

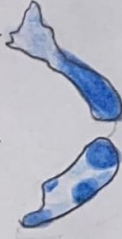




## IDEAS

### ① Real Median Income by State

#### a. Choropleth Map



#### b. Dot Density Map



#### c. Proportional Symbol Map



### ⑤ Rank Movement

#### a. Parallel Coordinate Chart



#### b. Bump Chart



#### c. Step Line Chart



### Filter

#### ③ c. Calendar Heatmap



→ our dataset is Year-level, turning down into monthly or daily data will result in repetition of colour value along days

#### ④ c. Gini coefficient line plot



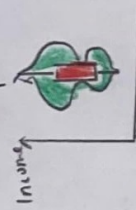
→ Although a very good chart to show income inequality, this is beyond scope to apply and might result in wasted potential

### ② Distribution of Real Median Income

#### a. Bar plot



#### b. Violin plot

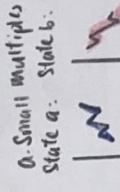


#### c. Histogram

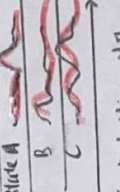


### ⑥ Indexed Real Income Growth

#### a. Small Multiples



#### b. Sparkline Graph

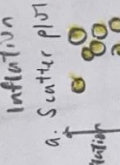


#### c. Ridgeline plot

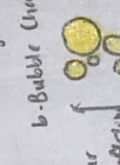


### ⑦ Real Wage Growth vs. Inflation

#### a. Scatter plot



#### b. Bubble Chart



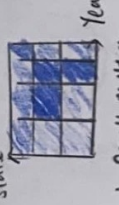
#### c. Diverging Bar Plot



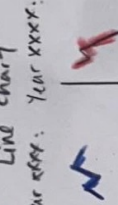
### ③ Real Median Income by State

#### x State

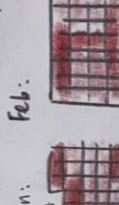
#### a. Heat map



#### b. Small Multiples Line chart

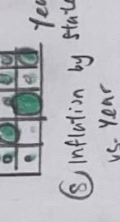


#### c. Calendar Heatmap



### ⑤ Inflation by State vs. Year

#### a. Streamgraph



#### b. Heat map



#### c. Diverging Bar Chart



### ④ Nominal vs. Real (2022)

#### a. Empired Bar Chart



#### b. Dumbbell Chart

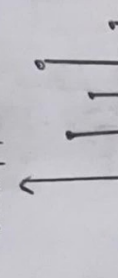


#### c. Slope Chart

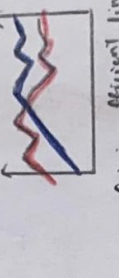


### ④ Mean vs Median Gap

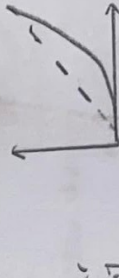
#### a. Lollipop Chart



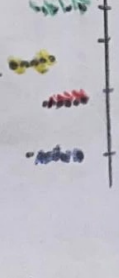
#### b. Dual Bar Chart



#### c. Gini coefficient line plot



#### d. Dot Strip Plot



## CATEGORISE

### ① Regional Overview

#### a. Real Median Income by State

#### b. Distribution of Real Median Income

#### c. Trends over Time

#### d. Real Median Income (Year x State)

#### e. Rank Movement

#### f. Indexed Real Income Growth

#### g. Inflation and Purchasing Power Erosion

#### h. Nominal vs Real

#### i. Inflation by State vs. Year

#### j. Real Wage Growth vs. Inflation

#### k. Income Structure and Inequality

#### l. Mean vs. Median Gap

#### m. Task: planning visualisation

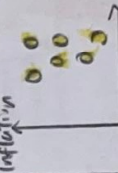
#### n. Author: Meow Kai Bin

#### o. Date: 30/9/2025

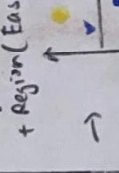
#### p. Sheet: 1

## COMBINE & REFINE

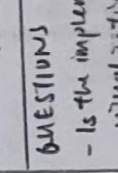
### 1a. Scatter plot



### 1b. Scatter plot



### 1c. Scatter plot



## QUESTIONS

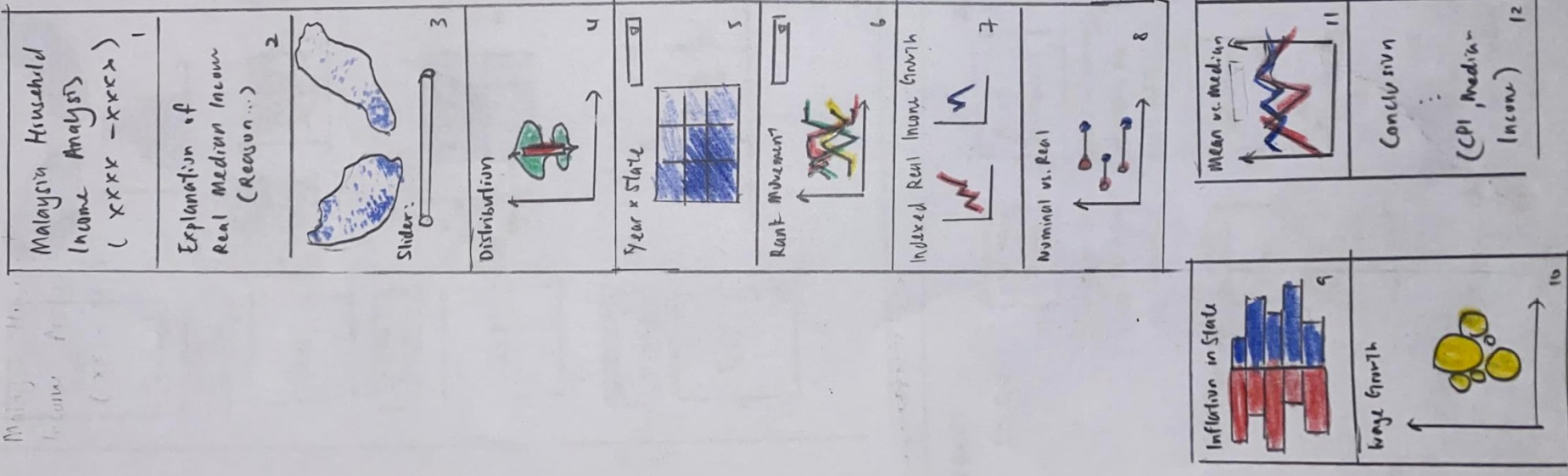
### - Is the implementation of the visualisation doable?

### - Does the visualisation convey enough message?

### - Is the visualisation easy to understand?



## Simple Narrative Visualization



## FOCUS

3rd slide: DOT Density map with a year slider, the higher the density of the state the higher the income value

4th slide: Violin plot: shows median, 1st + 3rd quartile, outlier cell is the higher the value

5th slide: State x Year grid Heat map, the more saturated the cell is the higher the value

6th slide: Bump chart, shows the ranking of states based on income over the years

7th slide: Small multiples, show the change of state progress over the years 1 by 1

8th slide: Dumbbell chart, comparison of nominal median income and real median income for each state

9th slide: Diverging bar chart, to show positive or negative inflation for each state

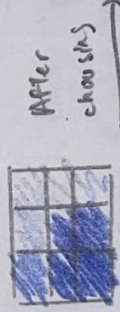
10th slide: Bubble chart, size = population, x = wage growth, y = inflation

11th slide: Dual axis chart

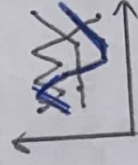
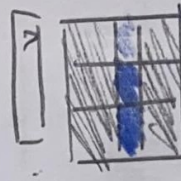
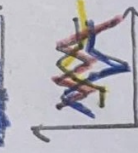
## OPERATIONS

5th + 6th slide:

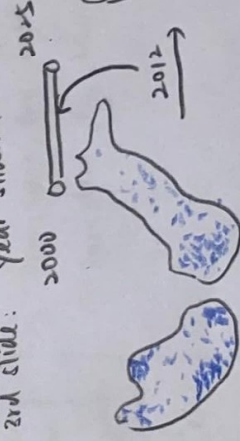
Choose one state:



AFTER choosing



2nd slide: year slider:



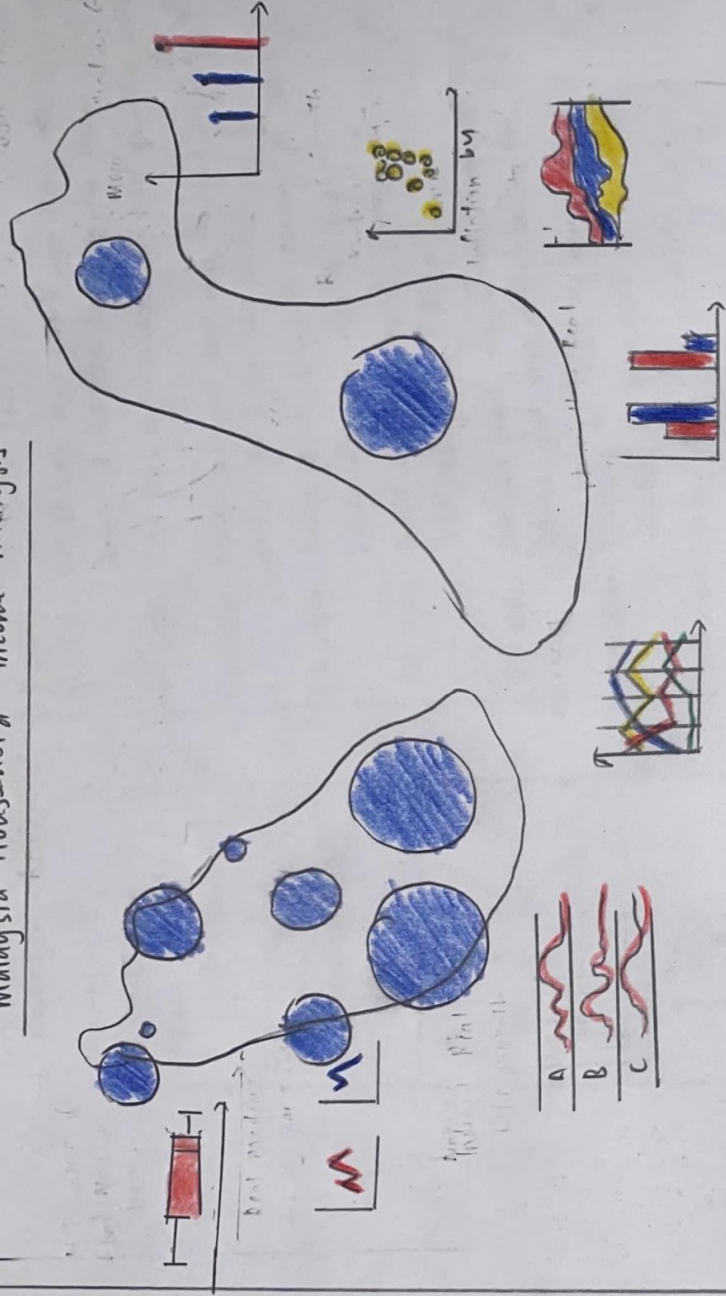
## DISCUSSION:

- ✓ Minimalistic style in conveying information
- ✓ Each chart is presented with a story theme, helps viewers in understanding
- ✗ No strong focus indicate what is user understanding
- ✗ Violin plot might be expensive to build



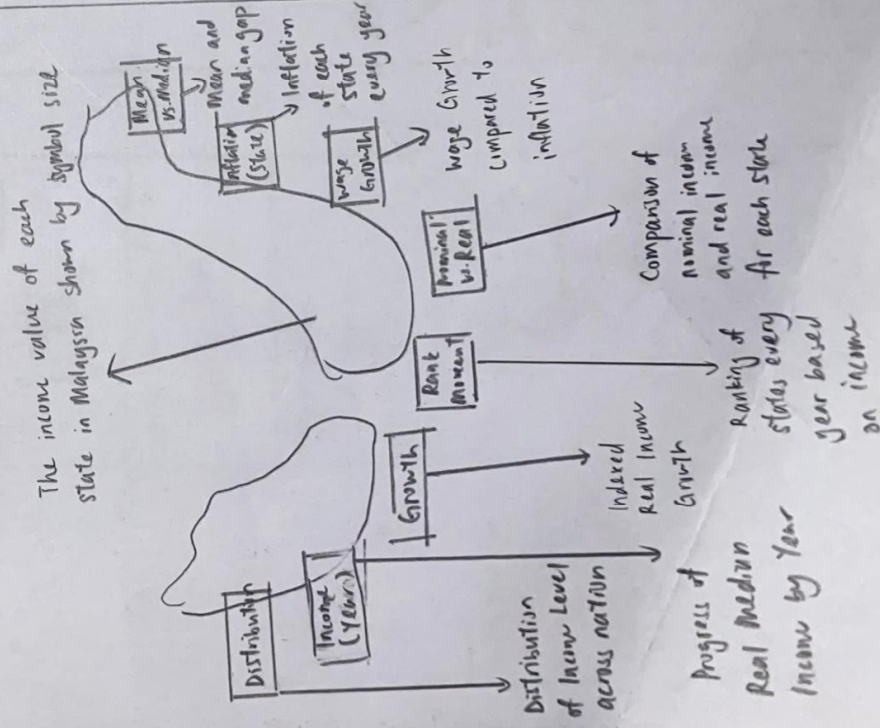
# LAYOUT

## Malaysia Household Income Analysis



### Focus

- In a big data visualisation board like this, everything is being focused.

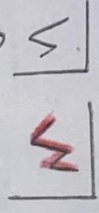


### OPERATIONS

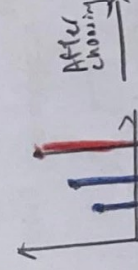
State: Choose one



↓ After choosing



Equality level: Choose → High, Medium, Low



↑ After choosing

### DISCUSSIONS

- With nice colour integration, this could be an outstanding visualization, good figure-ground choice.
- No main focus, excessive information all presented in one page
- Diagrams might be hard to read

- The information does not tell a good story
- Might not fit into one screen view, requires horizontal scrolling

Title: Map-being-Figure-ground dashboard

Author: Meow Kai Bin

Date: 30/9/2025

Sheet: 2

Topic: Income Visualization



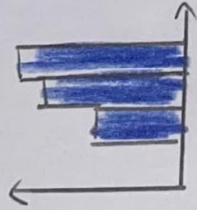
## Malaysia Median Income Analysis

[Introduction]

[Section 1 Title]



[Text]



[Section 2 Title]



[Text]



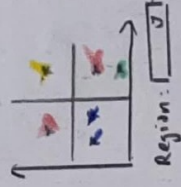
[Text]



[Section 3 Title]



[Text]

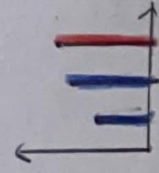


Region: [Text]



[Text]

[Section 4]



[Text]

## FOCUS

Section 1: Choropleth Map → Real Median Income by State

Histogram → Distribution of Real Median Income

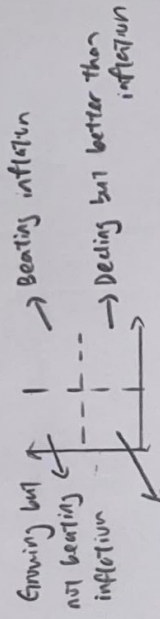
2: Heat Map → Real Median Income (State x Year)

Bump Chart → Rank Movement

Small Multiples → Indexed Real Income Growth

3: Slope chart → Nominal vs. Real Income

Scatter plot → Real Wage Growth vs. Inflation



Declining faster than inflation

Heat map: Inflation by State vs. Year

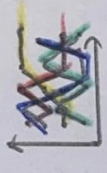
4: Lollipop chart: Mean vs. Median Gap

## OPERATIONS

Section 2: Choose state: [Text]

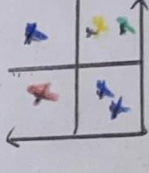


After choosing

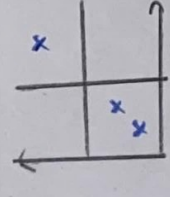


After choosing

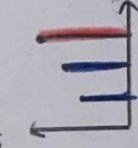
Section 3: Choose region: [Text]



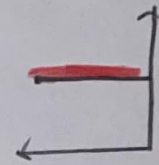
After choosing



Section 4: Choose inequality level: [Text]



After choosing



## DETAILS

- Time to build / implementation: 1 week
- Interactive features, need time and effort to learn to build
- Published in GitHub using GitHubPages