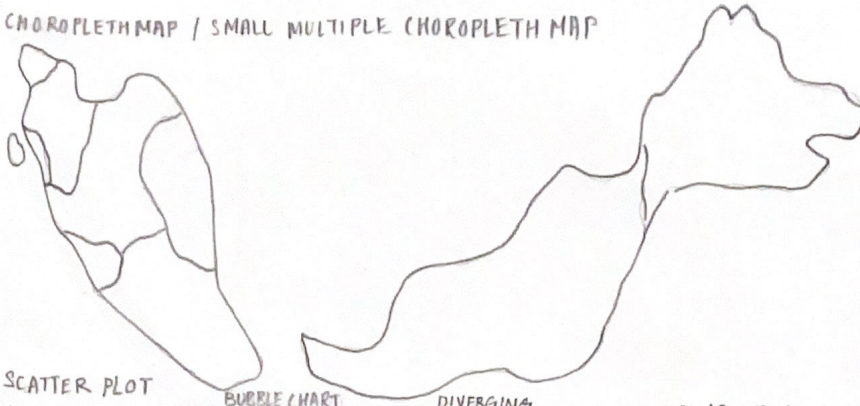


IDEAS

CHOROPLETH MAP / SMALL MULTIPLE CHOROPLETH MAP



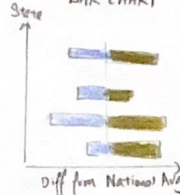
SCATTER PLOT



BUBBLE CHART



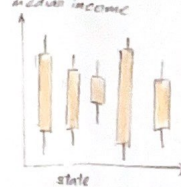
DIVERGING BAR CHART



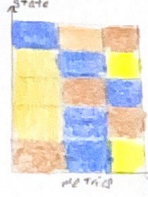
RADAR CHART



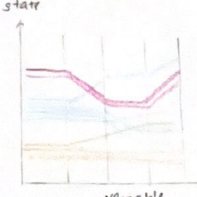
BOX PLOT



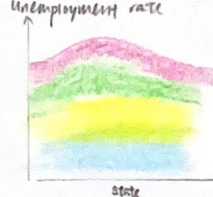
HEAT MAP



PARALLEL COORDINATES



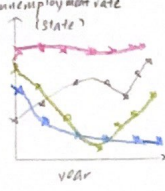
STACKED AREA CHART



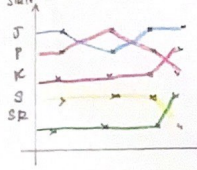
LINE CHART



MULTILINE CHART



BUMP CHART



FILTER

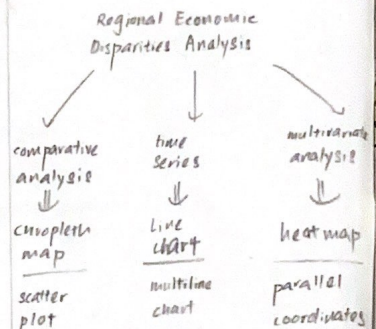
① radar chart

- constraint: comparison max 3-5 entities
- not effective to show case entities that does not have comparable scale

② Bubble chart

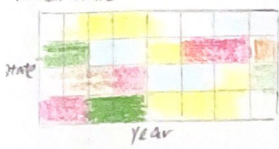
- bubble size mean (labour force size) might not be meaningful to dataset
- redundant in scatter plot
- does not add analytic value to topic

CATEGORISE

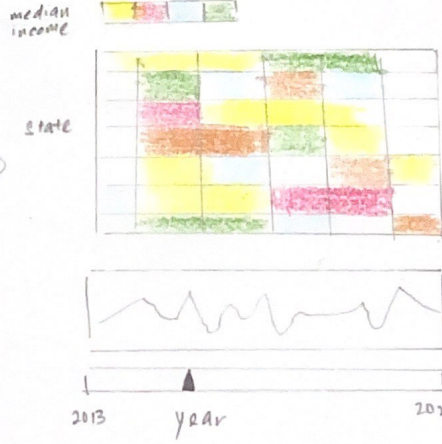
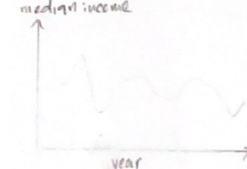


COMBINE & REFINE

HEAT MAP



LINE CHART



QUESTION

- Will Vega Lite be able to plot Heat Map?
- Is there any alternative chart that could better explain the data other than current selected chart?
- Is the refinement chart applicable in Vega Lite?

Author: Yuan Yee Mun

Date: 26. Sept. 2025

Sheet: 1

Task: Brain Storm Visualisation

LAYOUT

REGIONAL ECONOMIC DISPARITIES

(2012 - 2022) MALAYSIA



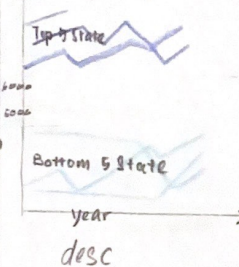
Median Income

2012

desc

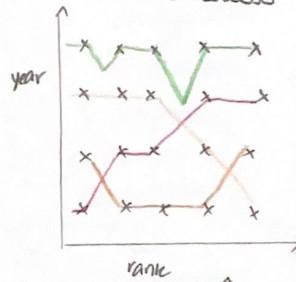
INCOME TREND

Income (Amount)



MultiLine chart

INCOME RANK



Bump Chart

Title: Partitioned Poster

Author: Yuan Yee Mun

Date: 26. Sept. 2025

Sheet: 2

Task: Design an infographic dashboard

OPERATION

tooltip annotation

viewers could move their cursor to the state their interested in

20 Year selector

Certain year doesn't contain available data

Instead of using slider, This would be more efficient.

Note

A website helper that allows user to click on it

and a msg will pop aside

"Use the dropdown to select from available years."

FOCUS

This section / dashboard will show the economic disparities in Malaysia focus on income household (comparison between states)

MultiLine chart = showing income trend (top 5 / bottom 5) of that specific year selected

Bump Chart = showing state income rankings

(consider using state flag for division)

DISCUSSION

→ Are the year connections between the 3 charts doable?

→ Is there an alternative way to show the income trend so that viewers can understand it more easily?

Adv: clear state trajectory
Easy to compare

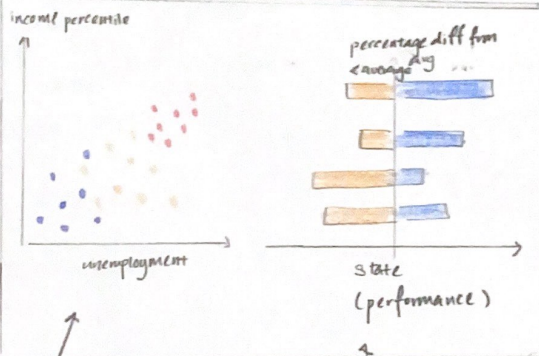
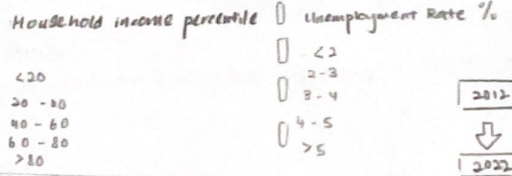
Disadv: Limited spatial comparison
Active Interaction required to see full story.

LAYOUT

REGIONAL ECONOMIC DISPARITIES

(2012 - 2022) MALAYSIA

INCOME DISTRIBUTION vs. UNEMPLOYMENT RATE



Scatterplot.

diverging bar chart
x-axis: state (performance)
y-axis: percentage difference from average.

Title: Story Telling #1

Author: Yuan Yee Mun

Date: 26 Sept 2025

Sheet: 3

Task: Design a scrollable story like poster

OPERATION

2012
↓
2022
Year Comparison Operator
Able to select year interested

Hover Tooltip

Allow user to check the state and its corresponding (median income / unemployment rate)

Interactivity

Click on that state, every map will highlight the state

FOCUS

This dashboard focus on

establishing the foundational relationship between income disparities and labour market condition by comparing start point (2012) vs endpoint (2022)

→ WHERE income disparities exist & HOW THEY EVOLVED

→ WHETHER employment patterns mirror income patterns

→ How strong income - unemployment relationship

→ How much do state differ from national baseline

DISCUSSION

1. Will the map be too compact?
2. Will user be overwhelmed by the content?

Adv: Multi dimensional Insight
Comparative Efficiency

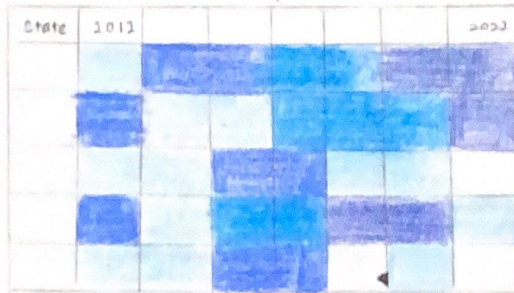
Disadv: Only 2 time points
cant see gradual evolution

LAYOUT

REGIONAL ECONOMIC DISPARITIES

(2012 - 2022) MALAYSIA

Median Household Income by State



Legend

Labour Force Participation Rate (%)

Both ☒

Line chart

y-axis =
participation rate

Female / Male



desc

2012 | 2013 | - - - - - 2022

desc

Title : StoryTelling #2
Author : Yuan Yee Mun
Date : 20 Sept. 2025
Sheet : 4

Task : Design a scrollable page telling a narrative

OPERATION

☒ Heatmap

Hover Tooltip

☐ Line chart

Viewers can hover over a point of interest on the heatmap, and a corresponding vertical line will appear on the line chart

Both ☒

Dropdown
Filter

Both ☒
Female ☐
Male ☐

User have the option to filter the participation rate by gender, with "Both" gender shown by default

2012 | 2013 | - - - - - 2022

year navigator

user can click on the year they are interested in, while years with no data are shown in grey and are unclickable.

FOCUS

This dashboard examines the relationship between workforce participation rates and household income across Malaysia states

heatmap = reveal spatial and temporal income pattern

line chart : Analyse labour force participation rates.

⇒ to determine whether workforce participation levels contribute to regional economic disparities

DISCUSSION

adv = easier to interpret
Unique insight

disadv : line chart clutter risk
participation rate nuances

→ Will users be able to understand the combined context, or is additional explanatory text needed?

→ Will the context be too overwhelming?

LAYOUT

From Sheet 3 →

desc.

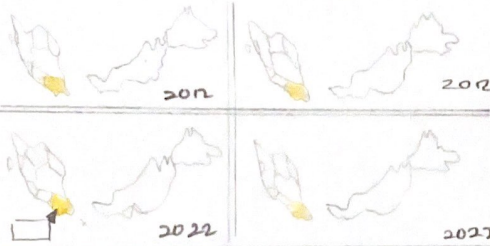
From Sheet 4

Show top 5 state

REGIONAL ECONOMIC DISPARITIES

(2012 - 2022) MALAYSIA

INCOME DISTRIBUTION vs UNEMPLOYMENT RATE



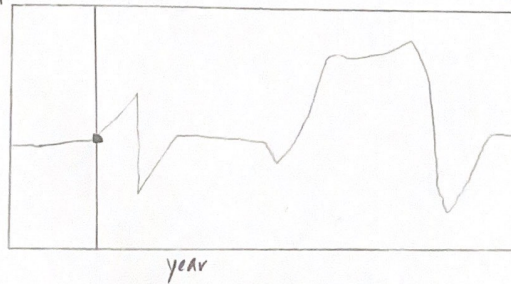
Household Income Percentile	Unemployment rate
120	22
20-40	2-3
40-60	3-4
60-80	4-5
>80	>5

2012
↓
2022

LABOUR FORCE PARTICIPATION RATE (%)

91 Both

participation rate



Search Filter

(for state interested)

Title: Final Design Sheet
Author: Yuan Yee Mun
Date: 26. Sept. 2025
Sheet: 5

Task: Design the final layout

OPERATION

2012

↓

2022

Year Comparison Operator

User able to select year interested

Annotation / Hover Tooltip

Allow user to check the state and its corresponding (median income // unemployment rate.)

Both

⇒

Both	<input type="radio"/>
Female	<input type="radio"/>
Male	<input type="radio"/>

Dropdown Filter

User have the option to filter the participation rate by gender with "Both" gender shown by default

Hover Tooltip

A vertical line indicating the contribution for a specific year will appear

FOCUS

This dashboard examines the evolution of regional income inequality and its relationship with labour market participation across Malaysia state

Small multiple choropleth map : reveals spatial pattern of income distribution and unemployment rate at 2 critical time point.

Line chart = investigate labour force participation rate, → as a potential driver of income disparities.

DISCUSSION

adv : no redundancy
manageable complexity

disadv = line chart clutter risk

→ Will showing all 15 states in a line chart be too cluttered, or should I only show top 5?

→ If a user clicks on a specific state in the multiple choropleth map, is it possible in Vega Lite to link it with a Line chart to show that state's labour force participation rate?