How Implementing a Disruptive Pricing Strategy Through a Vertically Integrated Model Creates Value for Consumers and Investors in Subprime Auto Finance.

Daniel Chu
Founder & CEO, Tricolor Holdings

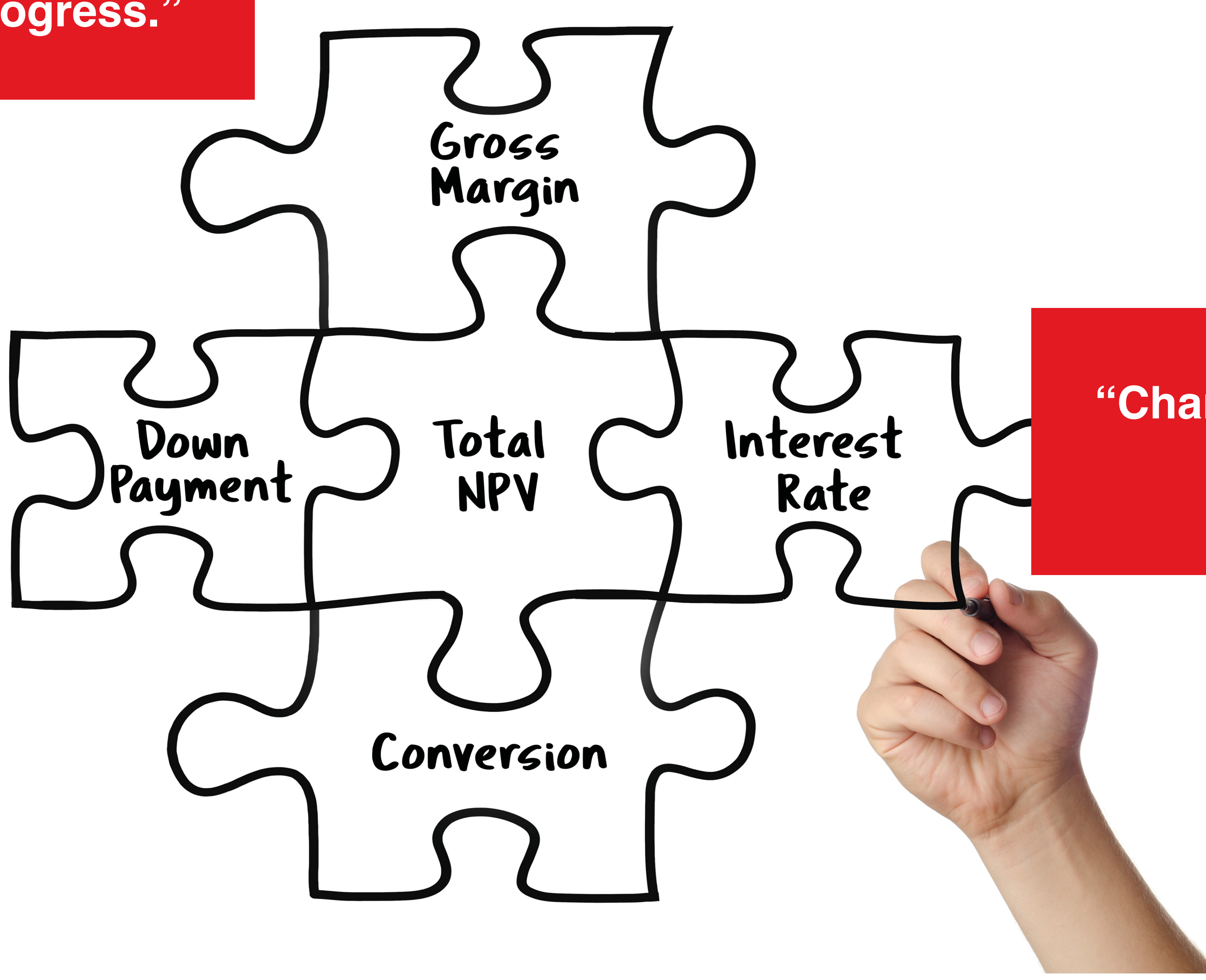
TRICOLOR HOLDINGS

tricolor auto

Introduction

Having operated in the subprime auto finance industry for almost three decades, I've experienced the impact of credit cycles. And while history doesn't necessarily repeat, it often echoes. For companies operating in this often turbulent industry, it's critical to be cycle aware. The most recent phase resulted in an enormous influx of capital, innovative technology and improved analytics which have created a more competitive environment and challenged operators to prioritize how to invest their resources. This, in turn, has challenged us to innovate our pricing strategy, which we believe to be the company's most impactful strategic initiative.

**"Cycles call for change.
Change calls for innovation.
Innovation leads to progress."**



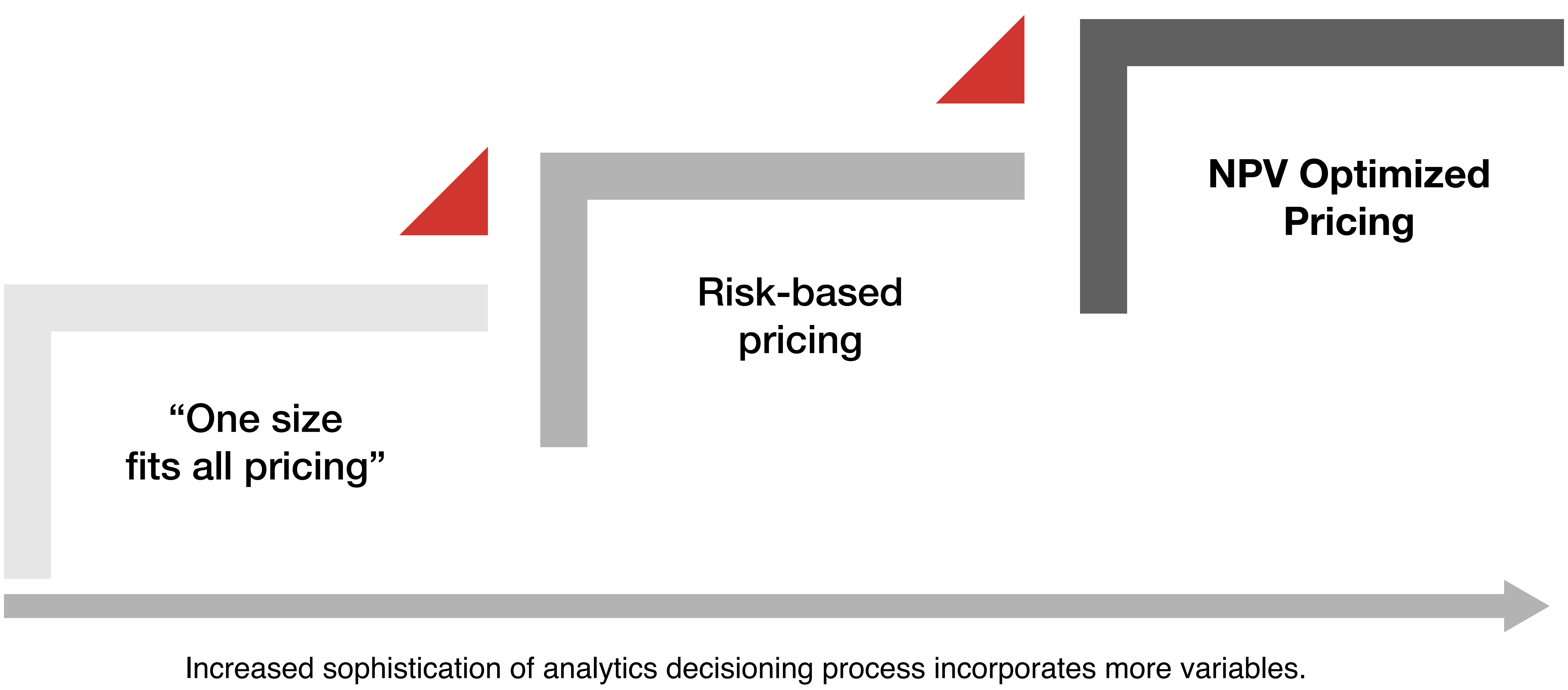
**"Change before you have to."
- Jack Welch**

The Pricing Continuum in Subprime Auto Finance

Borrowers with FICO scores below 500 are considered deep sub-prime. Generally, this lowest tier is liquidity constrained; consequently, these consumers are not sensitive to price, but rather down payment and monthly payment. As a result, they typically purchase from a Buy Here-Pay Here dealer, a highly fragmented segment in retail auto with over 10,000 operators across the country. Within the entire continuum of retail automotive, these operators represent the only segment which must provide financing in order to transact a sale, serving the most credit-impaired set of borrowers.

The majority of Buy Here-Pay Here dealers utilize one size fits all pricing, serving as “lenders of last resort” and capitalizing on customers who lack options. **These lenders finance at predatory terms with gross margins around 50% and interest rates at upper statutory limits**. (see Figure 1) Consequently, high default rates, low recovery values, and portfolios that generate gross defaults commonly well in excess of 50% imply negligible value created for customers and lenders. Although the Buy Here-Pay Here operator has direct contact with its customers, poor quality inventory and predatory pricing rarely provide any long-term relationship with its customer.

Figure 1. Three principal tiers of the pricing continuum in subprime auto finance



“The secret of change is to focus all your energy not on fighting the old but on building the new.”

-Socrates

The Pricing Continuum in Subprime Auto Finance Cont'd

Beyond BHPH financing, most subprime lending activity is transacted by issuers in the ABS markets generally targeting borrowers with FICO scores up to 600 and is comprised of both banks and specialty finance companies executing an indirect lending model. These specialty finance companies underwrite, fund and service loans to finance the purchase of a vehicle and have originated 80% of all subprime auto loans in the recent cycle. These companies provide liquidity to primarily independent dealers which finance borrowers who normally cannot access mainstream or captive lenders because of their credit scores.

As their name implies, indirect lenders lack a direct relationship with the end borrower; in other words, there is no direct interaction in the negotiation process. As a result, indirect lenders gain market share by creating products, or programs, which allow dealers to maximize their advance and profitability.

These lenders generally apply risk-based pricing, varying the price charged to customers based on risk. The rationale for risk-based pricing is simple: higher risk borrowers should pay more to compensate for higher probability of default. **(see Figure 1)**

When a commodity, in this case, credit, is the only competitive advantage, returns flow to the firms with the lowest cost of funds and most efficient operating costs to underwrite and service their portfolios. Some competitive advantage can stem from sophisticated risk modeling and subsequent risk-based pricing; however, that advantage is marginalized since most models rely on traditional credit scores to drive segmentation and financing decisions.

The indirect lender model is fundamentally flawed due to the lack of alignment with their dealer customers. Heightened competition during the last cycle resulted in higher advance rates and LTVs, longer amortization periods, and reduced down payment requirements. While the auto dealers were achieving record sales levels, the indirect lenders financing these sales were taking incremental credit risk (without charging incrementally higher pricing), eventually driving worse than expected performance by many of these lenders.

Consequently, this most recent cycle provided sufficient evidence that risk and profit are inversely correlated and the difficulty of succeeding in an environment in which availability and cost of capital are the primary competitive advantages. According to Fitch, most sub-prime auto ABS issuers are lower year-over-year in origination volume in 2018, while 60-day delinquencies have surpassed the levels during the financial crisis, according to Fitch.

"If you don't have a competitive advantage, don't compete."

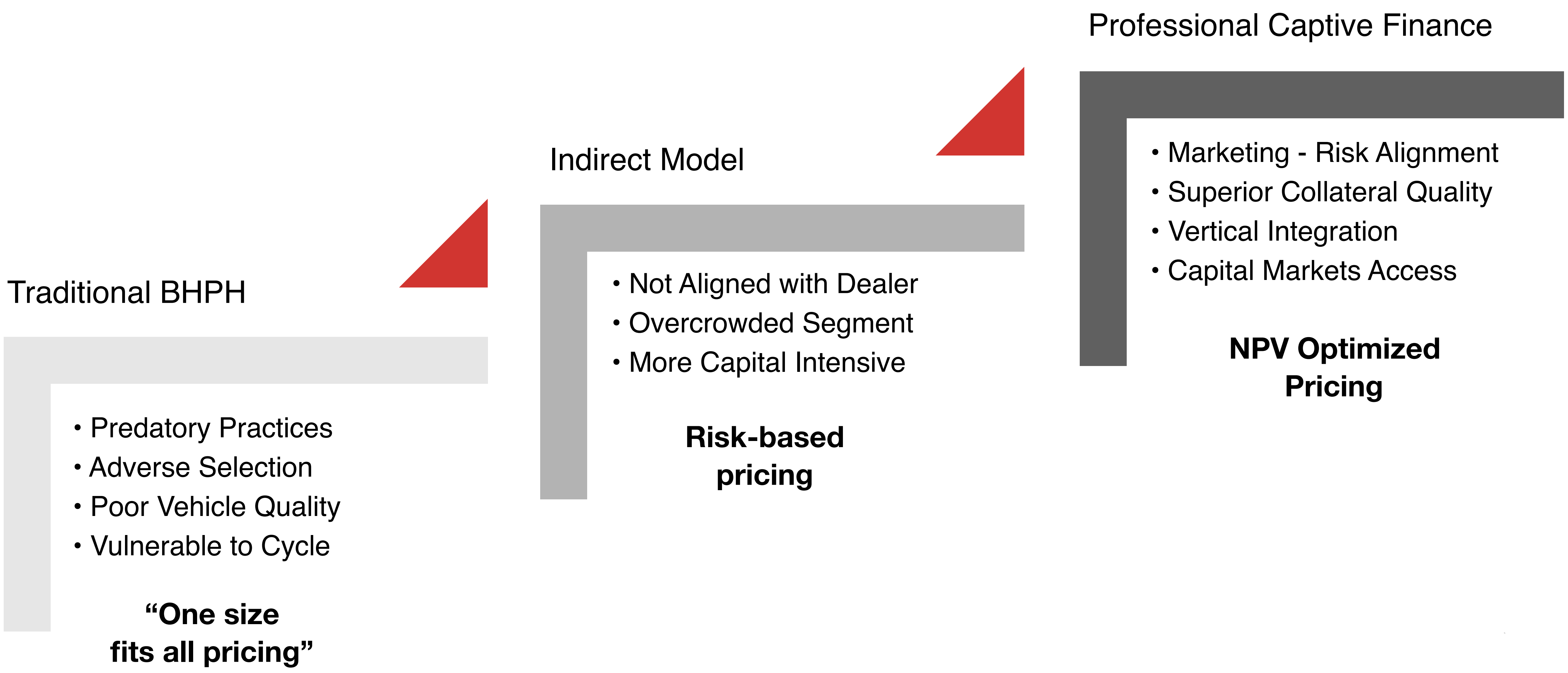
- Jack Welch

The Evolution of Professional Captive Finance

These market forces have created a significant opportunity for an emerging category we refer to as "Professional Captive Finance", which represents the evolution of serving the subprime borrower. It combines the advantages of Buy Here-Pay Here's vertical integration and ownership of the customer experience with the sophisticated risk processes and capital markets access of specialty finance companies. Importantly, the vertically integrated structure effectively addresses the flaws which create distress in the indirect model. (see Figure 2)

To transform a pricing strategy to a fully optimized approach, the price elasticity of consumer demand must be measured. Unlike the indirect lender model, this category has direct interaction with the prospective borrower, providing full visibility into conversion. A simple risk-based approach does not consider take up rate.

Figure 2. Emergence of Professional Captive Finance as Superior Model to Address Subprime Consumer



Building a Foundation by Differentiating the Business Model

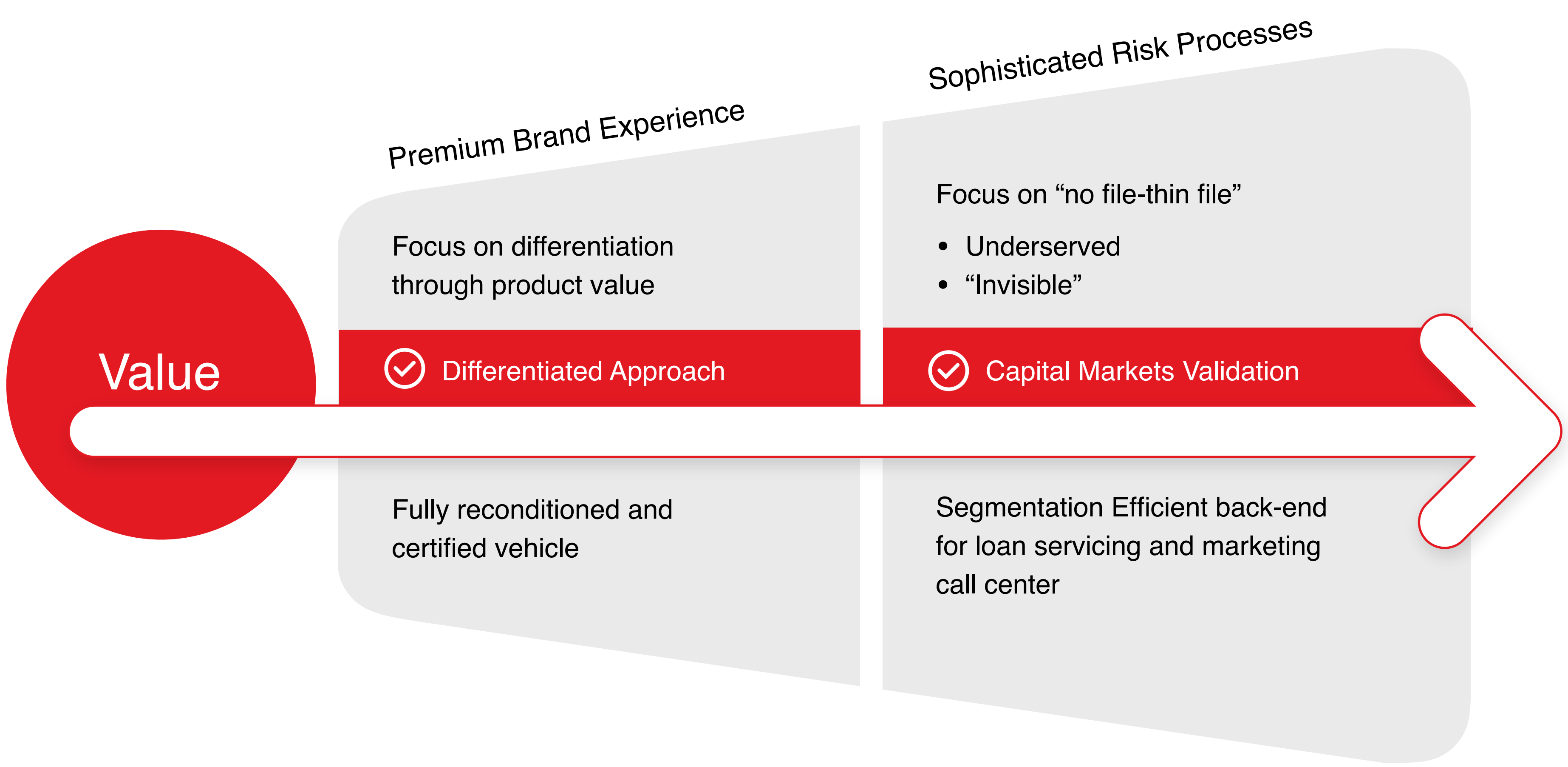
Sustainable business models require a solid foundation, and Tricolor's differentiated approach is distinguished by two principal fundamentals:

Premium brand experience to an underserved market. According to the NIADA, the average Buy Here-Pay Here operator finances vehicles with a cost basis of approximately $6,000, with typically minimal investment in mechanical reconditioning. Tricolor pursued an inventory acquisition strategy at more than double the industry average, while investing $1,500-$2,000 in reconditioning, corresponding to a total average cost of nearly $14,000.It also provides a long-term warranty in order to offer certified pre-owned vehicles. With high quality inventory, Tricolor positions itself as a premium brand and drives higher credit quality customers. (see Figure 3.)

Tricolor has focused all of its marketing and branding efforts on the Hispanic consumer, an underserved segment generally lacking access to credit. Many of these borrowers are credit invisible (i.e. have no FICO score) or are unscoreable (i.e. insufficient data to calculate a score).

Risk segmentation. Utilizing its own data, Tricolor developed a proprietary credit scoring model to predict losses based on non-traditional credit attributes, allowing it to underwrite this underserved class of borrowers. The ability to predict loan performance based on non-traditional attributes provided access to higher advance rates and lower cost of capital. Additionally, its scale and robust servicing capabilities opened the opportunity to access capital markets, resulting in its first securitization in 2013. Through March 2018, Tricolor has completed four ABS securitizations, validating its risk processes and model with institutional investors.

Figure 3. Evolution of our differentiated model.



"Innovation and customer experience are unfortunately looked upon as cost centers when in fact they are investments in the future."

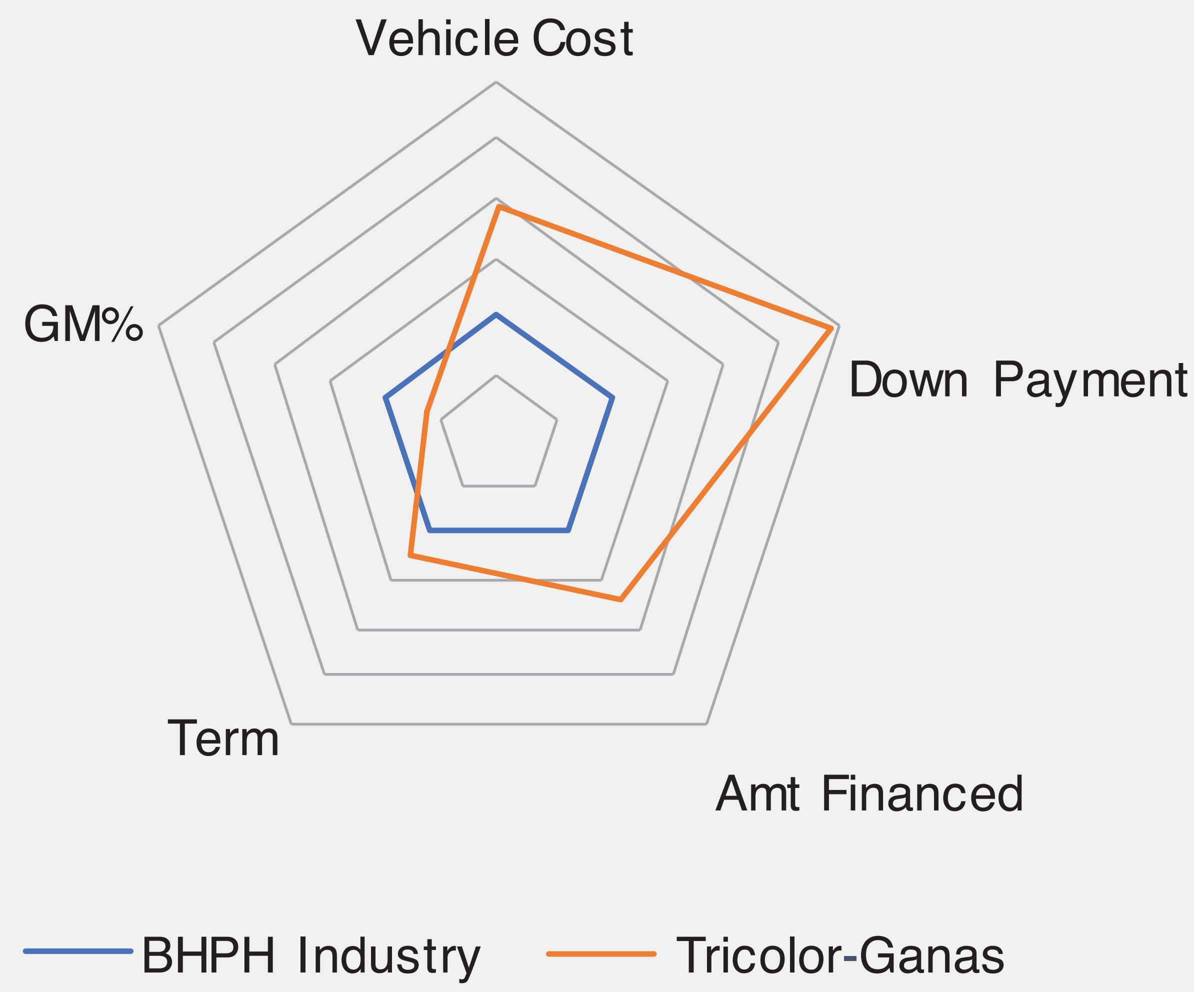
- Brian Solis

Pricing Strategy Creates Long Term Value

With this foundation, Tricolor shifted its focus to transforming its model to be disruptive and sustainable by leveraging its sophisticated risk processes, allowing for the segmentation of applicants who lack or have minimum credit bureau data. These consumers face predatory lending terms from every other lender as homogenous (“one size fits all”) pricing and credit terms are applied to what we have observed to be a heterogeneous, or diverse, population in terms of credit quality. (Figure 4)

Figure 4. Tricolor Deal Structure vs Industry Peers (NIADA, 2017)

NATIONAL AVG	TRICOLOR
$6,397	$12,358
$714	$2,113
$11,015	$19,001
43	53
46%	28%



Applying this proprietary risk model, **Tricolor challenged the one-size-fits-all pricing strategies that we saw in the Buy Here-Pay Here segment and the poorly aligned strategies executed by indirect lenders by (1) lowering gross margin across all credit grades and (2) lowering down payments and interest rates to higher grade borrowers. Tricolor’s gross margin is approximately 40% lower than the average Buy Here-Pay Here operator and its interest rates are as much as 60% below its peers.** Another important consideration for pricing strategy is regulatory constraints. For operators in the BHPH segment, risk-based pricing must be applied exclusively by varying finance terms, not gross margin. In other words, the retail price must be flat across all segments of credit. Furthermore, Tricolor slopes the terms steeply across grades in order to provide high-grade borrowers with highly attractive terms.

“Disruption is either going to happen to you or because of you.”

- Brian Solis

Pricing Strategy Creates Long Term Value Cont'd

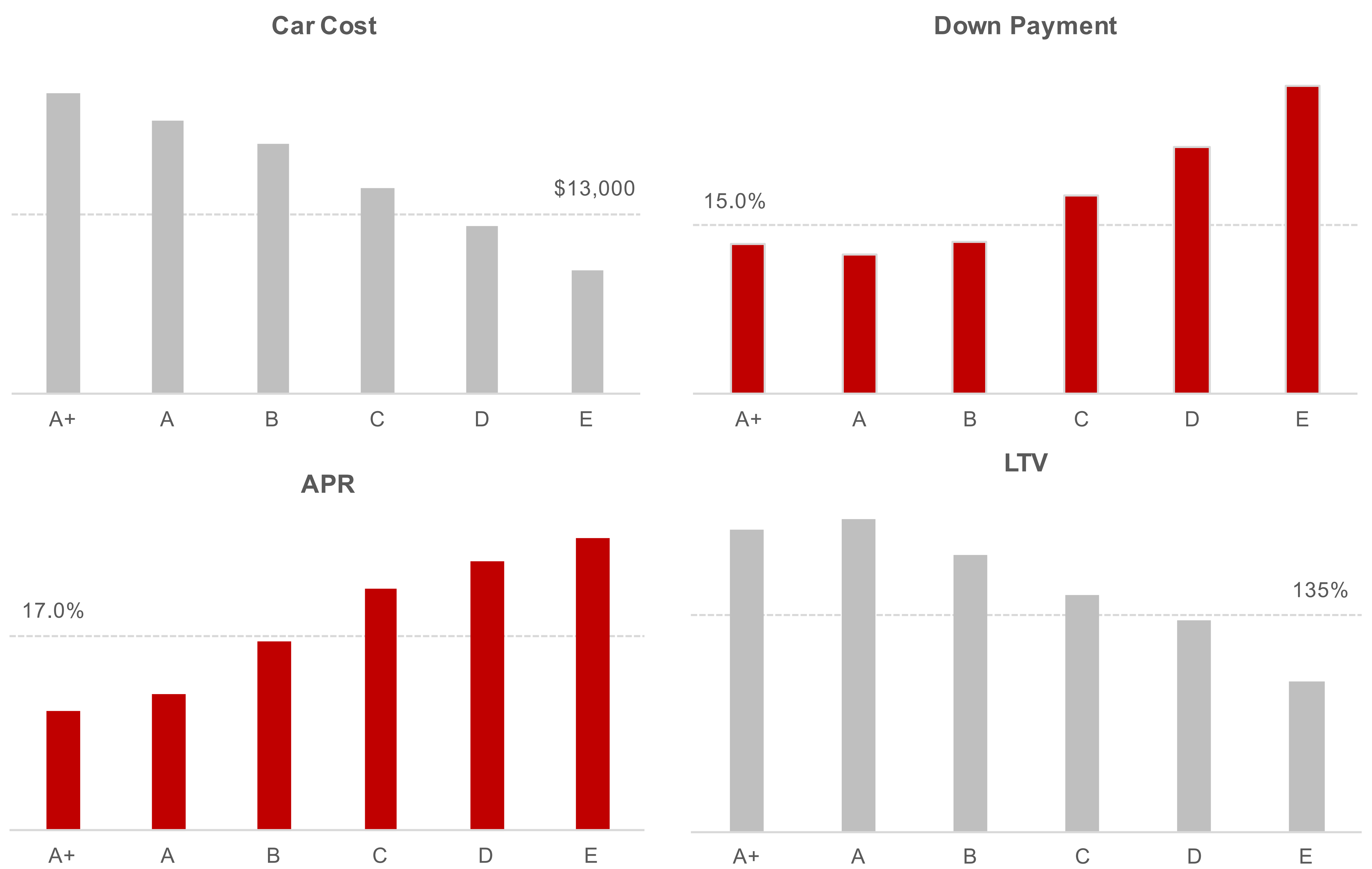
Figure 5 illustrates how the risk segmentation model is utilized in structuring the terms of a transaction with the borrower.

By lowering gross margins and implementing risk based interest rate pricing, Tricolor can create a challenging competitive situation for both BHPH and independent dealers. BHPH dealers lack the risk segmentation necessary to lower gross margin, down payment, and interest rate. Independent dealers relying on the indirect market have limited ability to lower interest rate or gross margin and maintain adequate gross profit after the dealer discount is applied. This creates a favorable cycle of value creation in which traditional Buy Here-Pay Here operators and indirect lenders are unable to compete because they lack sophisticated credit and pricing models and do not own the customer relationship.

"The value of an idea lies in the using of it"

- Thomas Edison

Figure 5. Credit quality managed by financing terms across grades.



Impact of Pricing on GAAP Income and Liquidity

In the short term, the implementation of a pricing strategy which effectively lowers margins on both the sale and financing components of a transaction has adverse consequences on both GAAP profitability and liquidity.

To the extent the pricing changes result in attracting higher quality applicants, the current vintages are not homogenous with the historical vintages, and the GAAP income statement will not accurately reflect the interest earning power of the more recent originations. For example, since loan loss provision directly correlates with amount financed, lower down payments, which increase the amount financed, result in higher provision expense. Lower gross margins simply reduce income.

Figure 6 illustrates the GAAP breakeven level in terms of incremental sales needed to compensate for a gross margin reduction of 1,000 bps. Holding are cost constant and dropping our target gross margin by that amount results in a need to sell 1.56x more cars to breakeven on a GAAP basis and 1.71x more cars after taking into account our Provision for Loan Losses.

Figure 6. GAAP Impact of Gross Margin Reduction of 1,000 bps

Cost of Vehicle	$12,000	$12,000
Sales Price	$20,000	$17,143
Gross Margin	*40%*	*30%*
Selling Gross Profit	$8,000	$5,143
Reduction in Gross Margin (bps)		1,000
Number of sales needed to breakeven		1.56
Down Payment	$1,800	$1,800
Amount Financed	$18,200	$15,343
Loan Loss Reserve (@ 10%)	$1,820	$1,534
Financed Gross Profit	$6,180	$3,609
Financed Gross Margin	30.9%	21.1%
Reduction in Gross Margin (bps)		985
Number of sales needed to breakeven		1.71

"Percentage margins are not one of the things we are seeking to optimize. Investors can't spend percentage margins. We want to maximize cash flow. Cash flow drives value creation"

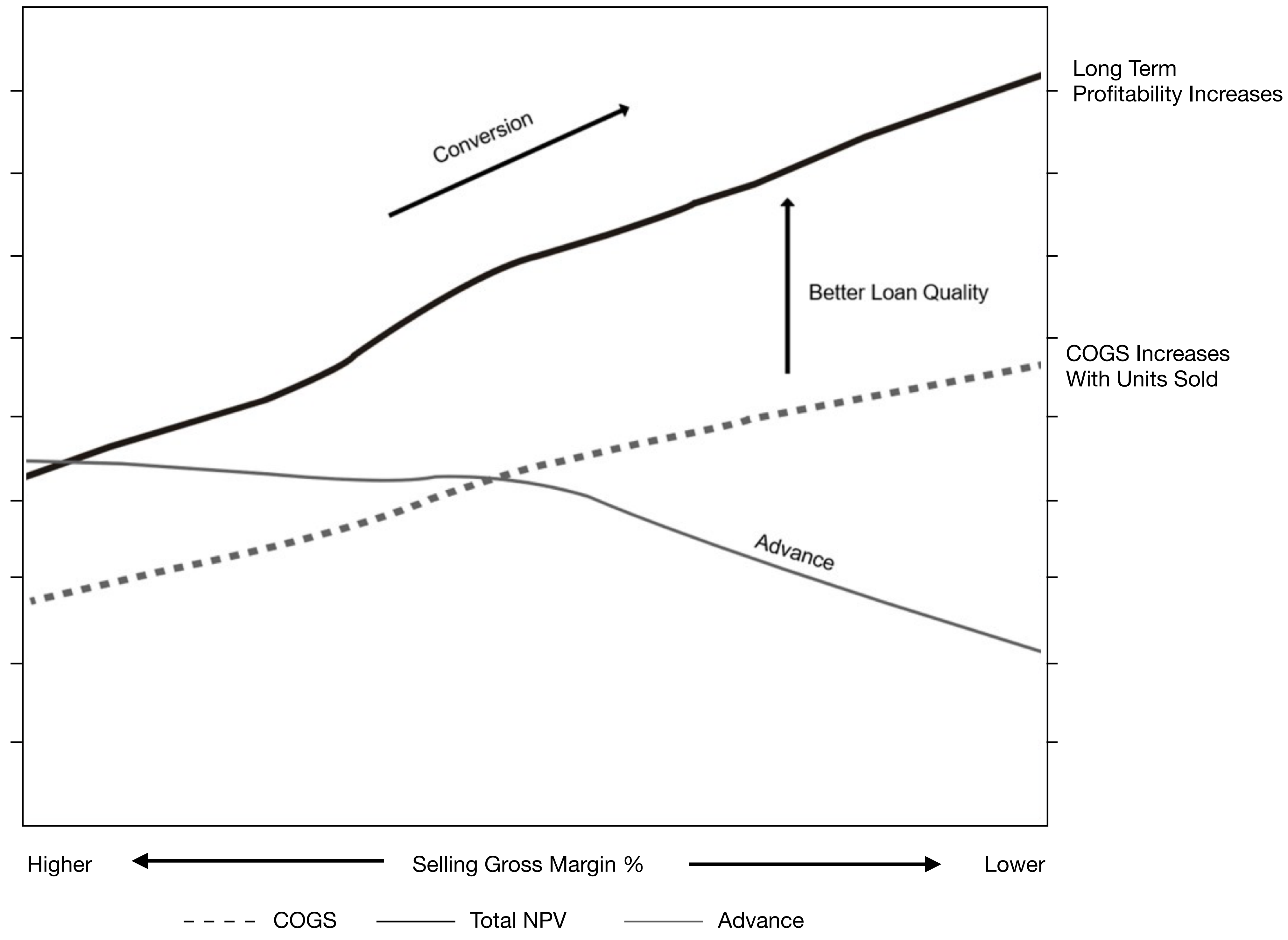
- Jeff Bezos

Impact of Pricing on GAAP Income and Liquidity Cont'd

Figure 7 adds the variable of liquidity and illustrates the effect of lower gross margin and interest rates based on credit quality on short and long-term revenue growth, GAAP profitability, portfolio quality and liquidity. With respect to Buy Here-Pay Here, lower prices drive not just an absolute higher volume of applicants, but more importantly a higher percentage of higher quality credit applicants. On a cash-flow basis, liquidity is constrained in the short term, but eventually, the trajectory of portfolio growth corresponds to cash flows surpassing previous levels.

Again, these higher quality credit customers convert at a higher percentage than an average applicant given lower down payment and interest rates requirements. Additionally, these higher quality financed sales come with a lower interest rate but with a longer loan life. Over time, these factors drive increased profitability as the positive effect of originating higher quality and longer duration loans generating greater interest income eventually offsets the lower gross margin.

Figure 7. Effect of lower gross margins on liquidity and profitability



A disruptive pricing strategy requires that a company take the "longest view in the room" - in essence, an ability to defer instant gratification in terms of GAAP profitability and short-term liquidity.

Pricing for NPV Optimization

Based upon analysis of its own empirical evidence, the two most critical levers that determine expected profit per borrower are: (1) minimum down payment requirements and (2) gross margin. This presumption is supported by academic research (Einav, 2012) performed utilizing data on well over 50,000 loan applications from DriveTime, the nation's largest operator in the Buy Here-Pay Here industry. The study underscores the importance of an analytical model which can bifurcate risk, and both variables are analyzed with respect to low risk applicants in panel (a) and high risk applicants in panel (b) in the diagrams below.

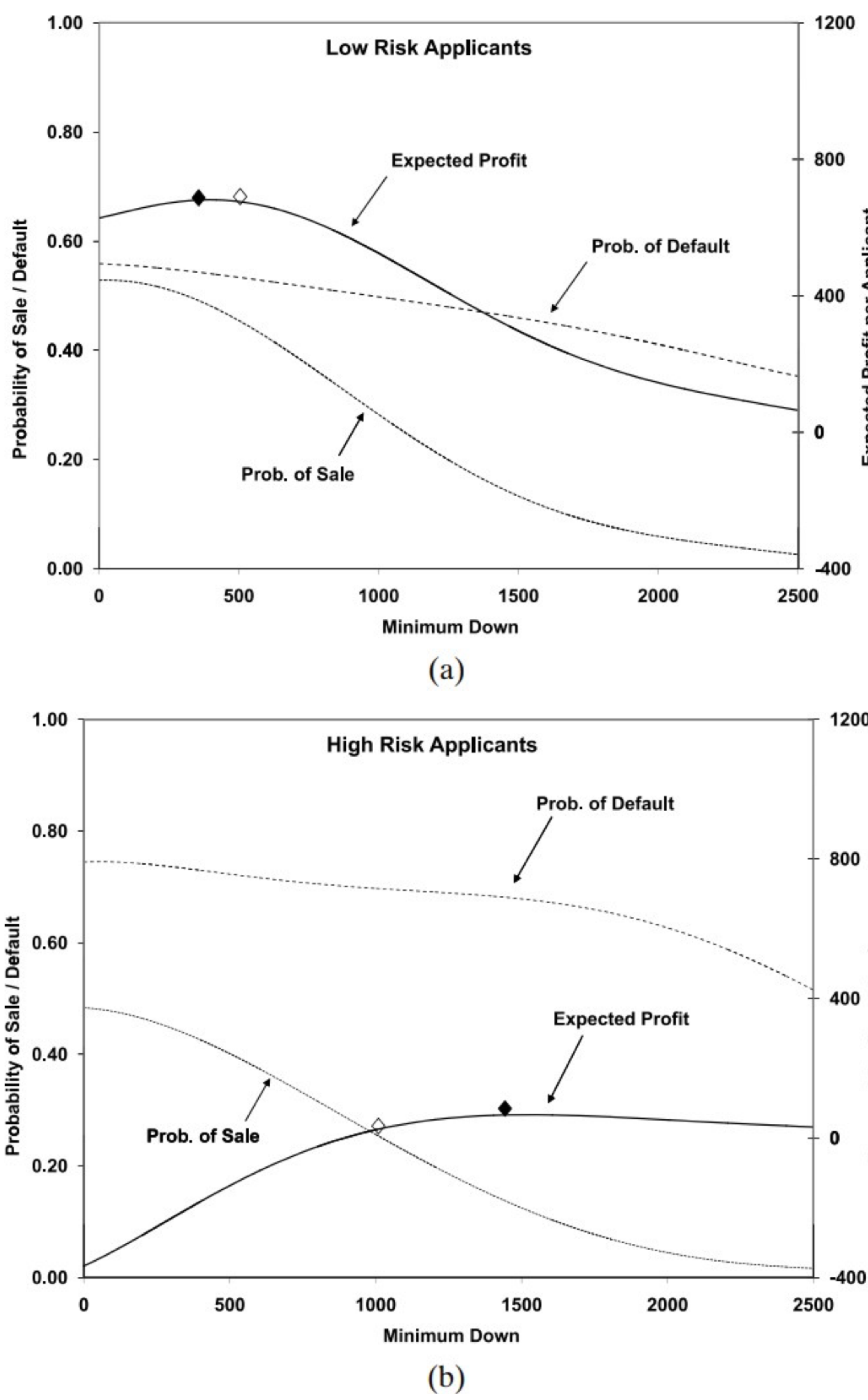
Two important definitions:

Expected profit per applicant
= *probability of sale (conversion rate)* x *net operating revenue per sale*

Net operating revenue (NPV per loan)
= *down payment + present value of loan payments and recoveries - total costs*

Figure 8. Effect of Down Payment on Conversion and Profitability **(Source: Einav, 2012)**

Minimum down payment requirements. Figure 8 illustrates the effect of changes in minimum down payment requirement while holding all other contract terms constant. The horizontal axis represents the required minimum down payment applied to applicants in each risk category. The left-hand y axis represents the probability of sale (for applicants) and the probability of default (for buyers). The right-hand y axis represents expected profit per applicant, calculated as the probability of sale times net operating revenue per sale, where net operating revenue is equal to the sum of the down payment and the present value of loan payments and recoveries, minus total cost. Open diamonds show observed average minimum down payments for each credit category. Solid diamonds show optimal minimum down payments based on the model estimates. In both panels, the probability of sale line reflects the large estimated elasticity of purchase with respect to the minimum down payment requirement.



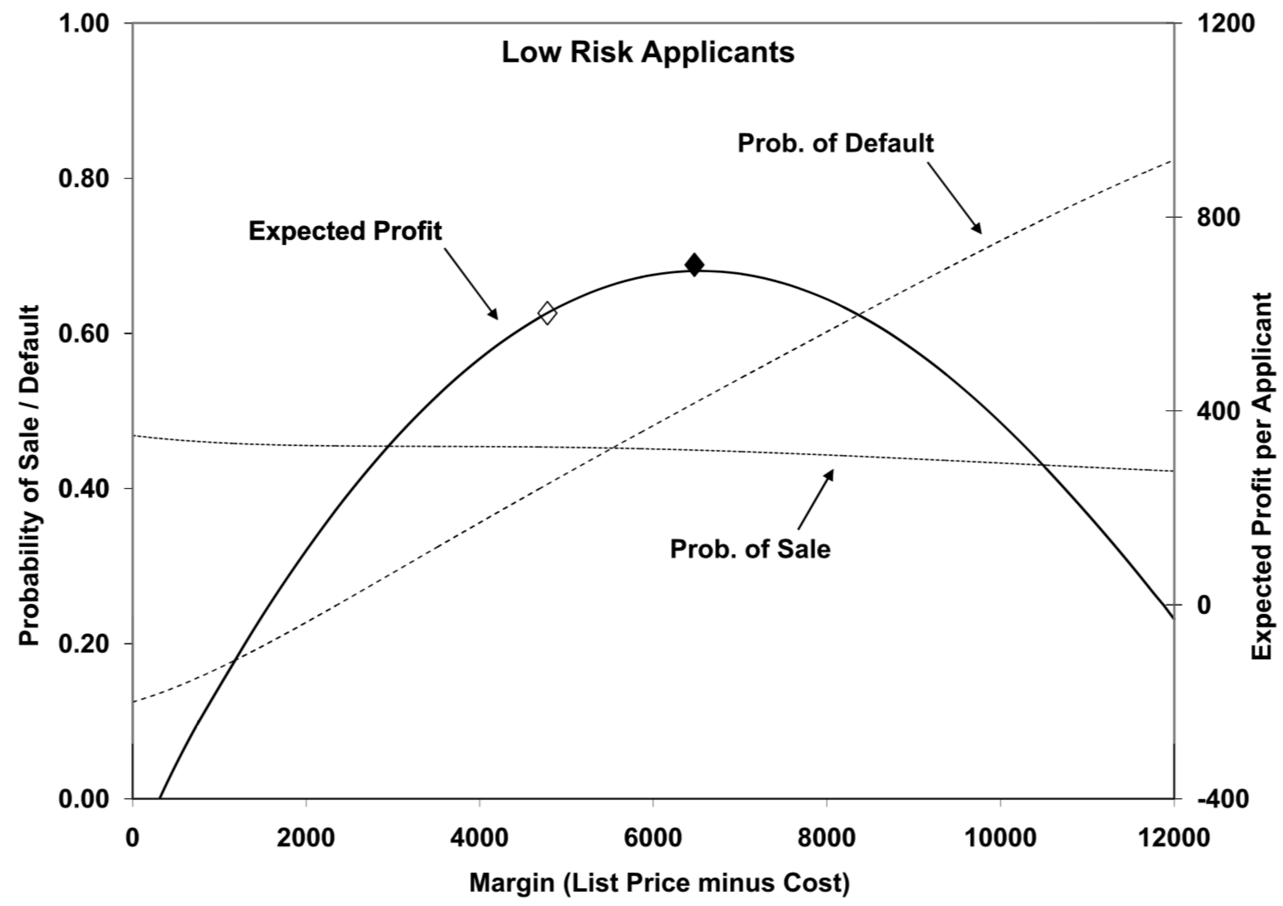
Pricing for NPV Optimization Cont'd

The second line in Figure 8 presents the probability of default and the relationship between lower default and higher required down payments. Based upon Tricolor's experience, this is explained by two reasons. First, an increased down payment requirement leads to smaller loans, and hence greater ability and incentive to repay. Second, an increased down payment requirement screens out the relatively high-risk marginal borrowers, so the remaining pool of purchasers is of better quality.

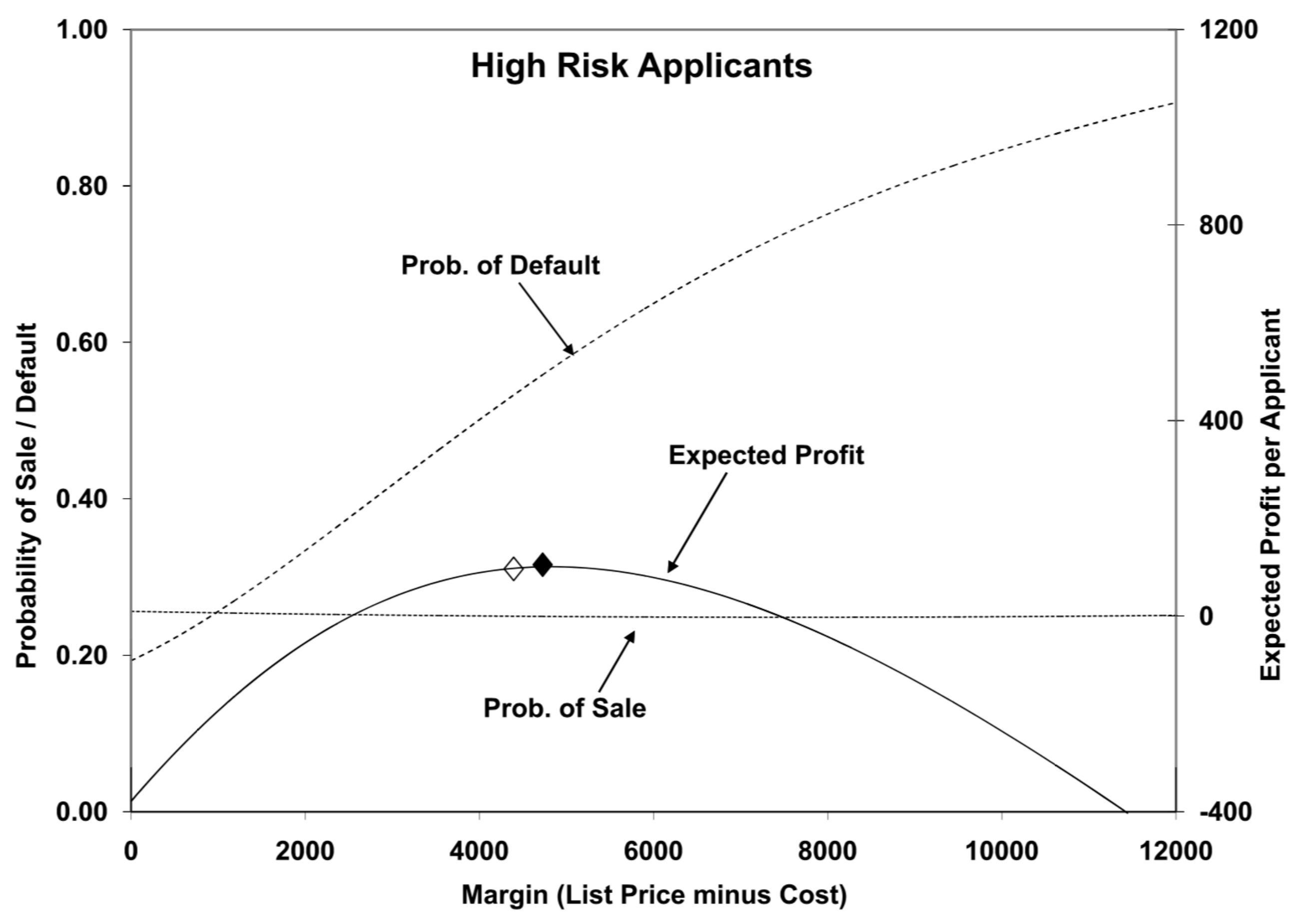
To the extent risk can be bifurcated, the study shows that lower down payment can be offered to low risk borrowers, resulting in higher conversion and an attractive level of expected profit. On the other hand, lower down payment to high risk borrowers, while generating higher conversion, will result in lower expected profit.

Figure 9. Effect of Gross Margin on Conversion and Profitability

Gross margin. Figure 9 repeats the exercise, focusing on changes in gross margin while holding the down payment requirements fixed. The horizontal axis represents the target margin (list price minus cost) applied to applicants in each risk category. Compared to Figure 8, the patterns are dramatically different. Here the probability of sale line is almost flat, reflecting that purchase probability is hardly sensitive to gross margin. What then is the downside to higher gross margins? The answer becomes clear by looking at the probability of default. Increased car prices substantially raise the probability of default. So in looking at how expected profits vary with price, the curve in Figure 9 reflects the trade-off between the size of the payments and the probability they will be made, with customer selection playing essentially no important role.



(a)



(b)

"There are two kinds of companies - those that work to raise their prices and those that work to lower them."

- Jeff Bezos

Pricing for NPV Optimization Cont'd

The empirical findings in Figures 8 and 9 support the thesis around the opportunity to optimize loan terms and pricing. Different elements of the loan contract introduce very different pricing trade-offs. Down payment requirements generate a trade-off between loan volume and loan quality. Meanwhile, changes in gross margin, which are similar to interest rate changes in that, for a fixed down payment, they affect the resulting repayment obligation, are different. Higher gross margins and increased prices primarily translate into larger loans and higher monthly payments. This means more revenue while borrowers are making payments, but also a higher rate of default.

These types of optimization models depend on an NPV analysis which takes the future expected cash flows from a specific vintage of loans using origination attributes, operating and financing costs, expected loss and asset recovery curves and loan duration to come up with an expected value today of those future cash flows. This allows Tricolor to make lending and pricing decisions today based on expected profitability of these loans over their expected life ("vintage view") rather than basing lending and pricing decisions on what is occurring on a GAAP basis in the current quarter ("GAAP view").

With an understanding of the relationship between key financing terms such as down payment and gross margin and default and conversion (take-up rate), NPV optimization can be achieved.

"If we earn our customer's trust, we will maximize our cash flow"

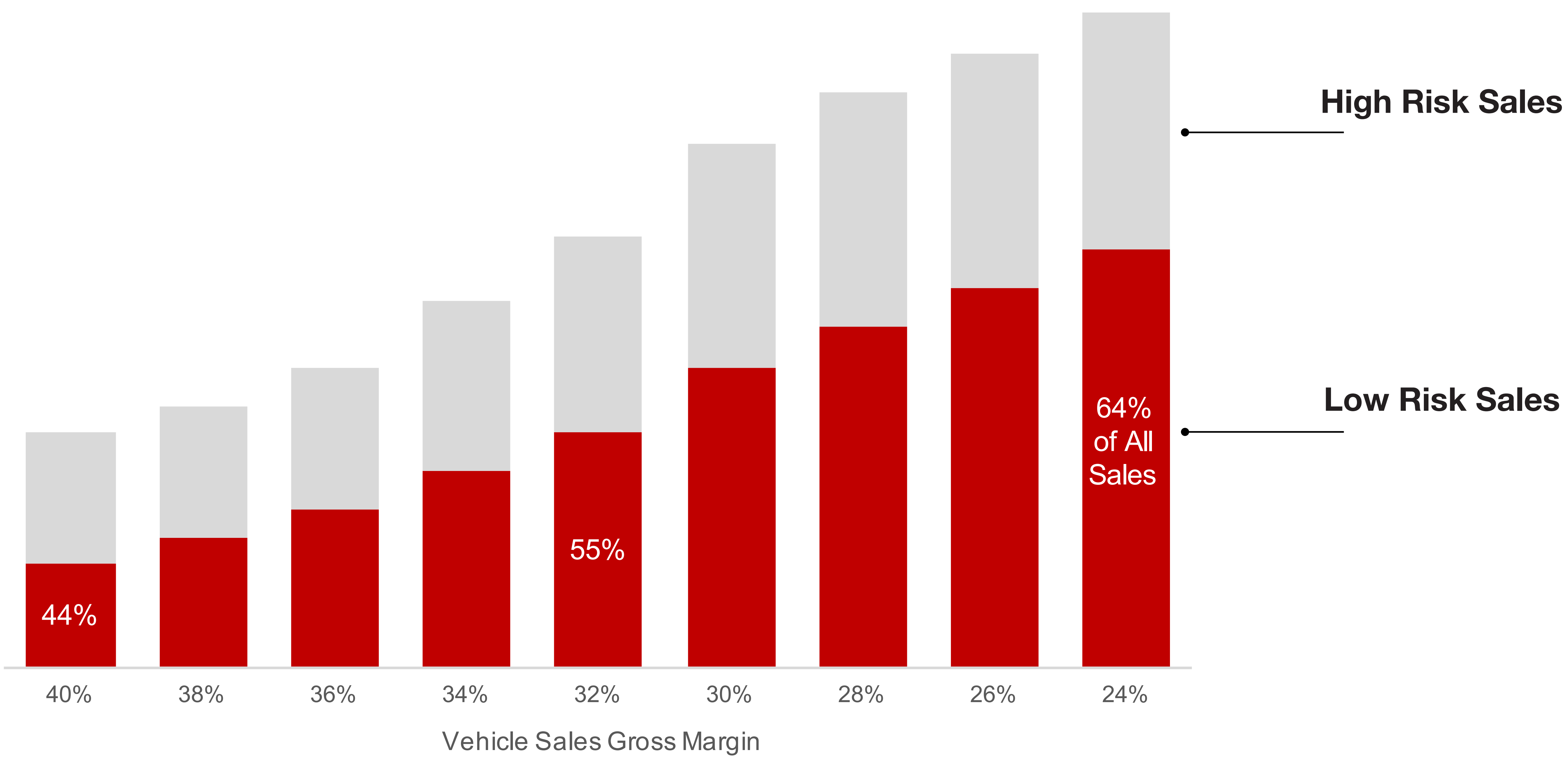
- Jeff Bezos

Pricing for NPV Optimization Cont'd

However, over the long term, more favorable terms increase conversion of higher quality, more attractive applicants. Southwest Airlines has long served as a case study to demonstrate this effect of lower prices on conversion and long-term profitability and sustainability. Introducing prices over 60% below competition upon entering the market in 1971, Southwest effectively challenged the cost of transportation by car. Consequently, it has achieved profitability for over forty five consecutive years and annualized returns exceeding 17%.

Figure 10 illustrates the effect of lower gross margins on conversion of higher grade customers at Tricolor. Empirically, the ability to segment risk creates a significant advantage to convert high quality applicants and improve portfolio quality in terms of net credit losses.

Figure 10. Effect of Lowering Gross Margin on Higher Quality Sales



"In business strategy, the new game begins before the old game is over."

- Clayton Christensen

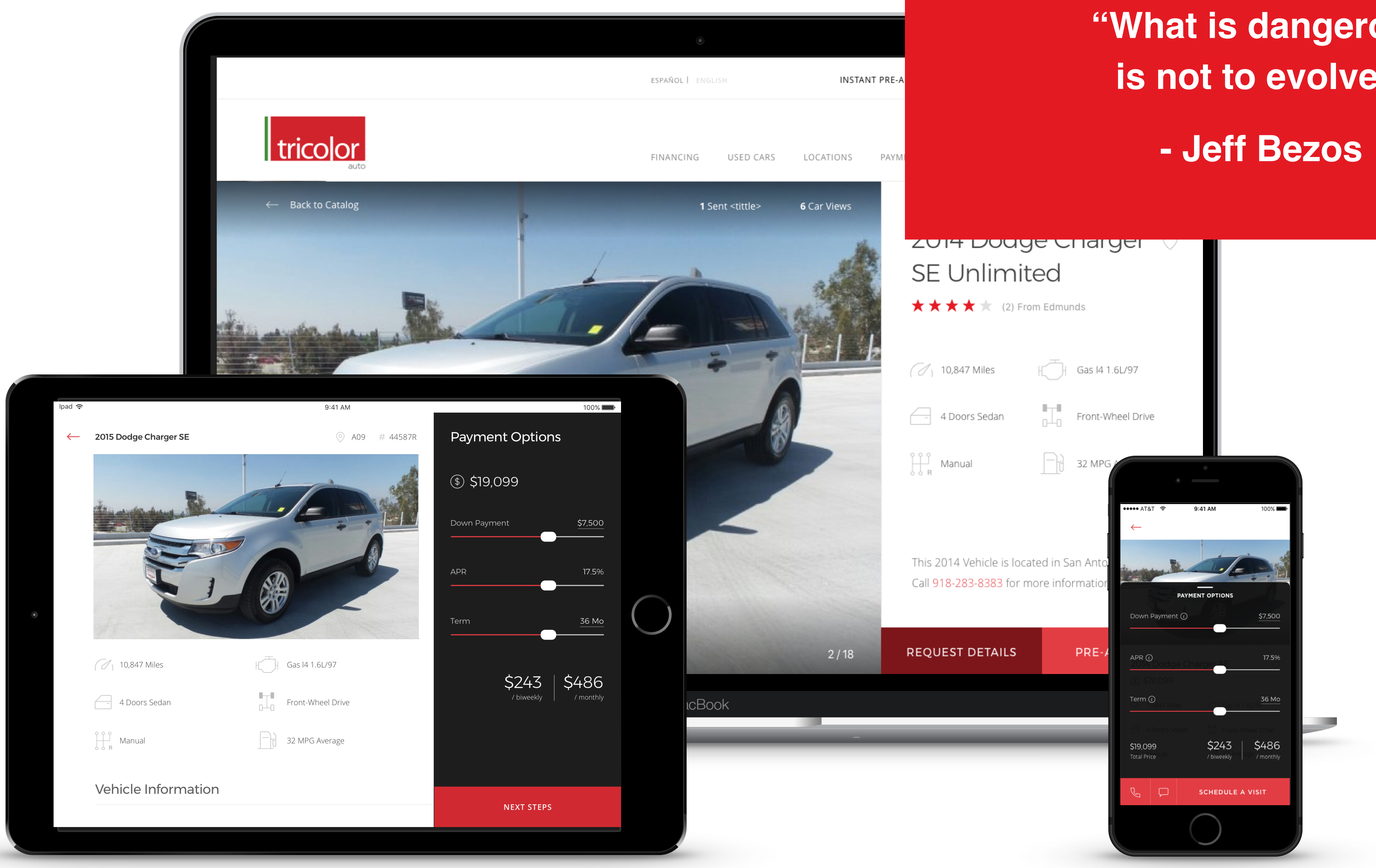
Building Technology Enabled Financial Inclusion Platforms

Tricolor's proprietary risk model, which segments no file and thin file borrowers with non-traditional attributes, has distinguished the company as the only ABS issuer which has developed a data-driven platform enabling access to credit and affordable lending to this underserved segment.

The illustration below is Tricolor's proprietary point-of-sale tablet application presents financing terms to customer based upon credit grade and allows customer to adjust down payment within prescribed range and understand impact on payment and term, providing transparency on pricing.

"What is dangerous is not to evolve."

- Jeff Bezos



Recommendation Engine - Transforming the future

Consolidating 17+ segmented functional systems into integrated platforms and customer experiences journeys for a broader set of technology enabled financial inclusion capabilities.

"Innovation is the only way to win."

- Steve Jobs

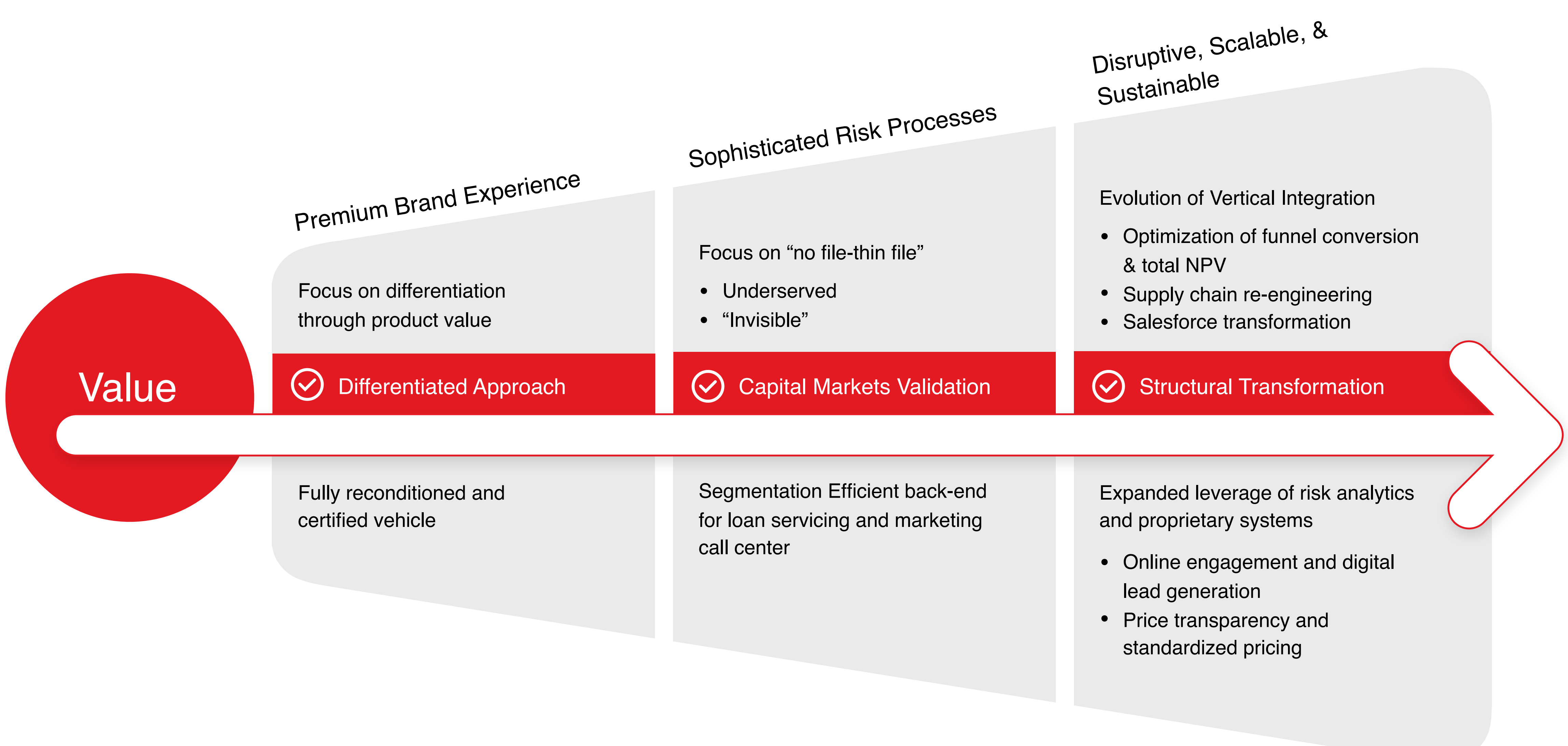
Findings and Conclusion Cont'd

All things being equal, consumers migrate to the lowest price and combined with its scale and its differentiated premium brand approach, Tricolor attracts the higher quality borrowers and creates adverse selection for its competition. While some business models risk sustainability by engaging in a comparison over price, Tricolor leverages its risk model to distinguish its disruptive strategy.

Tricolor capitalizes on its risk segmentation and direct interaction with the customer to utilize technology and deliver price transparency as a key element of the overall value proposition. The pricing strategy eliminates negotiation and enhances the customer experience. **This ultimately builds trust and creates loyalty for the brand.**

The evolution of its pricing strategy is the key driver to Tricolor's transformation to a disruptive, scalable, and sustainable model. Through the implementation of a strategy based on lowering gross margins and implementing true NPV optimized pricing, Tricolor creates significant value to its customers and stakeholders, consistent with its corporate vision:

- ***We empower our customers: by providing access to affordable financing on high quality, certified vehicles, greatly enhancing the quality of their lives – to ultimately build a better future.***
- ***We empower our team: by focusing on continuous improvement, leveraging our proprietary technology and executing with unsurpassed energy and passion.***
- ***We empower our vision: to deliver a superior customer experience and to become the premier brand and undisputed choice of the Hispanic consumer, boldly affirming our mantra: "Con Confianza, Con Tricolor".***



About Tricolor Holdings

Daniel Chu is the founder and CEO of Tricolor Holdings, which owns Tricolor Auto Group and Ganas Auto Group.

Tricolor is a Community Development Financial Institution (CDFI) and mission-driven company which sells and finances high quality, certified used motor vehicles through its premium brands, Tricolor Auto Group in Texas and Ganas Auto Group in California, utilizing advanced data analytics and technology to advance financial inclusion to a highly underserved market and offer responsible, affordable, credit-building auto loans to individuals with no or limited credit history.

Headquartered in Dallas, Tricolor and its affiliate Ganas Auto Group operate 36 retail dealerships across 12 markets in Texas and California, as well as a shared services center in Guadalajara, Mexico. On a combined basis, Tricolor and Ganas have served nearly 60,000 customers and disbursed over $1 billion in affordable auto loans by using its proprietary model to segment risk.

For more information contact Daniel Chu at dchu@tricolor.com