

Problem set 3: Consumer and luxury economics

Module 3. Total: 100 points. Format: no-code sandbox.

Before you start

Work in the sandbox SQL editor at sandbox.altfndata.com. Choose two competing designers within one category (for example two watch brands, or two jewelry houses) to use consistently across this problem set, and confirm your table and column names in the schema tab first.

Problem 1 (15 points): Two economic signals, defined

In your own words, define pricing power (median of realized price divided by high estimate, across sold records) and sell-through rate (share of offered lots that sold). Then, in three to four sentences, explain what each signal can tell an analyst about consumer demand for a luxury brand that a listed parent company's quarterly earnings report cannot tell you directly.

Problem 2 (20 points): Comparing pricing power across two brands

Write a SQL query that computes pricing power for each of your two chosen designers (you may run it once per designer or combine both into a single grouped query). Report both figures, then write three to four sentences interpreting what the comparison suggests about relative demand strength between the two brands at auction.

-- your query here

Problem 3 (20 points): Comparing sell-through rate across the same two brands

Write a SQL query that computes sell-through rate for the same two designers. Report both figures. Then, combining this result with your Problem 2 result, classify each brand into one of four categories: high pricing power and high sell-through (strong, broad demand), high pricing power and low sell-through (a narrow but intense following), low pricing power and high sell-through (everything clears, but near or under estimate), or low pricing power and low sell-through (soft demand). Justify your classification in two to three sentences per brand.

-- your query here

Problem 4 (25 points): A demand index, and why it is not a trend claim

Build a quarterly demand index (count and average or median `usd_price_decimal` by quarter of `sale_date`) for one of your two chosen designers.

a. Write the SQL query. b. Plot or describe the shape of the series in two to three sentences. c. State the recency caveat: explain why the final one to two quarters of your series should not be interpreted as evidence that demand for the brand is rising or falling, and what an analyst should do before using a series like this to support any claim about market direction.

-- your query here

Problem 5 (20 points): Applied essay, luxury economics and the data

In 250 to 350 words, connect what you have learned to a concept from consumer and luxury economics. Your essay should reference at least one concrete figure or pattern from the dataset (for example, a pricing power ratio you computed, or the documented case in which Van Cleef and Arpels has shown a pricing power figure of roughly 1.36, meaning buyers have historically paid about 36 percent over the auction house's high estimate). Address why strong luxury brands can behave differently from ordinary consumer goods when it comes to price and demand, and why a signal drawn from the secondary market (auctions and resale) can move somewhat independently of a brand owner's own reported results, as illustrated by the weekend in June when Phillips' New York watch sale became the highest-grossing watch auction in US history at 75.8 million dollars with every lot sold, the same week that the listed watch brand Movado's share price fell about four percent.

Submission. Turn in this file with your SQL, figures, and written answers filled in.