

Poverty & Gender Inequality From Labor Market Aspect in Hong Kong

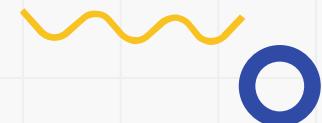
Group Name: Espresso

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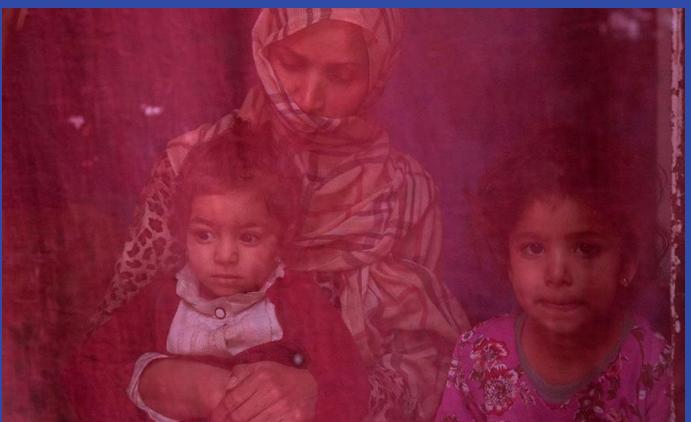
Huo Xinran 24433373



Issue

We focus to explore the relationship of **gender inequality and Poverty in Hongkong**, including poverty rates, employment, wages, working hours, and the impact of education.

Motivation



Taliban assault on women's rights in Afghanistan
Women bans on higher education, job restrictions,
and strict dress codes.



prompted us to explore whether **poverty rates influence gender inequality**

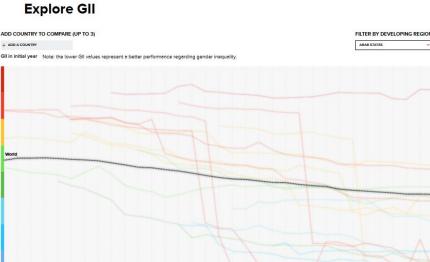


The “problem”

GENDER INEQUALITY INDEX (GII)

GII is a composite metric of gender inequality using three dimensions: reproductive health, empowerment and the labour market. A low GII value indicates low inequality between women and men, and vice-versa.

the GII for Hong Kong was not calculated due to missing information.



香港特别行政区政府
政府统计处

统计数字 新闻与媒体 参与统计调查 贸易文件事宜 认识统计 服务台 关于我们

< 统计数字 > 统计产品一览表

统计产品一览表

本节罗列本网站所有统计产品。如果您需要进一步的帮助，请与我们联系。

The Hong Kong Census and Statistics Department has abundant information on gender inequality and economic activity.

统计摘要 网上统计表 统计表 (Excel) 统计报告 社会主题报告 专题文章

- 表 220-23004 : 接受聘性质及行业主类划分的雇员人数
- 表 220-23005 : 按聘用模式及行业主类划分的雇员人数
- 表 220-23011 : 接受聘性质及性别划分的每月工资水平及分布
- 表 220-23012 : 接受聘性质及年龄组别划分的每月工资水平及分布
- 表 220-23013 : 接受聘性质及教育程度划分的每月工资水平及分布
- 表 220-23014 : 接受聘性质及职业组别划分的每月工资水平及分布
- 表 220-23015 : 接受聘性质及行业主类划分的每月工资水平及分布
- 表 220-23021 : 按每小时工资的百分位数划分的雇员人数
- 表 220-23022 : 按性别及年龄组别划分的每小时工资水平及分布
- 表 220-23023 : 按性别及教育程度划分的每小时工资水平及分布
- 表 220-23024 : 按性别及职业组别划分的每小时工资水平及分布
- 表 220-23025 : 按行业主类及职业组别划分的每小时工资水平及分布 : 所有业务事业单位
- 表 220-23026 : 按行业主类划分的每小时工资水平及分布 : 就业人数少于50的业务事业单位
- 表 220-23027 : 接受聘性质、每小时工资及行业主类划分的雇员人数
- 表 220-23031 : 接受聘性质、性别及年龄组别划分的每周工作时数水平及分布
- 表 220-23032 : 接受聘性质、性别及教育程度划分的每周工作时数水平及分布
- 表 220-23033 : 接受聘性质、性别及职业组别划分的每周工作时数水平及分布
- 表 220-23034 : 接受聘性质及行业主类划分的每周工作时数水平及分布
- 表 220-23035 : 接受聘性质、行业主类及每周工作时数划分的雇员人数
- 表 220-25001 : 按行业主类划分的中层经理与专业雇员的名义薪金指数(甲)(1995年6月 = 100)
- 表 220-25002 : 按行业主类划分的中层经理与专业雇员的实质薪金指数(甲)(1995年6月 = 100)
- 表 220-25003 : 按行业主类划分的中层经理与专业雇员的名义薪金指数(乙)(1995年6月 = 100)
- 表 220-25004 : 按行业主类划分的中层经理与专业雇员的实质薪金指数(乙)(1995年6月 = 100)
- 表 225-27001 : 劳工生产力指数 (2015年 = 100)

A decorative graphic in the bottom right corner consists of two yellow wavy lines of varying lengths and a blue circle.

What Has Been Said

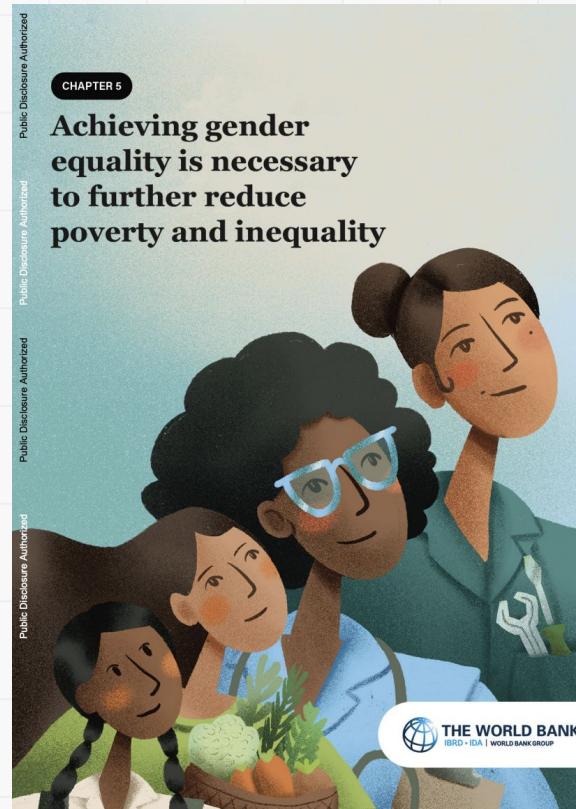
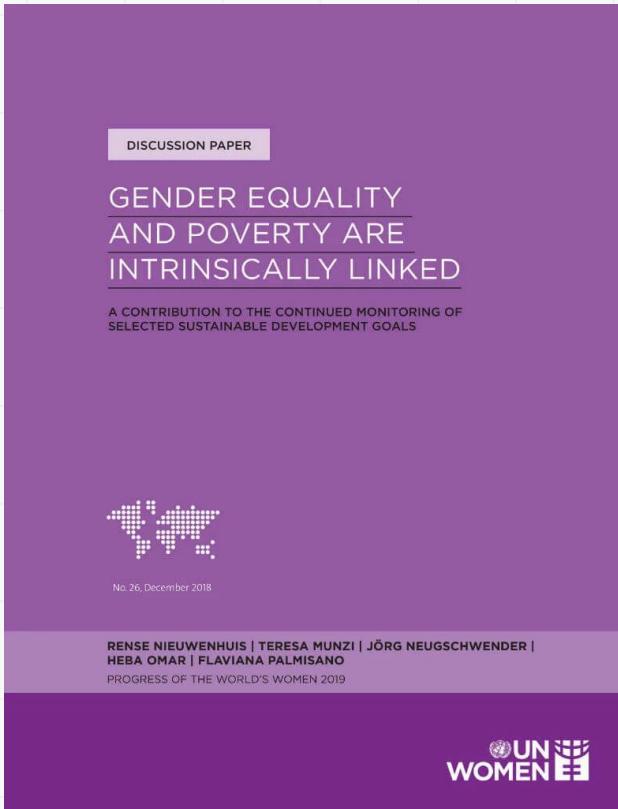




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JIANG Hanbing

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HUO Xinran



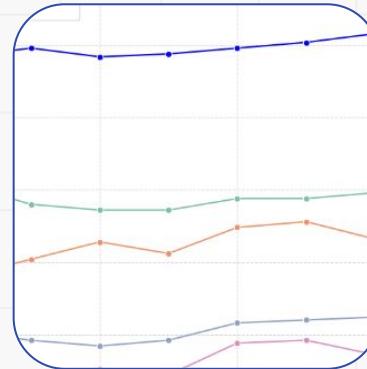


Poverty in Hong Kong



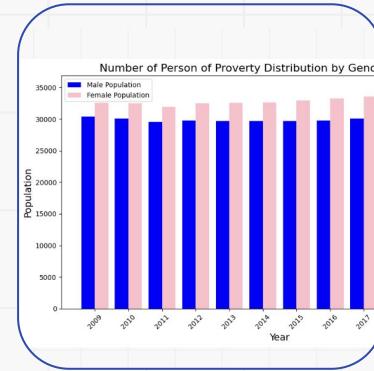
Map

The number of person in poverty distributes in Hong Kong by districts in 2020



Line Chart

Poverty Rate Trends: Before vs.
After Policy Interventions
(2009–2020)



Bar Chart

Number of Person of Poverty
Distribution by Gender (2009–2020)



Data Sources

The screenshot shows the Hong Kong Poverty Situation Report 2020 website. The header features a green background with icons of people and the title 'Hong Kong Poverty Situation Report 2020'. Below the header, there's a section for the 'Government of the Hong Kong Special Administrative Region' and the 'Census and Statistics Department'. The main content area displays a table titled 'Table 135-08002 : Poverty indicators'. The table has columns for 'Poor households', 'Poor population', 'Poverty rate', 'Annual total poverty gap', and 'Monthly average poverty gap'. The data is presented for the years 2009 through 2013.

Type of policy intervention	Year	Poor households Number ('000)	Poor population Number ('000)	Poverty rate (%)	Annual total poverty gap HK\$ million	Monthly average poverty gap HK\$
Before policy intervention (purely theoretical assumption) (1)	2009	541.1	1 348.4	20.6	25,424.4	3,900
	2010	535.5	1 322.0	20.1	25,943.0	4,000
	2011	530.3	1 295.0	19.6	26,891.7	4,200
	2012	540.6	1 312.3	19.6	28,798.4	4,400
	2013	554.9	1 336.2	19.9	30,640.4	4,600

Data processing

Analyze the dataset structure

Understand the dataset structure and what variables are needed

Extract and Group

Extract the relevant columns from the dataset and group them by categories

Convert and pivot

Convert the data into the format that needed and create pivot tables



The Number Of Person In Poverty Distributes In Hong Kong By Districts In 2020

01 Variables

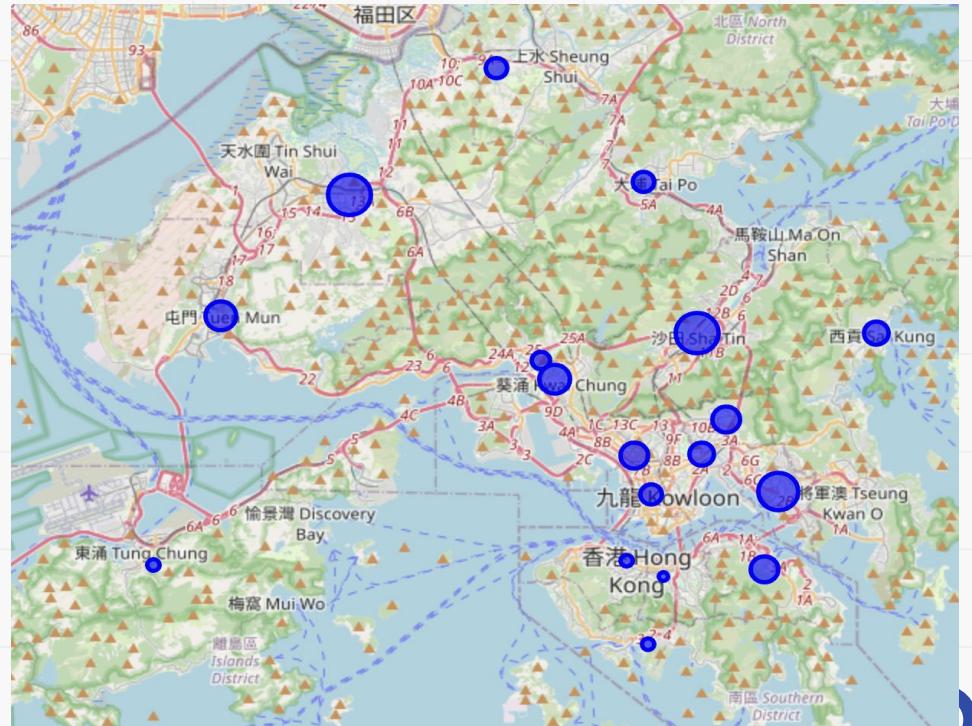
District Council district & Number of persons

02 Exploration

What does poverty situation look like in Hong Kong?

03 Outputs

Map: Use the size of the circles to indicate the number of person in poverty





Poverty Rate Trends: Before vs. After Policy Interventions (2009-2020)

01 Variables

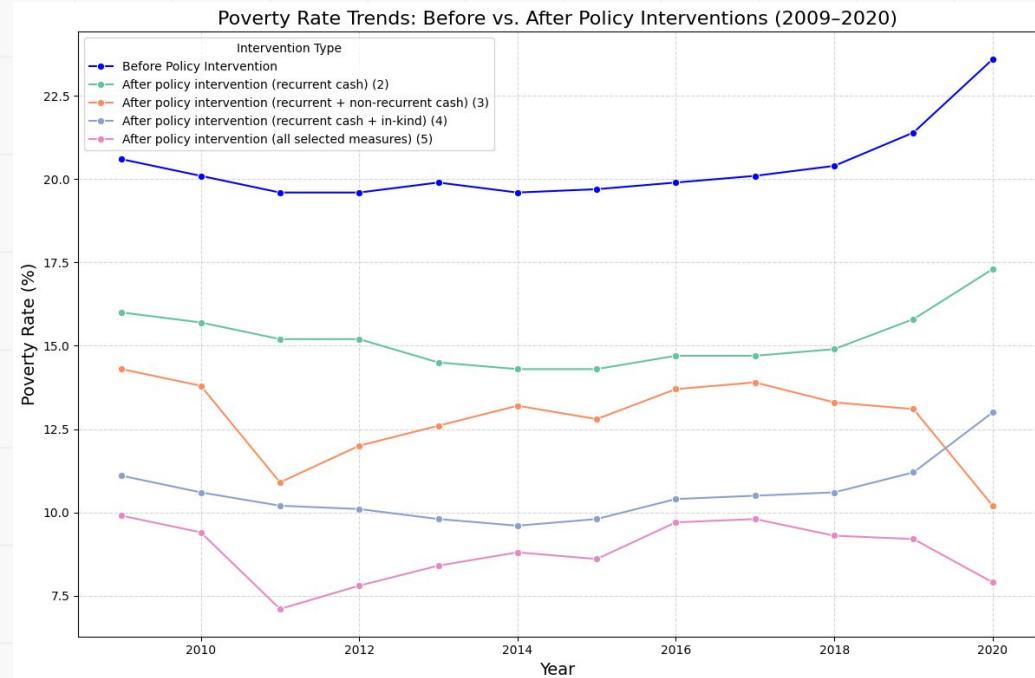
Year & poverty rate

02 Exploration

Impact of policy interventions on poverty rates

03 Outputs

Line chart: before policy interventions the Poverty Rate is much higher than after policy interventions in a growing trend



Number of Person of Poverty Distribution by Gender (2009-2020)

01 Variables

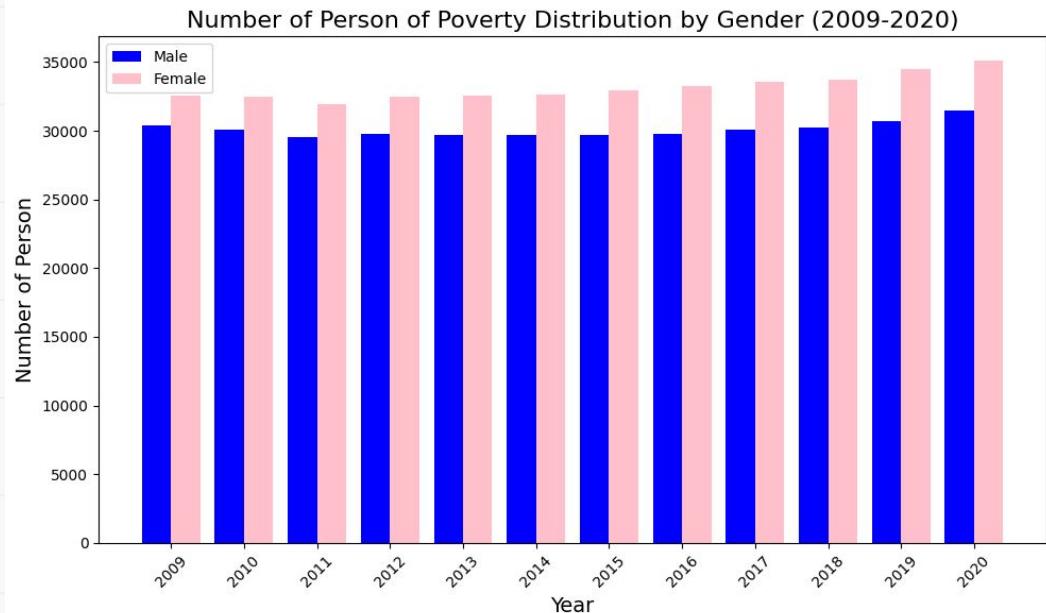
Number of person in poverty by genders & year

02 Exploration

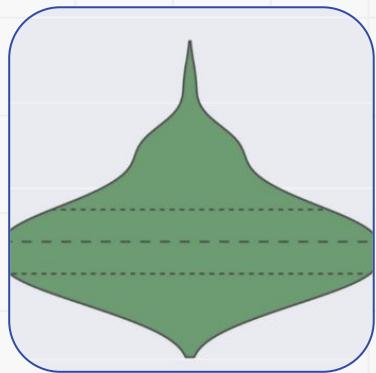
Relationship of poverty and gender inequality

03 Outputs

Bar chart : The female number of person in poverty has always been higher than that of male

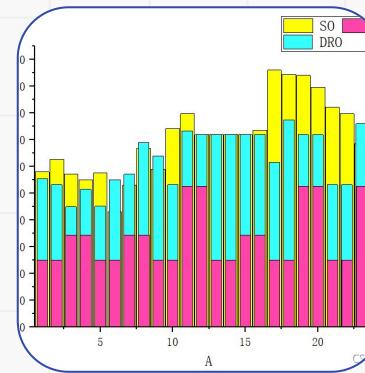


Educational attainment and gender inequality



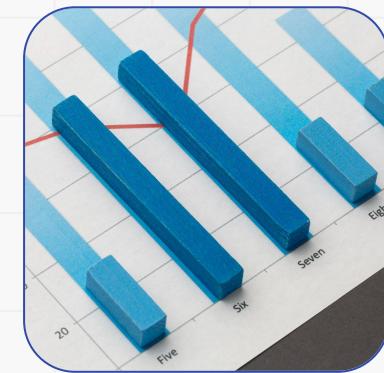
Violin Plot

Different education levels,
relationship between gender
and working hours



Stacked Chart

Different education levels,
relationship between gender
and labor force participation
rates



Line chart + bar chart

Different education levels,
relationship between gender
and Wage





Data Source



Census and Statistics Department
The Government of the Hong Kong Special Administrative Region

Statistics News and Media Participating in Surveys Trade Documents Matters Understanding Statistics Service Desk About Us

[Home](#) > Statistics > By Subject > Labour and Wages > Wages and Labour Earnings > Table 220-23032 : Level and distribution of weekly working hours by employment nature, sex and educational attainment

Table 220-23032 : Level and distribution of weekly working hours by employment nature, sex and educational attainment

Full Series Bookmark API Download Customise Table / More Data

Statistics

Employment nature (1)	Weekly working hours																
	25 th percentile (Hours)			50 th percentile (Hours)			75 th percentile (Hours)										
	Full-time employees		All employees	Full-time employees		All employees	Full-time employees		All employees	Full-time employees		All employees					
Sex	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes					
Year	Educational attainment (2)																
2012	Primary and below	48.0	45.0	47.0	48.0	40.6	43.3	54.0	49.9	53.3	54.0	48.0	49.9	63.0	56.1	60.0	62.3
	Lower secondary	48.0	46.0	48.0	48.0	40.6	45.0	53.0	50.3	52.9	53.0	48.0	50.3	60.0	57.0	60.0	60.0
	Upper secondary	44.3	40.6	42.0	42.0	40.6	40.6	48.0	44.3	46.2	48.0	44.3	45.7	54.0	49.4	54.0	54.0
	Post-secondary	40.6	40.6	40.6	40.6	40.6	40.6	41.9	41.8	41.9	41.8	41.5	41.8	45.7	45.5	45.7	45.7
	All educational attainment	41.8	40.6	40.6	40.6	40.6	40.6	48.0	44.3	45.7	47.0	44.3	45.0	54.0	49.4	53.1	54.0
2013	Primary and below	48.0	48.0	48.0	48.0	38.1	42.0	54.0	49.6	52.3	53.1	48.0	48.7	60.0	56.1	60.0	60.0
	Lower secondary	48.0	45.7	47.8	46.2	42.0	44.8	54.0	51.0	53.3	53.0	48.0	50.5	60.0	57.0	60.0	60.0
	Upper secondary	43.3	40.6	41.8	42.6	40.6	40.6	48.0	44.3	47.1	48.0	44.3	45.8	54.0	49.4	53.8	54.0
	Post-secondary	40.6	40.6	40.6	40.6	39.6	40.6	42.6	41.7	42.0	42.0	40.8	41.7	46.4	44.7	45.7	46.1
	All educational attainment	41.9	40.6	40.6	40.6	40.6	40.6	48.0	44.3	45.7	48.0	44.3	45.0	54.0	49.5	53.3	54.0
2014	Primary and below	48.0	45.0	48.0	48.0	36.9	42.0	54.0	48.2	51.0	52.7	48.0	48.0	60.0	55.4	59.1	60.0
	Lower secondary	48.0	44.3	46.2	45.7	40.6	43.3	54.0	48.0	51.0	51.7	48.0	49.9	60.0	54.9	58.8	60.0
	Upper secondary	42.0	40.6	40.6	40.9	40.6	40.6	48.0	44.3	45.7	48.0	43.4	44.3	54.0	48.5	52.9	54.0
	Post-secondary	40.6	40.0	40.5	39.7	39.6	39.6	40.6	41.0	40.7	40.6	40.6	45.7	45.7	45.7	45.7	45.7

Data Cleaning

Remove the year variable

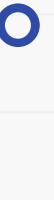
The 25th, 50th, and 75th percentile work hours data are combined and labeled with the corresponding education level and gender.

Convert data to long format

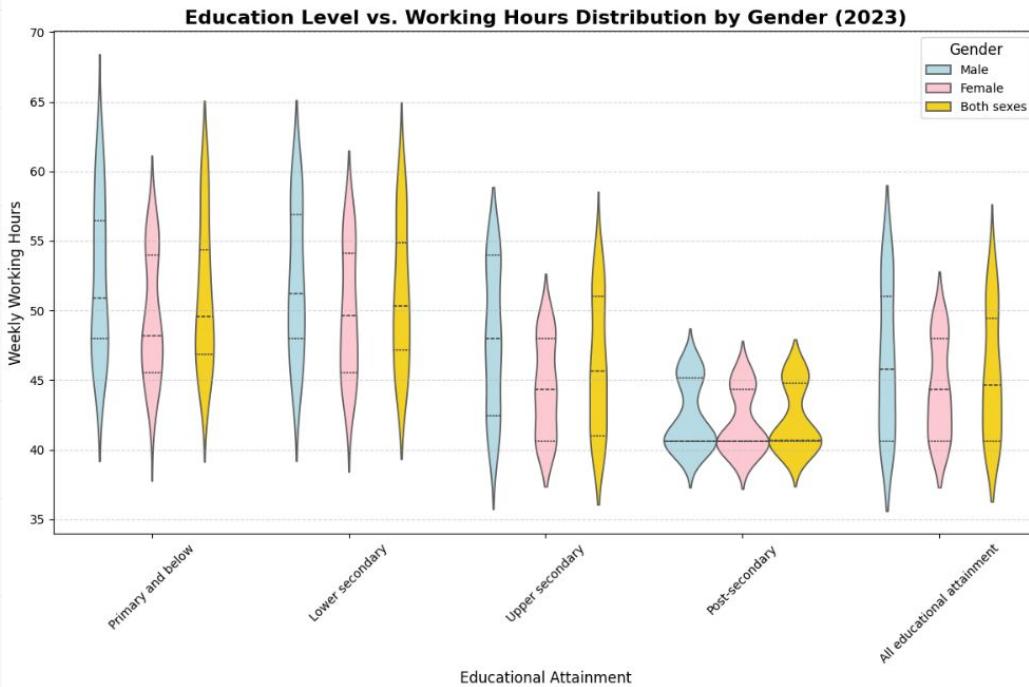
Use pd.melt to convert the data into long format



Violin Plot



Different education levels,
relationship between **gender** and **working hours**



Identify the problem

1.What is the relationship between education level and working hours?

The higher the education level, the shorter the working hours

2. Are there significant differences in the distribution of working hours between genders at each educational level?

In the post-secondary setting, men and women work similar hours, but at lower education levels, women's weekly working hours are generally shorter.

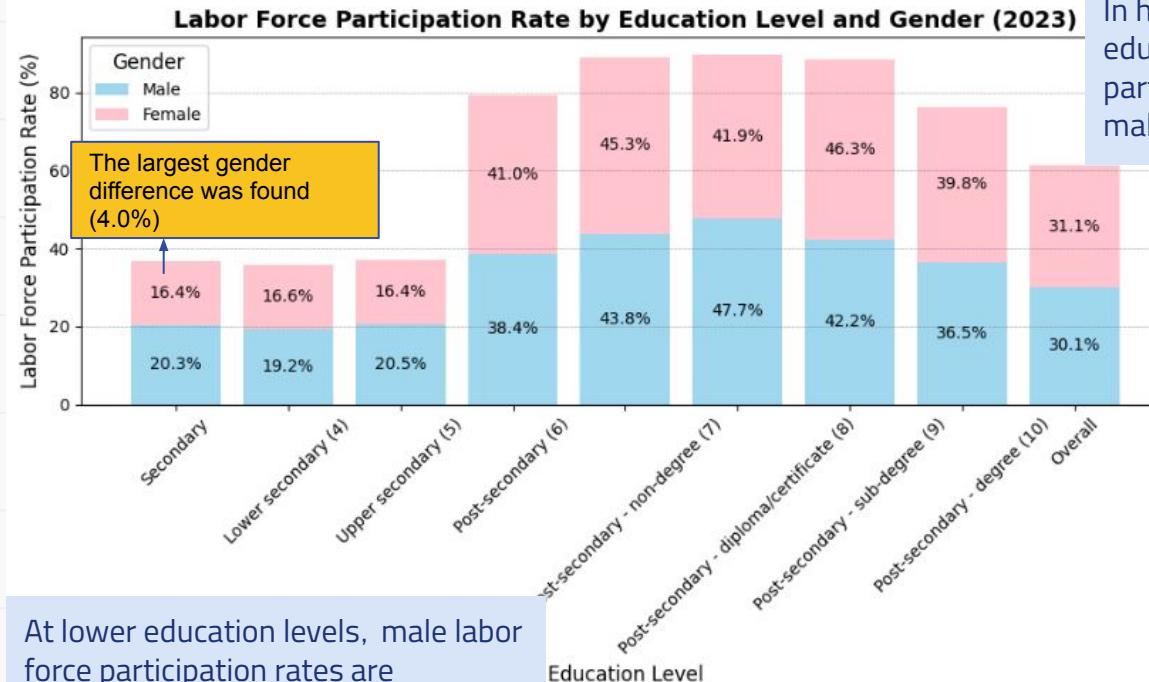


Inference: With lower education, women are more likely to participate in the labor force less

Stacked Chart



Different education levels,
relationship between **gender** and **labor force**
participation rates



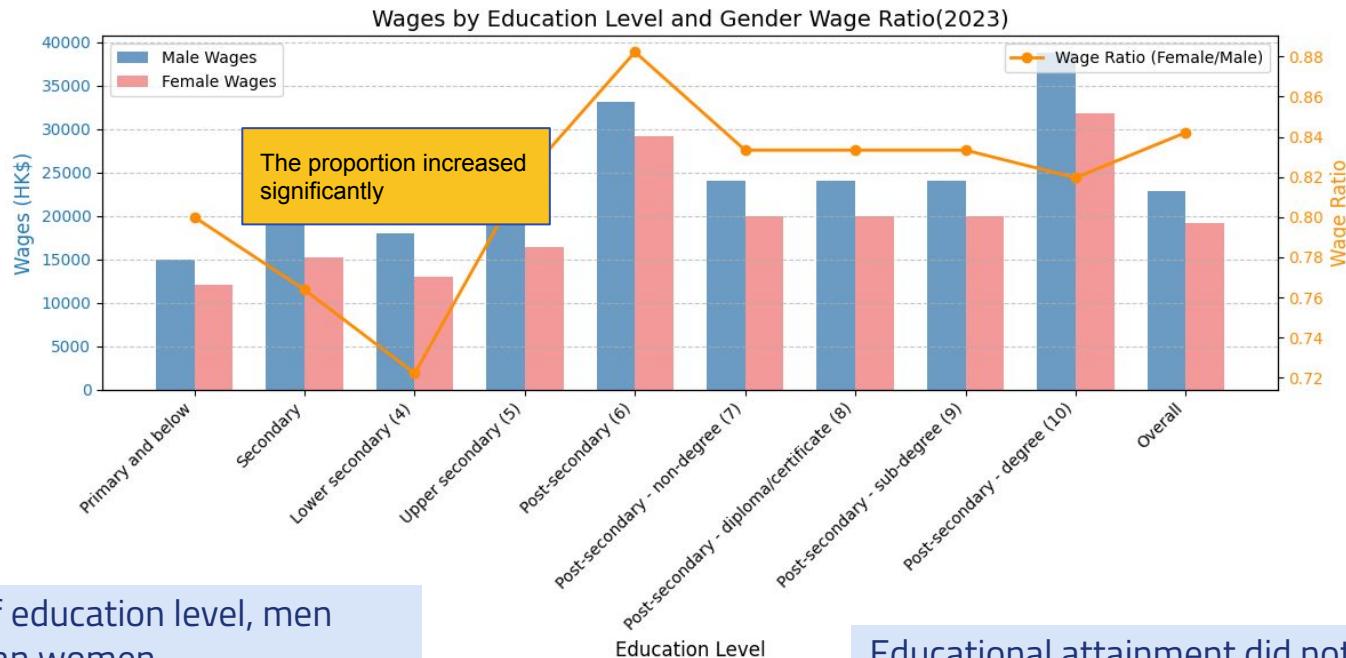
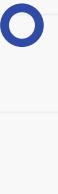
In higher education (especially degree education), the female labor force participation rate is higher than that of males.

At lower education levels, male labor force participation rates are significantly higher than female.



Line chart + bar chart

Different education levels,
relationship between **gender** and **Wage**

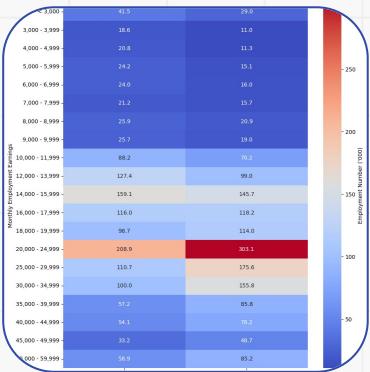


Regardless of education level, men
earn more than women

Educational attainment did not reduce
gender inequality in wages.

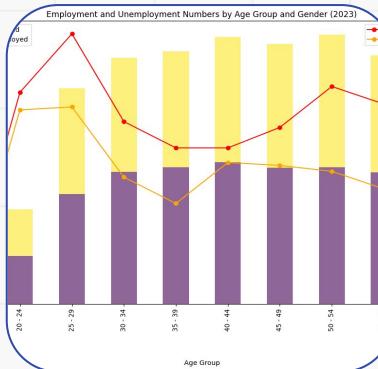


Employment, unemployment and gender inequality



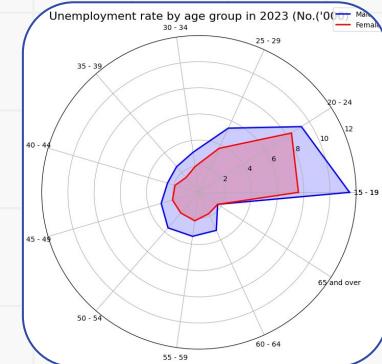
Heat map

Employment income comparison by gender



Two-axis stacked bar chart

Number of unemployed and employed persons by age and gender



Radar chart

Unemployment rates by sex and age





Data Source



 **Census and Statistics Department**
The Government of the Hong Kong Special Administrative Region

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[Home](#) > Statistics > By Subject > Labour and Wages > Labour Force, Employment and Unemployment > Table 210-06301A : Employed persons by age and sex (excluding foreign domestic helpers)

Table 210-06301A : Employed persons by age and sex (excluding foreign domestic helpers)

 **Census and Statistics Department**
The Government of the Hong Kong Special Administrative Region

Statistics News and Media Participating in Surveys Trade Documents Matters Understanding Statistics Service Desk About Us

[Home](#) > Statistics > By Subject > Labour and Wages > Labour Force, Employment and Unemployment > Table 210-06401 : Unemployed persons and unemployment rate by age and sex

Table 210-06401 : Unemployed persons and unemployment rate by age and sex

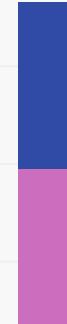
Table 210-06313A : Employed persons by monthly employment earnings and sex (excluding foreign domestic helpers)

[Full Series](#) [Bookmark](#) [API](#) [Download](#) [Customise Table / More Data](#)

Statistics

Sex		Male		Female		Both sexes		
		Employed persons (excluding foreign domestic helpers) (1)		Employed persons (excluding foreign domestic helpers) (1)		Employed persons (excluding foreign domestic helpers) (1)		
Year	Quarter	Monthly employment earnings (2)	No. ('000)	Percentage share (%)	No. ('000)	Percentage share (%)	No. ('000)	Percentage share (%)
2023	< 3,000	29.0	1.6	41.5	2.7	70.5	2.1	
	3,000 - 3,999	11.0	0.6	18.6	1.2	29.6	0.9	
	4,000 - 4,999	11.3	0.6	20.8	1.3	32.1	0.9	
	5,000 - 5,999	15.1	0.8	24.2	1.6	39.3	1.2	
	6,000 - 6,999	16.0	0.9	24.0	1.5	40.0	1.2	
	7,000 - 7,999	15.7	0.9	21.2	1.4	36.9	1.1	
	8,000 - 8,999	20.9	1.1	25.9	1.7	46.9	1.4	
	9,000 - 9,999	19.0	1.0	25.7	1.7	44.7	1.3	

Remove redundant data

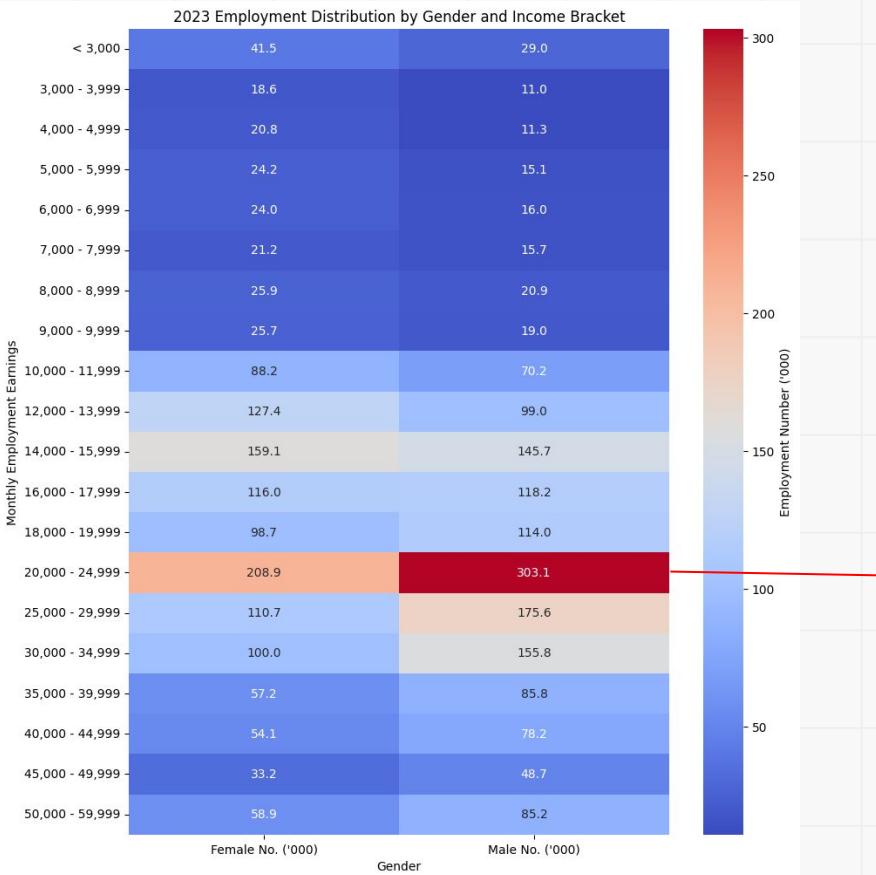


Only take **2023 data** and remove data from other years and quarters. And according to the research object, remove the redundant variables



Heat map

Employment **earnings** comparison by gender(Female&male)



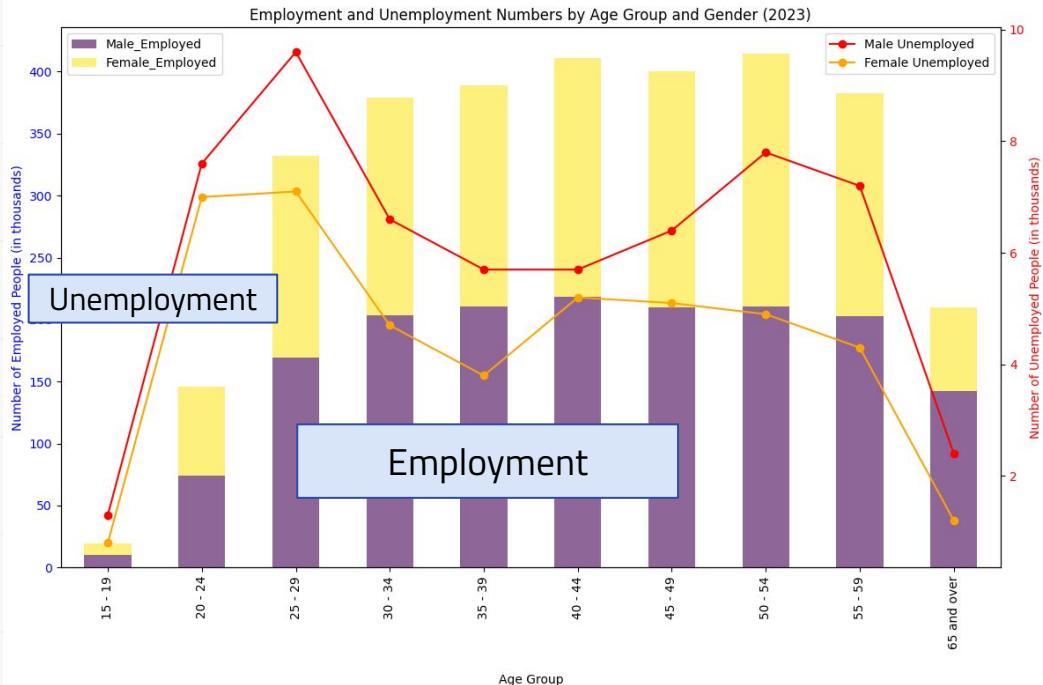
Males **dominate** the higher income brackets, Females have a balanced representation across lower income brackets.

The 20,000 - 24,999 bracket serves as a critical threshold for male employment, while females **struggle to transition** into higher earnings.

The **highest** number of employed individuals is in the 20,000 - 24,999 income bracket, particularly for males, with 303,000 employed.

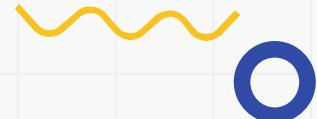
Two-axis stacked bar chart

Comparison of employment and unemployment data by age group



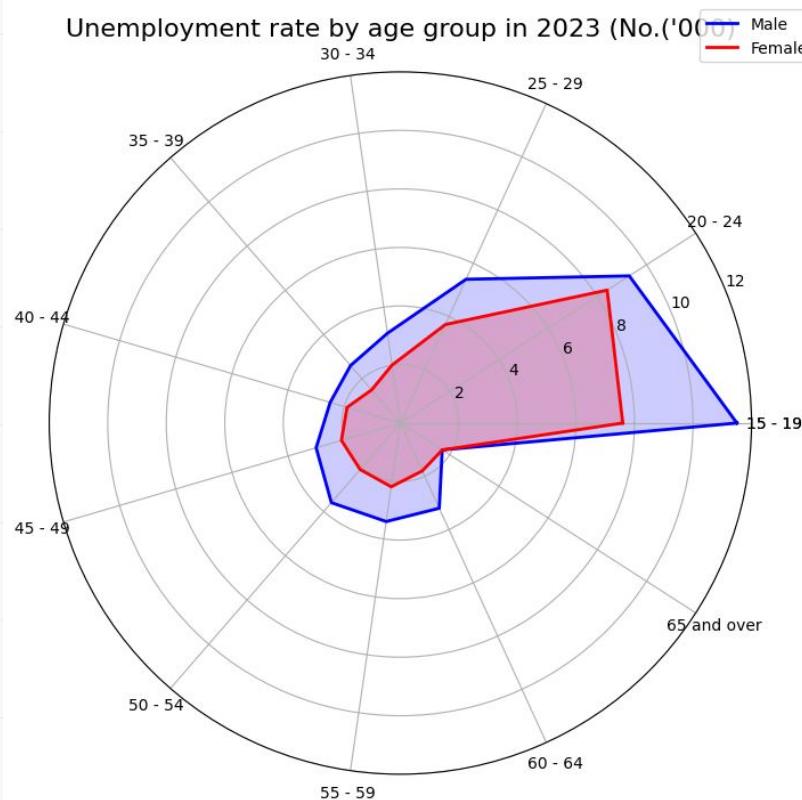
Higher **unemployment** rates in the **younger** age groups, particularly in the 20 - 24 and 25 - 29

Male are generally **more employed** than Female in all age groups



Radar chart

the disparities in unemployment rates by age and gender

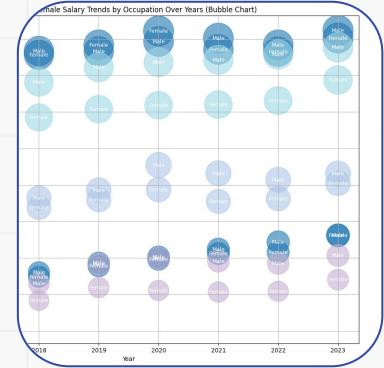
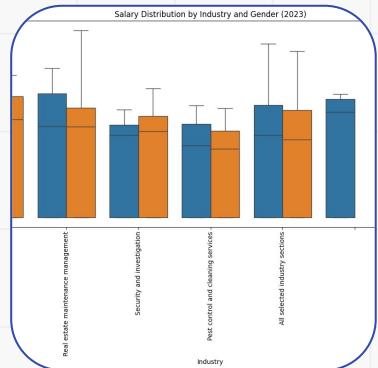


Unemployment rates are generally **higher** for **younger age** groups

There is a **notable decline** in unemployment rates as age increases, with the lowest rates observed in older age groups (55 and over).



Occupation and Gender Pay Gap



Box plot

Gender income gap in Hong Kong across industries

Stream graph

Gender differences in income by occupation,
2016-2023

Bubble chart

Salary Disparity by Gender





Data source and data cleaning

Home > Datasets > Employment and Labour >

Wage and Payroll Statistics – Table 220-19013 : Average monthly salaries, average number of normal working hours per day and average number of standard working days per month of supervisory, technical, clerical, service and miscellaneous non-production workers by industry by occupation by sex

Bookmark

Data Providers: Census and Statistics Department

Data Categories: Employment

normal working hours per day and average number of standard working days per month of supervisory, technical, clerical, service and miscellaneous non-production workers by industry by occupation by sex

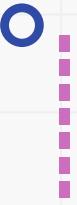


Statistics											
Industry	Year										
	2016										
	Month	Jun	Sep	Dec			Mar			Male	Female
Sex	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Broad occupational group/example of occupation											
Chinese restaurants	Supervisory, technical, clerical, service and miscellaneous non-production workers	18,031	12,346	14,818	18,338	12,420	15,062	18,817	12,762	15,435	19,088
	Service workers	17,963	12,282	15,223	18,294	12,274	15,441	18,773	12,743	15,865	18,900
	Bus Gov	[*1]	10,550	10,569	[*1]	10,702	10,695	[*1]	10,645	10,672	[*1]

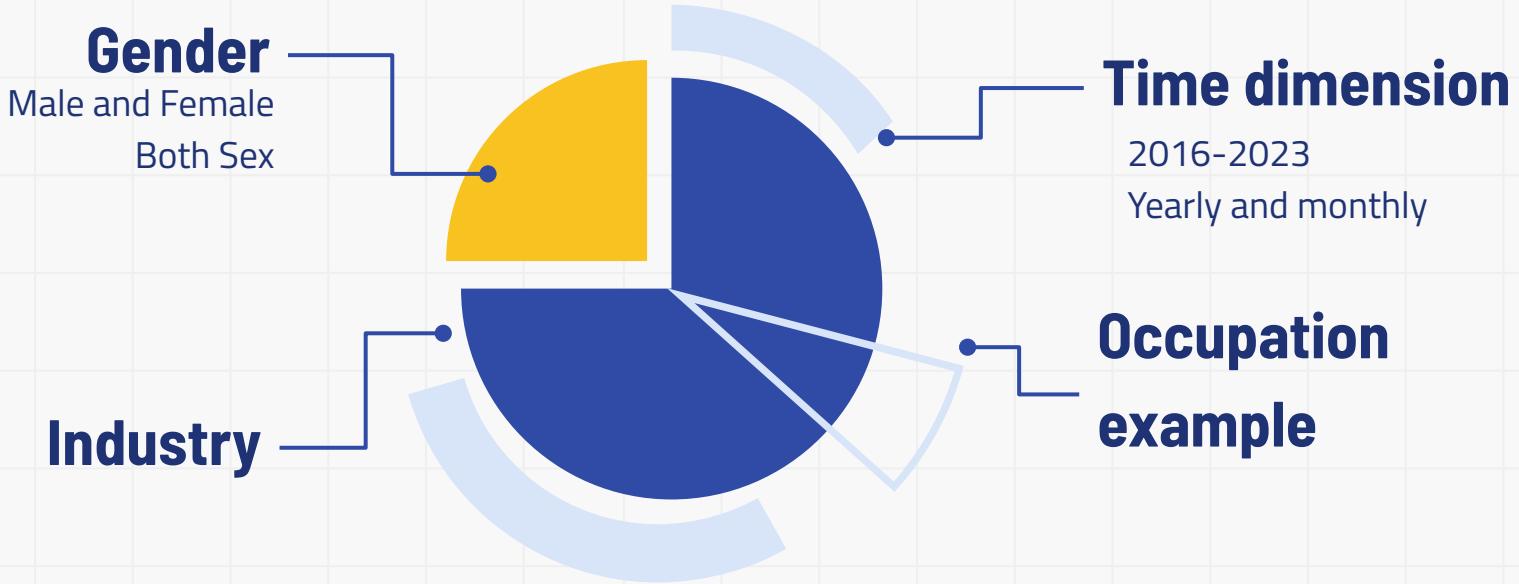
DATA.GOV.HK

Collect **Average monthly salaries**, average number of normal working hours per day and average number of standard working days per month by industry by occupation by sex

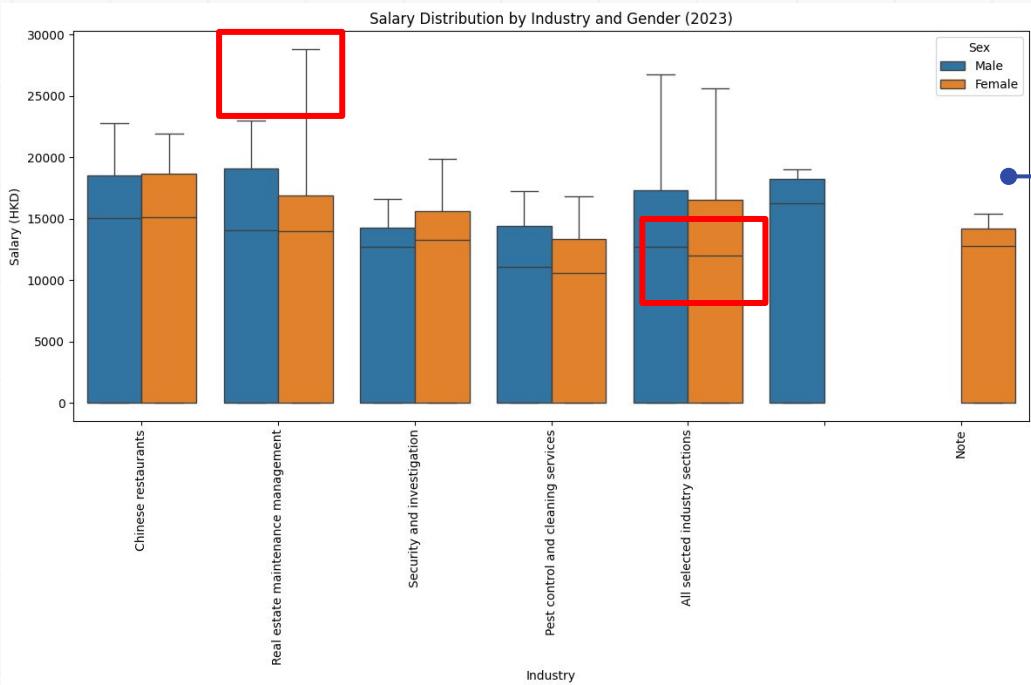
- Extract valid data
- **Rename columns** to make them more readable
- Extract year, gender, and salary information
- Merge the extracted data
- **Clean the data to remove null values and invalid rows**



Variables for the visualization and analysis



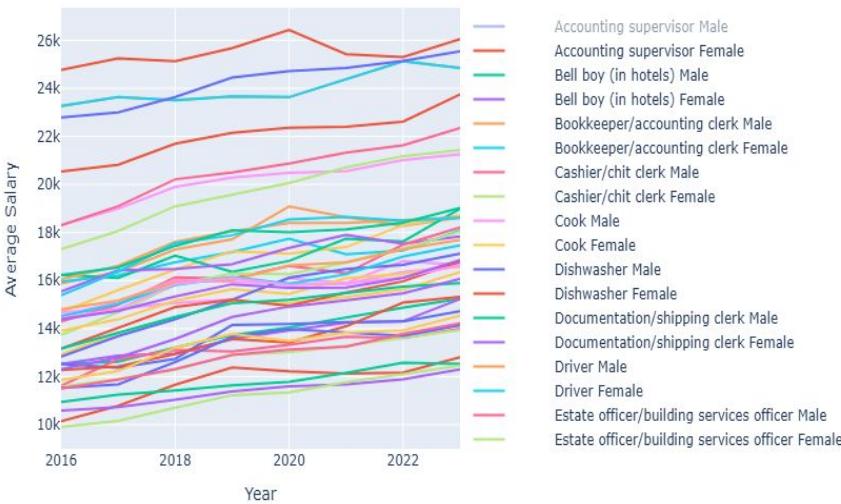
Gender income gap in Hong Kong across industries



In the *service industry*, such as restaurant waiters and property management offices, the income difference between men and women is not obvious, but there are still special positions with large gaps, and men's income *far exceeds* that of women.

All selected industry sections

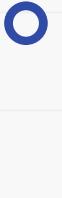
Male and Female Salary Trends by Occupation Over Years



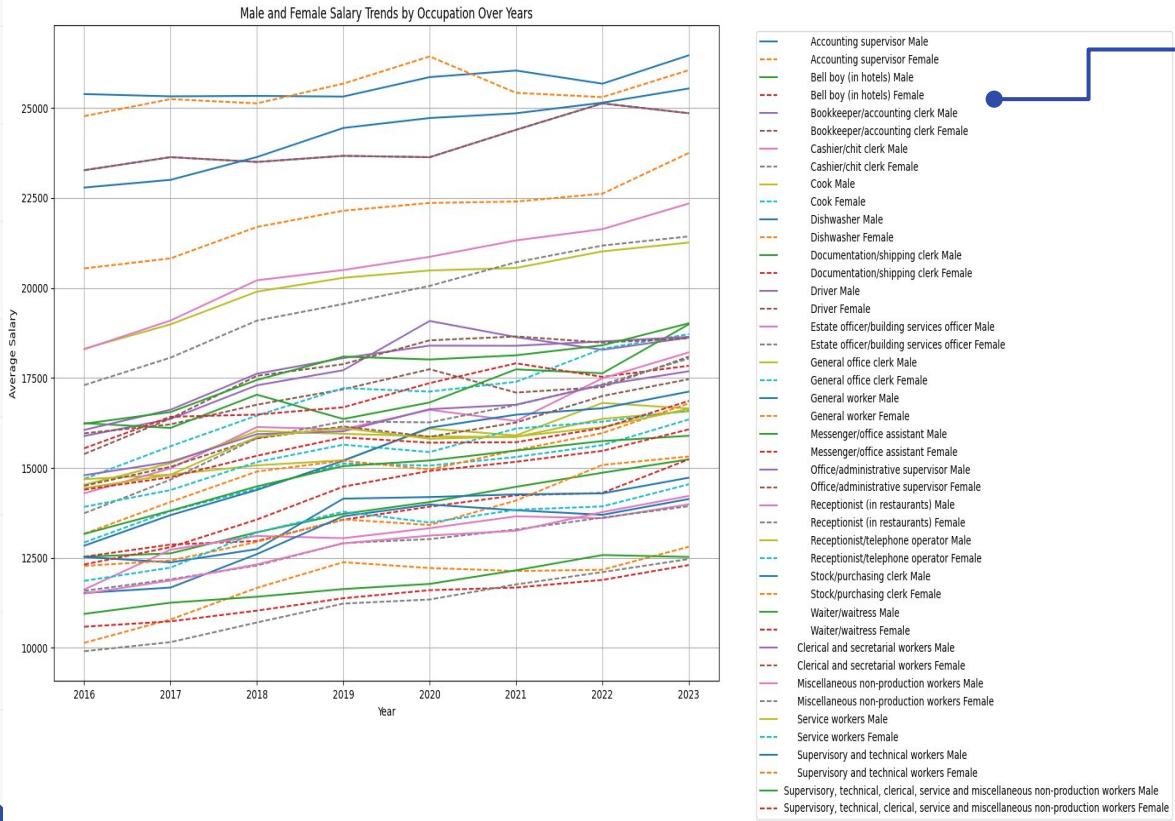
Across the various years represented, male salaries tend to **be higher than** female salaries for the same occupation.

This is particularly evident in roles like "***Accounting clerk***"

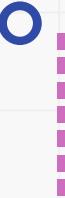
For ***occupations with specific skills***, for example, Cook. Male cooks generally have higher salaries compared to female cooks, though the gap is **less pronounced than in higher managerial roles**.



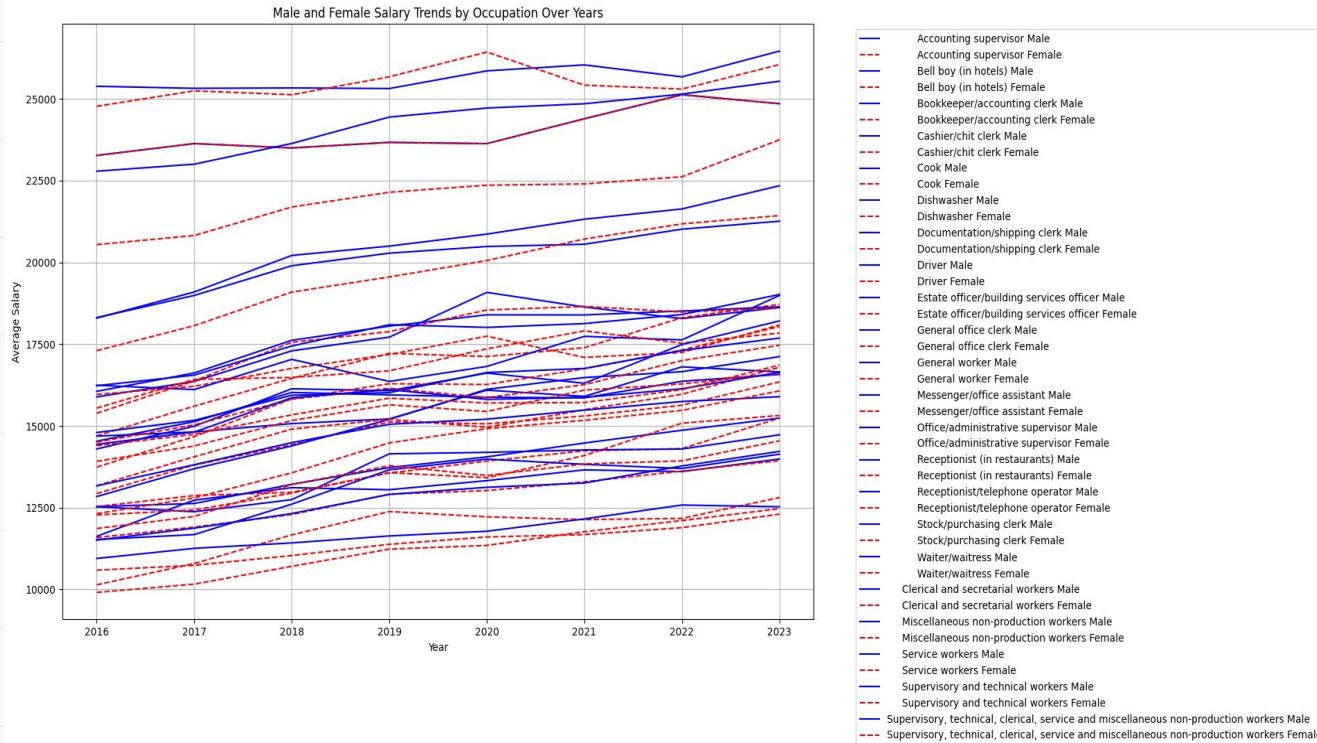
All selected industry sections



Even in some government positions, women's wages are still less than men's wages, with an average of between 500-1000.



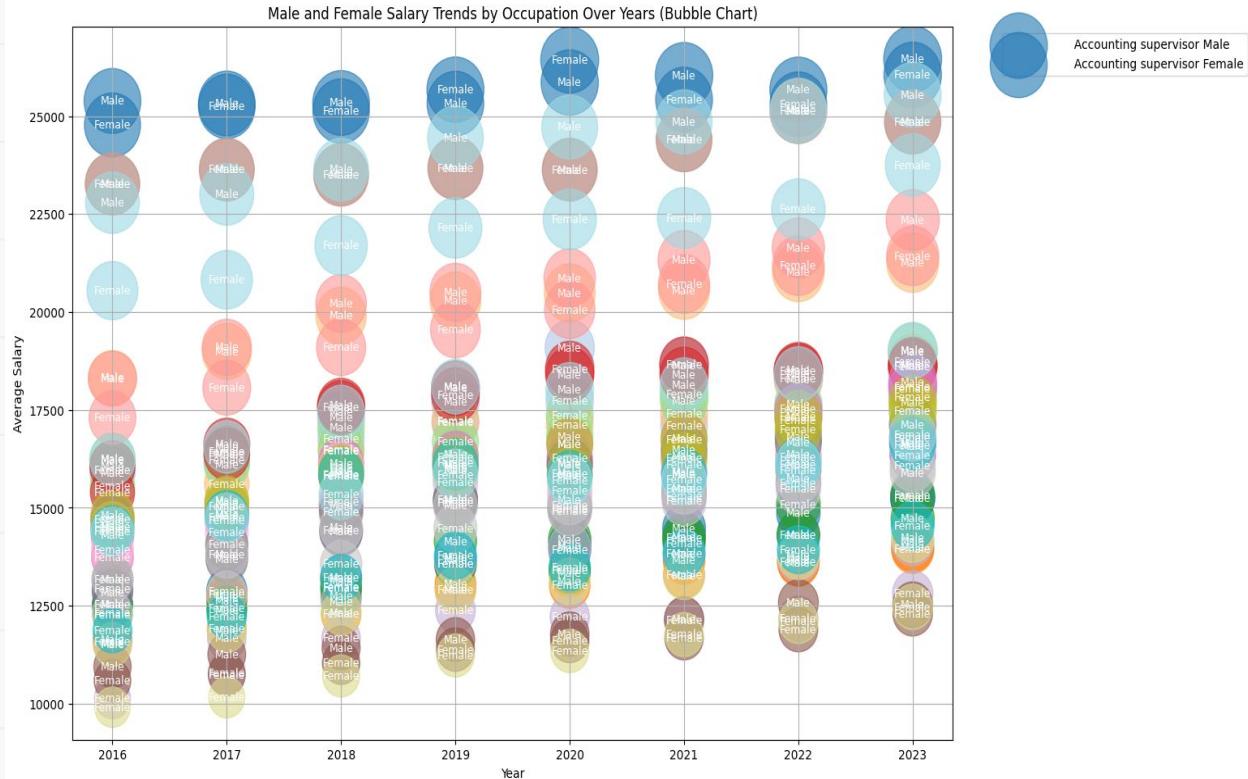
All selected industry sections



Wage levels are gradually increasing over time. The salaries for males and females ***appear closer***, but males still tend to earn slightly more on average.



Male and female salary trends by occupation



In the salary range of 19,000-22,500 in Hong Kong, there is a large gender gap between men and women, and this type of occupation are basically ***supervisory and technical workers***.



Male and female salary trends by occupation



Occupational Segregation ?



Certain jobs are traditionally viewed as "male" or "female," leading to a concentration of one gender in specific roles. For example, fields like engineering and technology often have more men. This segregation can result in disparities in pay.





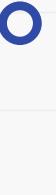
Male and female salary trends by occupation



Random
selection



– Measurements/variables to for
the visualization or analysis

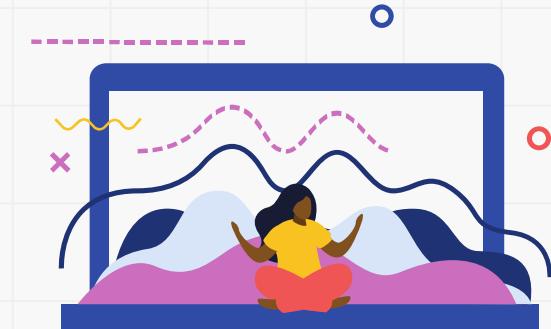


Alternative resources

Here's an assortment of alternative resources whose style fits the one of this template:

Vectors

- Data analysis flat set of isolated icons of documents people with various graphs and linear charts vector





Labor distribution matrix

RACI	Group Member			
Part	JIANG Hanbing	BING Rui	Wang Junyue	Huo Xinran
Questions / objectives	Responsible	Accountable	Consulted	Informed
Reviewing existing works	Accountable	Responsible	Consulted	Consulted
Data processing plan	Responsible	Responsible	Responsible	Responsible
Visualization or analysis	Responsible	Responsible	Responsible	Responsible
Data analysis and exploration	Responsible	Responsible	Responsible	Responsible
Result and finding	Informed	Informed	Responsible	Informed
Labor distribution matrix	Informed	Informed	Informed	Responsible

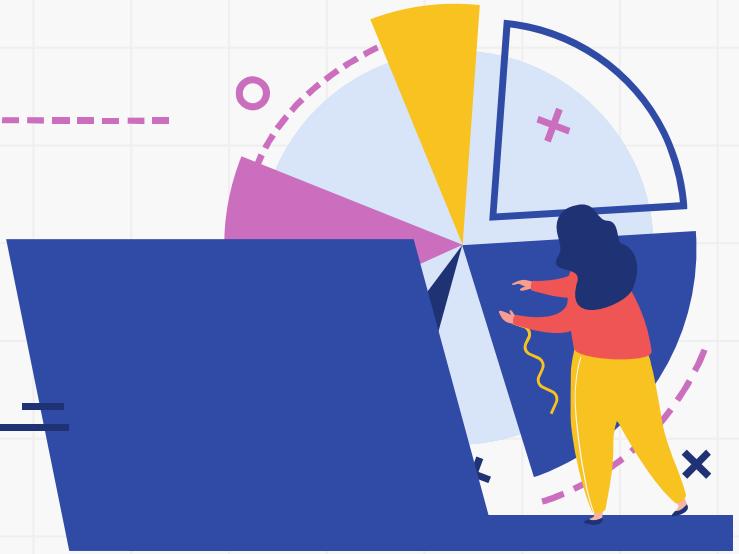




Conclusion

- **Gender Disparities in Poverty:** Female consistently experience higher poverty levels despite overall reductions in poverty rates due to policy interventions.
- **Unemployment Trends:** Higher unemployment rates are observed among female, particularly in younger age groups (15-24).
- **Impact of Education:** While educational attainment improves female labor force participation, wage gaps remain, with male earning more across all education levels.
- **Occupational Segregation:** Male dominate higher income brackets, while female are underrepresented in higher-paying roles.
- **Need for Targeted Policies:** To address these inequalities and improve economic opportunities for female, targeted policies are essential.





Thanks!

