

SPILLING THE BEANS ON TRADE COFFEE

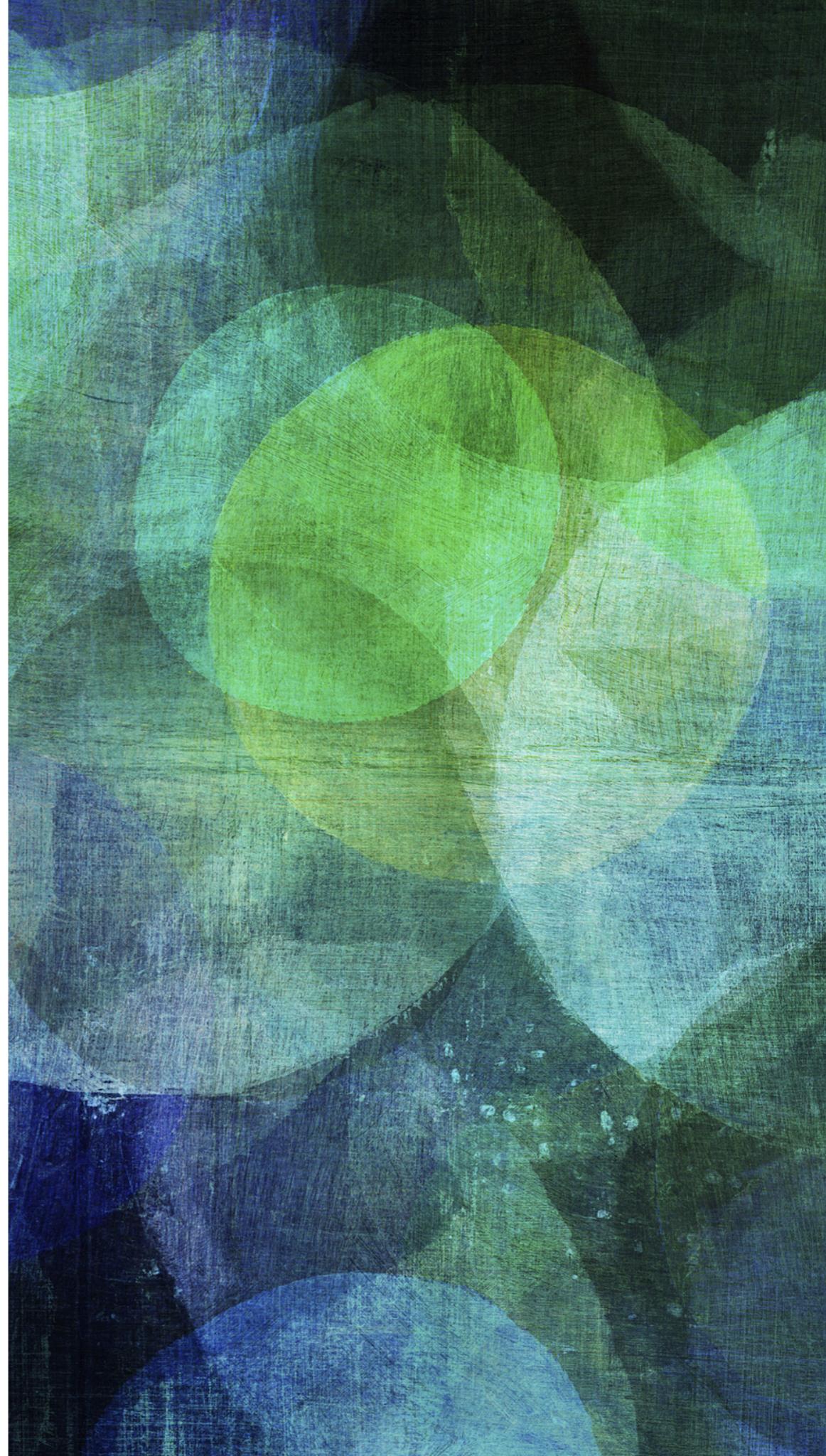


Denise Sison
NYC Data Science Academy

OUTLINE

- Background
 - Coffee Consumption in the US
 - Specialty Coffee and the Third Wave
- Trade Coffee
- Web Scraping Trade Coffee
- Data Processing and Analysis
- Insights and Observations
- Conclusions

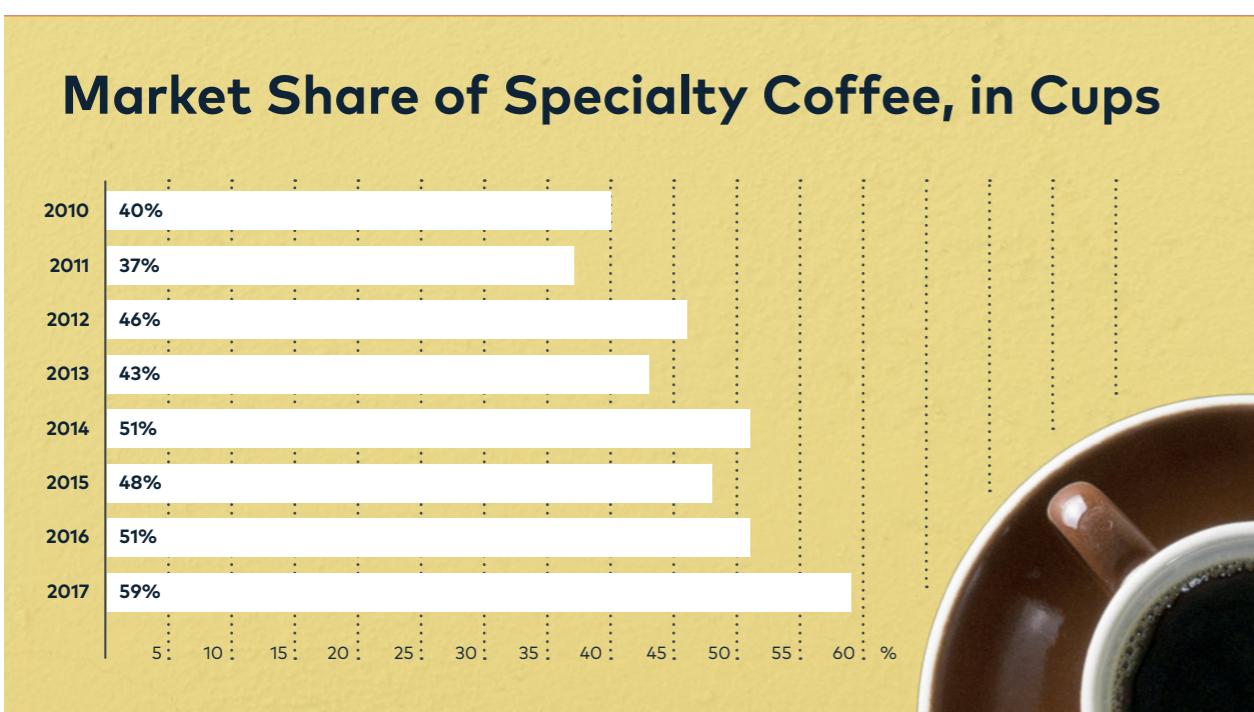
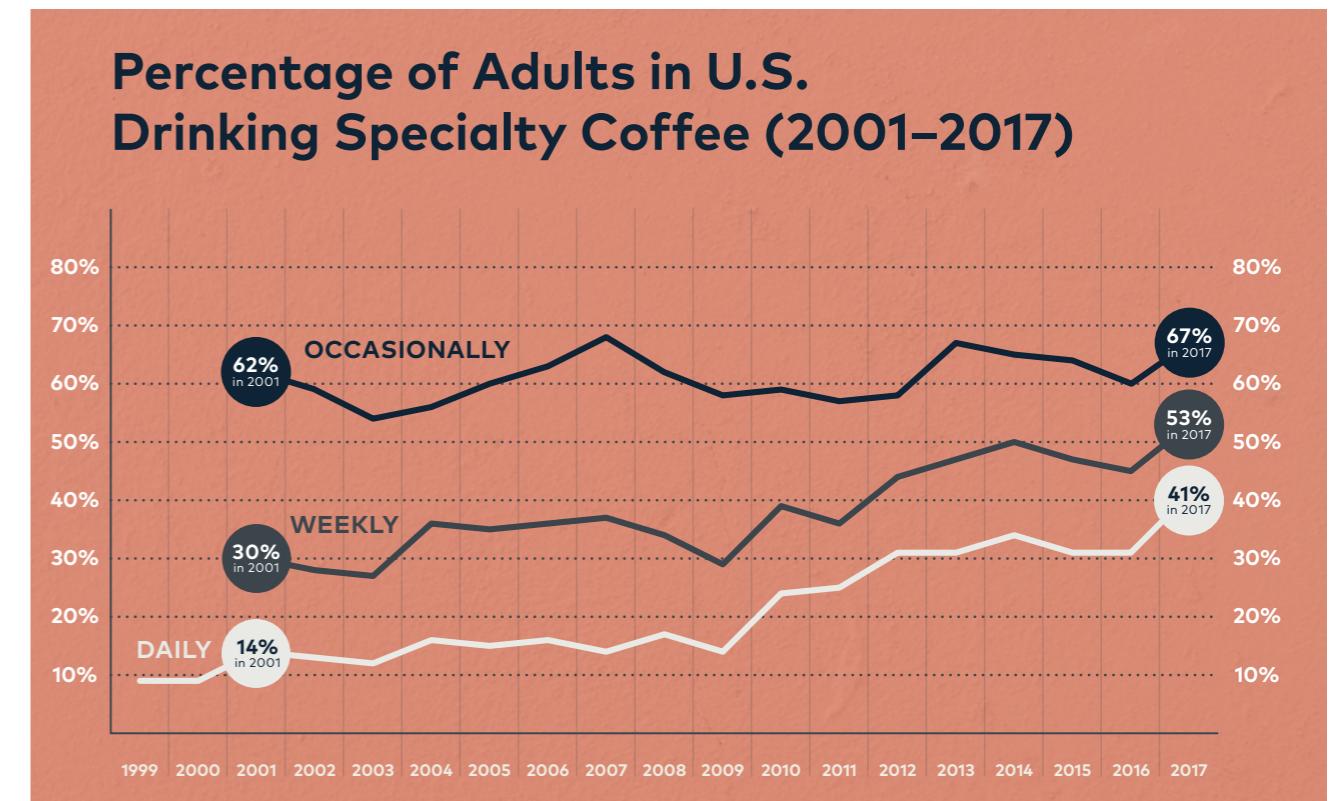
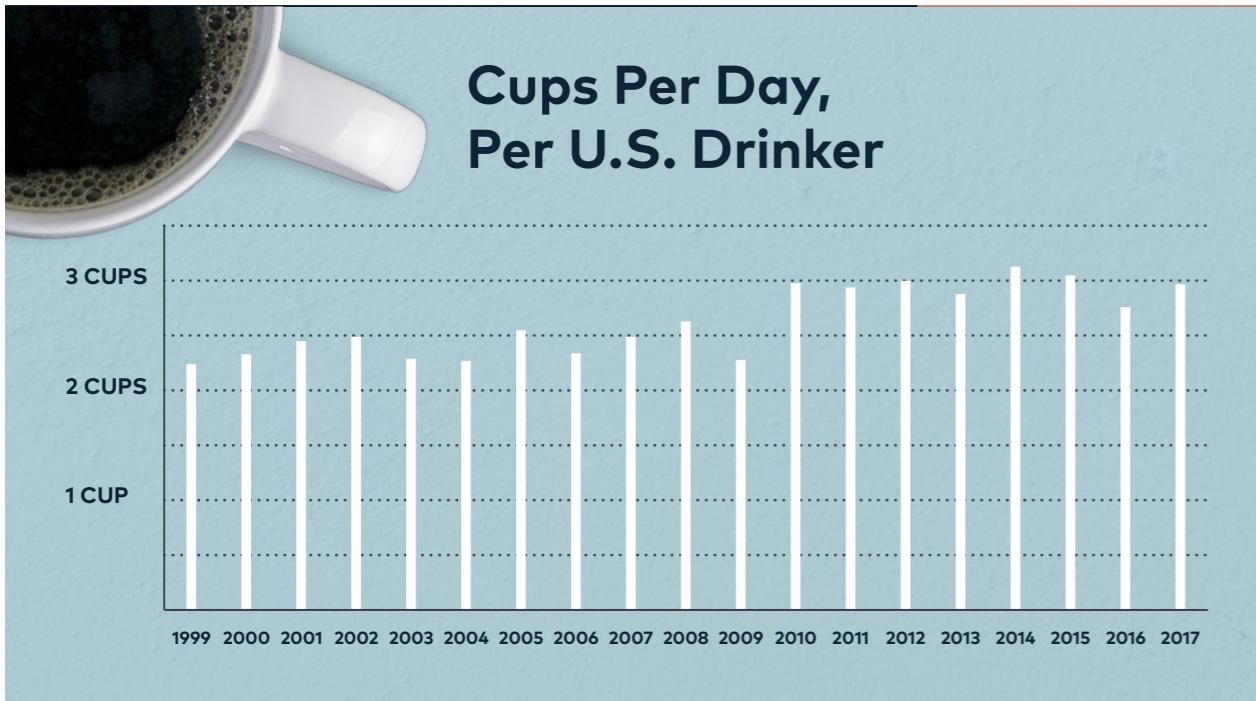
COFFEE



US COFFEE CONSUMPTION



2017 U.S. Specialty Coffee Consumption Trends



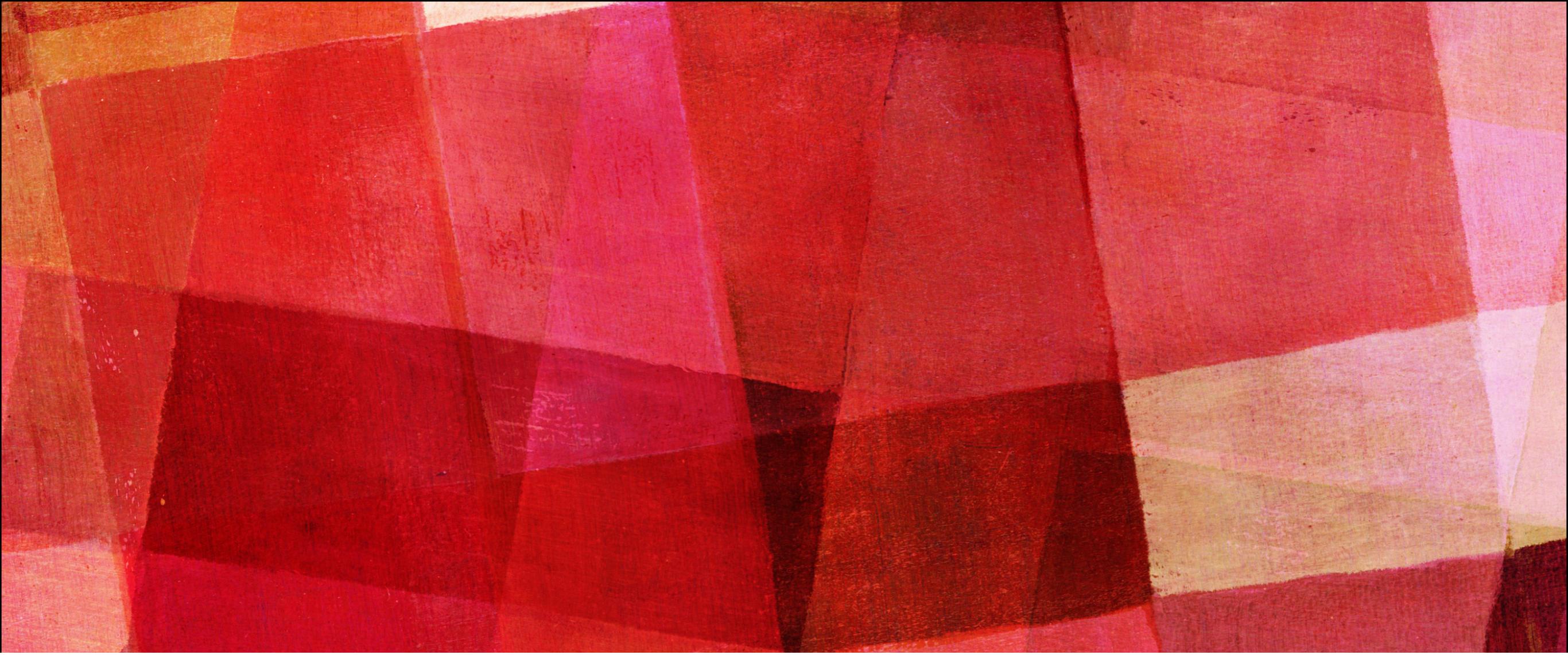
- Average Price in the US: \$3.12
- Starbucks: \$1.95 to \$2.15
- Most expensive: \$18 at Extraction Lab in Brooklyn, NY

Source: UBS, Eater.com

SPECIALTY COFFEE AND THE THIRD WAVE

- The journey from bean to cup is very important.
 - From where and how the coffee beans are grown and harvested
 - Processing from cherry to green bean
 - Roasters
 - Consumer
- Single Origin Coffees
 - grown within a single known geographic origin





TRADE COFFEE

WHAT IS TRADE?



- Partner with craft coffee roasters across America
- Better coffee at home.
- Offer a curated collection of seasonal, freshly roasted-to-order coffees.
- **seasonal coffees with exceptional taste, ethically sourced from respected farmers and producers**
- deliver the highest quality, premium freshness

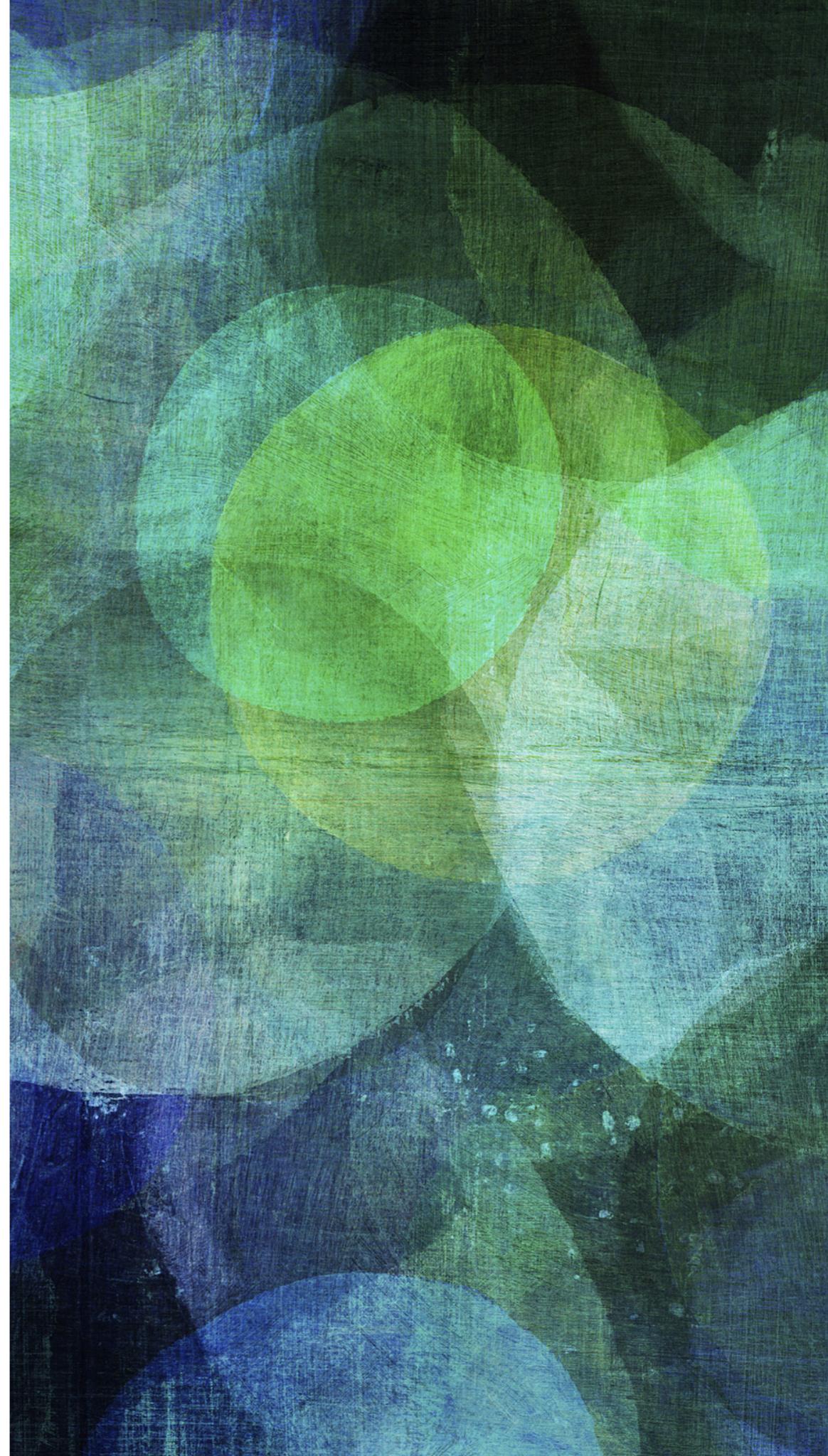
WHY TRADE?

- Is TRADE a good resource for procuring and learning about coffee?
- Do they truly offer a diverse selection of coffees that can appeal to different tastes, price points?
- Will it satisfy both the needs of the seasoned coffee enthusiast and coffee novices?
- Is it a good jump off point for those interested in getting into specialty coffee?



LET'S GET CAFFEINATED

Web Scraping with Selenium



WHERE IT ALL BEGAN: THE FIRST PAGE

The screenshot shows the homepage of the Drink Trade website. At the top, there's a navigation bar with links for "Coffee", "Roasters", "Equipment", and "How-To's". On the right side of the header are buttons for "GET MATCHED", a magnifying glass icon for search, and a shopping bag icon. Below the header, the main content area features a large, bold title: "Top-Rated Specialty Coffee". Underneath the title, a subtitle reads: "Our 400+ specialty coffees come from the best in the nation and are roasted fresh only when you place your order! So whether you take it whole or ground, decaf or full throttle, your top-rated coffee is guaranteed a winner." To the left of the main content, there's a filter section with a "Filter" button, a "Clear" button, and a highlighted "458 Coffees" count. To the right, there's a "Sort" button set to "Relevance". Below the main title, there are three product cards. The first card, labeled "Ouills", has a white background with dark text. The second card has a dark background with a white silhouette of a bird. The third card has a red circular graphic with a white diagonal line.

Top-Rated Specialty Coffee

Our 400+ specialty coffees come from the best in the nation and are roasted fresh only when you place your order! So whether you take it whole or ground, decaf or full throttle, your top-rated coffee is guaranteed a winner.

Filter

Clear

458 Coffees

Sort

Relevance

Price

+

Roast Level

+

Ouills



WHERE IT ALL BEGAN: THE FIRST PAGE

A screenshot of a web browser displaying the homepage of drinktrade.com. The URL 'https://www.drinktrade.com/coffee/all-coffee' is highlighted with a red box. The page features a large, bold title 'Top-Rated Specialty Coffee'. Below the title is a subtext: 'Our 400+ specialty coffees come from the best in the nation and are roasted fresh only when you place your order! So whether you take it whole or ground, decaf or full throttle, your top-rated coffee is guaranteed a winner.' On the left, there's a 'Filter' section with dropdown menus for 'Price' and 'Roast Level'. On the right, there's a 'Sort' section with a dropdown menu set to 'Relevance'. The main content area shows three coffee products: 'Ouills' (whole bean coffee), 'Birds of a Feather' (whole bean coffee), and 'Red Bull' (ground coffee). The 'Birds of a Feather' product has a small image of a bird.

Top-Rated Specialty Coffee

Our 400+ specialty coffees come from the best in the nation and are roasted fresh only when you place your order! So whether you take it whole or ground, decaf or full throttle, your top-rated coffee is guaranteed a winner.

Filter

Clear

458 Coffees

Sort

Relevance

Price

+

Roast Level

+

Ouills



THE SITE: ELEMENTS OF INTEREST

.....

- Name
- Roaster
- Single Origin/Blend
- Price
- Flavor notes, Descriptors
- Origin
- Varietal
- Roast Level

Tarrazu Vienna | George Howell x +
https://www.drinktrade.com/tarrazu-vienna/p/783

Trade Coffee Roasters Equipment How-To's GET MATCHED

Coffee > Single Origins > George Howell > Tarrazu Vienna

George Howell
Tarrazu Vienna
\$14.00 | 12 oz.

Enjoy this classic cup of coffee from a master among roasters. Rich, bittersweet caramel with dark chocolate undertones make this one worth savoring.

Quantity More
1 2 3

Grind Whole Ground
Unavailable

Roasting Schedule
Roasts On Wednesday
Sun Mon Tue Wed Thur Fri Sat

Trade Roast Level ⓘ
Medium-Dark Roast

Taste
Chocolatey & Sweet
A classic expression of Costa Rica with hints of Milk Chocolate and Nut

Details

Tarrazu Vienna

Process: Washed Sub Region: Tarrazu Harvest Time: January 2018

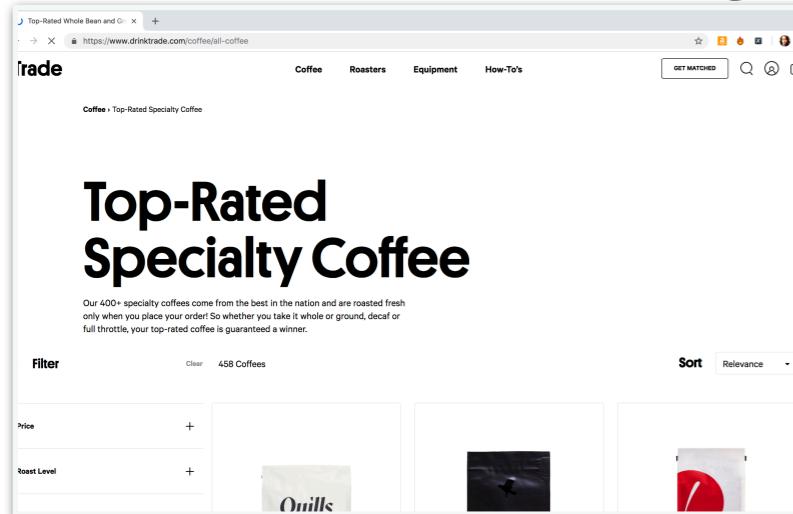
Elevation: 1190 - 1890 Varietal: Caturra & Catuai

Roaster's Notes

Tarrazu is a land of small farmers in a tumultuous landscape of lush green peaks, some rising over 10,000 feet, and valleys. The climate has well defined seasons: the long dry season, from December to April, coincides perfectly with the coffee harvest, leading to very even, full ripening - ideal for preparing quality coffee. Rich, bittersweet caramel with dark chocolate undertones and a whisper of citrus.

FROM BEAN TO CUP... HOW I GOT MY DATA...

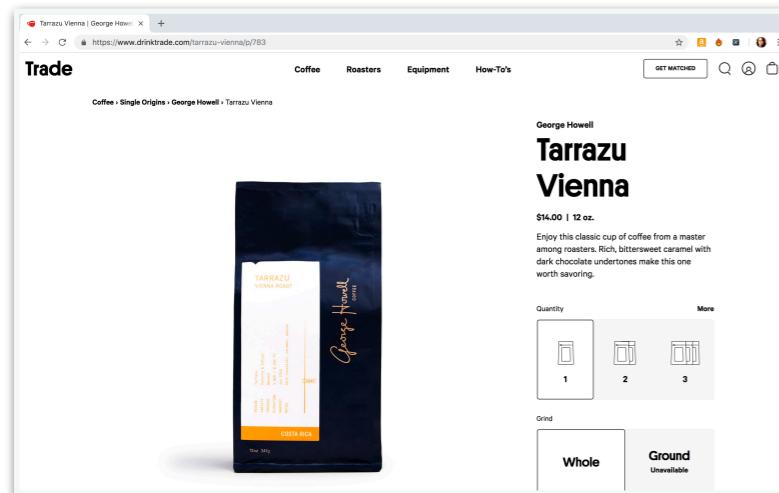
Start: Main Product Page



The screenshot shows the homepage of drinktrade.com. The top navigation bar includes links for Coffee, Roasters, Equipment, and How-To's, along with a 'GET MATCHED' button. Below the header, a large section titled 'Top-Rated Specialty Coffee' features a sub-section about the quality of their coffee. A 'Filter' section allows users to refine results by Price and Roast Level. The main content area displays a grid of coffee products, with one item labeled 'Ovillo' visible.

*How many products are available?
Categories?*

Individual Product Page



The screenshot shows a detailed view of a specific coffee product. The page title is 'Tarrazu Vienna | George Howell'. It features a large image of a coffee bag labeled 'TARRAZU VIENNA ROAST'. Product details include the name 'George Howell Tarrazu Vienna', price '\$14.00 | 12 oz.', and a brief description noting rich, bittersweet caramel and dark chocolate undertones. Purchase options allow selecting quantity (1, 2, 3) and grind type (Whole or Ground).

*All you need to know about the Coffee!
Basic: name, price, flavor profile, roaster
Detailed: varietal, elevation, subregion, producer, harvest*

FROM BEAN TO CUP... HOW I GOT MY DATA

Scrape the Web Page



Attempt # 1: Scrapy - FAIL

- hidden elements
- dynamic webpage
- incomplete web scraping

Attempt # 2: Selenium - SUCCESS!

- challenge: non unique XPaths... which led to challenges downstream

	name	roaster	descriptor	price	weight	location	roasternotes	blend_single	roastlevel	classification	flavornotes	extra
0	71 House	Irving Farm	This signature House Blend was crafted as the ...	\$14.75	12 oz.	New York, NY	Our signature House Blend was created as the h...	Blends	Medium Roast	Sweet & Smooth	A traditional base with hints of Milk Chocolate...	[{'Process': 'Washed', 'Varietal': 'Bourbon, Ca...']
1	Costa Rica Santa Maria	Huckleberry	Smooth, lush, and clean, with soft apple acidity...	\$17.00	12 oz.	Denver, CO	Santa Maria is back in Huckleberry's lineup, h...	Single Origins	Light-Medium Roast	Chocolatey & Sweet	A classic expression of Costa Rica with hints ...	[{'Process': 'Washed', 'Sub Region': 'San Jose'}]
2	Ad Astra Signature Blend	PT's	If your coffee substitutes as breakfast, this ...	\$17.50	12 oz.	Topeka, KS	Ad Astra is a very heavy, dark roasted blend o...	Blends	Medium-Dark Roast	Comforting & Rich	Nostalgic with hints of Milk Chocolate and Swe...	[{'Process': 'Washed, Pulp Natural', 'Varieta...']

FROM BEAN TO CUP... HOW I GOT MY DATA

Scrape the Web Page



Clean Data

- duplicate entries, remove
- Convert into proper data types
- Convert prices/weights into same units
- From 470 products down to 452 coffees

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FROM BEAN TO CUP... HOW I GOT MY DATA

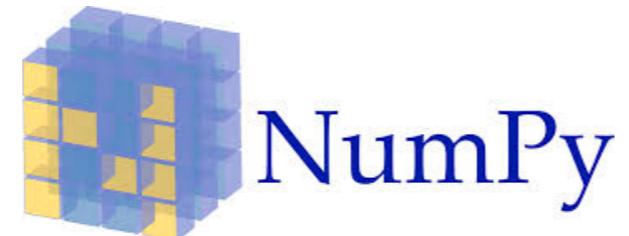
Scrape the Web Page



Clean Data

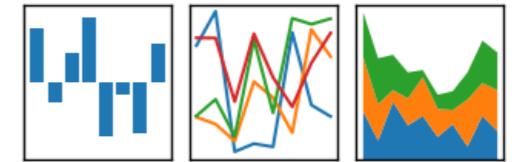


Analyze and Visualize Data



pandas

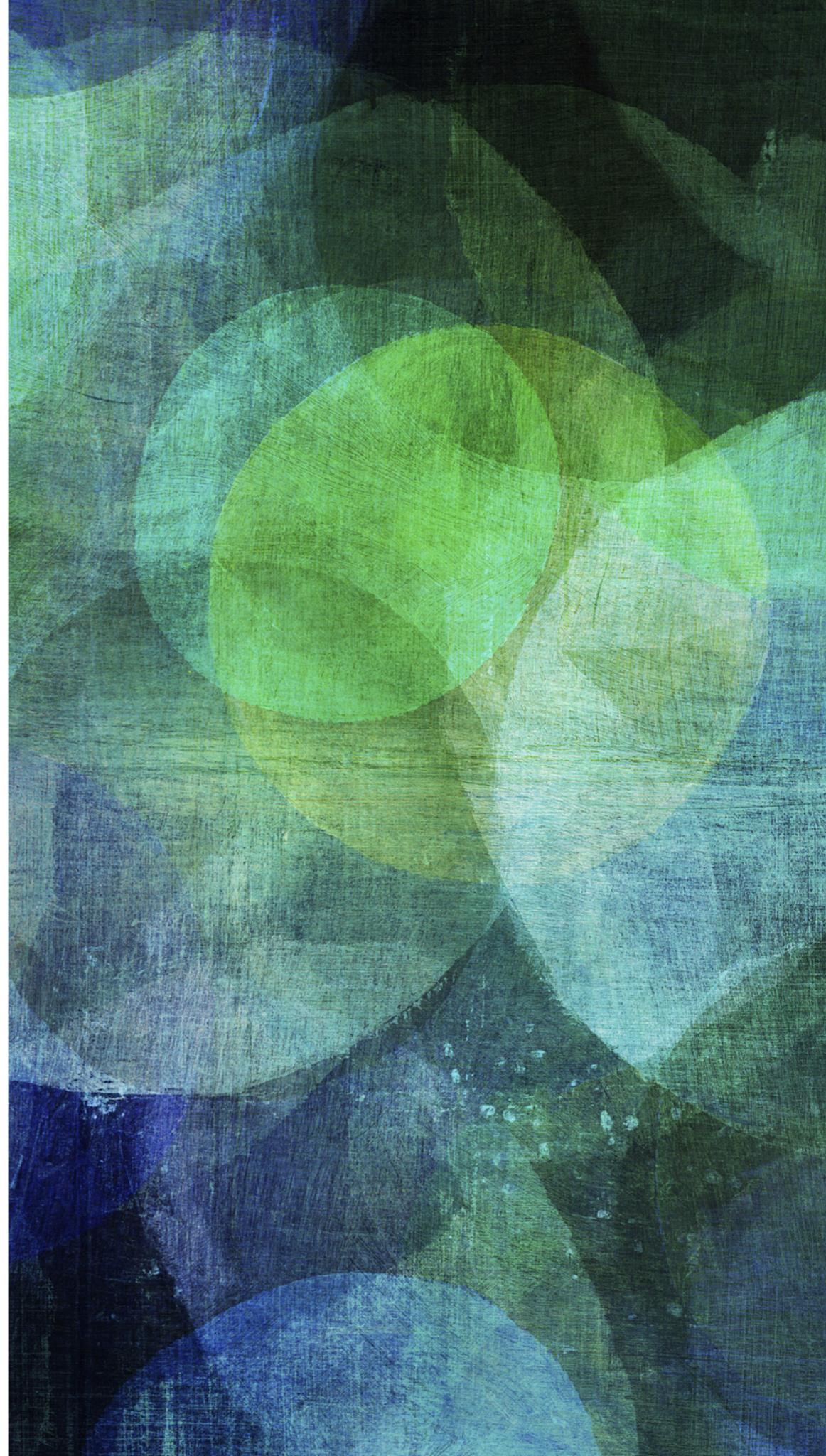
$$y_{it} = \beta' x_{it} + \mu_i + \epsilon_{it}$$



- Look for patterns, relationships
 - Single Origin vs Blend
- Average, max, min product price
- Create plots and charts
- NLP analysis on descriptions, flavor profile

WHAT'S THE BUZZ

What did we find about Trade?



COFFEE PRICES

- 51 Roasters
- 39 Cities
- 14 Classifications
- 261 Single Origins
- 209 Blends

Most Roaster S	location	
Oakland, CA	3	
Seattle, WA	3	
Chicago, IL	3	
Portland, OR	2	
Philadelphia, PA	2	
New York, NY	2	

Most Beans	beans	
Chicago, IL	33	
Lancaster, PA	28	
Philadelphia, PA	26	
Seattle, WA	25	
Denver, CO	21	
New York, NY	20	

Brew Recipe (1:15 ratio):

20 g freshly ground coffee

300 mL water

* Yield: 250 mL of great tasting coffee



COFFEE PRICES

- 51 Roasters
- 39 Cities
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Brew Recipe (1:15 ratio):

20 g freshly ground coffee

300 mL water

* *Yield: 250 mL of great tasting coffee*

Most expensive



Fruity & Crisp

PASSENGER
Gesha Village 2016 Dry Process
\$85.00 | 10 oz.

\$ 85.00 for 10 oz.

\$ 6.00 per cup

Least expensive



Comforting & Rich

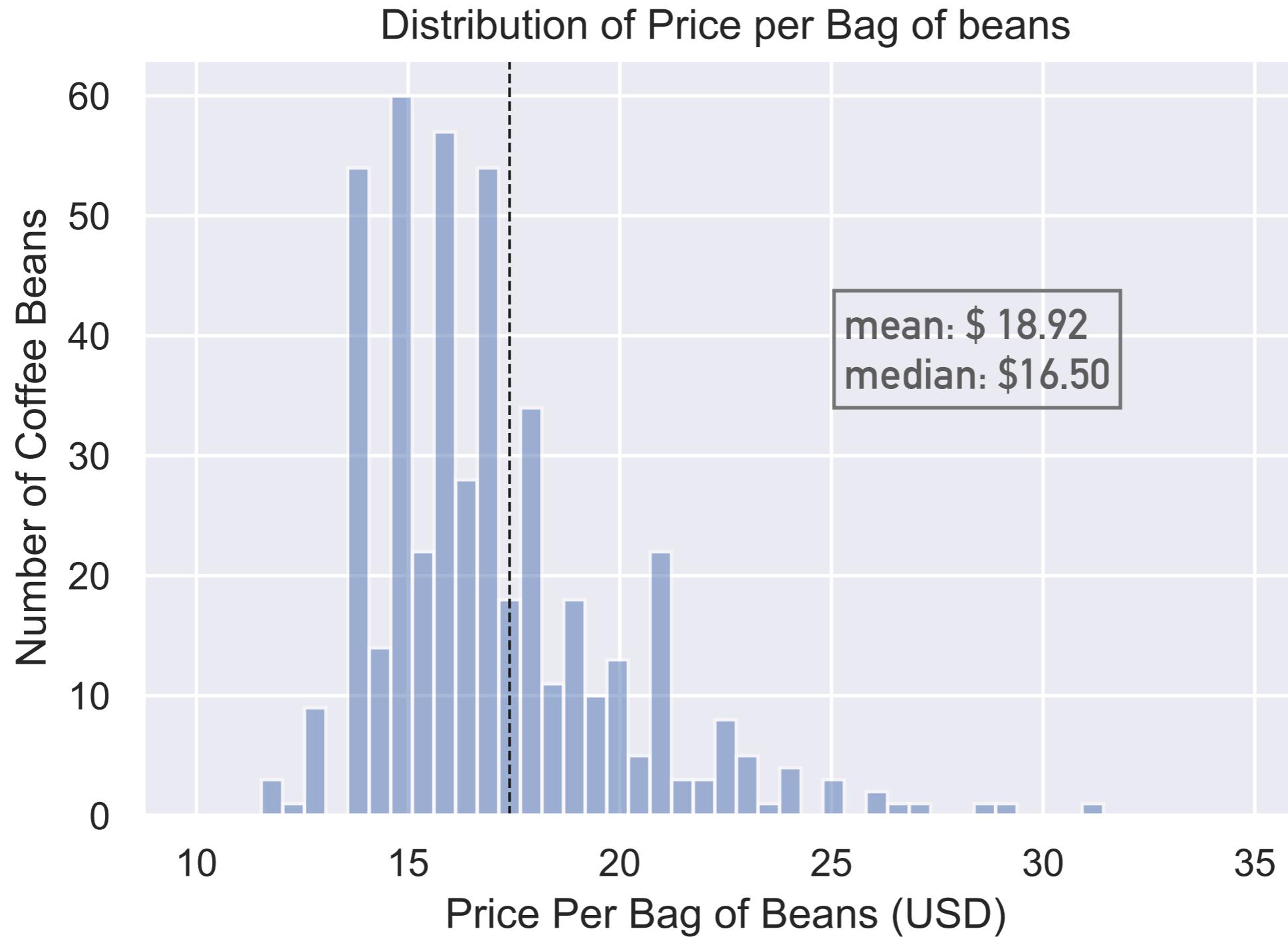
ANODYNE
Milwaukee Rockstar Blend
\$14.45 | 16 oz.

\$ 14.45 for 16 oz.

\$ 0.64 per cup

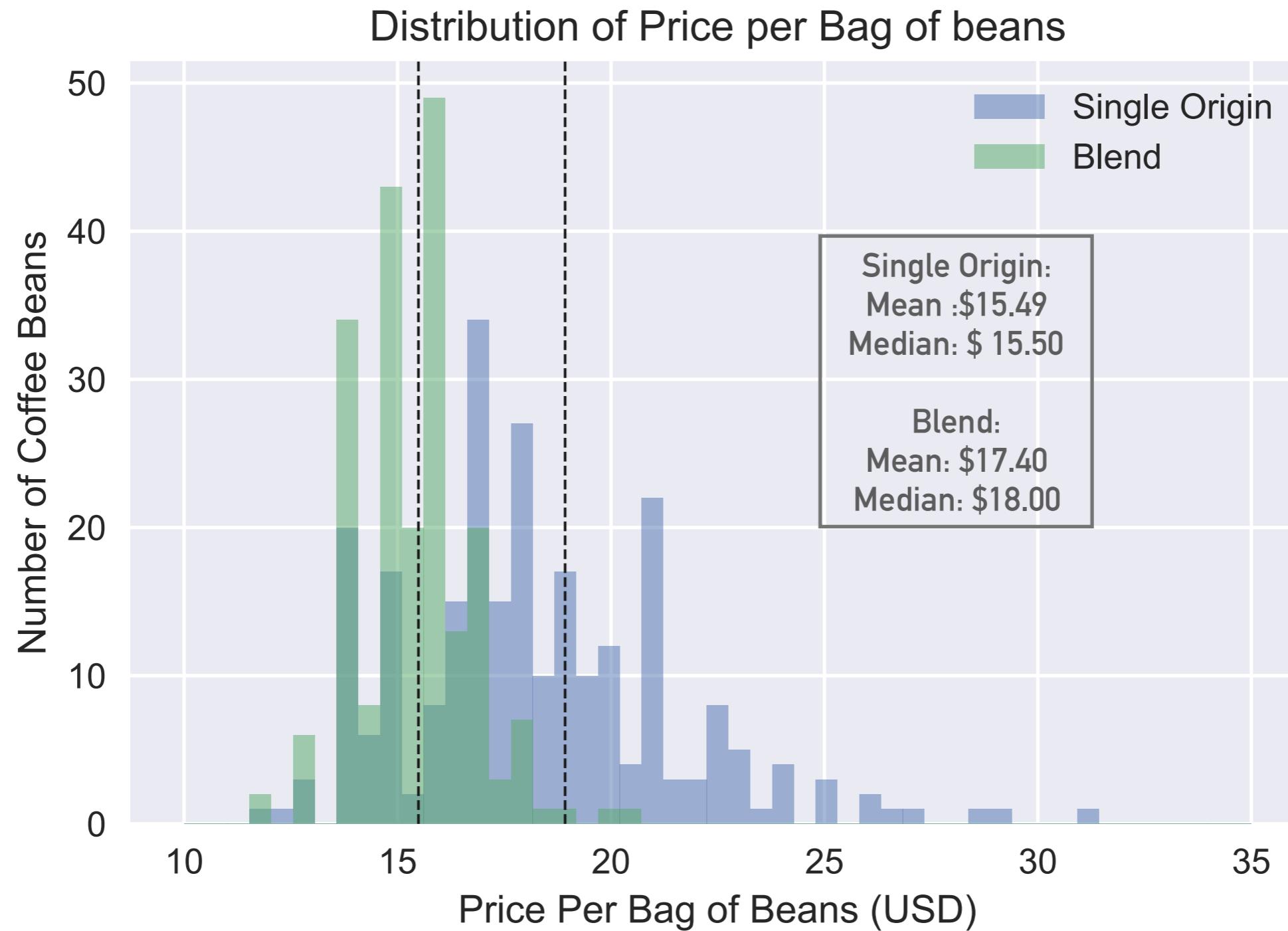
**20 g or 0.71 oz. of beans per cup of coffee*

PRICE PER BAG

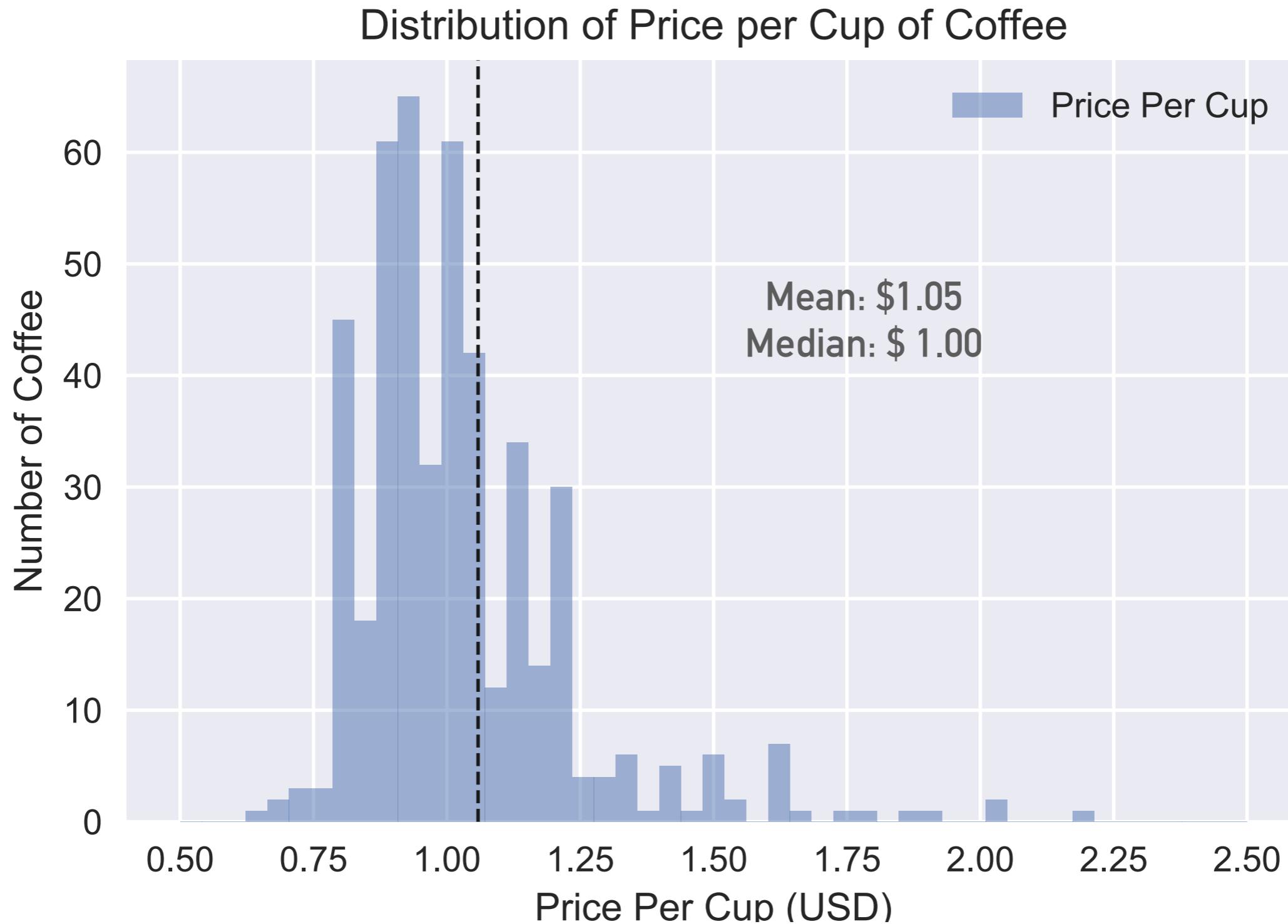


PRICE PER BAG

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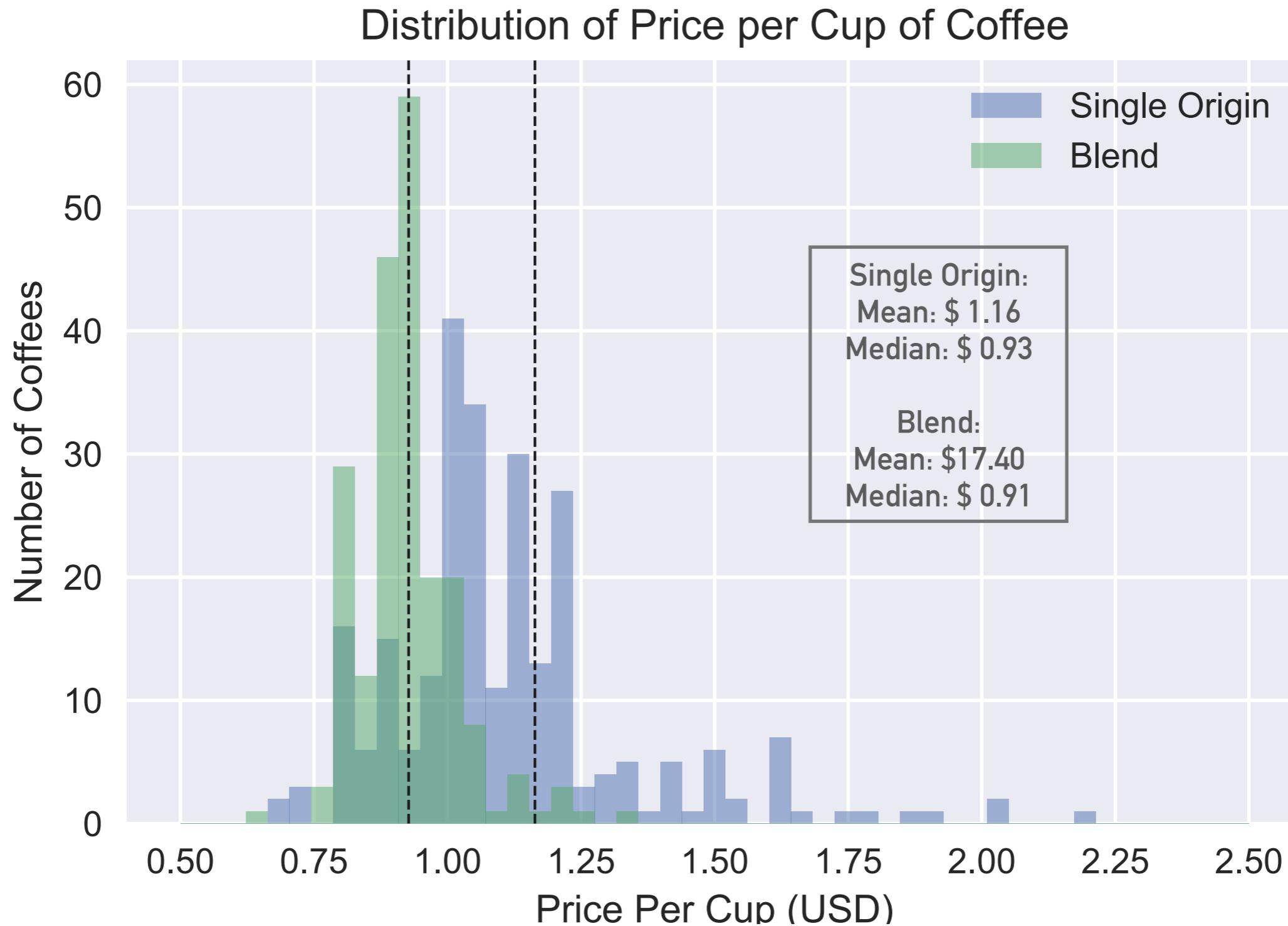


PRICE PER CUP



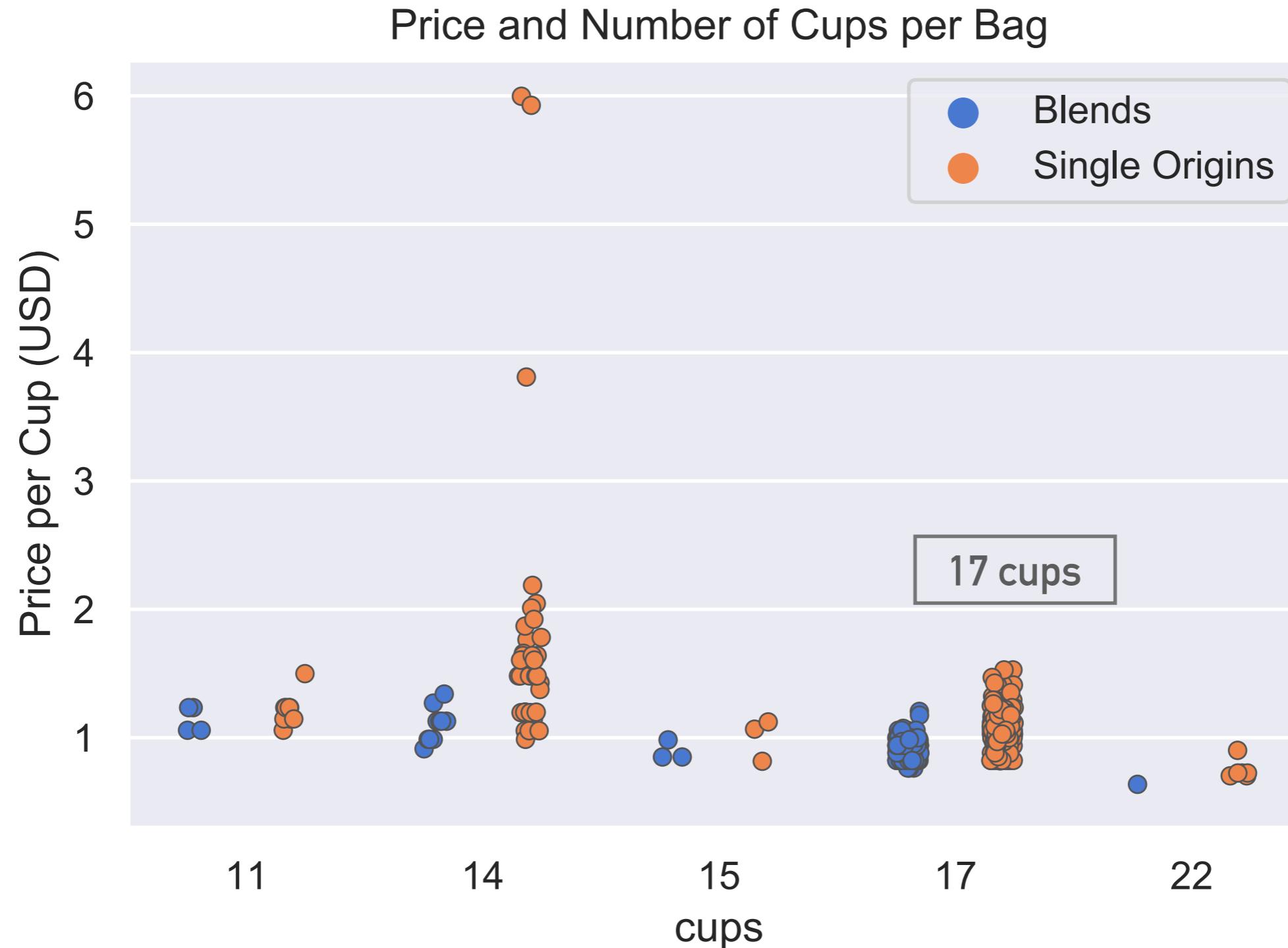
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PRICE PER CUP

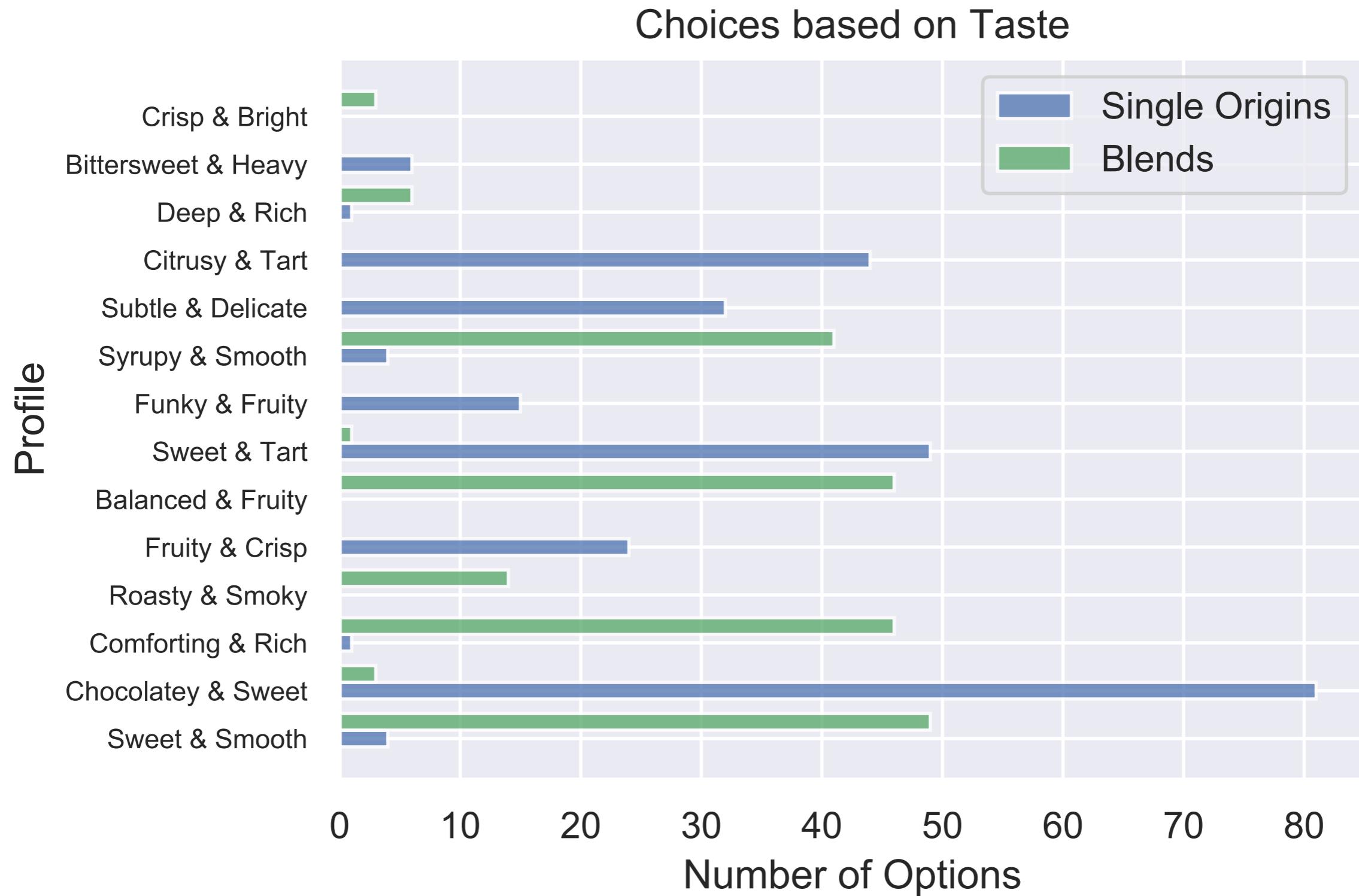


20 g or 0.71 oz. of beans per cup of coffee

HOW MANY CUPS OF COFFEE CAN ONE BAG MAKE?



COFFEE CHOICES



FLAVOR NOTES AND PROFILES



Descriptors

FLAVOR NOTES AND PROFILES

Flavors

FLAVOR NOTES AND PROFILES

.....

Ruiru
Jamaica
Catuai
Raymond
St
S795
Dega
Ethiopian
Brasil Cultivar
Wolisho
Line
Caturra Colombia
Caturra
Caturra
Guatemala
Villalobos
Abana
Mountain
Local
Tekisic
Anacafe
Pache Varieties
Kudhume
Catuai de Indigenous
Changes Timtim
Dwarf
Mundo Peru
Castilla CR
Maracaturra
varietals

Bourbon

Castillo

Ruiru Blue
Latua Blue

Pacamara Parainema

Mixed Maragogipe E1

Red Mondo etc Hibrido Tim

Catimor SL Novo

Yellow Icatu Setami Sarchi Verde

Estate Varies Multiple landraces Bourbon

Ethiopia Ruiru Angel null Garuda

SL34 Native Tino Villa Catual

Arabica Caturra SL28 Sarchimor Gesha

Caturra Laturro types Carmona Laurina

Catuai Hacienda Maragogype Heirloom Elevation Jember

Various

Colombia

Crowned

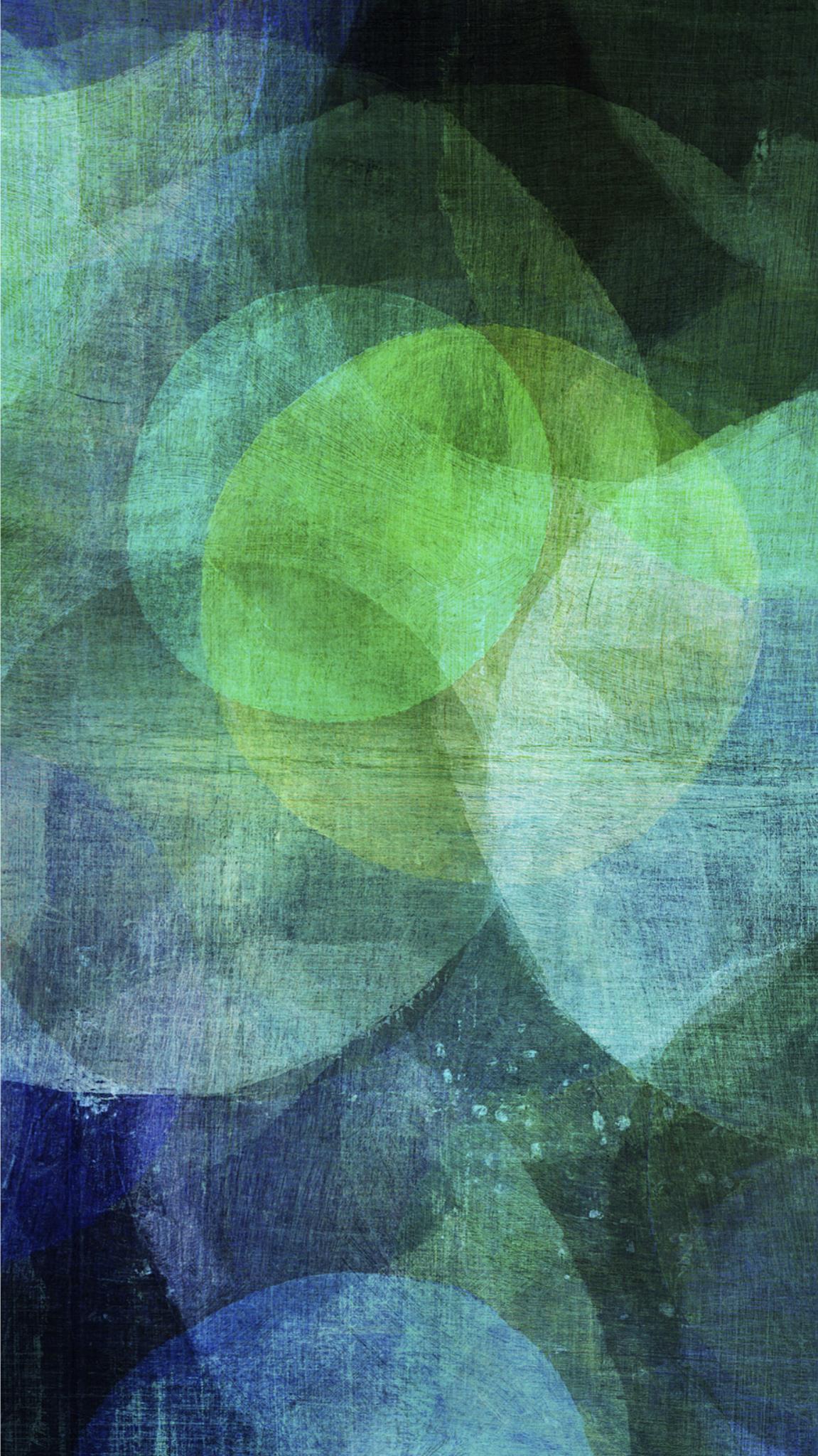
Varietals

FLAVOR NOTES AND PROFILES



Roaster Notes

END NOTES



SOME INSIGHTS AND CONCLUSIONS

- Home brewing is a cost-effective way of enjoying coffee.
- Trade has a wide variety of coffees for all types of home brewers.
- Those into craft coffee can find the latest offerings from different roasters across the country.
- From budget friendly options to limited selections.
- Didn't take into account shipping...
Free shipping when you spend \$50.00

NEXT STEPS...

- Trade changes its inventory regularly.
- It might interesting to see trends in the products they offer.
- Take a closer look into the specific details of products in addition to price points.
 - Trends on varietal, origin, sub region
 - Roasters

“

Questions? Comments?

Thank you!