**Exploratory Analysis Document**

**Dataset Overview**

**•** Dataset Name: U.S. Treasury Monthly Statement of the Public Debt (MSPD)

**•** Source:[Monthly Statement of the Public Debt (MSPD) | U.S. Treasury Fiscal Data](https://fiscaldata.treasury.gov/datasets/monthly-statement-public-debt/summary-of-treasury-securities-outstanding)

**•** Date of Data: 01/31/2001 to 09/30/2023

**Dataset Description**

The dataset contains information about various types of U.S. government securities, categorized as Marketable and Nonmarketable, for three different months in the year. It includes details on debt held by the public and intragovernmental holdings, providing insights into the total public debt outstanding.

**1. Data Summary**

**Let's begin by summarizing the key statistics of the dataset:**

* **Total Rows:** 4169
* **Columns:** 12
* **Memory usage:** 423.5 KB

**2. Data Overview**

**• Record Date:** The data covers three months in year, with information on January 31st, February 28th, and March 31st.

**• Security Type Description:** Categorizes the securities into various types, including Bills, Notes, Bonds, Treasury Inflation-Protected Securities, Floating Rate Notes, Federal Financing Bank, and others.

**• Security Class Description:** Distinguishes between Marketable and Nonmarketable securities.

**• Debt Held Public (Million Amount):** The amount of debt held by the public in millions.

**• Intragovernmental Hold (Million Amount):** The amount of debt held intragovernmentally in millions.

**• Total (Million Amount):** The total amount of debt in millions.

**• Src Line Number:** A numeric identifier for the data source.

**• Record Fiscal Year:** The fiscal year associated with the data.

**• Record Fiscal Quarter:** The fiscal quarter associated with the data.

**• Record Calendar Year:** The calendar year associated with the data.

**• Record Calendar Quarter:** The calendar quarter associated with the data.

**• Record Calendar Month:** The calendar month associated with the data.

**• Record Calendar Day**: The calendar day associated with the data.

A graph of a number of blue bars

Description automatically generated

A graph of a market share

Description automatically generated with medium confidence

Below is the table of the dataset with few records in it.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| record\_date | security\_type\_desc | security\_class\_desc | debt\_held\_public\_mil\_amt | intragov\_hold\_mil\_amt | total\_mil\_amt | src\_line\_nbr | record\_fiscal\_year | record\_fiscal\_quarter | record\_calendar\_year | record\_calendar\_quarter | record\_calendar\_month | record\_calendar\_day |
| 1/31/2023 | Marketable | Bills | 3937202 | 1671.535 | 3938873 | 1 | 2023 | 2 | 2023 | 1 | 1 | 31 |
| 1/31/2023 | Marketable | Notes | 13747218 | 6572.565 | 13753791 | 2 | 2023 | 2 | 2023 | 1 | 1 | 31 |
| 1/31/2023 | Nonmarketable | Domestic Series | 23818.82 | 0 | 23818.82 | 8 | 2023 | 2 | 2023 | 1 | 1 | 31 |
| 1/31/2023 | Nonmarketable | State and Local Government Series | 99115.32 | 0 | 99115.32 | 10 | 2023 | 2 | 2023 | 1 | 1 | 31 |

**Null Columns from the Dataset:**

There are no null values present in this dataset, all the columns have the value for every record made in it.

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Description automatically generated with medium confidence

**Univariate Analysis:**

**Numeric Variable**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **debt\_held\_public\_mil\_amt** | **intragov\_hold\_mil\_amt** | **total\_mil\_amt** |
| count | 4,169.00 | 4,169.00 | 4,169.00 |
| mean | 2,204,889.00 | 914,050.30 | 3,118,939.00 |
| std | 4,563,186.00 | 1,922,878.00 | 5,366,425.00 |
| min | 0.00 | 0.00 | 0.00 |
| 25% | 28,000.17 | 0.00 | 29,995.18 |
| 50% | 220,189.20 | 359.87 | 539,542.70 |
| 75% | 1,630,684.80 | 16,907.94 | 4,303,039.00 |
| max | 26,330,139.00 | 6,902,095.87 | 33,167,326.61 |

A graph with blue lines

Description automatically generated with medium confidence

A graph of a graph of debt held by public

Description automatically generated

A graph of debt and bankruptcy

Description automatically generated with medium confidence

A graph of a security class distribution

Description automatically generated

The statistical diagrams represent the data in different formats by specific area covered by each. The Security Class description has a type “\_” for the **Total Public Debt Outstanding, Total Marketable, Total Nonmarketable** which would mostly not be used for analysis purpose and it can be removed while cleaning, the security type and specific security will be used for relating the data from both the datasets.