



November 2011, reformatted April 2016

The Mortgage Loan Due Diligence Process

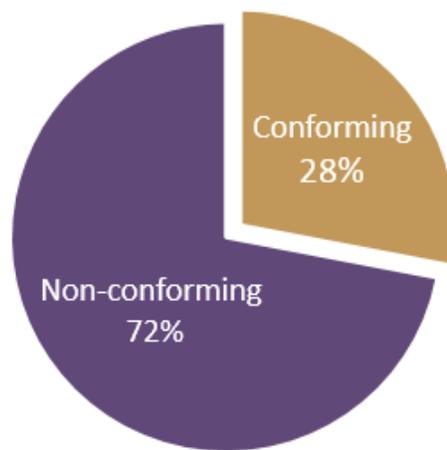
Shortcomings of Statistical Sampling Leading up to the Financial Crisis

Introduction

Financial institutions, when assembling mortgage pools for the purpose of inclusion in residential mortgage-backed securities (RMBS), often hire independent analytical companies, like Clayton Holdings LLC (“Clayton”), to perform due diligence on the loans and flag any that are problematic.

Leading up to the financial downturn, Clayton reviewed mortgages for its clients - investment and commercial banks and lending platforms, including those of Bear Stearns, Barclays, Bank of America, C-Bass, Countrywide, Credit Suisse, Citigroup, Deutsche Bank, Doral, Ellington, Freddie Mac, Greenwich, Goldman, HSBC, JP Morgan, Lehman, Merrill Lynch, Morgan Stanley, Nomura, Société Générale, UBS and Washington Mutual (the “Issuers”). As such Clayton was purportedly one of the larger due diligence companies that analyzed whether these loans met specifications like loan-to-value ratios, credit scores and the income levels of borrowers.

Breakdown of the 911,039 Loans Reviewed by Clayton



Source: Trending Reports provided by Clayton to FCIC.
http://fcic-static.law.stanford.edu/cdn_media/fcic-testimony/2010-0923-Clayton-All-Trending-Report.pdf

Clayton describes, in the presentation it provided to the Financial Crisis Inquiry Commission (“FCIC”), the results of its review of a total of 911,039 mortgage loans between Q1 2006 and Q2 2007.¹As can be seen from the chart, of the loans shown to Clayton, Clayton determined approximately 72% of them to be in compliance, and 28% of them to be out of compliance with the standards tested, or “non-conforming.”

Upon determining that a loan failed to meet its guidelines, an Issuer (i.e., Clayton’s client) would have the ability to exercise their contractual right in “putting back” these non-conforming loans to the mortgage lenders – New Century, Fremont, Countrywide, Decision One Mortgage – rather than include them in securitizations.

The regulatory bodies, and the media, have concentrated heavily on the sizeable portions of non-conforming loans, and the lowering of underwriting standards throughout this period; but for this analysis, we concentrate on a more illuminating aspect of the way in which non-conforming loans ultimately found their way into the securitized RMBS pools.

¹ http://fcic-static.law.stanford.edu/cdn_media/fcic-testimony/2010-0923-Clayton-All-Trending-Report.pdf

There are at least two ways that non-conforming loans can find their way into the securitizations:

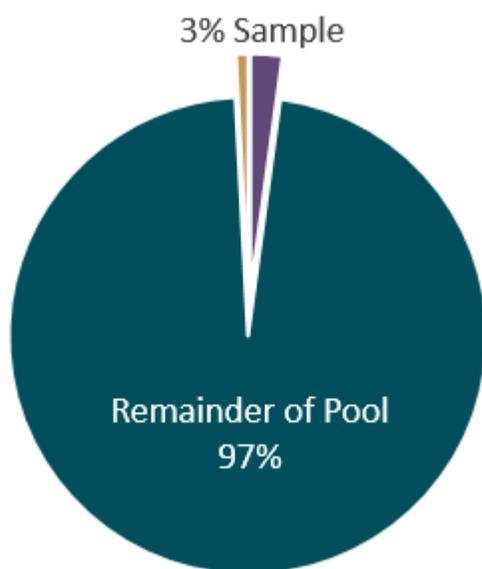
- First, the Issuer may choose to waive the loan back into the pool, despite its being originally rejected by Clayton.
- Second, a more overwhelming mechanism, is to not show the loan to Clayton.

The Intricacies of Loan Sampling

Importantly, it seems to have been common practice for Issuers to show only a sample of the loans to Clayton. A sample risks being unreflective of the population of loans, but random sampling can provide an effective statistical approximation under very strict conditions. It can be a cheaper process and, if the sample is well chosen, can accurately reflect the pool.

The objective of sampling is satisfied if the randomly-selected sample is sufficiently large, and is deemed to be in order. Alternatively, if the sample fails to meet expectations, the entire portfolio ought to be revisited. However, in the mortgage due diligence process the samples were often deemed to be problematic – they resulted in an average of 28% of loans failing their criteria. Importantly, the samples were then adjusted, as we understand it, but the original portfolios were not: the Issuers would only put back certain non-conforming loans *from that sample*.

In this case, the resulting sample, after throwing out certain non-conforming loans, fails to accurately depict the remaining portfolio of loans it was chosen to represent.



How the Sampling Process Worked, and Difficulties Therewith

Former President and COO of Clayton, D. Keith Johnson, explained to the FCIC committee, during their hearing of September 2010, that in the 2004 to 2006 time period, sample sizes went down to the region of two to three percent.² As the sample size decreases, which it did, the effect of the sampling process alone begins to undermine the effectiveness of the due diligence process.

² <http://fcic.law.stanford.edu/resource/interviews#J>

³ Of course, the sample sizes used and the percentages rejected by Clayton will differ from Issuer to Issuer. So too will the waiver rate.

The media have focused their attentions on what happened to the 28% non-conforming loans – the slices in red in the associated charts. Indeed, many of these non-conforming loans, approximately 39%, were not “kicked out” or put back to the mortgage lenders, but were “waived” back in to the to-be-securitized portfolio. This 39% is substantial, and a factor worthy of the media’s attentions.

But the game-changing fact is not among these 28% non-conformers, or the 39% of them which remained in the securitized pool. These are only part of a sample, and when the sample becomes insignificantly small, its overall contribution to the portfolio as a whole is rendered less meaningful. Rather, it is more prudent to consider the composition of the pool as a whole.

For illustrative purposes, let us assume that the sample loans shown to Clayton represented 3% of the pools, on the higher end of those referred to in the abovementioned Johnson hearing. Let us conservatively assume that the sample provided to Clayton was truly randomly selected.³

For a pool of 10,000 loans, Clayton would have been presented with approximately 300 loans, or 3%.

Before Due Diligence	Total	Conforming	Non-Conforming
Overall Loans	10,000	7,200	2,800
Portion of pool not provided to Clayton	9,700	6,984	2,716
Sample provided to Clayton	300	216	84
Overall	10,000 (100%)	7,200 (72%)	2,800 (28%)

After Due Diligence	Total	Conforming	Non-Conforming
Overall Loans	10,000	7,200	2,800
Portion of pool not provided to Clayton	9,700	6,984	2,716
Clayton Sample <i>Pre</i> Due Diligence	300	216	84
Conforming remain included:		216	0
39% Non-Conforming Waived in:		33	51
Clayton Sample <i>Post</i> Due Diligence	300	249	51
Overall	10,000 (100%)	7,233 (72.33%)	2,767 (27.67%)

As we can see from the analysis performed, the effect of “throwing out” 61% of all non-conforming loans is marginal: the pool’s overall composition decreased only from 28% non-conforming to 27.67% non-conforming thanks to the due diligence process. Even had the Issuers returned all 84 non-conforming loans, the overall portfolio would not have been greatly altered –non-conforming loans would have declined from 28% to 27.16%.

When a random sample is tampered with, the final product, by definition, no longer represents the original pool. Here, the sample reflects that ultimately 89% of the pool is conforming and 11% are non-conforming (11% = 28% x 39%). But given the reality of the situation, with the original pool remaining status quo, in fact 27.76%, not 11%, of the overall pool was non-conforming, even after the put backs administered as part of the due diligence process.

A well-selected random sample can effectively capture the characteristics of a pool under certain conditions. But an altered sample seldom accurately reflects the original pool.

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