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The Need to See Past the Data

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Even though today's high rate of sub-prime mortgage delinquencies has not yet fully ripened into the defaults and losses on the related securities, CDO professionals would be remiss if they used their old modeling assumptions about sub-prime ABS to structure new deals. If they did, investors would not accept those structuring assumptions in any case. On the other hand, until the market tabulates the final results of the sub-prime crisis, there won't be new historical statistics upon which to base modeling assumptions. An alternative approach would be to use estimates or projections of where defaults and losses are likely to end up to the recent vintages of sub-prime mortgage ABS. Either way, it seems possible that reasonable new assumptions may not foster profitable execution for ABS CDOs.

The pressure on the ABS CDO sub-sector arguably should prompt a dose of self-assessment and reflection on the part of specialists in that area. Most would agree that the widely embraced Monte Carlo simulation modeling approach was a reasonable way to analyze risk. However, the virtually universal acceptance of that approach may have frozen out other points of view.

Other approaches might have placed greater emphasis non-quantifiable factors and the notion that the credit risk on sub-prime mortgage loans may not be a "stationary" phenomenon. The fact that many sub-prime lenders embraced the same weak origination practices at the same time produced stronger performance correlation among their loan pools than had ever been observed. Market participants could readily observe that major sub-prime lenders (1) targeted the same customer base, (2) originated loans through many of the same brokers, (3) used the same or similar credit analysis tools including FICO scores and automated appraisal systems, (4) offered the same or similar loan products, (5) were pushed by competition to loosening their underwriting standards in the same ways, and (6) sold or financed their loans through the same or similar outlets. Accordingly, it would not have taken a very great leap of imagination to envision the possibility that performance correlation might end up being higher than had previously been observed. However, because high correlation wasn't reflected in the past data and because there was not a rigorous quantitative basis for embracing a high-correlation assumption, many market participants chose to de-emphasize (or to ignore) the qualitative market realities that were unfolding right in front of their eyes.

The practice of de-emphasizing non-quantifiable factors has previously been a problem in the structured finance arena. For example, in the mid-1990s, home equity and manufactured housing lenders over-valued their retained residual interests by underestimating the speed at which their securitized loans would prepay. Their projections had been based on observations from the preceding few years. However, the lending environment was changing in profound ways. Competition among lenders intensified and they started to aggressively solicit borrowers to refinance their loans. Everyone in the market could see the changes happening in the environment, yet they continued to rely on data that did not capture the impact of the change. In essence, they chose to de-emphasize or to ignore the implications of change. The loans prepaid faster than the models had predicted, the lenders took crushing writedowns on their residual positions and many went out of business. Fortunately for ABS investors, the under-prediction of prepayment speeds did not cause credit losses.

It should not be too much to hope that market participants will take the lesson from ABS CDOs to heart. Even with the strong quantitative models, the best analysis sometimes requires using one's imagination to look beyond the limitations of available data samples. It requires recognizing and appreciating the limitations of past data. As one wise commentator has noted:

> Clearly, we cannot put future data into the computer, because we do not know the future data. Instead, we program past data - the only available fuel for our models. Therein lies the logician's trap: Past data from real life are untrustworthy because they compose a sequence rather than the set of independent observations that the laws of probability demand. As Paul Samuelson has pointed out, history provides us with only one sample of the economy and the capital markets, not with thousands of separate autonomous, and stochastic numbers.
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> It is hubris to believe that we can put reliable and stable numbers on the impact of a politician's power or the probability of a takeover boom… It is equally silly to limit our deliberations only to those variables that do lend themselves to quantification, excluding all serious consideration of the unquantifiable.[1]

The bottom line is this. Structured finance professionals need to keep using past data and quantitative models as essential parts of their decision-making process. At the same time, they need to avoid relying *solely* on past data and quantitative models. They need to avoid being seduced by the false sense of security that can come from exclusive reliance on a data driven model. They need to remember the value of imagination, common sense, and business

[1] Peter L. Bernstein, *The New Religion of Risk Management*, Harvard Business Review, March-April 1996, p.47.

judgment. They need to sometimes think in terms of what ***could*** happen, rather than merely in terms of what *has* happened. They need to remember that ultimate responsibility for real-world decisions rests not on data or models, but rather on them.

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