Auction Estimates

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Art at auction

- Auction prices are one of the most important factors in art valuation
- Each lot is given a high and low estimate
- Some sell, some don’t
- There are complicating factors that we will ignore (primarily, guarantee purchases)

The data set

- 1147 total records
- Taken from two auction houses
- Limited to 9 artists
- Only artwork (no design, furniture, etc)

Response variable

- Sale price
- Records without a sale price are not included

Explanatory variables

- High/low estimates: what the auction house thinks it is worth
- Artist
- Sale quarter - seasonality
- Sale time - afternoon vs. evening

Covariance

	High Estimate	Low Estimate	Sale Price
High Estimate	9,760,748,000,000	6,662,957,000,000	9,151,491,000,000
Low Estimate	6,662,957,000,000	4,588,661,000,000	6,346,300,000,000
Sale Price	9,151,491,000,000	6,346,300,000,000	10,519,130,000,000

- The three values are all positively correlated with each other (i.e. as estimates move up, sale price also moves up), which is to be expected
- High estimate seems to have the strongest covariance with sale price (higher “high” estimates = higher prices)

Questions

- Is there an equivalent measure of variance for string fields? Covariance?
- The absolute values in the dataset can be rather large, does it need to be ‘normalized’ to smooth out these variances?
- We already know that having higher estimates = higher prices. The question is if other factors (i.e. time, seasonality, artist) of the sale result in relatively higher prices with respect to the estimates than others.
- If the other factors do not have any relative impact on price, then we should move away from this analysis and re-focus on price as a function of the attributes of the artwork (i.e. size, medium, subject, etc).