Case Study

**Client profile**
A bank that ranks among the top 10 auto lenders in the US.

**Challenge**
The auto loan market is in high gear, and picking up speed. The challenge was to improve originations and profitability of auto loans.

**Solution**
Equifax segmented the customer population by risk and loan terms, and used the analysis data to develop a dynamic price optimization model for originating more auto loans.

**Results**
Auto loan profits increased 17% over the analysis period, producing $35 million of incremental revenue.

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Top 25 bank increases auto loan profits by 17% with Equifax price optimization

**Challenge**
The auto loan market is in high gear, and picking up speed. Auto lenders have seen increased competition due to the drop-off in mortgage loans. More companies are offering auto loans, and entrenched players are responding to competitive pressures not seen before.

This bank began to see profit erosion in their auto loan portfolio. Management wanted deeper insight about the qualified consumers that shopped their auto loans, but then ultimately accepted the loan from a competitor. The bank challenged Equifax to develop an improved scoring and pricing solution to improve profitability for their auto loan portfolio.

**Solution**
The bank historically based its auto loan decisions on a single risk score, with small variations on price across risk bands. This low risk strategy limited new loan activations. Equifax determined that deploying a more flexible pricing strategy across a larger population of customer segments would result in a greater number of loan originations and more profitable auto loans.

- There were several limitations with the existing process the bank used to set price:
  - Pricing was based on a single risk score
  - Limited rules were in place to refine pricing, resulting in low variability across risk bands and terms
  - Pricing rules were not optimized to meet pricing objectives or strategy, and were difficult to adjust
  - Limited assessment of competitive pricing
  - Limited capability from results to improve pricing effectiveness

- Equifax identified several key opportunities for improvement:
  - Develop a pricing strategy that addresses risk and customer response in a way that maximizes profit while controlling risk
  - Use the latest predictive modeling methods to optimize price determination, and deploy improved reporting to refine the models on an ongoing basis
  - Incorporate Equifax's offer management solution to extend lease versus loan recommendations, along with optimized pricing for the consumer
Equifax performed a Lost Opportunity analysis by reviewing customers that were declined an auto loan, and those that walked away. Equifax was able to verify if declined consumers ultimately booked an auto loan with a competitor, and extracted competitive pricing data. Equifax analyzed the risk profile of the customer at the time the loan was offered/rejected/booked. The analysis showed that the bank was not offering an optimal number of loans to qualified consumers in the sub-prime segment.

The bank priced the loans too low for the sub-prime category, and rejected a lot of qualified candidates. Many of those candidates purchased loans from competitors at a higher price and performed well. This showed a weakness in both the risk model and the pricing model. The analysis leveraged price elasticity models to determine the customer’s likelihood of acceptance, APR and loan profitability. The elasticity models were applied to each customer segment by risk and loan terms, and the analysis data was used to develop a dynamic price optimization model. The model took into consideration the capital constraints of the bank.

**Benefits in profit from optimizing price**

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<thead>
<tr>
<th>Current Profit</th>
<th>Optimal Unconstrained Profit</th>
<th>Optimal constrained Profit</th>
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<tr>
<td>23% lift in overall profit</td>
<td>17% lift in overall profit</td>
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**Results**

Overall auto loan profits increased 17% over the analysis period, producing $35 million of incremental revenue. The sub-prime segment saw an acceptance rate increase of 200 basis points. Due to more aggressive pricing within this band, overall profit tripled.

The new solution allowed the lender to make faster updates to their pricing strategies and models, enabling them to adapt quickly to market conditions. Results data, fed back into the models, refreshes the optimization and improves ongoing performance.

Pricing optimization provided the bank with a clear path forward for expanding their offerings into the sub-prime market, and improved overall portfolio profitability.