

# **The winner of the NFL draft is not necessarily cursed.**

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# Trades consisting of NFL draft picks

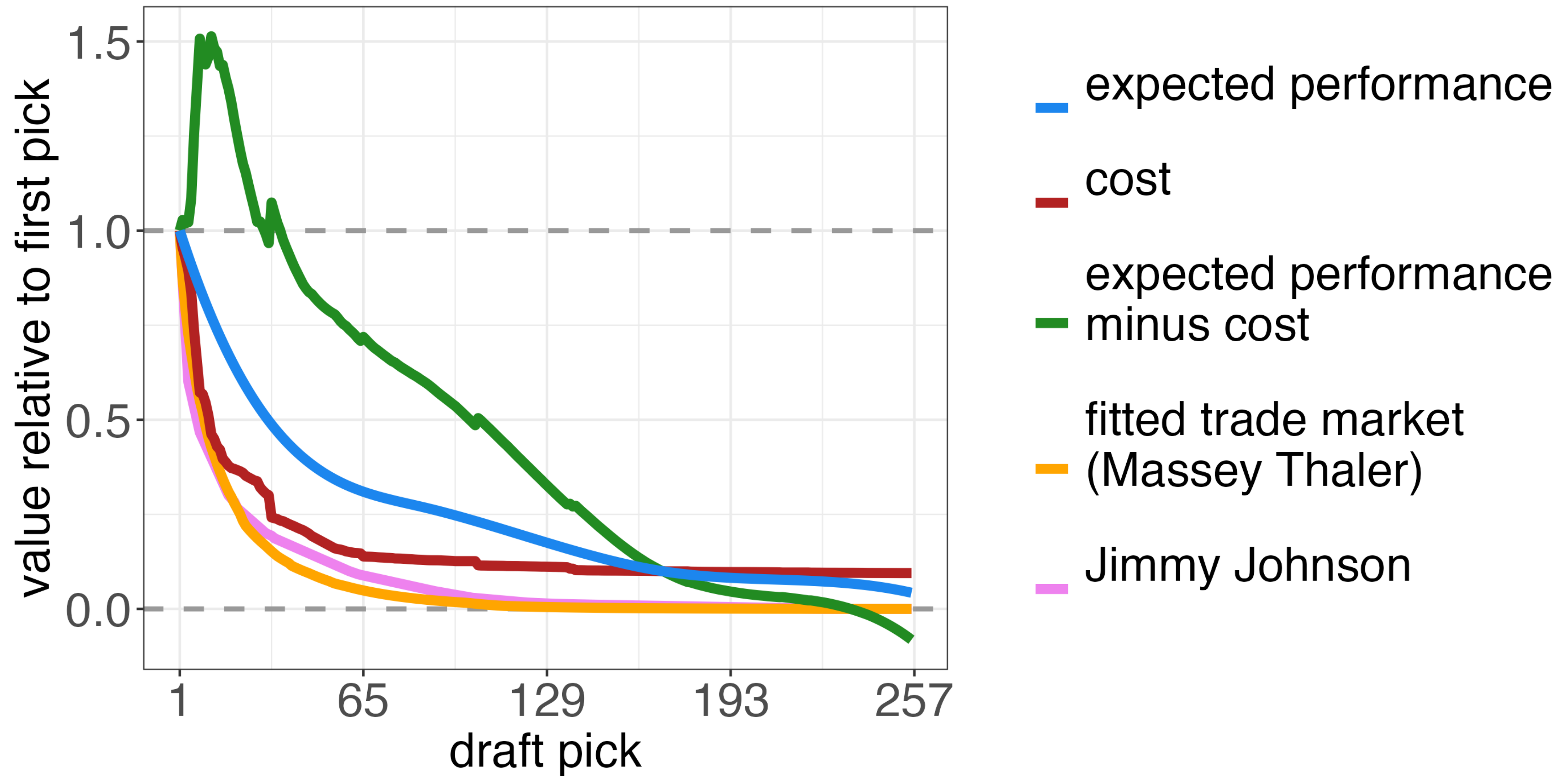
- In football, trading draft picks is a big deal!
- How does a team decide whether a trade of draft picks is good?
- Massey Thaler (2013)
  - Loser's curse – top picks aren't as valuable as later picks
  - Draft capital is traded sub-optimally
- Today, we revisit this analysis

# Traditional draft value curves

- How much value  $v(x)$  do players drafted at draft pick  $x \in \{1, \dots, 256\}$  provide?
  - Performance value  $Y =$  observed  $2^{nd}$  contract value (relative to the salary cap)
  - Expected performance value  $v(x) = \mathbb{E}[Y | x]$

# Traditional draft value curves

fit from data from 2013-2023



# Implications of Massey Thaler (2013)

- Loser's curse – top picks aren't as valuable as later picks
- NFL general managers trade sub-optimally
- Trading down from top picks is incredibly valuable

# What piqued our interest

## Massey Thaler (2013)

- completely replicates to recent data (2013-2023)
- Even though the work has been public and widely known for a long time, GM draft behavior is largely unchanged!

## **Why haven't GMs changed?**

- Maybe the market is inefficient & GMs are just not wise? or....
- there is a sound economic reason why average future player value (at a draft position) doesn't determine trade value?

# What's the problem?



- The goal is to win the Super Bowl
- GMs don't want average players, they want elite players, and they may be willing to pay quite a lot for draft picks that are likely to be elite NFL performers.

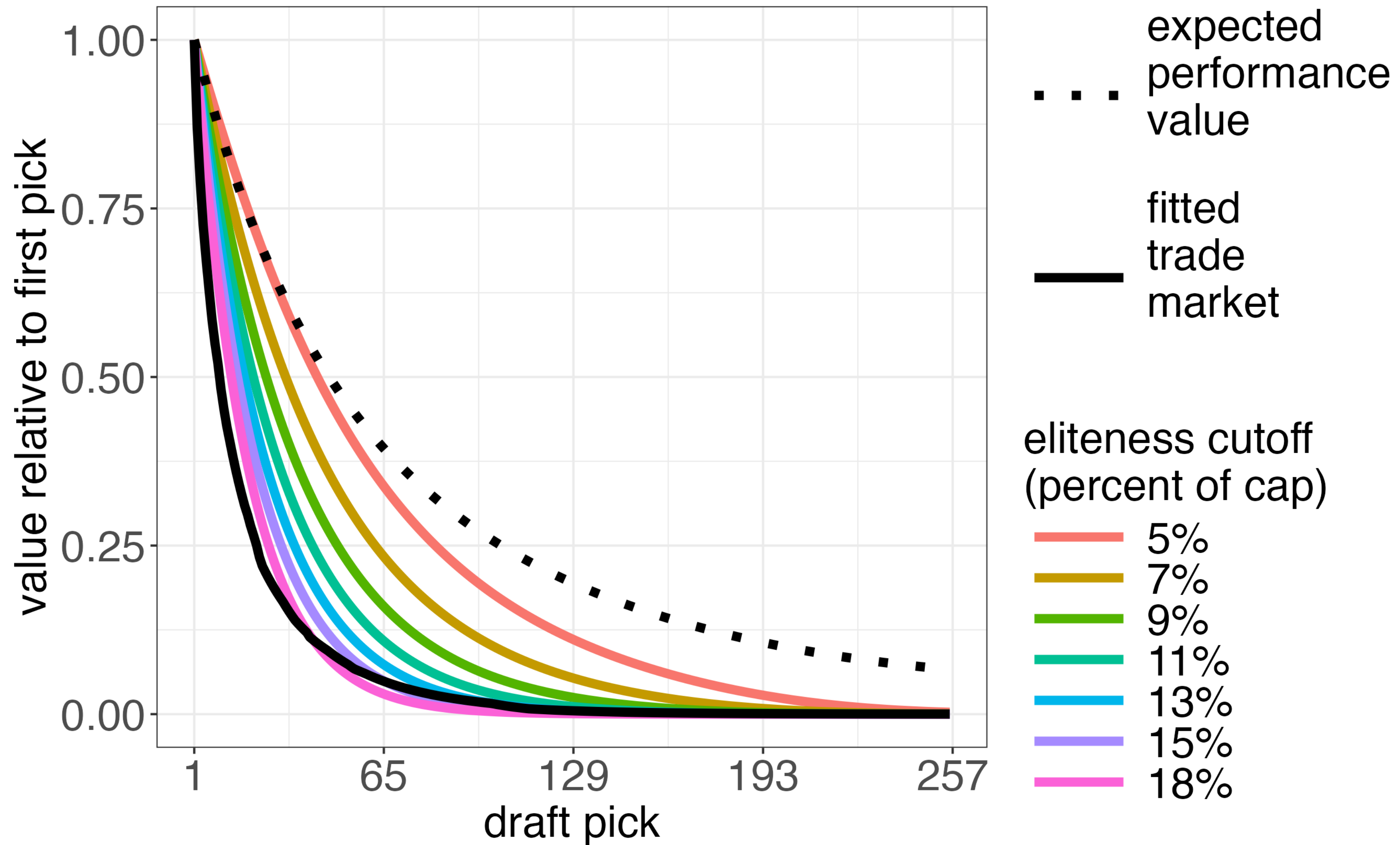
# Valuing eliteness

- Consider *right tail probability*,  $v(x) \propto \mathbb{P}(Y > r | x)$ 
  - Tail, not quantile
  - Assign a “value” to any set of players equal to the expected number of elite players (because  $\mathbb{E}[1(Y > r | x)] = \mathbb{P}(Y > r | x)$ )
  - Model the full conditional density  $\mathbb{P}(Y | x)$  with a spline smoothed Beta regression



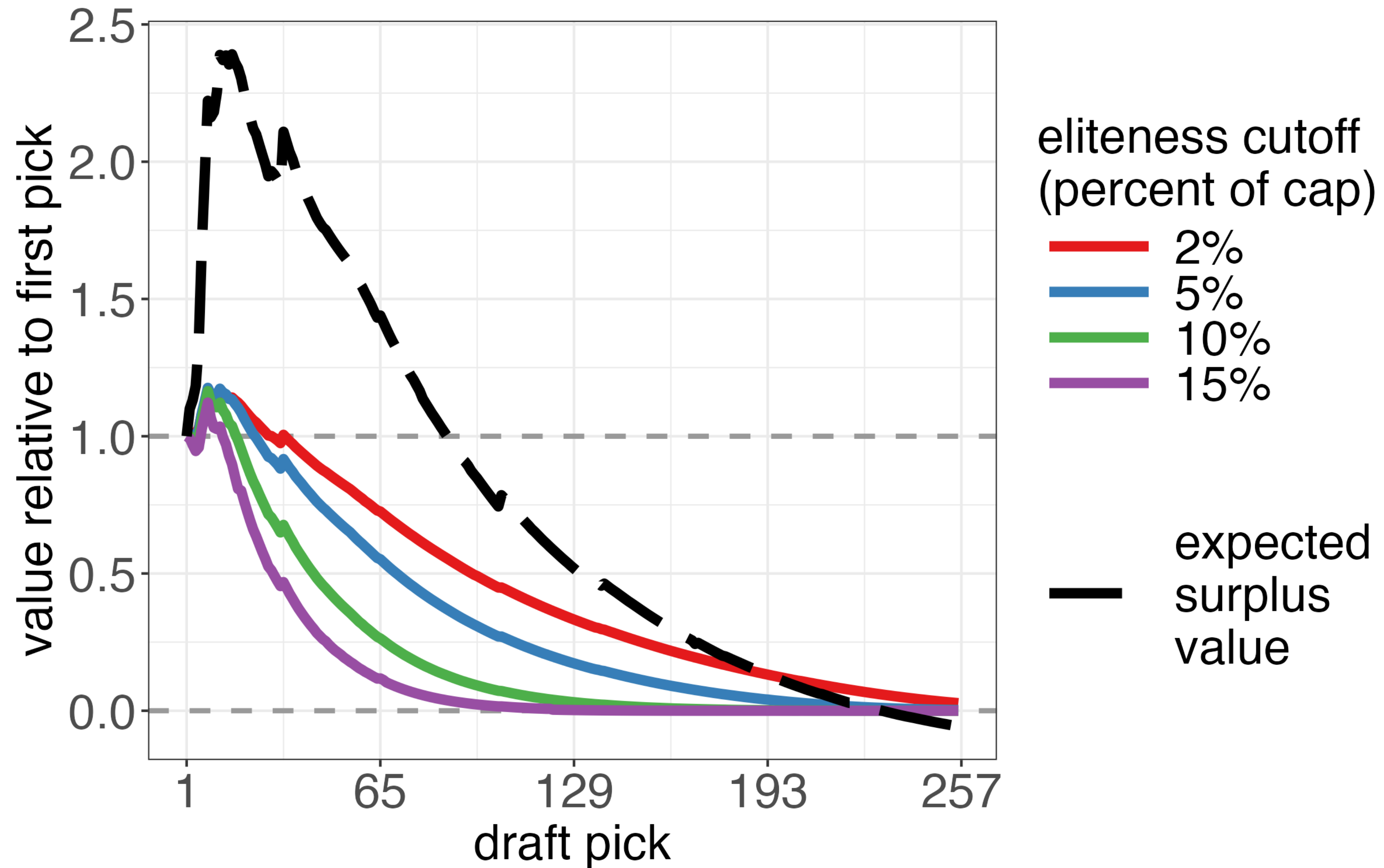
# Right tail probability curves

$$v(x) \propto \mathbb{P}(Y > r | x)$$



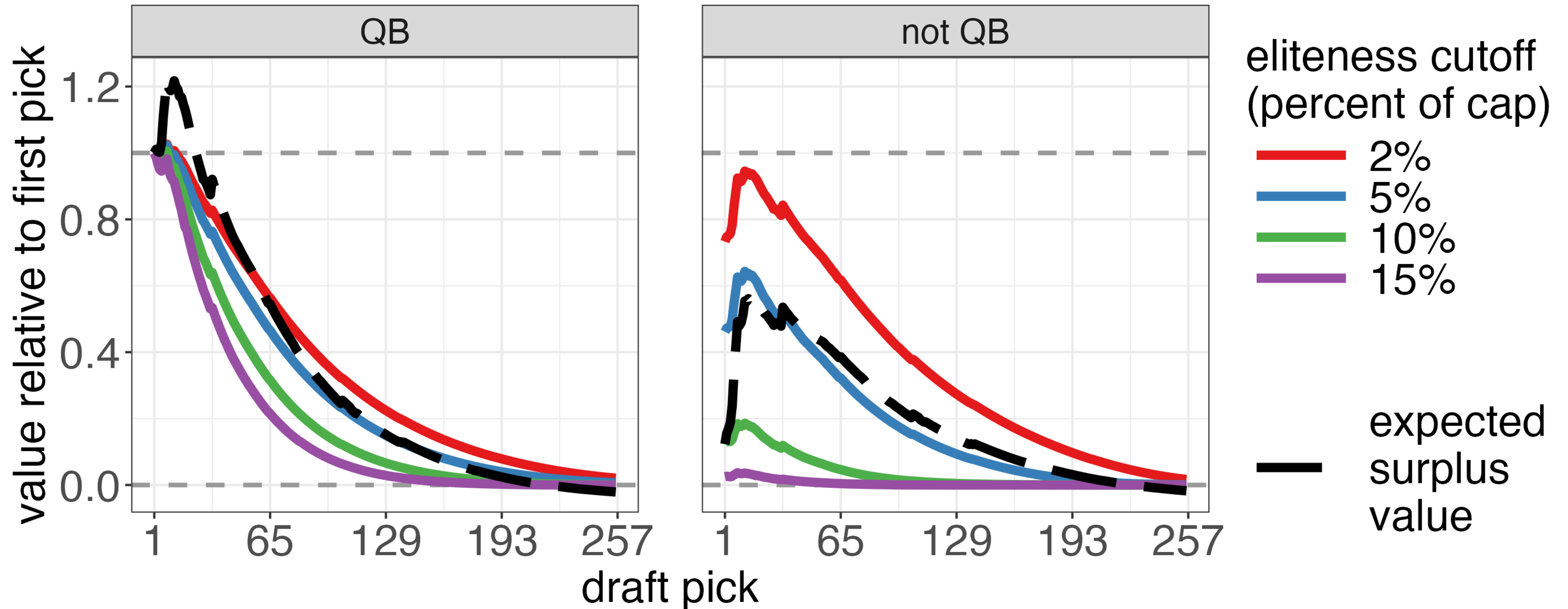
# Surplus value

Right tail probability surplus value curves,  $v(x) \propto \mathbb{P}(Y - \text{cost}(x) > r | x)$



# Adjust for position

Right tail probability surplus value curves by position,  $v(x, \text{QB}) \propto \mathbb{P}(Y - \text{cost}(x) > r \mid x, \text{QB})$



# The winner of the NFL draft is not necessarily cursed.

- If you're looking for an elite quarterback there is no loser's curse at all.
- If you are looking for elite talent, lower draft picks aren't worth much and the high cost of a top draft pick is justified.
- Trade draft picks based on some combination of eliteness and expected value

- **Thank you!**
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