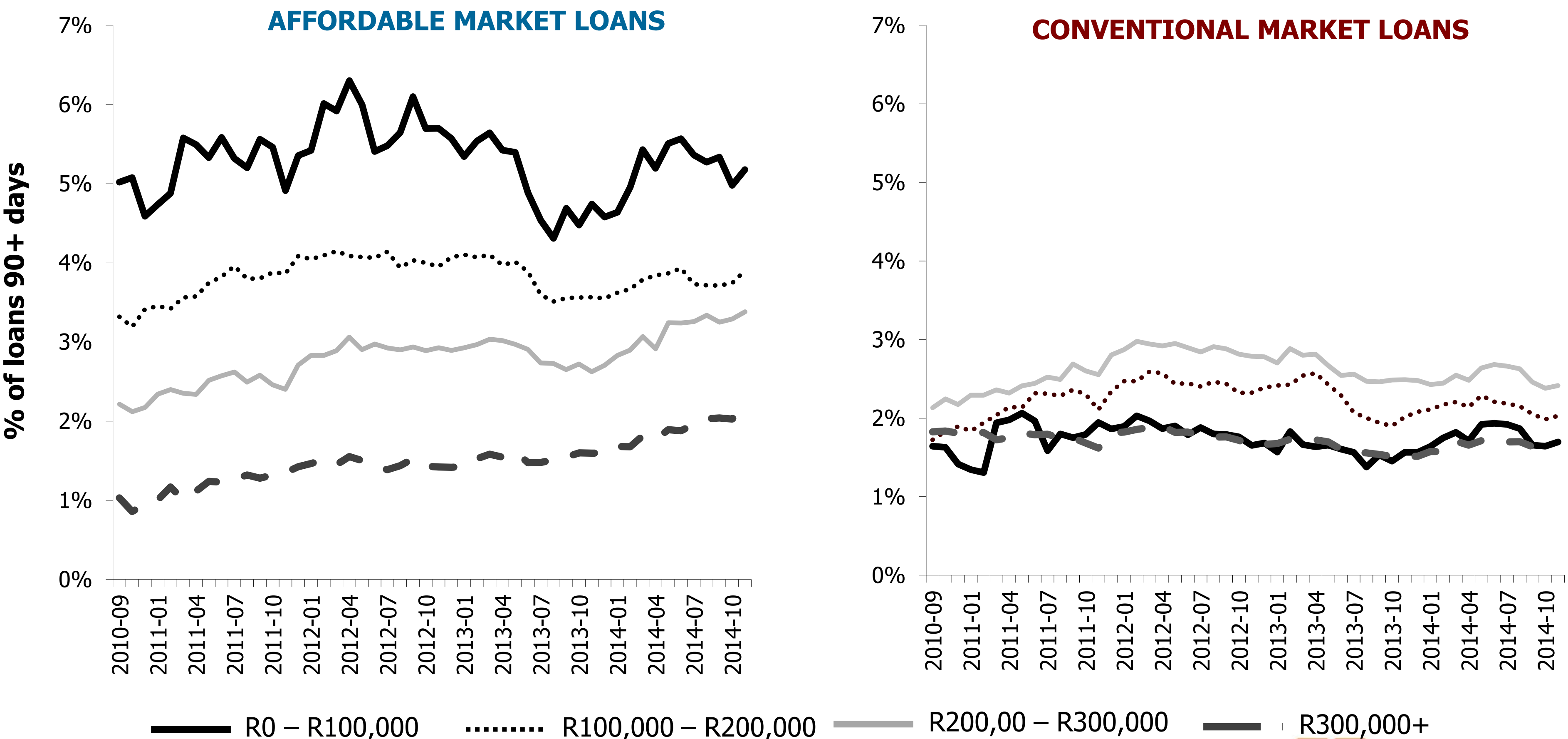
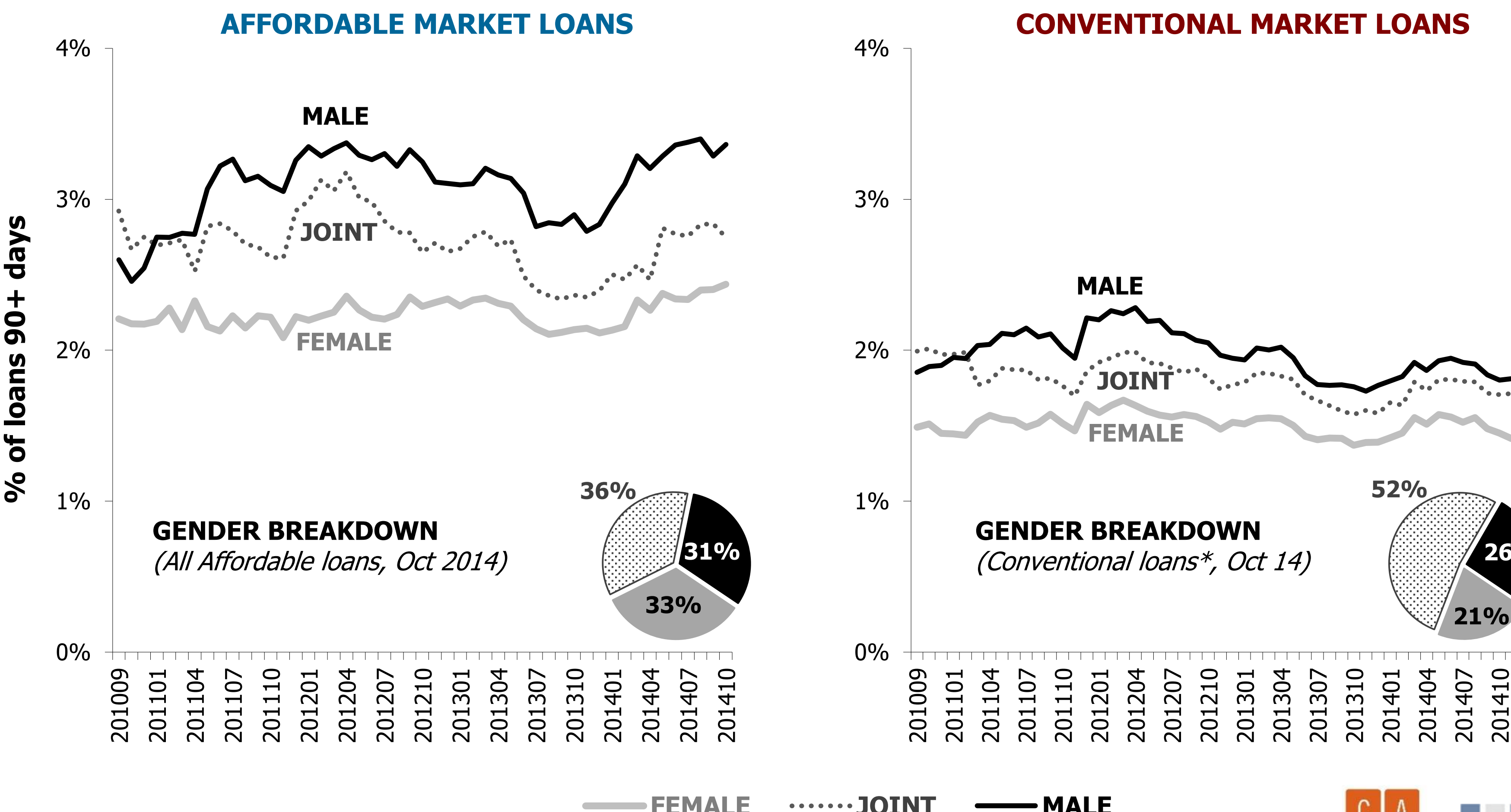


We also explore performance segmented by borrower characteristics

NPL BY GENDER

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

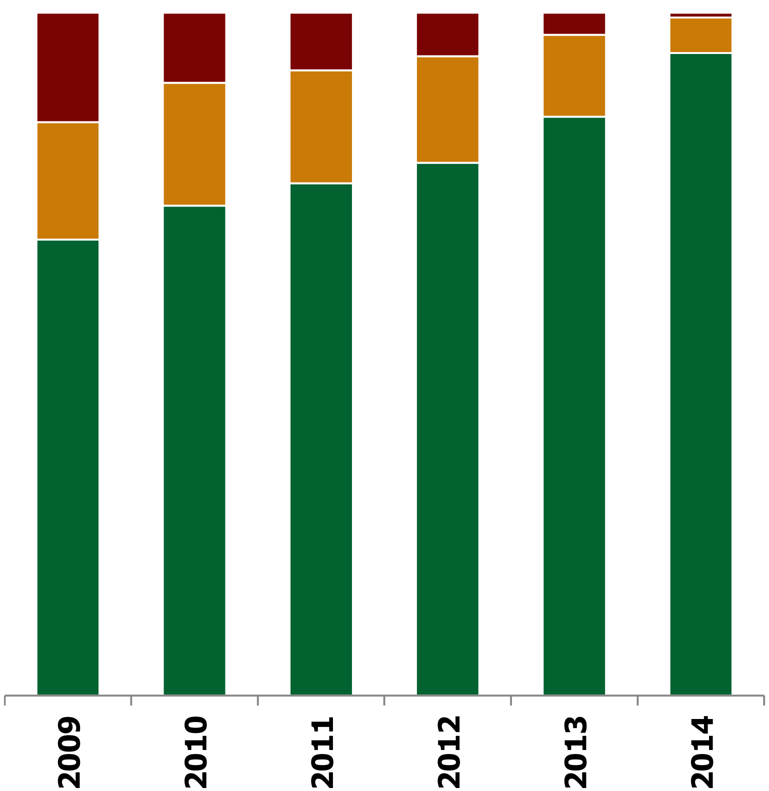


Note*: All Conventional market loans originated between 2004 and 2008

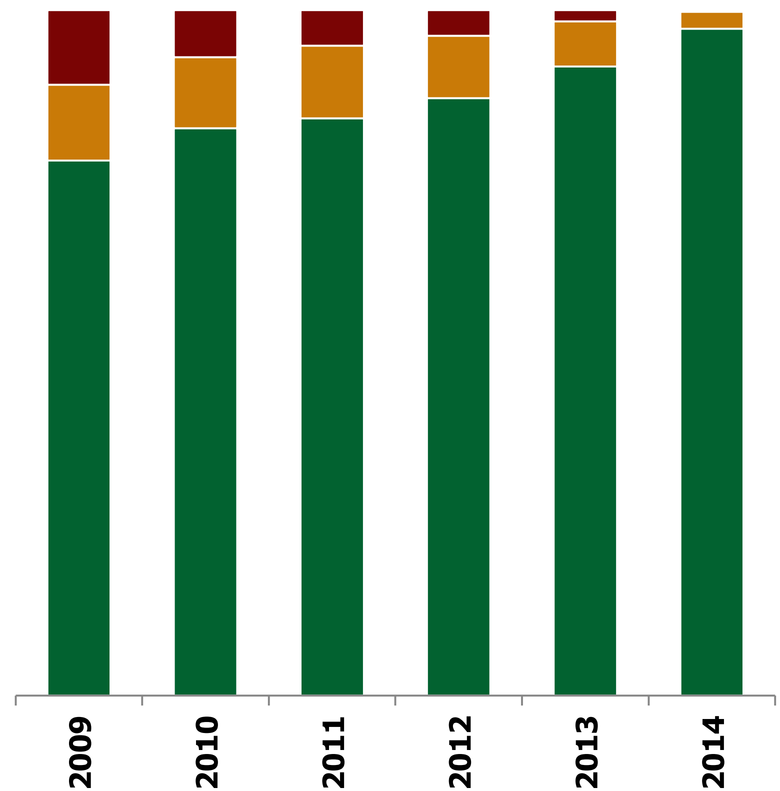
Of course there is more to performance than NPLs as measured. We have started to look at a borrower centric segmentation based on payment patterns

SEGMENT

FSC/ AFFORDABLE MARKET LOANS



CONVENTIONAL MARKET LOANS



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

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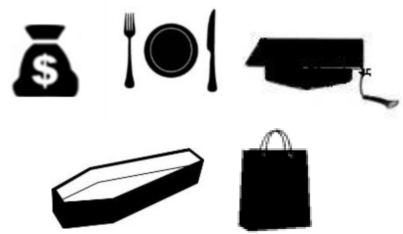

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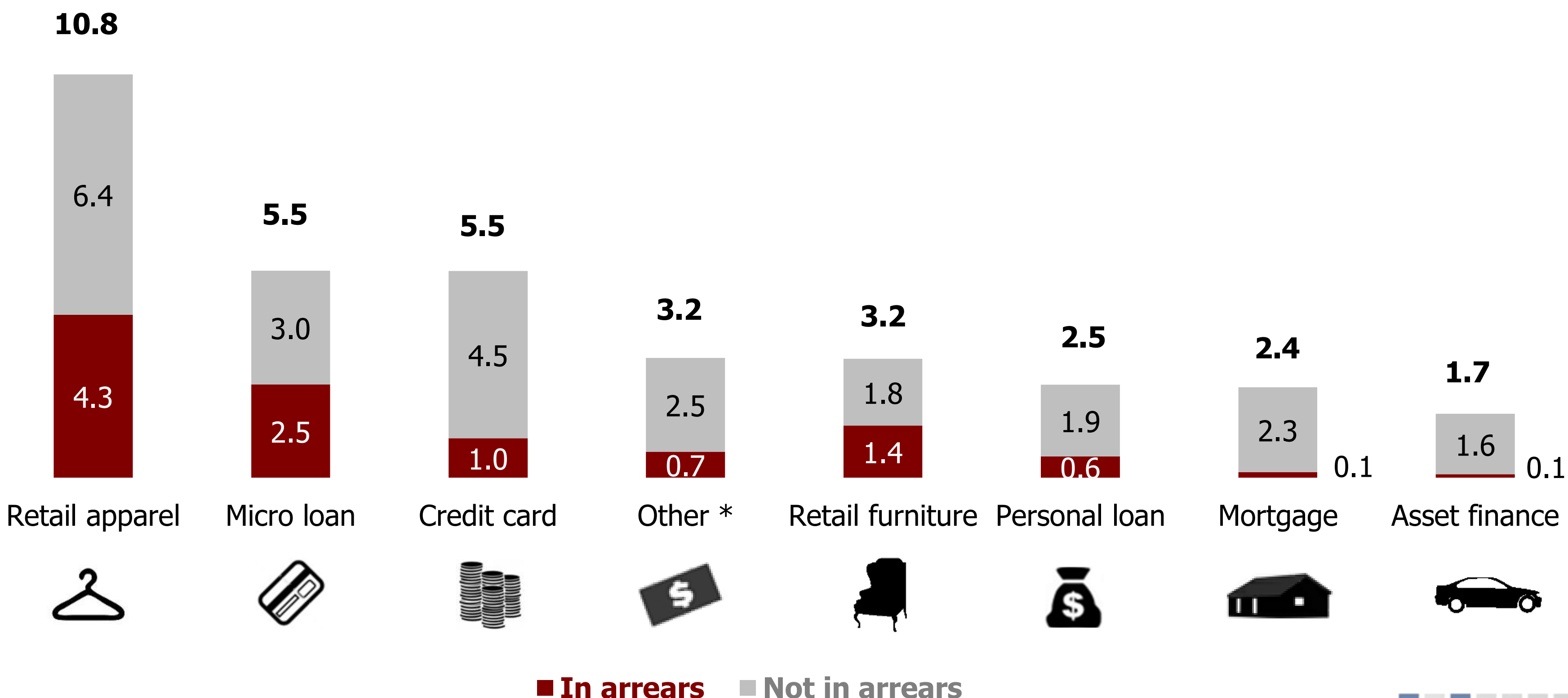
Credit bureau data indicates the number of borrowers who are at least 90 days in arrears on their worst performing account across various product types

CREDIT CONSUMERS
(July 2013, Millions)

% IN ARREARS (90+ days)	Retail apparel	Micro loan	Credit card	Other *	Retail furniture	Personal loan	Mortgage	Asset finance
July 2013	*40%*	*45%*	*19%*	*22%*	*44%*	*23%*	*6%*	*5%*
July 2012	*38%*	*36%*	*17%*	*19%*	*49%*	*28%*	*7%*	*9%*



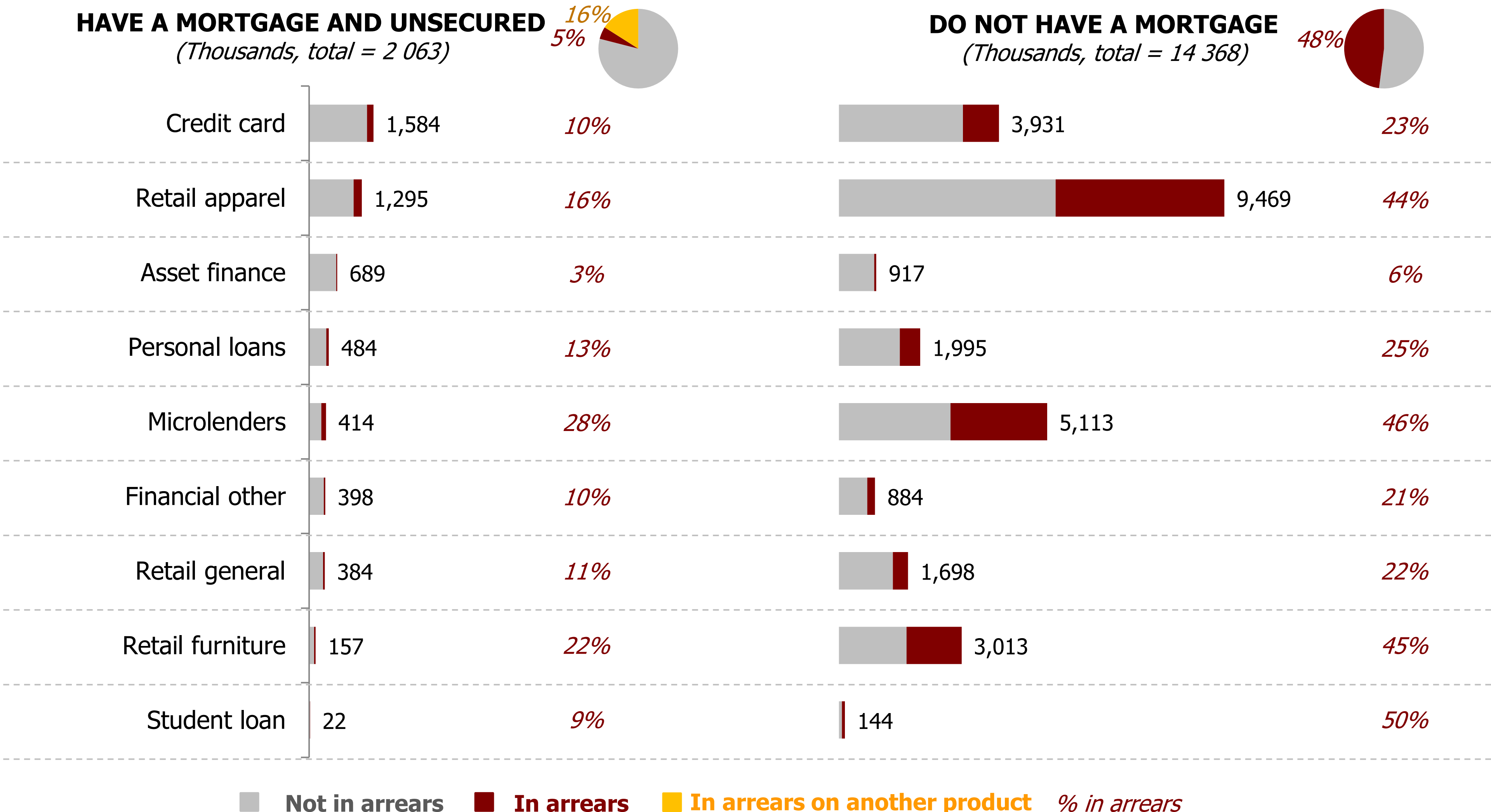
Source: XDS data
* Other includes "Retail General" or "Financial Other"

We can explore performance on all accounts. Eighty six per cent of those with a mortgage have at least one other unsecured credit product

	HAVE A MORTGAGE AND UNSECURED *(Thousands, total = 2 063)*		**DO NOT HAVE A MORTGAGE** *(Thousands, total = 14 368)*	
Credit card	1,584	*77%*	3,931	*66%*
Retail apparel	1,295	*63%*	9,469	*54%*
Asset finance	689	*33%*	917	*30%*
Personal loans	484	*23%*	1,995	*30%*
Microlenders	414	*20%*	5,113	*20%*
Financial other	398	*19%*	884	*17%*
Retail general	384	*19%*	1,698	*16%*
Retail furniture	157	*8%*	3,013	*7%*
Student loan	22	*1%*	144	*1%*

Source: XDS data
Note: Unsecured loans include microloans, personal loans, credit cards, retail apparel, retail furniture, retail general, student loans and financial other
Note: Pies: Red segment shows proportion in arrears on product that makes up segment, yellow shows arrears on any other credit product

With regard to performance, arrears levels clearly indicate distress. For those with mortgages 5% are in arrears on the mortgage and a further 16% are in arrears on at least one other credit product. In the case of borrowers with unsecured credit the proportion is 48%



Source: XDS data

Note: Unsecured loans include microloans, personal loans, credit cards, retail apparel, retail furniture, retail general, student loans and financial other

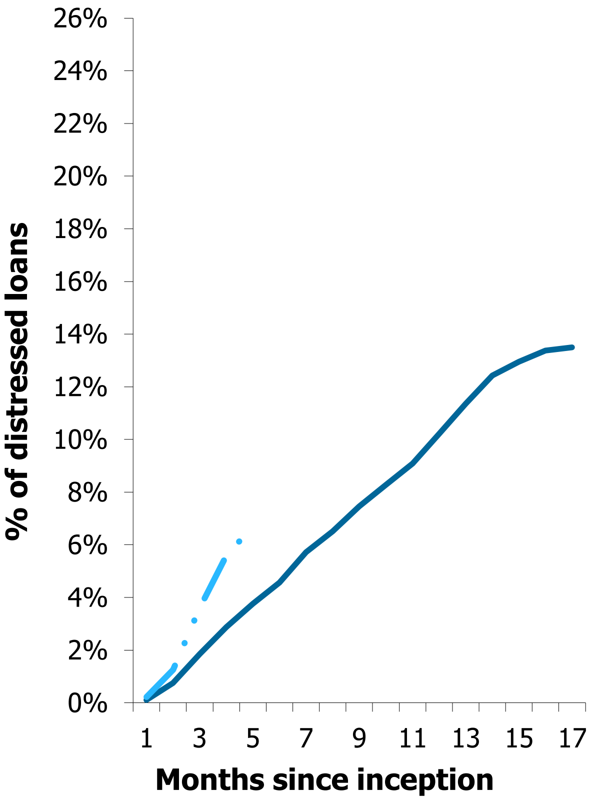
Note: Pies: Red segment shows proportion in arrears on product that makes up segment, yellow shows arrears on any other credit product

A vintage analysis indicates a deterioration in loan quality

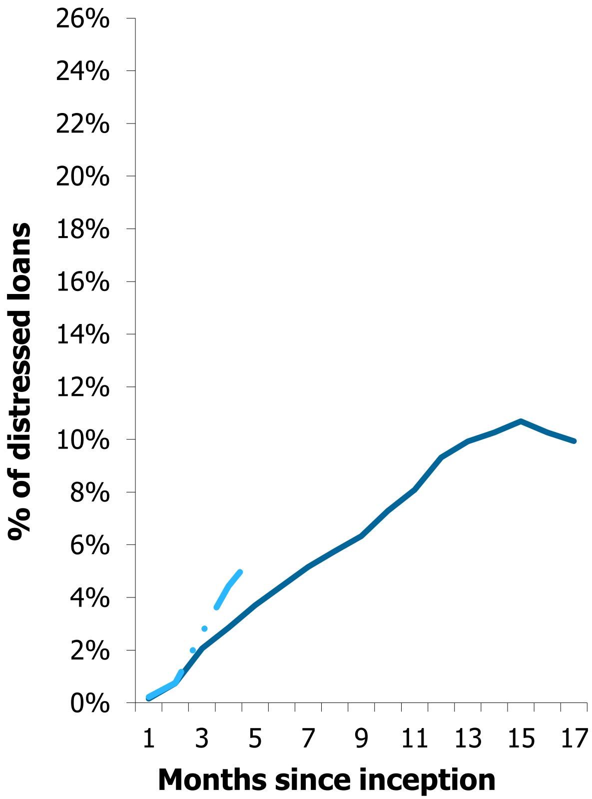
MORTGAGE BORROWERS' UNSECURED LOAN* VINTAGE ANALYSIS: DISTRESSED BY MONTHS SINCE INCEPTION

(*Based on a sample of 150 000 borrowers who have a mortgage)*

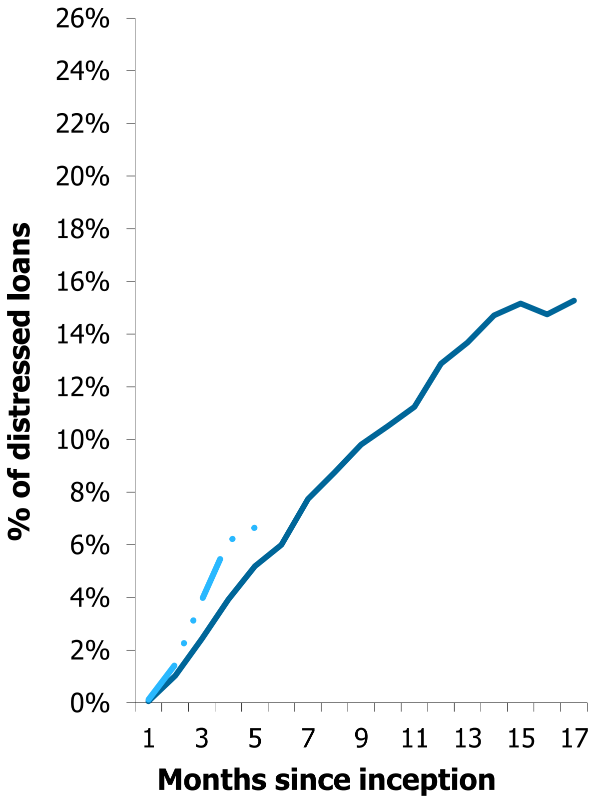
UNSECURED LOAN* OPENING BALANCE <R10,000



UNSECURED LOAN* OPENING BALANCE R10,000 – R50,000



UNSECURED LOAN* OPENING BALANCE R50,000+



2012Q1 2013Q1

* Microloans and personal loans only

Note: Due to incorrect reporting by one of the lenders, 2011Q1 is not shown here

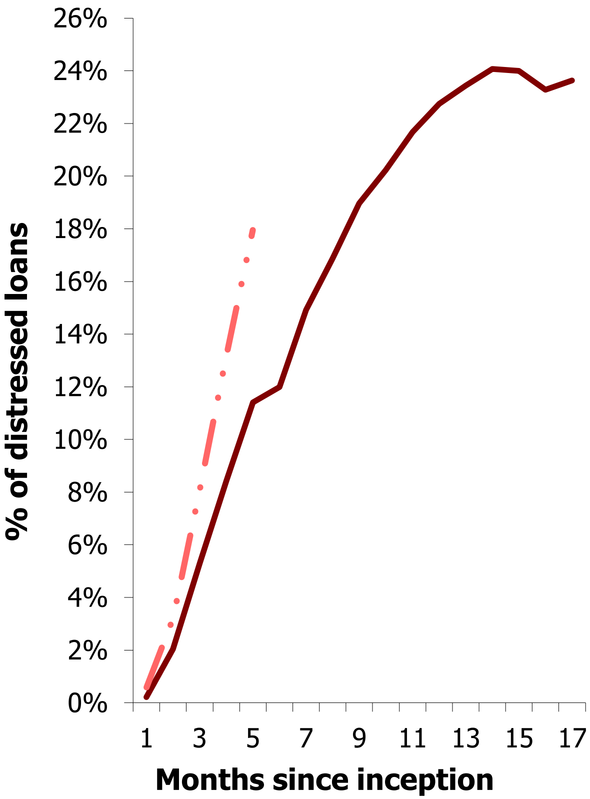
EIGHTY20

This deterioration is visible for borrowers who don't have a mortgage

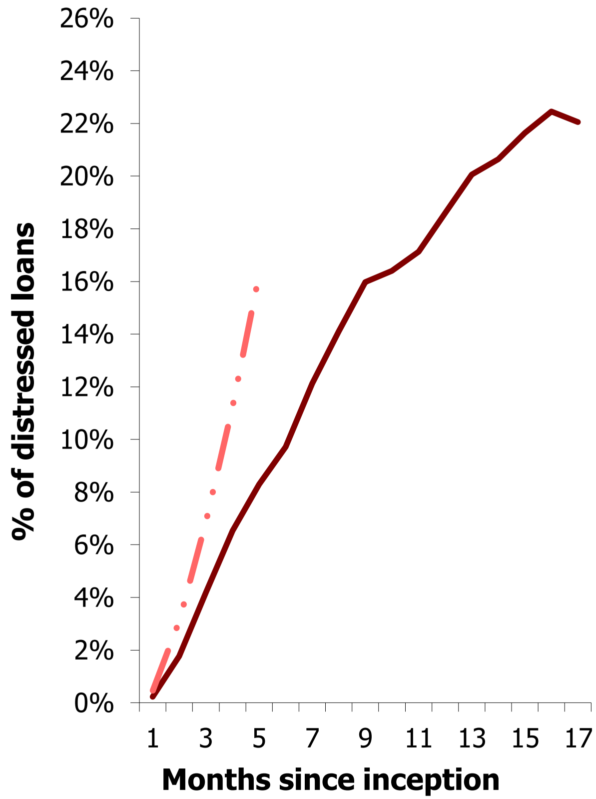
NON-MORTGAGE BORROWERS' UNSECURED LOAN* VINTAGE ANALYSIS: DISTRESSED BY MONTHS SINCE INCEPTION

(*Based on a sample of 150 000 borrowers who do not have a mortgage)*

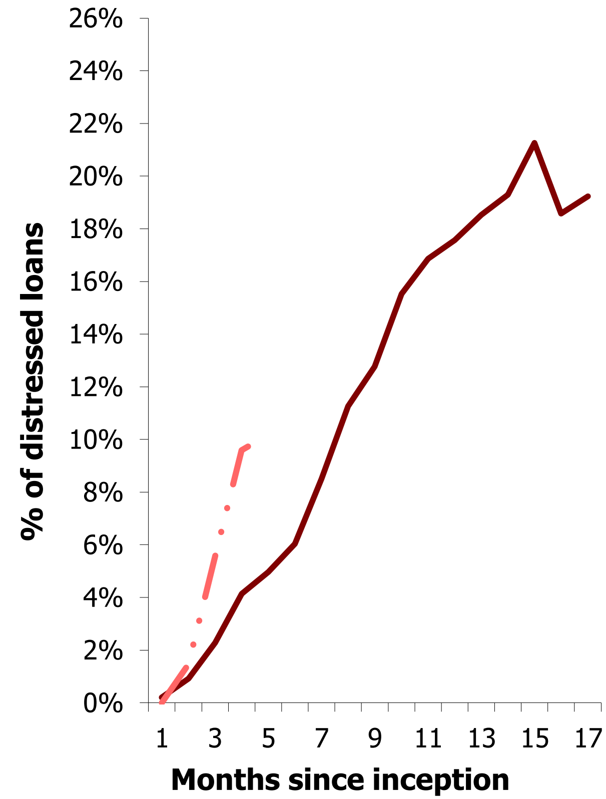
UNSECURED LOAN* OPENING BALANCE <R10,000



UNSECURED LOAN* OPENING BALANCE R10,000 – R50,000



UNSECURED LOAN* OPENING BALANCE R50,000+



2012Q1   2013Q1

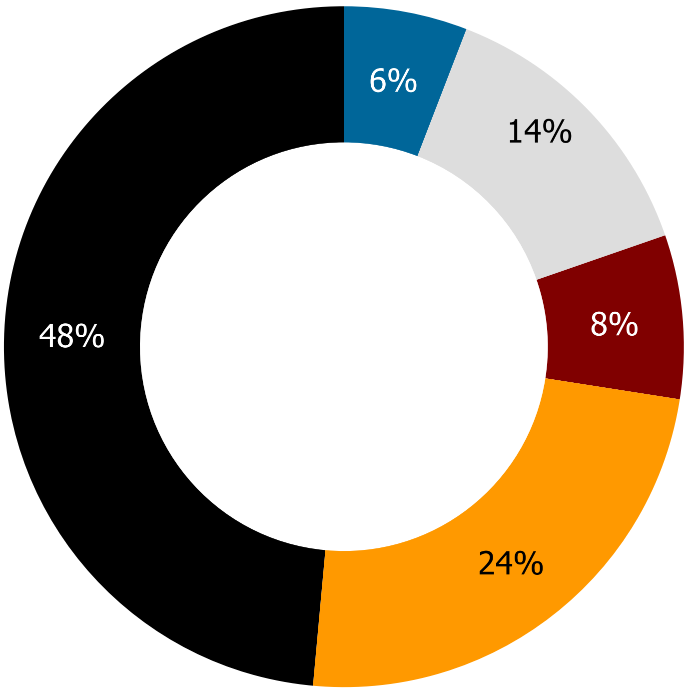
* Microloans and personal loans only

Note: Due to incorrect reporting by one of the lenders, 2011Q1 is not shown here

While 6% of mortgage borrowers appear are NPL or at some point in the legal process, a further 14% are NPL or legal on other credit products they hold. An additional 8% are in early stage arrears and should be closely monitored

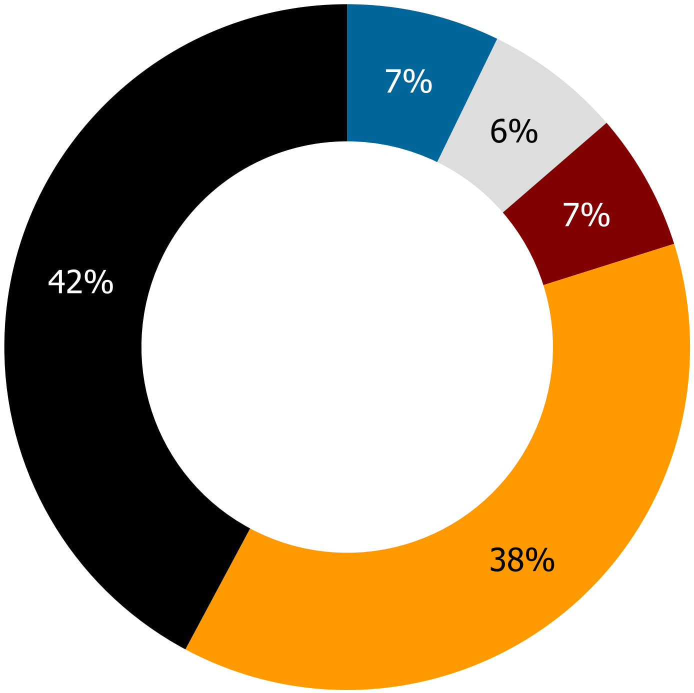
NUMBER OF MORTGAGE HOLDERS

(Based on sample of 150,000 people)



VALUE OF MORTGAGE

(Based on sample of 150,000 people)



■ Legal or arrears on mortgage ■ Legal or arrears elsewhere ■ Other distress (missed two payments)
■ Total instalment to income > 50% ■ Not distressed

Source: XDS
Note: Missed payment status is based on April 2013. All others relate to July 2013
Note: For joint mortgages, the worst status is used when considering the value of the mortgage at risk
Note: This is based on a random sample of 150,000 people, scaled up to the total
* At least two payments behind in the last three months on a mortgage, or any other account

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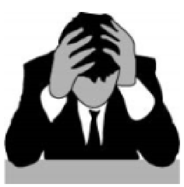
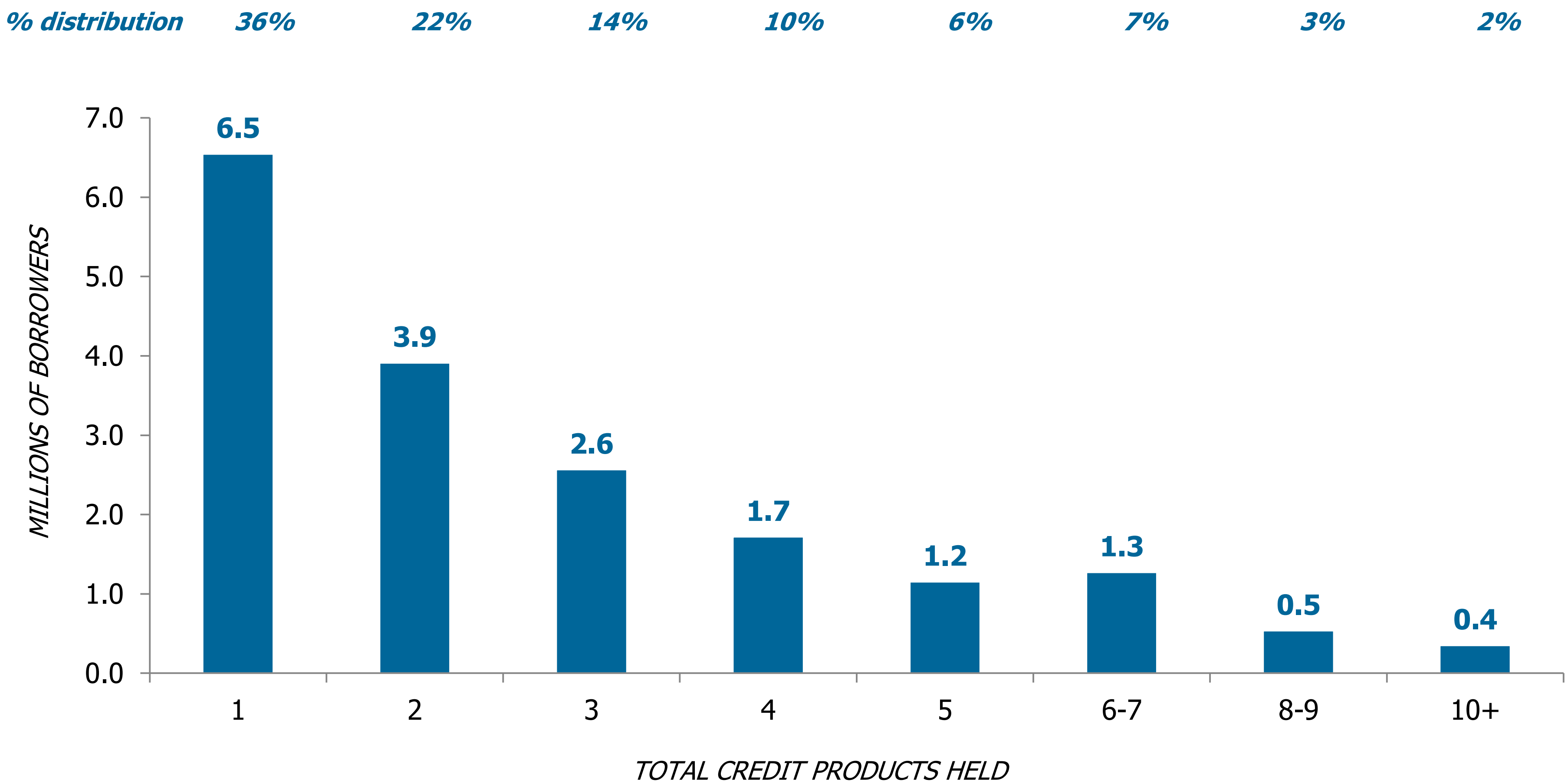


WHO IS IN DEFAULT ON WHAT PRODUCTS? WHAT DEFAULT PATTERNS DO WE SEE? WHAT GOES FIRST?

The analysis of default explored usage patterns in more detail. Almost two thirds of borrowers have more than one credit product

NUMBER OF CREDIT PRODUCTS HELD

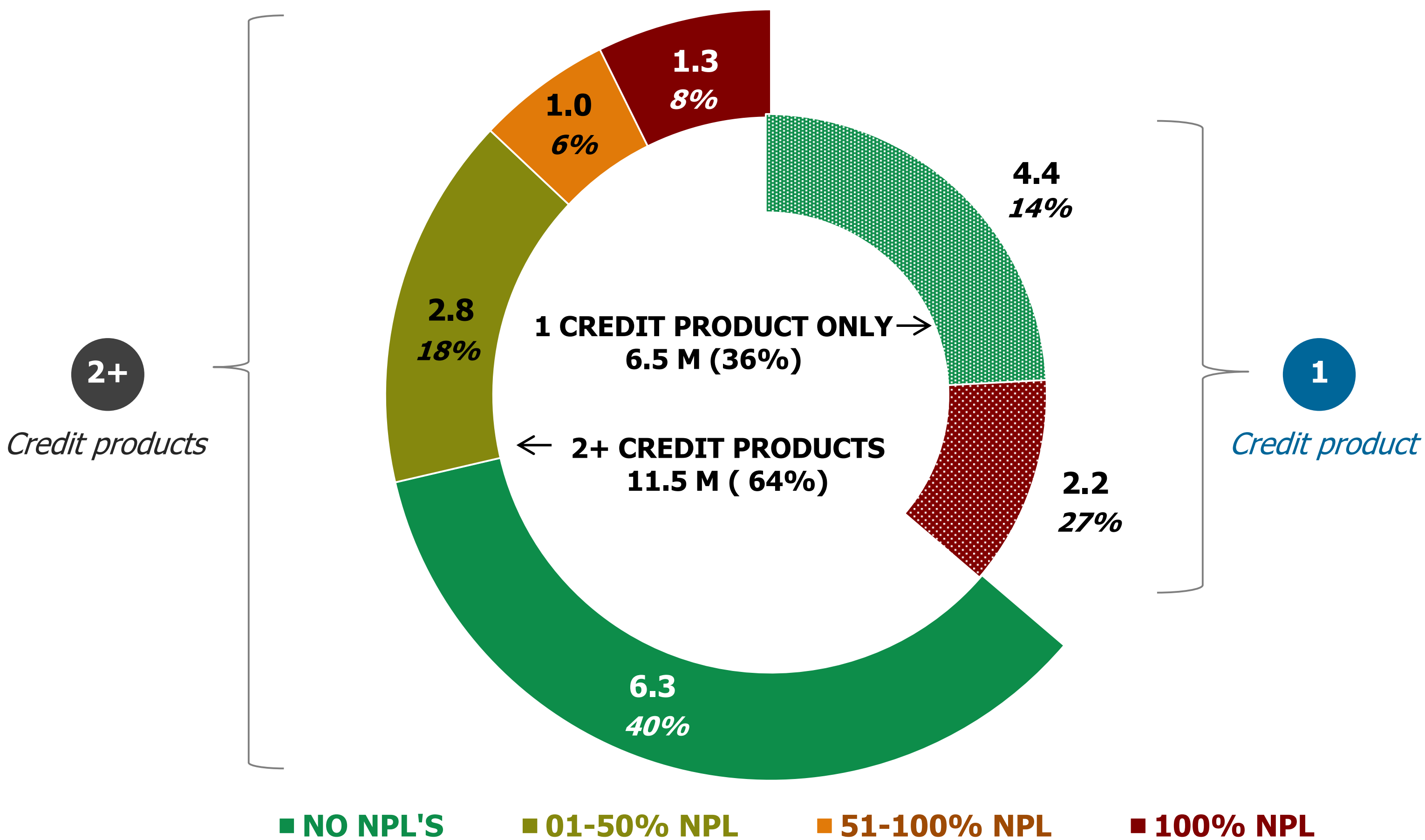
(February 2015, Millions)



Source: XDS data

Credit consumers have been segmented into six distinct groups based on the number of credit products held (one credit product only and those with two or more) and then by the proportion of credit products in arrears

SEGMENTS
(Millions of borrowers)



What products go into default first? Borrowers in good standing as at June 2011 with specific pairs of credit products were isolated*. It appears that borrowers who don't have mortgages are more likely to default on retail apparel accounts first

PRIORITIES BETWEEN PAIRS OF PRODUCTS

(Borrowers who do not have mortgages)

Of borrowers with asset finance and retail apparel account in good standing as at June 2011, 42% subsequently defaulted on their apparel account while maintaining their asset finance in good standing

MATCHED PAIR

FIRST PRODUCT TO DEFAULT	Retail Apparel	Credit Card	Retail General	Micro lenders	Retail Furniture	Personal Loans	Asset Finance
Retail Apparel		38%	38%	59%	53%	53%	42%
Credit Card	16%		22%	48%	34%	31%	24%
Retail General	25%	33%		60%	46%	43%	35%
Micro lenders	28%	37%	29%		50%	52%	71%
Retail Furniture	17%	21%	18%	34%		28%	20%
Personal Loans	9%	14%	13%	31%	19%		20%
Asset Finance	4%	5%	5%	5%	10%	8%	

Of borrowers with asset finance and retail apparel account in good standing as at June 2011, 4% subsequently defaulted on their asset finance product while maintaining their apparel account in good standing

Note: Borrowers have at the specific pair of products in good standing as at June 2011, and they could also have other products. The analysis is up to Feb 2015

Of the borrowers that had asset finance and a mortgage account in June 2011, 7% defaulted on their mortgage before the asset finance while 3% defaulted on the asset finance before their mortgage

PRIORITIES BETWEEN PAIRS OF PRODUCTS

(Borrowers who have a mortgage)

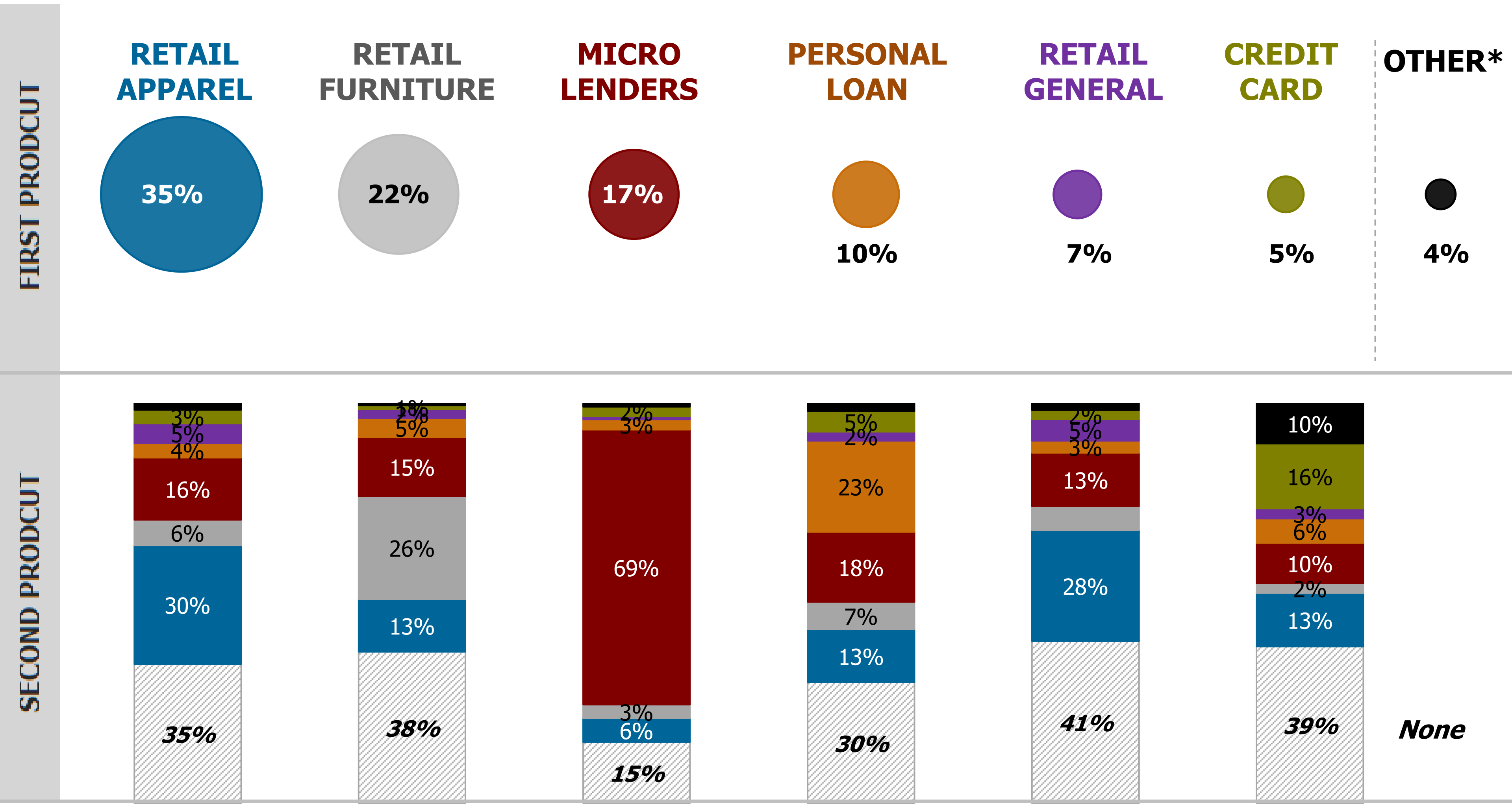
MATCHED PRODUCT

	Retail Apparel	Credit Card	Retail General	Micro lenders	Retail Furniture	Personal Loans	Asset Finance	Mortgage
Retail Apparel		22%	26%	53%	41%	36%	25%	27%
Credit Card	10%		14%	42%	25%	22%	13%	13%
Retail General	15%	20%		47%	33%	29%	22%	26%
Micro lenders	20%	32%	22%		56%	49%	52%	49%
Retail Furniture	9%	10%	9%	19%		15%	12%	21%
Personal Loans	7%	8%	7%	26%	14%		10%	8%
Asset Finance	2%	2%	3%	16%	5%	5%		3%
Mortgage	5%	5%	6%	12%	8%	8%	7%	

FIRST PRODUCT TO DEFAULT

Credit journeys are important. Ideally we would want to see deserving borrowers migrate from higher cost, typically unsecured products to better priced products over time

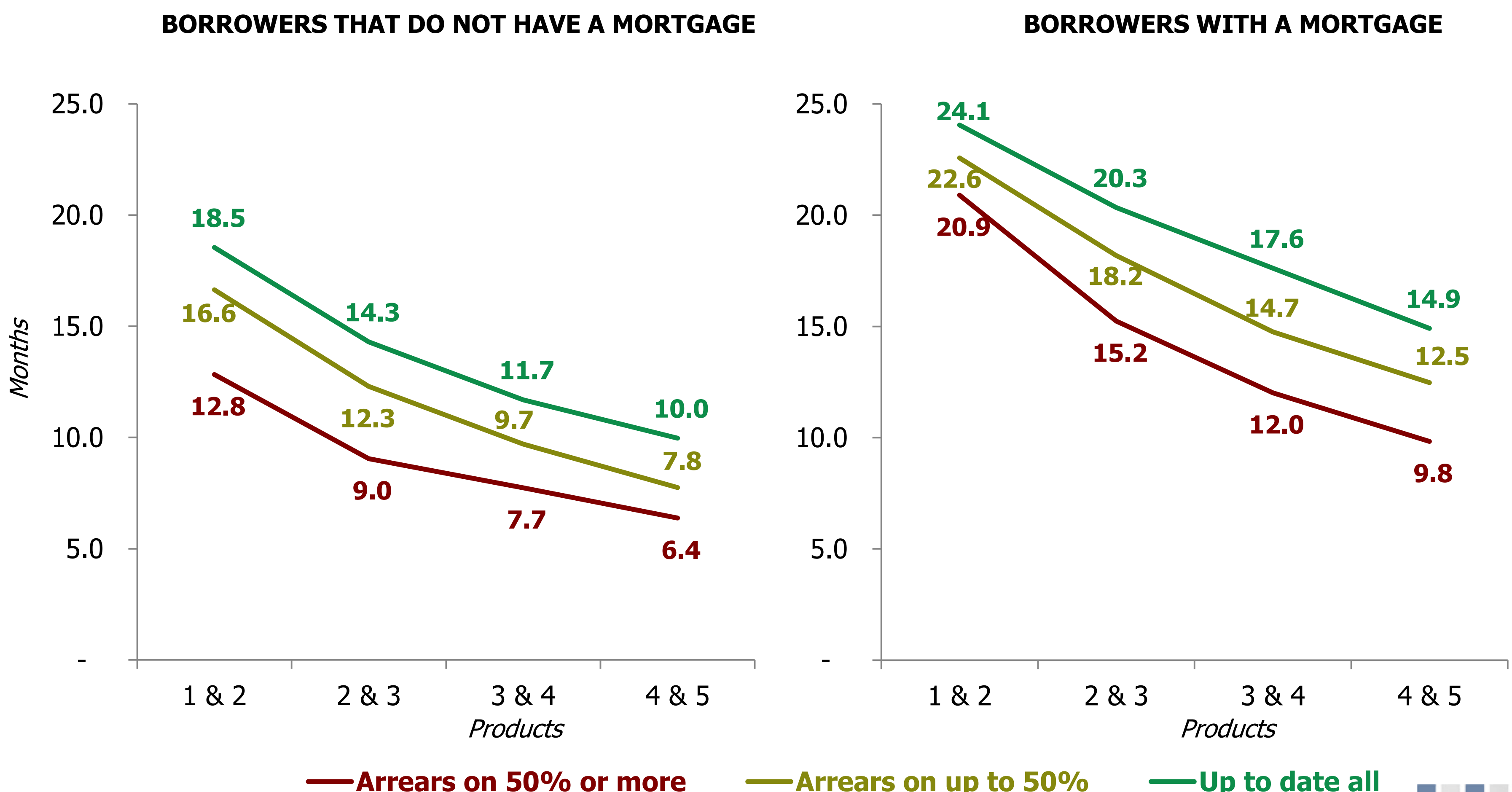
NEW BORROWERS 2012



Source: XDS data. Note*: Other includes: Mortgage – 2%, Asset finance – 1%, financial other – 1%

The length of time that elapses between the first and second product (and subsequent products) is shorter for borrowers who are more distressed

AVERAGE TIME BETWEEN CREDIT PRODUCTS



Agenda

Overview

Beyond published data

The process

The benefits

In order to access credit bureau data, we need the permission of the SACRRA management committee. In addition, we can only access masked data

CLIENT MOTIVATION

- Formal proposal to SACRRA outlining the objectives of the analysis, the rationale for using bureau data, the data required and research timelines

MANAGEMENT COMMITTEE APPROVAL

- The management committee considers the application at a management meeting and determines conditions of access

CONDITIONS OF ACCESS

- Conditions of access require that the data is masked; no lender names and no client identities can be revealed. The bureau assigns each client a unique ID
- Other limitations may apply. For instance, in the analysis of mortgage performance we may not publish data relating to specific neighborhoods
- The analysis must be shared with SACRRA, and any publications signed off
- These conditions are outlined in a formal document which can be forwarded to the bureau that facilitates access to data

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The benefits

Bureau data is a potentially rich, versatile national data asset that can be used to explore and monitor market developments in the formal credit market. It would be a pity to use it *only* for the purpose for which it was intended

Overcomes inherent limitations of regulator monitoring	*More data collected by regulators implies a higher compliance burden for lenders. It also requires infrastructure and capacity to manage and analyse big data sets*
Enables responsive analysis	*Questions change as the market develops. Required analysis will change too*
Consultative process creates a shared understanding of industry developments	*Data is analysed and reported back to lenders as well as the project sponsor, encouraging innovation, enabling benchmarking and shaping policy*
Extensive analysis tests the limits of data, prompts further analysis and on-going discussion	*The process must honestly flag instances the data is limited and suggest how it could be improved. This might include incomplete submission, diverse definitions etc.*
Ability to link with other data such as deeds data, tax data, area level data	*Enables a richer understanding of credit market outcomes and targeted interventions*
Limited only by imagination	*And by the rules governing submission. If it is not mandatory, chances are it will not be provided*

Thank you

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