Arizona State Competitor Analysis

Please Scroll all the way down!

Note: Refer to My Process tab for the process followed and hidden sheets for details

Total RecordIDs	270
Average Rank	1.90

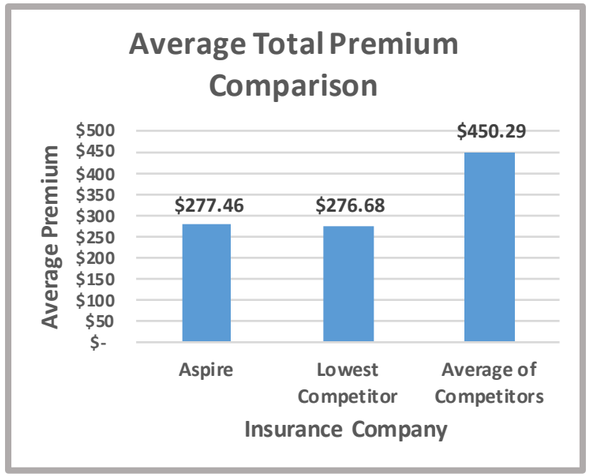
Rank 1 - Lowest Premium

Total Competitors	12
Average Rank Percentile	23.07%

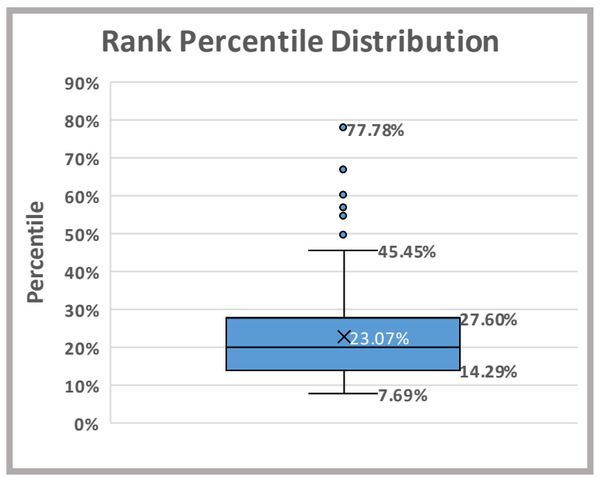
Lower rank - Lower Percentile

Financial Metrics

• Aspire's **Average Premium** is nearly **equal** to the **lowest competitor's** premium but s**ignificantly lower** than the **average**

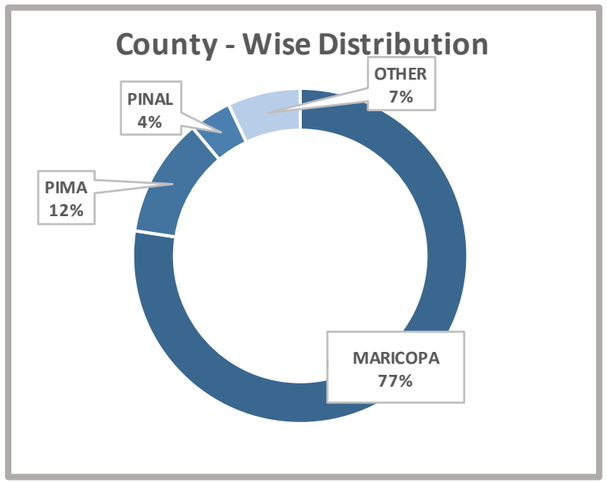


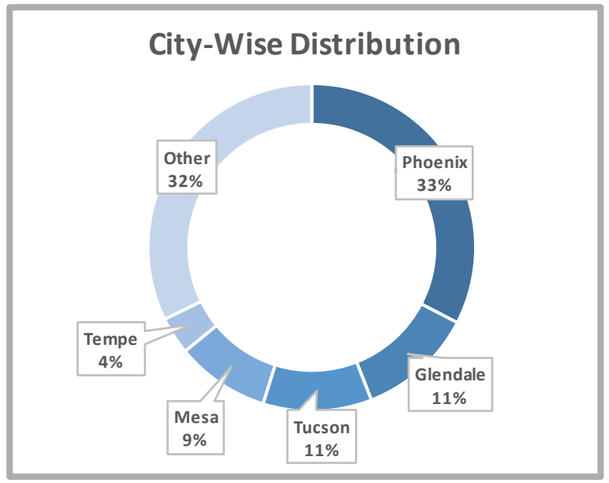
• Aspire ranks in the **23.07th** percentile on average, with most percentiles concentrated between the **14.29th** and **27.60th**



Geographical Analysis

• **Maricopa**, **Pima**, and **Pinal** Counties dominate, holding approx. **93%,** with Maricopa alone contributing **78% (209 of 270).**
• **Pima** County accounts for **12%,** with the majority coming from the city of **Tucson**.



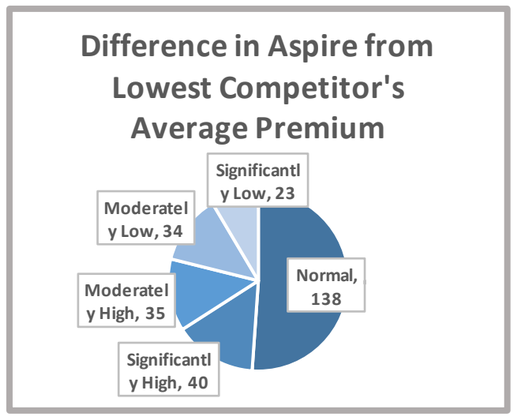


Analysis for Competitive Pricing

Compared Aspire's of **Total Premiums** with Competitors to get competitive pricing for Aspire's products

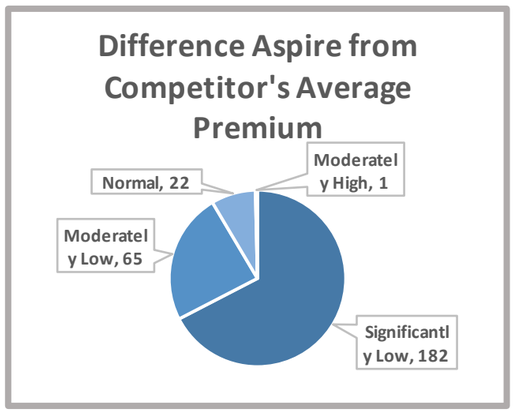
Suggestions:

- **Increase Premiums:** Focus on moderately low and significantly low categories to identify opportunities for increasing premiums



Significantly Low	< = -35%
Moderately Low	-35% to -20%
Normal	-20% to 20%
Moderately High	20% to 35%
Significantly High	> = 35%

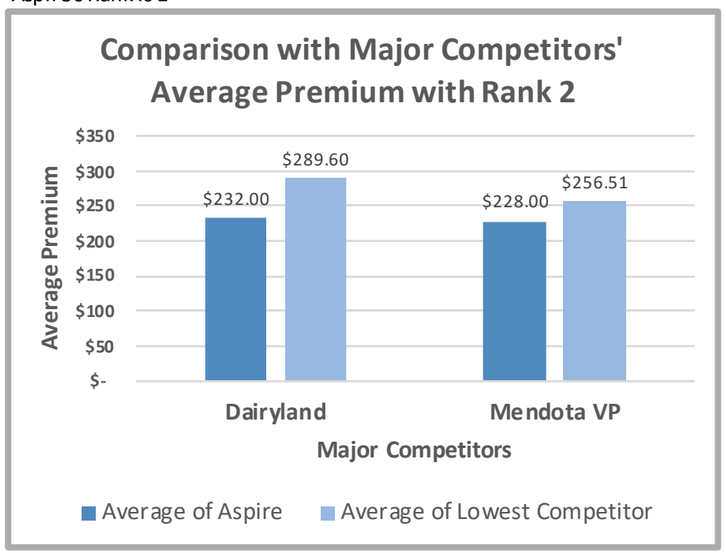
I assumed cateogories bins to simplify the understanding process.



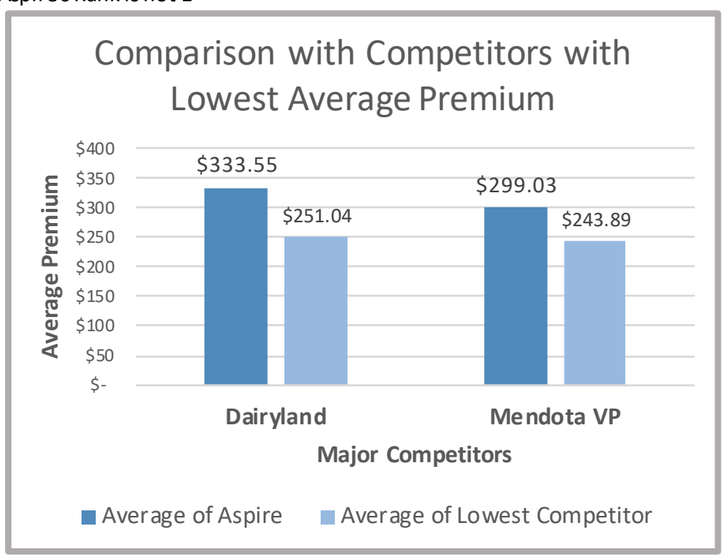
# Records with Rank 1	
Aspire	135
Dairyland	66
Mendota VP	64
Others	5
	270

Major Competitors

Aspire's Rank is 1



Aspire's Rank is not 1



• **Competitive Gap Analysis:** Aspire's average premium, while ranked first, is lower than the second-lowest competitor's average premium, showing a significant gap with competitors.
• **Revenue Enhancement Opportunity:** There is potential to slightly increase Aspire's premiums while maintaining its position as the market's lowest, thus increasing revenue without losing its competitive advantage.

• **Scope for Reduction:** Aspire's average premium, when not ranked first, is higher than the lowest competitor's average premium. This suggests an opportunity to reduce premiums to become the lowest in the market.
• **Increased Competitiveness:** Lowering Aspire's premiums to match or undercut the lowest competitor could increase the likelihood of customers choosing Aspire, thus boosting business and market share.

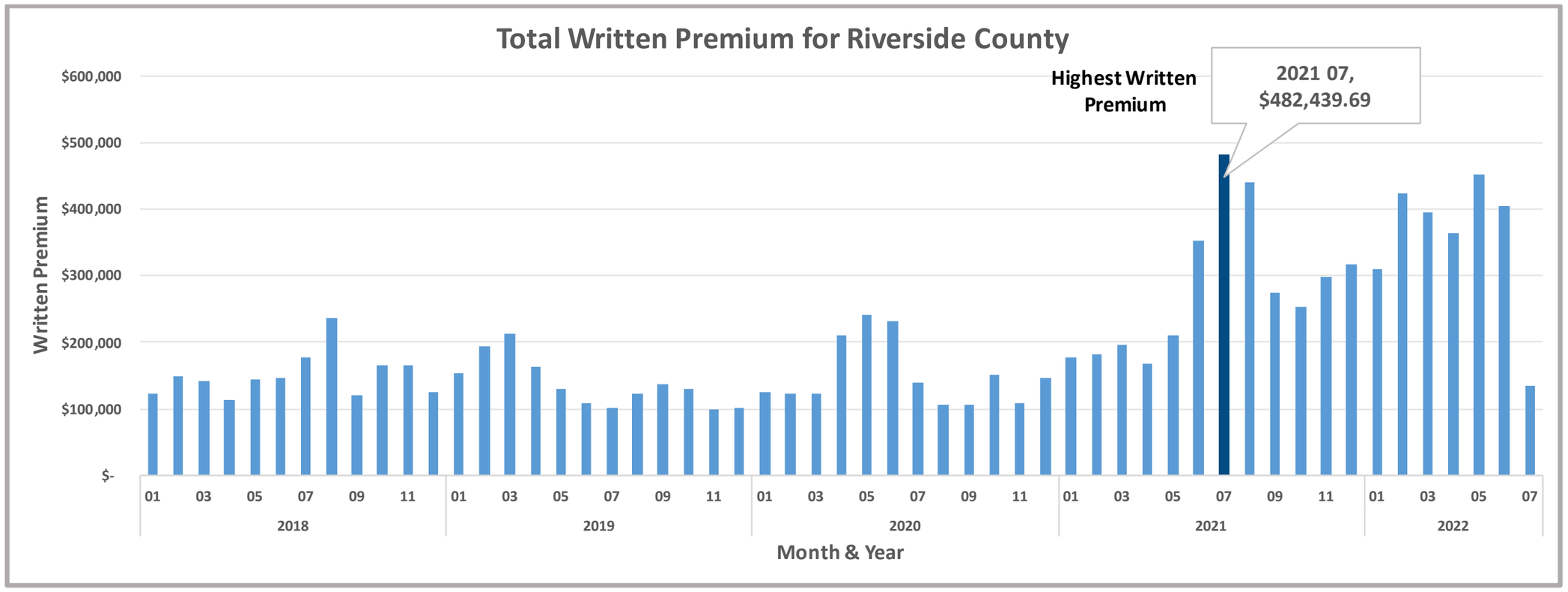
California State Product Performance Insights 2018 - 2022

Please Scroll all the way down!

Note: Refer to hidden tabs named questions wise for details
Refer to My process tab for the process followed
Refer Hidden tabs for details

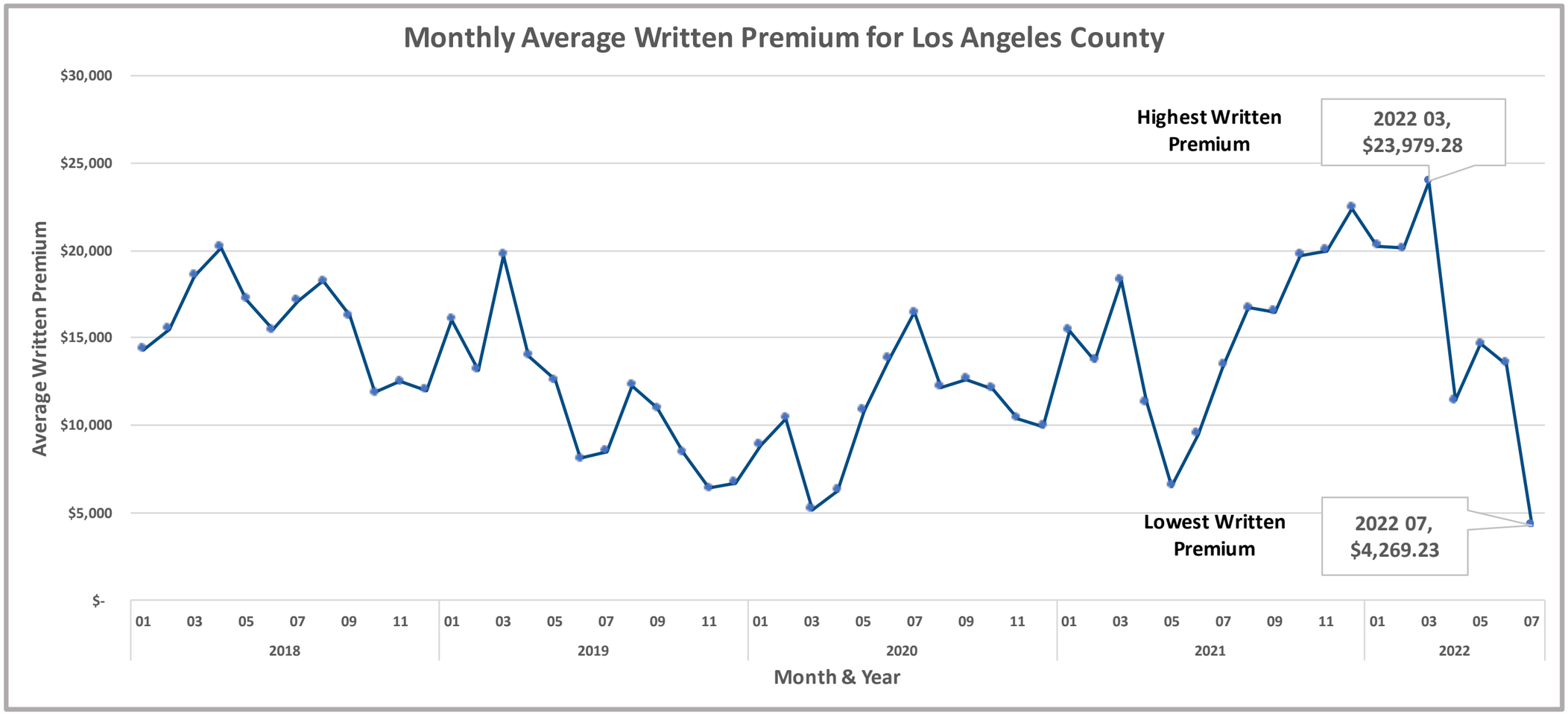
1 Find the highest level of premium written in a single month in Riverside County.

- A noticeable peak in written premiums for Riverside County occurred in **July 2021**, reaching **$482,439.69**.
- The overall upward trend with recurring fluctuations suggests **seasonal effects** and significant events impacting premiums.



2 Find the average premium written by month in Los Angeles County.

- **Trend:** There is decline in average written premiums for Los Angeles County until 2020, followed by an increase.
- **Possible reason:** Introduction of new insurance products and the discontinuation of older ones around 2020.

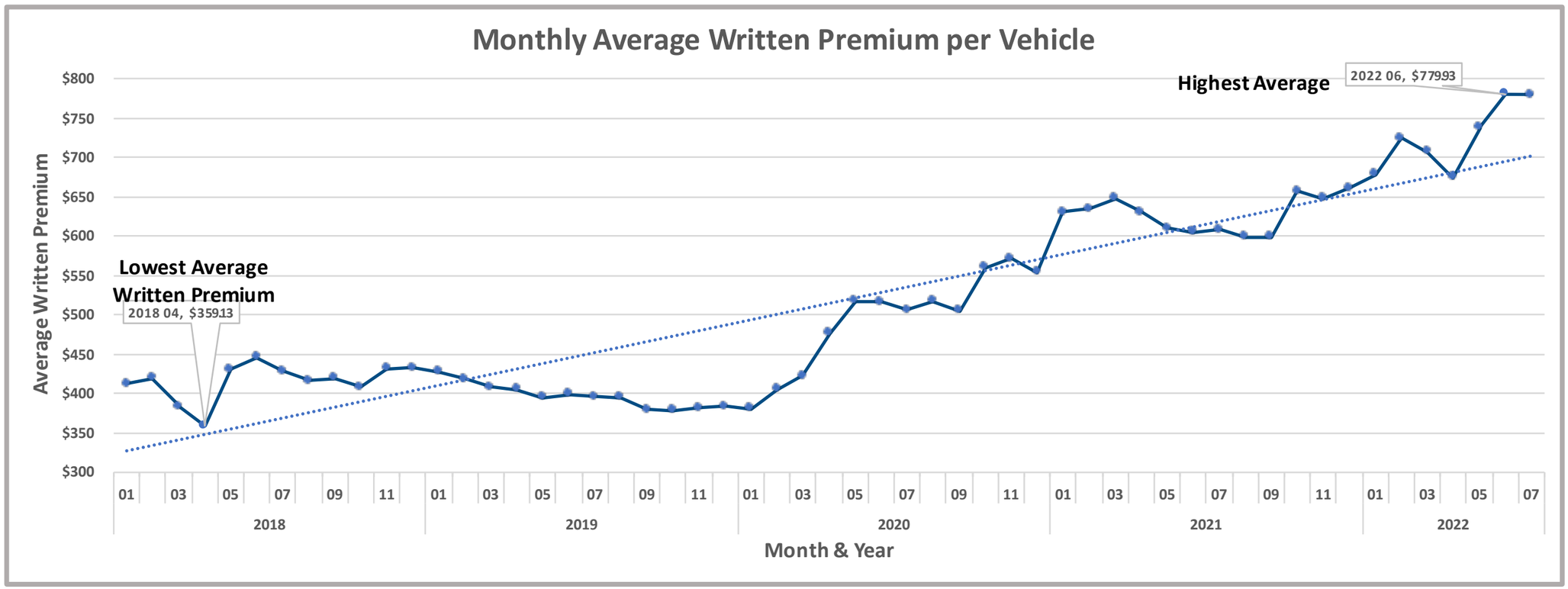


3 Calculate the average written premium per vehicle from the data on the County tab.

Q3 2018 - Q2 2022		
Written Premium (AGG)	**Written Vehicles (AGG)**	**Average Written per Vehicle**
$ 177,533,025.17	327,539	$ 542.02

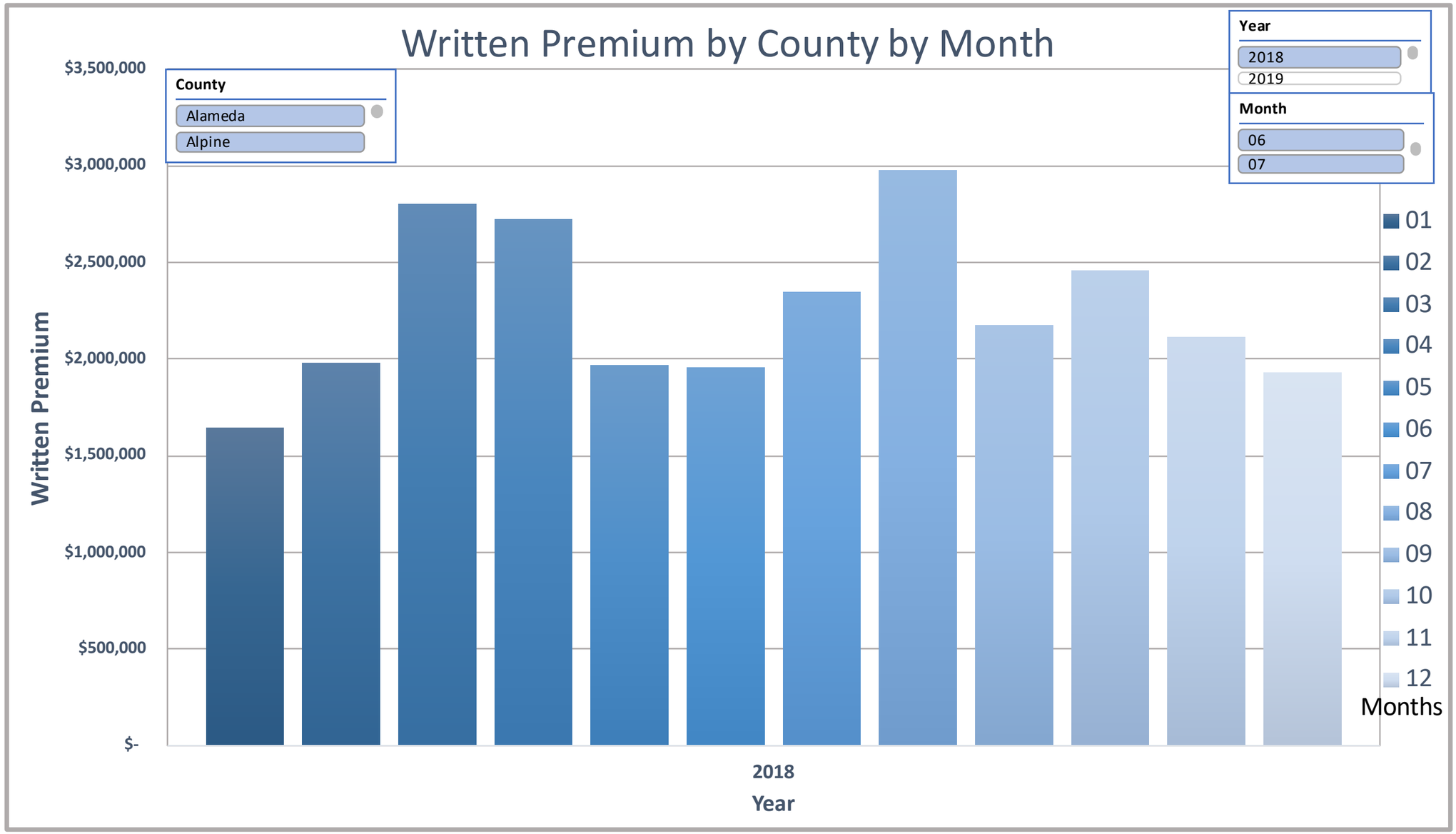
4 Graph the average written premium per vehicle by month to show the trend.

- The graph indicates a **steady upward trend** in the average written premium per vehicle from **2018 to 2022**, with a significant **increase starting from early 2020**.
- By **mid-2022**, premiums hit around **$780 (July 2022),** as the dotted trendline highlights with lowest at **$360** in **April 2018**.



5 Graph the distribution of written premium by county by month.

- The chart reveals a **sharp rise** in written premiums across counties from **2020**, peaking dramatically in 2021 and 2022.
- Monthly data highlights consistent growth with notable **seasonal spikes**, pointing to specific events boosting premiums.



6 Any thoughts on how you could map the data?

Mapping Strategy

Data Cleaning

- Ensure all relevant columns are filled and handle any NA values appropriately.
- Create additional columns if needed for derived metrics or categorizations.

Time Series Analysis

- Use the **Year**, **Quarter**, and **Month** columns to create a time series for analysis.
- Analyze trends over time for key metrics like **Written Prem**, **Earned Prem**, **Written Vehicles**, etc.

Geographic Analysis

- Map the data by **County** and **Region** to identify geographic trends.
- Use the **Region Lookup** for aggregating regional data.

Insurance Metrics Analysis

- Calculate averages, totals, and other relevant statistics for insurance metrics.
- Compare **Written Prem** with **Earned Prem** to assess profitability.

Data Visualization

- Create pivot tables and charts to visualize trends and insights.

Metadata

Index Columns

Index: Unique row identifier.

Program and Coverage

Program: Insurance program name/ID.
Program Version: Version of the program.
Coverage: Type of coverage.
Policy Term In Months: Policy duration in months.
Base Rate: Insurance base rate.

Time-related Information

Year: Year of the record.
Quarter: Quarter of the year.
Month: Month of the record.

Geographic Information

County: Data collection county.
Region: County region.

Insurance Metrics

Written Vehicles: Number of insured vehicles.
Written Exp: Written expenses.
Written Prem: Written premiums.
Earned Exp: Earned expenses.
Earned Prem: Earned premiums.
Total Incurred Loss: Total losses.
Ann. Written Exp: Annual written expenses.
Ann. Written Prem: Annual written premiums.
Ext. Factor Written: External factor for written premiums.
Ext. Base Rates Written: Base rates for written premiums.
Ann. Earned Exp: Annual earned expenses.
Ann. Earned Prem: Annual earned premiums.
Ext. Factor Earned: External factor for earned

7 From a product management perspective, what do these results tell you?

7a What should you consider changing in the next rate filing?

For considering changes in next rate filings, I would like to consider various product metrics:
Market share, sales (written vehicles, written premium), Loss ratio, geographical product performance, Customer retention and churn rate etc.

For these metrics, following analysis should be conduced :

1. **Product-wise sales snalysis**: Identify top-selling products and trends to refine offerings and allocate resources.
2. **Area-wise sales snalysis**: Tailor strategies and adjust marketing based on regional sales data and filing rate variations.
3. **Impact of Price Change analysis**: Assess the effects of past price changes on sales to optimize future pricing.
4. **Identifying Better Performing Products**: Analyze sales, customer feedback, and performance metrics to promote top products and improve or phase out underperformers.
5. **Competitive Offerings analysis**: Evaluate competitors' products and pricing to ensure our offerings remain competitive.
6. **Customer Satisfaction and Retention analysis**: Analyze claims data and customer metrics to understand retention, churn, and satisfaction.

Example

Key Recommendations for Growth & Profitability

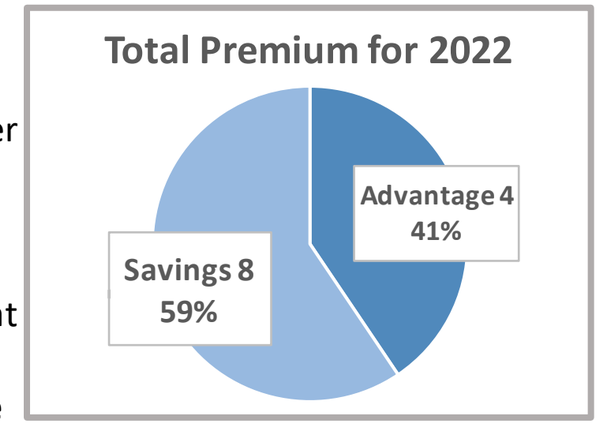
1. Prioritize "Savings 8": Capitalize on its dominant market share and higher written premium.

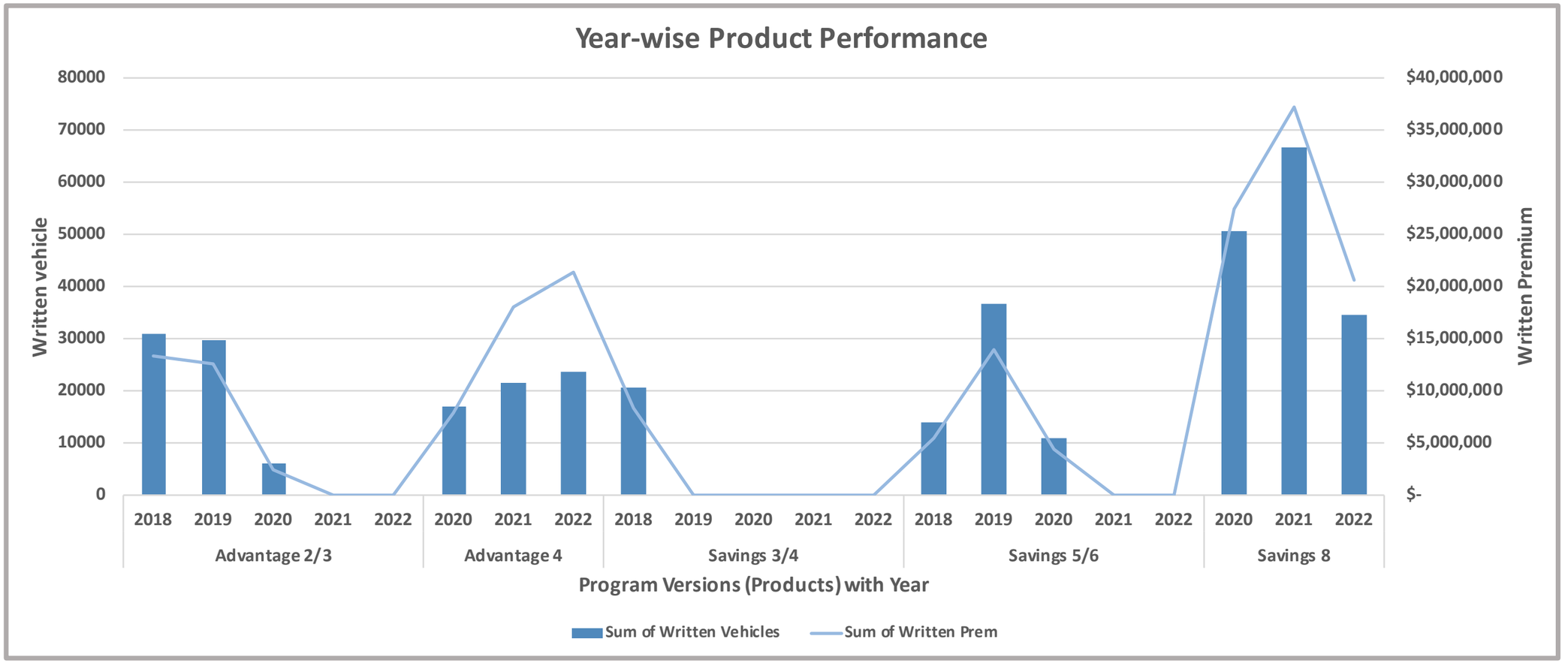
2. Track Market Trends: Monitor the performance of both products to identify shifts in customer preferences.

3. Benchmark Competitor Products: Analyze market positioning to uncover opportunities for differentiation.

4. Optimize Rate Filings: Leverage regional performance data to develop tailored rate filings that maximize revenue.

By implementing these data-driven strategies, you can refine your product offerings, optimize





7b What should you consider changing in the current underwriting guidelines?

Enhancements to Underwriting Guidelines

1. Incorporate Real-Time Telematics Data
Use telematics to monitor vehicle health and usage patterns for accurate risk assessment and premium pricing.

2. Leverage Predictive Analysis
Employ predictive analytics to forecast mechanical issues, allowing for proactive risk management and tailored premiums.

3. Location-Based Risk Assessment
Customize guidelines based on regional factors like infrastructure quality and crime rates to optimize risk evaluation.

4. Consider Socioeconomic Factors
Integrate socioeconomic data to understand policyholders' economic status, influencing risk profiles and underwriting decisions.

5. Driving History Analysis
Analyze individual driving histories to assess behavior patterns and accident records,

7c What need further investigation?

Further Investigation

Regulatory and Compliance Updates

Stay updated on regulatory changes to ensure underwriting practices align with industry standards and legal obligations.

Areas for Further Investigation

1. Product Sales Data

Identify why "Savings 8" outsells "Advantage 4" and incorporate successful features into the latter.

2. Competitive Product Performance

Compare products with competitors to identify areas for improvement and differentiation.

3. Customer Retention and Churn Rate

Evaluate factors contributing to customer retention and churn to develop strategies for enhancing loyalty.

4. Product and Customer Lifecycle

Analyze lifecycle stages to optimize product development and marketing strategies.

5. Product-wise Revenue/Profit

Interesting Insight

A noticeable shift in trends between 2020 and 2021 can be attributed to:

COVID-19 Impact: Sales decline in 2019-2020 and recovery post-2020.

Product Streamlining: Introduction of "Savings 8" and "Advantage 4" in 2020 created a spike in demand.

Data Similarity Analysis Summary

Please Scroll all the way down!

Note: All values are after removing 8 duplicate values (Refer to worksheet - 'Duplicates' for details)

Refer to My Process tab for the process followed

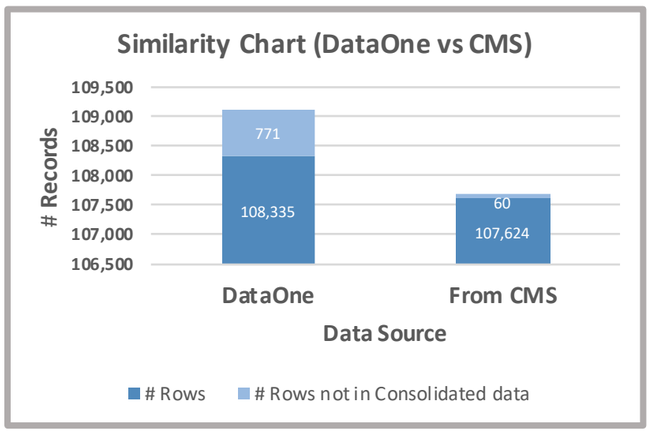
Refer to hidden tabs for details

1 & 3 How different are they? Is it a big difference?
How would you communicate this? Communicate this using (a) a pivot table and (b) a chart.
You'll also need to communicate the significance of the errors.

- **771** rows from “DataOne” do not exist in “CMS.”
- **60** rows from “CMS” do not exist in “DataOne.”

	# Rows	# Rows not in Consolidated data
DataOne	108,335	771
From CMS	107,624	60
Consolidated Unique Data	107,564	
All Data	108,395	

% Overlapping Data	99.23%
% Uncommon Data	0.77%



Overall Similarity: The datasets are **99.23%** similar, indicating a high degree of overlap. The small differences are not significant as compared total number of records.
Overall Dissimilarity: The datasets differ by **0.77% (831),** which, given the large total number of records **(0.1M)** translates to a relatively small number of discrepancies.

2 How can you join the two tables to find which claims don't match?

Defined **Unique Identifier** as **Feature Number** which will used to Join two tables.
Discrepancies Found: *Two* feature numbers have **mismatched claim numbers** between Consolidated

Feature Number	Claim Number-DO	Claim Number-CMS
31282	9181	9192
31283	9181	9192

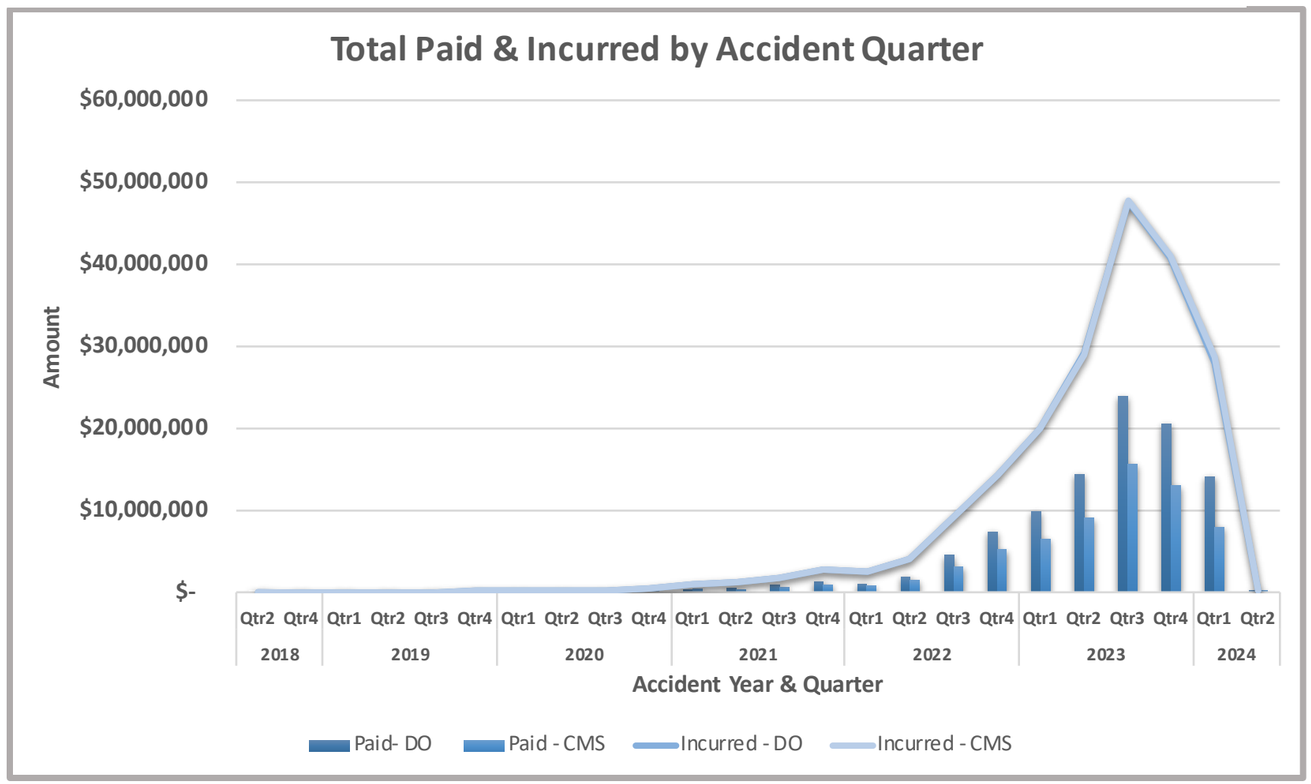
4 What is the incurred amount from each list? By combining the lists, what is the total incurred?

Loss Discrepancy: The incurred loss amounts across DataOne, CMS, Combined - DO, and Combined - CMS show discrepancies ranging from **$1M to $3M** , which constitutes a variance of **0.5% to 1.5%.** While relatively minor, identifying and addressing the specific causes of these differences could help in further reducing the discrepancies.

	Incurred Loss Amount
DataOne	$ 206,045,864.24
CMS	$ 205,033,125.90
Combined - DO	$ 203,683,406.89
Combined - CMS	$ 205,027,680.16

5 Please summarize the total paid and incurred losses and by accident quarter and chart the results.

There is steady increase in paid and incurred Loss amounts for both DO and CMS from 2018, peaking in 2023, and then declining sharply in 2024.
Incurred Amounts: The incurred amounts for both DO and CMS are almost **identical over the years**, peaking in 2023 Q3.
Paid Amounts: The paid amount for DO is consistently higher than for CMS across all quarters.
Outstanding to Paid: Since **incurred loss** amounts are nearly the **same** and DO's paid amounts are



Additional Insight from Premium Table

There significant increase in earned premium, **incurred loss**, and profit from 2021 to 2023, followed by a **sharp decline in 2024.**