

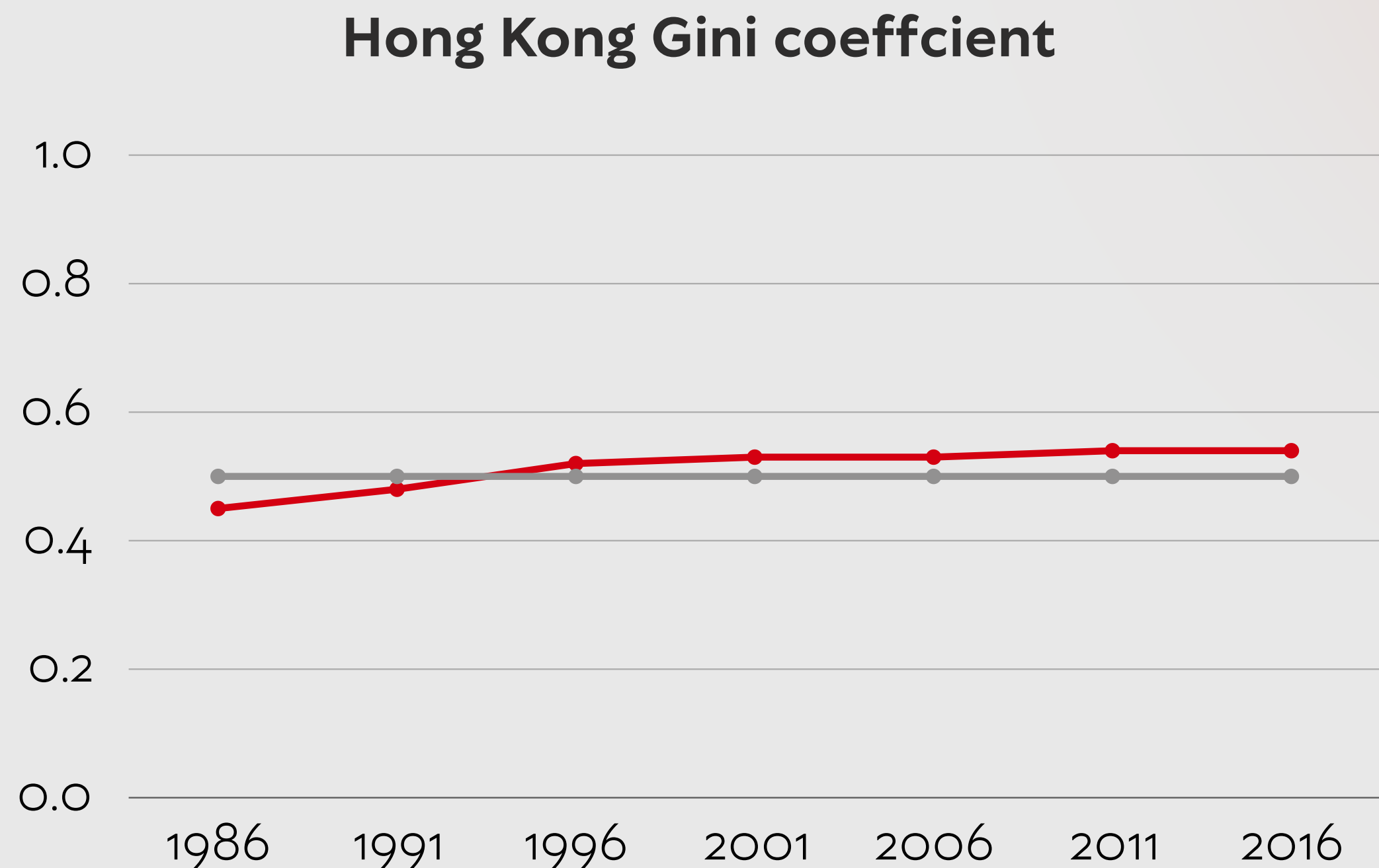
An aerial, high-angle photograph of the Hong Kong skyline, showing a dense cluster of skyscrapers and buildings. The image is in black and white, with a dark, moody atmosphere. The text is overlaid on the left side of the image.

# Study on the Impacts of the Statutory Minimum Wage Ordinance On Income Inequality in Hong Kong:

AN ANALYSIS OF THE PRE- AND POST-IMPLEMENTATION PERIODS

A research presentation by  
CHAN Pui Yu (Laura), CHAN Kin Fai (Alan), CHONG Tsz Kei (Race)

# Statutory Minimum Wage



# Statutory Minimum Wage

- Designed to provide a minimum wage at an hourly rate for employees
- To protect grassroots workers and reduce wage inequality

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## Procedures

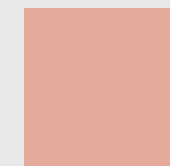
- Minimum Wage Commission conducts periodic reviews of the minimum wage
- Balance preventing excessively low wages and minimizing job losses
- Submits recommendation to the Legislative Council for approval





# Debate on Effectiveness

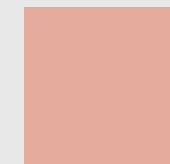
- Many low-income workers did not experience significant wage changes post-policy (Wong, 2012)



*Nominal wage growth & income distribution*



*Employment Rate*



*Discrimination in employment  
(based on gender or age)*

DiD Model Analysis





- *Nominal Wages increase?*
- *Income Distribution changes?*

# Nominal Wage Growth Analysis

$$\begin{aligned} \text{NominalWageGrowth}_{it} = & \alpha + \beta_1 \text{Post}_t + \beta_2 \text{Treated}_i + \beta_3 (\text{Post}_t \times \text{Treated}_i) \\ & + \beta_4 \text{Gender}_i + \beta_5 \text{GDPGrowth}_{t-1} + \beta_6 \text{CPI}_{t-1} + \epsilon_{it} \end{aligned}$$

| **NominalWageGrowth** *it*

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## Time Variable ( $\text{Post}_t$ )



eccl    eccm    **ecdc**    **ecde**    **ecdf**

## SMW Imposition

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# | Treatment Variable(Treated<sub>i</sub>)

***i* = 1 : Treatment Group**

Security Guards

Cleaning Services

***i* = 0 : Control Group**

Financial and Insurance

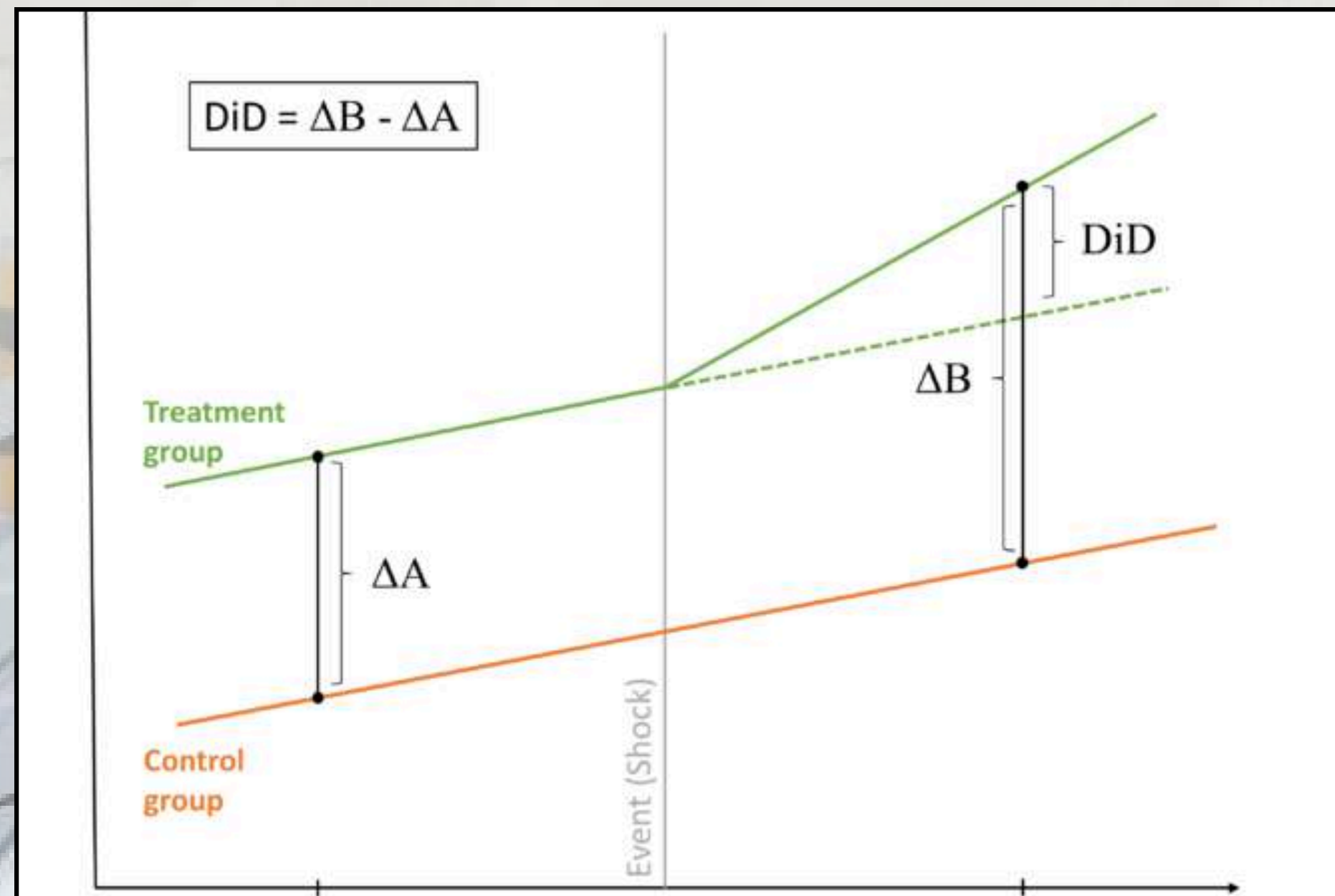
**Coefficient  $\beta_2$**

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# | Interaction Variable( $\text{Post}_t \times \text{Treated}_i$ )



## | Other Variables

$$+ \beta_4 Gender_i + \beta_5 GDPGrowth_{t-1} + \beta_6 CPI_{t-1} + \epsilon_{it}$$

# Gender<sub>i</sub>

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## Coefficient $\beta_4$

**GDPGrowth**  $t-1$

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## Coefficient $\beta_5$

**CPI** *t-1*

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## Coefficient $\beta_6$

$$NominalWageGrowth_{it} = \alpha + \beta_1 Post_t + \beta_2 Treated_i + \beta_3 (Post_t \times Treated_i) \\ + \beta_4 Gender_i + \beta_5 GDPGrowth_{t-1} + \beta_6 CPI_{t-1} + \epsilon_{it}$$

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# Nominal Wage Growth Model Results

Variable	Coefficient	P-value
Intercept	-8.5440	0.091
POST	4.8055	0.073
TREAT	2.1371	0.104
Post_Treated	-1.0459	0.642
GENDER	-0.0253	0.985
CPI_lag	0.5419	0.157
GDP_lag	1.2974	0.057

- **POST** is marginally significant
- Wage growth has increased 4.8% after policy implementation for the dataset's industries

- **TREAT** and **Post\_Treated** are insignificant
- No baseline difference between control and treatment groups
- SMW did not significantly affect the Treatment's wage growth more than the Control group

## Conclusion

Reject the Alternative Hypothesis, accept  $H_0$ . **No significant effect** on the nominal wage growth of low-wage workers compared to other workers. **Income inequality not improved** after the SMW

# Nominal Wage Growth Model Results

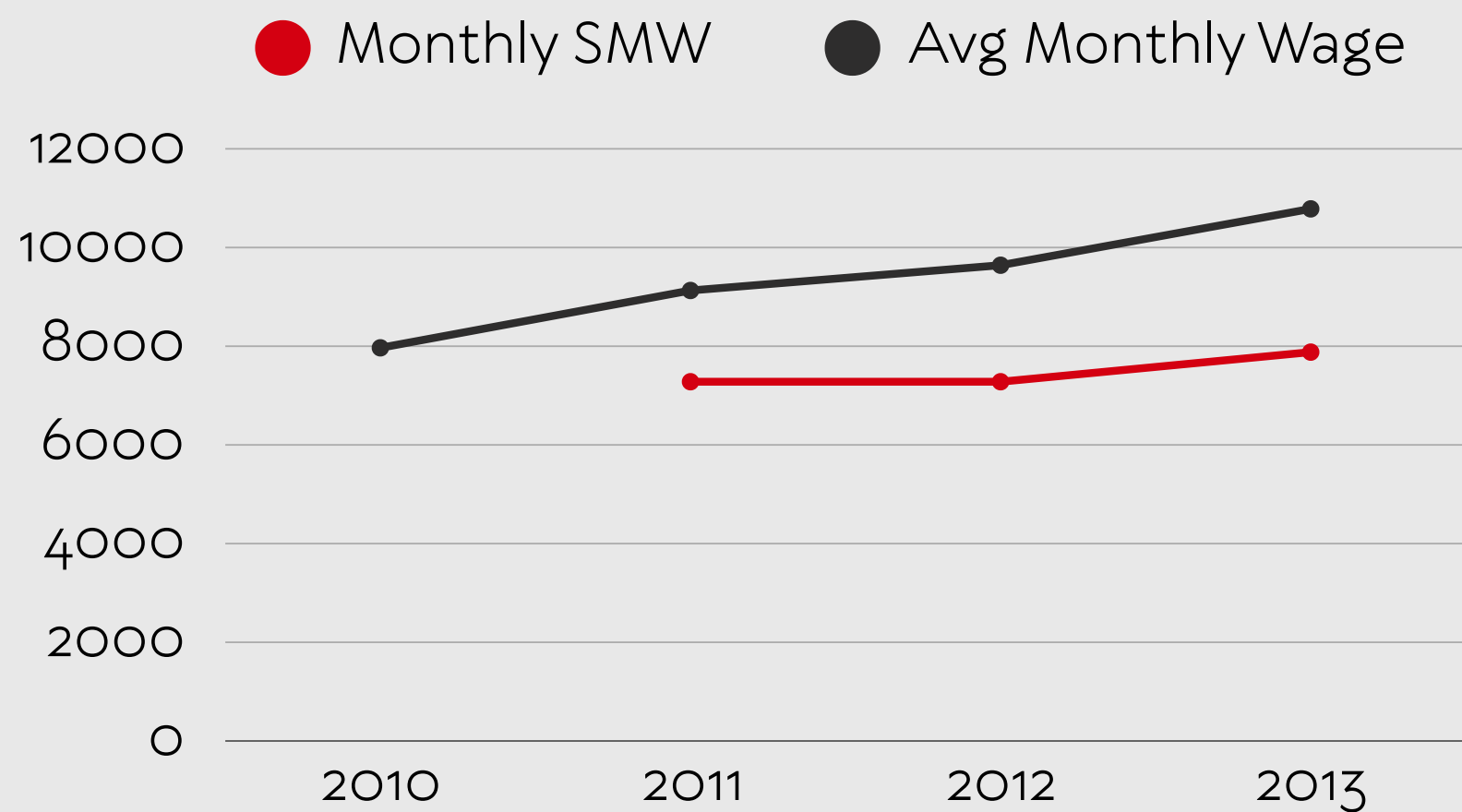
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## Other Findings

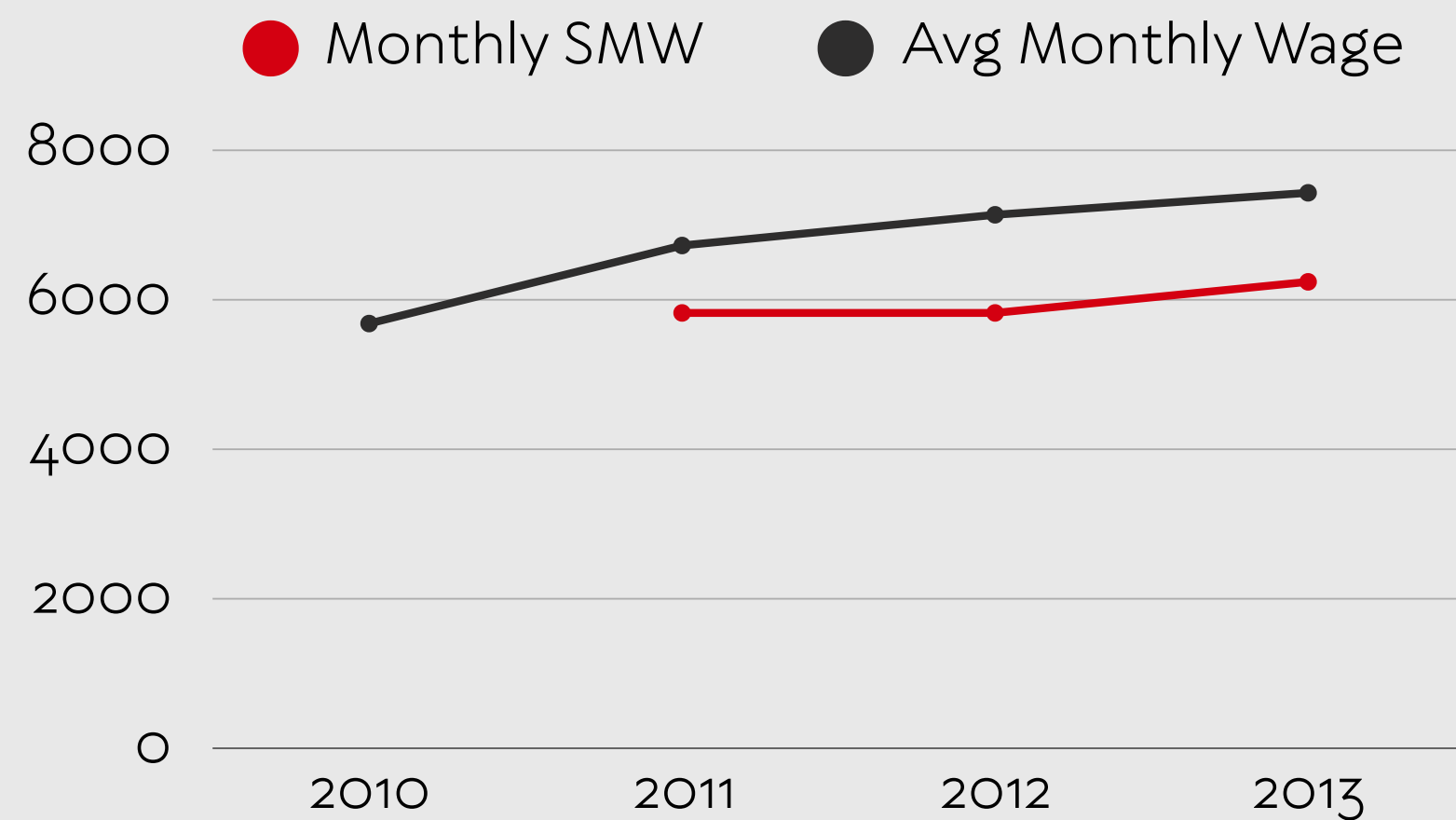
- **GENDER** has nearly zero effect on wage growth
- **GDP\_lag** is marginally significant: Better economic situation is associated with higher wage growth
- **CPI\_lag** is insignificant

# Result Analysis

## Security Guard's Wage



## Cleaner's Wage





1. *Industry-Based Model*
2. *Age-Based Model*
3. *Labour Force Participation Rate Model*



# Employment Rate Analysis (Industry-based)

$$\begin{aligned} EmploymentRate_{it} = & \alpha + \beta_1 Post_t + \beta_2 Treated_i + \beta_3 (Post_t \times Treated_i) + \beta_4 Gender_i \\ & + \beta_5 GDPGrowth_{t-1} + \beta_6 CPI_{t-1} + \epsilon_{it} \end{aligned}$$

Dependent Variable

| ***EmploymentRate*** *it*

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Independent Variables

$Post_t$

Dependent variable

Regression coefficient

Weight

Intercept

$Treated_i$

Independent variable

Regression coefficient

Weight

Intercept

$Post_t$

$Treated_i$

Interaction term

Regression coefficient

Weight

Intercept

Control Variables

Gender<sub>i</sub>

GDPGrowth<sub>t-1</sub>

CPI<sub>t-1</sub>



$$\begin{aligned} EmploymentRate_{it} = & \alpha + \beta_1 Post_t + \beta_2 Treated_i + \beta_3 (Post_t \times Treated_i) + \beta_4 Gender_i \\ & + \beta_5 GDPGrowth_{t-1} + \beta_6 CPI_{t-1} + \epsilon_{it} \end{aligned}$$

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# Industry-Based Model Results Analysis

Variable	Coefficient	P-value
Intercept	97.2596	0.000
POST	-0.0443	0.793
TREAT	2.081e-14	1.000
Post_Treated	1.954e-14	1.000
GENDER	-1.1333	0.000
CPI_lag	0.0990	0.000
GDP_lag	-0.0993	0.014

- **POST** is insignificant
  - Implementation of the SMW is not associated with any employment change
- 
- **TREAT** and **Post\_Treated** are insignificant
  - No baseline difference between treatment and control groups
  - SMW did not significantly affect the Treatment's employment rate more or less than the Control group

## Conclusion

Reject the Alternative Hypothesis, accept  $H_0$ . **No significant effect** on the employment rate on treatment group compared to the control group. The SMW seems did not increase unemployment rate among low-paid workers

# Industry-Based Model Results Analysis

Economists believe that:

***“imposing SMW would results in higher labour cost.  
Thus, higher unemployment since firms cut cost”***

Results show that **whether or not imposing SMW has no differential effect on employment rate**

- SMW does not exceed the average monthly wage for those low-paying workers
- Even if companies perceived high wage floor, the selected treatment industries (Cleaning / Security Guard) are less likely be replaced by automation.



# Industry-Based Model Results Analysis

## Factors of computerisation

1. “**Perception and manipulation**”:  
Manual processes like cleaning the streets / equipments as a cleaner can hardly be replaced
2. “**Social intelligence**”: Dealing with property’s interpersonal interaction as a security guard

## Takeaways

- Set a **reasonable target** that does not pose an aggressive minimum wage to keep the employment rate as high

# Industry-Based Model Results Analysis

Variable	Coefficient	P-value
Intercept	97.2596	0.000
POST	-0.0443	0.793
TREAT	2.081e-14	1.000
Post_Treated	1.954e-14	1.000
GENDER	-1.1333	0.000
CPI_lag	0.0990	0.000
GDP_lag	-0.0993	0.014

## Other Findings

- **GENDER** is very significant
  - *Being a male actually have lower employment rate than a female?*
  - Males participate more in **workforce** than females
  - Some females do not face unemployment issue, per se
- 
- **CPI\_lag** and **GDP\_lag** are significant
  - CPI is increasing the employment rate by 0.099
  - Possibly meaning when last quarter's economic activities are heated and there is inflation, businesses arise and create more recruitment needs
  - GDP is decreasing the employment rate by 0.0993
  - This could possibly be explained by more productive businesses e.g. outsourcing

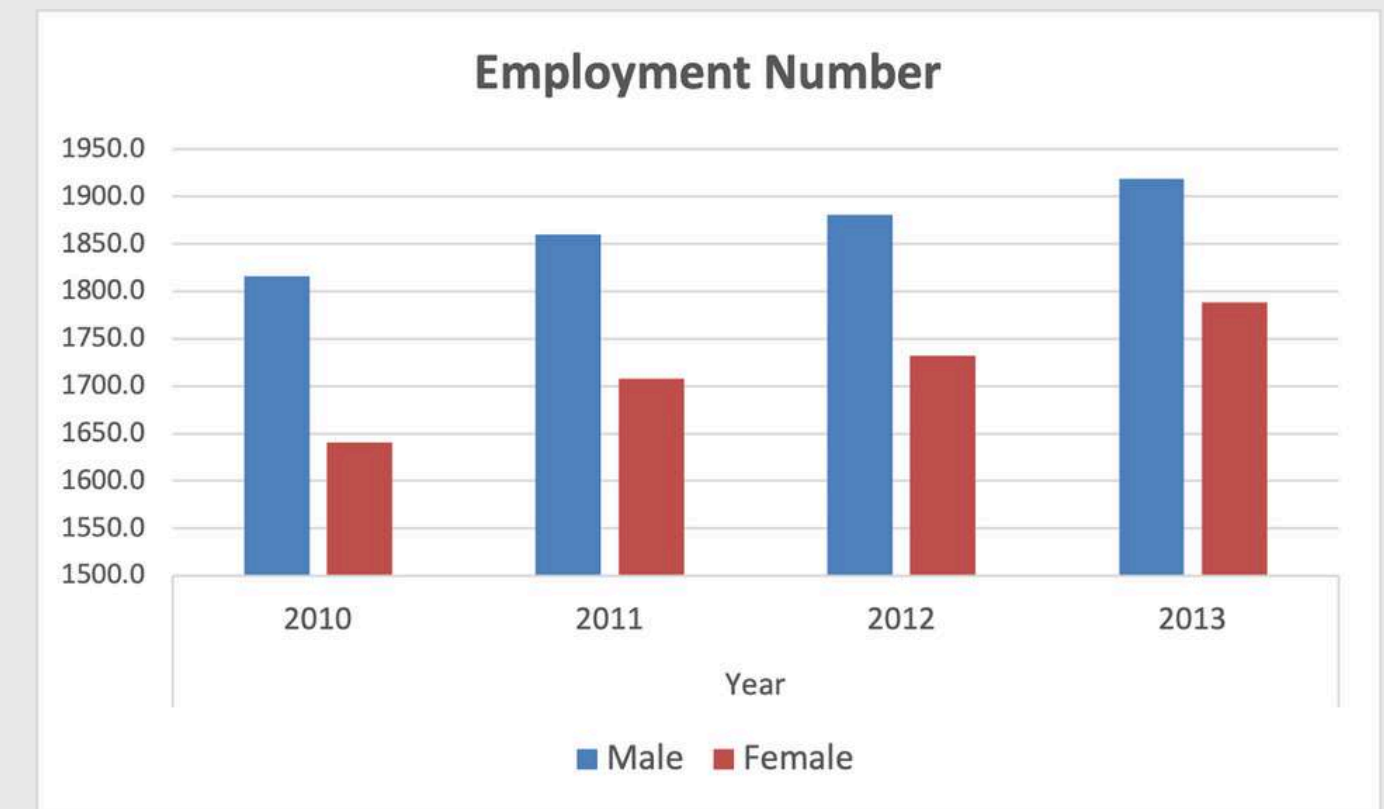
# Industry-Based Model Results Analysis

## Why Male's employment rate was lower than female?

- Males' employment population larger than females
- Average LFPR ratio by female vs. male = 52.6% vs.68% during 2010 - 2013

1. **Gender division:** Glass ceiling and occupational sex segregation might impede women from participating in the workforce, .
2. **Traditional culture:** Women in Chinese culture are treated with socialised values with gender roles of taking care of a family.

- “neither employed nor actively seeking work”
- Being a male have a higher chance to face unemployment than a female, per se.



# Employment Rate Analysis (Age-based)

$$\begin{aligned} \text{EmploymentRate}_{it} = & \alpha + \beta_1 \text{Post}_t + \boxed{\beta_2 \text{Treated}_i + \beta_3 (\text{Post}_t \times \text{Treated}_i)} + \beta_4 \text{Gender}_i \\ & + \beta_5 \text{GDPGrowth}_{t-1} + \beta_6 \text{CPI}_{t-1} + \epsilon_{it} \end{aligned}$$

$i = 0$ : worker at 25-59,  $i = 1$ : worker at  $\geq 60$

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# Age-Based Model Results Analysis

Variable	Coefficient	P-value
Intercept	97.1802	0.000
POST	-0.3053	0.459
TREAT	1.0350	0.000
Post_Treated	-0.2754	0.528
GENDER	-1.0202	0.000
CPI_lag	0.1028	0.097
GDP_lag	-0.0024	0.985

- **POST** is insignificant
- Implementation of the SMW is not associated with any employment change

- **TREAT** is significant
- Being older is associated with higher employment rate?
- When they are still in the workforce, there is a high chance that they have already got a job
- **Post\_Treated** is insignificant
- SMW did not differently affect the Treatment

## Conclusion

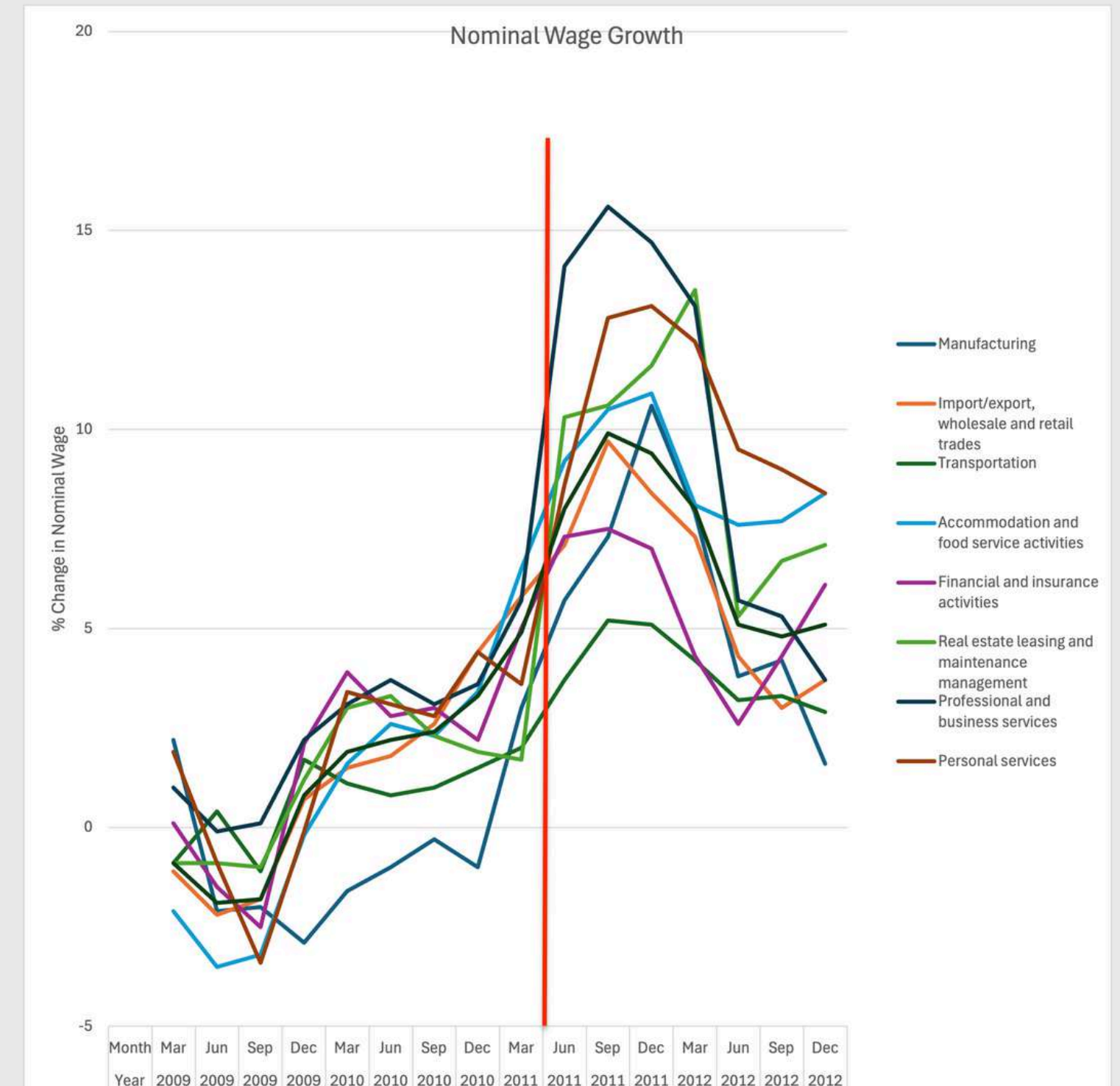
Reject the Alternative Hypothesis, accept  $H_0$ . **No significant effect** on the employment rate on the elderly than non-elderly. The treatment firms does not prefer younger workers to older workers after imposing SMW

# Age-Based Model Results Analysis

It seems like companies does not, statistically, have a younger age preference for workers

- Yet, a report by Consumer Search Hong Kong Limited (2016) has revealed interview scripts that recruiters, for instance, cleaning industry or the catering industry, prefer younger workers.
- Recruiters believed that SMW increases the **bargaining power** of workers; **Wage growth soared** after SMW by our wage model & figure on right
- Young people tend to find industry with good prospect instead of staying at low-paid sectors

Some employers have age preference, but due to the nature of work, they **have no choice but to recruit older workers**



# Age-Based Model Results Analysis

Although statistically recruiters have no age preference, employees face psychological stress

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Psychological Stress

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Face ads with age limits

Employees consider age  
discrimination is serious

Age discrimination could result in physical and psychological well-being challenges,  
as well as **lowered job satisfaction** and **organisational commitment** (Spoelma & Marchiondo, 2024)





# Further Analysis: Labour Force Participation Rate Model

- Employment Rate not reflecting all labour participation information.
- Potential Discouraged Workers Effect?



$$LFPR_{it} = \alpha + \beta_1 Post_t + \beta_2 Treated_i + \beta_3 (Post_t \times Treated_i) + \beta_4 Gender_i \\ + \beta_5 GDPGrowth_{t-1} + \beta_6 CPI_{t-1} + \epsilon_{it}$$

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# LFPR Model Results Analysis

Variable	Coefficient	P-value
Intercept	48.2480	0.000
POST	1.1540	0.000
TREAT	8.743e-15	1.000
Post_Treated	1.288e-14	1.000
GENDER	19.2600	0.000
CPI_lag	0.0473	0.256
GDP_lag	0.0884	0.059

- **POST** is **very significant**
- More working age population joined the labour force after SMW

- **TREAT** and **Post\_Treated** are insignificant
- No baseline difference between control and treatment groups
- SMW did not significantly affect the Treatment's LRPR more or less than the Control group

## Conclusion

Reject the Alternative Hypothesis, accept  $H_0$ .  
**No discouraged worker effect**

# LFPR Model Results Analysis

No significant evidence that increased LFPR of low-wage workers is higher than that of high-wage workers

- If there is discouraged worker effect, the interaction term should be significant and positive
- If such workers had exited the labour market before the SMW due to low wages, a significant and positive Post\_Treated would indicate **their return** post-SMW, drawn by the **new wage floor**
- But there is **no discouraged worker effect**

Our results suggest that either

low-wage workers were  
not significantly  
discouraged pre-SMW

the SMW's wage increase was not  
attractive enough to pull them  
back into the labour force

Taking the 2013 security guard as an example,  
their average wage is \$2,983 higher than the SMW's protected wage





- Link Minimum Wage to Median Earnings
- Regional and Sectoral Variations
- Transparency and Stakeholder Engagement
- Anti-Age Discrimination



# 1. Link Minimum Wage to Median Earnings

- Index minimum wage to median wage (e.g., two-thirds)
  - Maintains purchasing power of low-income workers
  - Systematic adjustments linked to economic conditions
- 

## UK's National Living Wage (NLW)

- Increased from £10.42 to £11.44/hour in April 2024
  - Approximately 3 million low-paid workers directly benefited
  - Annual Pay Boost: equates to an annual pay rise of over £1,800 (for full time worker)



## 2. Regional and Sectoral Variations

- Consider different wage rates by region/sector
  - Tailored policies to match local costs/economic conditions
- 

### Germany's industry-specific minimum wages

- Established via collective bargaining agreements
- Trade unions and employer associations negotiate minimum wage rates for specific industries.
- Temporary Employment Agencies: **€14.53/hour**
- **General: €12.82/hour**

→ Tailored Compensation: Allows for wage standards that reflect the specific economic conditions and labor demands of each industry.

→ Worker Protection: Ensures fair wages and working conditions across various



# 3. Transparency and Stakeholder Engagement

- Clearly disclose methods, data, and rationale
- Regular stakeholder consultations and feedback

## Germany's Wage Transparency Act

- Key Provisions:
  - **Right to Information:** Employees in firms with 200+ workers can ask for details on pay levels and criteria for colleagues in similar roles.
  - **Reporting Obligations:** Companies with 500+ employees must publish gender pay equity reports every 3–5 years, depending on union agreements

## UK's Low Pay Commission Transparency Reports

- Discloses expenditure, commissioners' interests, and underlying data used in reports
- Engages with stakeholders through consultations and public communications to inform policy decisions



## 4. Anti-Age Discrimination

- Enact legislation against age discrimination
- Promote public awareness through campaigns
- Foster merit-based recruitment to enhance psychological safety and boost productivity
- Boost older workers' psychological safety and workplace engagement

### Current Situation in Hong Kong 🇭🇰:

- No legal protection against age discrimination
- Only voluntary guidelines from the Labour Department

### • Japan's Employment Measures Act (Article 10)

- Key Provisions:
  - Legally requires equal hiring opportunities regardless of age
  - Enforced through government guidance and job posting restrict
  - Allows exceptions only in specific justified cases





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### Key Findings:

- Wages: SMW led to nominal wage growth but did not reduce income inequality
- Employment: No significant impact on overall employment rate
- Demographic Bias:
  - No evidence of age-based discrimination
  - Unexpected gender effect: male employment rate fell, likely due to labour participation trends

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### Policy Implications:

- SMW provided a basic safety net, but not strong enough to shift market wages
- Recommend:
  - Link to Median Earnings
  - Consider Regional & Sectoral Rates
  - Enhance Transparency & Engagement
  - Promote Anti-Age Discrimination

03

### Global Insight:



UK

- UK's National Living Wage (NLW)
- Low Pay Commission transparency reports



Germany

- industry-specific minimum wages
- Germany's Wage Transparency Act



Japan:

- Employment Measures Act





# FUTURE RESEARCH DIRECTIONS

# Future Research Directions

O1

## First Refining Age Group Analysis

- Current model: Broad age groups (25–59 vs. 60+)
- Future: Use finer age groups with multiple DiD models
- Goal: Capture age-specific employment effects more accurately

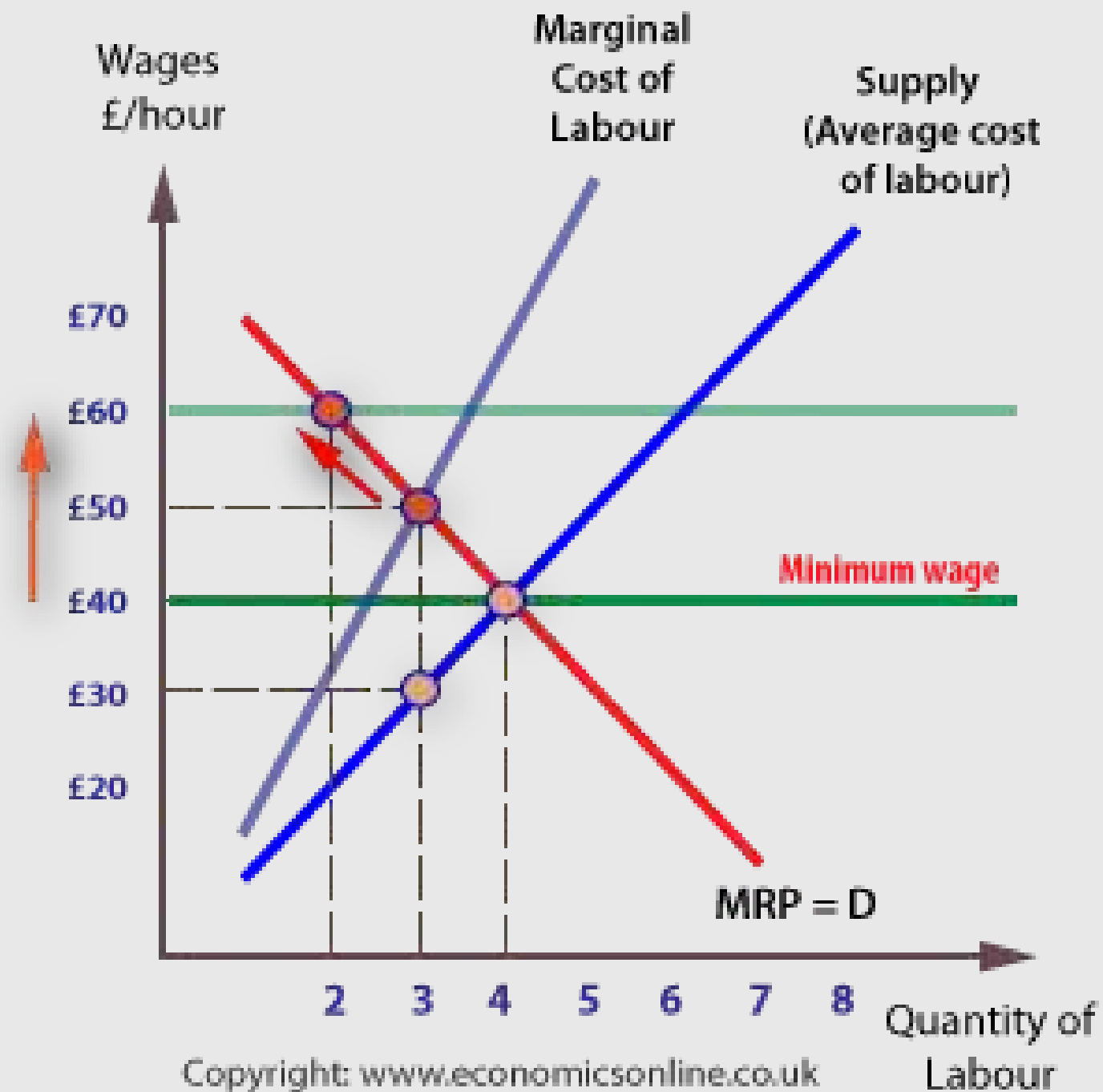
O2

## Improving SMW Rate Adjustment Mechanism

- Analyse labour market data
- Explore feasible rate increases that won't harm employment
- Examine the **monopsony power** for low-skilled industries (e.g. cleaning / security industry)
- Need to assess trade-offs: **wage increases** vs. **low-skilled employment**



# How much should the SMW be adjusted?



- Raising the SMW aggressively could increase their monthly earning and less discouraged workers
- but higher labour cost reduces employment
- Examine the **monopsony power** for cleaning / security industry
- When the monopsony power is high, buyers of the labour market can set the wage lower than the competitive labour market
- Sources of monopsony: Elasticity of Market Supply, No. of buyers & Interaction among buyers

An aerial, high-angle view of the Hong Kong skyline at night. The image is in black and white, with the city lights providing contrast against the dark sky and water. The Victoria Harbour is visible in the center, with numerous skyscrapers lining the waterfront. The text "Thank You" is overlaid in a large, white, sans-serif font across the middle of the image.

# Thank You

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