

The Economics of DtC Wine Pricing

By Matthew Lulay, Managing Director
Mather Economics

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The leadership at many small to midsize wineries around the United States wear many hats. On any given day, a general manager may be helping to manage tasting room operations, preparing invoices, making deliveries, reconciling financials, creating marketing materials, or even helping out in the vineyard. As such, pricing is often given less attention than it deserves. We have heard from our partners that pricing is usually driven via the “gut feel” approach, where high level and imprecise discussions around “How is the economy doing?” or “What are my competitors doing?” drive pricing decisions. For many wineries, this type of approach has led to perennial sellouts for some brands while others require deep discounting from retail prices to move product.

By leveraging the wealth of first party data wineries already own, considerable revenue opportunity exists for those willing to analyze the economics around their brands. We will briefly examine a “Price Discovery” approach to estimating efficient pricing for wineries below.

Price Discovery for Wineries

Simply put, price discovery is the process of estimating the appropriate price for a good or service through an analysis of its market supply and demand. Generally speaking, the goal of any firm is to set pricing at a level where the supply of the good being produced is “cleared” by the demand for that good. This intersection of supply and demand is often referred to as the “Equilibrium Price” in economics.

For wineries, if prices are set above the equilibrium price for a given brand, excess cases will go unsold, requiring discounts to avoid costly storage of unsold inventory. If prices are set below the equilibrium price, inventory quickly sells out, additional revenue is left on the table, and many potential buyers that missed out may explore competitor offerings. Figure 1 shows a simplified market for a sample wine brand, with price on the y-axis and quantity and the x-axis.

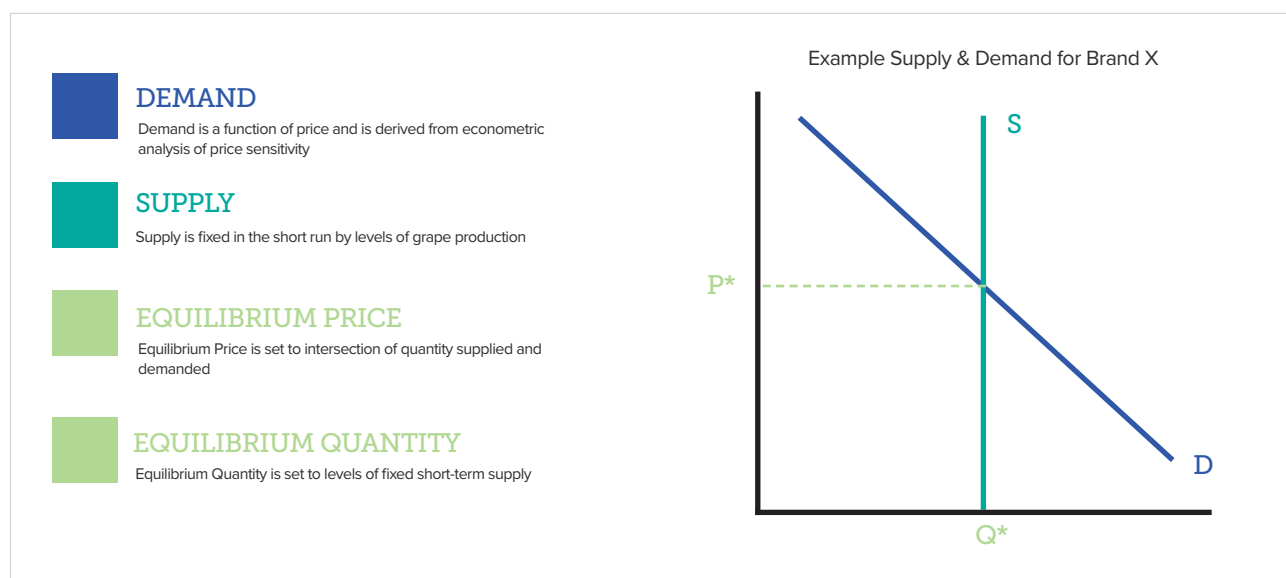


Figure 1: Simplified Supply and Demand for Sample Winery Brand

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The supply curve indicates the amount of a good that is produced at various price levels. Unlike some other industries that can quickly respond to market signals by increasing or decreasing production, most wineries have a “sticky” supply curve in the short to medium term, as modifying production levels requires planting more of a certain variety, substituting acreage between varieties, or purchasing grapes on the open market. With any of those scenarios, there is a lag time for the production changes to be realized in the retail market, as the wine needs to be properly aged and conditioned, which for many varieties takes many months and years.

The demand curve represents the quantity of cases or bottles demanded by the market for a given brand at various price points. The demand curve for normal goods is downward sloping, as less quantity of a good is demanded at higher price points, and vice versa. *Understanding the shape of the demand curve for a good is important for firms, as it indicates the sensitivity to sales quantity for a given change in price.* In other words, it helps wineries understand what will happen to sales if they make changes to pricing. A steeper demand curve indicates lower sensitivity to price changes while a flatter demand curve indicates higher sensitivity to price changes. While the demand curve in Figure 1 is linear (constant slope), in reality, for most firms the demand curve

takes on a non-linear shape with different slopes at points along the curve. At Mather, estimating the shape of these demand curves is our primary focus in helping wineries price more efficiently, and we have developed an approach, using winery first party sales data, to do just that.

Estimating the Demand Curve

Most wineries have a robust database of historical sales available for analysis, which includes line-item detail on SKUs, quantities, prices, shipping, taxes, and club member attributes. This time series data lends itself well for use in predictive models that can be leveraged, in this case, to estimate the relationship between price and quantity demanded for wine. For the purpose of estimating the shape of demand curves for winery brands, we leverage an econometric approach, structured to predict the quantity of wine demand as a function of the net bottle price while controlling for other relevant factors that can account for changes in demand. Figure 2 below shows some of the variables included from one of these models for a Syrah from a sample winery.

We use three general types of variables to help predict the quantity demanded for Syrah: Winery-Specific, Industry Vertical, and Macroeconomic.



Figure 2: Variables Included for Pricing Model



Figure 3: Demand Curves for Winery Portfolio

The “Price” variable is the key input of interest and allows for an estimation of the relationship between the net price of Syrah and the quantity demanded while controlling for the other factors in the regression noted above. The industry metrics and macroeconomic indicators allow us to measure the impact of broader economic conditions on the demand for a winery’s goods. Once these models are estimated for a winery’s portfolio, the demand curves can be drawn. Figure 3 above displays the demand curves for a sample winery portfolio.

The slope of the demand curves indicates the degree of price sensitivity at various price points. Once the demand curves are generated, we can estimate the price elasticity at the current price point and make analytically-driven recommendations for optimizing revenue. Figure 4 displays the pricing analysis snapshots for three sample brands.

Brand #3 is likely SERIOUSLY UNDERPRICED		Brand #5 is likely MODERATELY UNDERPRICED		Brand #6 is likely MODERATELY OVERPRICED	
PRICE		PRICE		PRICE	
Current Retail Price	\$80.00	Current Retail Price	\$50.00	Current Retail Price	\$70.00
Alternative Price	\$119.00	Alternative Price	\$61.00	Alternative Price	\$56.00
% Change	48.75%	% Change	22.00%	% Change	-20.00%
Elasticity Current	-0.368	Elasticity Current	-0.822	Elasticity Current	-1.277
Elasticity Alternative	-0.435	Elasticity Alternative	-0.995	Elasticity Alternative	-0.990
Est Price @ Rev Max	\$118.80	Est Price @ Rev Max	\$60.75	Est Price @ Rev Max	\$55.65
Average Discount	18.73%	Average Discount	17.39%	Average Discount	19.04%
SALES VOLUME		SALES VOLUME		SALES VOLUME	
Current Total Cases Sold	836.17	Current Total Cases Sold	347.09	Current Total Cases Sold	344.46
Alternative Total Cases Sold	710.95	Alternative Total Cases Sold	287.42	Alternative Total Cases Sold	443.62
Incremental Cases	(126.53)	Incremental Cases	(59.66)	Incremental Cases	99.16
% Change	-15%	% Change	-17%	% Change	29%
FINANCIALS		FINANCIALS		FINANCIALS	
Current Total Revenue	\$653,403	Current Total Revenue	\$72,046	Current Total Revenue	\$234,247
Alternative Total Revenue	\$825,091	Alternative Total Revenue	\$173,8166	Alternative Total Revenue	\$241,342
Incremental Revenue	\$171,687.78	Incremental Revenue	\$1,769.79	Incremental Revenue	\$7,095.57
% Change	26%	% Change	1%	% Change	3%

Figure 4: Pricing Analysis Snapshots

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In these examples, the model output indicates two of the sample brands are underpriced, with Brand #3 and Brand #5 currently priced 49% and 22% below what is recommended, respectively. Brand #6 is estimated to be moderately overpriced by 20%. Brand #3 in Figure 4 currently sells for \$80 and perennially sells out quickly upon release. The difference in the current price and the recommended price represents a six-figure revenue opportunity for this winery.

In conclusion, wineries are sitting on a wealth of actionable data that can quickly be run through analytics engines to support a variety of DtC operations, including churn reduction, reacquisition, and pricing. As seen above, the revenue opportunity from adding analytical precision to pricing decisions within wineries is significant, and Mather's toolset for wineries is custom built to bring these insights to the forefront so leadership at wineries have the information available to make data-supported decisions.

About the Author



Matthew Lulay, Managing Director

Since joining Mather Economics in 2012, Matthew has served in a variety of consulting and leadership positions at the firm. In his current role as managing director, his responsibilities include complex project delivery and management, product development, organizational strategy, and business development. He is a subject matter expert in subscription analytics, having worked with hundreds of publishers and other direct to consumer firms to provide data driven insights on price sensitivity, churn mitigation, and customer lifetime value. Matthew has applied his expertise in several industries and focus areas including environmental service valuation, lottery and gaming, and mixed media modeling, but his recent focus has been on developing a suite of analytical tools to support DtC operations in the wine industry.

Reach out to Matthew at 770.993.4111 or matthew@matherconomics.com