

# Credit Loss Metric Evolution

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## Summary

Delinquency and loss management metrics have evolved from static snapshots to lifetime portfolio vintage views. Availability of third-party benchmark data and analytical tools can help auto finance sources assess their performance relative to the marketplace. Leading operators make effective use of these tools and analytics to improve operational performance.

## Vintage Class Basis

The primary published credit loss management metric has historically been the annualized loss rate; charged-off principal balances divided by the total portfolio net principal outstanding.

As the automotive financing marketplace has matured and as ABS transactions have replaced the issue of term debt to fund retail receivables, standards for performance reporting have evolved. Loss experience reporting has moved to static pool analysis which has become the key loss management metric and forecasting basis. This method of analysis, also commonly referred to as Vintage Analysis, is the preferred methodology of rating agencies, investors and ABS originators.

Asset pools are comprised of assets acquired (originated or purchased) during specific periods, usually months, quarters or years. The indicative asset characteristics and liquidation experience of the pools are measured over the lifetime of the pool.

- Asset Characteristics are:
  - credit risk,
  - collateral type and age,
  - contract term and
  - LTV.

- Liquidation Experience tracks:
  - payments,
  - losses,
  - delinquency,
  - remaining balance and
  - collateral recovery amount.

Using this information, the lifetime cumulative loss ratio can be monitored for each class. The liquidation experience of the pools should be segmented using the pool characteristics listed above to provide additional causal-factor insight and optimal forecasting accuracy.

## Advantages of Vintage Analysis

Vintage lifetime loss rate is superior to portfolio loss rate for analysis and for forecasting. Vintage performance is a more reliable indicator of the actual current loss management performance of an operation because it is not subject to many of the inaccuracies inherent in portfolio aggregations. Internal vintage monitoring is essential to detecting changes in the performance of assets. The most important advantages of vintage loss analysis are listed below.

- Eliminates damping/magnifying effects of changes in portfolio growth
- Isolates changes in origination policy or process
- Facilitates identification of changes in marketplace conditions
- Highlights changes in collection operations
- Allows better forecasting accuracy
- Facilitates risk-model accuracy monitoring
- Facilitates risk based pricing
- Facilitates lifetime profitability analysis

These vintage data pools and the corresponding analysis are now an essential element of rating agency, marketplace and asset originator analysis.

**Vintage Loss Benchmarks**

Because every auto loan portfolio has different characteristics, the auto loan industry trade associations, the major rating agencies, the originators of auto loans and the purchasers of both whole loan and ABS assets have developed a set of standard terms and parameters used to classify both the assets and the portfolios. Standard FICO based asset-risk categories are used for risk-rating originations for individual loans. For pools and portfolios, this measure is augmented by contract APR ranges and static pool loss experience.

	<b>Prime (A)</b>	<b>Near-Prime (B)</b>	<b>Non-Prime (C)</b>	<b>Sub-Prime (D)</b>
<b>Average Origination FICO Score</b>	680 or better	620 – 679	550 – 619	Less than 550
<b>Typical Customer Credit Profile</b>	Extensive history. Few delinquencies.	Trackable history. Occasional delinquencies. Minor chargeoffs on revolving credit.	Poor, limited or no history. Frequent delinquencies. Chargeoffs on revolving and installment debt. Prior bankruptcy history.	Very poor or no history. Significant chargeoffs. Obligor with previous bankruptcy history. Limited income.
<b>APR Range</b>	0% - 7%	8% - 12%	13% - 18%	Over 18% (usury limit)
<b>Static Pool Net Loss History</b>	3% or less	3.1% - 7.5%	7.6% - 15%	15% or higher

Figure 1 – Auto Loan Market Segmentation

A table of the parameter values for these standard categories, which are used consistently throughout BenchMark engagements and in this document, is depicted in Figure 1.

**Client Case Study**

The first step in vintage analysis is to determine the appropriate market comparator pool. We compare the client’s portfolio composition against the BenchMark knowledge base of auto finance sources. Figure 2 illustrates that the client’s current portfolio mix (left bars) more closely parallels the Non-Prime asset category (right bars).

**Portfolio Distribution – By Score Band**

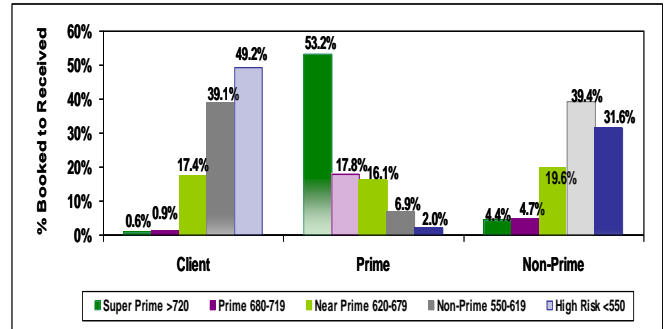


Figure 2 – Case Study Client Portfolio Composition

To monitor the performance of client assets relative to the overall automotive financing marketplace, periodic comparisons to publicly available published results should be made, as the portfolio mix can change over time. Figures 3, 4 and 5 show example vintage loss experience through 2006 published by Standard & Poor’s (S&P) for automotive ABS issuers aggregated by credit risk band: prime, non-prime and sub-prime respectively.

**Prime – Cumulative Net Losses By Vintage Year**

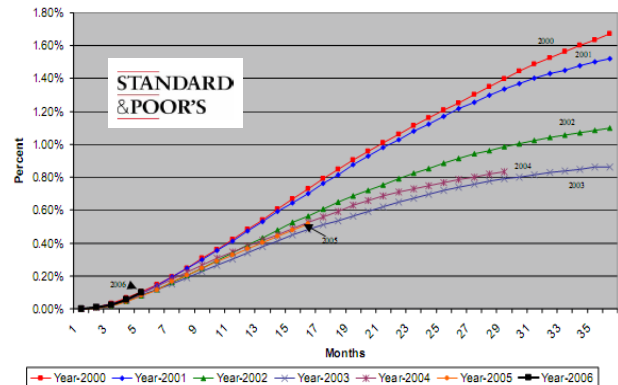


Figure 3 – Published Standard & Poor’s, S&P Auto Loan Static Index, Prime Cumulative Net Losses

Because the present client portfolio risk mix closely parallels the Non-Prime pool, periodic comparison of the client’s vintage loss experience to the most recently available Non-Prime vintage pools such as the one from S&P shown in Figure 4 is appropriate.

### Non-Prime - Cumulative Net Losses By Vintage Year

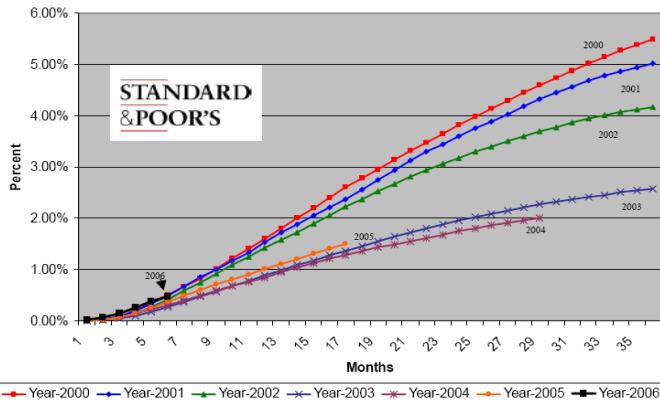


Figure 4 – Published Standard & Poor’s, S&P Auto Loan Static Index, Non-Prime Cumulative Net Losses

### Sub-Prime - Cumulative Net Losses By Vintage Year

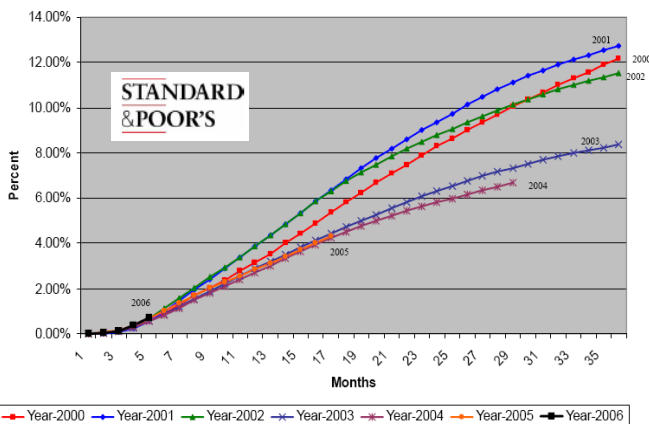


Figure 5 – Published Standard & Poor’s, S&P Auto Loan Static Index, Sub-Prime Cumulative Net Losses

### Vintage Delinquency Analysis

Account delinquency is an important loss management metric both for workload monitoring and for loss prevention. Higher-risk (e.g. Non-Prime) delinquency rates are expected to be above prime rates but excessive delinquency leads to unnecessary workload and higher-than-expected losses.

- Over-30-day delinquency is a strong driver of workload (and cost) as well as a pressure-point on more severe delinquency.
- Over-60-day delinquency is the strongest leading indicator of increased credit losses because, on average, two-thirds of these accounts eventually default.

- Over-90-day delinquency should be monitored to ensure only accounts being worked actively (collectors in contact with the customers) are involved.
- Over-120-day delinquency should include only extreme cases inappropriate for referral to the recovery operation.

Delinquency reporting must support both operational and analytical needs. For operational purposes, best-in-class operators pay close attention to delinquency and in particular the movements of accounts through the early stage, mid stage and late stage delinquency operations, commonly referred to as roll rates.

Vintage delinquency metrics, like vintage loss metrics, are an important analytical tool for understanding operations as well as forecasting losses. Changes in the performance of pools must be monitored both internally and in line with the overall environment to detect any unfavorable trends. Over-60-day delinquency is the strongest predictor of losses, however, over-30-day delinquency should be monitored similarly as an early warning and workload indicator. The monitoring of delinquency should have the same granularity as that for vintage and portfolio credit losses described earlier.

Vintage delinquency is available for individual ABS issuers as well as other auto finance originators. Auto finance sources should choose a surrogate source or pool to use as a benchmark for monitoring vintage delinquency. The same surrogate used to monitor vintage losses would be preferable but not essential.

The vintage delinquencies for 60+ DPD accounts are shown in Figures 6 thru 8 for the Prime, Non-prime and Sub-prime segments (the same categories as shown for the vintage losses previously). This metric is calculated by dividing the total balances of accounts sixty (60) or more days past due by

the total of the remaining account balances in the pool (not the original amounts financed).

**Prime – 60+ Day Delinquencies By Vintage Year**

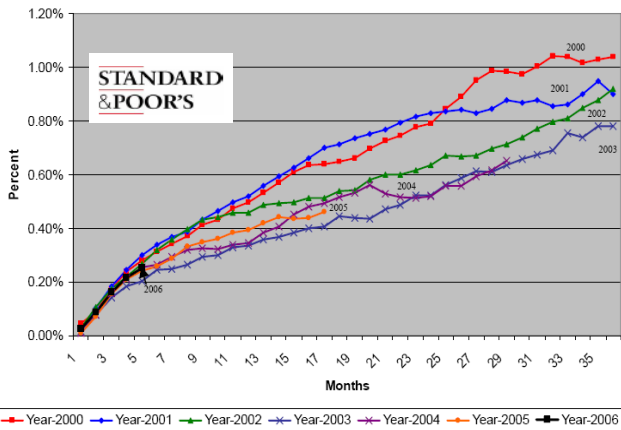


Figure 6 – Published Standard & Poor’s, S&P Auto Loan Static Index, 60+ Prime Delinquencies

**Non-Prime - 60+ Day Delinquencies By Vintage Year**

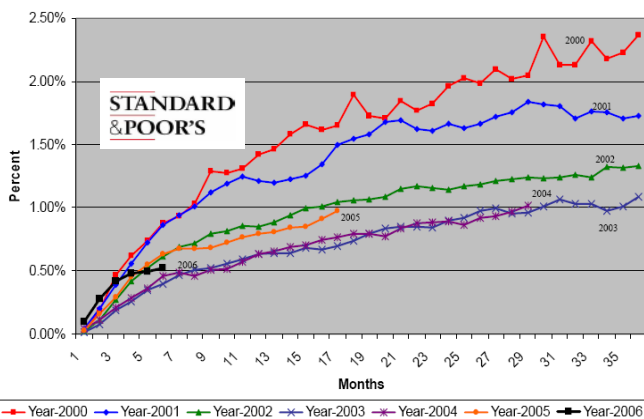


Figure 7 – Published Standard & Poor’s, S&P Auto Loan Static Index, 60+ Non-Prime Delinquencies

**Sub-Prime - 60+ Day Delinquencies By Vintage Year**

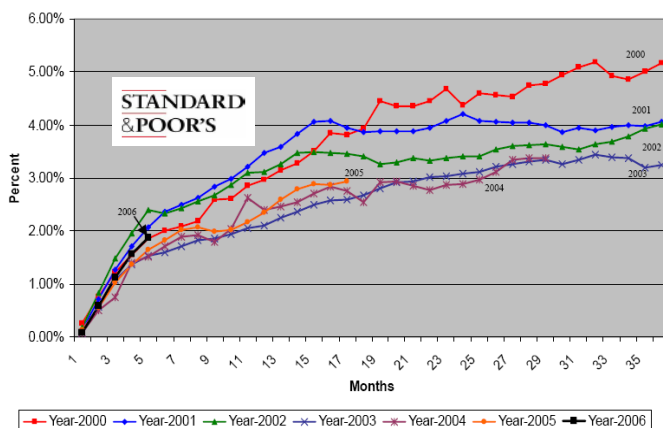


Figure 8 – Published Standard & Poor’s, S&P Auto Loan Static Index, 60+ Sub-Prime Delinquencies

**Delinquency Portfolio Metric Monitoring**

In addition to static pool monitoring, portfolio monitoring is also necessary to understand workload and overall loss exposure, as well as to monitor operational trends.

Over-60-day delinquency is the strongest predictor of losses, but over-30-day delinquency should be monitored similarly to detect unfavorable trends. Particular attention should be paid to the trend of monthly charge-offs as a percent of the rolling-three-month 60+ DPD account balances. Best-in-class operations monitor this trend continually as a tool:

- For forecast validation,
- For loss early-warning, and
- To set collections-operations targets.

Because delinquency and losses are seasonal, calendarized year-over-year reporting provides the best view of performance. The chart in Figure 9 below is a good example of this type of report.

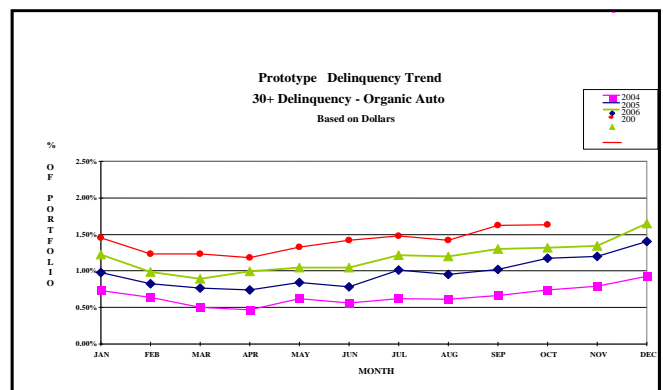


Figure 9 – Annual Delinquency Trends

Annual increases in seasonal delinquency could indicate deterioration in credit quality or underperforming collection operations. Both could be caused by many factors (staffing levels, competency, work tools, etc.) that must be explored separately.

Portfolio delinquency reporting should be done with the same granularity as the loss reporting outlined previously.

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