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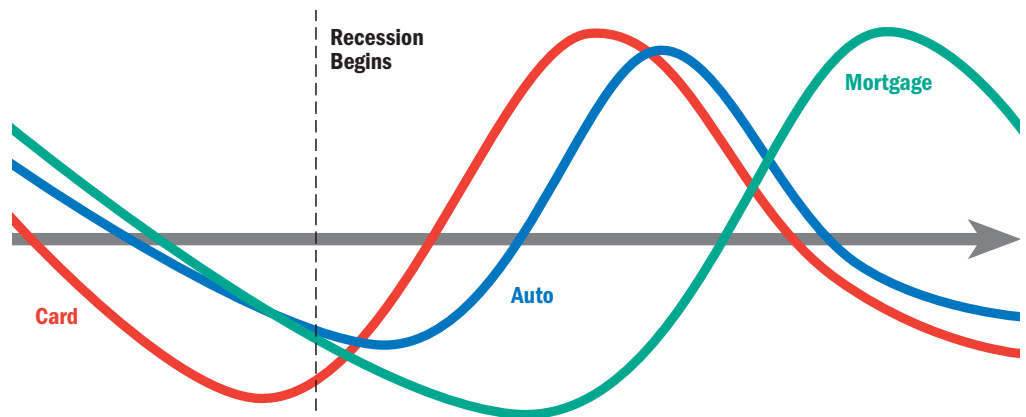
Computing the Capital Diversification Benefit for Retail Portfolios

Quantifying and managing the diversification benefit from retail lending portfolios is one of the most fruitful areas of capital planning available to large financial enterprises.

With the growing emphasis on enterprise risk management and capital, it is important to know precisely how correlated your risks are within your business unit and the diversification value that your unit provides to the institution. Managing these correlations as part of the portfolio management process is an important source of additional return.

Strategic Analytics (SA) offers a detailed and analytically-rigorous approach to quantifying the diversification benefit present in your current portfolio including Mortgage, Home Equity, Auto, Card, Small Business, and other retail lending products. Our analysis will quantify both the correlations within your Retail portfolio and the diversification benefit that Retail provides to the rest of your institution.

Chart illustrates the kind of time lags normally found in a retail portfolio in response to macroeconomic shifts. Impacts from loan origination must be removed to reveal this structure.



Correlations and Aggregating Economic Capital

Institutions with portfolios spread across many products naturally expect that all of those products will not suffer high losses at exactly the same point in time. Studies of retail portfolios have shown significant time lags between card, auto, and mortgage in response to the same macroeconomic changes. Even more dramatic differences occur when comparing retail to corporate loans, bonds, stock portfolios, insurance, etc.

Consequently, most financial institutions believe that they should receive a diversification benefit, which implies that total required capital should be less than simply adding together the capital computed for each business segment alone. Some financial institutions estimate that this diversification benefit should result in a 20% to 30% reduction in capital, based upon estimates on traded instruments where correlations are simple to compute.

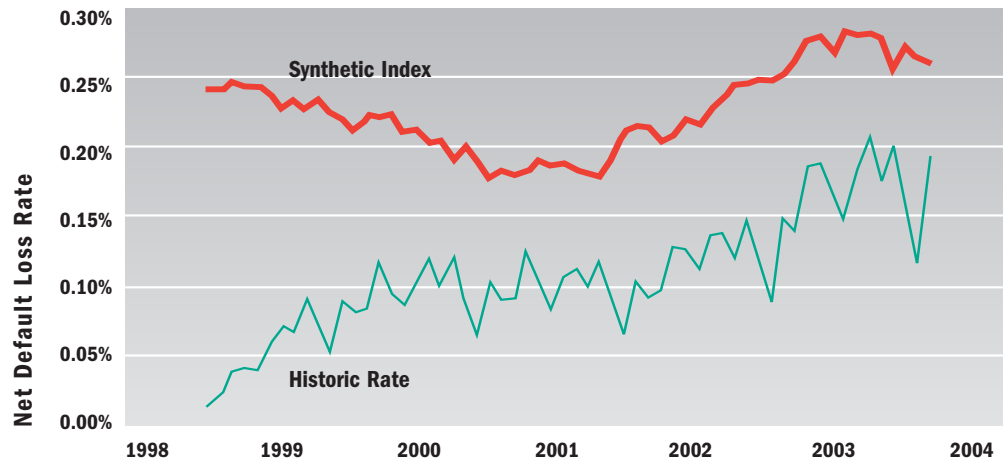
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Plot illustrates the difference between a simple historic loss rate for a product launched in 1998 and a normalized curve which removes the impact of marketing and other management-induced effects. The synthetic curve provides a more reliable measure of correlation to other portfolios and products.

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Getting the Right Answer for Retail

There are several factors, however, that complicate the calculation of the diversification benefit for Retail. Unlike stock prices or insurance claims, correlations between retail products can be created artificially by the portfolio manager.

SA's solution is to create a synthetic index for each portfolio segment representing the aggregate impact from the macroeconomic environment on default net loss. Our synthetic index represents an idealized portfolio cleaned of the oscillations due to marketing campaigns, yet also combines the environmental impacts from all the variables in the simulation. A covariance matrix is computed between the synthetic indices for the business segments.

The answer to computing correlations in retail loans lies in being able to separate the different components driving performance, an area where Strategic Analytics has deep experience. Our Dual-time Dynamics (DtD) modeling technology is designed specifically to decompose vintage performance data into three distinct parts: maturation (the lifecycle), exogenous (impacts from the environment), and vintage quality. The exogenous curve is further analyzed to extract seasonality and management actions so that the underlying impacts from the macroeconomic environment are revealed.

One of the key advantages of this approach over a macroeconomic factor model is that we are implicitly incorporating management's response to macroeconomic cycles. A business that can cut EAD or LGD in response to a recession will see those actions reflected in their results.

SA's synthetic index approach provides a method for creating the metrics necessary to create optimized portfolios within retail lending and across asset classes. Our synthetic indices avoid spurious correlations due to coincident marketing plans and lifecycle effects so that the true, underlying macroeconomic correlations can be revealed. This results in high-fidelity calculations of diversification benefits, and significant capital savings for the institution.

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STRATEGIC ANALYTICS was founded in 1999 to develop innovative analytical applications for banks and consumer finance companies. The company's lead product is called LookAhead™, a software application giving portfolio managers new capabilities to analyze, forecast and optimize their portfolios under user-defined economic and business scenarios. TrueCapital™ software builds on this capability to bring the full power of distributional analysis to retail portfolio management.