

Comparison of Beef Prices at Texas Farmers Markets and Retail Outlets

Rebecca Kirkpatrick

Objectives

- Examine beef prices sold at Texas Farmers Markets and retail stores
- Analyze the relationship between beef prices at Farmers Markets and price trends for beef sold at retail stores



Background

- Increasing trends
 - Buying local
 - Knowing where your food comes from
 - Popularity of Farmers Markets
 - (Martinez et al., 2010)
- 2007-2012: farms with direct-to-consumer (DTC) marketing sales grew by 5.5%
 - (Low et al., 2015)



“Local”

- Region, specific company, or marketing channels
- “Less than 400 miles from its origin, or within the state in which it is produced”
 - (Johnson, Marti, & Gwin, 2012)
- Top reasons for buying local
 - Freshness
 - Support local economy
 - Taste
 - (Low et al., 2015)



Direct to Consumer Sales

- Receive a great share of the retail dollar
- Increase profit margins
 - (Abelló, Palma, Waller, & Anderson, 2014)
- One of the major signs of consumer and producer interest in creating direct markets is the presence of Farmers Markets
 - (Thilmany and Watson 2004)
- Marketing solely to Farmers Markets
 - Highest possible return
 - Highest mean return
 - Most variability
 - (Kim et al., 2014)

Why

- Gain a better understanding of price competitiveness between Farmers Markets and retail
- Few studies have looked at price differences in meat products between Farmers Markets and retail
 - Produce has been the main focus

Materials and Methods

- Steak collection
- Consumer sensory panel
- Statistical analysis

Steak Collection

- Product Selection for Farmers Markets
 - Ribeye steak ($n = 39$)
 - Top loin steak ($n = 39$)
 - Top sirloin steak ($n = 38$)
- Sampled 25 vendors across 21 Farmers Markets
- Represent North, South, Central, East and West Texas



Steak Collection

- Product selection for retail
 - Ribeye steak ($n = 20$)
 - Top loin steak ($n = 20$)
 - Top sirloin steak ($n = 20$)
- 3 major retail chains in Bryan/College Station area



Steak Collection

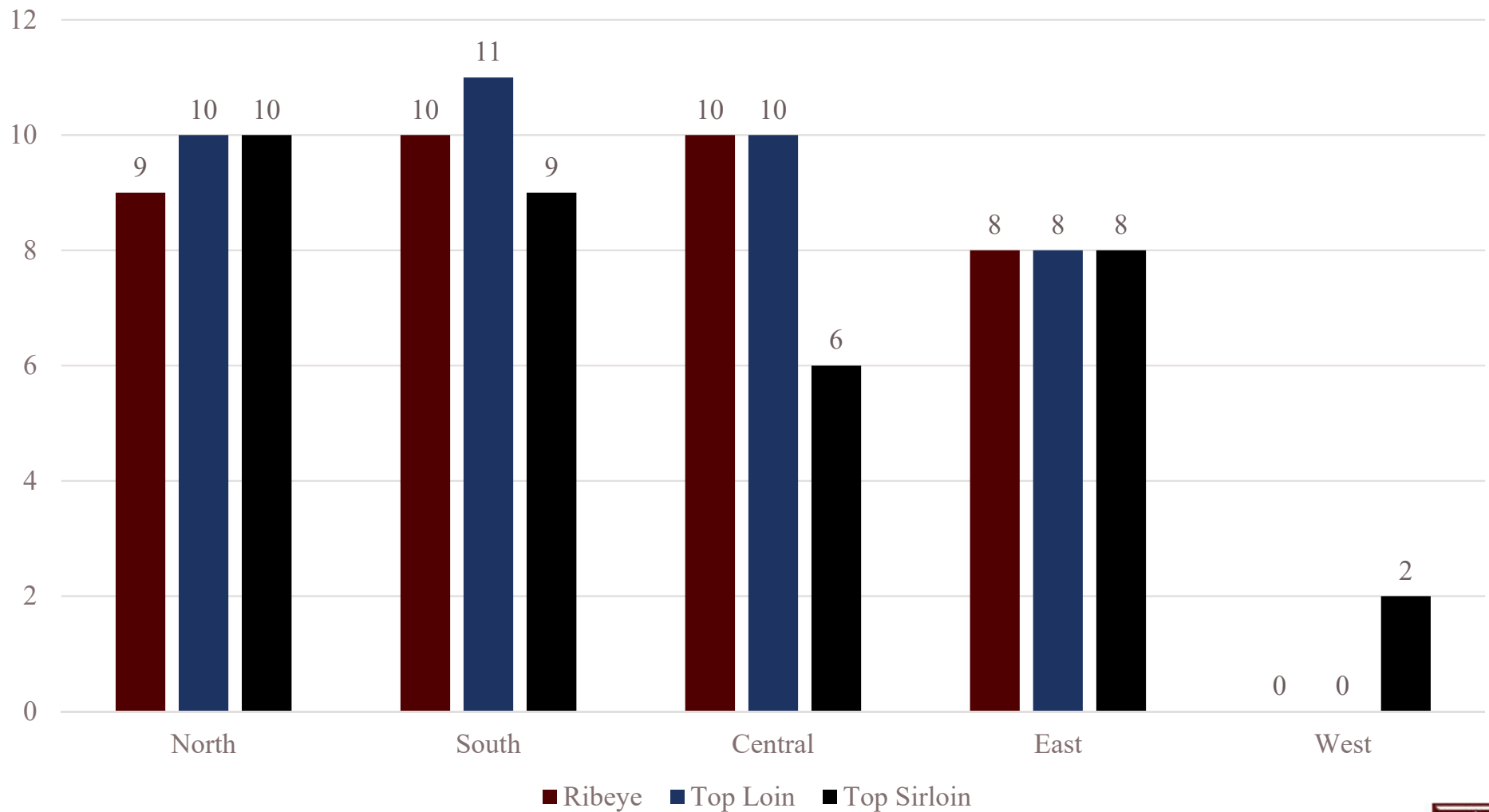


Collection

Region	# of Vendors
North	7
South	6
Central	6
East	5
West	1



Steaks per Region



Consumer Sensory Panel

- 80 panelists recruited from the Bryan/College Station area
- 9-point scales for rating
 - Overall liking
 - Flavor liking
 - Juiciness liking
 - Tenderness liking



Regression Model

Price = f (location factor, steak type factor, quality factors, steak measurement factors)

- Location (dummy variable)
 - Farmers Market (1)
 - Retail (0)
- Steak Type
 - Ribeye, top loin, top sirloin
- Quality Measurements
 - Overall like, flavor like, tenderness like, juiciness like
- Steak Measurements
 - Steak thickness, fat thickness, steak weight



Descriptive Statistics

Variable	Description	Obs.	Mean	Std. Dev.	Min	Max
Price	Price/lb/steak	97	12.4588	5.5103	6.44	27.00
Location	Farmers Market (1), Retail (0)	97	0.3814	0.4882	0	1
Steak Type	Ribeye, Top Loin, Top Sirloin	97				
Quality Factors						
Overall like		97	6.1889	1.2605	2.75	8.25
Flavor like		97	6.2353	0.9658	4.00	8.33
Tenderness like		97	6.3289	1.6483	1.50	8.75
Juiciness like		97	5.9879	1.2867	2.25	8.33
Steak Measurement Factors						
Fat thickness	Three measurements averaged	97	0.5149	0.3833	0	1.52
Steak thickness	Three measurements averaged	97	2.2118	0.6363	1.01	4.14
Weight	grams	97	310.2650	146.7645	97.85	901.30



Model

Factor	Estimate	Standard Error	P Value
Location	1.8644	3.4275	.5880
Ribeye	4.0589	0.9761	<.0001
Juiciness	1.1674	0.4919	0.0200
Weight	-0.0049	0.0022	0.0300
Ribeye*Location	-2.8217	1.2558	0.0274
Juiciness*Location	-1.1302	0.6248	0.0742

$R^2 = 87\%$



Conclusion

- Location did not significantly impact price
- Ribeye were statistically significant to price per pound
- Price decreases as weight increases



References

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