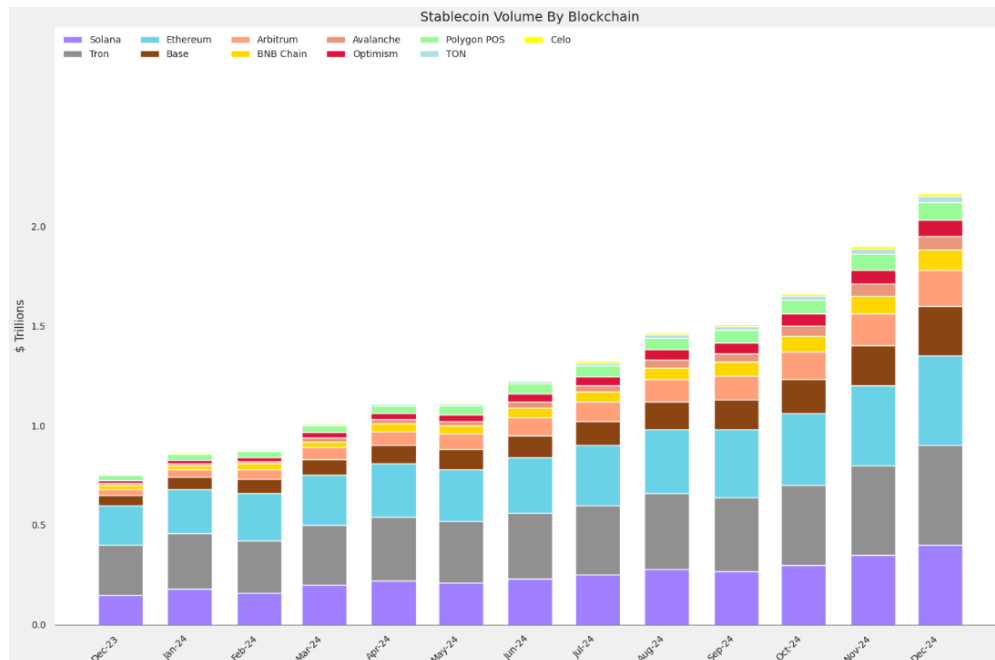# How to interpret stacked bar chart over time for multivariate analysis

A. Understanding the Components of a Stacked Bar Chart Over Time:

- **Horizontal Axis (X-axis):** Represents the "Time" in months, from Dec-23 to Dec-24.
- **Vertical Axis (Y-axis):** Represents the "Stablecoin Volume" in Trillions of dollars.
- **Stacked Bars:** For each month on the x-axis, there is a single bar that is segmented into different colors. Each color represents the stablecoin volume on a specific "Blockchain":
  - Solana (Purple)
  - Tron (Gray)
  - Ethereum (Light Blue)
  - Base (Brown)
  - Arbitrum (Peach)
  - BNB Chain (Yellow)

- o Avalanche (Salmon)

- o Optimism (Red)

- o Polygon PoS (Light Green)

- o TON (Turquoise)

- o Celo (Pale Yellow)

- **Legend:** The legend at the top clarifies which color corresponds to each blockchain platform.

B. Interpreting the Stablecoin Volume by Blockchain Over Time:

By examining the stacked bars for each month, we can understand the total stablecoin volume and the contribution of each blockchain platform:

- **Total Stablecoin Volume Trend:** The total height of each bar shows the total stablecoin volume across all these blockchains for that specific month. We can observe a general upward trend in the total stablecoin volume over the year, indicating growth in this market.
- **Individual Blockchain Contributions:** The height of each color-coded segment within a bar represents the stablecoin volume on that particular blockchain for that month.

  - o **Solana (Purple) and Tron (Gray):** Appear to be consistently significant contributors to the total stablecoin volume throughout the year, with Solana generally showing a slightly lower volume than Tron in the initial months but catching up and potentially surpassing it in the later months.

  - o **Ethereum (Light Blue):** Also shows a substantial and growing contribution to the total volume over time.

  - o **Base (Brown):** Starts with a smaller contribution but shows significant growth throughout the year, becoming a major player by the end.

  - o **Arbitrum (Peach), BNB Chain (Yellow), Avalanche (Salmon), Optimism (Red), and Polygon PoS (Light Green):** Generally show smaller individual contributions compared to the top three but their volumes also fluctuate and grow over time.

- ○ **TON (Turquoise) and Celo (Pale Yellow):** Appear to have the smallest scontributions to the total stablecoin volume throughout the observed period.

- **Changing Market Share:** By visually comparing the proportions of the different colored segments within each bar over time, we can infer changes in the market share of each blockchain for stablecoin volume. For instance, while Tron and Solana are significant initially, the increasing height of the brown (Base) segment suggests a growing market share for that platform.

C. Stacked bar charts over time are particularly useful when you want to:

- **Show the total magnitude of a numerical variable over time and simultaneously illustrate the contribution of different components (categories) to that total.** Here, the total stablecoin volume and the contribution of each blockchain.
- **Visualize how the composition of a total changes over time.** We can see how the relative proportions of stablecoin volume across different blockchains evolve month by month.
- **Compare the absolute contribution of different categories to the total over time.** For example, we can track the growth in stablecoin volume on Ethereum or Base.
- **Identify dominant and emerging components within the total over time.** The consistent significant contribution of Tron and Solana, alongside the rapid growth of Base, becomes apparent.
- **Present a clear and relatively easy-to-understand view of how different entities contribute to an aggregate value over a period.**

Considerations:

- **Comparing individual segment sizes across different bars can be challenging if the total heights of the bars vary significantly.** It's easier to compare segments that share a common baseline (the bottom of the bar).
- **If there are too many categories, the stacked bars can become cluttered and difficult to interpret.**

In summary, the stacked bar chart over time effectively visualizes the total stablecoin volume and the dynamic contributions of various blockchain platforms to this total across a one-year period, highlighting both overall trends and changes in the relative importance of each platform.