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Many thanks go to David Easley and Jon Kleinberg at Cornell for making their research on auctions [publicly available]().

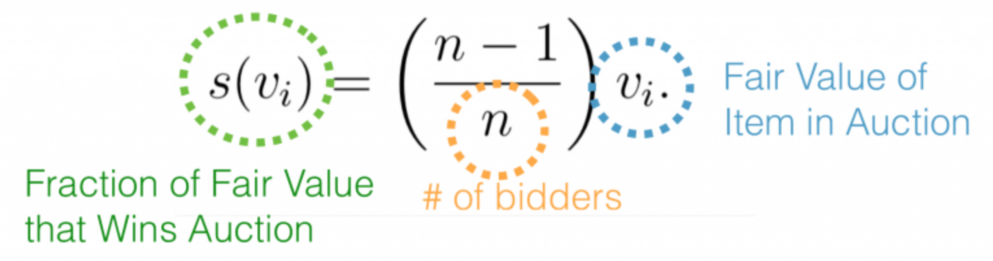
It's a great time to discuss the distribution of power in auctions. Not only is this highly relevant for all users of Google paid search and our investment in TripAdvisor, but Leonardo da Vinci's Salvator Mundi recently broke a record for the highest price paid for art at auction, clearing for $450 million ([for a good article describing the process of bidding, click here]()). Your author had the good fortune of seeing this beauty in person before the auction, and dare we say, it's probably worth it. For a far cheaper and more educational look at the painting, we'd highly recommend Walter Isaacson's latest biography on this genius that was 200-300 years ahead of his time. But we digress.

Everyone has experience with auctions. If you've bought a home, you have perhaps unwittingly participated in an auction. Didn't the whole process feel like you (the buyer) were sort of being taken advantage of? Don't hate the player, hate the game.

At least that's exactly what Google would have its users and advertisers think. As profiled in Scott Galloway's recent book The Four, the auction gives Google the ability to claim innocence on all of the value it extracts from online transactions – it simply lets its advertisers set the price.

Professors David Easley and Jon Kleinberg at Cornell [have studied equilibriums in various forms of auctions and have publicly shared their work](). They prove through game theory that auctions are systemically designed to capture the highest possible value that a bidder is willing to pay for the particular asset under consideration. The price paid is directly related to the number of bidders in the auction. The more competitive an industry, the more expensive the Google clicks will become.

Exhibit 1: Equilibrium Clearing Prices in Auctions



Source: Easley & Kleinberg.

As if that wasn't enough, Google eventually moved to a Vickrey, or second-price, auction which is designed to raise competitors' bids up to exactly fair value, as opposed to a fraction of fair value.

This results in decaying economics to the advertisers, as more advertisers join the auction to bid on keywords and clicks become more expensive. Google will counter that the overall statistic that its cost-per-click has been routinely getting cheaper on the aggregate even though this is a direct result of the mix shifting from desktop to mobile, where clicks are nearly ⅔ lower than on desktop.

Since Google is effectively a toll road on the internet, capturing over 90% of the searches performed in nearly every country it touches, advertisers are forced to play ball. But they're not happy. Not many bidders to an auction come away saying, "wow, we got such a great deal." In fact, the entire online travel industry is starting to find television advertising an equally compelling offer for their businesses over time. In real estate transactions, even if there are just two parties bidding on the property, the auction is designed to capture the highest value from the buyers.

Speaking of real estate, one of the mistakes we've made this year was New York REIT, where we had a realized loss of just under 16%. Unbeknownst to us, Chinese and Middle Eastern buyers have withdrawn from the bidding pool for marquee New York properties. Over the past few years, these buyers represented as much a third of the bidding pool. Almost exactly in line with Easley and Kleinberg's work, pricing has compressed by 15-20% from the peak as the bidding pool has shrunk. Auctions typically hold up better than one would expect, because they are systematically designed to wring all perceived value from buyers.

Why else would Warren Buffett repeatedly advertise that he never participates in auctions? Notice, however, when a charitable cause is the beneficiary, he has blessed the annual "lunch with Buffett" to be auctioned off to the highest bidder. Buffett is, once again, on the power side of the trade. He had a good teacher and partner in Charlie Munger. In 1995, Munger gave a seminal speech called *The Psychology of Human Misjudgment.* In it, he excoriates auctions:

> "The open-outcry auction is just made to turn the brain into mush: you've got social proof, the other guy is bidding, you get reciprocation tendency, you get deprival super-reaction syndrome, the thing is going away… I mean it just absolutely is designed to manipulate people into idiotic behavior."

Of course, while humans are not reliably rational, all rational buyers dislike auctions. Why did Amazon so quickly pass eBay to capture all of the growth in e-commerce? Because consumers trust Amazon. It will reliably give them the best price (or at least that's the pervading perception even though it's not correct) and will do so without demanding a lot of effort. Want the same item on eBay? Place a bid, wait 2 days, 16 hours and 3 minutes, to find out that you will probably lose the auction.

Yet, while eBay has lost the e-commerce war, auctions will persist throughout human exchange. Why? From the seller’s perspective, it’s essentially built-in dynamic pricing. There’s no better way to capture the value assorted buyers are willing to pay for a particular good. When Christie’s guaranteed the auction price for the Salvator Mundi, it was rumored to have been willing to guarantee it could deliver $100 million to the seller. Of course, the asset cleared for 4.5x the amount that the smartest person in the room was willing to underwrite. This auction captured the marginal price that only a handful of buyers in the world could have afforded.

Only those in a position of strength run auctions. If you’re a bidder, you’re already on the wrong side of the trade.

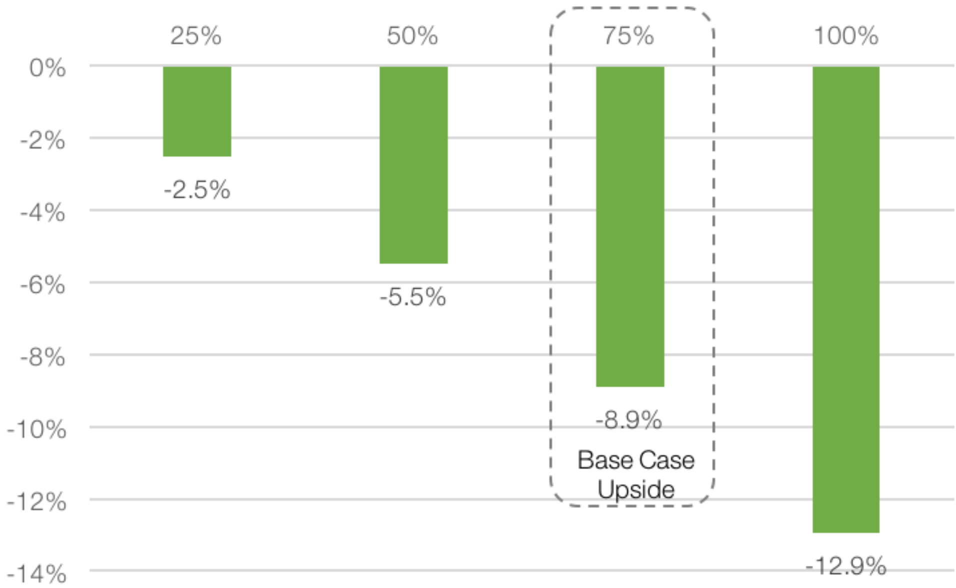
What It Means For Best Ideas 2018

So why have we gone into this level of detail on auctions? One of our best ideas for 2018, TripAdvisor, finds itself in the power position of running auctions for its hotel metasearch. The site has been the gorilla in the travel space, with over 3 billion annual users, nearly half a billion monthly active users, and the most downloaded and used travel app on mobile. Yet the company has historically not monetized this ecosystem well. The issue has not been cheaper auctions, but a conversion problem. So a few months ago, starting in June, the company embarked on public campaign to educate users that they could, in fact, book their hotels with TripAdvisor.

The company’s second largest customer, Priceline, suddenly realized this campaign would effectively make its traffic on this core channel more expensive and would simultaneously allow the site to capture more of the consumers’ bookings over time. Because Priceline is between 15-20% of TripAdivsor’s revenue, and its profitability and market cap dwarf that of TripAdvisor’s, the new management of Priceline decided that it, Goliath, would try and get TripAdvisor, David, to stop its new messaging campaign. It reduced its spending on the TripAdvisor platform outside of the U.S., where it has a far more dominant footprint than Expedia, which caused TripAdvisor to lower revenue guidance. This sent the share prices of the entire sector down, including Priceline’s. The reason for this pullback was cited as “lower ROIs,” coming from TripAdvisor metasearch, even though both lower cost and higher conversion claimed by TripAdvisor actually equals “higher ROIs.”

If Priceline wanted to acquire TripAdvisor, this is exactly what it would be doing. Its new CEO ran the company’s M&A division for the past couple of decades. Yet, whether or not Priceline wants to own TripAdvisor is beside the point now. Because nearly 15% of Priceline’s traffic comes from TripAdvisor metasearch, and this traffic has a higher purchase conversion than Priceline’s general traffic, it can ill afford to abandon TripAdvisor completely.

Yet we asked ourselves in the wake of this high profile public dispute between the two companies, what would happen if Goliath went scorched-earth and tried to pull off David’s platform completely? We ran our own metasearch surveys to find out what would happen to TripAdivsor's cost-per-click, and because the typical hotel has 3-4 bidders, we used the equilibrium equation shown in exhibit 1 to calculate what a worst case scenario looks like for TripAdvisor.



It turns out, scorched earth is actually not that bad. Because metasearch will comprise just under half of TripAdvisor's business this year, a pullback in pricing of 9-13% in this channel can be absorbed by the business. Furthermore, the shares have largely priced-in a good portion of this scorched earth happening. And thus, even though the dispute has turned public and carries headline risk, we do believe the investment still contains a very favorable risk-reward.

The worst case scorched-earth scenario is far worse for Priceline. It's a particularly bad time for booking.com to open up space for hotels to be bidding on clicks in TripAdvisor's auctions. Most European markets have outlawed old rate parity contracts that prevented the hotels from posting a better rate outside of booking.com. At the same time, ctrip.com is getting more aggressive in western markets and third party OTA supply on TripAdvisor has been building, with >80% of listings having a third, fourth or fifth OTA option. Because booking.com charges considerably higher commissions than TripAdvisor, hotels are highly incentivized to divert traffic away from Priceline's channels.

As we know from other examples, the party in the position of power is the one running the auction. While Priceline's size makes it look like the Goliath in the industry, we don't believe paying for half of traffic is an indication of a strong ecosystem. If the company decides to increase the stakes in its war, it would do well to remember how the battle of David vs. Goliath actually ended.

We are looking forward to discussing TripAdvisor and two other top positions at out Best Ideas 2018 presentation.