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SUPREME COURT OF THE STATE OF NEW YORK COUNTY OF NEW YORK
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In the matter of the application of
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Index No. 651786/2011 THE BANK OF NEW YORK MELLON, : (as Trustee under various Pooling and Servicing : Agreements and Indenture Trustee under various : Assigned to: Kapnick, J. Agreements and Indenture Trustee under various : Assigned to: Kapnick, J.

``` Indentures),
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## Petitioner,

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for an order, pursuant to CPLR § 7701, seeking judicial instructions and approval of a proposed settlement.
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Expert Report of<br>Phillip R. Burnaman, II<br>The GreensLedge Group LLC

Opinion on Settlement Amount, Valuation of Servicing Improvements and Certain Document Exception Cures

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## 1 Scope of Work

On June 28, 2011, The Bank of New York Mellon ("BNYM" or the "Trustee"), in its capacity as trustee or indenture trustee of 530 RMBS trusts (the "Covered Trusts") entered into a settlement agreement (the "Settlement Agreement") with Bank of America Corporation ("BAC"), BAC Home Loans Servicing, LP ("BACHLS" and, together with BAC, "BANA"), Countrywide Financial Corporation ("CFC") and Countrywide Home Loans, Inc. ("CHL" and, together with CFC, "Countrywide"), regarding claims belonging to the Covered Trusts concerning (i) alleged breaches by Countrywide of representation and warranties related to certain of the residential mortgage loans sold by Countrywide to the Covered Trusts, (ii) alleged servicing breaches by the Master Servicer for the Covered Trusts, and (iii) alleged documentation defects. ${ }^{1}$

In addition to BANA and Countrywide agreeing to pay a settlement payment of $\$ 8.5$ billion (the "Settlement Amount"), BANA agreed to perform its servicing obligations under the Covered Trusts' governing agreements in accordance with a series of "servicing protocols" designed to improve the servicing operations of the loans, including, in some cases, transferring the responsibility for servicing of certain non-performing loans to specialty Subservicers (such "servicing protocols," which are set out in Paragraph 5 of the Settlement Agreement, are referred to herein, collectively, as the "Servicing Improvements").

BNYM engaged The GreensLedge Group LLC to provide its expert opinion on the following issues:

1. The reasonableness of the agreed-to compensation detailed in Paragraph 3 of the proposed Settlement Agreement,
2. The reasonableness of the assumptions and the competing methodologies that the Institutional Investors and BANA presented during the negotiations to estimate the size of the potential repurchase liability, and
3. A reasonable expectation of the monetary value of the Servicing Improvements.

To undertake the review of the status and performance of the loans and to enable me to quantify the benefits of the Servicing Improvements, I accessed data in CoreLogic's Securities databases. These databases and systems are commonly used to track the performance of mortgage loans in securitizations based upon data supplied by loan servicers and are generally considered to be reliable and market leading sources of mortgage performance data.

I authored this expert report in collaboration with my colleagues at GreensLedge. My experience and qualifications are set forth in Appendix A. Neither I nor GreensLedge have any economic interest in this matter or any financial stake in any particular outcome.

[^0]
## 2 Summary and Conclusion

BANA, BNYM, and the Institutional Investors negotiated the Settlement Agreement in the first half of 2011 and signed it on June 28, 2011. It represented considerable effort by a large number of sophisticated parties and their equally expert counsel to address issues described in my report. I have reviewed much of the work done to negotiate the settlement, I have also reviewed the record surrounding the negotiations and I have performed my own analysis on the data pertinent to the Settlement Agreement. Based on the work that I performed, my opinion is:

The $\$ 8.5$ billion Settlement Amount detailed in Paragraph 3 of the proposed Settlement Agreement represented a reasonable outcome to this negotiation,

The assumptions and the competing methodologies the Institutional Investors and BANA presented during the negotiation to estimate the size of the potential repurchase claims, employed standard mortgage finance analysis and were reasonable as of the time they were made, and

A reasonable expected monetary value of the Servicing Improvements as of June 2011 would be $\$ 2.51$ to $\$ 3.07$ billion.

## The Settlement Amount

The character and process of the negotiations among BANA, BNYM, and the Institutional Investors regarding the Settlement Amount had many components that I would expect to see in a valuation exercise in the context of mortgage finance. Redacted

These were
sufficiently diverse as to yield initial positions that were far apart. However, the assumptions and methodologies employed by the parties to the negotiations were within the usual and customary framework of mortgage valuation and their respective outcomes had sufficient quantitative and qualitative support that an independent third party would conclude that their estimates were well reasoned. The parties employed a standard mortgage modeling framework to estimate cumulative losses. Given the information they possessed in early 2011, the assumptions they employed were reasonable, with a single exception that is noted in Section 5.4. Employing a similar mortgage modeling methodology, using data available to me as of the date of this report (March 2013), and using my own set of assumptions, I calculate that a conservative estimate of total cumulative losses on the Covered Trusts would be $\$ 84.7$ billion. My result falls between the estimates of BANA and the Institutional Investors. I conclude that these respective processes and assumptions were reasonable and the negotiating positions are consistent with common practices in the mortgage market.

BANA and the Institutional Investors each provided to the parties a unique framework for estimating the number of loans that they believed would be subject to valid claims for repurchase by the loan originator for breach of an applicable representation and warranty. There is no standard methodology for this analysis. I therefore examined each of the parties' positions with the benefit of my experience in the mortgage market and looked to the few examples of similar settlements that I could find, in order to opine on the reasonableness of the respective assumptions and the application of their methodology regarding this calculation. Notwithstanding the significantly diverse outcomes of BANA's and the Institutional Investors' approaches to this computation, I do not find that their negotiation positions were unreasonable or that their methodologies were unsupportable.

Applying my industry experience and performing my own examination of the methodologies used during the negotiations, I sought to quantify a reasonable range for the estimate of potential damages from a breach of applicable representations and warranties. In my opinion, I conclude that a reasonable range for the estimate of potential repurchase liability from Countrywide's breach of representations and warranties would be $\$ 8.2$ billion to $\$ 12.9$ billion before taking into account any adjustment for counterparty risk, successor liability issues or litigation risk and delays. I also conclude that a Settlement Amount within or below this range is reasonable given the facts and uncertainties in this matter, as described more fully in this report.

In my opinion, the methodologies employed by the parties in reaching the Settlement Amount were reasoned, comprehensive and consistent with my experience in the mortgage finance industry. Multiple reasonable outcomes, uncertainty regarding assumptions and lack of definitive or agreed-upon data are common hurdles in mortgage finance transactions. Based on my review of the record in this matter, the negotiation process appeared consistent with many transactions in the mortgage marketplace where quantitative and qualitative factors must be considered in reaching a negotiated settlement.

## The Servicing Improvements

In my opinion, the Servicing Improvements provide additional value to the Covered Trusts and should be considered in addition to the cash component of the Settlement Amount.

My opinion calculates the value of the Servicing Improvements as of the June 2011 Settlement Agreement date, using historical portfolio information as of that date in order to calculate a reasonably expected monetary value as of that date. The actual experience of the application of the terms in the Settlement Agreement and the actual performance of the Covered Trusts are not factors in my analysis.

The Servicing Improvements are intended to enhance the quality of servicing of the loans by providing concrete requirements and performance measures beyond the Master Servicer's
obligation to service the loans prudently in accordance with the relevant provisions of the governing agreements of the Covered Trusts. In my opinion, the Servicing Improvements are measures that go beyond the industry norm for servicers and would not have been available to the Covered Trusts without the benefit of the Settlement Agreement. To assign a monetary value to the Servicing Improvements, I applied several common mortgage valuation metrics, as described fully in this report.

In my opinion, the primary benefit of the Serving Improvements to the Covered Trusts will be directly derived from an improvement in the processing of High Risk Loans (defined below). Improved servicing of High Risk Loans can be quantified using two metrics: (i) the net increase in re-performance rates for High Risk Loans, and (ii) the reduction in the foreclosure timeline for High Risk Loans. In Section 10, I set out a methodology to calculate the monetary benefit resulting from an improvement in those metrics, and apply that methodology to the High Risk Loans in the Covered Trusts according to the terms of the Settlement Agreement. The result of my calculation is that the incremental improvement in loan re-performance and the incremental reduction in time to foreclosure would reasonably be believed to create a monetary benefit to the Covered Trusts in the amount of $\$ 2.42$ to $\$ 2.65$ billion.

In my opinion, the incremental out-of-pocket cost which BANA agreed to bear in order to transfer certain delinquent and defaulted loans to Subservicers is a direct and quantifiable benefit to the Covered Trusts. The cost to be incurred by BANA, and consequently the benefit derived from this aspect of the Servicing Improvements, I calculate has a value to the Covered Trusts between $\$ 98$ million and $\$ 411$ million as described in Section 11. This benefit is directly attributable to the actual loan transfers and because this expense is not borne by the Covered Trusts, it represents a monetary benefit to the Covered Trusts as well.

In my opinion, the potential Master Servicing Fee Adjustment payable to the Covered Trusts could be as much as $\$ 750$ million, as I discuss in Section 12. The probability of receiving this benefit is directly reduced by the transfer and improved servicing of High Risk Loans. The greatest monetary benefit to the Covered Trusts of this fee adjustment is dependent on assumptions that would reduce the benefit calculated in Section 10 as it presumes fewer High Risk loans would be transferred to Subservicers. This is consistent with my understanding of the intent of the Servicing Improvements; namely that the Master Servicing Fee Adjustment was to be an incentive to promote improved servicing performance by BANA and the transfer of High Risk Loans to the Subservicers.

In my opinion, BANA's obligation to cure or indemnify the Covered Trusts for certain document deficiencies, as provided for in Paragraph 6 of the Settlement Agreement, is an additional and potentially valuable benefit to the Covered Trusts beyond the Servicing Improvements. As I describe more fully in Section 13, I elected not to calculate a monetary value for this benefit
because doing so would require me to make several additional assumptions, which cannot be further refined without additional data.

I believe an aggregate reasonable estimate of the monetary value of the Servicing Improvements as of June 2011 is between $\$ 2.51$ billion and $\$ 3.07$ billion. This value does not include the Master Servicing Fee Adjustment, as it is derived primarily from transfers of High Risk Loans and improved portfolio performance. If those transfers did not occur, the Master Servicing Fee Adjustment could be as much as $\$ 750$ million, but the other benefits would be diminished. The separate components which I have aggregated to calculate a reasonable value for the Servicing Improvements are set out in this table:

|  | low- end | high-end |
| ---: | ---: | ---: |
| Reperformance Rates | $467,375,034$ | $711,222,878$ |
| Fixed Costs of Foreclosure | $1,941,106,188$ | $1,949,407,980$ |
| Transfer Costs | $98,823,711$ | $411,031,152$ |
| TOTAL | $\mathbf{2 , 5 0 7 , 3 0 4 , 9 3 3}$ | $\mathbf{3 , 0 7 1 , 6 6 2 , 0 1 0}$ |

Source: Greensledge Group
I reserve the right to update my opinions to reflect any further information which becomes available to me and for future events.

## 3 Background

In the late 1970's and early 1980's, the residential mortgage lending industry began to transition to a model in which the servicing, nominal ownership and economic ownership of residential mortgage loans could be separated after origination and sold individually to unrelated parties. The practice of originating, selling and securitizing residential mortgage loans in the United States expanded significantly prior to the financial crisis of 2008, and a number of contentious issues were raised in the aftermath of the crisis. The Settlement Agreement that I have been asked to review addresses, among others, the issue of contractual representations and warranties made by a mortgage loan originator/seller to residential mortgage backed securities ("RMBS") trusts.

Assessing the amounts a loan originator owes to RMBS trusts for the repurchase of mortgages that breached the originator's representations and warranties is a complex and now heavily litigated aspect of mortgage finance. Unlike the quantification of estimated cumulative losses on a mortgage portfolio, where the industry standard methodology is generally accepted and the primary issues arise from the assumption set to be used, the calculation of breach and repurchase rates relies heavily on subjective analysis, estimation and experience.

In considering the Settlement Agreement in the context of my opinion, I considered allegations that Countrywide, as originator (and maker of the representations and warranties), together with its parent, BANA, and the Institutional Investors, as beneficial owners of the trust certificates (and economically, the ultimate beneficiaries of repurchases), had some form of collusive interest in the resolution of the issues underlying the settlement. I also considered the position of BNYM, as trustee, in the settlement negotiations. While I have no firsthand knowledge of the parties' negotiations, I found no evidence in the record I reviewed that would support any allegation that the negotiations were collusive. Instead, I observed that the record reflects that the negotiation process was consistent with my experience in negotiating arms-length transactions with sophisticated parties in the context of the mortgage finance marketplace. I applied my own quantitative analysis to the facts of this matter as I understood them in order to confirm the analysis I reviewed, and made my own qualitative assessments on subjective assumptions, where appropriate, using my firsthand experience in negotiating deals relating to mortgage collateral.

My review of the information upon which I have based my opinion comprises both qualitative and quantitative considerations, as I believe any prudent comprehensive business decision will include both. In this report, I first identify the major qualitative issues that outline the perspective through which I have considered the Settlement Amount. I then review the quantitative models applied, the assumptions involved, and the outputs generated given the differences in those assumptions. I have reviewed, and will comment on, the quantitative analysis that each party generated in order to calculate their range of potential values for Countrywide's liability for breaches of representations and warranties. I then discuss those assumptions and their reasonableness in the context of the qualitative framework I previously framed.

## 4 Qualitative and Quantitative Considerations Regarding Claims

The process of prospectively calculating a monetary value for repurchase claims arising from a breach of representations or warranties by a mortgage originator/seller with respect to a portfolio of mortgage loans begins with the calculation of the estimated cumulative losses that the mortgage portfolio will incur during its lifespan. A mortgage loan in which all contractual payments are made pursuant to the term of the loan cannot suffer losses occasioned by a failure of the originator/seller. ${ }^{2}$

Having estimated the cumulative loss amount for the pool of mortgage loans, the next step in this process would be to identify the portion of the cumulative losses that pertain to loans wherein the originator/seller has demonstrably breached one or more of its contractual representations or warranties. The final step in this exercise would be to then determine how many of the identified breaches would, in fact, give rise to realizable claims under the relevant Pooling and Servicing Agreements, or Indentures and corresponding Sale and Servicing Agreements (collectively, the "PSA's").

The first step of this process, estimating cumulative losses, is a familiar one to any mortgage market professional and relies heavily on quantitative analysis. The quantitative analysis of mortgage portfolios involves the projection of future cash flows which are derived from a number of model variables, the two most significant of which are defaults (mortality) and loss severity (recovery). The size and timing of these inputs relies not only on their individual accuracy, but also qualitative assessments in their application by the modeler. The financial crisis (or housing crisis) of 2008-2009 represented a failure of widely-accepted mortgage modeling assumptions in projecting financial outcomes. As a result of the financial crisis, the assumptions behind those models were amended. The housing crisis was not the first time mortgage cash flow models required recalibration nor would $I$ expect it be the last.

Mortality in a mortgage portfolio (which is defined as either a loan prepayment or payment default) is a key quantitative assumption in portfolio valuation. While germane to mortgage portfolio valuations generally, prepayments, or prepay speed, is only one of several factors in this case, in my opinion. For that reason, I have identified and used a highly conservative prepay speed assumption. ${ }^{3}$

[^1]"Loss Severity" is a second key quantitative assumption in mortgage portfolio valuation. Loss severity is defined as the percentage of the loan balance that is lost after the underlying property is sold and all outstanding fees, servicing advances and liens are paid. There are a host of factors that influence defaults and loss severity, some of which are specific to each mortgage loan, such as loan-to-value ("LTV"), and others which are more global or macro-economic in nature, such as house price appreciation ("HPA"). Mortgage portfolio models, with historical and now increasingly granular data about loan portfolio performance over a growing and more varied time series, enable mortgage modelers to conclude retrospectively that specific (under) performance of a portfolio was due to one or more specific attributes of the mortgage portfolio, for example LTV or geographic concentration. However, when multiple variables change simultaneously in the context of a mortgage portfolio, such retrospective analysis, in my opinion, serves to narrow the list of causes for the (under)performance being analyzed, rather than point with certainty to the specific casual factors which generated the (under)performance - a factual question that may be impossible to determine in a wide range of cases even though it is acknowledged that a sharp decline in housing prices is associated with an increased level of strategic mortgage defaults.

Valuation of a mortgage portfolio or a mortgage-backed security by different parties will normally yield different outcomes based upon the modeling assumptions used. In the secondary securities market, the resultant differential is the bid and offer levels for RMBS. When counterparties agree to a price and a transaction is consummated, the buyer and seller have not necessarily agreed to use identical assumptions in their valuation exercise. Rather, more appropriately they have agreed to a market clearing price for the security using a set of valuation assumptions that they both believe are reasonable. It may well be the case that while their specific assumptions are different, their specific valuation results are within the range of reasonable compromise, i.e., an agreeable price. Similarly, in the context of a settlement negotiation, I might expect that the parties could reach a reasonable settlement without agreeing on all, or even most, underlying assumptions.

Market participants derive comfort from market transactions to affirm that their assumption set is consistent with that used by other market participants. "Price discovery" is the most robust method for a trader or investor to know that his judgment is in line, or nearly so, with his competitors in the marketplace. In other words, price discovery enables an investor to test the reasonableness of his assumptions against those currently being used in the marketplace. When assumptions are called into question and confidence in the application of basic factors such as default and loss severity are uncertain, the range of outcomes for a valuation exercise becomes larger, increasing the bid-offer spread. In times of great uncertainty, or when buyers and sellers in the mortgage marketplace fear their quantitative assumptions are grossly inadequate, there are
fewer transactions consummated and price discovery becomes harder. ${ }^{4}$ I considered that an effective method of evaluating the reasonableness of the Settlement Amount would be to review all available information regarding the negotiating positions of the parties. Specifically, I reviewed the presentation materials that were available to me and reviewed the deposition testimony of participants to the negotiation in order to understand their process, as it was reported in the record. The price discovery process in the marketplace is analogous to the settlement negotiations that I would expect to be undertaken by sophisticated, truly adversarial counterparties negotiating at arm's length. I considered how the Settlement Amount related to the initial position of BANA and the Institutional Investors, respectively, regarding their estimate of potentially realizable claims for breaches; what in transactional parlance would be the "bid," the "offer," and the transaction, or "execution," price.

Given the complex issues in this matter, and the differing models used by the Institutional Investors and BANA, I by analogy drew upon the rationale used by The Financial Accounting Standards Board ("FASB") when it recognized the limitations of financial modeling and the import of price discovery in Topic 820 regarding fair value accounting for use in valuing complex assets, including RMBS and ABS, held by GAAP compliant filers. My perspective relies in large part on my experience in mortgage finance and mortgage capital markets. I also considered the record concerning the negotiating parties' reasonable assessment of its respective positions using quantitative and qualitative analysis. I found that the parties, implicitly or explicitly, considered most of the factors cited in this report. Finding appropriate evidence in the record, I also noted the robustness of the process. I thus conclude that the Settlement Amount contains many of the attributes of a "market price" and might be loosely analogous to a Level I price as defined by FASB, and worthy of greater reliance than a purely model-derived Level III valuation.

Finally, I considered counterparty risk, successor liability risk and litigation risk, which impact the valuation of many financial transactions, and are germane to this matter. In the context of a transaction, counterparty risk (in simplest terms) refers to the credit risk of the counterparty for the term of its obligation - and what discount rate is appropriate to use in valuing the future cash flows expected to be received from that counterparty. Successor liability risk, in the context of this matter, arises from the structure of BANA's acquisition of Countrywide. Litigation risk (in simplest terms) refers to the potential costs (in terms of fees, the time value of money, and the risk of an unexpectedly adverse result, notwithstanding the perceived soundness of either side's position) that the parties to the dispute may incur if in fact they will not settle, but instead choose to litigate. In the context of this matter, I believe it is prudent, reasonable, and in keeping with

[^2]common market precedent for the claimant to consider the financial strength of the payer of the potential claims, the risks of successor liability, and the potentially damaging and uncertain impact of costly litigation in reaching a compensatory settlement. Consequently, I consider these factors, at least qualitatively, on the derivation of the Settlement Amount.

### 4.1 Mortgage Portfolio Modeling Considerations

All mortgage loan portfolios anticipate some amount of credit loss experience and in my opinion no forward-looking projection of cumulative losses will be precisely accurate. Credit losses in a mortgage portfolio may arise from many causal factors, relating to the financial condition of the borrower, the value of the mortgage collateral, the overall economic climate or a combination of these factors. The best quantitative analysis will produce a range of possible outcomes, and the absolute magnitude of the range of outcomes will increase as the number of mortgages increases. When, as in this matter, the homogeneity of the mortgage portfolios decreases, and the diversity of other portfolio characteristics ${ }^{5}$ increases, the range of reasonable expected outcomes is further widened. Adding significantly divergent macro-economic assumptions resulting from economic, regulatory or tax expectations to the modelers' palette will cause a reasoned quantitative analyst to yield a wide range of potential outcomes. ${ }^{6}$ My opinion is that there was no single quantifiable range of cumulative loss outcomes sufficiently precise in this matter to compel a reasonable third-party observer to conclude that one approach was definitely correct, but rather several approaches may have yielded a reasonable range.

### 4.2 Application of Breach, Success, Causality and Repurchase Rate

Default and loss severity are quantifiable as mortgage loans in a portfolio become delinquent and are resolved. As a mortgage portfolio ages, actual defaults and loss severity on the portfolio are crystallized and cumulative loss experience becomes a fact.

In my opinion, with the passage of time, the factors responsible for individual defaults and losses on individual mortgage loans become harder to identify. Mortgage portfolio modeling is a dynamic process using static data, and certain data, such as debt- to-income ("DTI"), is generally not updated after the origination of the loan, while other data, such as LTV, may be interpolated from the original underwriting or imputed from available market data such as HPI's ("Housing Price Indices"). The utility of the original underwriting information therefore declines over time, in my experience. Assigning a specific cause first to the default and then to the loss has historically not been used in the valuation of mortgage loan portfolios.

[^3]In my opinion and based upon my experience in the mortgage industry, time from origination is an important consideration in connecting a specific breach to the default and loss severity on a specific mortgage loan. ${ }^{7}$ Identifying an unimpeachable relationship between a loan underwriting defect and a loss is challenging because not all losses are the result of breaches and not all breaches result in losses, and mortgages are subject to a repurchase obligation only if the breach "materially and adversely affects the interests of the certificateholders in that mortgage loan." ${ }^{88}$ In my opinion, this means that specific mortgage loans to be repurchased needed to be identified.

The mortgage finance industry historically has at least tacitly acknowledged the concept that time from origination is a factor in claims for breach of a representation and warranty against a loan originator. In my experience, it was common for a mortgage loan originator to provide a first or early payment default representation and be expected to repurchase any mortgage loan which became seriously delinquent in the first three to twelve months (occasionally as little as 30 days). This practice was, in my opinion, an acknowledgement between the loan seller and loan purchaser that such an early-payment default was sufficient evidence of a breach for which the originator was responsible that there was no need for a forensic re-underwriting of the loan. The PSAs that I have reviewed for the Covered Trusts do not contain such an early payment default representation. ${ }^{9}$

Similarly, in my experience, if a loan defaults after a significant amount of payments have been made, industry participants are less likely to attribute that default to a breach or representations and warranties. Numerous industry sources support the understanding that defaults after two or three years of good payment history are unlikely to be attributed to defective underwriting. ${ }^{10}$ This is more applicable to a private-label securities ("PLS") transaction where the contractual requirement that a breach "materially and adversely affects the interests of the certificateholders in that mortgage loan" may present a hurdle to repurchase.

${ }^{7}$ Sabry Dep. 77:4-22, December 4, 2012.
${ }^{8}$ Prospectus, CWALT 2007- OA6.
${ }^{9}$ Pooling and Servicing Agreement, CWABS 2006-15, CWALT 2007-OA06, CWMBS 2006-15, and CWALT 2006-OA19.
${ }^{10}$ See, for example, John E. McDonald, CFA \& Peter G. Handy, Bernstein Research, BAC: Tough Slog Continues, Trimming Estimates on Higher Expense Run Rate (January 24, 2011).
${ }^{11}$ See generally: Robertson Dep., Nov. 29, 2012; Smith Dep., Dec. 5, 2012; Waterstredt Dep., Dec. 5, 2012; Scrivener Dep., Nov. 14, 2012.


These are not necessarily the specific terms or definitions used by BNYM, BANA, and/or the Institutional Investors in this matter; they are general concepts pertaining to claims for breach of representation and warranties by an originator. In this matter the parties may have had used different terms, may have provided different or competing analysis, and may have widely divergent views on liability as it relates to the concepts I enumerated and the representations contained in the relevant PSAs.

The qualitative and quantitative assumptions each party made regarding the application of these concepts were the significant sources of the variance on their calculation of potentially realizable repurchase claims arising from the originator's breach of representations and warranties. I am not aware of any industry standard methodology in this regard that could be used to calculate a repurchase rate.

### 4.3 Valuation Methodology Considerations

Problems valuing portfolios of mortgages and securities backed by pools of mortgages are not new. I think it fair and constructive in the context of this matter to consider the approach that the FASB has promulgated with respect to fair value accounting (FASB Topic 820) with regard to complex financial assets - many of which are mortgage and mortgage derivatives. Topic 820 provides, in relevant part:
> "820-10-05-1C: When a price for an identical asset or liability is not observable, a reporting entity measures fair value using another valuation technique that maximizes the use of relevant observable inputs and minimizes the use of unobservable inputs. Because fair value is a marketbased measurement, it is measured using the assumptions that market participants would use when pricing the asset or liability, including assumptions about risk. As a result, a reporting
entity's intention to hold an asset or to settle or otherwise fulfill a liability is not relevant when measuring fair value.,"12

As I discussed in Section 4.1 and more significantly in 4.2 above, modeling of the cash flows used in negotiations regarding the Settlement Amount is a complex undertaking involving a large number of assumptions. The significant uncertainties I discuss in Section 4.2 and the fact that there are no "industry accepted norms" for the single most contentious aspect of the analysis, correspond in a fashion to FASB issues relating to valuation of complex financial instruments, in particular those characterized as Level III, being solely dependent on cash flow modeling.

However, I also consider that FASB allows the most accurate reflection of value of a claim secured by cash flows to be the price at which a willing buyer and a willing seller will transact in the marketplace, at arm's length. Consequently, I have given consideration to the final Settlement Amount as a data point, which while not a "market transaction" per se, can be compared anecdotally with other similar settlements in the marketplace on which some information is available in the public domain. I therefore believe that the FASB framework provides a reference point worth noting as I weigh the reasonableness of the Settlement Amount.

### 4.4 Counterparty Risk, Litigation Risk and Other Risk Considerations

Counterparty risk is a usual and customary consideration in any financial transaction - to ignore counterparty risk is imprudent. In the context of a transaction, counterparty risk refers to risk of non-performance by the counterparty in accordance with the terms of its obligation. ${ }^{13}$ Generally speaking, counterparty risk is analogous to credit risk over the term of the obligation and is measured by discounting future cash flows expected to be received from the counterparty at a rate consistent with the adjudged risk of the counterparty.

When bankruptcy or liquidation is a possible result stemming from a criminal, civil or regulatory action, it is reasonable and prudent for a counterparty to weigh that consideration in its negotiations and ascribe some monetary value or discount factor in accordance with the assessed risk. In the context of the Settlement Amount, I believe it is prudent and reasonable for the claimant to consider the financial strength of the payer of the potential claims in deciding what claim amount it is prepared to accept.

Commercial logic dictates that should a defendant be required to pay damages in excess of its enterprise value (for simplicity), its managers have a fiduciary duty to consider bankruptcy in

[^4]order to treat equitably all constituent parties, including shareholders. I have been involved in situations as both debtor and creditor where this was an important issue. Countrywide's ability to pay, in my opinion, is a valid consideration in the negotiation between the parties in this matter and I would expect that it had a bearing on the Settlement Amount. I have not considered any quantification of this risk factor, its potential imputed cost, or the legal and commercial issues relevant to it.

Litigation risk, in this case, would be the risk of protracted and costly litigation, which creates financial risk in the form of fees and expenses relating to the litigation, in addition to the time value of money lost as a result of a delay in the ultimate monetary recovery, if accrued interest is not a part of the judgment. ${ }^{14}$ As the outcome of litigation is uncertain, there is also the risk of an adverse judgment or a change in the law during the course of protracted litigation, regardless of whether either could have been reasonably expected or not. I have not considered any quantification of this risk factor, its potential imputed cost, or the legal and commercial issues relevant to it.

Successor-liability risks, as I understand them in this case, relate to a potential litigation issue regarding BANA's liability, if any, for Countrywide's conduct based on its acquisition of Countrywide. ${ }^{15}$ I have not considered any quantification of this risk factor, its potential imputed cost, or the legal and commercial issues relevant to it.

[^5]
## 5 Review of the Parties' Claims Valuation Methodology

### 5.1 Valuation Methodology of BANA

The first step in calculating the estimate of potential damages from a breach of representations and warranties is to estimate total projected losses for the Covered Trusts.



| (Billions) | Principal | Losses | Loss Rate |
| :--- | ---: | ---: | ---: |
| Current | 61.67 | 3.5 | $5.7 \%$ |
| Current, but Mod'd | 13.35 | 3.81 | $28.5 \%$ |
| BK | 6.24 | 2.48 | $39.7 \%$ |
| $30-180$ | 40.32 | 9.29 | $23.0 \%$ |
| $180+$ | 98.86 | 48.66 | $49.2 \%$ |
| Total | $\mathbf{2 2 0 . 4 4}$ | $\mathbf{6 7 . 7 4}$ | $\mathbf{3 0 . 7 \%}$ |

Source: BNYM_CW-00000165, Greensledge Group


[^6]

### 5.2 Valuation Methodology of the Institutional Investors





### 5.3 Key Differences in Valuation Methodology

In Section 4, I described from a qualitative perspective how BANA and the Institutional Investors can arguably employ different assumptions to estimate potential repurchase liability from a breach of representations and warranties. Critical assumptions regarding loan performance when further modified using dissimilar approaches to model a repurchase rate unsurprisingly yield divergent outcomes. Assumptions that account for a significant amount of the differential are cumulative realized losses (derived from loss severity), estimates of breach and success, and the inclusion or exclusion of causality and presentation.

[^7]

### 5.4 Opinion on Derivation of the Settlement Amount

In my opinion, the Institutional Investors' assumptions, with one exception, and BANA's assumptions with respect to the calculation of cumulative losses are reasonable, given the data available to them at the time. Unsurprisingly, I find the Institutional Investors more pessimistic and BANA more optimistic.


[^8]The material differences in cumulative losses, while important, contribute less variance to the range of outcomes than the calculation of the repurchase rate. The repurchase rate is the largest source of the volatility in calculating an estimate of potential repurchase liability for a breach of representations and warranties. This uncertainty existed for the following reasons, all of which represent my opinion or draw upon my industry experience:

1. Breach and success rates have not been modeled by the industry; thus, there is no historical industry standard or norm that mandates a particular form of analysis against which the parties' estimates could be measured or tested;
2. Application of anecdotal or historical data from various and diverse mortgage portfolios is sometimes difficult to reconcile with contemporary mortgage portfolios;
3. Historical data may be of limited utility due to the historical precedents described in Section 4.2;
4. Current data sampling may not correlate well between portfolios due to a combination of recent factors including the increased incidence of mortgage fraud, increased litigation-driven behavior by investors, GSEs and monoline insurers, and "observer effect" or litigation externalities;
5. Determination of a breach and success rate is a subjective exercise with the prospect of significant variability and dispute given the inherent subjectivity in "re-underwriting" specific loans years after origination without access to the borrower, the actual underwriter, or, in some cases, the information available to the actual underwriter. This complexity is compounded where the underwriting standards are themselves largely dependent on subjective standards ${ }^{25}$ with exceptions and "compensating factors" being part of the ordinary course of business and recognized in the underwriting guidelines;
6. The significant increase in mortgage loan originations and the mortgage loan product expansion that occurred between 2004 and 2008 makes comparison difficult.

Against this uncertainty, I conclude that BANA's concept of estimating Covered Trust repurchase rates based on its experience with GSE loans has considerable merit. It has a large degree of transparency, is based on actual reported repurchase activity of independently motivated parties, and has an appealing logical construct. However, the magnitude assigned to some of the factors incorporated in BANA's modeling which attempt to account for the

[^9]distinctions between GSE portfolios and the diversity of loan types in the Covered Trusts is somewhat arbitrary, in my opinion. From my own experience, I know that GSE loans and their underwriting can vary in many respects from non-GSE loans. I therefore believe that comparisons between PLS loans and GSE loans for repurchase purposes requires adjustments. To cite just one example, I compared the representations and warranties sections from the Fannie Mae Approved Seller/Servicer guide from $2007^{26}$ with a sample of PSAs (four) from the Covered Trusts ${ }^{27}$ in my investigation of this matter. In my opinion, the Fannie Mae-required representations and warranties are more numerous and appear to be more detailed than those in the Covered Trust PSAs I reviewed.

The framework of a methodology that is described in the Institutional Investors' spreadsheet ${ }^{28}$ and cited by the Institutional Investors also has merit, but the data and process used to derive potential repurchase liability from a breach of representations and warranties described is opaque and the results were more severe than I was aware of based on my industry knowledge and direct experience. The Institutional Investors’ approach is consistent with positions I have seen reported in the financial press and industry journals as being taken by plaintiffs in representation and warranty cases. The methodology may be appropriate, and it is certainly understandable from a "plaintiff-side" perspective why aggressive numbers would be presented. But I have no way to opine on the veracity of the analysis or the accuracy of its conclusion.


In my opinion, no specific amount of repurchase liability attributable to breaches of representations and warranties that was calculated by either BANA or the Institutional Investors can be deemed unreasonable on its face. Each has the strength of a cogent logical argument and the weakness of uncertainties about the underlying data, the conclusions drawn therefrom and the direct applicability to the loans in the Covered Trusts.

In considering the reasonableness of the Settlement Amount, it is not necessarily useful, in my opinion, to ascribe significantly greater certainty to the cumulative loss modeling assumptions employed by the Institutional Investors or those of BANA, particularly at the time they were performed in early 2011.

[^10]Because they are each reasonable approaches, the methodologies applied by BANA and the Institutional Investors created boundary conditions for a potential outcome: this is a standard and useful analysis in any business transaction. In my opinion, the initial positions taken by these parties are an indication of both the uncertainties relating to the analysis and the robustness of the negotiation process between adversarial parties advocating their own interests. The range of the boundary set between these two parties is large, and there may be outliers advocated by each that were not justifiable, but considering the volatility of the potential outcomes to changes in critical assumptions and the multiple uncertainties that impact those assumptions, the size of the boundary set is not unreasonable.

## 6 Range of Reasonable Value for Repurchase Claims and Settlement Amount

I calculated my own estimate of cumulative losses for the Covered Trusts using the loan balances and updated loss history as of June 2011, the default rate expectation using the average roll rates experienced in 2010 weighted by vintage ${ }^{30}$ and pool type, and the average loss severity experienced by the trusts over the prior twelve (12) months also weighted by vintage and pool type. See Figure 6a.

Figure 6a: Projected Losses (in billions of dollars)

| Description | Balance (\$B) | Default Rate | Severity Rate | Losses (\$B) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Liquidated Loans |  |  |  | \$ | 27.4 |
| 60, 90, Forclosure \& REO | \$ 69.6 | 71\% | 67\% | \$ | 33.0 |
| Current \& 30 day DQ Loans | \$ 103.4 | 39\% | 59\% | \$ | 24.2 |
|  | \$ 173.0 |  |  | \$ | 84.7 |

Source: CoreLogic, Intex, Greensledge Group
In my opinion, a conservative estimate of cumulative losses on the Covered Trusts is $\$ 84.7$ billion. In my opinion, it is appropriate to use my estimate of cumulative losses as I further refine the range of reasonable value, rather than continue to compare the positions of BANA or the Institutional Investors.


As discussed above, the greatest volatility in an estimate of potential repurchase liability from a breach of representations and warranties is driven by the repurchase rate used. Figure 6b (below) indicates the sensitivity of potential outcomes using a set of breach and success rates as used by the Institutional Investors, without any reduction for causality or presentation as used by BANA. This sensitvity analysis is useful as it illustrates the magnitude of the increase in potential repurchase claims as breach and success rates scale upward using my estimate of cumulative losses.

[^11]Figure 6b: Repurchase Liability Claims by Possible Breach and Success Rates


In my opinion, the Institutional Investors' repurchase rate calculation is aggressive as might be expected in the context of a negotiation, ${ }^{31}$ as the repurchase rate is derived from their expectations for breach and success. Though recent litigation has led to litigation claims of repurchase rates higher than $25 \%$, such allegations are a recent development, and generally speaking are part of an extended discovery process regarding the complex issues raised in those cases. Any rulings on such matters are also, therefore, a recent development. I chose to use a repurchase rate in excess of $25 \%$ as a proxy for breach and success rates each in excess of $50 \%$, as my experience on this point relates to loans actually repurchased. The inference of such numbers is outside of my experience in the mortgage finance industry prior to 2009, when I was involved in purchasing non-conforming whole loans, providing capital markets alternative PMI and financial guaranty insurance policies, investing in kick-out and re-performing loan securitizations, and securitizing a variety of mortgage loans.

My industry experience with repurchase rates has been closer to BANA's estimate than that of the Institutional Investors. Redacted In my experience, successful claims for a breach of representations and warranties were generally expected to arise from an underwriting defect that had a material and adverse effect on the performance of the loan. I am not aware of any significant rulings or disputes on this issue prior to 2009 , and understand that it is now the center of much debate and legal interpretation.

In order to determine useful data points on repurchase rates for comparative purposes, I reviewed (i) the total consideration paid by BANA/Countrywide to Fannie Mae in order to resolve Fannie Mae's representation and warranty claims, including the January 6, 2013 and December 31, 2010 settlements between those parties, and all other repurchases on the population covered by those settlements, ${ }^{32}$ and (ii) the total consideration paid by BANA/Countrywide to Freddie Mac ${ }^{33}$ to

[^12]resolve Freddie Mac's similar claims, including the December 31, 2010 settlement between those parties and all other repurchases in the population covered by that settlement. I understand that the 2010 Freddie Mac settlement and 2013 Fannie Mae settlement each represented a full and final settlement with the applicable GSE. In order to determine the total cost of these resolutions, which is not publicly available, I relied upon information which was provided to me by BANA. ${ }^{34}$ That information indicated that, taking the all-in cost of the settlements and other previous repurchase activity (the appropriate measure, since repurchases completed before a full and final settlement would be expected to reduce the ultimate settlement amount), the repurchase rates for the Freddie Mac and Fannie Mae populations were $12.3 \%$ and $14.5 \%$ respectively. ${ }^{35}$

Using the repurchase rates from the resolutions between BANA/Countrywide and Fannie Mae and Freddie Mac as a reference point, I compared the negotiating positions of BANA and the Institutional Investors by applying the Fannie Mae and Freddie Mac repurchase rates to each party's estimate of cumulative losses. This yielded an estimated range of potential repurchase liability of $\$ 8.3$ to $\$ 9.8$ billion for BANA and $\$ 13.3$ to $\$ 15.6$ billion for the Institutional Investors. In my opinion, these items of market data serve as helpful data points, not guidelines, on a gauge of relative scale because they relate to claims substantially similar to those in the Settlement Agreement, and concern loans also originated by Countrywide. Moreover, they are the result of a negotiated settlement.

In my opinion, none of the values in Figure 6b (above) are necessarily unsupportable, given the uncertainty of the inputs. Though the variance between the extremes is quite large, in my opinion the range of reasonable outcomes is smaller. This matrix of outcomes does not include two of the factors utilized by BANA in its calculation, causality and presentation, so I am not comparing the estimated repurchase rates for the parties on an unambiguous basis. In order to do that, I elected to make a simplifying assumption to normalize the positions of the parties, as I understand them.

[^13]

In my opinion, the range for the potential repurchase claims of Redacted billion includes some reasonable estimates of potential repurchase liability from a breach of representations and warranties, but also contains estimates at the higher end that rely on unverifiable and possibly suspect assumptions. In my opinion, a more refined range would be $\$ 8.2$ to $\$ 12.9$ billion, which is derived by applying disputed assumptions of the negotiating parties to the wider range of possible outcomes. This range of potential repurchase claims for a breach of representations and warranties should then be discounted to take into account counterparty risk, litigation risk, other risks including successor liability and any value attributed to the Servicing Improvements, in order to gauge the reasonableness of the Settlement Amount. In my opinion, based on all of these factors, the Settlement Amount of $\$ 8.5$ billion is reasonable.

I take additional comfort in my opinion that the Settlement Amount of $\$ 8.5$ billion is reasonable as it is, in my view, generally analogous to a transaction price in the mortgage finance marketplace, as outlined in Section 4. The record reveals that BANA, the Institutional Investors, each using their own proprietary modeling assumptions, and BNYM-which had the benefit of these competing reasonable views-entered into a protracted, arms-length negotiation, and ultimately agreed on a compensatory payment. In my opinion, this lends credence to the conclusion that the Settlement Amount was reasonable.


## 7 Servicing Improvements Background

Residential/consumer mortgage servicing is usually performed on a contract for services basis, where a mortgage lender contracts with the mortgage servicer to perform services related to the collection of amounts due on a pool of mortgage loans for the life of that pool. Often, but not exclusively, the servicer is an affiliate of the loan originator, the lender, or both. The contract rights and obligations of the servicer are transferrable in the ordinary course of business and such transfers occur frequently.

A servicer's primary function is to serve as point of contact between the borrower and the lender. The servicer sends out monthly statements to the borrower, collects loan payments, and may divide a mortgage loan payment into component parts, such as interest, principal, fees and escrow payments. Should a borrower fail to make a payment when required under its loan agreement, the servicer usually takes a series of actions with the goal of encouraging the borrower to make up the delinquent payment and to continue making its loan payments.

Each servicer, while required to perform under federal and state debt collection and consumer protection laws, has its own internal policies, procedures, and systems. As such, payment collection and property disposition metrics will vary between different servicers.

Borrowers who are delinquent or have defaulted on their payment obligations are often reluctant to face the creditor. When servicers deal with delinquent borrowers, making "right-party" contact (defined as establishing contact with the mortgage obligor) is often difficult. Having opted to stop making payments on a significant and contractual debt, many borrowers become elusive to debt collection efforts. Most servicers have comprehensive telephone, email and internet "white pages" and employ sophisticated skip-tracing techniques in order to make "right-party" contact to begin the enforcement of the loan agreement.

Managing the borrower into a state of loan re-performance (defined as making up delinquent loan payments and recommencing regular loan payments) can be accomplished in a variety of ways. Often, a servicer will provide credit counseling services where representatives of the servicer work with the borrower and generate a complete picture of the borrower's fiscal situation that can be considered by the borrower and the servicer. For example, the counselor might suggest alternatives to the borrower, such as amending household budgets.

Should counseling the borrower fail to return the loan to performing status, the servicer may (when included in its contract rights) attempt to modify the terms of the loan in order to increase its affordability to the borrower. Lowering the interest rate, capitalizing missed payments, and/or forgiving principal may be possible depending on limitations set by the specific owner of the loan. Additional avenues toward re-performance have been provided by federal or state programs such as the National Mortgage Settlement of April 5, 2012. Generally, a servicer will elect to
modify a loan if it believes that such modification is likely to maximize the value of the loan (i.e., the present value of all expected future payments on the modified loan would exceed the present value of the expected net recovery that could be realized through a foreclosure). If a modification option is not viable, the servicer may then consider other loss mitigation alternatives in the form of a short sale, or deed-in-lieu of foreclosure, where the borrower voluntarily exits the home but without the associated costs and effort of a foreclosure. As with modifications, the decision to approve a short sale or deed-in-lieu would depend on whether the expected voluntary liquidation value exceeds the expected return through a foreclosure sale.

After repeated and unsuccessful attempts to return a loan to performing status or find an appropriate loss mitigation alternative, the servicer would ordinarily initiate the foreclosure process, seeking to enforce the lender's claim on the mortgaged collateral (the property), and, if permitted by applicable law, the borrower's obligation under the promissory note secured by the collateral. This final remedy stands as the ultimate threat to the borrower's personal and financial situation which may induce re-performance or cooperating in loss mitigation. The servicer's ability to constructively use the threat of this action and convince the borrower of the imminence of its action is the servicer's final rehabilitative measure. Failing to convince a delinquent borrower to cooperate, the servicer's foreclosure process begins in accordance with procedures that will vary based upon the geographic location of the property and the servicer's policies and procedures. The ultimate resolution is the forced sale of the underlying property and either return of the net sale proceeds (in the case of a successful third party bid) or property title (if the owner is the successful bidder) to the owner of the loan. There are many costs associated with the foreclosure process and the process differs (sometimes meaningfully) amongst different jurisdictions. For example, 24 states require foreclosures be processed through the state's courts; ${ }^{40}$ this tends to lengthen the foreclosure timeline and increase the associated costs.

In addition to legal and administrative costs of enforcing the lender's rights and lien, protection of the value of the property requires the ongoing payment of property taxes, the expense of maintaining the property and improvements that will maximize sale value, and the carriage of insurance on the property (these are defined as "Protective Advances".) Generally, the servicer is required to advance the funds required to cover these costs during the period between delinquency and completion of the property disposition. The longer such period persists, the greater the sum of such Protective Advances become and this directly reduces the ultimate recovery on the loan, as Protective Advances have a priority in recovery from the proceeds of the disposition of the mortgaged collateral. Servicers who most efficiently process loan foreclosures will therefore be able to reduce Loss Severity for the benefit of the owner(s) of the loans, by

[^14]reducing the amount of Protective Advances and other carrying costs associated with the loan. A pool of loans with higher Loss Severity is therefore worth less than a similar pool of loans with a lower Loss Severity. Loss Severity is often used as a metric by which homogeneous pools of loans are compared.

## 8 Review of Servicing Improvements in Proposed Settlement

My outline below of the Servicing Improvements contained in Paragraph 5 of the Settlement Agreement provides an overview of the Servicing Improvements that I believe would be expected to create a monetary benefit to be realized by the Covered Trusts. It is not a comprehensive recitation of the Settlement Agreement; rather this section provides a summary of the Servicing Improvements that I considered in framing my opinion, specifically determining an appropriate methodology for calculating a reasonable expectation of the monetary value of the Servicing Improvements. All terms not defined can be found in the Settlement Agreement. Section 8.3 summarizes the Document Deficiency cure, which is not characterized as a Servicing Improvement, but nonetheless provides an additional benefit to the Covered Trusts. The Servicing Improvements generally are new obligations of the servicer which expand upon, or create additional requirements in addition to, the contract obligations defined in the PSAs of each of the Covered Trusts. BNYM reasonably concluded that these measures would bring significant benefits to the Covered Trusts. My aim in this opinion is to develop a reasonable monetary estimate of that value as of June 28, 2011.

### 8.1 Transfer of High Risk Loans to Subservicers

Pursuant to the terms of the Settlement Agreement, the Master Servicer, now BANA, agreed to transfer High Risk Loans, as explained below, to a minimum of eight and a maximum of ten Subservicers. Typically, there is no requirement in a PSA mandating the use of Subservicers or loan transfers. The maximum number of loans that BANA may transfer to a particular Subservicer is capped at 30,000 loans ${ }^{41}$ resulting in a maximum sub-servicing capacity of between 240,000 and 300,000 loans. As of June 1, 2011, the number of High Risk Loans (see Section 9) in the Covered Trusts was approximately 239,000. The Settlement Agreement defines high risk loans ("High Risk Loans") as:
a. Mortgage loans that are $45+$ days past due without the right-party contact;
b. Mortgage loans that are 60+ days past due and have been delinquent more than once in any rolling 12 month period;
c. Mortgage loans that are $90+$ days past due and have not been in the foreclosure process for more than 90 days and are not actively performing on trial modification or in the underwriting process of modification;
d. Mortgage loans in the foreclosure process that do not yet have a scheduled sale date; and
e. Mortgage loans where the borrower has declared bankruptcy regardless of days past due.

[^15]
### 8.2 Servicing Improvements for Loans Not Transferred

Loans that are not transferred pursuant to the terms of the Settlement Agreement (whether they are High Risk Loans or not) will be subject to a servicer performance metric whereby BANA's servicing of the loans will be measured against mortgage servicing industry benchmarks. Typically, there is no requirement for objective servicing standards and performance metrics in a PSA. The payment performance of each loan will be benchmarked against one of the following standards:
a. First-lien Loans Only: Delinquency status of borrower at time of referral to BANA's foreclosure process: 150 days (excludes time borrower is in bankruptcy.)
b. First-lien Loans Only: Time period between referral to BANA's foreclosure process and foreclosure sale or other liquidation event: the relevant state timeline in the most current FHFA referral-to-foreclosure timelines (excludes time borrower is in bankruptcy and or is performing pursuant to $\mathrm{HAMP}^{42}$ or other loss mitigation efforts mandated by law.)
c. Second-lien Loans Only: Delinquency status of borrower at the time of reporting of charge-off to BNYM: Standards in Governing Agreement.

To the extent BANA does not meet the industry benchmarks outlined above, BANA will be required to compensate the Covered Trusts in the form of a Master Servicing Fee Adjustment. The Master Servicing Fee Adjustment, calculated on a monthly basis, takes into account all loans that do not meet the benchmark together with a percentage of the loans' coupons and will vary depending on the extent of the variance to the industry benchmarks. BANA is also incentivized to move loans through the foreclosure process, as exceeding industry benchmarks results in a lower Master Servicing Fee Adjustment.

### 8.3 Cure of Certain Document Exceptions

For all loans in the Covered Trusts, BANA was required to submit an Initial Exceptions Report Schedule, followed by Monthly Exception Reports, enumerating all loans listed as having both a Mortgage Exception and Title Policy Exception, as defined in the Settlement Agreement. ${ }^{43}$ The Mortgage Exceptions and the Title Policy Exceptions enumerated in the Settlement Agreement relate to documentation defects whose combined effect may impair the enforceability of the loan or mortgage on behalf of the relevant Covered Trust. For loans listed on the then current

[^16]Monthly Exceptions Report, to the extent BANA does not cure the Mortgage Exception or Title Policy Exception and the exception for a particular loan results in a loss to the applicable Covered Trust in connection with the foreclosure on such loan, BANA is required to reimburse the relevant Covered Trust up to $100 \%$ of the Realized Loss on such loan.

## 9 Servicing Improvement Valuation Methodologies

I consider the Servicing Improvements set out in Section 8 in the context of accepted mortgage modeling conventions, the data available to me and the reasonableness and complexity of the assumptions needed to calculate a monetary value for each the Servicing Improvements. The methodology I have employed is based upon standard mortgage cash flow modeling techniques, comparable metrics for measurement and assumptions that I have made to apply those techniques appropriately and calculate a monetary value for the Servicing Improvements.

Once a loan has become delinquent, the role of the servicer is to attempt to return that loan to a performing state and, failing that, move the loan into and through the foreclosure process in a timely fashion. The servicer's effectiveness in communicating with borrowers and in effecting the foreclosure process can make a material difference in the ultimate amount recovered on any delinquent or defaulted loan. ${ }^{44}$ The policies, procedures, and quality of different servicers vary within the industry, and consequently their effectiveness or performance may vary. In my opinion, comparing the performance of BANA as servicer of the Covered Trusts with the performance of other servicers on a similar population is an appropriate method of estimating the benefit of transferring the servicing of certain loans from BANA to the Subservicers. Indeed, this approach may be conservative as in my opinion the purpose of the Servicing Improvements is to encourage the transfer of the loans to specialized, "high-touch" servicers who are believed to be able to generate better-than-average results.

Loss Severity is sometimes proffered as a metric for assessing the quality of a servicer's performance and in fact, the Loss Severity for the Subprime loans in the Covered Trusts was generally higher in 2010 than for other trust outside of the Settlement that I examined. However, in my opinion, Loss Severity alone is an insufficient metric for measuring the quality of a servicer. Many factors contribute to a loan's Loss Severity beyond the performance of the loan servicer. Longer foreclosure timelines resulting from reasons beyond the servicer's control (e.g., state laws) do incur greater costs and lead to a higher Loss Severity, and other characteristics of the loan may lead to a high severity number as well. For instance, properties in certain geographies or states that were ground zero for the housing bubble realized HPI declines, peak to

[^17]trough, of 45 to $50 \% .{ }^{45}$ A geographic skew in a servicer's portfolio could be one factor that would increase that servicer's observed loss severity metrics.

The amount of payment advances made by the servicer will also contribute to loss severity. While a loan is delinquent, the servicer is generally required to make Protective Advances and may choose to make "recoverable" ${ }^{46}$ advances of interest and principal payments to the RMBS trust in the form of a servicer advance - in order to keep the certificateholders current. When the property is ultimately sold, the servicer will recover the amounts it had advanced to the trust from the property's sale proceeds as a priority payment. Servicers are permitted to stop making advances of principal and interest to the RMBS trust if the servicer may not be able to recover the amounts it advances. All else equal, the Loss Severity on a loan will be higher the greater the amount of advances made by the servicer.

To quantify the value of the Servicing Improvements in the this matter I first assumed that the most appropriate method to measure the value of the servicing transfer would be to compare BANA's re-performance rate and measured time to foreclosure to those rates and timelines of the Approved List of Subservicers to whom the loans were intended to be transferred, and then apply a measurement methodology to that improvement.

I did not pursue this line of analysis for two reasons: I am currently unable to identify the Servicers of many of the loans because the CoreLogic database I used does not adequately identify servicers limiting my ability to select an appropriate control group. I also considered that BNYM did not know the identity of the approved Subservicers in June, 2011.

The first assumption in my valuation construct was to compare the loans in the Covered Trusts to the entire universe of comparable loans which enables me to measure BANA's performance against the industry as a whole (exclusive of the Covered Trusts.) This, in my opinion, is a conservative assumption. In effect, my comparison group represents an industry average, as I can construct it from the data currently available to me. The comparison group consists of all loans in the non-agency, Private Label Securities CoreLogic databases ${ }^{47}$ that are not in the Covered Trusts ("Non-Covered Trusts".) It will contain, therefore other trusts that may be serviced by BANA or its affiliates.

[^18]The second assumption in my valuation construct was that the Settlement Agreement incentivizes the Master Servicer to accelerate the disposition of delinquent loans held by the Covered Trusts, whether they are retained by the Master Servicer or transferred to subservicing. Transferring High Risk Loans to Subservicers who are both expert in loss mitigation techniques and are properly incentivized, would be expected to improve the performance of a portfolio of mortgage loans. Subservicers in this context can reasonably be expected to reduce the time to foreclosure and improve upon the re-performance rate of the loan portfolios that they are compensated to service. From my reading of the record, all the parties in the negotiation intended to improve portfolio results by engaging the selected Subservicers, and the concept of transferring delinquent loans to a specialized "high-touch" delinquent loan servicing has been a technique used in the mortgage finance industry previously. ${ }^{48}$ The selection process set forth in Paragraph 5 of the Settlement Agreement regarding the selection of Subservicers is in my opinion fair and robust, as the Institutional Investors and BANA must agree to the proposed Subservicers, and BNYM, with advice from an expert in the servicing industry, may object to the appointment of any Subservicer, adding effectively another level of oversight. Given this selection approach and the sophistication of the parties, I believe it is reasonable and actually conservative to evaluate the required servicing protocols on the premise that the approved Subservicers will perform no worse than the industry average.

My third simplifying assumption is that the subserviced loans would also perform no better than the industry average, even though my expectation would be that the subserviced loans should perform better than industry averages. On this basis, I can therefore compute a monetary value to the potential performance differential between BANA and the industry average attributable to the transfer of servicing based upon the number of loans transferred and the timing of the transfers.

Generally in mortgage finance groups of loans (vintage) are securitized together or otherwise separated into distinct portfolios ("pool types") based upon a defined group of characteristics that distinguish them from loans that were eligible for participation in government financing or guarantee programs. These characteristics include loan size, credit quality (generally measured by credit score), loan-to-value ratio, and type of documentation. Simplifying the aggregation of loans in this matter, I characterize the types of loans as: jumbo loans with generally higher credit scores which are pooled into "MBS" pools; loans with non-standard documentation or underwriting exceptions (including self-employed, non-US citizens, and other irregularities as opposed to deficiencies as well as "no-doc" loans) which are pooled into "Alt-A" pools; and borrowers with weaker credit histories which are pooled into "Subprime" pools.

[^19]Measured performance of loans grouped this way has historically produced more highly correlated results than the measured performance of loans that were comingled or more heterogeneous. ${ }^{49}$ Therefore, in trying to evaluate specific performance characteristics and to compare them with other portfolios' performance, I first divide loans into these subcategories or cohorts by vintage.

In order to keep comparisons on a like basis between the Covered Trusts and the Non-Covered Trusts, I will compare the Alt-A, Subprime, and MBS loans separately and aggregate the results. As is seen in Figure 8.3-a, loan characteristics vary greatly by Pool Type (Alt-A, Subprime, and MBS) but are comparable for the Covered Trusts vs. the Non-Covered Trusts within each Pool Type.

Figure 8.3-a: Composition of Covered \& Non-Covered Trusts

| As of $6 / 1 / 11$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Covered Trusts |  |  | Non-Covered Trusts |  |  |
|  | ALT A | Subprime | MBS | ALT A | Subprime | MBS |
| Total Balance (\$000s) | 101,569,119 | 45,779,984 | 25,613,987 | 446,100,800 | 360,332,108 | 250,544,684 |
| Avg Balance (\$000s) | 275 | 184 | 511 | 279 | 143 | 454 |
| Current (MBA) | 58.6\% | 35.3\% | 80.2\% | 64.8\% | 52.2\% | 87.0\% |
| 30-59 (MBA) | 3.6\% | 6.0\% | 2.6\% | 4.0\% | 8.1\% | 1.8\% |
| 60-89 (MBA) | 2.0\% | 3.2\% | 1.5\% | 2.2\% | 4.1\% | 0.9\% |
| 90+ (MBA) | 20.2\% | 32.8\% | 10.0\% | 11.0\% | 14.7\% | 4.1\% |
| Forecloseure | 12.8\% | 19.8\% | 4.7\% | 14.7\% | 17.2\% | 5.4\% |
| REO | 2.7\% | 3.0\% | 1.0\% | 3.3\% | 3.7\% | 0.8\% |
| Owner Occup | 84.2\% | 97.1\% | 93.9\% | 80.6\% | 93.3\% | 91.4\% |
| Full Doc | 28.5\% | 66.7\% | 38.1\% | 23.8\% | 62.0\% | 50.9\% |
| Purchase | 42.5\% | 30.7\% | 51.8\% | 41.8\% | 33.7\% | 45.5\% |
| Current WAC | 5.2\% | 6.8\% | 5.9\% | 5.0\% | 6.3\% | 5.1\% |
| Orig LTV | 74.0\% | 79.4\% | 74.1\% | 74.6\% | 81.1\% | 70.1\% |
| Orig FICO | 708 | 610 | 739 | 711 | 630 | 735 |
| 2nd Lien | 0.0\% | 0.4\% | 0.0\% | 0.1\% | 5.5\% | 0.0\% |
| Judicial | 27.7\% | 35.1\% | 23.3\% | 28.7\% | 42.1\% | 25.1\% |
| CA | 39.9\% | 25.7\% | 43.9\% | 40.8\% | 20.6\% | 44.9\% |
| NY,NJ,FL | 17.9\% | 20.7\% | 14.4\% | 19.6\% | 23.6\% | 16.3\% |

Source: CoreLogic, Greensledge Group
Because my analysis did not include investigation of actual servicing records to determine rightparty contact or scheduled sale dates, I estimate the universe of High Risk Loans as those in the 60 day, 90 day, and foreclosure delinquency status. All delinquency measurements follow the

[^20]MBA (Mortgage Bankers Association) standard ${ }^{50}$ as it is considered more conservative than the Office of Thrift Supervision (OTS) standard. ${ }^{51}$

My opinion calculates the value of the Servicing Improvements as of June 28, 2011, using portfolio information as of that date in order to calculate a monetary value as of that date. The actual experience of the application of the terms in the Settlement Agreement and the actual performance of the Covered Trusts (after June 2011) is not a factor in my analysis.

Based upon my experience with servicing transfers and my understanding of this matter, I assume that it would take one month to prepare and submit an Agreed List of Subservicers to BNYM, then another two months for BNYM to approve or deny the sub-servicer's inclusion, and finally an additional three months for BANA to fully contract and integrate with the first Subservicer. Therefore my analysis assumes that transfers of High Risk Loans would commence in December 2011, using loan information as of November 2011.

In order to estimate the performance of the loans in the Covered Trusts and the size of the aggregate balances in each of the High Risk Loan cohorts, I use transition rates or "roll rates" based on historical performance. In June 2011, and going forward, I will use the average roll rates from 2010. Using the average 2010 roll rates to analyze performance at June 2011 represents a standard mortgage finance assumption, neither particularly aggressive nor conservative, to project the future migration of loans as they "roll" or transition from one category to the next, for example from 60 to 90 days delinquent. Transitions can occur in both directions, but generally speaking the certainty of eventual default increases as the loan rolls down into a more severe delinquency status.

Using the June 2011 portfolio data and average delinquency roll rates from 2010, I estimated that the Covered Trusts would have a projected delinquency composition in November 2011 (Figure 8.3-b):

[^21]Figure 8.3-b: Unpaid Principal Balance of loans in Covered Trusts by Delinquency Status and Pool Type

|  | Total |  | Alt-A |  | Subprime |  | MBS |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Current | $\$ 89,295,234,258$ | $51.6 \%$ | $\$ 55,352,544,994$ | $54.5 \%$ | $\$$ | $15,021,524,741$ | $32.8 \%$ | $\$$ |
| $30-59$ | $7,717,481,363$ | $4.5 \%$ | $4,004,149,208$ | $3.9 \%$ | $3,070,373,009$ | $6.7 \%$ | $642,164,523$ | $73.9 \%$ |
| $60-89$ | $4,222,041,902$ | $2.4 \%$ | $2,248,898,729$ | $2.2 \%$ | $1,615,046,631$ | $3.5 \%$ | $358,096,541$ | $2.5 \%$ |
| $90+$ | $37,172,581,201$ | $21.5 \%$ | $19,739,863,130$ | $19.4 \%$ | $14,943,979,822$ | $32.6 \%$ | $2,488,738,249$ | $9.7 \%$ |
| FCL | $22,023,134,158$ | $12.7 \%$ | $12,711,404,702$ | $12.5 \%$ | $8,070,044,800$ | $17.6 \%$ | $1,241,684,656$ | $4.8 \%$ |
| REO | $3,877,823,240$ | $2.2 \%$ | $2,295,383,551$ | $2.3 \%$ | $1,371,161,813$ | $3.0 \%$ | $211,277,876$ | $0.8 \%$ |
| Total | $\$ 164,308,296,122$ | $100.0 \%$ | $\$ 96,352,244,314$ | $100.0 \%$ | $\$ 44,092,130,817$ | $100.0 \%$ | $\$ 23,863,920,991$ | $100.0 \%$ |

Source: CoreLogic, Greensledge Group
To this population of High Risk Loans, I make the following simplifying assumptions:
a. High Risk Loan transfers will occur once every quarter;
b. The identified loans will be transferred in order of priority as described in Paragraph 5(b) of the Settlement Agreement;
c. A maximum of 30,000 High Risk Loans will be transferred each quarter;
d. There will be ten approved Subservicers to whom transfers can be made, one per quarter, and each Subservicer can manage 30,000 loans from the transfer;
e. The population of High Risk Loans will be repopulated over time according to the 2010 average roll rates from current to 30,30 to 60 , and so on;
f. Transfers will conclude in December 2016, five years from the first transfer;

I use these assumptions as a reasonable expectation of the implementation of the Servicing Improvements at the time the Settlement Agreement was executed, in order to calculate a value of the Servicing Improvements.

## 10 Calculation of Value for the Transfers of High Risk Loans

Sections 10.1 to 10.5 detail the calculation of the value of the Servicing Improvements for the first quarterly transfer of High Risk Loans. For each subsequent quarterly transfer, the methodology is identical; the only change occurs in the size and composition by cohort of the High Risk Loan population that is transferred. This population eventually declines until there are fewer than 1,000 loans eligible for transfer, at which time I terminate the process. Section 10.6 aggregates the benefit to the Covered Trusts of all such quarterly transfers of High Risk Loans.

### 10.1 Total High Risk Loan Population as of November 2011

I first calculated the total High Risk Loan balances eligible to be transferred in December of 2011 by rolling June 2011 Balances forward based on 2010 average roll rates. ${ }^{52}$ A loan transfer

[^22]in December would be based on November balances. The population of High Risk Loans as of November 2011 is set out in Figure 10.1-a.

Figure 10.1-a: Total High Risk Loan Population, as of November 2011

|  | Alt-A | Subprime | MBS |
| :--- | ---: | ---: | ---: |
| Balance | $34,696,416,648$ | $24,632,168,824$ | $4,087,857,840$ |
| Count | 105,072 | 124,832 | 7,969 |

Source: CoreLogic, Greensledge Group

### 10.2 Identify Loans to Transfer to Subservicers

I then identified the specific High Risk Loans to be transferred in this quarter by applying the priority of transfers in Paragraph 5(b) of the Settlement Agreement pro-rated across pool types and vintages. From this subset I identified a specific group of 30,000 loans that will be transferred to Subservicers set out in Figure 10.2-a:

Figure 10.2-a: High Risk Loans to be Transferred in December 2011

|  | Alt-A | Subprime | MBS |
| :--- | ---: | ---: | ---: |
| Balance | $4,230,608,059$ | $3,181,890,856$ | $542,639,962$ |
| Count | 12,854 | 16,092 | 1,054 |

Source: CoreLogic, Greensledge Group

### 10.3 Calculation of the Benefit from Improved Re-Performance Rates

For this cohort of 30,000 loans which have been transferred, I then calculated the value resulting from the incremental improvement in the amount of re-performing loans.

I first determined the rate at which loans that are 60 days delinquent, 90 days delinquent or in foreclosure return to performing status (the "re-performance rate".) ${ }^{53}$ Based upon my experience, and consistent with the actions of the parties in negotiating the Settlement Agreement, I think it reasonable to attribute variations in re-performance rate to the actions of the servicer and to conclude that variations in re-performance rates are correlated with servicer effectiveness.

To calculate the benefit of improved re-performance rates on the cohorts of High Risk loans in the Covered Trusts to be transferred to subservicing, I compared re-performance rates (i.e., the

[^23]rate at which loans became current on their payments the following month) by High Risk Loan delinquency cohort, vintage and collateral type between the Covered Trusts and the Non Covered Trusts using 2010 data. The re-performance rates are shown on an aggregate basis in Figure 10.3-a. This information is compiled by origination year for both the Covered Trusts and for the Non-Covered Trusts and then broken out by pool type:

Figure 10.3-a: Average Re-Performance Rates, 2010

|  | Alt-A | Subprime | MBS |
| ---: | :---: | :---: | :---: |
| Covered Trusts | $1.37 \%$ | $1.64 \%$ | $2.32 \%$ |
| Non-Covered Trusts | $2.35 \%$ | $3.89 \%$ | $2.96 \%$ |
| Reperformance Rate Difference | $0.98 \%$ | $2.25 \%$ | $0.64 \%$ |

Source: CoreLogic, Greensledge Group
Figure 10.3-a shows that $1.37 \%$ of Alt-A High Risk Loans in the Covered Trusts became current the following month. By comparison, 2.35\% of Alt-A High Risk Loans in the Non-Covered Trusts became current the following month. This difference ( $0.98 \%$ ) is the improvement in the re-performance rate that would occur if these High Risk Loans were to re-perform at the industry average re-performance rate as opposed to the rate at which they have historically re-performed.

I apply this re-performance rate differential by collateral type and delinquency status to the cohort of 30,000 loans, by aggregate balance that I have already identified above in Figure 10.2-a. The result, in Figure 10.3-b, calculates the potentially avoided losses due to increased reperformance rates which I attribute to this first transfer.

Figure 10.3-b: Potentially Avoided Losses, loans transferred in December 2011

|  | Alt-A | Subprime | MBS |
| ---: | ---: | ---: | ---: |
| Reperformance Rate Difference | $0.98 \%$ | $2.25 \%$ | $0.64 \%$ |
| Additional Cured Loans | $41,430,154$ | $71,647,803$ | $3,464,474$ |
| Projected Average Severity | $61 \%$ | $78 \%$ | $42 \%$ |
| Potentially Avoided Losses | $25,300,776$ | $55,991,109$ | $1,459,781$ |
| with $30 \%$ Re-default Rate | $17,710,543$ | $39,193,776$ | $1,021,847$ |

Source: CoreLogic, Greensledge Group
For illustration, the $0.98 \%$ incremental increase in the Alt-A re-performance Rate, when applied to the principal balance of Alt-A loans transferred this quarter (\$4.2 billion from Figure 10.2-a) results in $\$ 41.4$ million of additional re-performing loans. To calculate the benefit from these

Alt-A loans that now re-perform as opposed to default, I apply a loss severity of $61 \%^{54}$ to calculate potentially avoided losses of $\$ 25.3$ million.

I apply the identical process to Subprime and MBS and calculate potentially avoided losses for the Covered Trusts for the loans transferred this quarter of $\$ 82.7$ million.

I must discount the potentially avoided losses as calculated because re-performing loans have a significant re-default rate. In my experience and consistent with industry research, re-performing loans will default again ("re-default rate") within 18 months between $30 \%$ and $54 \%$ of the time, ${ }^{55}$ a rate which varies according to modification type and other factors. ${ }^{56}$ Multiplying each end of this range of re-default rates by the Potentially Avoided Loss number in Figure 10.3-b yields a value of this improvement between $\$ 38.1$ million and $\$ 57.9$ million for the loans transferred in this first quarter.

### 10.4 Calculation of the Benefit from Improved Foreclosure Timeline

For the loans remaining in this first cohort of 30,000 loans - after the re-performing loans have been accounted for, the next step in my methodology is to calculate a value derived from the improvement in the foreclosure timeline between the Covered Trusts and the Non-Covered Trusts.

When the servicer has determined that a delinquent loan is not qualified for loss mitigation or cannot be returned to performing status, it begins the foreclosure process. The disposition costs of the foreclosure process, including various fees, expenses, and taxes, along with Protective Advances that may be made during the timeline are borne by the owner of the loan. The longer the foreclosure timeline runs, the greater the sum of Protective Advances and disposition costs becomes, so in all but the exceptional cases of rapidly rising home prices, a shorter foreclosure timeline will reduce Loss Severity. Therefore, servicers who most efficiently process loan foreclosures will reduce Loss Severity for the benefit of the owner(s) of the loans.

Figure 10.4-a sets out the foreclosure timeline by average number of months ${ }^{57}$ by collateral types. It shows that an Alt-A loan in the Covered Trusts, for example, would on average remain in the $90+$ day, Foreclosure or REO delinquency status for 18.3 months before moving to final sale or liquidation. The average for $90+$, Foreclosure and REO loans is 16.5 months for the Non-

[^24]Covered Trusts, or 1.8 months less. On average as shown in Figure 10.4-a, Subprime loans take 4.9 months longer and MBS loans take 1.6 months longer to move though the foreclosure process than similar loans in the Non-Covered Trusts.

Figure 10.4-a: Months in 90+, Foreclosure, and REO, 2010 data

|  | Alt-A | Subprime | MBS |
| ---: | ---: | ---: | ---: |
| Covered Trusts | 18.3 | 23.2 | 14.8 |
| Non-Covered Trusts | 16.5 | 18.3 | 13.2 |
| Difference (Months) | 1.8 | 4.9 | 1.6 |

Source: CoreLogic, Greensledge Group
I use the aggregate principal balance by pool type of the loans remaining in this cohort of 30,000 loans after the re-performing loans have been accounted for, and the savings expected due to the reduction in foreclosure timeline which is a function of the average monthly costs of carrying a delinquent loan, to calculate the monetary benefit of reducing the foreclosure timeline.

Based on my experience in mortgage finance and homebuilding, I estimate the required annual Protective Advances (costs) of carrying a loan to disposition are $8 \%$ of the property value each year. ${ }^{58}$ I therefore multiply the aggregate loan balances in each category by $0.667 \%{ }^{59}$ and then again by the average reduction in months in foreclosure, to calculate the net benefit. The data and result of this calculation and the results are shown in Figure 10.4-b:

Figure 10.4-b: Benefit of shorter Foreclosure timeline, loans transferred in December 2011

|  | Alt-A | Subprime | MBS |
| ---: | ---: | ---: | ---: |
| HRL that didn't Reperform | $4,201,606,952$ | $3,131,737,394$ | $540,214,831$ |
| Foreclosure Timeline Difference | 1.8 | 4.9 | 1.6 |
| Avoided Fixed Costs of Foreclosure | $49,193,576$ | $103,242,090$ | $5,662,646$ |

Source: CoreLogic, Greensledge Group

### 10.5 Total Benefit this Quarter from Re-performance and Foreclosure Timeline

 For this cohort of 30,000 loans which have been transferred in December 2011, I combine the calculated benefit from both an improvement in the re-performance rate shown in Section 10.3 and a reduction in the time in foreclosure shown in Section 10.4. The value of each of these improvements is set out by collateral type in Figure 10.5-a along with the total benefit.[^25]Figure 10.5-a: Total benefit for loans transferred in December 2011

|  | Alt-A | Subprime | MBS |
| ---: | ---: | ---: | ---: |
| Reperformance Rates | $17,710,543$ | $39,193,776$ | $1,021,847$ |
| Fixed Costs of Foreclosure | $49,193,576$ | $103,242,090$ | $5,662,646$ |
| Total | $66,904,119$ | $142,435,866$ | $6,684,493$ |

Source: CoreLogic, Greensledge Group
The sum of the benefit I calculate for the 30,000 loans transferred in the first quarterly transfer is $\$ 216$ million.

### 10.6 Total Savings after Five Years of Transfers

I replicated the same set of calculation each quarter into the future until December 2016, or five years after the first transfer. I chose this date for ease of explanation and because almost $90 \%$ of the benefit is created over the first 21 quarters. Loans are added to the population of High Risk Loans each month by applying the same 2010 roll rate that I used to model the migration of loans within the High Risk Loan categories. The import of this standard assumption is that some loans that are "current" at June 2011 will become delinquent and eventually default, thereby adding to the population of High Risk Loans.

The final step is to discount each of the quarterly transfer benefits to present value using a discount rate of $3.25 \%$, which was the Prime Rate ${ }^{60}$ in June 2011. The sum of these present values in Figure 10.6-a is the monetary value attributed to the transfer of High Risk Loans to Subservicers, based upon the assumptions I have made. The undiscounted value is shown in Figure 10.6-b, for comparative purposes.

Figure 10.6-a: Total Savings, all transferred loans, 3.25\% discount rate

|  | Re-default Rate |  |
| ---: | ---: | ---: |
|  | $54 \%$ | $30 \%$ |
| Reperformance Rates | $467,375,034$ | $711,222,878$ |
| Fixed Costs of Foreclosure | $1,949,407,980$ | $1,941,106,188$ |
| TOTAL | $\mathbf{2 , 4 1 6 , 7 8 3 , 0 1 4}$ | $\mathbf{2 , 6 5 2 , 3 2 9 , 0 6 6}$ |

Source: CoreLogic, Greensledge Group

[^26]Figure 10.6-b: Total Savings, all transferred loans, 0\% discount rate

|  | Re-default Rate |  |
| ---: | ---: | ---: |
|  | $54 \%$ | $30 \%$ |
| Reperformance Rates | $499,449,114$ | $760,031,260$ |
| Fixed Costs of Foreclosure | $2,083,316,515$ | $2,074,456,387$ |
| TOTAL | $\mathbf{2 , 5 8 2 , 7 6 5 , 6 2 8}$ | $\mathbf{2 , 8 3 4 , 4 8 7 , 6 4 7}$ |

Source: CoreLogic, Greensledge Group
The monetary benefit of the Servicing Improvements resulting from these two metrics, foreclosure timeline and re-performance rates is significant. I considered two of the most important assumptions in designing my methodology, namely: (i) the Subservicers performance would improve only the transferred loans with respect to these metrics so that they would meet the industry average, and (ii) the transfers would occur every quarter until December 2016.

Appendix D details the calculations done in this section by origination vintage.

## 11 Transfer Costs

From the Representative Subservicer Compensation ${ }^{61}$ structure, BANA will incur out-of-pocket costs in excess of the Master Servicing Fees it receives due to the transfer of High Risk Loans to Subservicers and the incentive fee structure that the Subservicer will earn upon disposition of any loan. In my experience, the incentive fee structure in this case is in the average to high end of the range for such compensation. A more detailed analysis of these expenses can be found in Appendix C.

In my opinion, the incremental cost incurred by BANA is a benefit of the Servicing Improvements that inures to the Covered Trusts. Without the terms of the Settlement Agreement, any servicing fees and expenses in excess of the Master Servicing Fee (as defined), would have been borne by the Covered Trusts.

In my opinion, this benefit could be as much as $\$ 411$ million, but its derivation is dependent upon the number of, and timing of, the transfers of High Risk Loans. Under other assumptions this benefit could be lower, approximately $\$ 98$ million. As an incremental expense to BANA under the Settlement Agreement, I consider it, at minimum, a quantifiable incentive for BANA to improve its performance as loan servicer and, in the case of significant transfers of High Risk Loans, a direct subsidy payment to the Covered Trusts.

[^27]In my opinion the transfer of loans is a benefit of the Servicing Improvements with a value that may range between $\$ 98$ and $\$ 411$ million.

## 12 Incentives for a Timely Foreclosure Process

Paragraph 5(c), the "Master Servicing Fee Adjustment", of the Settlement Agreement details an incentive structure applicable to loans in the Covered Trusts that are not being serviced by a Subservicer. The Master Servicer will incur a monetary remediation payment should the nontransferred delinquent loans fail to meet certain benchmarked standards for movement into and through the foreclosure pipeline.

The probability of a Master Servicing Fee Adjustment is reduced to the extent that High Risk Loans are transferred to the Subservicers as described in Section 8.1. Calculating a Master Servicing Fee Adjustment into many future periods while also projecting loan transfers requires a number of complicated assumptions. However, it is a quantifiable benefit to the Covered Trusts in the event that the other Servicing Improvements are not undertaken. The characterization and structure of the Master Servicing Fee Adjustment is as an incentive to promote improved servicing performance by BANA in conjunction with encouraging the transfer of High Risk Loans to the Subservicers.

For purposes of the valuation in this Section 12, in order to quantify the upper end of the range for this benefit to the exclusion of the other benefits, I will assume that none of the loans in the Covered Trusts are transferred to Subservicers. Therefore, all the loans in the Covered Trusts would be considered under the calculation of the incentive of the Master Servicing Fee Adjustment.

### 12.1 Incentive Payment - Timeline for Referral to Foreclosure

Paragraph 5(c)(i)(A) of the Settlement Agreement refers to loans that have not been referred to foreclosure. The Industry Standards pursuant to which BANA is benchmarked is defined here as 150 days delinquent at the time of referral to Foreclosure. If I consider the 90+ day delinquency cohort and calculate the variance between the number of days the loan has been delinquent and 150 days, I can calculate the Master Servicing Fee Adjustment.

For purposes of illustration, if $100 \%$ of the loans that were $90+$ days delinquent as of $6 / 1 / 11$ were referred to Foreclosure the following month, the calculation for the Master Servicing Fee adjustment is shown in Figure 12.1-a:

Figure 12.1-a: Loan Level Amount for 90+ Day Delinquent Loans

| Days Variance <br> to Industry Std | Loan Count | Loan Balance | W.Avg. <br> Int. Rate | Applicable <br> Percentage | Loan Level <br> Amount |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $<=-60.0$ | 40,323 | $\$ 11,275,283,792$ | $6.39 \%$ | $-50 \%$ | $\$$ |
| $(30,020,443)$ |  |  |  |  |  |
| $-59.9--30$ | 4,993 | $1,340,242,726$ | 6.45 | $-20 \%$ | $(1,440,761)$ |
| $-29.9-0.0$ | 5,180 | $1,405,736,644$ | 6.48 | $0 \%$ | - |
| $0.1-30.0$ | 4,765 | $1,294,606,031$ | 6.47 | $0 \%$ | - |
| $30.1-60.0$ | 4,659 | $1,287,366,596$ | 6.42 | $40 \%$ | $2,754,965$ |
| $60.1-90.0$ | 4,089 | $1,119,880,345$ | 6.48 | $60 \%$ | $3,628,412$ |
| $90.1-120.0$ | 3,833 | $1,068,101,250$ | 6.34 | $80 \%$ | $4,514,508$ |
| $>120.0$ | 66,501 | $\$ 18,823,684,077$ | $6.56 \%$ | $100 \%$ | $\$ 102,902,806$ |

Source: Loan Performance, Greensledge Group
In this illustration, the Loan Level Amount (as defined in the Settlement Agreement) would be approximately $\$ 82$ million.

Similarly, if $100 \%$ of the loans above were to migrate to the " $>120$ " day variance row and are assessed the maximum incentive fee, the total Loan Level Amount would be approximately $\$ 203.3$ million ${ }^{62}$.

### 12.2 Incentive payment - Timeline for Foreclosure Process

Paragraph 5(c)(i)(B) of the Settlement Agreement refers to loans that are in foreclosure. Here, the applicable variance is between the number of days a loan has been in Foreclosure and the relevant state timeline in the most current (as of the time of each calculation) FHFA referral to "foreclosure timelines" ${ }^{63}$.

For purposes of illustration, if $100 \%$ of the loans that were in foreclosure as of June 1, 2011 were subsequently sold or otherwise liquidated the following month, and I calculate the variance between the number of days in foreclosure and the applicable FHFA timeline, the Master Servicing Fee Adjustment would be calculated as shown in Figure 12.2-a:

[^28]Figure 12.2-a: Loan Level Amount for Loans in Foreclosure

| Days Variance <br> to Industry Std | Loan Count | Loan Balance | W.Avg. <br> Int. Rate | Applicable <br> Percentage | Loan Level Amt |
| :---: | ---: | ---: | :---: | :---: | ---: |
| $<=-120.0$ | 47,707 | $\$ 12,059,513,406$ | $6.65 \%$ | $-50 \%$ | $\$$ |
| $-119.9--90$ | 3,407 | $965,249,495$ | 6.43 | $-40 \%$ | $(2,068,851.42)$ |
| $-89.9--60$ | 3,299 | $911,038,426$ | 6.36 | $-30 \%$ | $(1,448,551.10)$ |
| $-59.9--30$ | 4,121 | $1,139,640,691$ | 6.34 | $-20 \%$ | $(1,204,220.33)$ |
| $-29.9-0.0$ | 3,503 | $867,424,394$ | 6.70 | $0 \%$ | - |
| $0.1-30.0$ | 2,643 | $654,442,139$ | 6.66 | $0 \%$ | - |
| $30.1-60.0$ | 2,141 | $505,792,465$ | 6.89 | $20 \%$ | $580,818.35$ |
| $60.1-90.0$ | 1,725 | $457,045,913$ | 6.61 | $30 \%$ | $755,268.37$ |
| $90.1-120.0$ | 1,561 | $387,879,757$ | 6.60 | $40 \%$ | $853,335.46$ |
| $120.1-150.0$ | 1,993 | $520,066,444$ | 6.29 | $50 \%$ | $1,363,007.47$ |
| $150.1-180.0$ | 1,985 | $500,194,502$ | 6.40 | $60 \%$ | $1,600,622.41$ |
| $180.1-210.0$ | 1,558 | $374,348,754$ | 6.63 | $80 \%$ | $1,654,621.49$ |
| $>210.0$ | 13,388 | $3,595,244,355$ | 6.69 | $100 \%$ | $20,043,487$ |

Total: \$ $(11,285,364)$
Source: Loan Performance, Greensledge Group
In this illustration, the Loan Level Amount would be approximately - $\$ 11.3$ million.
Similarly, if $100 \%$ of the loans above migrate to the " $>210$ " day variance row and are assessed the maximum incentive fee, the total Loan Level Amount would be approximately $\$ 126.4$ million ${ }^{64}$.

Once the loans from Section 12.1 have migrated into the foreclosure bucket, they are subject to the calculation in this section. If $100 \%$ of those loans then remain in foreclosure for more than 210 days above the industry standard and sustain the maximum incentive fee the total Loan Level Amount would be an additional $\$ 203.3$ million ${ }^{62}$.

### 12.3 Incentive payment - Current Loans

As a result of the roll rate analysis done in Section 10, I calculated approximately $\$ 40.7$ billion of loans will default from the population of loans that are current as of December 1, 2011. Assuming these loans have a $6.5 \%$ Weighted Average Coupon (similar to the loans in the 90+ and foreclosure buckets), and assuming these loans are in the $90+$ delinquency status and

[^29]foreclosure long enough to incur the maximum incentive fee, the maximum total Loan Level Amount these loans might reach is approximately $\$ 221$ million. ${ }^{65}$

### 12.4 Incentive payment - Summary

In calculating the maximum Master Servicing Fee Adjustment, I assume that none of the loans are transferred to Subservicers and all loans move through the BANA foreclosure pipeline slowly enough as to incur the maximum incentive fees. This calculates the theoretical maximum penalty payable by BANA according to the methodology explained in Sections 12.1 to 12.3.

The cumulative maximum Master Servicing Fee Adjustment using the above assumptions is approximately $\$ 750$ million. This maximum number is well beyond my expectations under any expected case, and useful only to describe how the calculation works. Any amount payable with respect to the Master Servicing Fee Adjustment will take into account the actual performance of BANA as servicer and the transfer of High Risk Loans to the Subservicers; variables which I believe are difficult to make supportable assumptions around concurrently, over an extended period of time. However I might choose to calculate it, in my opinion, this benefit will be significantly smaller than the potential benefit I have calculated for the transfer of High Risk Loans in Section 10.

My opinion is that the value of this Servicing Improvement could be as much as $\$ 750$ million but as a practical matter it will be significantly smaller. This Servicing Improvement provides a monetary incentive for BANA to transfer many of the loans that would be subject to the Master Servicing Fee Adjustment loans to Subservicers and/or improve its performance as servicer with respect to delinquent and defaulted loans. Applying the methodology outlined in this Section 12 to the assumed case of transfers in Section 10, I calculate a Master Servicing Fee Adjustment in May 2012 of $\$ 7.6$ million for illustrative purposes. Given the variability of this payment with regard to the amount of delinquent loans transferred to Subservicing, the Master Servicing Fee Adjustment is difficult to model with any precision. While I do not add it to the cumulative total of benefits attributed to Servicing Improvements for the purposes of my quantification, I note that the Master Servicing Fee Adjustment applies to even non-High Risk Loans and thus would be in addition to the Servicing Improvements benefits.

[^30]
## 13 Cure of Certain Documentation Exceptions

Paragraph 6 of the Settlement Agreement addresses certain mortgage documentation exceptions, which could prevent foreclosure if not cured.

Prior to the execution of the Settlement Agreement, BNYM provided to BANA a loan level report for certain of the Covered Trusts outlining the total number of document deficiencies tracked by the BNYM. ${ }^{66}$ The loan level reports contained 117,899 loans with any type of document deficiency.

As per the Settlement Agreement, BANA submitted to BNYM an "Initial Exception Report Schedule," including all the Mortgage Exception and Title Policy Exception loans in the Covered Trusts. On an ongoing basis, the Settlement Agreement requires BANA to issue an updated Monthly Exception Report listing current Mortgage Exceptions and Title Policy Exception loans as well as loans with respect to which a Mortgage Exception or Title Policy Exception was Cured during the reporting period.

Applying the Settlement Agreement document deficiency criteria to the loans within the BNYM loan level report, the number of loans listed on the Initial Exceptions Report Schedule was $1,116 .{ }^{67}$ The Settlement Agreement requires BANA to reimburse the Covered Trusts for any loss associated with a loan listed on the then-current Monthly Exception Report if that loan has defaulted and a loss is incurred due to the Master Servicer's inability to foreclose as a first-lien holder by reason of an outstanding Mortgage Exception and the trust is not made whole by title policy as a result of an outstanding Title Policy Exception.

To maintain the privacy of the borrowers, loan identification numbers have been removed from the Exception Report. As such, I cannot identify the individual characteristics of these loans and must make assumptions as to the balance and delinquency status to determine a value for this Paragraph 6 of the Settlement Agreement.

In my opinion, the document deficiency section in the Settlement Agreement is a benefit to the Covered Trusts, because BANA will reimburse the Covered Trusts for losses due to Mortgage Exceptions and Title Policy Exceptions for the life of the loans. In order to calculate an estimated benefit for this improvement, I must assume that the loans on the Exception Report are of average balance and are distributed across delinquency statuses as the rest of the Covered Trust loans, and make further assumptions as to the disposition of the loans in the event of default.

[^31]While it clearly would carry an expectation of a monetary value to the Covered Trusts, I elected not to calculate a specific value for this benefit as it is subject to further assumptions that I would need more information to refine.

## 14 Summary

My opinion calculates the value of the Servicing Improvements as could have reasonably been expected on the June 2011 Settlement Agreement date, using historical portfolio information to calculate a reasonably expected monetary value as of that date.

In my opinion, the monetary value of the benefits that comprise the Servicing Improvements as could have reasonably been expected at June 2011 is $\$ 2.51$ to $\$ 3.07$ billion.

My analysis in Section 6 indicates that the final Settlement Amount represented a reasonable outcome to the negotiation. The monetary value I have calculated for the benefit from the Servicing Improvements further supports my opinion in regard to the reasonableness of the Settlement Amount.

Dated: March 14, 2013
New York, New York


Phillip R. Burnaman, II

## Appendix A. Phillip R. Burnaman, II

I am currently employed as a Managing Director of GreensLedge Group, LLC. At GreensLedge, I provide litigation support and expert witness services to clients and provide financial advisory services regarding structured finance, including residential and commercial mortgage origination, securitization, and servicing. I also advise on bankruptcy, restructuring and capital markets activities within my areas of expertise, which include mortgage finance, homebuilding, commercial banking, financial guaranty and mortgage insurance, securities trading, portfolio management, and risk management.

I have thirty years of experience in structured finance and have worked in both New York and London through my career. I began my career in finance in 1983 at EF Hutton \& Company, where I built and analyzed residential mortgage cash flow models and assisted on mortgage securitizations as an investment banker. In 1986, I joined a start-up financial guarantor, Financial Security Assurance (FSA, now a part of Assured Guaranty), where I developed business opportunities for the application of financial guaranty insurance to residential and commercial mortgage finance. While at FSA I was deeply involved in the expansion of US RMBS technology to the mortgage finance market in the UK. In 1990, I joined Citigroup Securities where I was responsible for the acquisition of residential, commercial and consumer loans portfolios from the Resolution Trust Corporation. My team at Citigroup performed all the tasks related to the acquisition of whole loan portfolios, including extensive file due diligence, reunderwriting and valuation of portfolios in excess of $\$ 4$ billion, and we managed the acquisition and disposition of more than $\$ 700$ million of loan assets.

In 1994, I joined ING Bank, NV as a portfolio manager, with responsibility for a portfolio of $\$ 500$ million of RMBS, CMBS and distressed real estate debt. My responsibilities increased and by 2004, I was responsible for all of ING bank's proprietary trading businesses worldwide encompassing AUM over $\$ 14$ billion and 75 professionals in six offices around the world. Included in my responsibilities for ING was a proprietary RMBS portfolio of approximately $\$ 4$ billion, over $\$ 1$ billion of CMBS, and direct credit management of over $\$ 7$ billion of CLO issues. I advised ING's executive board (Board of Directors) on several significant risk issues at the Bank, including the Bank’s $\$ 40$ billion portfolio of US residential whole loans. I resigned from ING in 2004 to co-found NewStar Financial, a finance company where I was head of the ABS/structured products group - with loans and investments in prime, Alt-A, sub-prime residential mortgages, CMBS and CLOs amongst other assets. NewStar divested the majority of its structured finance portfolio in July of 2007 and I left the company in December of that year.

In 2008, I focused on advisory work for a publicly-traded homebuilder where I had served as a Director for ten years and was Chairman of the Board and the Audit Committee as well as the designated Audit Committee SEC financial expert. I also provided consulting services for a
large, private Midwestern life insurance company with a $\$ 5$ billion investment portfolio including RMBS and numerous structured finance investments. By 2009, I had formed a partnership to provide financial advisory and litigation support services in my areas of expertise; that partnership was Murray \& Burnaman LLC. In 2012, I joined some former colleagues at GreensLedge Group to continue my advisory practice and work on capital markets activities in residential and commercial mortgages.

I am currently a member of the Mortgage Bankers Association (MBA), The American Bankruptcy Institute (ABI), and the Turnaround Management Association (TMA). I am a former member of the American Securitization Forum (ASF), the Urban Land Institute (ULI), and I was a founding governor of the Commercial Real Estate Finance Council (CREFC). I have spoken to numerous industry groups on issues related to mortgage finance, securitization, and financial guaranty insurance, including CREFC, ASF, MBA, Moody's, Standard \& Poor's and Fitch Ratings.

My resume is appended as Exhibit A.

## Education

I graduated from Harvard College in 1981 with an AB in economics. In 1985, I earned an MBA from NYU's Stern School of Business Administration with a concentration in Finance.

## Publications

I have no published works in the past 10 years.

## Expert Reports, Testimony \& Depositions

Expert Report for United States Bankruptcy Court for the District of Massachusetts (contributing author): In re SW Boston Hotel Venture, LLC, 460 B.R. 38, 43 (Bankr. D. Mass. 2011) vacated, BAP 11-087, 2012 WL 4513869 (B.A.P. 1st Cir. Oct. 1, 2012)

Affidavit as Expert Witness in Civil matter (Ableco Finance LLC, v. Paul, Hastings, Janofsky \& Walker LLP, et al) SUPREME COURT OF THE STATE OF NEW YORK COUNTY OF NEW YORK Index No. 650618/2009

I provided sworn Testimony and Interrogatories in a regulatory hearing in RE: California Coastal Communities before the NASD in June 2009, as Chairman of the Board of that company.

I have been deposed twice as a fact witness.

## Appendix B. Materials Relied Upon

Documents Produced in this matter
BNYM_CW-00000165
BNYM_CW-00000206
BNYM_CW-00000208
BNYM_CW-00000209
BNYM_CW-00000266
BNYM_CW-00000271
BNYM_CW-00000278
BNYM_CW-00000281
BNYM_CW-00000301
BNYM_CW-00000370
BNYM_CW-00000377
BNYM_CW-00119967
BNYM_CW-00120005
BNYM_CW-00120105
BNYM_CW-00120107
BNYM_CW-00120115
BNYM_CW-00120129
BNYM_CW-00120143
BNYM_CW-00120201
BNYM_CW-00120217
BNYM_CW-00120225
BNYM_CW-00243975 to BNYM_CW-00244091
BNYM_CW-00285555

## Deposition Transcripts and Exhibits

Robert E. Bailey Deposition Transcript and Exhibits, December 3, 2012
Robert Bostrom Deposition Transcript and Exhibits, December 18, 2012
Jason Buechele Deposition Transcript and Exhibits, November 27, 2012
Elaine Golin Deposition Transcript and Exhibits, November 12, 2012
Meyer Koplow Deposition Transcript and Exhibits, November 19, 2012
Jason H.P. Kravitt Deposition Transcript and Exhibits, September 19 \& 20, 2012
Terry P. Laughlin Deposition Transcript and Exhibits, December 12, 2012
Brian Lin Deposition Transcript and Exhibits, October 16 \& 17, 2012
Loretta A. Lundberg Deposition Transcript and Exhibits, October 2 \& 3, 2012
Kathy Patrick Deposition Transcript and Exhibits, December 17, 2012
Randy Robertson Deposition Transcript and Exhibits, November 29, 2012
Faten Sabry Deposition Transcript and Exhibits, December 4, 2012
Thomas Scrivener Deposition Transcript and Exhibits, November 14, 2012
Kent Smith Deposition Transcript and Exhibits, December 5, 2012
Scott Waterstredt Deposition Transcript and Exhibits, December 5, 2012

## Publications

Amherst Securities Group, Laurie Goodman, et al, Modification Effectiveness: The Private Label Experience and Their Public Policy Implications, Journal of Fixed Incomes, Volume 22 (May 30, 2012)

Federal Housing Finance Agency Office of Inspector General, EVL-2011-006, Evaluation of the Federal Housing Finance Agency's Oversight of Freddie Mac's Repurchase Settlement with Bank of America (September 27, 2011)

Federal Housing Finance Agency, News Release, FHFA, Fannie Mae and Freddie Mac Announce HARP Changes to Reach More Borrowers (October 24, 2011)

Financial Accounting Standards Board, Accounting Standards Update No. 2011-04: Fair Value Measurement (Topic 820: Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs (May 2011)

John E. McDonald, CFA \& Peter G. Handy, Bernstein Research, BAC: Tough Slog Continues, Trimming Estimates on Higher Expense Run Rate (January 24, 2011)

JPMorgan MBS Credit Monthly, January 4, 2013
Frank Fabozzi, The Handbook of Fixed Income Securities $\left(8^{\text {th }}\right.$ ed. 2011)
Paul J. Lerner \& Alexander I. Poltorak, Euromoney PLC, Introducing Litigation Risk Analysis, Managing Intellectual Property (May 2001)

## Data Sources

Intex
Securities Database, CoreLogic

## Websites

Bank of America, Addressing Mortgage Legacy Issues, (June 29, 2011), http://www.sec.gov/Archives/edgar/data/70858/000119312511176452/dex994.htm

BNY Mellon, Corporate Trust Investor Reporting, available at https://www.gctinvestorreporting.bnymellon.com (last visited March 14, 2013)

Fannie Mae Servicing Guide, Foreclosure Time Frames and Compensatory Fee Allowable Days (February 13, 2013), https://www.fanniemae.com/content/guide_exhibit/foreclosure-timeframes-compensatory-fees-allowable-delays.pdf

Kyle G. Lundstedt, Ph.D. \& Andrew Davidson \& Co., Inc., Modeling Mortgage Risk:
Definitional Issues, (2005)
http://www.securitization.net/pdf/content/ADC_Delinquency_Apr05.pdf

Office of the Comptroller of the Currency, Definitions and Methods, available at http://www.occ.treas.gov/publications/publications-by-type/other-publications-reports/mortgage-metrics-q1-2008/definitions-and-methods-2008-1-quarter.html (last visited March 14, 2013)

## Court Documents

In the matter of the application of The Bank of New York Mellon, et al., (Supreme Court of the State of New York, Index No. 651786-2011), The Bank Of New York Mellon's Opposition To The Motion To Compel Discovery Based On The Fiduciary Exception And At-Issue Waiver, Motion Sequence No. 31

In the matter of the application of The Bank of New York Mellon, et al. (Supreme Court of the State of New York, Index No. 651786/2011), Steering Committee's Consolidated Reply Memorandum of Law in Support of Orders to Show Cause, Motion Seq. 29-33

In the matter of the application of The Bank of New York Mellon, et al., (Supreme Court of the State of New York, Index No. 651786/2011), Steering Committee's Memorandum of Law in Support of Order To Show Cause Why the Court Should Not Compel Discovery Of Evidence That The Trustee Has Placed At Issue And That Is Subject To The Fiduciary Exception

MBIA Insurance Corp. v. Countrywide, (Supreme Court of the State of New York, Index No. 602825/08), Affidavit Of Michael W. Schloessmann In Support Of Countrywide's Opposition to Plaintiff's Motion For Summary Judgment, Sequence No. 58 (March 11, 2013)

## Appendix C. Transfer Costs

The Settlement Agreement contemplates that BANA will transfer the servicing of the High Risk Loans to between eight and ten Subservicers. Exhibit E of the Settlement Agreement details representative costs the Sub-servicer would charge BANA to board, service and either dispose of the loan or return the loan to a performing status.

Using this Representative Sub-servicer Compensation schedule as shown in Exhibit E (the "Fee Schedule"), I have calculated my estimate of the costs to BANA to have these loans serviced by the servicers. The Fee Schedule first details the fees for Boarding (i.e. transferring onto the Subservicer's system) the loans. I assume for these purposes that all loans will be electronically boarded.

The "Base Fee" in the Fee Schedule lists monthly fees for each loan for each End of Month Status and by loan volume. For these purposes, I assume the Sub -servicers will each board at least 1,000 loans and therefore I use the " $1,000+$ " loan column.

The Fee Schedule also specifies Incentive Fees to be paid to the Sub-servicer for various forms of loan disposition (Paid in Full, Short Payoff, Modifications, REO, etc.). These fees range from $0.5 \%$ to $1.5 \%$ of the loan balance. I cannot forecast the ultimate resolution of these loans, so I have calculated the sensitivity of the total fee amount to the incentive fee.

If I project the High Risk loan status for 36 months forward and assume $1 \%$ for the average Incentive Fee (the mid-point) I see that BANA will pay the Subservicers approximately \$1.05B (Figure Ca.)

Figure Ca: Subservicing Costs and Servicing Income for 36 month period from date of transfer

|  | Alt-A |  | Subprime |  | MBS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Boarding | \$ | 3,370,911 | \$ | 3,238,970 | \$ | 255,471 |
| Base |  | 329,366,072 |  | 123,956,936 |  | 22,911,669 |
| Incentive |  | 263,746,115 |  | 37,913,292 |  | 32,873,936 |
| Total Fees |  | 596,483,097 |  | 165,109,199 |  | 56,041,077 |
| Grand Total | \$ | 817,633,373 |  |  |  |  |
|  |  |  |  |  |  |  |
| Servicing Income | \$ | 402,471,220 | \$ | 98,813,288 | \$ | 51,820,968 |
| Net Cost |  | 194,011,878 |  | 66,295,911 |  | 4,220,108 |
| Total Net Cost | \$ | 264,527,897 |  |  |  |  |

Source: CoreLogic, Greensledge Group

Over the same 36 month period, BANA receives $0.5 \%$ of the loan UPB from the trusts as a Servicing Fee. This income is shown in the lower half of Figure Ca.

The Fee Schedule lists the Incentive Fees for several possible liquidation solutions. If, for example, a loan is modified and subsequently remains current for 12 months, the servicer earns an incentive fee of $1.5 \%$ of the Unpaid Principal Balance (UPB) of the loan. Figure Cb illustrates the sensitivity of the Total Net Cost to BANA of the Incentive Fee paid to the Subservicers based on different incentive fees at $100 \%$ of the High Risk Loans transferred in each case, indicating the possible range of outcomes.

Figure Cb: Net Cost vs. Average Incentive Fee

| Incentive Fee | Total Net Cost |  |
| :---: | :---: | ---: |
| $0.50 \%$ | $\$$ | $98,823,711$ |
| $0.75 \%$ | $\$$ | $183,132,003$ |
| $1.00 \%$ | $\$$ | $264,527,897$ |
| $1.25 \%$ | $\$$ | $340,610,736$ |
| $1.50 \%$ | $\$$ | $411,031,152$ |

Using the assumptions detailed above, I calculate the cost to BANA of transferring the loans in the range of $\$ 123$ million to $\$ 525$ million.

Appendix D. High Risk Loan Transfer Calculations





Covered Trust Loans Originated in 2006
\$in Millions
Balances by Product Type and Delinque



## Appendix E. Fair Value Measurement (Topic 820) No. 2011-04 - May 2011 Key Sections

$\mathbf{8 2 0 - 1 0 - 3 5 - 2 4 A}$ The objective of using a valuation technique is to estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions. Three widely used valuation techniques are the market approach, cost approach, and income approach. The main aspects of those approaches are summarized in paragraphs 820-10-55-3A through 55-3G. An entity shall use valuation techniques consistent with one or more of those approaches to measure fair value.

820-10-35-37 To increase consistency and comparability in fair value measurements and related disclosures, this Topic establishes a fair value hierarchy that categorizes into three levels (see paragraphs 820-10-35-40 through 35-41, 820-10-35-41B through 35-41C, 820-10-35-44, 820-10-35-46 through 35-51, and 820-10-35-52 through 35-54A) the inputs to valuation techniques used to measure fair value. The fair value hierarchy gives the highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1 inputs) and the lowest priority to unobservable inputs (Level 3 inputs).

820-10-35-37A in some cases, the inputs used to measure the fair value of an asset or a liability might be categorized within different levels of the fair value hierarchy. In those cases, the fair value measurement is categorized in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement. Assessing the significance of a particular input to the entire measurement requires judgment, taking into account factors specific to the asset or liability. Adjustments to arrive at measurements based on fair value, such as costs to sell when measuring fair value less costs to sell, shall not be taken into account when determining the level of the fair value hierarchy within which a fair value measurement is categorized.

820-10-35-38 The availability of relevant inputs and their relative subjectivity might affect the selection of appropriate valuation techniques (see paragraph 820-10-35-24). However, the fair value hierarchy prioritizes the inputs to valuation techniques, not the valuation techniques used to measure fair value. For example, a fair value measurement developed using a present value technique might be categorized within Level 2 or Level 3, depending on the inputs that are significant to the entire measurement and the level of the fair value hierarchy within which those inputs are categorized.

820-10-35-38A If an observable input requires an adjustment using an unobservable input and that adjustment results in a significantly higher or lower fair value measurement, the resulting measurement would be categorized within Level 3 of the fair value hierarchy. For example, if a market participant would take into account the effect of a restriction on the sale of an asset when estimating the price for the asset, a reporting entity would adjust the quoted price to reflect the effect of that restriction. If that quoted price is a Level 2 input and the adjustment is an unobservable input that is significant to the entire measurement, the measurement would be categorized within Level 3 of the fair value hierarchy.

## Level 1 Inputs

820-10-35-40 Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity can access at the measurement date.

820-10-35-41 A quoted price in an active market provides the most reliable evidence of fair value and shall be used without adjustment to measure fair value whenever available, except as specified in paragraph 820-10-35-41C.

820-10-35-41B A Level 1 input will be available for many financial assets and financial liabilities, some of which might be exchanged in multiple active markets (for example, on different exchanges). Therefore, the emphasis within Level 1 is on determining both of the following:
a. The principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability
b. Whether the reporting entity can enter into a transaction for the asset or liability at the price in that market at the measurement date.

## Level 2 Inputs

820-10-35-47 Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. 820-10-35-48 If the asset or liability has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset or liability.

Level 2 inputs include the following:
a. Quoted prices for similar assets or liabilities in active markets
b. Quoted prices for identical or similar assets or liabilities in markets that are not active
c. Inputs other than quoted prices that are observable for the asset or liability, for example:

1. Interest rates and yield curves observable at commonly quoted intervals
2. Implied volatilities
3. Subparagraph superseded by Accounting Standards Update 2011- 04.
4. Subparagraph superseded by Accounting Standards Update 2011- 04.
5. Credit spreads.
6. Subparagraph superseded by Accounting Standards Update 2011-04.
d. Market-corroborated inputs.

820-10-35-49 Paragraph 820-10-55-21 discusses Level 2 inputs for particular assets and liabilities.

820-10-35-50 Adjustments to Level 2 inputs will vary depending on factors specific to the asset or liability. Those factors include the following:
a. The condition or location of the asset
b. The extent to which inputs relate to items that are comparable to the asset or liability (including those factors described in paragraph 820-10-35-16D)
c. The volume or level of activity in the markets within which the inputs are observed.

820-10-35-51 An adjustment to a Level 2 input that is significant to the entire measurement might result in a fair value measurement categorized within Level 3 of the fair value hierarchy if the adjustment uses significant unobservable inputs.

## Level 3 Inputs

820-10-35-52 Level 3 inputs are unobservable inputs for the asset or liability.
820-10-35-53 Unobservable inputs shall be used to measure fair value to the extent that relevant observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. However, the fair value measurement objective remains the same, that is, an exit price at the measurement date from the perspective of a market participant that holds the asset or owes the liability. Therefore, unobservable inputs shall reflect the assumptions that market participants would use when pricing the asset or liability, including assumptions about risk.

820-10-35-54 Assumptions about risk include the risk inherent in a particular valuation technique used to measure fair value (such as a pricing model) and the risk inherent in the inputs to the valuation technique. A measurement that does not include an adjustment for risk would not represent a fair value measurement if market participants would include one when pricing the asset or liability. For example, it might be necessary to include a risk adjustment when there is significant measurement uncertainty (for example, when there has been a significant decrease in the volume or level of activity when compared with normal market activity for the asset or liability, or similar assets or liabilities, and the reporting entity has determined that the transaction price or quoted price does not represent fair value, as described in paragraphs 820-$10-35-54 \mathrm{C}$ through 35-54J).

820-10-35-54A A reporting entity shall develop unobservable inputs using the best information available in the circumstances, which might include the reporting entity's own data. In developing unobservable inputs, a reporting entity may begin with its own data, but it shall adjust those data if reasonably available information indicates that other market participants would use different data or there is something particular to the reporting entity that is not available to other market participants (for example, an entity-specific synergy). A reporting entity need not undertake exhaustive efforts to obtain information about market participant assumptions. However, a reporting entity shall take into account all information about market participant assumptions that is reasonably available. Unobservable inputs developed in the manner described above are considered market participant assumptions and meet the objective of a fair value measurement.

## Exhibit A.



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www.greensledge.com

Seasoned Senior Executive with extensive experience in financial services firms and international exposure. Experienced corporate board member specializing in distressed companies, commercial real estate, $A B S$ and residential mortgage finance.

## Expert Witness Experience

- Finance Company v. Law Firm - Litigation regarding professional services and standard of care in loan origination
- Secured Creditor v. Real Estate Developer in Bankruptcy - Litigation over plan feasibility, interest rate, claim amount


## Career Experience

GreensLedge Group, LLC
2012-present
Managing Director

- Residential and Commercial Mortgage Finance
- Financial advisory and Litigation Support

Murray \& Burnaman LLC
2009-2012
Managing Member

- Partner and co-founder, restructuring and financial advisory services firm
- Financial advisor to debtors, creditors and directors
- Valuation, Litigation Support and Advisory Services to complex restructurings, including financial institutions, real estate and structured finance

NewStar Financial, Inc.
2004-2008
Managing Director/Head of Structured Products

- Head of business line including residential and commercial mortgages, consumer loans, assetbacked lending and Asset back securities
- Served on Credit Committee, Management Committee, and Asset-Liability Management Committee

Senior Managing Director, Global Head of Strategic Trading

- Managed global operation with assets over $€ 14 \mathrm{~B}$ across New York, London, Tokyo, Singapore and Los Angeles
- Achieved profitability annually from 1995
- Oversaw firm's long-term proprietary trading of distressed debt, high-yield and high-grade debt, CMBS, mortgage and asset-backed securities, foreign exchange, and public equities
- Managed team of 75 people
- Co-chaired ING’s Underwriting Committee


## Citicorp Securities Markets

1990-1994
Managing Director
Voute, Coats, Stuart \& O'Grady
1989-1990
Vice President
Financial Security Assurance
1986-1989
Managing Director
EF Hutton \& Company
1983-1986
Board Service
California Coastal Communities
1997-2011
Board Chairman/Audit Committee Chairman

- Negotiated several strategic transactions to revise company focus and leadership
- Named SEC "Financial Expert" for compliance with Sarbanes-Oxley requirements
- Former chairman of Compensation Committee

Sunworld, Inc.
2003-2004
Board Member
ING Capital Management, Ltd.
2002-2004
Chairman and Director
Hurricane Island Outward Bound
1990-1996
Board of Trustees
Education
New York University Stern School of Business
MBA, concentration in Finance 1985
Harvard University
AB, Economics 1981

## Certification \& Licensure

- FINRA Series 7, 63, 24, lapsed (re-certifying in process)
- General Representative, FSA (UK) certification, lapsed


## Affiliations

- Mortgage Bankers Association
- Turnaround Management Association (TMA)
- Founding Governor, Commercial Mortgage Securities Association (now CREFC)
- American Bankruptcy Institute (ABI)
- Wilton Presbyterian Church( Treasurer)
- Hurricane Island Foundation (Trustee, Treasurer)
- Investment Advisory Board, Edgewood Capital LLC


## Exhibit B.




[^0]:    ${ }^{1}$ Capitalized terms not defined herein will have the meaning prescribed to them in the Settlement Agreement.

[^1]:    ${ }^{2}$ I understand that some would argue that the mere existence of a breach would, de facto, give rise to a put-back right under the contract, as a defective mortgage loan would have a lower market value than it originally carried its continued payment performance notwithstanding. In my experience as an investor, I never experienced or heard of performing loans being removed from RMBS trusts for defects.
    ${ }^{3}$ The CPR (Conditional Prepayment Rate) based on the modeling assumptions used was approximately $1 \%$ constant.

[^2]:    4"The intuitive notion that fewer, publicly reported prices reduce information is consistent with statistical theory." William G. Tomek, Price Behavior on a Declining Terminal Market, 62 Am. J. Agric. Econ., 434, 435 (1980).

[^3]:    ${ }^{5}$ These characteristics include FICO scores, geography, vintages, documentation types, and credit metrics, among others.
    ${ }^{6}$ Frank J. Fabozzi \& Steven V. Mann, The Handbook of Fixed Income Securities, ( $8^{\text {th }}$ ed. 2011).

[^4]:    ${ }^{12}$ FASB, Accounting Standards Update No. 2011-04: Fair Value Measurement (Topic 820: Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs, 191 (May 2011).
    ${ }^{13}$ Office of the Comptroller of the Currency (2013), http://www.occ.gov/topics/capital-markets/financial-markets/counterparty-risk/index-counterparty-risk.html.

[^5]:    ${ }^{14}$ Litigation is fraught with uncertainty, which is a condition or a state inherent in situations offering more than one possible outcome. Uncertainty also arises from the inherently probabilistic nature of some of the events affecting the ultimate outcome, as well as from the imperfect information available about certain facts and the concomitant need to make assumptions. Risk is the likelihood that the actual outcome will be unfavorable or undesired. Complexity results from uncertainty piled atop uncertainty. From a business decision-making point of view, litigation management is to a large degree a risk management problem. Paul J. Lerner \& Alexander I. Poltorak, Euromoney PLC, Introducing Litigation Risk Analysis, Managing Intellectual Property (May 2001).
    ${ }^{15}$ Timothy J. Murphy, A Policy Analysis of a Successor Corporation's Liability for its Predecessor's Defective Products When the Successor Has Acquired the Predecessor's Assets for Cash, 71 Marq. L. Rev. 815 (1988), http://scholarship.law.marquette.edu/cgi/viewcontent.cgi?article=1816\&context=mulr.

[^6]:    ${ }_{17}^{16}$ Scrivener Dep. 291: November 14, 2012.
    ${ }^{17}$ BNYM_CW-00000165
    ${ }^{18}$ Scrivener Dep. 120:10-17, November 14, 2012.

[^7]:    ${ }^{22}$ Smith Dep. 199, December 5, 2012.
    ${ }^{23}$ This understanding was most specifically referred to on page three of the report of Brian Lin (June 7, 2011) who reported on the derivation of the Institutional Investors' methodology as follows:

    The "Breach Rate" and "Success Rate" were obtained by a third party who completed a forensic underwriting project of a non-agency whole loan portfolio. This review consisted of approximately 250,000 loans of similar product types, and of the same origination period as the Settlement Portfolio. It was observed that there was an instance of a breach in approximately $60 \%$ of the loans examined and the actual repurchase rate of these loans by the originator ranged between $50 \%$ and $75 \%$. I was not able to verify these figures since I was not given access to any documents or specifics pertaining to this underwriting review.

[^8]:    ${ }^{24}$ Amherst Securities Group, Laurie Goodman, et al, Modification Effectiveness: The Private Label Experience and Their Public Policy Implications, 22 J. Fixed Income, 21-36 (May 30, 2012).

[^9]:    25 "Compliance with underwriting guidelines," for example.

[^10]:    ${ }^{26}$ Fannie Mae 2007 Selling Guide, https://www.fanniemae.com.
    ${ }^{27}$ Pooling and Servicing Agreement, Prospectus Supplements, and Prospectus, CWABS 2006-15, CWALT 2007OA06, CWMBS 2006-15, and CWALT 2006-OA19.
    ${ }^{28}$ BNYM_CW-00000206.
    ${ }^{29}$ Smith Dep., 196, 199: December 5, 2012.

[^11]:    ${ }^{30}$ Vintage is generally defined as the year of origination.

[^12]:    ${ }^{31}$ See generally: Robertson Dep., Nov. 29, 2012; Smith Dep., Dec. 5, 2012; Waterstredt Dep., Dec. 5, 2012.
    ${ }^{32}$ January 7, 2013

[^13]:    ${ }^{33}$ January 3, 2011
    ${ }^{34}$ BNYM_CW-00285555 (Exhibit B)
    ${ }^{35}$ The repurchase rate was calculated by dividing the total consideration paid (\$2.7B for Freddie Mac and \$11.6B for Fannie Mae) to resolve the claims for each population by BANA's estimate of the collateral losses for that population (\$22B and \$80B respectively). I understand, based upon a conversation with Tom Scrivener of BANA on March 8, 2013, that BANA calculated its collateral loss estimates using the same methodology as was used for its presentations during the negotiation with BNYM and the Institutional Investors.

[^14]:    ${ }^{40}$ Fannie Mae's foreclosure timeframes on a state-by-state basis are available at https://www.fanniemae.com/content/guide_exhibit/foreclosure-timeframes-compensatory-fees-allowable-delays.pdf

[^15]:    ${ }^{41}$ Specifically, the Settlement Agreement provides that the maximum number of loans that the Master Servicer may transfer to a Subservicer is capped at 30,000 loans or a lesser number of loans per a determination of a lower cap by BNYM for a particular Subservicer.

[^16]:    ${ }^{42}$ FHA National Servicing Center Loss Mitigation Services http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/nsc/lossmit
    ${ }^{43}$ BANA provided the Initial Exceptions Report Schedule to BNYM in August 2011.

[^17]:    44 "Servicer differences matter" Barclays Capital Securitized Research, December 9, 2011.

[^18]:    45 S\&P Case-Shiller Home Price Indices
    46 "The master servicer is obligated to make advances with respect to delinquent payments of principal of or interest on each Mortgage Loan to the extent that the advances are, in its reasonable judgment, recoverable from future payments and collections or insurance payments or proceeds of liquidation of the related Mortgage
    Loan." Prospectus, CWALT 2007- OA6.
    ${ }^{47}$ CoreLogic refers to these databases as the "ABS Loan Level Database" and the "MBS Loan Level Database". I made no independent assessment of the accuracy of this data.

[^19]:    ${ }^{48}$ Recovery-focused specialty servicers became prevalent during the RTC liquidation of S\&L assets, and continue to evolve. I was directly involved in this area during the 1990s.

[^20]:    ${ }^{49}$ JPMorgan MBS Credit Monthly, January 4, 2013, various pages including A-4, A-8, A-21, A-24 through A-27.

[^21]:    50 "[A] loan is "past due" when a scheduled payment is unpaid for 30 days or more." Office of the Comptroller of the Currency, Definitions and Methods, available at http://www.occ.treas.gov/publications/publications-by-type/other-publications-reports/mortgage-metrics-q1-2008/definitions-and-methods-2008-1-quarter.html (last visited March 13, 2013).
    51 "In short, a borrower that misses one payment is current under the OTS method and 1-month delinquent under the MBA method." Kyle G. Lundstedt, Ph.D. \& Andrew Davidson \& Co., Inc., Modeling Mortgage Risk: Definitional Issues, (2005) http://www.securitization.net/pdf/content/ADC_Delinquency_Apr05.pdf.

[^22]:    ${ }^{52}$ Roll rates are calculated and applied individually by loan vintage and loan pool type.

[^23]:    ${ }^{53}$ This may be due to timely and constructive right-party contact with the borrower, successful credit counseling, or a loan modification. CoreLogic does not provide complete information concerning loan modifications; thus, it is difficult to determine with any certainty if the terms of a loan have been modified. I do not require this differentiation for my analysis as the same issue applies to the universe of deals outside the Covered Trusts; reperforming loans are re-performing loans whatever the reason. The only observable fact available to inform this analysis is that a seriously delinquent loan has been returned to a performing status.

[^24]:    ${ }^{54}$ Vintage weighted average for Alt-A Covered Trust loans over the 12 months prior to June 2011.
    ${ }^{55}$ Amherst Securities Group, Laurie Goodman, et al, Modification Effectiveness: The Private Label Experience and Their Public Policy Implications, 22 J. Fixed Incomes, 21-36 (May 30, 2012).
    ${ }^{56}$ I cannot from the data differentiate between the modifications and natural re-performers, so I therefore elected to use this re-default rate across the entire population of Re-performing loans without any secondary loss development curve (i.e. immediate application of the reduction as opposed to over 18+/- months).
    ${ }^{57}$ The average number of months calculated using weighted average loan balances.

[^25]:    ${ }^{58}$ Property taxes: $2 \%$, insurance: $1 \%$, maintenance: $5 \%$.
    ${ }^{59}$ This figure is $8 \% / 12$ months.

[^26]:    ${ }^{60}$ Wall Street Journal Prime Rate, as defined.

[^27]:    ${ }^{61}$ Exhibit E, Verified Petition with Exhibits.

[^28]:    ${ }^{62}$ This figure is $\$ 37.6 \mathrm{MM} * 6.49 \%$ (the weighted average interest rate) $/ 12 * 100 \%$
    ${ }^{63}$ Fannie Mae Servicing Guide, Foreclosure Time Frames and Compensatory Fee Allowable Days, available at https://www.fanniemae.com/content/guide_exhibit/foreclosure-timeframes-compensatory-fees-allowable-delays.pdf (last visited March 14, 2013).

[^29]:    ${ }^{64}$ This figure is $\$ 22.9 \mathrm{MM} * 6.61 \%$ (the weighted average interest rate) $/ 12 * 100 \%$.

[^30]:    ${ }^{65}$ This figure is $\$ 40.7 \mathrm{MM} * 6.5 \% / 12 * 100 \%$ for the time in the $90+$ day delinquency category and the same for the time in the Foreclosure category.

[^31]:    ${ }^{66}$ "Trustee's Loan-Level Exception Reports" BNYM_CW-00243975 to BNYM_CW-00244091.
    ${ }^{67}$ The August 2011 Monthly Exception Report.

