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A Perfect Hedge Undone by a Bad Model, Bad Data or Bad Assumptions

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A Perfect Hedge Undone by a Bad Model, Bad Data or Bad Assumptions

So your secondary marketing and hedge models are “best in class” – should your results be guaranteed to be “best in class” as well?

You have well qualified secondary traders – are your portfolio / hedge positions safe?

Are your secondary market results appropriate?

What happens to your secondary trade if the following occurs:

- Delivery is missed as loans do not meet investor requirements
- Slotting loans into mandatory delivery commitments is ineffective due to bad loan type data
- Insufficient amounts of loans to fill commitments
- Interest rates on loans are not what were locked in
- Fall out data is poor causing hedge or forward positions to be higher than needed
- Other issues that cause the secondary results to be less than expected

Undesirable results despite strong models, experienced traders and appropriate hedge strategies!! WHY??

Perspectives on Good and Bad Models

The Best Models, Best Traders, Best Hedge Strategies can still result in less than satisfactory results.

Our panel will cover the following:

- Bad data and assumptions — Jeff Oliver will cover the typical issues and how to manage/monitor such
- Bad Models – Pat Greene of RiskSpan will discuss how to assess your model risk and keeping your model “best in class”
- Models used in Servicing – Gene Ross of Loan Care will discuss how relevant this topic is to his business – NPVs, loss mitigation alternatives, etc.
- Regulators’ view of financial models - Jeff Brown of Promontory Financial will discuss how banking regulators view model risk and the requirements that affect this area

You should take away some steps to take regarding each of these areas that will help your company’s results align with what the models suggest.

Bad Models, Bad Data or Bad Assumptions or all of the Above

Bad data — If the data is bad the results are too! Yes it's the old saying –

Garbage in and Garbage Out!

Lets explore the ways that data can be bad even though well-intentioned:

- Loan processor does not update the type of loan per the LO system (change in process)
- Underwriter misses that this loan is a second home on beach because that information is not in file or system – does not qualify for investor commitment
- LO system data transfer is not properly mapped to the secondary market system so the rate structure is different and the caps are not set up on the ARM
- Loan amount was changed at the closing table but not updated in the secondary system
- Rate was changed immediately prior to closing and the secondary system did not reflect the change

Bad Models, Bad Data or Bad Assumptions or all of the Above

Bad data — all of the above situations and hundreds of others happen every day!

The best model is not going to compensate for data errors whether they are:

- Manual input into the various systems
- Transferred automatically from the LO system to the Secondary Market system
- Calculated or screened by the model - the raw data is still wrong

Mitigating these risks should include:

- Underwriters and closers being more focused on the data that is in the LO system
- QC testing/comparing data inputs to all systems to final documents
- Secondary team having a data quality function to test inbound data to the models
- Reasonableness checks or edits on incoming data (this can be complex and expensive)
- Smart documents – where the data is “lifted” from the document and inserted into the system

Bad Models, Bad Data or Bad Assumptions or all of the Above

Bad assumptions — the best models are only as good as the assumptions made by the model's user.

Assumptions are the user's discretionary changes to be factored into the model's calculations. There are numerous assumptions in most complex models. Issues with assumptions arise for various reasons as follows:

- User's assumptions that have no basis or rationale
- User error in inputting the assumptions (example: wrong amounts)
- User error in understanding how the model uses the assumptions i.e. definition of terms, defining the population that assumption applies to, number sign conventions, formatting such as needing to be a numeric field, etc.
- User's assumptions outside of the company's acceptable risk profile

Bad assumptions can have a negative impact because the assumption itself is unwarranted or because the assumption was input incorrectly (just like a bad data input).

Bad Models, Bad Data or Bad Assumptions or all of the Above

Examples of bad assumptions can be found in most models – the key question is how material an impact does the individual assumption make? Offsetting assumptions may save your model results.

Here are some bad assumptions that we have seen recently:

- Closing percentage (pull through) used is same in all models despite rate shocks.
- The types/sizes of loans that are closing are not what you expected – mix of fixed vs arm, government vs conventional, jumbos vs conforming, etc.
- The timing of closings do not occur when you expect them to for many different reasons including operational backlogs.
- Appraisal values that reflect too much optimism or pessimism impact NPVs across the entire portfolio despite clear regional market differences
- Repurchase requests and corresponding losses were never forecast at the levels we see today.

Assumptions make your model results “say” what you want – but be careful.

Bad Models, Bad Data or Bad Assumptions or all of the Above

Mitigating the risk for bad assumptions can be done by using some of the following controls:

- Senior management signs off on all “significant assumptions” i.e. those that do materially affect the model results
- A range of acceptable assumptions is established for all users
- Assumptions are documented/compared to market equivalents
- Assumption input is screened/tested for reasonableness
- Model updates and regular training is provided to all users
- Power users are identified and are available for consultation
- Quality control and Internal audit should look at all aspects of models – model validation, user validation, data validation and assumption validation.

Bad assumptions will jeopardize your results, your analysis and your management decisions.