**The International Debt**

we are going to analyze international debt data collected by The World Bank. The dataset contains information about the amount of debt (in USD) owed by developing countries across several categories. We are going to find the answers to questions like:

* What is the total amount of debt that is owed by the countries listed in the dataset?
* Which country owns the maximum amount of debt and what does that amount look like?
* What is the average amount of debt owed by countries across different debt indicators?

**The World Bank’s International Debt Data**

It's not that we humans only take debts to manage our necessities. A country may also take debt to manage its economy. For example, infrastructure spending is one costly ingredient required for a country's citizens to lead comfortable lives. [The World Bank](https://www.worldbank.org/) is the organization that provides debt to countries.

-- select 10 rows of data from our international\_debt table

SELECT \* from international\_debt

LIMIT 10

Table

Description automatically generated

From the first ten rows, we can see the amount of debt owed by *Afghanistan* in the different debt indicators.

**Finding the number of distinct countries**

Does this table contains data from Afghanistan only? or is it any other country? How many countries are on our table? Without a count of unique countries, we will not be able to perform our statistical analyses holistically.

SELECT COUNT(DISTINCT(country\_name))

AS total\_distinct\_countries

FROM international\_debt;

Text

Description automatically generated with low confidence

So, there are actually 124 countries in our table

**Finding out the distinct debt indicators**

From our table, there is a column called indicator\_name that briefly specifies the purpose of taking the debt. Just beside that column, there is another column called indicator\_code which symbolizes the category of these debts. Knowing about these various debt indicators will help us to understand the areas in which a country can possibly be indebted to.

SELECT DISTINCT(indicator\_code) as distinct\_debt\_indicators

FROM international\_debt

ORDER BY distinct\_debt\_indicators

There are 25 kind of symbol of these debts. Here are 5 of them :

Table

Description automatically generated

**Totaling the amount of debt owed by the countries**

As mentioned earlier, the financial debt of a particular country represents its economic state. But if we were to project this on an overall global scale, how will we approach it?

Let's switch gears from the debt indicators now and find out the total amount of debt (in USD) that is owed by the different countries. This will give us a sense of how the overall economy of the entire world is holding up.

SELECT

ROUND((SUM(debt)/1000000), 2) as total\_debt

FROM international\_debt;

Text

Description automatically generated

There is more 3 trillion USD total debt of all countries, what an fantastic number, right?

**Country with the highest debt**

"Human beings cannot comprehend very large or very small numbers. It would be useful for us to acknowledge that fact." - [Daniel Kahneman](https://en.wikipedia.org/wiki/Daniel_Kahneman).

This 3 Trillion total debt is the sum of different debts owed by a country across several categories. This will help to understand more about the country in terms of its socio-economic scenarios. Now that we have the exact total of the amounts of debt owed by several countries, let's now find out the country that owns the highest amount of debt along with the amount.

SELECT

country\_name,

SUM(debt) as total\_debt

FROM international\_debt

GROUP BY country\_name

ORDER BY total\_debt desc

LIMIT 1;

Text

Description automatically generated

China is the country with the highest total debt!

**Average amount of debt across indicators**

So, it was *China*. A more in-depth breakdown of China's debts can be found [here](https://datatopics.worldbank.org/debt/ids/country/CHN).

We now have a brief overview of the dataset and a few of its summary statistics. We already have an idea of the different debt indicators in which the countries owe their debts. We can dig even further to find out on an average how much debt a country owes? This will give us a better sense of the distribution of the amount of debt across different indicators.

SELECT

indicator\_code AS debt\_indicator,

indicator\_name,

AVG(debt) as average\_debt

FROM international\_debt

GROUP BY debt\_indicator,indicator\_name

ORDER BY average\_debt desc

LIMIT 10;

Graphical user interface, text, application, email

Description automatically generated

We can see that the indicator DT.AMT.DLXF.CD tops the chart of average debt. This category includes repayment of long term debts. Countries take on long-term debt to acquire immediate capital. More information about this category can be found [here](https://datacatalog.worldbank.org/principal-repayments-external-debt-long-term-amt-current-us-0).

**The highest amount of principal repayments**

An interesting observation in the above finding is that there is a huge difference in the amounts of the indicators after the second one. This indicates that the first two indicators might be the most severe categories in which the countries owe their debts.

We can investigate this a bit more so as to find out which country owes the highest amount of debt in the category of long term debts (DT.AMT.DLXF.CD). Since not all the countries suffer from the same kind of economic disturbances, this finding will allow us to understand that particular country's economic condition a bit more specifically.

SELECT

country\_name,

indicator\_name

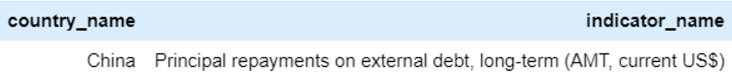
FROM international\_debt

WHERE debt = (SELECT

MAX(debt)

FROM international\_debt

WHERE indicator\_code='DT.AMT.DLXF.CD');



China has the highest amount of debt in the long-term debt (DT.AMT.DLXF.CD) category. This is verified by [The World Bank](https://data.worldbank.org/indicator/DT.AMT.DLXF.CD?end=2018&most_recent_value_desc=true). It is often a good idea to verify our analyses like this since it validates that our investigations are correct.

**The most common debt indicator**

We saw that long-term debt is the topmost category when it comes to the average amount of debt. But is it the most common indicator in which the countries owe their debt? Let's find that out.

SELECT indicator\_code,

COUNT(indicator\_code) AS indicator\_count

FROM international\_debt

GROUP BY indicator\_code

ORDER BY indicator\_count desc, indicator\_code desc

LIMIT 10

Table

Description automatically generated

There are a total of six debt indicators in which all the countries listed in our dataset have taken debt. The indicator DT.AMT.DLXF.CD  is also there in the list. So, this gives us a clue that all these countries are suffering from a common economic issue. But that is not the end of the story, but just a part of the story.

**Other viable debt issues and conclusion**

Let's change tracks from debt\_indicator s now and focus on the amount of debt again. Let's find out the maximum amount of debt that each country has. With this, we will be in a position to identify the other plausible economic issues a country might be going through.

We took a look at debt owed by countries across the globe. We extracted a few summary statistics from the data and unraveled some interesting facts and figures. We also validated our findings to make sure the investigations are correct.

SELECT country\_name,

MAX(debt) as maximum\_debt

FROM international\_debt

GROUP BY country\_name

ORDER BY maximum\_debt desc LIMIT 10

Table

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