Understanding HELOCS: Facts vs. fear

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Presentation overview

- There is a great deal of concern in the consumer lending industry regarding a potential second housing “bubble” resulting from the many home equity lines of credit (HELOCs) that will be exiting their draw period over the next few years
- This presentation attempts to define the problem and parameterize the extent of the market’s exposure
- We will also share an analysis of how consumers with HELOCs already in fully amortized repayment perform, both on the HELOCs themselves and on other loan products
- We end with specific, effective metrics that can be incorporated into strategy to help you manage existing risk and mitigate future risk

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What precisely is it about “bubbles” in the lending market that we fear?

1. There exists a risk that we have not even identified
2. We do not understand the **mechanics** of how the risk might manifest itself
3. We cannot determine the **timing** of the risk
4. We do not know **who** poses the risk, because we cannot **measure** the risk. Thus we cannot deploy strategies to combat/mitigate/avoid the risk

Let’s try to tackle these. If we can answer them all, we may sleep easier at night

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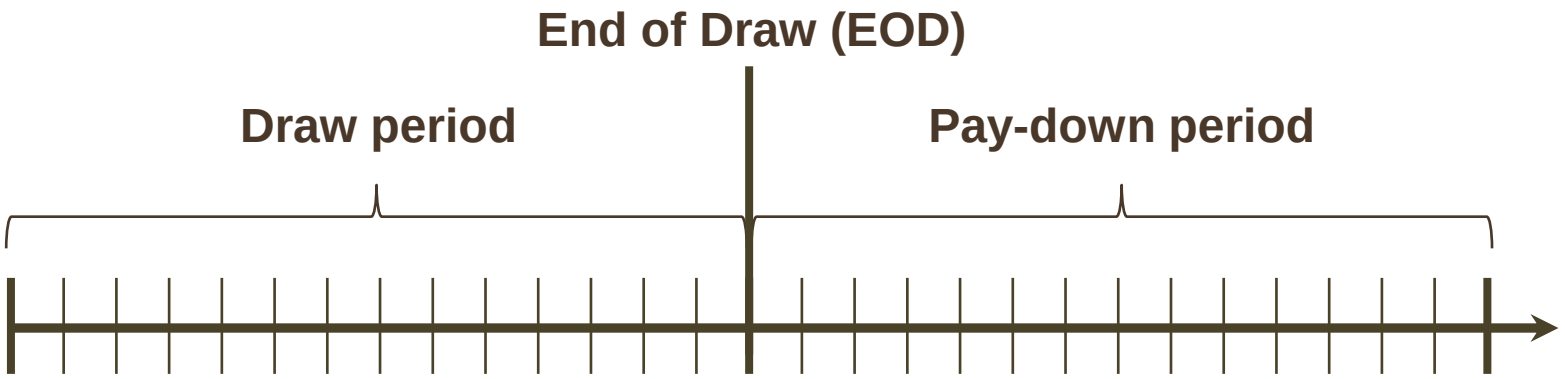
Let’s begin by identifying the risk. To do so, we need to review the general structure of a HELOC



- Usually 5, 7 or 10 years
- Payments interest-only
- APR usually based on an index (e.g., Prime Rate)

- Usually 10-15 years
- Payments fully amortized – no draw capability

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The HELOC market is large: lots of HELOCs were extended—and utilized—when home equity was rising

Total HELOC balances as of 12/2013–by vintage

Source: TransUnion consumer credit database

As of December 2013, 15.9 million U.S. consumers held $474 billion in HELOC debt

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While not as large as the other primary product classes, HELOC balances are still material

Loan type	Total balances end of Q4 2013
Mortgages	**$8,016** B
Student loans	**$1,077** B
Auto loans	**$829** B
Credit cards (includes RPL)	**$702** B
HELOCs	**$474** B

Source: TransUnion consumer credit database

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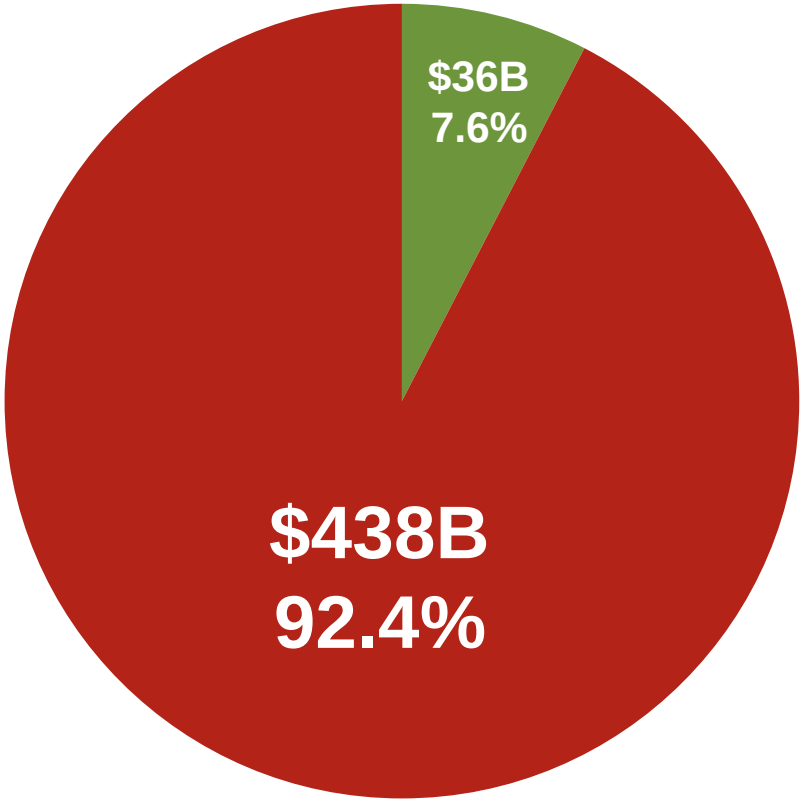
Most of those balances have NOT reached EOD as of 12/31/2013



Source: TransUnion consumer credit database

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At the loan level, that $438B in HELOCs represents a material component of the total wallet

Loan Size	% of Balances not yet at EOD at 12/2013
> $100,000	**52%**
$80,000 - $99,999	**10%**
$60,000 - $79,999	**10%**
$40,000 - $59,999	**12%**
$20,000 - $39,999	**11%**
< $20,000	**5%**

Source: TransUnion consumer credit database

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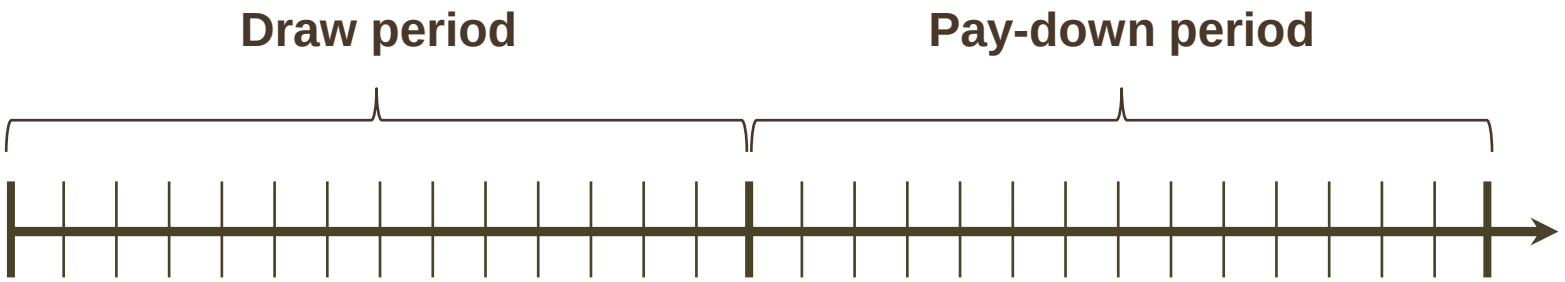
That $438B in HELOCS will be hitting EOD over the next few years. Why is this a concern? Consider this example

Balance = $80K
APR = 7.0%

15-Year Amortization



Payment = $467
(interest only)

Payment = $719
Fully amortized!

Payment shock = $252

Note that, during the draw period, you could actually draw from the HELOC to make your HELOC payments!

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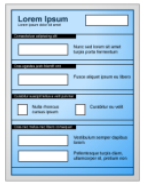
Mortgage lenders are concerned that the payment shock may cause borrowers to default on their HELOCs

Other lenders are concerned that the payment shock may cause borrowers to default on their other loans

Product



Payment

$

$$$$

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And what about the *timing* of this potential payment shock risk?

Draw Period	% of Accounts
Less than 5 years	0.4%
5 years	22.4%
6 years	0.3%
7 years	18.5%
8 years	0.3%
9 years	0.1%
10 years	55.3%
11 – 15 years	2.2%
16+ years	0.3%
Total	100.0%

Lines reaching EOD in 2012

- Over 55% of accounts have a 10-year draw period
- 96% have a draw period of 5, 7 or 10 years

We also noticed that

- Lines with certain draw periods tended to be originated at certain times
- Specific lenders tended to favor certain draw periods for lines of specific size

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Using these insights, we were able to successfully construct an EOD estimation model based on HELOCs with EODs in 2012

- Development sample: 10,000 HELOCs reaching EOD in 2012
- Validation sample: 20,000 other HELOCS reaching EOD in 2012
- Model includes: Lender, Balance, Origination Year, etc.
- Common sense rules also incorporated (e.g., a 6 year-old line not yet at EOD cannot have a draw period of 5 years)

Development Sample

Timing Estimate	% of accounts
Correct Draw Period	82.8%
± 1 Year Error	13.8%
> 1 Year Error	3.4%

Validation Sample

Timing Estimate	% of accounts
Correct Draw Period	82.7%
± 1 Year Error	13.6%
> 1 Year Error	3.7%

This was just a first effort! As more loans hit EOD we will refine and expand our modeling approach

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We seem to have answered the first three concerns—good progress!

1. There exists a risk that we have not even identified

   Many HELOCS are entering fully amortized repayment over the next few years ✓

2. We do not understand the mechanics of how the risk might manifest itself

   Payment shock may make borrowers miss payments on the HELOC or on other debt obligations ✓

3. We cannot determine the **timing** of the risk

   We can accurately estimate the EOD for the vast majority of HELOCs ✓

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What about the fourth concern—do we have to worry about *all* the HELOCS that have not yet hit EOD?

As of December 2013
$438 B in HELOCs
had not yet hit EOD

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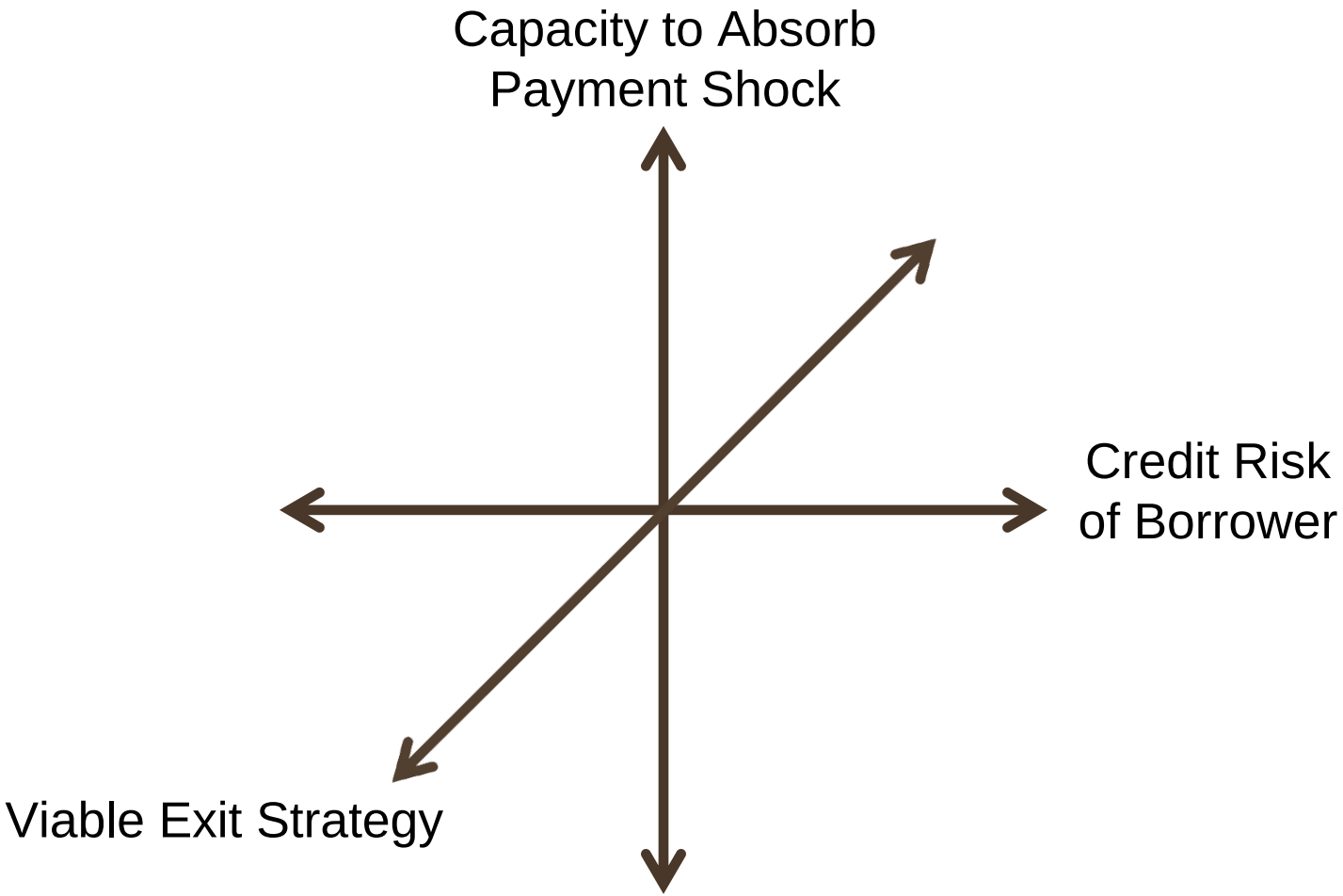
Let's try to measure the actual risk of these HELOCS in a logical framework



First, let's look at the credit risk distribution of the borrowers

VantageScore® 3.0 range	% of scored population	30+ DPD rate
≥ 800	13.4%	0.0%
760 - 799	25.8%	0.0%
720 - 759	20.6%	0.0%
680 - 719	14.4%	0.2%
640 - 679	12.4%	0.7%
600 - 639	7.2%	3.8%
< 600	6.2%	30.0%
Weighted total	100%	2.4%

Source: TransUnion consumer credit database.

- About 26% of balances belong to non-prime consumers
- Not surprisingly, the VantageScore credit scoring model rank-orders risk

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To understand Capacity to Absorb Payment Shock, begin with an Aggregate Excess Payment metric

ΣMPD	$1,000
ΣPayment	$2,000

AEP = $1,000

ΣMPD	$ 50
ΣPayment	$125

AEP = $ 75

Let us define *Aggregate Excess Payment* (AEP) as total payments – total min. due

AEP can be calculated over any past timeframe up to 30 months using CreditVision data

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What does the risk distribution look like in terms of AEP?

AEP range	% of population	30+ DPD rate
≥ $1,000	48.9%	0.5%
$500 to $999	10.5%	1.2%
$200-$499	11.0%	1.8%
$100-$199	6.1%	2.7%
$0-$99	17.5%	3.8%
< $0	0.6%	12.8%
No cards	5.2%	18.0%
Weighted total	100%	2.4%

Source: TransUnion consumer credit database.

- About 40% of balances belong to consumers with less than $500 in AEP—that is, little capacity to absorb a payment shock
- AEP also clearly rank-orders risk

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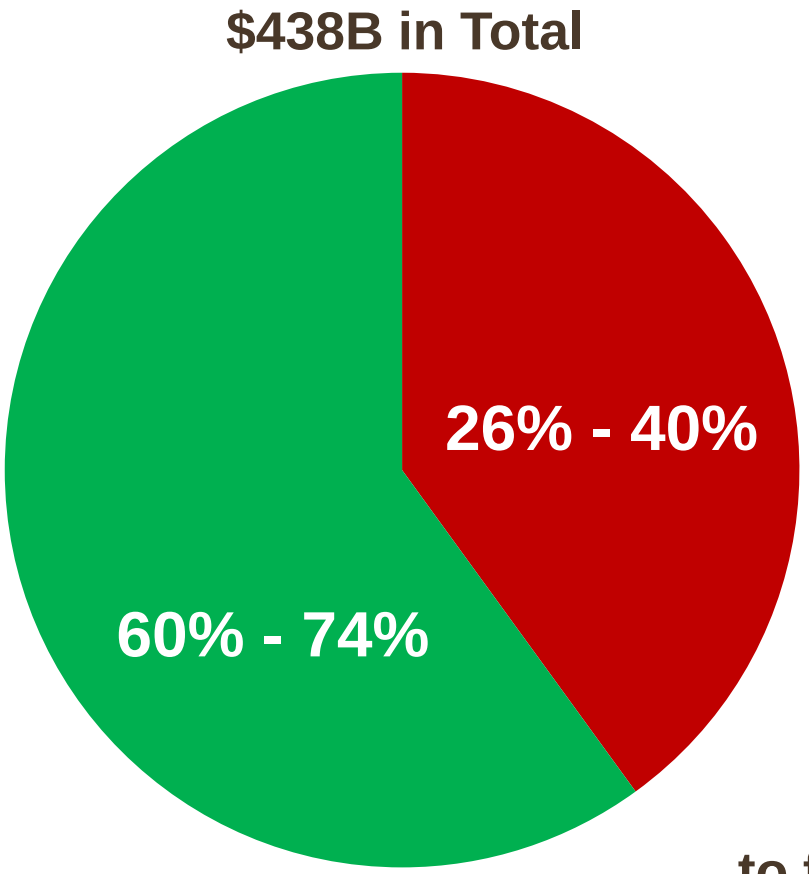
“Ability to Exit the Loan” may be measured by CLTV. We derived CLTV using data from our partner, CoreLogic®

CLTV range	% of population	30+ DPD rate
≥ 90%	28.9%	4.0%
80%-90%	8.8%	2.5%
70%-80%	9.6%	2.2%
60%-70%	9.6%	2.0%
< 60%	43.1%	1.6%
Weighted Total	100%	2.4%

Sources: TransUnion consumer credit database and CoreLogic.

- About 29% of balances belong to consumers with CLTV above 90%—that is, exit strategy is limited or nonexistent
- CLTV also rank-orders risk, although perhaps not as strongly as our previous two metrics

Based on univariate analysis alone, we've reduced the at-risk balance dramatically



We now have to focus on only $114B – $177B in balances

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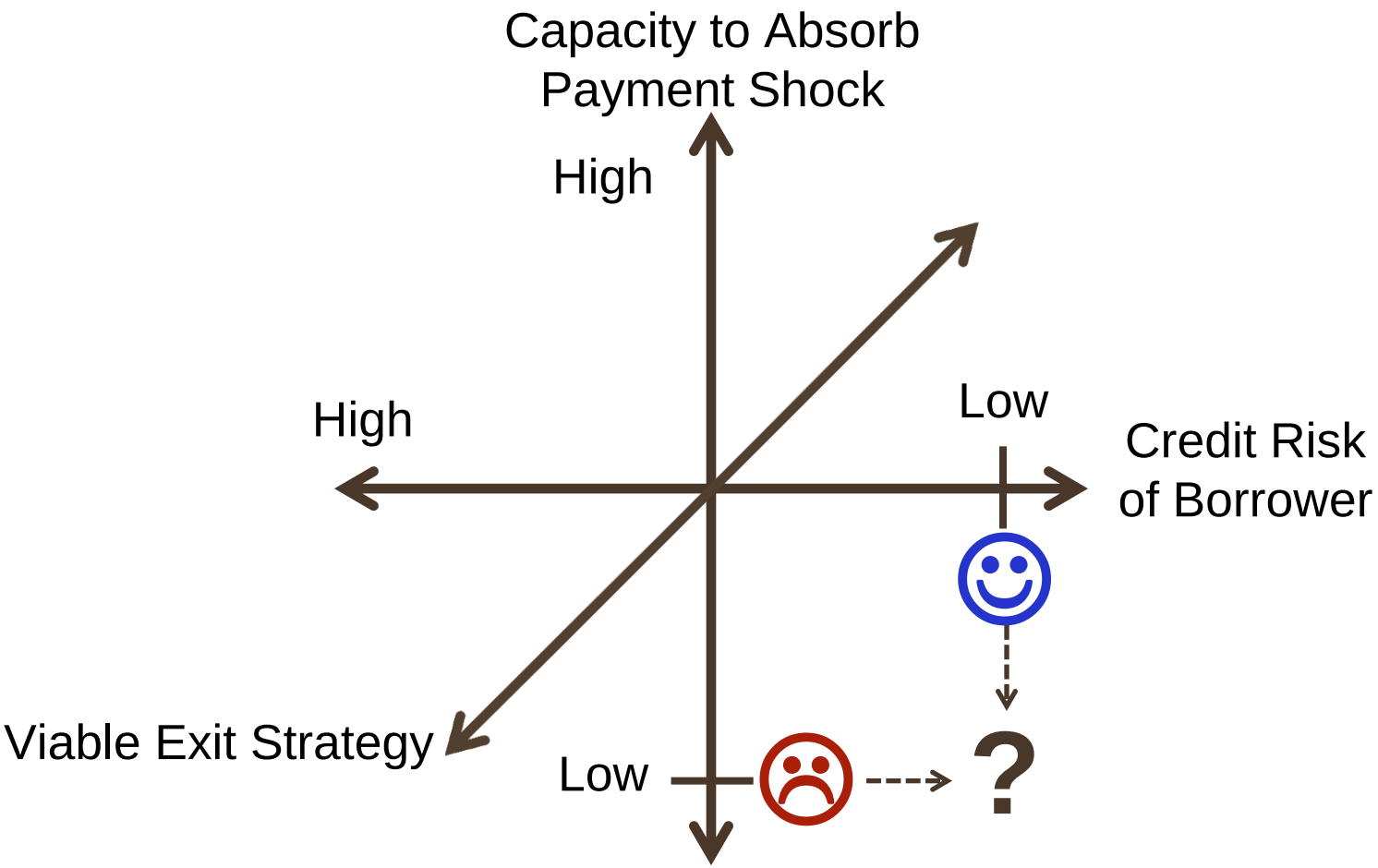
Our univariate approach is decent, but we can do better. What about interaction effects?



Looking across two dimensions helps us refine our ability to identify pockets of risk

Percent of population by Balance		Credit card AEP						
		No cards	< $0	$0 to $99	$100 to $199	$200 to $499	$500 to $999	$1,000+
VantageScore 3.0	800+	0%	0.0%	2%	1%	1%	2%	8%
	760–799	0%	0.0%	3%	1%	2%	3%	15%
	720–759	1%	0.0%	3%	1%	2%	2%	11%
	680–719	1%	0.1%	3%	1%	2%	2%	7%
	640–679	1%	0.1%	3%	1%	2%	1%	4%
	600–639	1%	0.1%	2%	1%	1%	1%	2%
	< 600	2%	0.3%	2%	1%	1%	0%	1%

- Of the 40% with insufficient AEP, 24.1% have prime risk scores
- Of the 28% who are non-prime, 11% have sufficient AEP
- 18.5% of the population are looking somewhat grim

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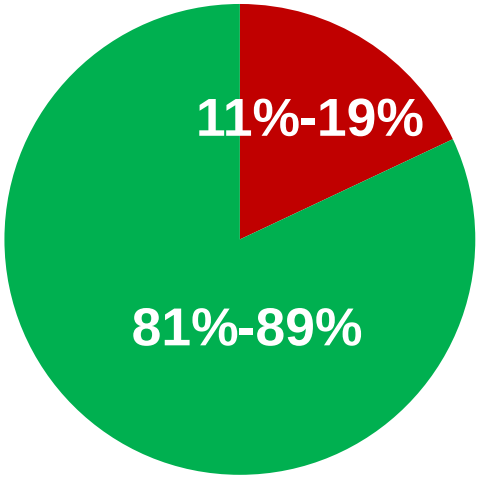
We've improved our identification of the real threat—between 11% and 19% of balances are at risk



$48 B–$79 B

Two questions remain:

- Can we do an even better job of identifying the truly risky segments of the population?
- These HELOCs have not yet hit EOD. Can we estimate what will happen to their risk once they do?

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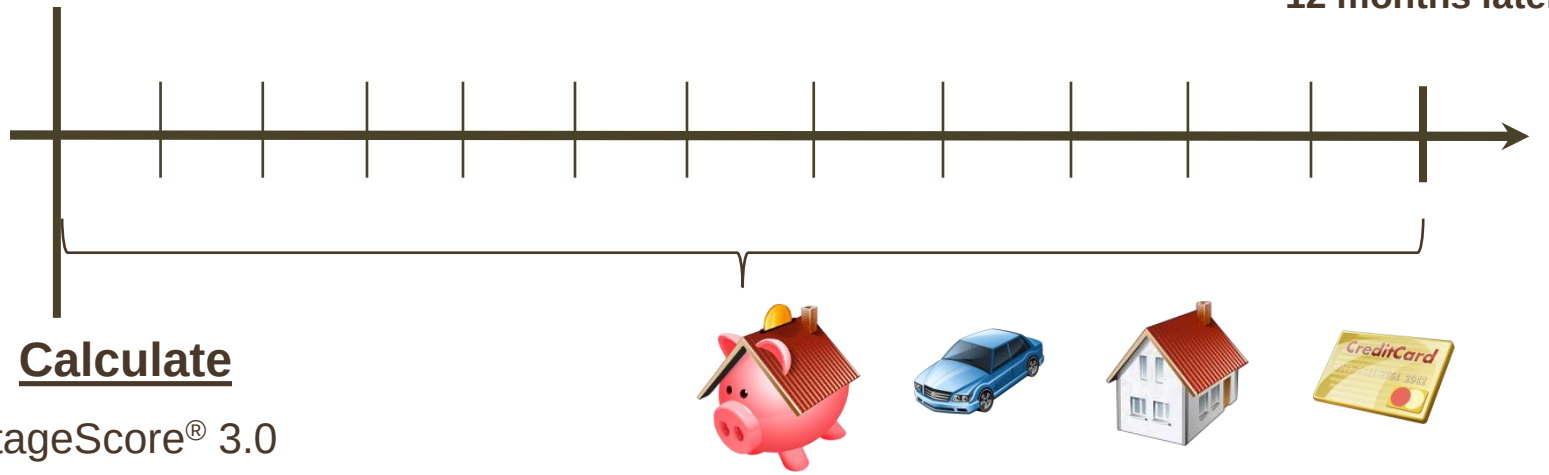
The answer to both, of course, is yes. Remember, we have a pool of HELOCs that had already hit EOD in 2012

SAMPLE
- **46K HELOCs reached End-of-Draw in 2012**

12 months later



Calculate

- VantageScore® 3.0
- Bankcard AEP
- CLTV using CoreLogic® data
- Balance and payment status across loans on credit file

Evaluate 60+ DPD delinquency

Build decision trees to segment behavior based on our metrics

We also got a bit more sophisticated in our *Capacity to Absorb Payment Shock* metric

First we calculate the Card AEP

ΣPayments	$2,000
– ΣMPD	$1,000
AEP =	$1,000

Next we calculate the Payment Shock

Fully Amortized	$719
– Interest-Only	$467
Payment Shock =	$252

CtA = $1,000 – $252 = $748

Finally, we define the “Capacity to Absorb” (CtA) a payment shock as

CtA = AEP – Payment Shock

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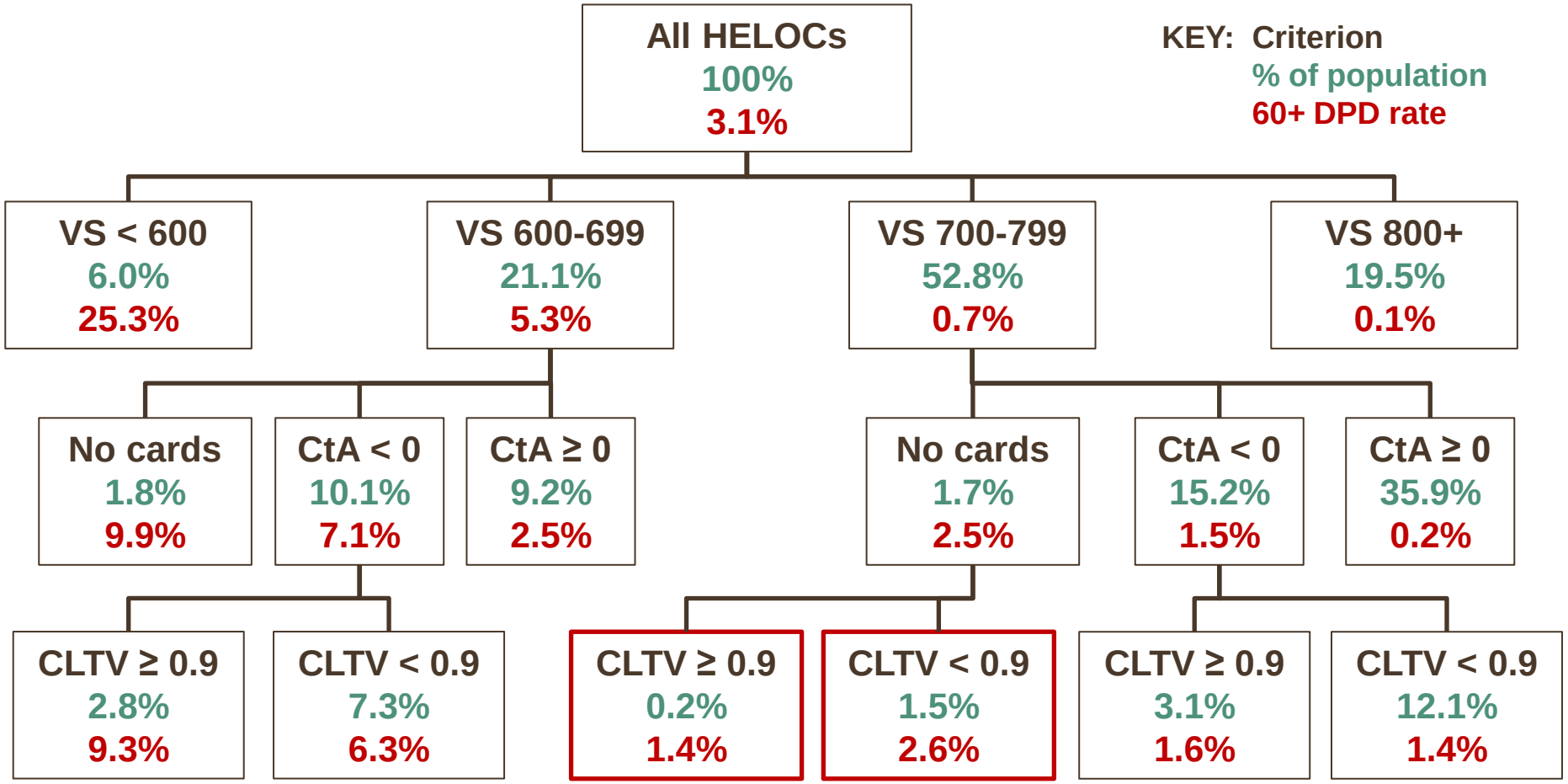
Our CtA metric is a simple, conservative measure of the ability to manage increased debt service obligations

		
ΣPayments	$2,000	$125
ΣMPD	$1,000	$50
AEP	$1,000	$75
HELOC Balance	$80,000	$120,000
Fully Amortized Pmnt.	$719	$1,078
Interest-Only Pmnt.	$467	$700
Payment Shock	$252	$378
CtA	$748	- $303

We found tremendous risk differentiation for HELOC performance, although sample size can become an issue



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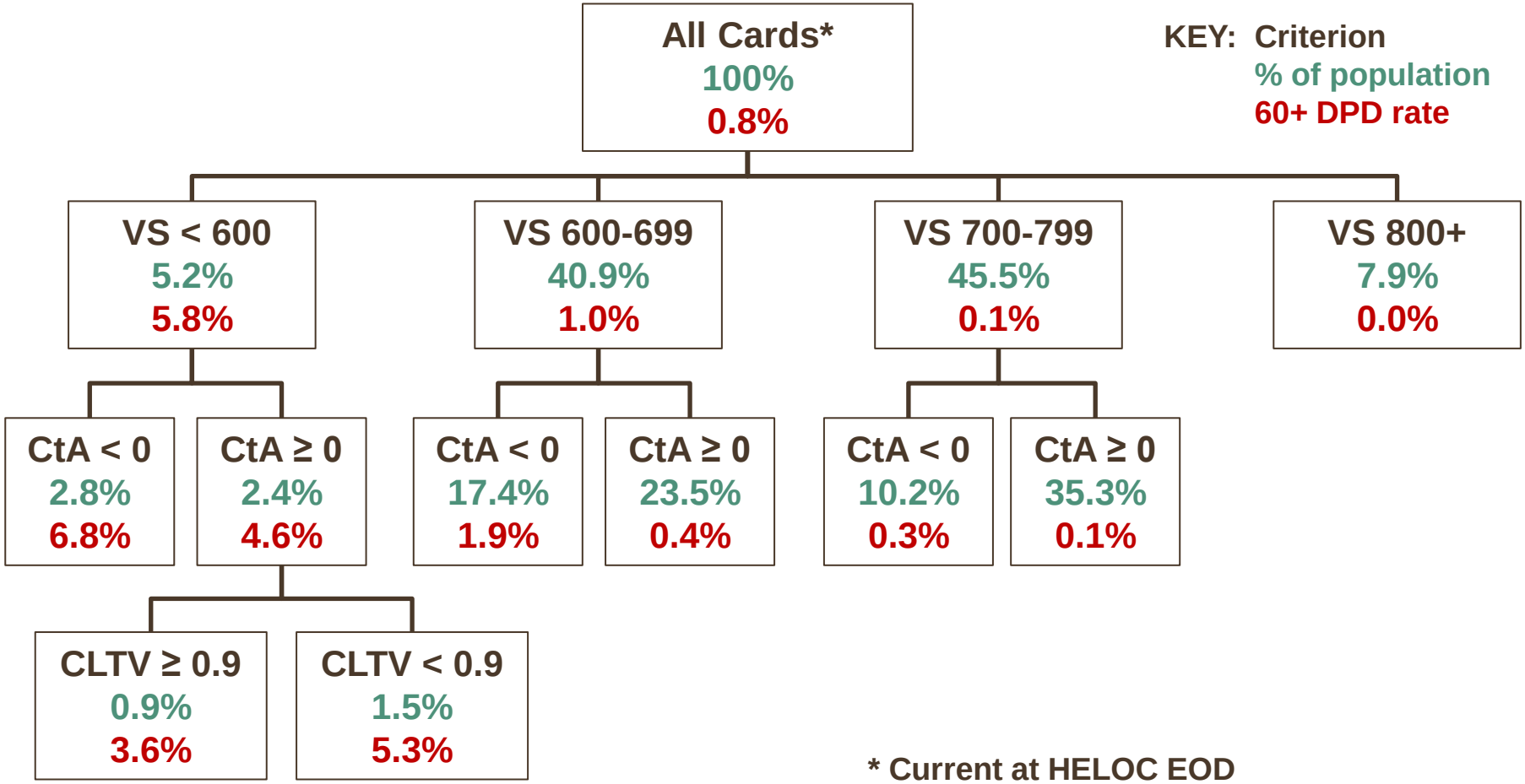
We can also use this methodology to great effect in the Card space—but understand Payment Hierarchy effects!



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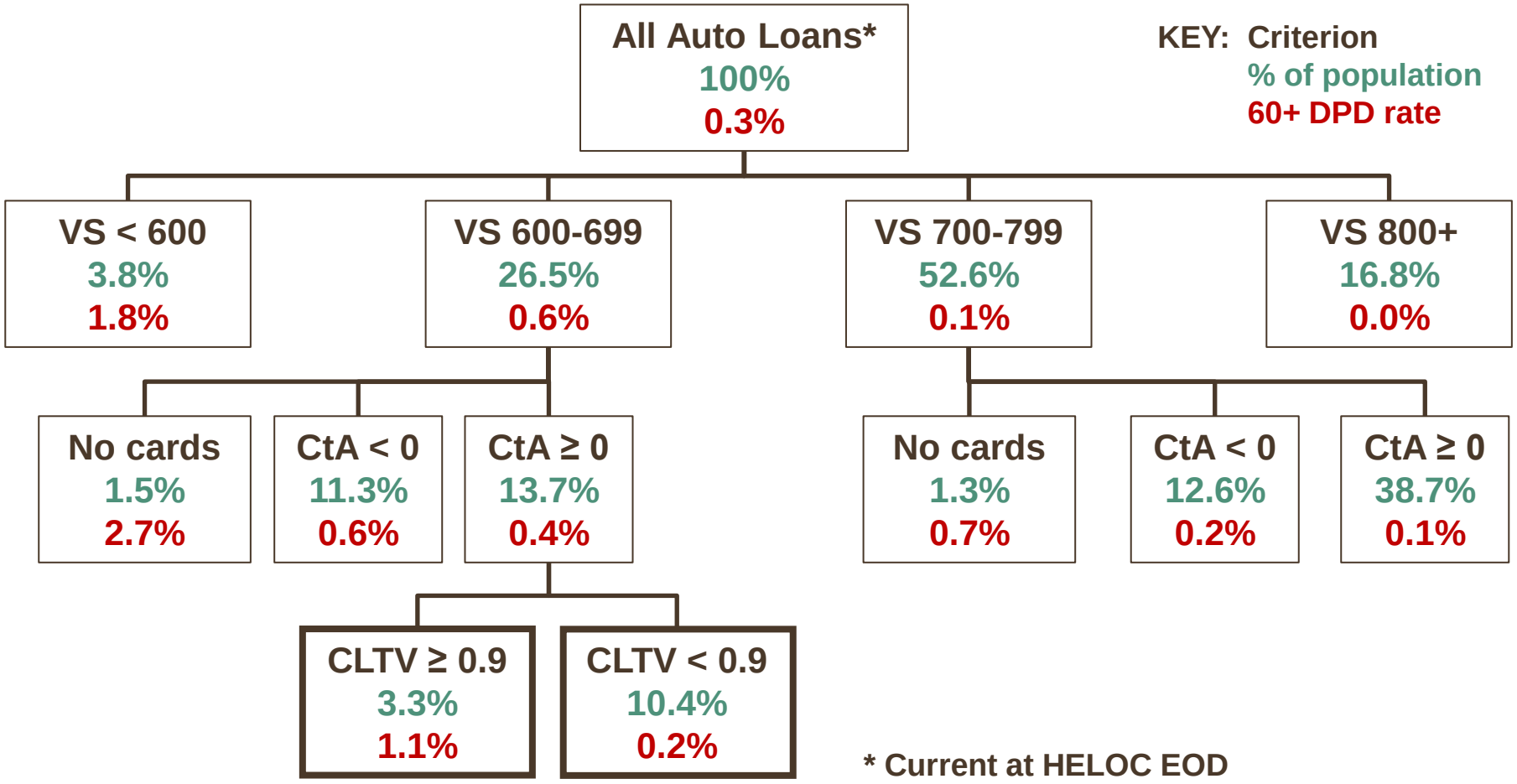
This approach is also effective in differentiating risk among auto loans, although perhaps with somewhat less power



We have addressed all four concerns. Our approach is easily delivered and incorporated into strategy

- We can provide the following metrics using existing CreditVision credit report data:
  - Payment Shock Estimator
  - Estimator of timing of End-of-Draw period
  - Capacity to Absorb Payment Shock
  - HELOC and total equity-based balances
  - Several generic and proprietary credit risk scores
  - Many more, customized as desired
- These metrics are all FCRA-compliant and hence adverse-actionable
- In addition, CLTV estimation models are available from partners like CoreLogic®

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Summary

- There is a lot of market concern over a potential HELOC “bubble.” We find that the elements driving that fear can be effectively **identified**, **anticipated** and **measured**—you can ***manage*** that risk
- We have developed a framework to identify pockets of risk. Careful measurement and planning can do a lot to ease concerns
- Risk will continue to abate as home values  and unemployment 
- The ability to discern HELOC risk—and the timing of that risk—is critical not only for HELOC lenders but in fact for all consumer lending executives. Many of your customers have HELOCs in their wallets
- We will continue to partner with you to develop and deliver this and other strategic solutions to address emerging challenges in the marketplace

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