Market Insight

The JP Morgan Surprise and the Need for Risk Governance

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Abstract:

During a conference call on May 10, JP Morgan's CEO disclosed a surprise loss of over $2 billion on its Chief Investment Office Portfolio, and at the same time revised previous disclosures about the risk of this portfolio in the first fiscal quarter. Based on what the bank has disclosed, what lessons on risk governance can the industry draw from this episode?

Why This Matters:

- JP Morgan's recently revised first quarter disclosures effectively doubled the estimated risk on its CIO portfolio
- The bank admitted changing its risk model for the CIO, then having to revert to the old model when the nature of the risk came to light
- This episode is forcing the industry to review the importance of risk governance, especially as models evolve

Introduction

Disclosing his bank's severe losses in a recent conference call, CEO Jamie Dimon was quick to insist JP Morgan will learn from its mistakes and move forward. It is doubtful that the public will be party to the bank's internal investigation, but eventually this episode will become a case study in text books on risk management. The speculation over what led to the disclosed losses may be driven in part by the chance to revel in a market leader's comeuppance. More constructively, this is a good faith opportunity for the industry to share in the lessons learned at JP Morgan. Based on what the bank has disclosed, what are the lessons to gain in the aftermath of this episode?

Risk Governance Matters

If there is something equally despised by bank managers, regulators and shareholders alike, it is a surprise, and JP Morgan's losses certainly qualify as such. Avoiding surprises is a central aim of risk management. This is not an aim to be achieved by suppressing all risk taking; rather, it is to be achieved by making sure that risks are acknowledged, that risks are aligned with the views of those taking them, and that overall risks are consistent with the firm's risk appetite. Losses will always occur, but if risks are managed appropriately, neither the scale nor the source of losses should catch a firm off-guard. Any postmortem analysis of the JP Morgan episode should ask how the losses could have occurred, and how those losses could have come as such a surprise.

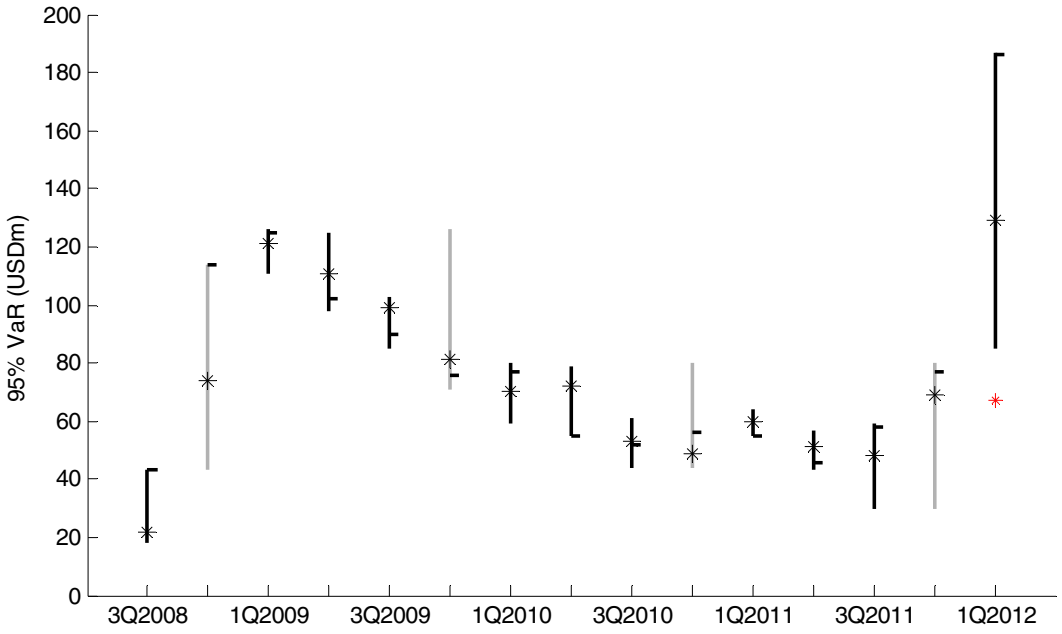
Sometimes surprise losses occur because the positions themselves are surprises (for instance, in cases of unauthorized trading). This does not appear to be the issue at JP Morgan. Still, surprises of this scale can only occur if some part of the risk governance structure breaks down. Either the right people do not receive the right information about risks, or those people do not have the authority to challenge risk taking, or the information itself is flawed. The question of flawed information leads eventually to discussions about which measures of risk are appropriate, but starts as a governance issue, since risk measures must be validated and monitored for efficacy.

One Risk Model is Helpful, Multiple Models More So

In Figure 1 below, we look at JP Morgan's disclosed risks on its Chief Investment Office (CIO) portfolio, and see a spectacular increase in the first quarter of 2012: the CIO's Value-at-Risk (VaR) jumped from $77m at the end of 2011 to $187m at the end of March 2012, far above the heights of 2008 and 2009. At UBS, where the unauthorized trading scandal in 2011 led to a loss of similar scale to JP Morgan's, the VaR jumped from approximately $75m to $150m on the day the unauthorized position was uncovered.[1] As disclosure, VaR tells what risks a portfolio had run in a prior period; as a management tool, VaR is monitored daily, and the JP Morgan model was warning of an impressive increase in risk.

[1] Source: UBS Annual Report, 2011, chart on page 135, converted from Swiss francs.

Figure 1: **Value-at-Risk for the JP Morgan Chief Investment Office (CIO). Maximum, minimum, average and end-of-quarter levels. Red star indicates initial disclosure of average VaR for Q1, 2012.**



Source: JP Morgan 10-K and 10-Q fillings, 2008-2012.

Figures prior to December 2009 correspond to the line item "Corporate Risk Management VaR". Maxima and minima for fourth quarters are estimated from annual disclosures.

The trouble was that JP Morgan had switched at the beginning of 2012 away from this "old" VaR model in favor of a new one. Under the "new" model, disclosed risk on the CIO portfolio in the first quarter of 2012, on average, was unchanged from the end of 2011. As a management tool, this new model in isolation seems to have given no warning, nor any reason to question the actions of the CIO. As a control tool, the new model may have created an undesirable set of incentives: somehow, the CIO wound up scaling up its risk exposure in a way the new model did not capture.

Pushed on why the bank had changed its VaR model, Mr. Dimon responded on the recent conference call that "there are constant changes and updates to models." Any other response would have been more concerning. After all, markets and trading evolve, and models and measures should evolve with them.

Model development involves a tension between parsimony (modeling as few sources of risk as possible to facilitate statistical forecasting) and granularity (modeling all the sources of risk that could drive the portfolio). It is imperative to revisit the sources of risk that are modeled and to add or remove factors as statistical techniques evolve, or as the nature of trading changes. It is plausible that JP Morgan's modeling involved a change in the sources of risk that the model sought to describe. Such a change alters incentives: prospective trades that may have looked risky under the old model may add little risk under the new one.

The tension between parsimony and granularity is not purely the domain of statistical models. The desire for parsimony derives from the need to describe a large portfolio concisely. Any metric used to characterize a large portfolio—a statistical forecast, the loss under a predefined market scenario, or simply the aggregate exposure of a group of similar positions—involves assumptions, even simple assumptions that may define how similar positions are bucketed. Unless banks are constrained to be so small that their positions can be itemized on a single page or screen (in which case simplifying aggregate metrics are unnecessary), they must be permitted to employ risk measures that involve some degree of simplifying assumptions.

If all risk measures require assumptions, then all risk measures have weaknesses. The only answer, other than the "single screen portfolio" approach, is to employ multiple measures, each based on a different set of assumptions. If the VaR of a portfolio is flat, a risk manager should be able to examine leverage; if leverage is unchanged, the risk manager should ask how the portfolio would react to a particular market correction. And some measures should go beyond the inward looking summaries of the portfolio and track positions relative to observed market size, or at least relative to qualitative estimates of the time required to liquidate.

It is a caricature of risk management to portray it as banks mindlessly following a single, poorly understood measure. Still, this episode is a good reason for banks to ask if their risk management resembles the caricature.

On the other hand, enough monkeys typing at enough computer terminals will eventually produce a risk measure that well characterizes a specific portfolio at a specific time. The downside of the monkey approach is that it produces a risk report that exhausts the patience of anyone tasked with reading it. A final lesson, then, is that while a single risk measure is inadequate, too many risk measures is arguably worse: at least the report with one risk measure will be read, while the one with the monkeys' list will most likely wind up lining the cages.

The art of risk management, then, is to focus on enough risk measures, but no more.

The Basel Committee Is On To Something

It is interesting that the JP Morgan announcement came the same week as the release of the Basel Committee's Fundamental Review of the Trading Book. Would any of the Basel Committee's new proposals been useful in this present context?

Mostly mischaracterized as the death of VaR, the Committee's endorsement of Expected Shortfall is actually a reaffirmation of the statistical approach that gave us VaR—much more refinement than revolution. While Expected Shortfall may produce larger, more prudential absolute risk levels for the purpose of setting minimum capital, it is unlikely to be any better than VaR as a signal for increased risk. If the statistical assumptions are flawed, it is doubtful that Expected Shortfall can be any more effective as a management tool than VaR.

More relevant are the Committee's proposals on assessing risk model performance. Statistical assessment techniques (commonly referred to as backtesting) have been part of the standard toolkit since the Committee first moved to risk models in 1998. But the shortcomings of risk models in the 2008 crisis were due less to flawed

statistical assumptions and more to the omission of crucial sources of risk. Addressing this, a new element in the recent proposals is the notion of P&L attribution—the reconciliation of profits and losses with the risk model's selected sources of risk. If a bank is either making or losing significant money without commensurate movement in its putative sources of risk, then the P&L attribution method should signal that the risk model is not granular enough.

Conclusion

Model assessment finally brings us back to governance. Models can be useful, but they sometimes need to evolve and always need to be monitored. A governance framework where both modelers and traders can be challenged is crucial to avoiding surprises. People manage risk, after all, and all those who do can take lessons from these events.

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[1] *As of June 30, 2011, based on eVestment, Lipper and Bloomberg data.*