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eve-ning

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Taxation in Singapore

[Source](#)

Source Notes:

- 'Assessable Income refers to the total income of an individual less allowable deductions such as business expenses, employment expenses and donations.'
- 'Chargeable Income of an individual is his/her assessable income less the personal reliefs allowed.'
- 'Net Tax Assessed is the net tax payable or repayable by an individual after taking into account allowable tax credits, tax remission, tax rebates and tax deducted at source.'
- 'Non-Tax Resident refers to an individual who has worked in Singapore for less than 183 days in the preceding year of the Year of Assessment.'

Columns

- **Year of Assessment**: When the taxation assessment was conducted
- **Assessed Income Group**: Yearly income in SGD grouping
- **Type of Resident**: Non-Tax/Tax Resident, *refer to Source Notes*
- **Number of Taxpayers**
- **Assessable Income**: S$ Thousand
- **Chargeable Income**: S$ Thousand
- **Net Tax Assessed**: S$ Thousand

Assessable Income

Assessable Income, as defined by the source, is the total **yearly** income, subtract allowance deductions such as business expenses, employment expenses & donations.

[Read more here (under Expenses and Donations)](#)

In other words:

$$Income_{Assessable} = Income_{Yearly} - (expenses + donations)$$

Chargeable Income

Chargeable Income, as defined by the source, is **Assessable Income** minus personal reliefs

[Read more here (under Reliefs)](#)

In other words:

$$Income_{Chargeable} = Income_{Assessable} - reliefs = Income_{Yearly} - (expenses + donations + reliefs)$$

Net Tax

Net Tax, as defined by the source, is the total Tax paid which after accounting into tax credits, tax remission, tax rebates, tax deducted at source

Non-Tax Resident

Non-Tax Resident is a group that pays a different set of tax rates compared to a **Tax Resident**. A **Non-Tax Resident** is defined as:

- Singapore Citizen (SC) or Singapore Permanent Resident (SPR) who resides in Singapore except for temporary absences; or
- Foreigner who has stayed / worked in Singapore (excludes director of a company) for **183 days or more in the previous year**. i.e. the year before the YA.

[Read more here](#)

Goals

We can look at the surface trends of this data provided, such as: - How has the economy grown over the years? - Has the disparity between the income groups increased, what is the trend? - How is tax related to the income groups, is it fair?
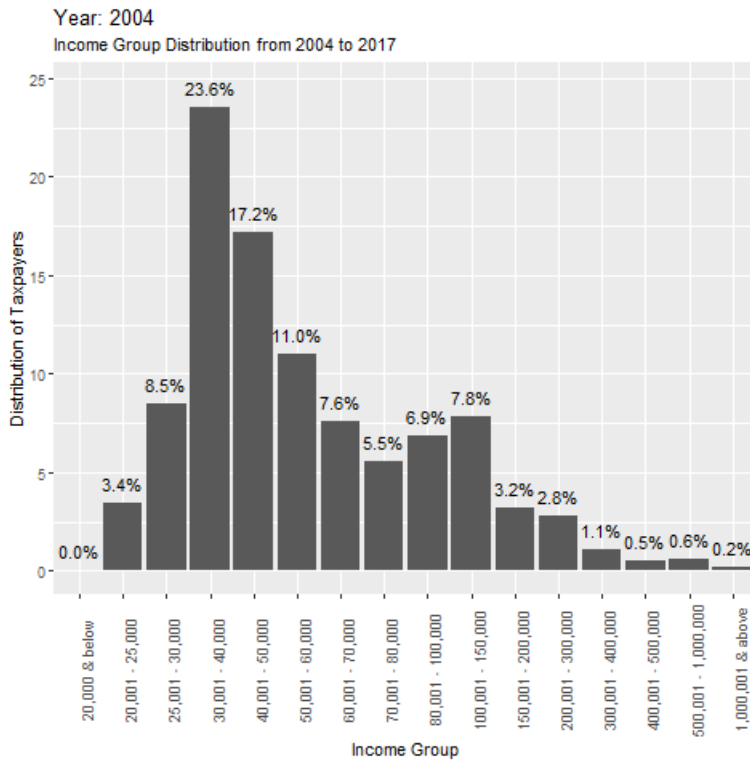
Number of Taxpayers By Income Groups

Taxed amounts aside, we can analyse how many people are in specific **income groups** by looking at the data.

We will simply drop these data into a ggplot where we group them by their income groups.
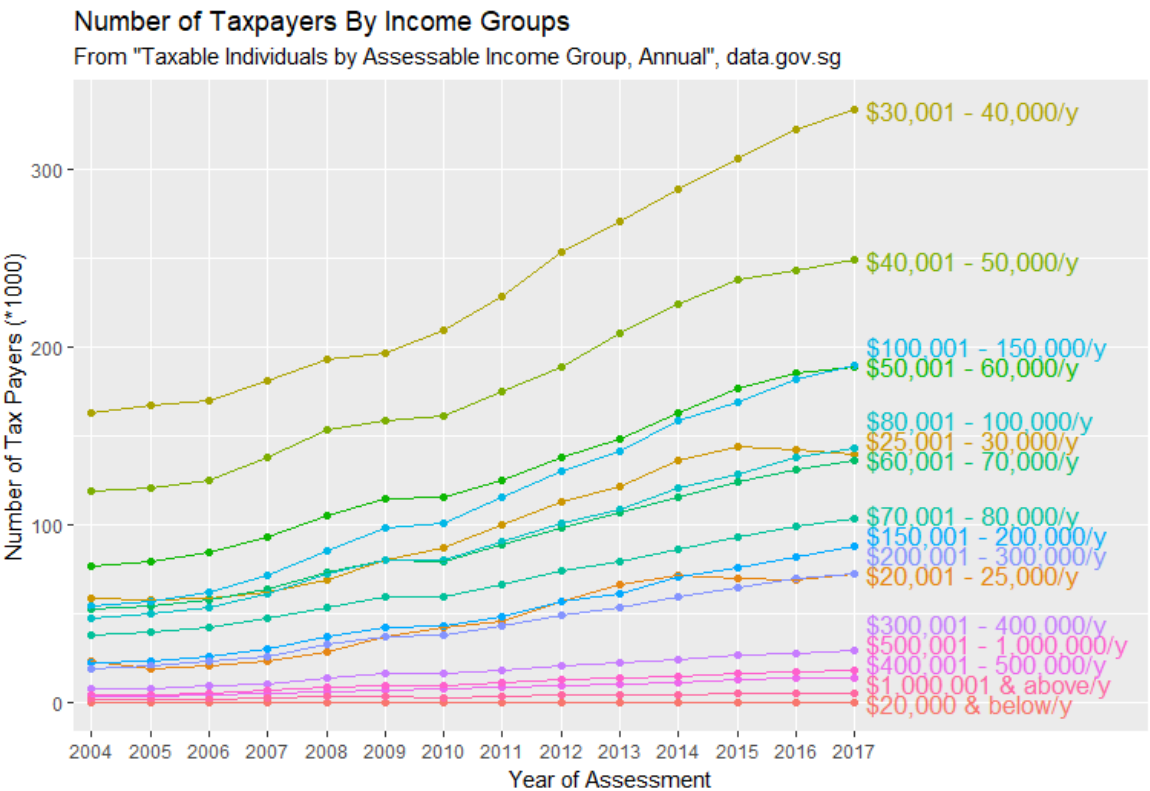

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knitr::kable(tax.resident.grw.wide)
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assessed_income_group	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
20,000 & below	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.0%
20,001 - 25,000	0%	-20.1%	11.3%	11.6%	20.5%	31.6%	12.7%	8.6%	25.4%	16.2%	8.2%	-3.3%	-0.20%	4.4%
25,001 - 30,000	0%	-1.4%	1.0%	6.2%	10.5%	17.0%	8.6%	13.9%	13.4%	7.4%	12.3%	5.3%	-1.20%	-1.3%
30,001 - 40,000	0%	2.4%	2.0%	6.6%	6.6%	1.7%	6.2%	9.2%	10.8%	7.0%	6.6%	6.0%	5.30%	3.4%
40,001 - 50,000	0%	1.3%	3.5%	10.7%	11.1%	3.4%	1.9%	8.2%	8.1%	9.7%	8.1%	6.0%	2.40%	2.3%
50,001 - 60,000	0%	3.5%	7.3%	10.1%	13.0%	8.9%	0.8%	7.6%	10.4%	7.8%	9.4%	8.7%	5.00%	2.0%
60,001 - 70,000	0%	2.8%	6.1%	11.3%	15.0%	9.5%	-1.5%	11.4%	11.1%	9.1%	7.4%	7.9%	5.50%	4.0%
70,001 - 80,000	0%	3.8%	6.3%	11.4%	13.6%	11.2%	-0.5%	12.6%	11.0%	7.8%	8.3%	7.6%	6.60%	4.3%
80,001 - 100,000	0%	6.2%	6.7%	13.9%	18.5%	10.9%	-0.1%	12.1%	11.9%	7.6%	10.8%	6.5%	7.60%	3.7%
100,001 - 150,000	0%	6.1%	8.2%	15.5%	19.6%	14.8%	2.4%	14.3%	13.1%	8.2%	12.3%	6.6%	7.70%	4.1%
150,001 - 200,000	0%	3.7%	13.0%	16.0%	21.3%	16.0%	0.1%	13.9%	16.7%	7.4%	15.2%	8.3%	8.00%	6.6%
200,001 - 300,000	0%	6.2%	11.3%	14.8%	23.6%	15.3%	1.8%	13.0%	14.2%	8.7%	10.7%	9.1%	7.50%	4.6%
300,001 - 400,000	0%	7.5%	12.5%	18.0%	25.9%	17.9%	1.8%	13.0%	13.5%	6.8%	7.7%	8.7%	6.40%	5.2%
400,001 - 500,000	0%	9.7%	13.6%	16.3%	29.8%	15.2%	1.0%	13.5%	16.4%	8.2%	7.9%	12.2%	5.00%	4.5%
500,001 - 1,000,000	0%	11.1%	21.3%	20.3%	28.6%	9.6%	-0.9%	15.5%	16.5%	6.1%	7.6%	13.6%	5.90%	2.0%
1,000,001 & above	0%	17.6%	21.2%	30.4%	39.4%	-5.5%	-18.1%	31.6%	9.0%	0.3%	7.7%	12.8%	6.90%	-5.2%

growth_gif

Observations

It is a straightforward incline for all income groups from 2004 to 2019, however, there's some visible anomalies.

Largest Income Group

$$[30k_{SGD}, 40k_{SGD}]/y \approx [2.5k_{SGD}, 3.3k_{SGD}]/m$$

It has always been the biggest group of taxpayers and it'll most likely stay that way for years to come.

Declining Income Groups

barring the very small income groups in which we will discuss later

$$[20k_{SGD}, 25k_{SGD}]/y \approx [1.7k_{SGD}, 2.1k_{SGD}]/m$$

$$[25k_{SGD}, 30k_{SGD}]/y \approx [2.1k_{SGD}, 2.5k_{SGD}]/m$$

Both of the income groups' growth seems to be stamped down in the recent years:

- $[20k_{SGD}, 25k_{SGD}]/y$ growth goes into the negative in 2014, with a 4.4% rise in 2016
- $[25k_{SGD}, 30k_{SGD}]/y$ growth goes into the negative in 2015

Global Financial Crisis of (around) 2008

An interesting observation is this would be how Singapore is affected during the the Financial Crisis.

- Most Income Groups stagnated around that period or declined except those $< 30k_{SGD}/y$ in which increased in population readily.

Forecasting

Future Largest Income Group

I foresee that the dominating future income group would fall under $[30k_{SGD}, 40k_{SGD}]/y$, falling slightly below 1/5 of the population. A few reasons for the prediction:

- Between this and its following group, $[40k_{SGD}, 50k_{SGD}]/y$, the gap has **widened**, especially in the past few years.
- The two groups $[20k_{SGD}, 25k_{SGD}]/y + [25k_{SGD}, 30k_{SGD}]/y$ has decreased in population, shifting up in income groups, likely to

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$[30k_{SGD}, 40k_{SGD}]$