Absolutely, let's break down these terms into more straightforward language:

* **CDIAC Number**: A unique number for tracking each bond issue in California.
* **Issuer**: The organization or government entity that's creating the bond to get some money now, promising to pay back later.
* **Issuance Documents**: The paperwork that outlines all the details about the bond.
* **Sold Status**: Tells us if the bond has been sold to investors yet.
* **Sale Date**: The day when the bond was sold.
* **ADTR Report**: Likely a specific report related to the bond, though the acronym's full meaning isn't specified.
* **ADTR Filing Status**: Whether or not the required bond reports have been filed.
* **ADTR Reportable**: If this bond needs to be reported on, according to rules.
* **ADTR Reportable Next Fiscal Year**: Tells us if the bond needs to be reported on next year.
* **ADTR Last Reported Year**: The last year there was a report made about this bond.
* **Debt Policy**: The rules the issuer follows when borrowing money through bonds.
* **Issuer County**: The county where the bond issuer is located.
* **MKR Authority**: This might refer to the authority or legal right the issuer has to create the bond.
* **Local Obligation**: A debt that's specific to a local area.
* **MKR CDIAC Number**: Possibly another tracking number related to the bond.
* **Issuer Group**: A category that the organization issuing the bond falls into.
* **Issuer Type**: The kind of organization issuing the bond (like a city government or a school district).
* **Project Name**: What the money from the bond is going to be used for.
* **Principal Amount**: The total amount of money being borrowed through the bond.
* **New Money**: Funds raised for new projects, not just paying off old debts.
* **Refunding Amount**: Money used to pay off or refinance an older bond.
* **Net Issue Discount/Premium**: If the bond was sold for more (premium) or less (discount) than its face value.
* **Environmental/Social Impact Bonds**: Bonds meant to fund projects with positive environmental or social impacts.
* **Debt Type**: Kind of bond or borrowing method.
* **Purpose**: Why the bond is being issued.
* **Source of Repayment**: How the issuer plans to pay back the bond.
* **TIC Interest Rate**: The overall cost of interest over the life of the bond.
* **NIC Interest Rate**: Another way to measure the bond's interest cost.
* **Interest Type**: If the bond's interest rate is fixed or can change.
* **Other Interest Type**: More specifics on how interest for the bond works.
* **Federally Taxable**: Whether the money made from the bond is taxable by the federal government.
* **First Optional Call Date**: The earliest date the issuer can pay off the bond early.
* **Final Maturity Date**: When the bond must be paid back in full.
* **CAB Flag**: Indicates a specific type of bond that grows in value until it's paid off.
* **Credit Ratings (S&P, Moody's, Fitch, Other)**: A score that tells how likely the bond is to be paid back.
* **Guarantor Flag**: If there's an extra promise from a third party to pay back the bond if the issuer can't.
* **Guarantor**: Who that third party is.
* **Sale Type (Comp/Neg)**: How the bond was sold - either through a competitive process or negotiation.
* **Private Placement Flag**: If the bond was sold directly to specific investors instead of the general public.
* **Roles (Underwriter, Lender, etc.)**: Various professionals involved in creating, selling, and managing the bond.
* **Fees and Costs**: Various charges and expenses associated with issuing the bond.

I hope this helps make the terms a bit clearer!



why does a bond need to be reported next fiscal year

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The requirement for a bond to be reported in the next fiscal year, as hinted by the "ADTR Reportable Next Fiscal Year" column in your dataset, usually ties back to financial transparency, accountability, and regulatory compliance. Here's a more straightforward explanation of why this is important:

**Financial Transparency**

Reporting bonds in the fiscal years following their issuance provides a clear view of the financial obligations an issuer (like a government or corporation) has. This transparency is crucial for investors, rating agencies, and the public to understand the issuer's financial health and how it manages debt.

**Accountability**

Regular reporting ensures that issuers remain accountable for the money they've borrowed through bonds. It allows stakeholders to track how funds are being used, especially if the bonds are earmarked for specific projects or initiatives.

**Regulatory Compliance**

There are laws and regulations governing the issuance and management of bonds, especially for public entities like state or local governments. Reporting on these bonds ensures compliance with these regulations, helping to avoid legal or financial penalties.

**Budgeting and Financial Planning**

Knowing future reporting requirements helps issuers prepare their financial statements and budgets accurately. This planning is vital for managing debt obligations effectively without compromising other financial commitments.

**Investor Relations**

Consistent and forthcoming reporting on bonds strengthens trust with investors. It assures them that the issuer is managing its debt responsibly and is committed to transparency. This can be particularly important for maintaining or improving credit ratings, which affect the interest rates issuers pay on current and future debt.

In essence, the need to report a bond in the next fiscal year is part of the broader financial management practices that ensure responsible use of borrowed funds, compliance with laws, and maintenance of good standing with investors and the public.



what exactly are bond, who are investors, why are they creating bonds, is bond kind of a loan?

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Let's break down these concepts into simpler terms:

**What is a Bond?**

Imagine you have a big project in mind, like building a playground, but you don't have enough money to do it right now. You ask your neighbors if they'd be willing to lend you the money, promising to pay them back with a little extra after some time. A bond is essentially this concept but on a much larger scale. Governments or companies issue bonds to raise money for projects, such as building roads or expanding businesses. When you buy a bond, you're lending money to the issuer, and in return, they promise to pay you back later with interest.

**Who are Investors?**

Using our playground example, your neighbors who lend you money are like investors. In the real world, investors are people or institutions with some extra money. They're looking to make more money by lending it out (buying bonds, in this case) and then getting paid back with interest. Investors can be anyone from an individual with a savings account to large organizations like pension funds or insurance companies.

**Why Create Bonds?**

Why not just go to a bank for a loan? Well, for one, bonds can be a more flexible or cheaper way for governments and companies to get the money they need. Bonds allow them to:

1. **Raise Large Amounts of Money**: For big projects, it's often easier to get the funding from a broad group of investors rather than a single lender like a bank.
2. **Spread Out Repayment**: Bonds can be structured over many years, making it easier to manage repayments.
3. **Attract Investors**: By offering a reliable return on investment (the interest), bonds can be attractive to people or institutions looking to earn money over time.

**Is a Bond a Kind of Loan?**

Yes, you can think of a bond as a type of loan. The key difference between a bond and a regular loan is how they're bought and sold. Bonds can be traded in financial markets, much like stocks. This means that after the initial purchase, an investor can sell the bond to someone else before it matures (before the end date of the loan). The original issuer still owes the bond's value at maturity, but to whoever holds the bond at that time, not necessarily to the original buyer.

In summary, bonds are a way for entities to borrow money directly from investors. These investors are essentially lenders, looking for a secure way to grow their money over time. By buying bonds, they provide funds for significant projects or operational needs, with the expectation of getting their investment back with some interest.



explain all fees and costs

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The fees and costs associated with issuing a bond can be numerous, as they cover various services and steps required to successfully prepare, market, and manage the bond issuance. Let's go over each type of fee and cost you might encounter in more layman's terms:

**General Costs**

* **Issue Costs Pct of Principal Amt**: This represents the total costs of issuing the bond as a percentage of the amount borrowed. Think of it like the fee percentage you pay for the service of getting the loan.
* **Total Issuance Costs**: The total dollar amount spent to issue the bonds, including all fees paid to various service providers involved in the process.

**Underwriting Fees**

* **UW Takedown**: This is the main part of the underwriter's fee, essentially what they earn for selling the bond to investors.
* **UW Mngmt Fee**: A fee paid to the underwriters for managing the bond issuance process.
* **UW Expenses**: Costs that underwriters incur while preparing and selling the bond, which are then passed on to the issuer.
* **UW Total Discount/Spread**: The difference between what investors pay for the bond and what the issuer receives, essentially the underwriter's profit margin.

**Placement Agent Fees**

* **Placement Agent Fee**: If a placement agent is used to help sell the bond, especially in private placements, this is their fee for the service.

**Advisory Fees**

* **Financial Advisor Fee**: Paid to financial advisors for advising on the bond issuance process, including structuring the deal and managing timelines.
* **Bond Counsel Fee**: Fees for legal counsel that specializes in bond issuances, ensuring the bond complies with all laws.
* **Co-Bond Counsel Fee**: Similar to the bond counsel fee but for any additional legal firms that are also involved in the issuance.
* **Disclosure Counsel Fee**: Paid to attorneys tasked with ensuring all disclosures to investors are accurate and comply with securities laws.
* **Borrower Counsel Fee**: Legal fees paid by the borrower for their own legal advice and representation in the issuance.

**Trustee and Other Fees**

* **Trustee Fee**: The fee paid to a trustee, who manages the flow of money between the bond issuer and the investors, ensuring that investors are paid their interest and principal on time.
* **Credit Enhancement Fee**: If insurance or another form of credit enhancement is used to make the bond more attractive to investors by securing the repayment, this fee is for that service.
* **Rating Agency Fee**: Paid to credit rating agencies for rating the bond, which helps investors understand the risk of the bond.
* **Other Issuance Expenses**: This can include a wide variety of other costs, such as printing the bond documents, marketing the bond to investors, and other administrative expenses related to the bond issuance.

Each of these fees and costs is necessary for the complex process of issuing a bond, which involves legal, financial, and market expertise to ensure everything goes smoothly and the bond is attractive to investors.

**PENDING.** The ADTR has not been submitted to CDIAC, but the deadline for submittal has not past. The status will be “Pending” if the first reporting period for the issue has not closed.

**FILED.** The ADTR has been submitted.

**ENDED.** The obligation to file has ended. This will occur when a prior year ADTR indicated that the principal was repaid and the proceeds of the debt were completely spent.

**LATE.** The deadline of January 31st has past and the ADTR has not been submitted. Upon submittal of the ADTR, the status will change to “Filed”.

**PAST DUE.** Twelve months have passed since the close of the reporting period and no ADTR was submitted to CDIAC. This status will not change until an ADTR for the most recently closed reporting period has been submitted.

**NA.** The requirement to submit an ADTR does not apply to this issue.

**PROPOSED.** The debt issue is in its proposed stage. The status will change to “Pending” following submittal of the Report of Final Sale.

Data Cleaning

1. Delete “issuance documents”, “ADTR report” because it contains sensitive info
2. Separate ‘ADTR filing status’ link and status
3. Clean the ratings and somehow make them into categories or try to explain the whole thing about ratings we can form many question here

Questions

1. In California who is major issuer?
2. Who issues the biggest bonds and for which purpose? (explore issuer type column)
3. How many bonds are sold for each issuer and what is the avg value?
4. Check what is the range of dataset by date
5. Number of bonds sold by year (or choose the right time-frame) and their value
6. Which kind of bonds don’t require ADTR filing? Or is this related to the issuer? Or the bonds value? (Do this ADTR reportable it will be much easier).
7. Repeat same question but for ‘ADTR last reported year’ and ‘ADTR reportable next fiscal year’ (see if you can make a stored procedure for q6 and q7)
8. Is debt policy applied to issuers who have bad ratings? If yes what is the threshold
9. How many bonds issuer have raised the whole budget? It must be related to their credit worthiness as well.
10. Explore what exactly is ‘refunding amount”
11. Use ‘net issue discount/premium’ to check if some bonds were for less or more. Does the issuer type, their rating, the principal amount or environmental social impact or purpose matter?
12. Explore ‘debt type’. Looks like you can use GROUP BY to find a lot of things. Read more about debt type. Same can be done about ‘source of repayment’
13. Does a bond being federally taxable means it is high in value? Or related to purpose? Or the issuer ?
14. What do you think the first optional call date depends upon? And maturity date as well.
15. CAB flag is confusing seems like an important column but I don’t have enough info.
16. You can do some questions from above about guarantor flag, guarantor,

**General Analysis**

1. **Issuer Activity**: How many bonds have been issued by each issuer, and what trends can be observed over time?
2. **Sold Status Distribution**: What proportion of bonds have been sold compared to those not sold or pending sale?
3. **Filing Timeliness**: How does the timeliness of ADTR filings (on time, late) vary across different issuers?

**Time-Series Analysis**

1. **Temporal Trends in Bond Sales**: How has the number and value of bonds issued changed over the years?
2. **Fiscal Year Reporting**: How many issuers report ADTR in the next fiscal year, and how does this trend change over time?

**Financial Metrics**

1. **Fee Analysis**: What are the average fees (Financial Advisor Fee, Bond Counsel Fee, etc.) associated with bond issuance, and how do these fees vary by issuer or over time?
2. **Expenses Analysis**: What are the trends in other issuance expenses, and how do they correlate with the bond's sale status or amount?

**Geographic Analysis**

1. **Issuer County Distribution**: Which counties are most active in issuing bonds, and how does this relate to the economic or demographic profiles of those counties?
2. **Geographic Trends in Fees and Expenses**: How do fees and expenses vary across different counties in California?

**Correlation and Causation**

1. **Relationship Between Fees and Sale Status**: Is there a correlation between the fees charged (e.g., Financial Advisor Fee, Bond Counsel Fee) and the bond's sale status?
2. **Impact of Filing Status on Bond Sale**: Does the timeliness of ADTR filing (on time vs. late) have any correlation with the success of bond sales?

These questions will help you dive deep into the financial aspects of bond issuance in California, exploring trends, identifying patterns, and potentially uncovering insights about financial health, operational efficiency, and the impact of fiscal policies on bond sales. After performing SQL queries to explore these questions, you can then leverage Tableau to visualize your findings, making them accessible and understandable to your audience. ​​



Give me more questions

ChatGPT

Building upon the initial set of exploratory data analysis (EDA) questions, here are additional questions to deepen your understanding of the financial and bond issuance activities in California. These questions can help uncover more nuanced insights and patterns within your dataset:

**Detailed Financial Analysis**

1. **Bond Issuance Size**: What is the distribution of bond issuance sizes (total amount), and how does it vary by issuer or over time?
2. **High-Cost Issuances**: Identify the top 10 bond issuances with the highest total fees and analyze the common characteristics among them (issuer, county, year).
3. **Cost Efficiency**: Calculate the cost efficiency of bond issuances (e.g., fees as a percentage of the total bond amount) and identify which issuers or counties are the most cost-efficient.

**Comparative Analysis**

1. **Year-over-Year Growth**: Analyze the year-over-year growth in the number of bonds issued and the total issuance amount. Identify any patterns or anomalies.
2. **Comparative Fee Analysis**: Compare the different types of fees (Financial Advisor Fee, Bond Counsel Fee, etc.) to see which fees constitute the largest portion of the costs associated with bond issuance.

**Issuer-Specific Analysis**

1. **Issuer Performance Over Time**: For issuers with multiple bond issuances, how has their performance (in terms of sale status, filing timeliness, etc.) changed over time?
2. **Issuer Fiscal Responsibility**: Which issuers consistently report ADTR in the next fiscal year, and does this correlate with better financial metrics or sale outcomes?

**Impact of External Factors**

1. **Economic Impact Analysis**: Investigate if there are noticeable impacts on bond issuance activities during economic downturns or booms (this might require external economic data for context).
2. **Legislative Impact**: Explore if there are any changes in bond issuance patterns corresponding to major legislative changes or public policies affecting finance and economy in California.

**Advanced Statistical and Predictive Analysis**

1. **Predictive Factors for Sale Status**: Using logistic regression or another classification method, determine which factors are most predictive of a bond's sale status (sold, not sold).
2. **Time Series Forecasting**: Use time series analysis to forecast the number of bonds that will be issued in the coming years based on past trends.

**Geospatial Analysis**

1. **County-level Analysis**: Map the bond issuance activities to see which regions in California are most active. Are there regional trends that suggest economic or demographic influences?
2. **Correlation with County Characteristics**: Correlate bond issuance data with county-level socioeconomic indicators (like GDP per capita, unemployment rate) to see if higher economic activities lead to more bond issuances.

Understanding the relationship between principal amount, new money, refunding amount, and discount/premium in the context of bonds involves breaking down each component:

1. **Principal Amount**:
   * The principal amount of a bond is the face value or the nominal value of the bond, which is the amount that the issuer agrees to pay back to the bondholder at the maturity date. It is the reference amount on which interest payments (coupons) are calculated. For example, if a bond has a principal amount of $1,000 and an annual coupon rate of 5%, the issuer will pay $50 in interest each year to the bondholder.
2. **New Money**:
   * New money in bond terms generally refers to funds that are raised through the issuance of new bonds for the purpose of financing new projects or investments. Unlike refunding or refinancing operations, new money is aimed at generating additional capital for fresh expenditures rather than managing existing debt.
3. **Refunding Amount**:
   * The refunding amount is the total capital raised through issuing new bonds specifically to retire existing bonds before their maturity. This is often done to take advantage of lower interest rates and reduce the cost of borrowing, or to change the terms of the debt. The refunding can be direct (proceeds directly pay off the old bonds) or defeasance (proceeds are put in an escrow account to pay off the old bonds at maturity or call date).
4. **Discount/Premium**:
   * These terms relate to the price at which a bond is sold relative to its principal amount. If a bond is sold for less than its principal amount, it is said to be sold at a discount. Conversely, if it is sold for more than its principal amount, it is sold at a premium. The discount or premium can affect the yield (the effective interest rate received by the bondholder) and is an important factor in bond pricing. For example, buying a $1,000 bond for $950 means it was purchased at a discount, which could increase the yield above the nominal coupon rate because the investor gains an additional $50 at maturity.

**Relationship between These Components**:

* When new bonds are issued at a discount or premium, it affects the actual cost of borrowing for the issuer and the yield for the investors. For instance, issuing bonds at a premium effectively reduces the yield for new investors because they are paying more upfront for the same nominal interest payments.
* In a refunding operation, the relationship between the discount/premium and the refunding amount is crucial. Issuing new bonds at a lower interest rate (possibly leading to a premium) can still result in overall savings if the total interest payments and the costs associated with the refunding are lower than continuing to pay interest on the old bonds.
* New money raised through bond issuance can also be at a discount or premium, impacting the actual amount of capital raised versus the principal amount of the bonds issued. This will affect the project or investment's financing costs and overall financial strategy.

Each of these elements plays a significant role in the broader financial strategy of bond issuers and the investment decisions of bond investors.