

# Big Data Exploration.

Washington State  
Gubernatorial Campaign  
Donations with Machine  
Learning 2024



# Bottom Line Up Front:

Both the Bird and Reichert campaigns have been set up for donation fraud by reckless and sloppy accounting practices.

# Exploratory Data Analysis of Washington State Political Donors

Link to the Dataset: <https://catalog.data.gov/dataset/contributions-to-candidates-and-political-committees>

The dataset contains 6,324,509 rows (instances) of political donations made to candidates and state ballot initiatives, in the years spanning 2007-2026.

# Research Questions:

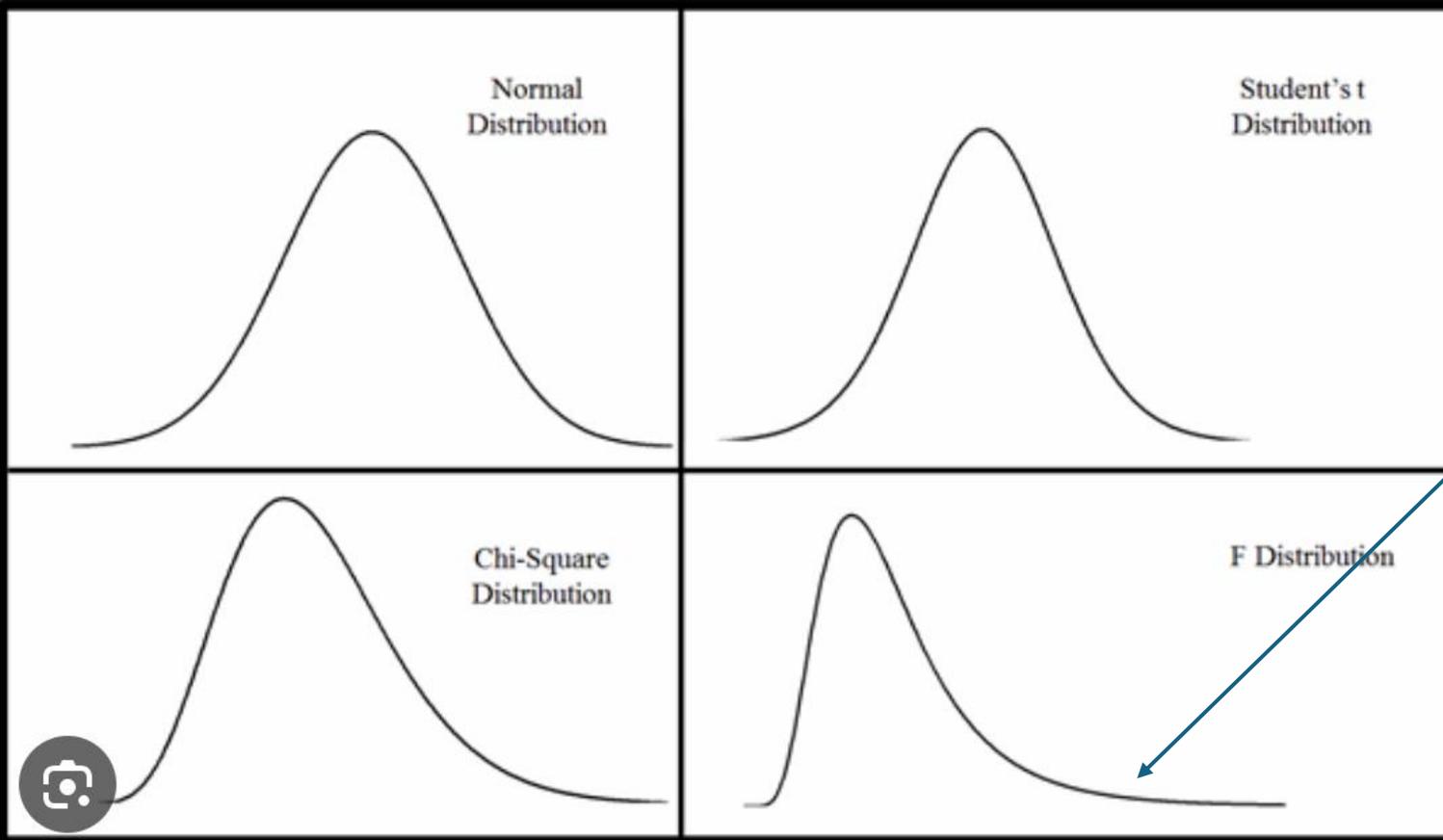
1. Does donation money increase on election years?
2. What does the distribution of the average donations look like?
3. What are the distribution shapes of other past candidates for governor?
4. What are the distribution shapes of the current candidates for governor?
5. How much money has been classified as "SMALL CONTRIBUTIONS" for each candidate?
6. Who are the top 20 highest donors for Reichert?
7. Can we statistically prove that Bird and Reichert share the same distribution?
8. Can we statistically prove that Bird and Reichert are not in the same distribution as the average?
9. Can we statistically prove that Jay Inslee and Bob Ferguson have the same distribution pattern?
10. Can we detect donation fraud by exploring patterns in the data?

# Understanding Probability Distribution

The frequency of donation amounts may vary.

Distributions amounts create a shape called a “distribution”.

Each candidate has their own unique probability distribution.



Probability distributions have tails.

Notice that the tails are relatively smooth.

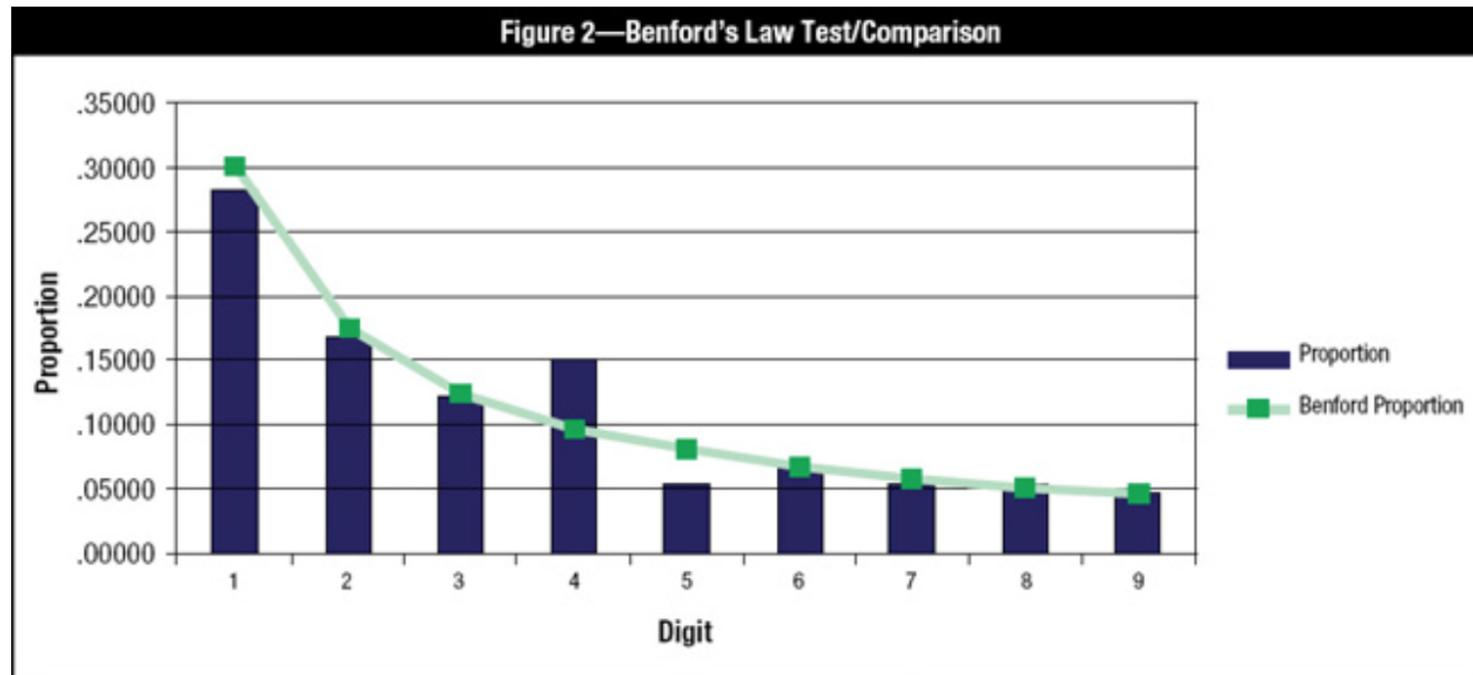
# Benford's Laws

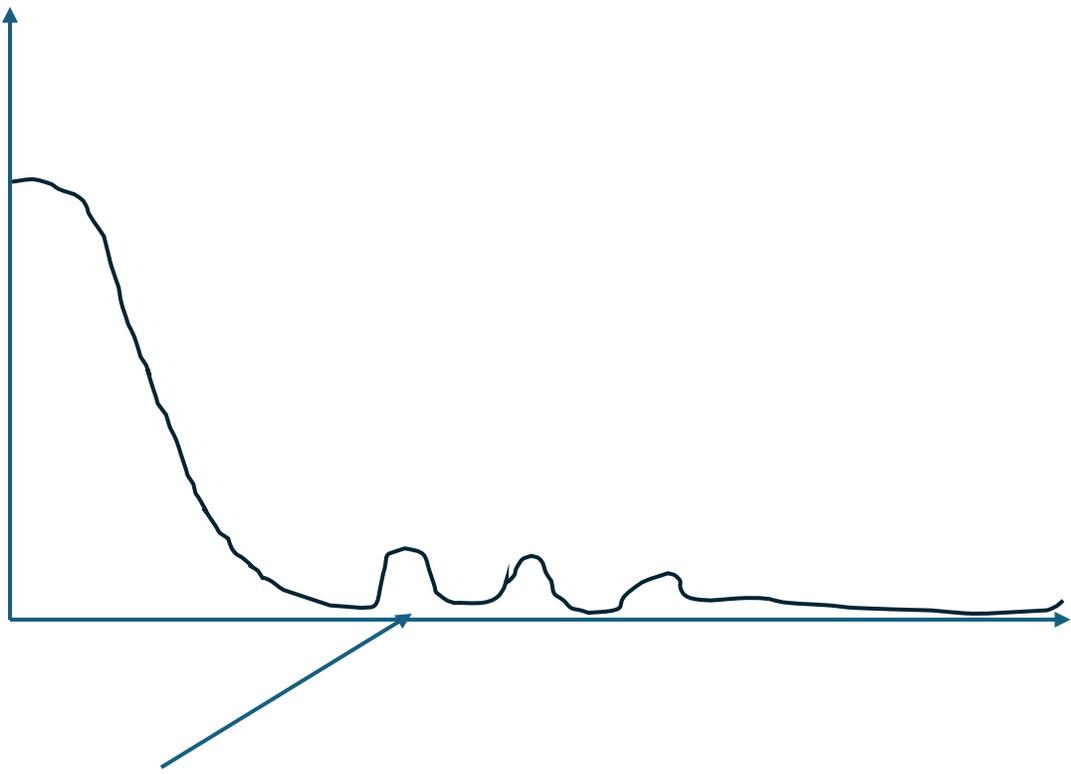
Typically, when we look at the distribution of campaign contributions, we expect most amounts to cluster around an average value, with fewer contributions as we move to very high or very low amounts. This forms a distribution curve.

Sometimes, analyzing data, we noticed unusually high frequencies of contributions in the extreme ends of the distribution. This phenomenon is called 'tail packing' or 'tail stuffing'. It's akin to seeing a lot of last-minute votes in an election, which is unusual and suggests that something might be amiss. In our case, these spikes in contribution amounts might indicate attempts to artificially inflate support for a candidate, pointing towards potential fraudulent activity.

# Benford's Law

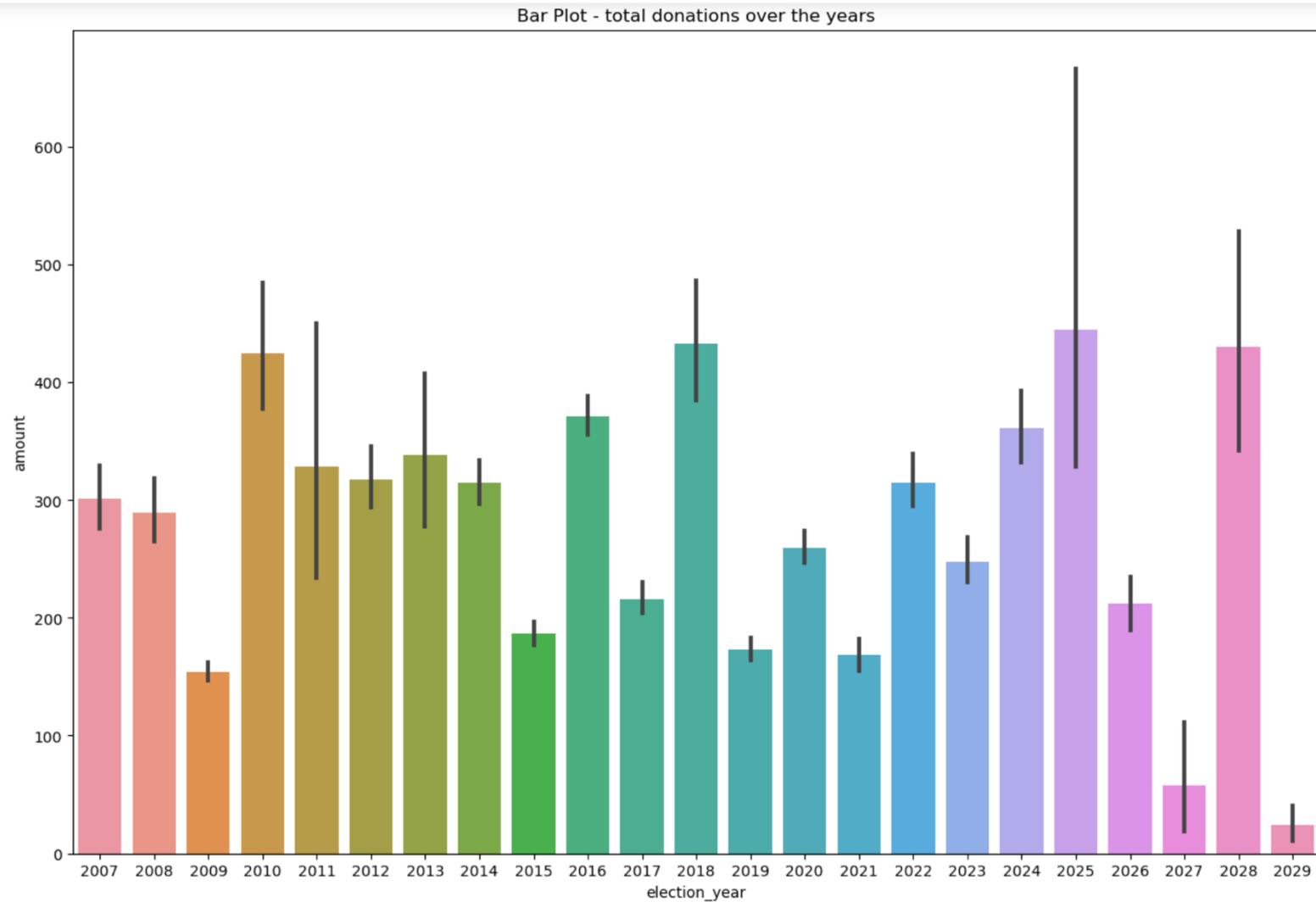
- <https://www.isaca.org/resources/isaca-journal/past-issues/2011/understanding-and-applying-benford-s-law>





**Bumps in the tails** are an anomaly and may be a form of **statistical tampering / fraud** called: **“Tail Stuffing”**.

# Do donation amounts increase on Presidential Election years?

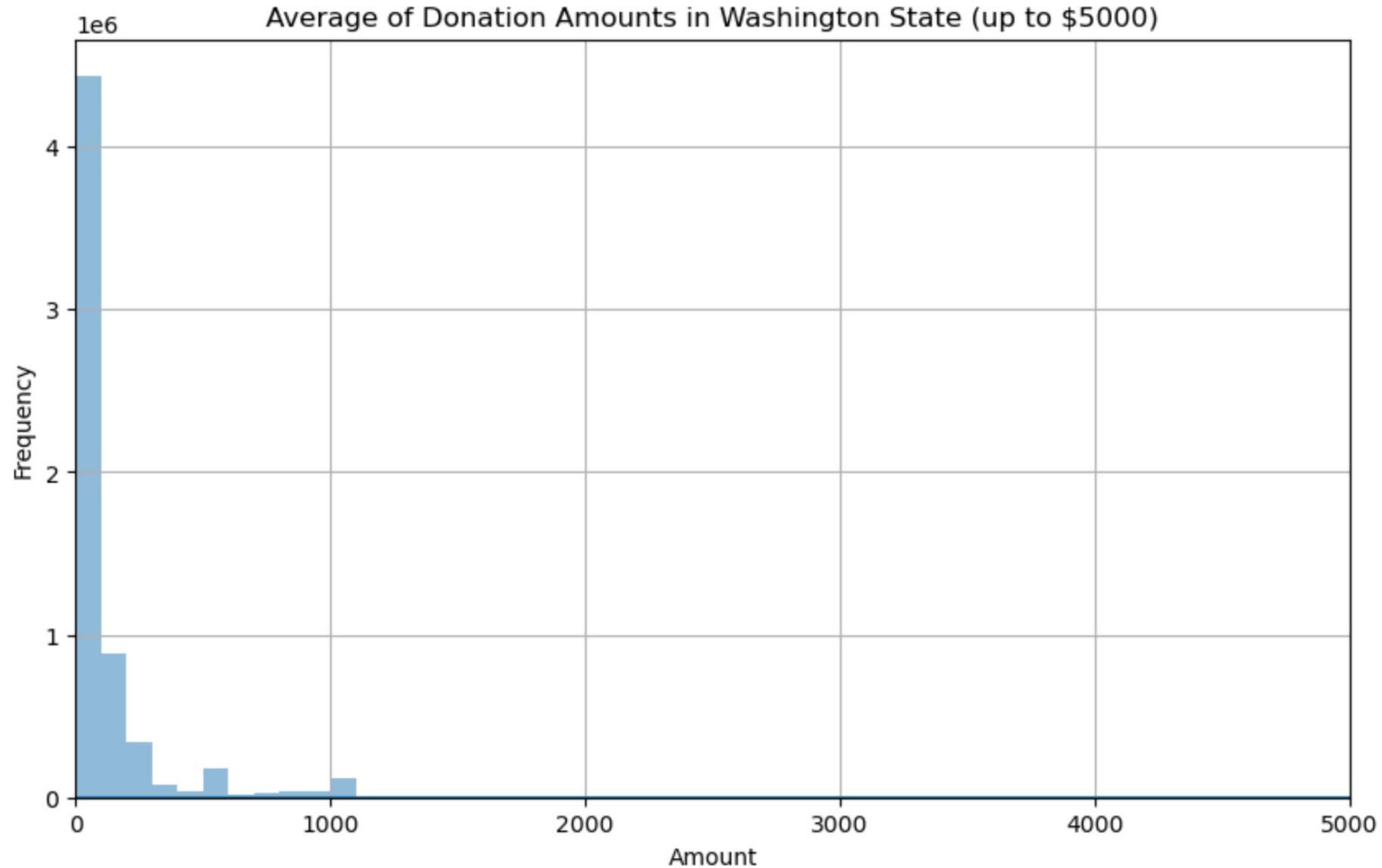


Donor behavior:

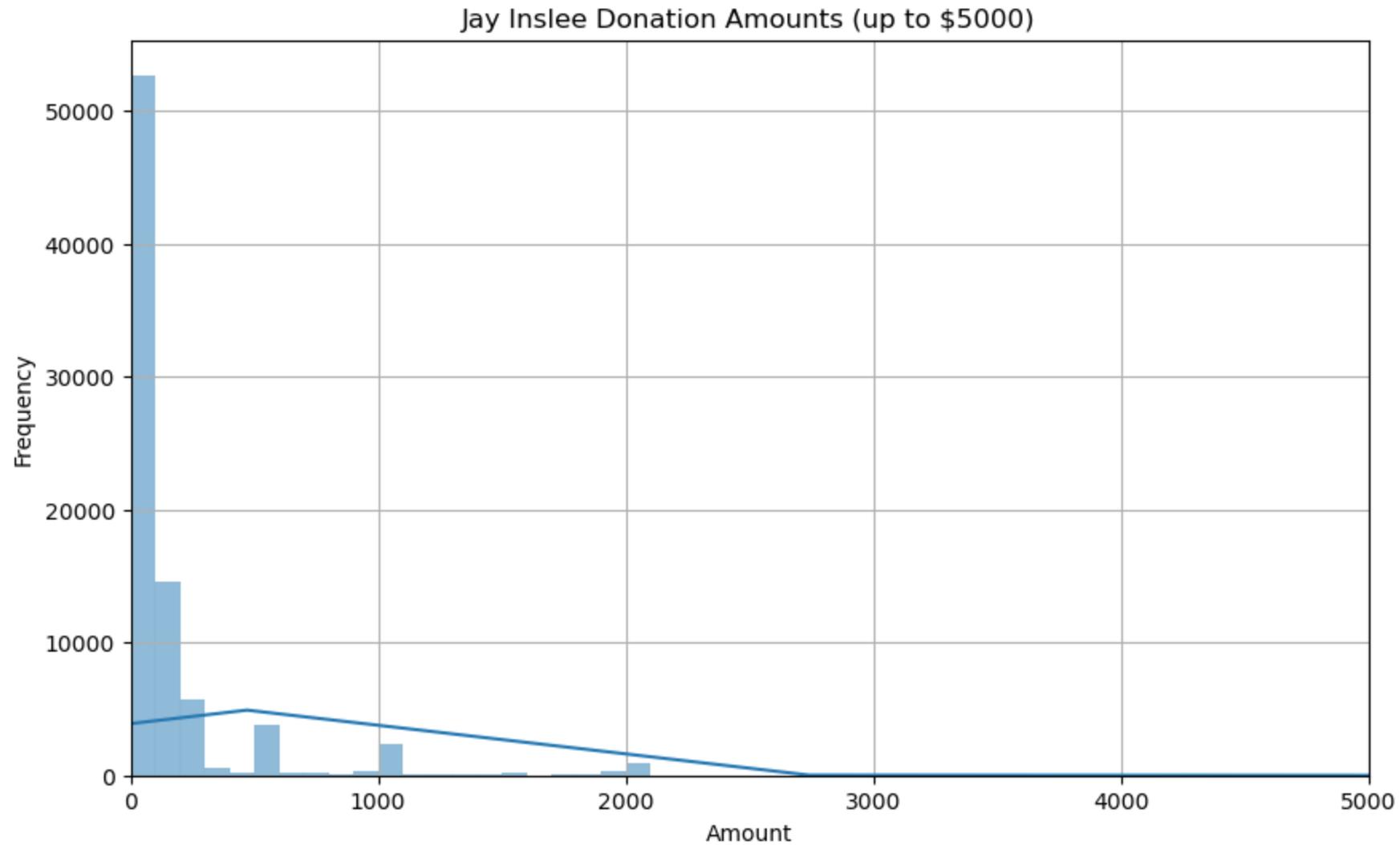
A high frequency of low amounts.

The majority of donations is no more than \$5 - \$10 a house.

Below is a visualization of the Average frequency of donations for all donations to political candidates.

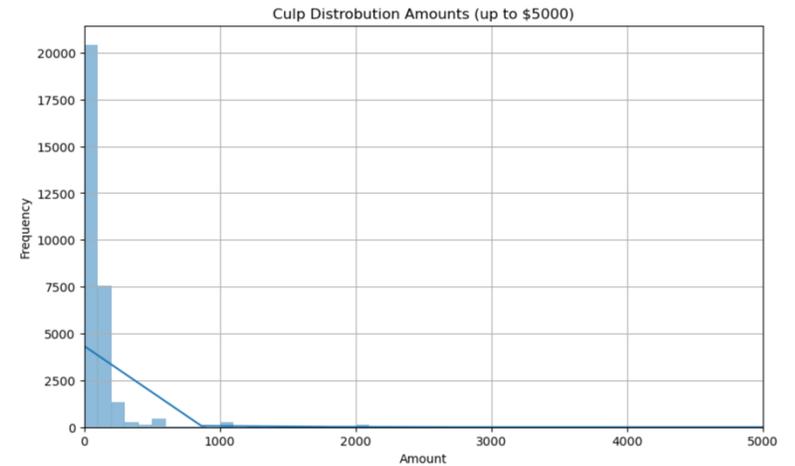
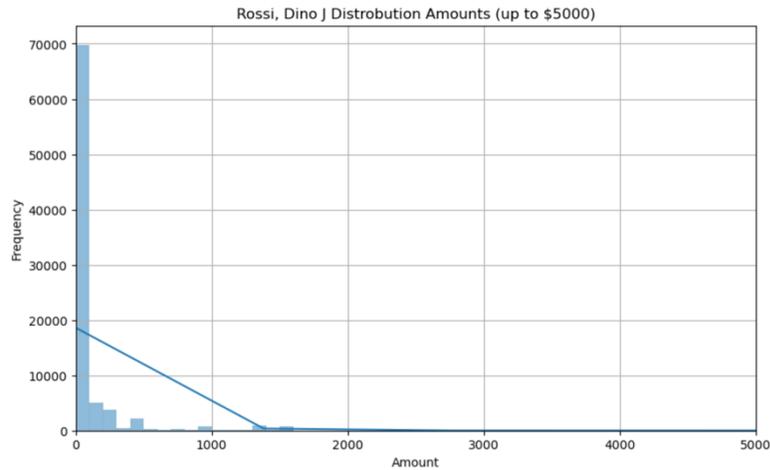
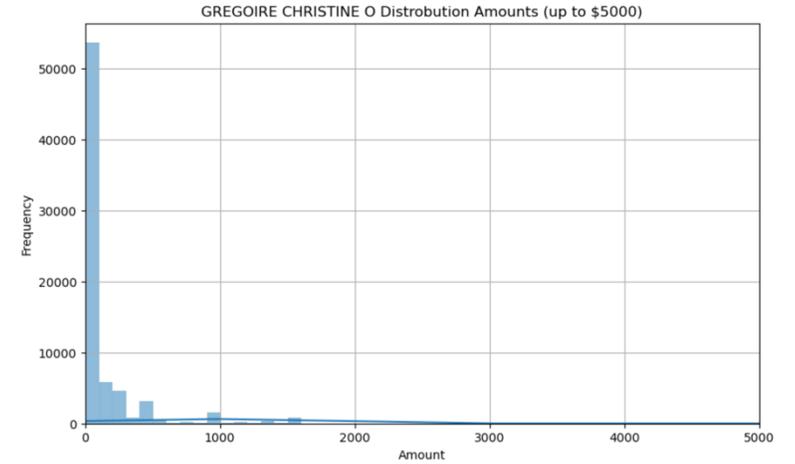
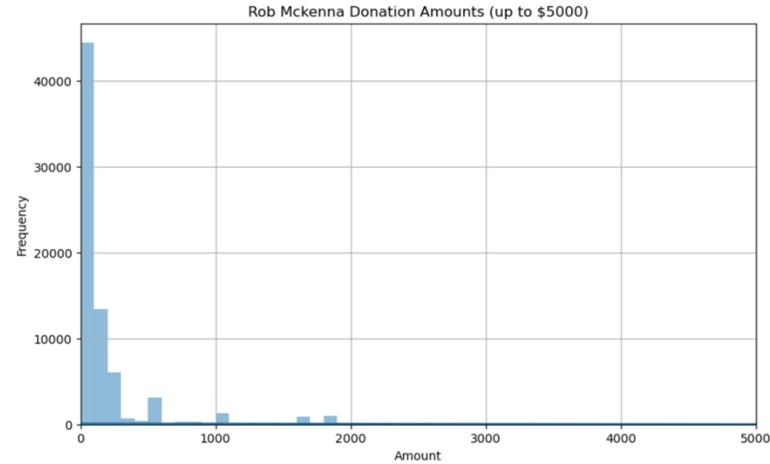


Below is the distribution of Jay Inslee.

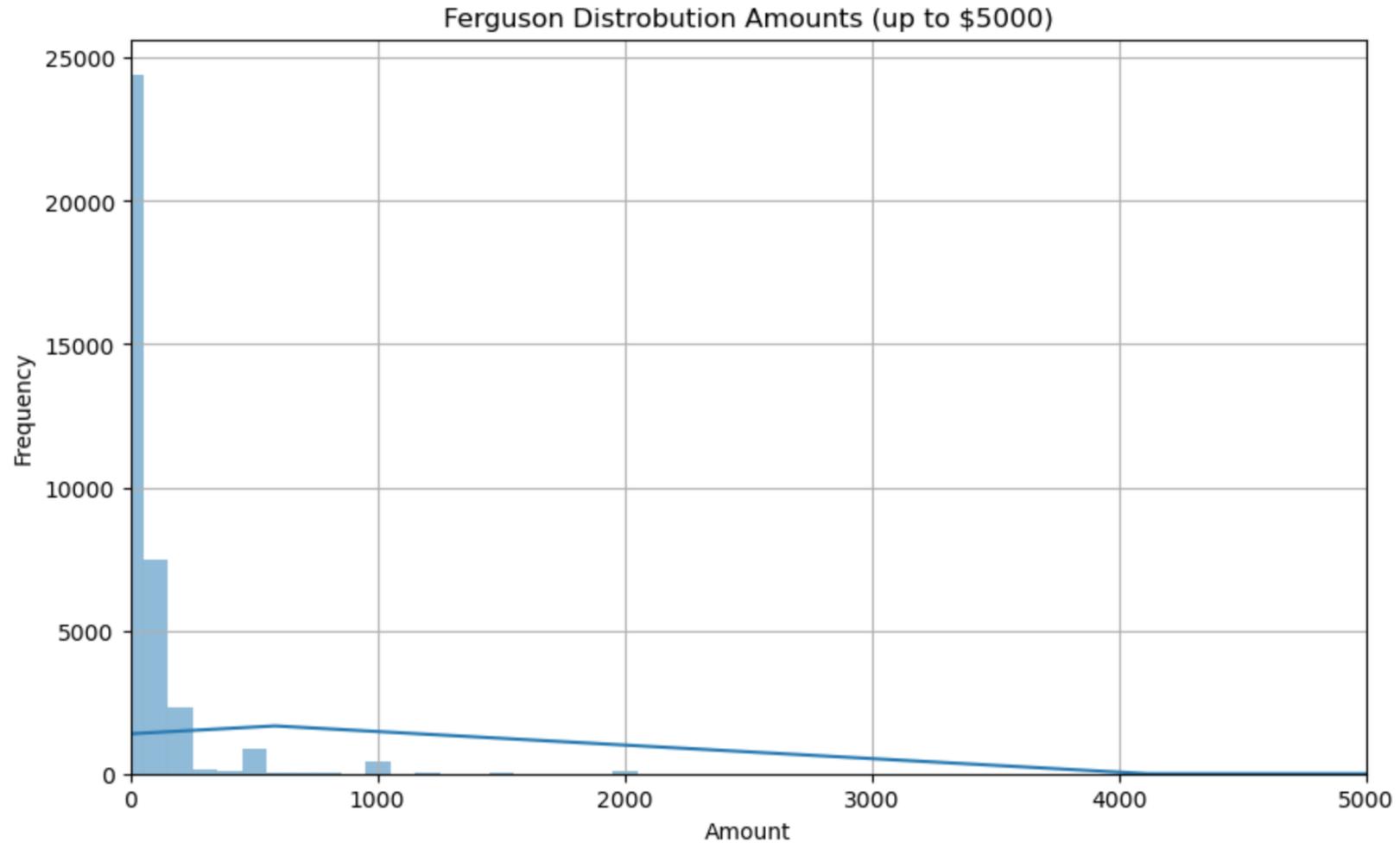


Here are the distributions of Mckenna, Gregoire, Rossi, and Culp.

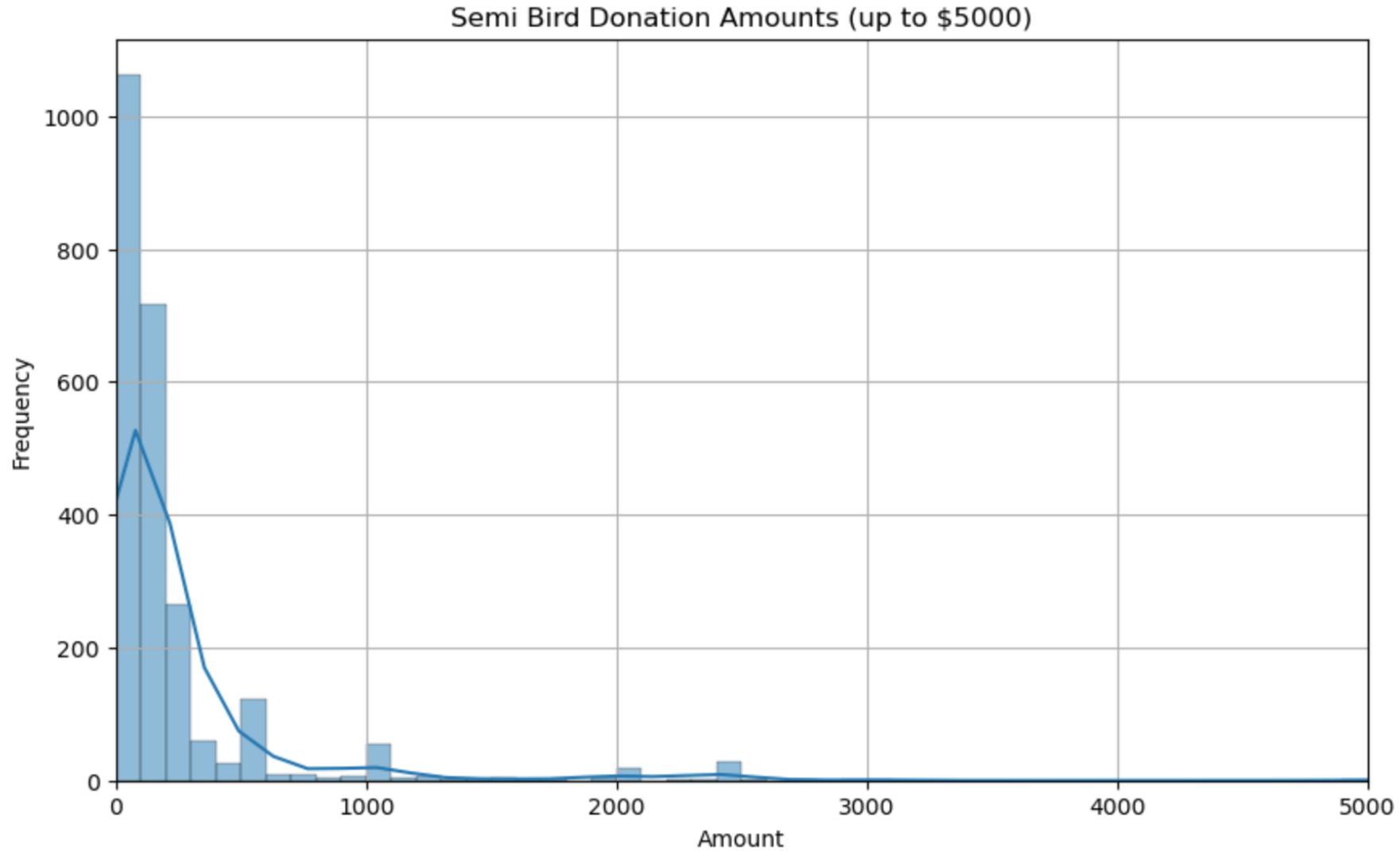
While they all show some slight evidence of tail stuffing, none of the frequency bins are extending past the auto-generated trendline.



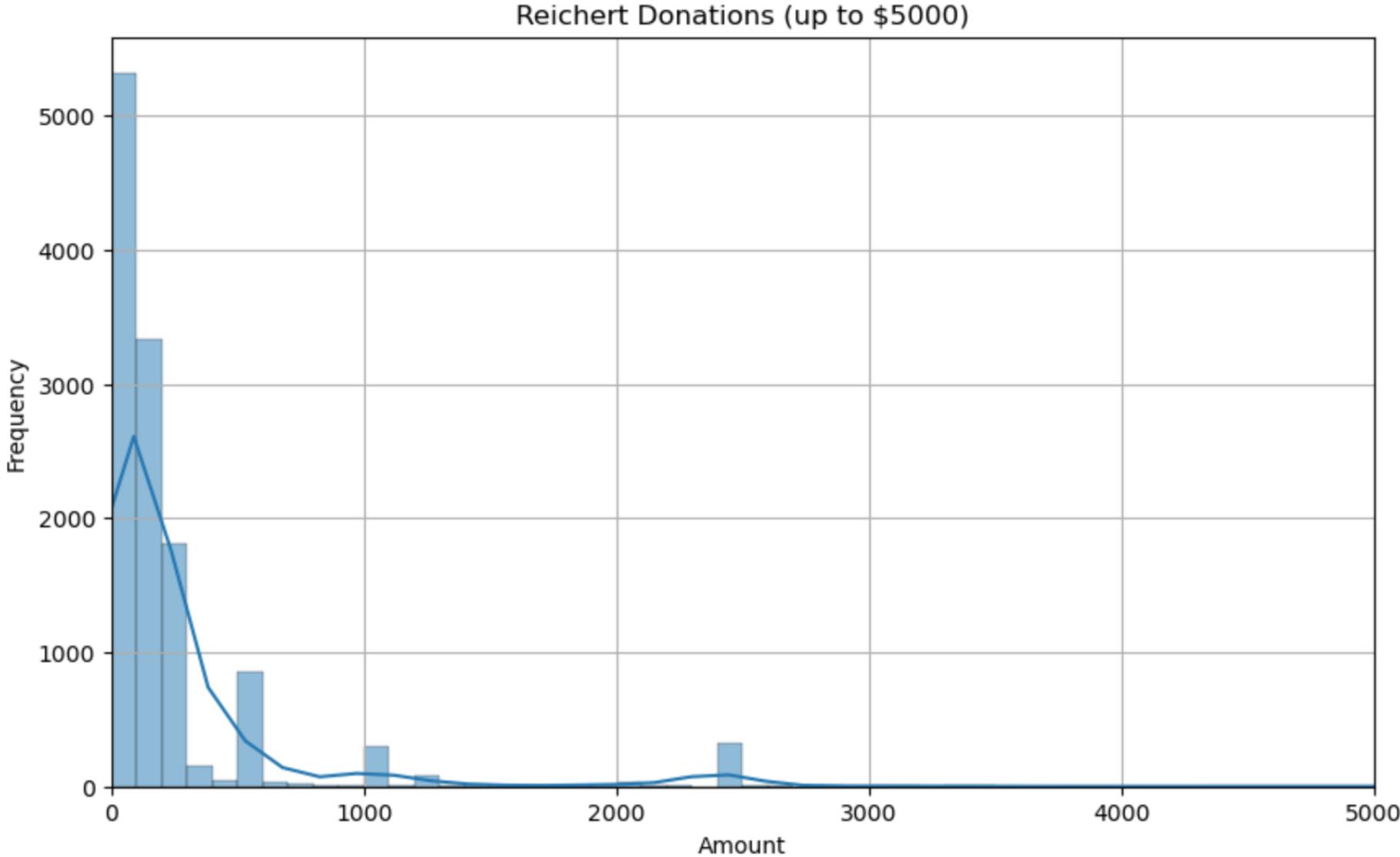
Below is the distribution amount for Bob Ferguson.



# Below is the distribution for Semi Bird

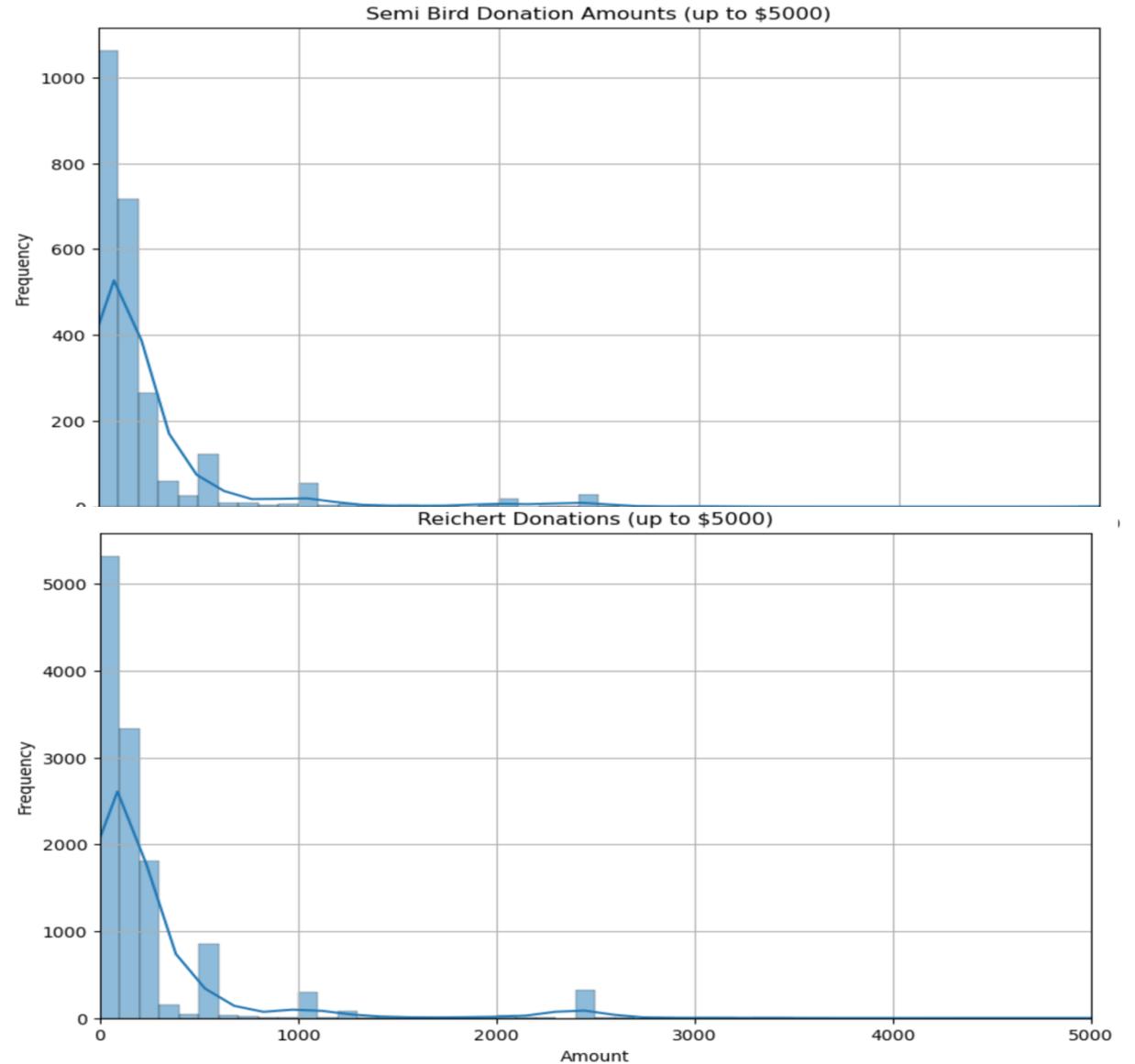


# Below is the distribution for Reichert

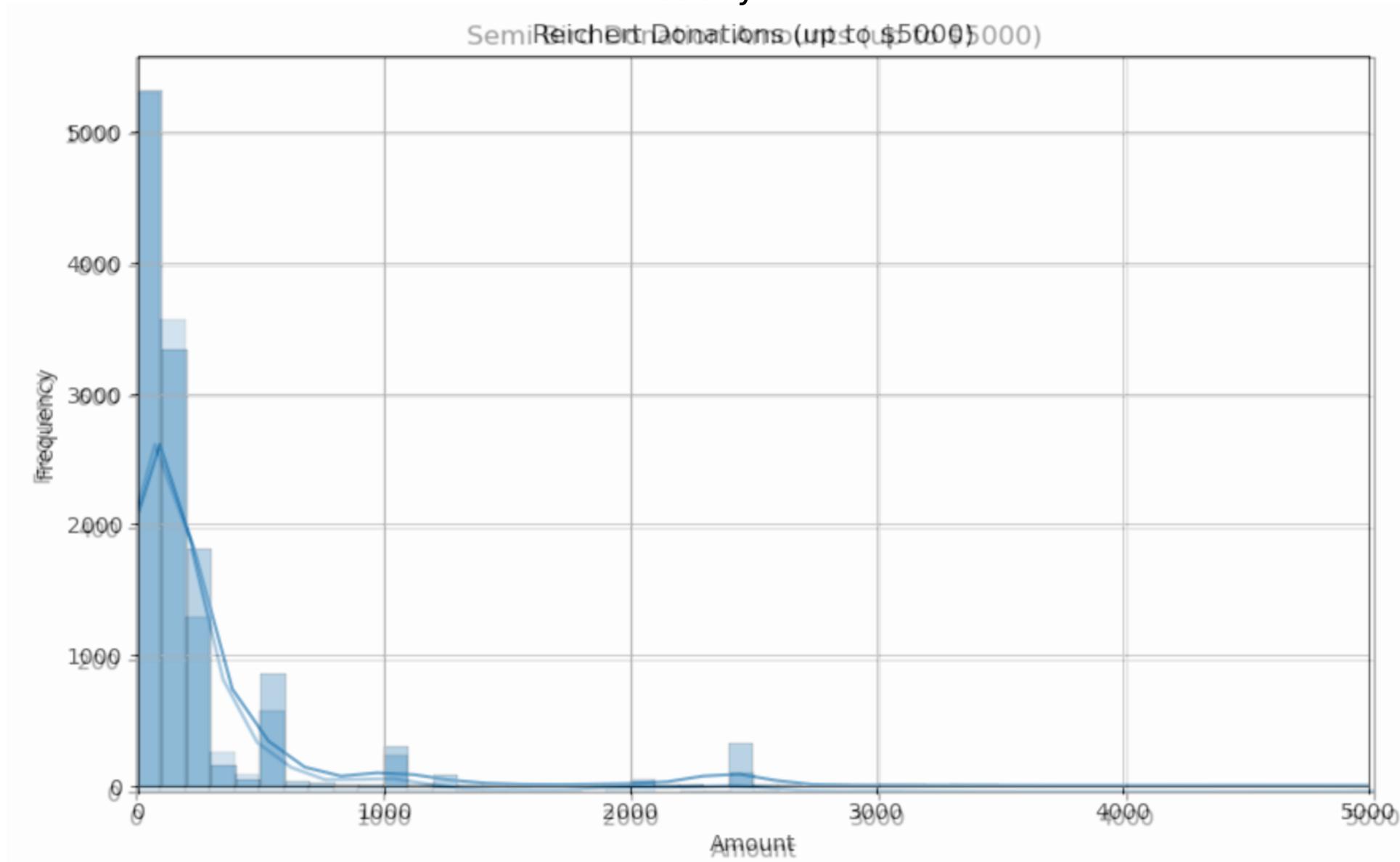


Now comparing Bird  
and Reichert.

Notice how the  
frequency bars are  
collocated in the  
same places and  
distribution ratio?



The distributions of Reichert and Bird lay perfectly over each other visually.



# WELCOME TO MACHINE LEARNING !

There is an advanced statistical test / Machine Learning Model that is used in this specific case: Kruskal Wallis.

Kruskal Wallis is a Machine Learning Model that compares two or more distributions of non-parametric data.

The baseline (null) hypothesis of the test is:

All probability distributions being compared are statistically identical.

The tests leads us to accept or reject the null hypothesis.

# A 'p-value' is the probability of the distributions being statistically similar.

If the P-value is greater than 0.05, we accept the Null Hypothesis: the distributions are the same.

Meaning there is a 5% chance that the distributions came from the same population / class / person.

Below is the python code with the result of the Kruskal Wallis test comparing the distribution of donation amounts between Bird and Reichert.

### Now conducting machine learning to compare Bird and Reichert

Kruskal Wallis compares the differences between groups.

```
: from scipy.stats import kruskal

: ## Separating the 'amount' column into two groups: A and B ##
group_A = bird.amount # Birds campaign donation distribution
group_B = rei.amount # Reicherts campaign donation distribution

## Performing the Kruskal-Wallis H-test ##
statistic, p_value = kruskal(group_A, group_B)

## Print the results ##
print("Kruskal-Wallis H-test:")
print("Statistic:", statistic)
print("p-value:", p_value)

# Interpret the results
alpha = 0.05
if p_value < alpha:
    print("The difference in distribution is statistically significant (reject the null hypothesis).")
else:
    print("There is no statistically significant difference in distribution (fail to reject the null hypothesis).")

Kruskal-Wallis H-test:
Statistic: 0.15443413666427624
p-value: 0.6943334485327868
There is no statistically significant difference in distribution (fail to reject the null hypothesis).
```

**There is no statistically significant difference between the donations distributions of Semi Bird and Dave Reichert.**

P-value is greater than 0.05, its 0.69

- With approx. **95% certainty, both distributions are the same.**
- Meaning, both distributions are engineered or “forced to a structure”; **Not conforming to average Washington State donor behavior.**
- That structure is evident when inspecting the individual donation instances in the raw data.

## Now comparing Bird, Reichert, and the Average.

```
!-- Creating a group for the overall average amount of political donations --#
```

```
group_C = df.amount #-- Setting the amount variable to the dataframe --#
```

```
!-- Performing the Kruskal-Wallis H-test --#
```

```
statistic, p_value = kruskal(group_A, group_B, group_C)
```

```
!-- Print the results --#
```

```
print("Kruskal-Wallis H-test:")
```

```
print("Statistic:", statistic)
```

```
print("p-value:", p_value)
```

```
# Interpret the results
```

```
alpha = 0.05
```

```
if p_value < alpha:
```

```
    print("The difference in distribution is statistically significant (reject the null hypothesis).")
```

```
else:
```

```
    print("There is no statistically significant difference in distribution (fail to reject the null hypothesis).")
```

```
Kruskal-Wallis H-test:
```

```
Statistic: 7383.964497501655
```

```
p-value: 0.0
```

```
The difference in distribution is statistically significant (reject the null hypothesis).
```

**There is a statistically significant difference between the matching Bird / Reichert to the Average.**

## Now comparing Jay Inslee and Bob Ferguson

```
: group_D = inslee.amount
group_E = ferg.amount

#-- Performing the Kruskal-Wallis H-test --#
statistic, p_value = kruskal(group_E, group_D)

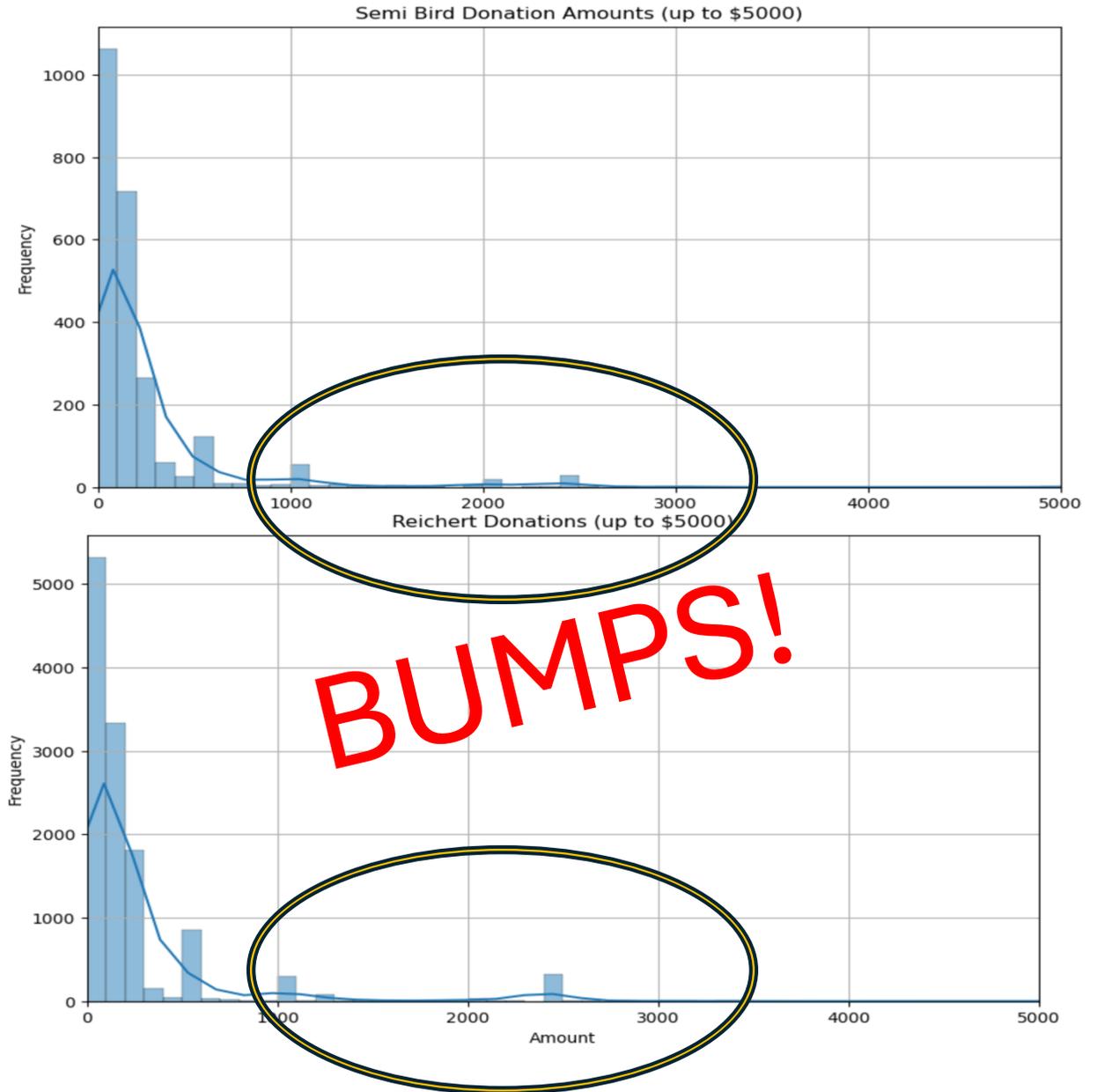
#-- Print the results --#
print("Kruskal-Wallis H-test:")
print("Statistic:", statistic)
print("p-value:", p_value)

# Interpret the results
alpha = 0.05
if p_value < alpha:
    print("The difference in distribution is statistically significant (reject the null hypothesis).")
else:
    print("There is no statistically significant difference in distribution (fail to reject the null hypothesis).")
```

```
Kruskal-Wallis H-test:
Statistic: 351.62571903824335
p-value: 1.87550645953764e-78
The difference in distribution is statistically significant (reject the null hypothesis).
```

**There is a statistically significant difference between Jay Inslee and Bob Ferguson.**

Let's investigate the tail bumps in both Reichert and Bird.



Now exploring  
the Reichert's  
raw donation  
data.

Another  
outstanding  
issue: Their data  
is TOO CLEAN!

filer_name	amount	cash_or_in_ki	receipt_date	description	memo	code	contributor_c	contributor_n	contributor_a	contributor_c
David G Reichert	140	Cash	8/10/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	225	Cash	8/16/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	725	Cash	8/17/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	1050	Cash	8/17/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	50	Cash	8/17/23			Individual	Individual	Clemans Gen	24302 43rd Ave	Spanaway
David G Reichert	225	Cash	8/18/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	25	Cash	8/14/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	20	Cash	8/10/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	25	Cash	8/11/23			Individual	Individual	Clemans Gen	24302 43rd Ave	Spanaway
David G Reichert	100	Cash	8/14/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	5	Cash	8/14/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	72.5	Cash	8/15/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	280	Cash	8/16/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	900	Cash	8/14/23			Individual	Individual	Reichert Rob	42523 260th St	Enumclaw
David G Reichert	125	Cash	8/16/23			Individual	Individual	Teske Steven	28 Jubilee Ln	Bellingham
David G Reichert	125	Cash	8/16/23			Individual	Individual	Teske Gloria	28 Jubilee Ln	Bellingham
David G Reichert	625	Cash	8/16/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	500	Cash	8/16/23			Individual	Individual	Sorensen Linc	111 Wells Ave	Manson
David G Reichert	25	Cash	8/18/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	110	Cash	8/21/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	50	Cash	8/22/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	55	Cash	8/21/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	175	Cash	8/21/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	250	Cash	8/18/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	100	Cash	8/16/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	375	Cash	8/22/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	2400	Cash	8/22/23			Individual	Individual	Mckaig Rober	15102 Reserv	North Bend
David G Reichert	1000	Cash	8/22/23			Individual	Individual	Lytle Chuck	3444 Hunts Pk	Bellevue
David G Reichert	25	Cash	8/23/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	250	Cash	8/23/23			Individual	Individual	Rudolf Matthe	7235 West Riv	Mercer Island
David G Reichert	400	Cash	8/23/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	500	Cash	8/23/23			Individual	Individual	Bulpin Nick	16215 38TH A	LAKE FOREST
David G Reichert	50	Cash	8/23/23			Individual	Individual	Warne Jill	126 Abbott Rd	Elma
David G Reichert	25	Cash	8/23/23			Individual	Individual	Clemans Gen	24302 43rd Ave	Spanaway
David G Reichert	8963	Cash	8/18/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reichert	250	Cash	8/23/23			Individual	Individual	Schroeder Ele	2302 60th Ave	Gig Harbor
David G Reichert	250	Cash	8/23/23			Individual	Individual	Schaefer Mar	760 E Thornto	SHELTON
David G Reichert	200	Cash	8/18/23			Individual	Individual	Krober Leslie	806 Gehr St	Wenatchee
David G Reichert	125	Cash	8/18/23			Individual	Individual	Taylor James	612 Gardiner	Steilacoom

Notice how the amounts that are not in the fixed value are classified as: **SMALL CONTRIBUTIONS**

David G Reich	125	Cash	10/7/23			Individual	Individual	Bird Marilyn J	305 Warrior Road	Yakima
David G Reich	125	Cash	10/7/23			Individual	Individual	Bird Phil Q	305 Warrior Road	Yakima
David G Reich	50	Cash	10/7/23			Individual	Individual	Davis Agnes L	2005 Riverview Dr NE	Auburn
David G Reich	50	Cash	10/7/23			Individual	Individual	Goss Diane E	27419 12th Pl S	Des Moines
David G Reich	50	Cash	10/7/23			Individual	Individual	Goss George	27419 12th Pl S	Des Moines
David G Reich	100	Cash	10/7/23			Individual	Individual	Plumb Robert	202 Forest Ln	Bellingham
David G Reich	100	Cash	10/7/23			Individual	Individual	Plumb Susan	202 Forest Ln	Bellingham
David G Reich	75	Cash	10/7/23			Individual	Individual	Watson Thom	715 Turtle Rock Rd	East Wenatch
David G Reich	75	Cash	10/7/23			Individual	Individual	Watson Jane	715 Turtle Rock Rd	East Wenatch
David G Reich	100	Cash	10/7/23			Individual	Individual	Charter Jack I	PO Box 399	Tenino
David G Reich	100	Cash	10/7/23			Individual	Individual	Funk Charles	10200 Harbour Pl Rm 465	Mukilteo
David G Reich	250	Cash	10/7/23			Individual	Individual	Marchant Loy	42545 Eagle Nest Rd	Deer Meadow
Kenneth A Da	250	Cash	8/15/08			Individual	Individual	REICHERT LA	13611 MASHIE ST	ANACORTES
David G Reich	375	Cash	10/4/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	400	Cash	10/4/23			Individual	Individual	Kuney Max	PO Box 4008	Spokane
David G Reich	255	Cash	10/2/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	830	Cash	10/2/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	500	Cash	10/2/23			Business	Organization	Terry Wise & /	7622 Waller Rd E	Tacoma
David G Reich	50	Cash	10/2/23			Individual	Individual	Thomas Brian	14715 182nd Place Southe	Renton
David G Reich	175	Cash	10/11/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	195	Cash	10/11/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	2400	Cash	10/11/23			Individual	Individual	Petter Terry	3786 Oceanside Dr	Greenbank
David G Reich	2400	Cash	10/11/23			Individual	Individual	Petter Terry	3786 Oceanside Dr	Greenbank
David G Reich	100	Cash	10/12/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	50	Cash	10/11/23			Individual	Individual	Knudtsen Sta	6210 6th Street CT NE	Fife
David G Reich	307.5	Cash	10/12/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	250	Cash	10/12/23			Individual	Individual	Kirkbride Fran	4405 7th Ave SE Ste 301	Lacey
David G Reich	200	Cash	10/12/23			Individual	Individual	Dean Frank	919 19th ave ne apt 1504	Bellevue
David G Reich	200	Cash	10/13/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	50	Cash	10/16/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	1045	Cash	10/17/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	2400	Cash	10/17/23			Individual	Individual	Sherman Bar	6835 Saint Andrews Drive	Mukilteo
David G Reich	2400	Cash	10/17/23			Individual	Individual	Sherman Bar	6835 Saint Andrews Drive	Mukilteo
David G Reich	250	Cash	10/16/23			Individual	Individual	Hunt Geoffrey	4701 84th Ave SE	Mercer Island
David G Reich	500	Cash	10/16/23			Individual	Individual	Thomas Math	7701 South 200th Street	Kent
David G Reich	358	Cash	10/16/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	500	Cash	10/16/23			Individual	Individual	Oglesbee Kim	1706 Brandi Terrace	Wenatchee
David G Reich	100	Cash	10/16/23			Individual	Individual	Nixon Toby	12113 NE 141st St	Kirkland
David G Reich	150	Cash	10/17/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	40	Cash	10/17/23			Individual	Individual	Christian Leo	10015 E 19th Ave	Spokane Valle

Here is the output of the top 20 highest donations to Reichert.

Notice that they are all

“SMALL CONTRIBUTIONS”

filer_name	receipt_date	amount	contributor_name	contributor_address	contributor_city	contributor_state	contributor_occupation
David G Reichert (Dave Reichert)	10/07/2023	11974.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	08/18/2023	8963.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	10/02/2023	7889.1	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	10/05/2023	6493.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	08/25/2023	5966.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	08/22/2023	5710.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	08/23/2023	5360.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	08/17/2023	5332.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	08/22/2023	5030.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	08/22/2023	3360.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	08/22/2023	3105.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	08/29/2023	3071.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	09/08/2023	2939.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	09/05/2023	2818.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN
David G Reichert (Dave Reichert)	08/31/2023	2757.0	SMALL CONTRIBUTIONS	NaN	NaN	NaN	NaN

The following slide indicates more evidence of statistical tampering.

Notice how Bird and Reichert have very high average donations compared to the other past candidates for governor.

Specifically, McKenna had raised 14.5 million with an average of \$200 a home, while the averages for Bird is \$239 and Reichert is \$295.

Unusually high averages considering the relatively low amount of total donations.

Name	Average Donation	Total Donations	Labeled SMALL CONTRIBUTIONS	Ratio of SMALL CONTRIBUTIONS / Total Donations
Inslee	\$218	\$18,087,916	\$532,355	2.9%
Culp	\$107	\$3,332,084	\$261,141	7%
Rossi	\$136	\$11,603,138	\$580,770	5%
McKenna	\$200	\$14,566,294	\$47,664	.03%
Ferguson	\$120	\$4,354,875	\$209,177	4.8%
Bird	\$239	\$560,918	\$92,811	16%
Reichert	\$295	\$3,699,790	\$922,950	24%

**Bird and Reichert share glaringly high ratios of SMALL CONTRIBUTIONS at 16% and 24%**

One example in the raw data:

Reichert received two separate instances of the maximum amount from the same individual, Petter Terry.

Inspecting the home of Petter Terry living on 3786 Oceanside Dr Greenbank, WA

David G Reich	400	Cash	10/4/23			Individual	Individual	Kuney Max	PO Box 4008	Spokane
David G Reich	255	Cash	10/2/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	830	Cash	10/2/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	500	Cash	10/2/23			Business	Organization	Terry Wise & A 7622 Waller Rd E		Tacoma
David G Reich	50	Cash	10/2/23			Individual	Individual	Thomas Brian	14715 182nd Place Southe	Renton
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David G Reich	195	Cash	10/11/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	2400	Cash	10/11/23			Individual	Individual	Petter Terry	3786 Oceanside Dr	Greenbank
David G Reich	2400	Cash	10/11/23			Individual	Individual	Petter Terry	3786 Oceanside Dr	Greenbank
David G Reich	100	Cash	10/12/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	50	Cash	10/11/23			Individual	Individual	Knudtsen Sta	6210 6th Street CT NE	Fife
David G Reich	307.5	Cash	10/12/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	250	Cash	10/12/23			Individual	Individual	Kirkbride Fran	4405 7th Ave SE Ste 301	Lacey
David G Reich	200	Cash	10/12/23			Individual	Individual	Dean Frank	919 19th ave ne apt 1504	Bellevue
David G Reich	200	Cash	10/13/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	50	Cash	10/16/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	1045	Cash	10/17/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	2400	Cash	10/17/23			Individual	Individual	Sherman Bar	6835 Saint Andrews Drive	Mukilteo
David G Reich	2400	Cash	10/17/23			Individual	Individual	Sherman Bar	6835 Saint Andrews Drive	Mukilteo
David G Reich	250	Cash	10/16/23			Individual	Individual	Hunt Geoffrey	4701 84th Ave SE	Mercer Island
David G Reich	500	Cash	10/16/23			Individual	Individual	Thomas Math	7701 South 200th Street	Kent
David G Reich	358	Cash	10/16/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	500	Cash	10/16/23			Individual	Individual	Oglesbee Kim	1706 Brandi Terrace	Wenatchee
David G Reich	100	Cash	10/16/23			Individual	Individual	Nixon Toby	12113 NE 141st St	Kirkland
David G Reich	150	Cash	10/17/23	Contributions of \$25 or less		Other	Individual	SMALL CONTRIBUTIONS		
David G Reich	40	Cash	10/17/23			Individual	Individual	Christian Leo	10015 E 19th Ave	Spokane Valle

# Petter Terry lives in a beach vacation rental.

REDFIN

City, Address, School, Agent, ZIP



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Listing provided courtesy of Windermere Whidbey Island. Bought with Windermere Real Estate Co.

● LAST SOLD ON APR 30, 2009 FOR \$535,000

3786 Oceanside Dr, Greenbank, WA 98253

**\$1,187,288**

Redfin Estimate

**2**

Beds

**1**

Bath

**768**

Sq Ft



## Thinking of selling?

Estimated sale price

**\$1.13M – \$1.34M**

Reach more buyers when you sell

In this sample output:

Notice at the way Bob Ferguson structures his campaign data.

The donation amounts are not forced into perfect tiers.

Notice a higher frequency of lower amounts.

This will be the general case for the samples of all the past gubernatorial candidate's raw donation data.

Robert W. Fe	6/28/23	15	Carole Wolfe	27534 121st	Kent	WA	
Robert W. Fe	6/28/23	50	James A. Wils	17904 23rd L	Shoreline	WA	
Robert W. Fe	6/28/23	900	Leslie Walker	PO Box 1292	Eastsound	WA	NOT EMPLOYED
Robert W. Fe	6/28/23	100	Sonia P. Scae	3890 W Blake	Bainbridge Is	WA	
Robert W. Fe	6/28/23	50	Marcia Rutar	9608 25th Av	Seattle	WA	
Robert W. Fe	6/28/23	50	Larry A. Roth	22012 129th	Kent	WA	NOT EMPLOYED
Robert W. Fe	6/28/23	15	Ernie Robeso	15504 N Firc	Spokane	WA	
Robert W. Fe	6/28/23	15	Sandy Rabin	606 Nelson S	Friday Harbo	WA	
Robert W. Fe	6/28/23	100	Rock J. Peter	1563 9th Ave	Edmonds	WA	NOT EMPLOYED
Robert W. Fe	6/28/23	100	Christina Pau	17106 89ThA	Puyallup	WA	BOOKKEEPER
Robert W. Fe	6/28/23	15	Colleen Nohl	5025 Californ	Seattle	WA	
Robert W. Fe	6/28/23	15	Janet Nelson	1100 N Alder	Ellensburg	WA	
Robert W. Fe	6/28/23	50	Roberta F. M	474 Blue Mou	Chimacum	WA	
Robert W. Fe	6/28/23	15	Vicki Meredit	3202 178th S	Bothell	WA	NOT EMPLOYED
Robert W. Fe	6/28/23	20	Jeanne Lyle	21309 2nd Dr	Bothell	WA	
Robert W. Fe	6/28/23	500	Lisa A. Hausn	299 Marlboro	Boston	MA	RESEARCH ANALYST
Robert W. Fe	6/28/23	100	Elizabeth E. C	28916 12th A	Federal Way	WA	
Robert W. Fe	6/28/23	8	Sanja Futter	9510 20th Av	Seattle	WA	
Robert W. Fe	6/28/23	100	Lynn French	37610 30th P	Federal Way	WA	
Robert W. Fe	6/28/23	25	James Feit	2906 Jackma	Port Townser	WA	NOT EMPLOYED
Robert W. Fe	6/28/23	200	Jan Ehrlichm	PO Box 23	Olga	WA	
Robert W. Fe	6/28/23	25	Julie A. East	13729 N May	Spokane	WA	NOT EMPLOYED
Robert W. Fe	6/28/23	10	Heidi Cook	10055 Meyde	Bellevue	WA	NOT EMPLOYED
Robert W. Fe	6/28/23	100	Lyssie Burder	310 Willow S	Port Townser	WA	NOT EMPLOYED
Robert W. Fe	6/28/23	15	Gary Brooks	8224 2nd Ave	Seattle	WA	NOT EMPLOYED
Robert W. Fe	6/28/23	100	Gary Brooks	8224 2nd Ave	Seattle	WA	NOT EMPLOYED
Robert W. Fe	6/27/23	100	Janet W. Zua	4925 33rd Av	Everett	WA	NOT EMPLOYED
Robert W. Fe	6/27/23	200	Cindy Witt	803 W 3rd St	Newport	WA	
Robert W. Fe	6/27/23	25	Delight Willir	16201 Agatev	Bainbridge Is	WA	NOT EMPLOYED
Robert W. Fe	6/27/23	99	Robert Thom	3525 W 2nd A	Spokane	WA	
Robert W. Fe	6/27/23	50	Robert Thom	3525 W 2nd A	Spokane	WA	
Robert W. Fe	6/27/23	100	Preciosa S. T.	2015 Evergre	Yakima	WA	NOT EMPLOYED
Robert W. Fe	6/27/23	50	Bonni Stratt	6446 19th St	Fircrest	WA	
Robert W. Fe	6/27/23	3.95	Scott Steik	4703 9th Ave	Seattle	WA	DRIVER
Robert W. Fe	6/27/23	15	Elizabeth E. S	5113 View Rc	Langley	WA	
Robert W. Fe	6/27/23	101	Toni Skeman	826 N Eagle S	Liberty Lake	WA	
Robert W. Fe	6/27/23	25	Naghmana Sl	8711 N Colto	Spokane	WA	PROGRAM OFFICER
Robert W. Fe	6/27/23	10	Carol Ann Ro	1501 SW Vict	Oak Harbor	WA	NOT EMPLOYED
Robert W. Fe	6/27/23	50	Stephen Reic	7207 W Old H	Benton City	WA	
Robert W. Fe	6/27/23	10	Romell Reed	PO Box 8251	Kenmore	WA	
Robert W. Fe	6/27/23	250	Bill Ramos	385 SE Andre	Issaquah	WA	STATE REPRESENTATIVE

Donor behavior average, indicates a high frequency of low donations.

Bird and Reichert have a **low frequency of low donations** and **high frequency of donations at the max** an individual can give \$2,400.

Bird and Reichert share an **abnormally high SMALL CONTRIBUTIONS** ratio.

Bird and Reichert probability distributions are similar.

The person who set up  
the accounting  
practices for both (Bird  
and Reichert)  
campaigns is the same.

Both Bird and Reichert's  
campaign finance  
managers know who  
coached them and  
structure their donations  
tiers.

Both Bird and Reichert campaigns have been set up for donation fraud by reckless and sloppy accounting practices.

# Research Questions:

*1. Does donation money increase on election years?*

The donation amounts appear to be random and not reflective of a defined trend.

*2. What does the distribution of the average donations look like?*

The average distributions of donations is left skewed with most donations being in the 0-\$50 bin.

Average donations have a high frequency of \$5 - \$10 per house. The normal donor behavior donor behavior is not that clean or forced into distinct tiers.

*3. What are the distribution shapes of other past candidates for Governor?*

Their shapes are left skewed and reflective of normal donor behavior. While evidence of tail stuffing is visualized in some of the graphs, they tail bumps don't exceed the height auto-generated trend line.

# Research Questions:

*4. What are the distribution shapes of the current candidates for governor?*

Left skewed, tail bumps , low frequency of low donations, high frequency of high donations, and statistically similar with 95% certainty.

*5. How much money has been classified as "SMALL CONTRIBUTIONS" for each candidate?*

See the slide #8.

*6. Who are the top 20 highest donors for Reichert?*

Unknown and labeled as “SMALL CONTRIBUTIONS”

## Research Questions:

*7. Can we statistically prove that Bird and Reichert share the same distribution?*

Yes, with approx. 95% confidence.

*8. Can we statistically prove that Bird and Reichert are not in the same distribution as the average?*

Yes, with visualizations, comparing metrics, and machine learning.

# Research Questions:

*9. Can we statistically prove that Jay Inslee and Bob Ferguson have the same distribution pattern?*

No, the only candidates that share the same distribution in the known history of Washington State Governor races is Bird and Reichert.

*10. Can we detect donation fraud by exploring after inspecting patterns in the data?*

Yes, the data seems to indicate an overwhelming amount of fraud.