Title

Jared Cummings

September 2021

Abstract

Abstract

Contents

Introduction

Scientific question: Even though the land is considered equally fertile, is there a difference in sale price-per-acre between properties in Fresno and Merced? If so, which area is a better deal for passive-income investing in small-cap farmland?

Statistical hypotheses: *depends on test chosen*

Methodology: *depends on test chosen*

Alpha level: $\alpha = 0.2$. For a two-sided test, the risk associate with type I error, that is the risk of identifying land in near city as a "better deal" than another when it is not, is not large. In this scenario.

s practically equivalent to the risk of type I error, continuing to believe that the land is comparatively priced between the two locals when it isn't.

Data

The data used for this analysis is an exhaustive list of farmland transactions in the cities of Fresno and Merced, California in the years 2000-2020 where less than 120 acres were exchanged. Acreage and sale price (inflation adjusted) are recorded for each sale. We investigate the price-per-acre of the sales to investigate if there is a difference in land value between these two productive farm regions of California's central valley.

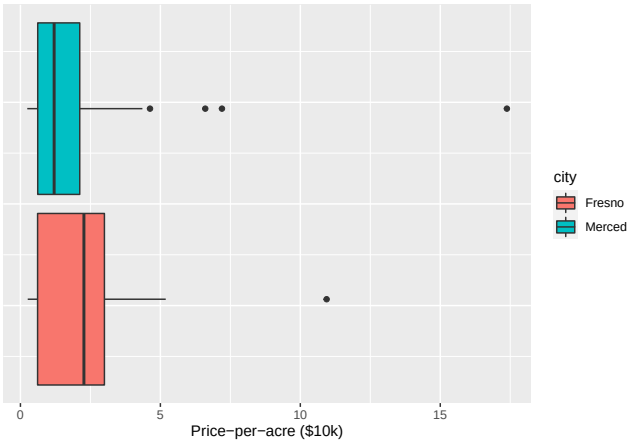


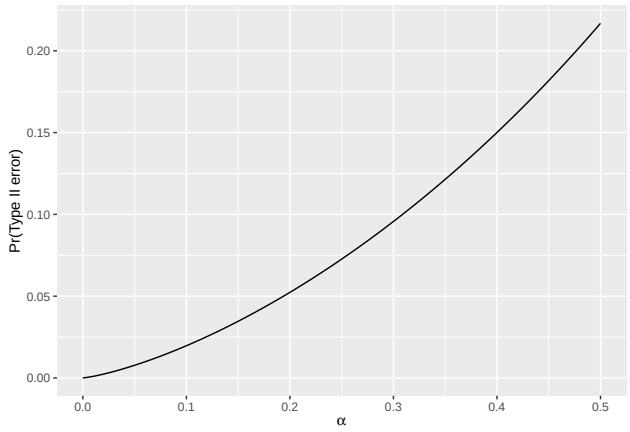
Figure 1: Boxplot comparison of price-per-acre of Fresno and Merced farm sales.

Table 1: Summary statistics of small farm sale price-per-acre in the Fresno and Merced in 2000-2020.

City	n	Mean	SD	Q1	Median	Q3	IQR
Fresno	31	2.28	2.14	0.61	2.27	3.00	3.47
Merced	38	2.07	3.01	0.62	1.20	2.12	2.18

Methodology

Power analysis of parametric comparison




```
1 - pt(qt(.2, m+n-2), m+n-2, d*sqrt(m*n/(m+n))/sigma)
```

```
## [1] 0.9476654
```

Results

Summary of Conclusions

Future Recommendations

Appendix