Put Your Monet Where Your Mouth Is

Caroline Shi

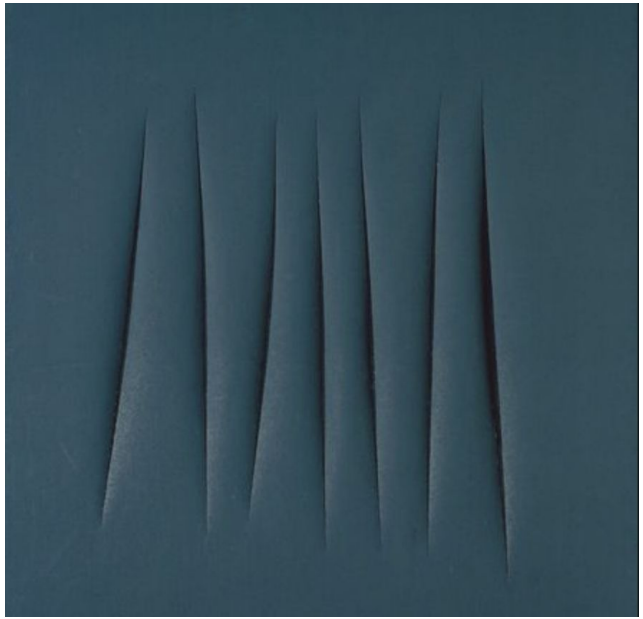
MoMA's dilemma

- 65% drop in visitors since COVID-19
- Budget cut of 45 million

- What does MoMA have a lot of that is popular in the art market?
- Best way to recoup losses by selling art from its collection?

What's our solution?

- Building a predictive model:
  - How much MoMA's art would sell for?
- Measures of success:
  - Non-tech -- layoffs, exhibitions
  - Tech -- accurate model



What do we sell? How do we pick?

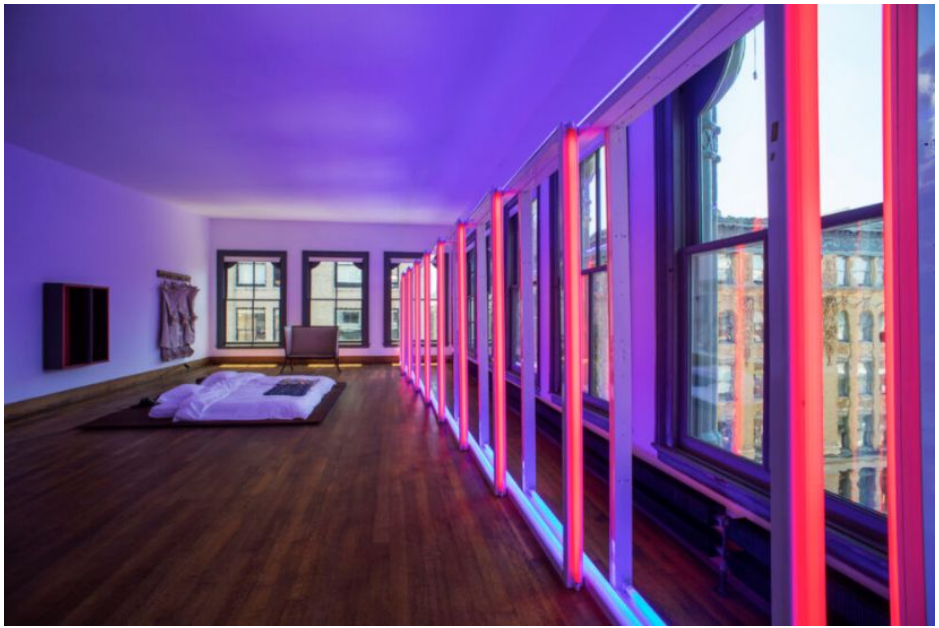
- MoMA -- 200,000 artworks
- What artists do they have the most **paintings** and **sculptures** of?

- Comparing to art market data from 2017-19
  - What is popular?
  - What sells for the most?
  - What is a guarantee?

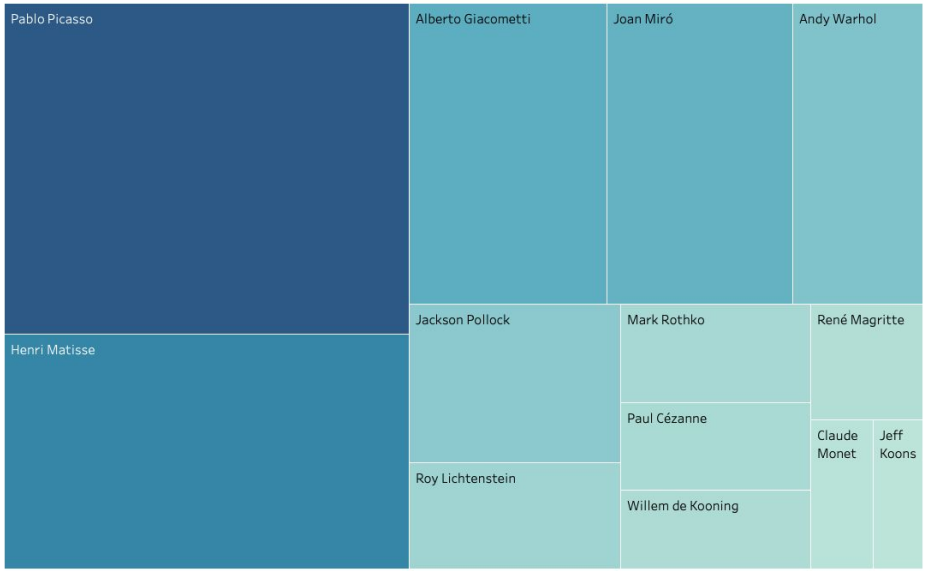
Risks & Assumptions

- Artist's career
- Painting provenance

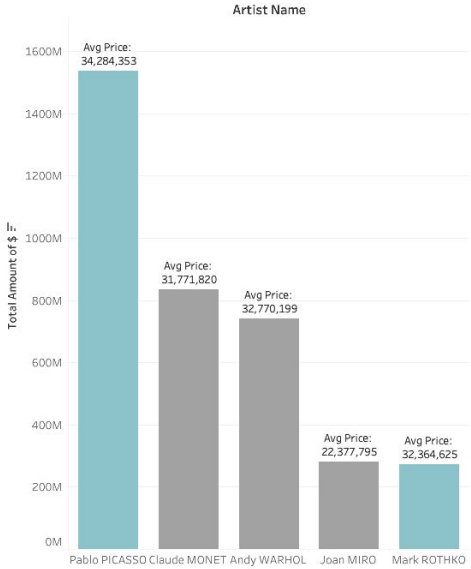
- How to quantify human interest and subjective taste
- $ driven up by competitive bidding
- How do we predict something that hinges so heavily on human feeling?



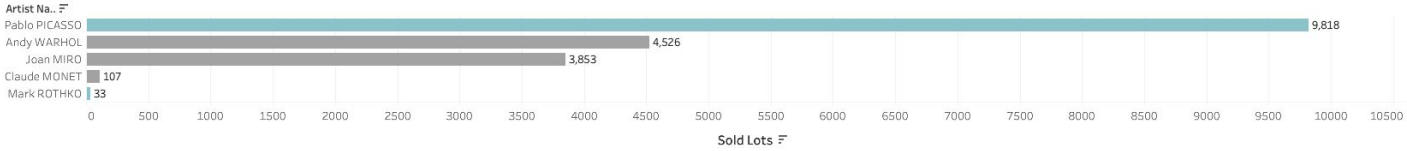
MoMA Paintings and Sculptures



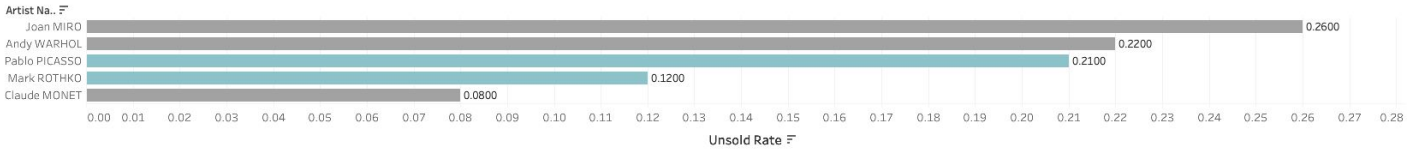
Total Amount of $ Made at Auction



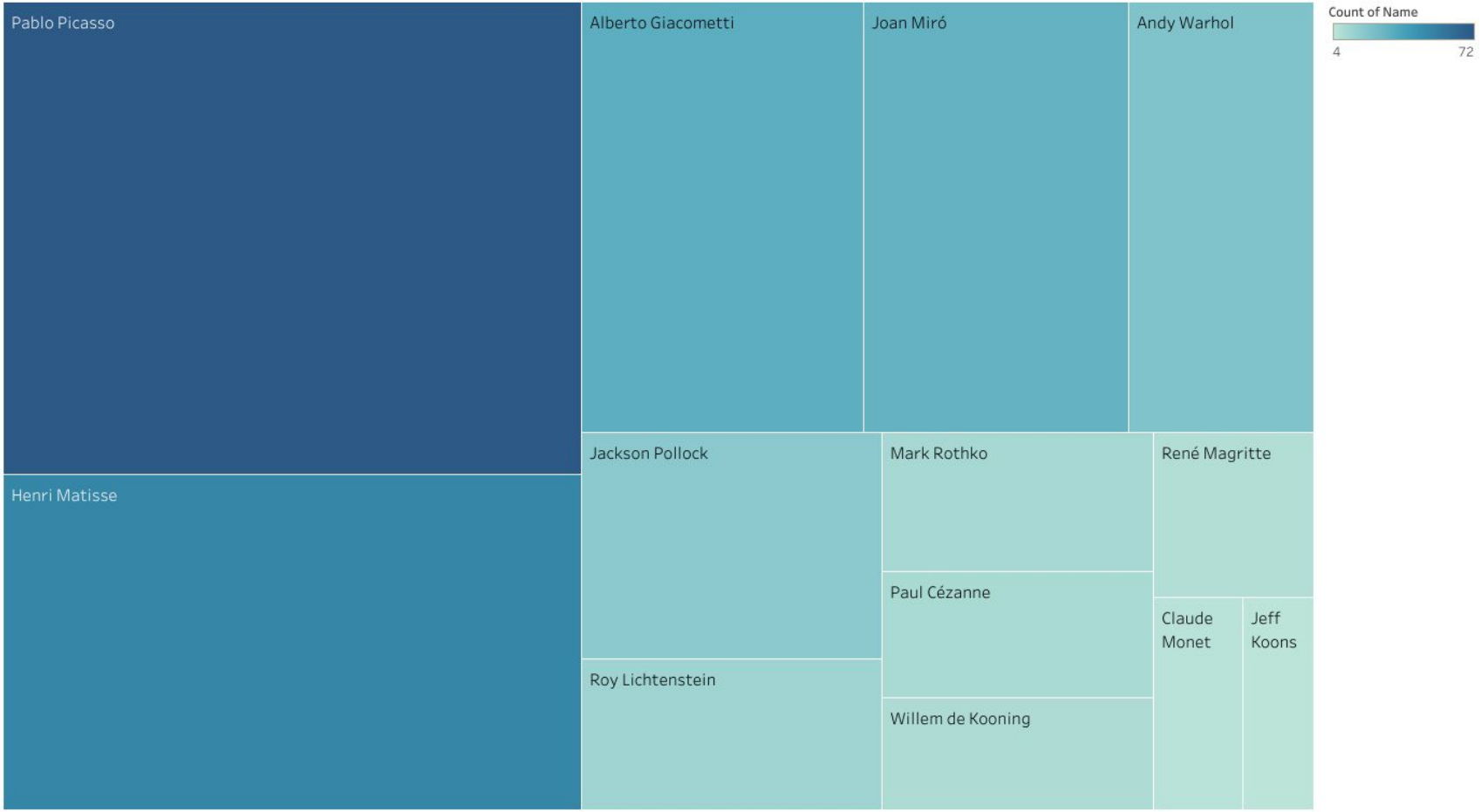
Most Lots Sold at Auction



Unsold Rate at Auction



MoMA Paintings and Sculptures



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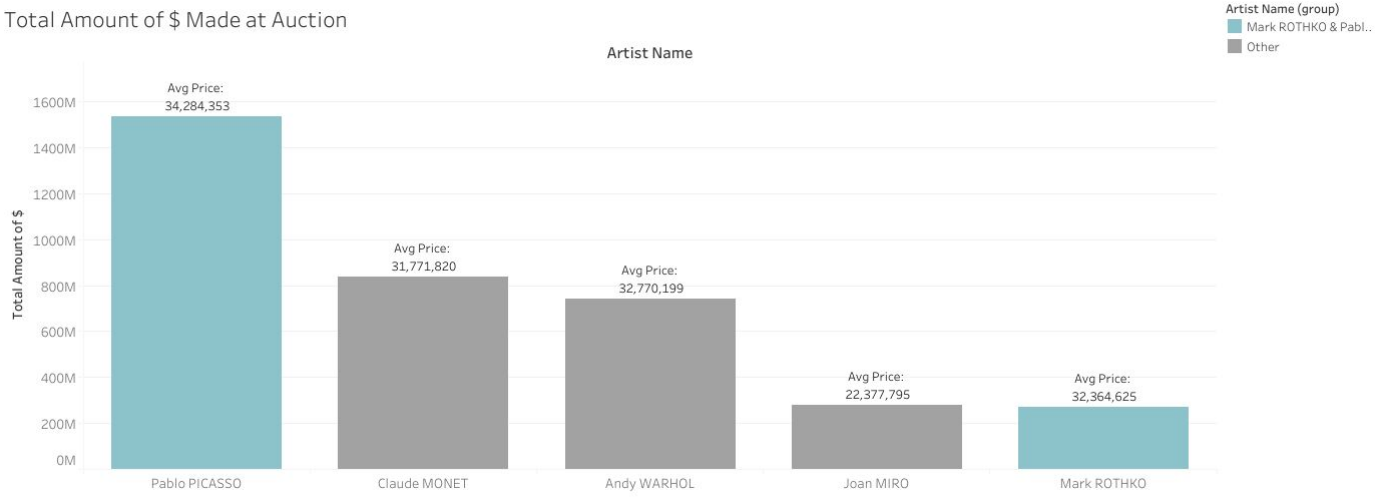

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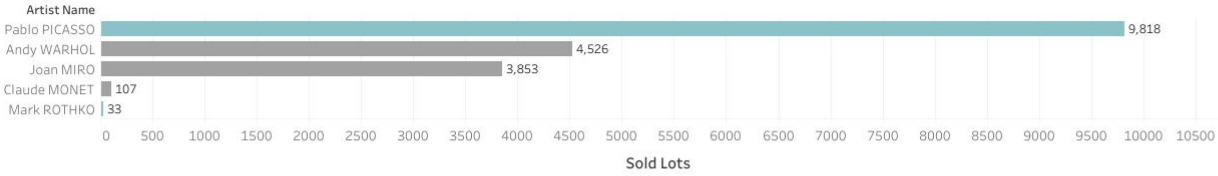

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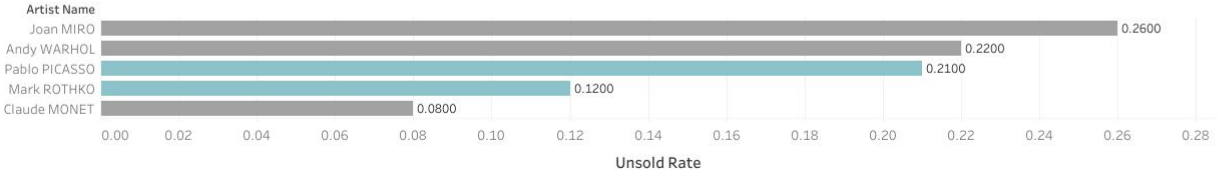
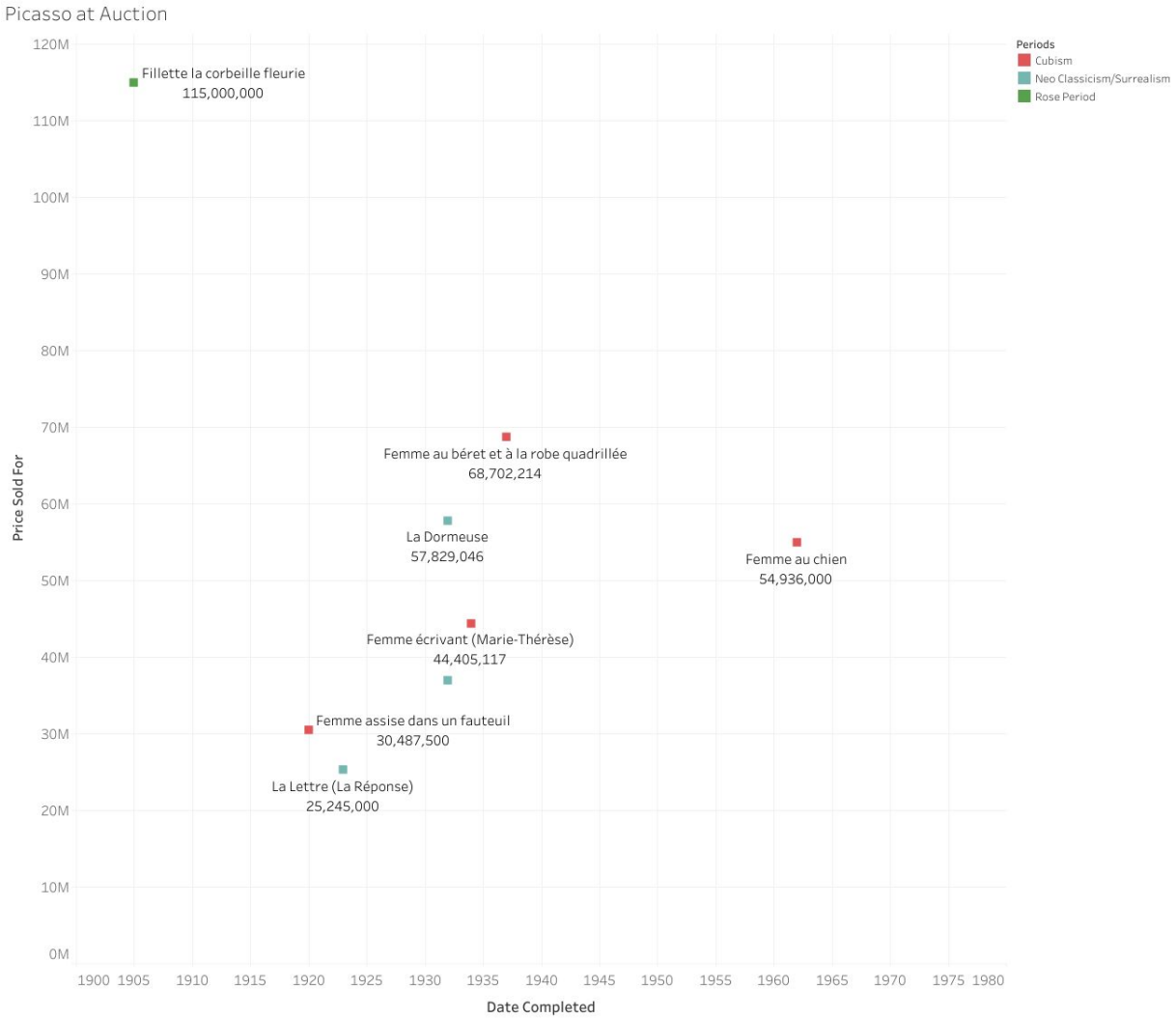



Picasso at Auction
Periods
Cubism
Neo Classicism/Surrealism
Rose Period
Price Sold For
120M
110M
100M
90M
80M
70M
60M
50M
40M
30M
20M
10M
0M
Fillette la corbeille fleurie
115,000,000
Femme au béret et à la robe quadrillée
68,702,214
La Dormeuse
57,829,046
Femme au chien
54,936,000
Femme écrivant (Marie-Thérèse)
44,405,117
Femme assise dans un fauteuil
30,487,500
La Lettre (La Réponse)
25,245,000
1900 1905 1910 1915 1920 1925 1930 1935 1940 1945 1950 1955 1960 1965 1970 1975 1980
Date Completed

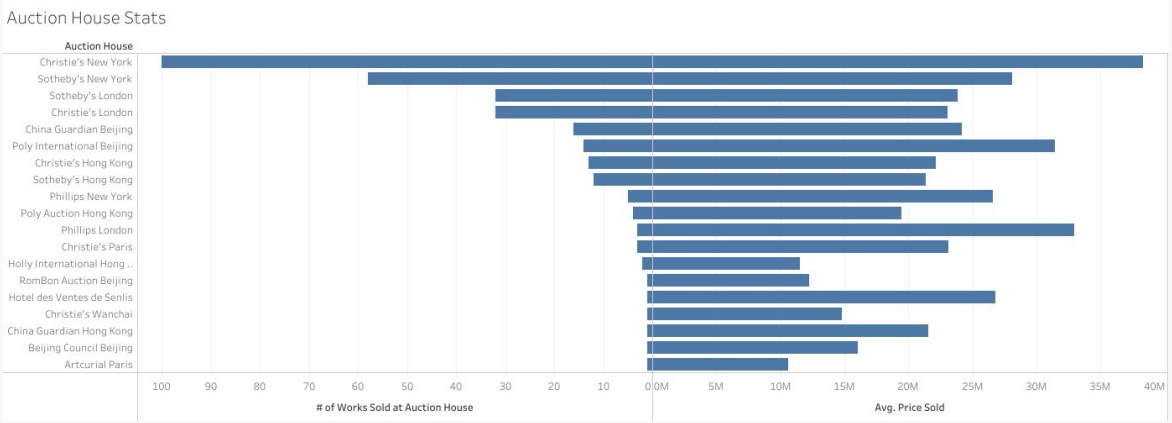
Future Work

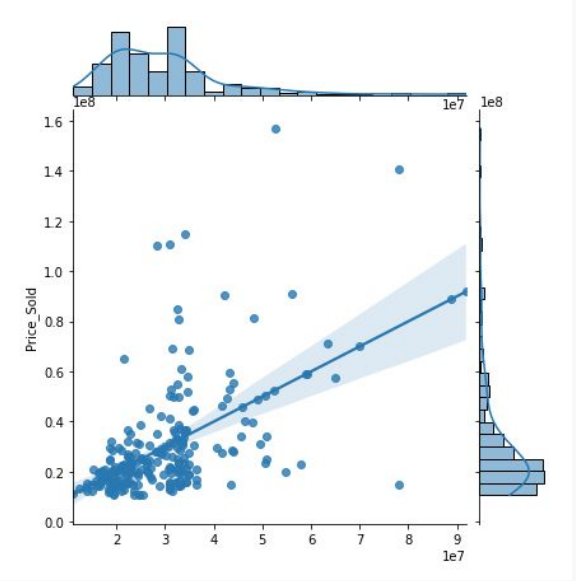
When building a predictive model:

- Collecting more auction data
- More research into artists
  - Stylistic periods
  - Subject matter
  - Rarity of work

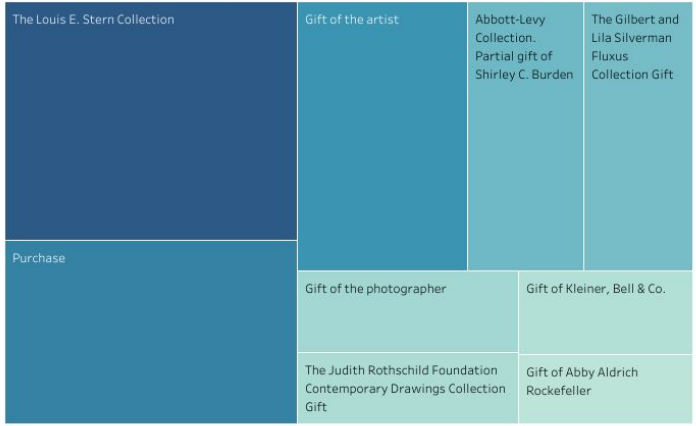
Thank you

appendix

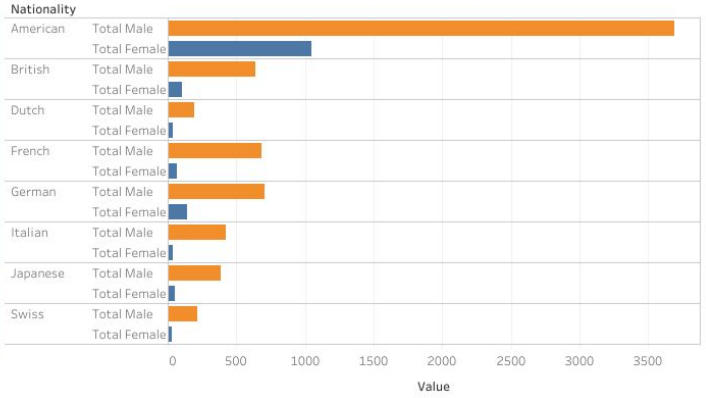

Auction House Stats
Auction House
Christie's New York
Sotheby's New York
Sotheby's London
Christie's London
China Guardian Beijing
Poly International Beijing
Christie's Hong Kong
Sotheby's Hong Kong
Phillips New York
Poly Auction Hong Kong
Phillips London
Christie's Paris
Holly International Hong ..
RomBon Auction Beijing
Hotel des Ventes de Senlis
Christie's Wanchai
China Guardian Hong Kong
Beijing Council Beijing
Artcurial Paris
100 90 80 70 60 50 40 30 20 10 0
# of Works Sold at Auction House
0M 5M 10M 15M 20M 25M 30M 35M 40M
Avg. Price Sold

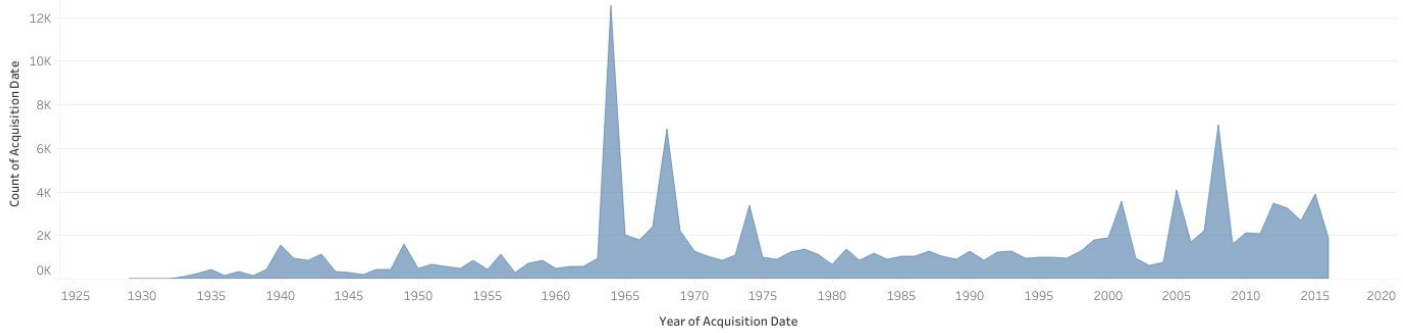

1e8
1e7
1e8
Price_Sold
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
2 3 4 5 6 7 8 9
1e7

MoMA Acquistion Credits



Gender and Nationality



appendix 2

Acquisitions per Year