Trickle-Down Effect or Vice Versa?

Examining the Effect of Female Managers in Japanese Firms, 2008-2016

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JS-88 - Women in an Occupational Gender Segregation Global Labor Market
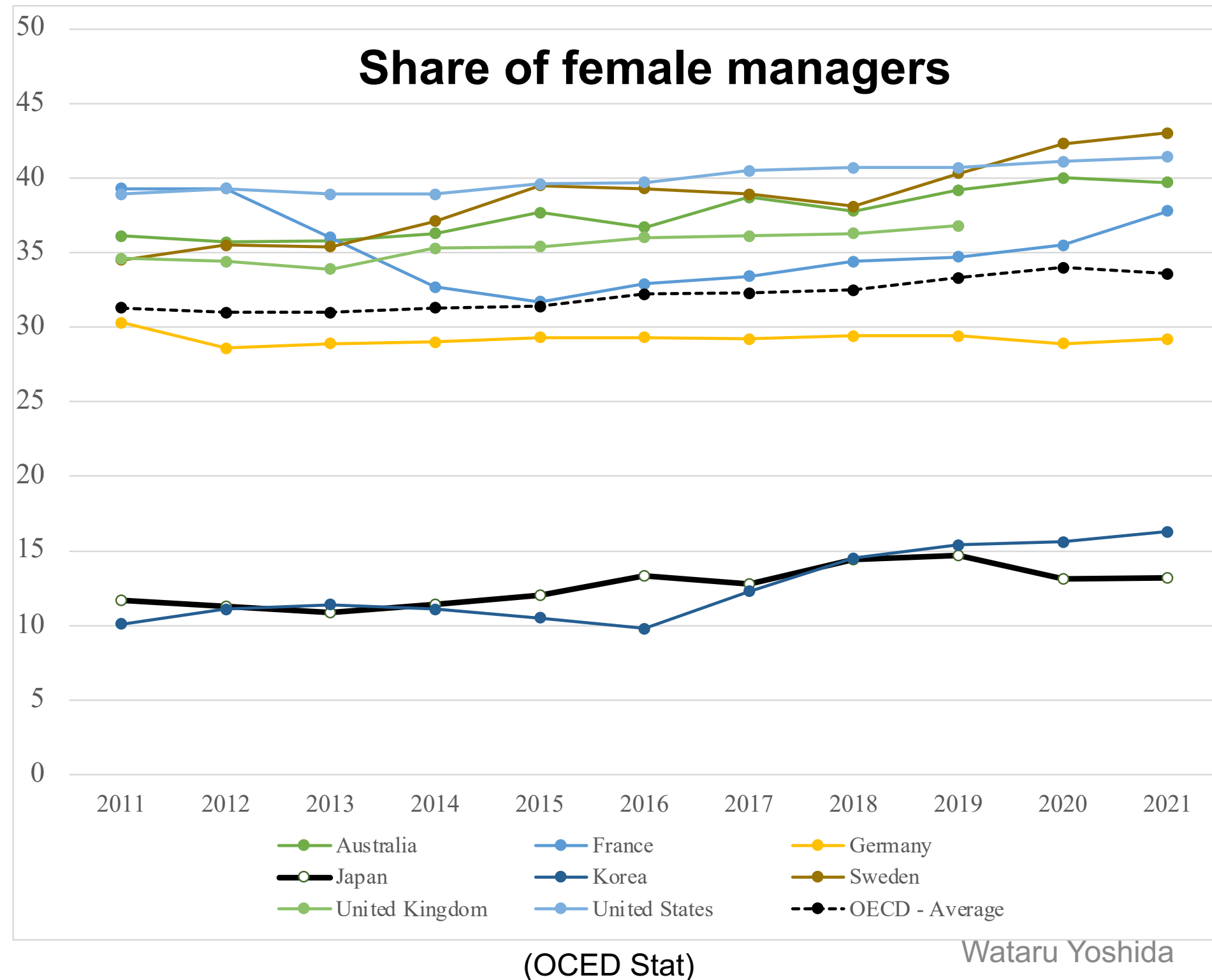
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Vertical Gender Segregation

➢Two types of occupational gender segregation

- Horizontal Segregation

- Vertical Segregation

➢Why is it important to focus on vertical gender segregation?

- Source of various types of inequality

  - Wage, employment stability, power, …

Vertical Gender Segregation

Share of female managers

(OCED Stat)

> Share of female managers
> - As an indicator to measure vertical gender segregation

> Japan is notorious for the intensity of vertical gender segregation.

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Backgrounds

➢The Japanese government is trying to increase the number of female managers by setting future targets for the ratio.

- Act on the Promotion of Women's Active Engagement in Professional Life (2015)

- Attempts to alleviate vertical gender segregation

➢What would happen if more women filled management positions?

Trickle-down effect
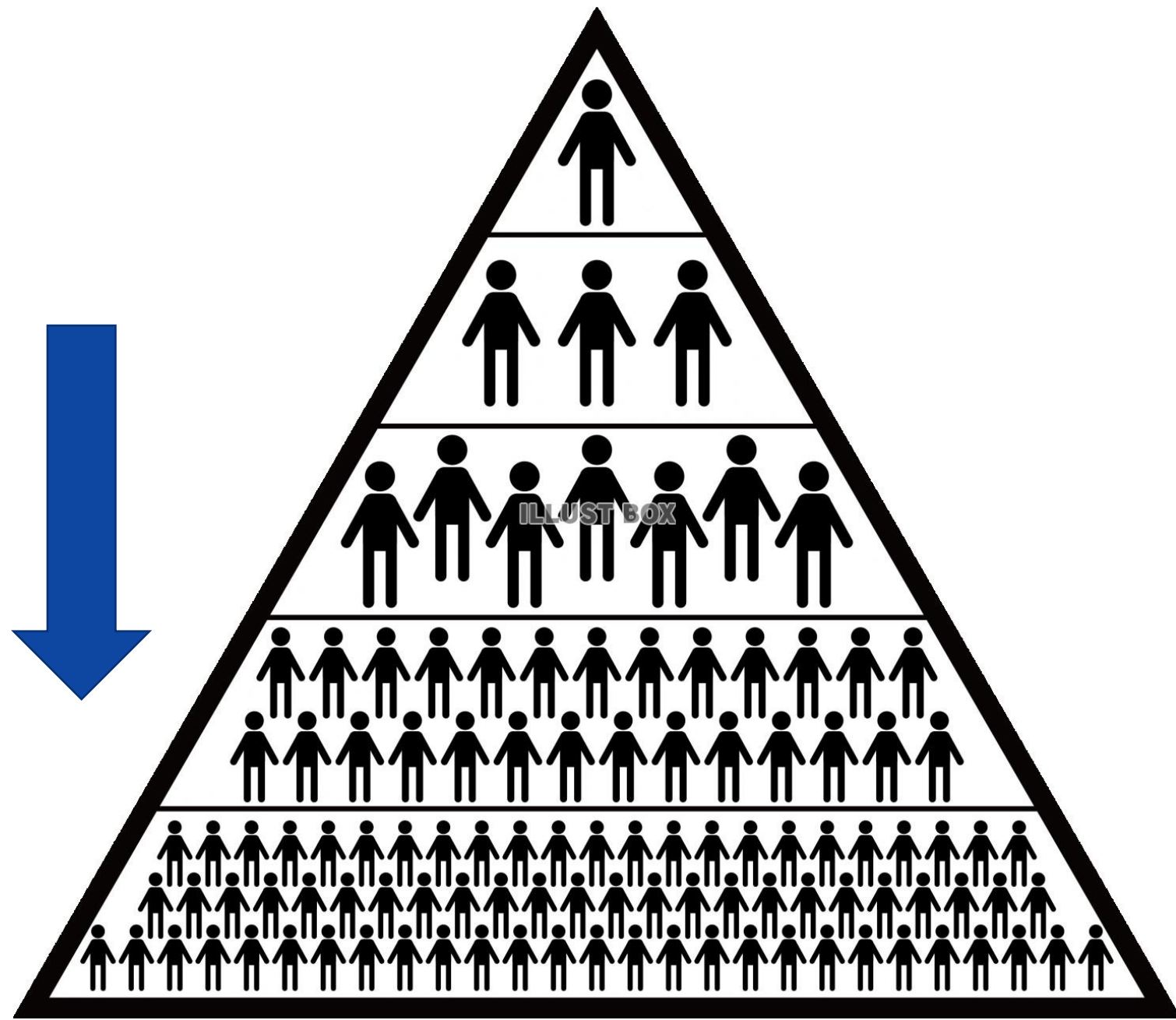
➢ Trickle-down effect

- More women in management positions will increase female employees in subordinate positions.
  - aka. Women-help-women effect / Agents of change

1. Homosocial reproduction (Kanter 1977)
2. Stronger support for inequality-overcoming policies (Cohen and Huffman 2007)

Extant research on trickle-down effect

➢ Extant research mainly support the trickle-down effect.

- From upper- to lower-level positions
  - From top managers to midlevel managers, in the US (Kurtulus and Tomaskovic-Devey 2012)
  - From boards to managers, in the US (Skaggs et al. 2012)
  - From boards to executives and executives to executive-feeders, in Australia (Gould et al. 2018a, 2018b)

- Also to mitigate gender segregation at the lower level
  - From managers, executives and boards, in the US (Huffman et al. 2010; Stainback et al. 2016), in South Korea (Stainback and Kwon 2012), and in Australia (Biswas et al. 2021)

Problems on extant research

- Some studies rely on cross-sectional data
  - Cannot distinguish the direction of the effect

- Most studies employ fixed-effect model by using panel data
  - Can condition the confounding resulting from firm-specific characteristics

- But when there is reverse causality, even fixed-effects model cannot precisely estimate the causal effect (Imai and Kim 2019)

Pipeline effect
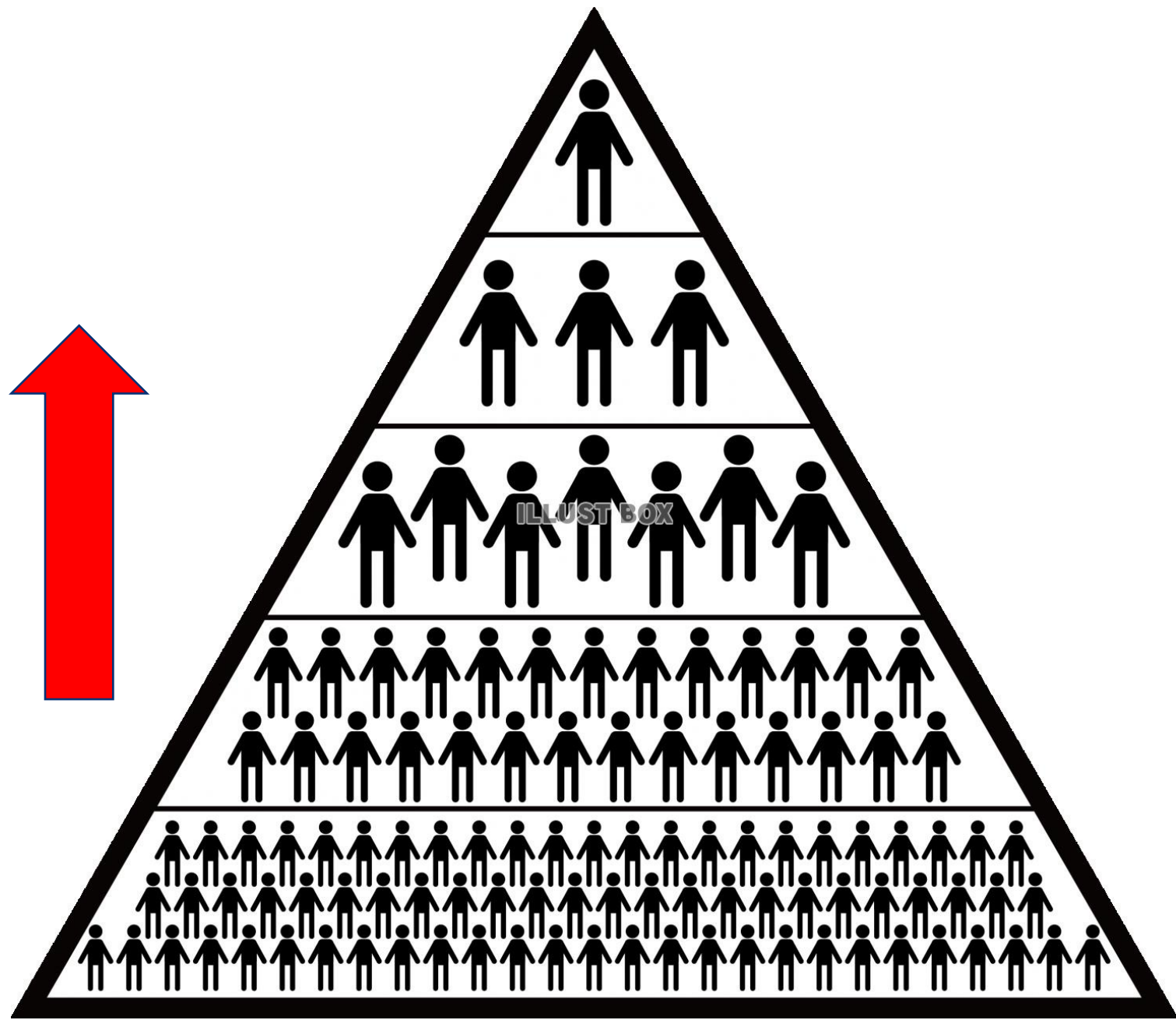
(OCED Stat)

➢Pipeline effect

- Women in lower-level positions increase those in higher positions.
  - aka. bottom-up approach

- Well-developed internal labor market
 - Female managers promoted within organizations

Precisely estimating the trickle-down effect

- **Some research considering both directions** (Ali et al. 2021; Cohen et al. 1998)
  - But the results might suffer from bias, since they estimated each direction separately.

➢RQ: Is there a trickle-down effect, even after controlling the reverse causality?

Cross-lagged panel model with fixed effects

➢ Cross-lagged panel model with fixed effects (Allison et al. 2017)

- Cross-lagged panel model can estimate the bidirectional causal effects
  - But they suffer from bias, which overestimates the significance of the effects (Lucas 2023)

- So we add the fixed effects to the cross-lagged panel model (Allison et al. 2017; Leszczensky and Wolbring 2022; Williams et al. 2016)
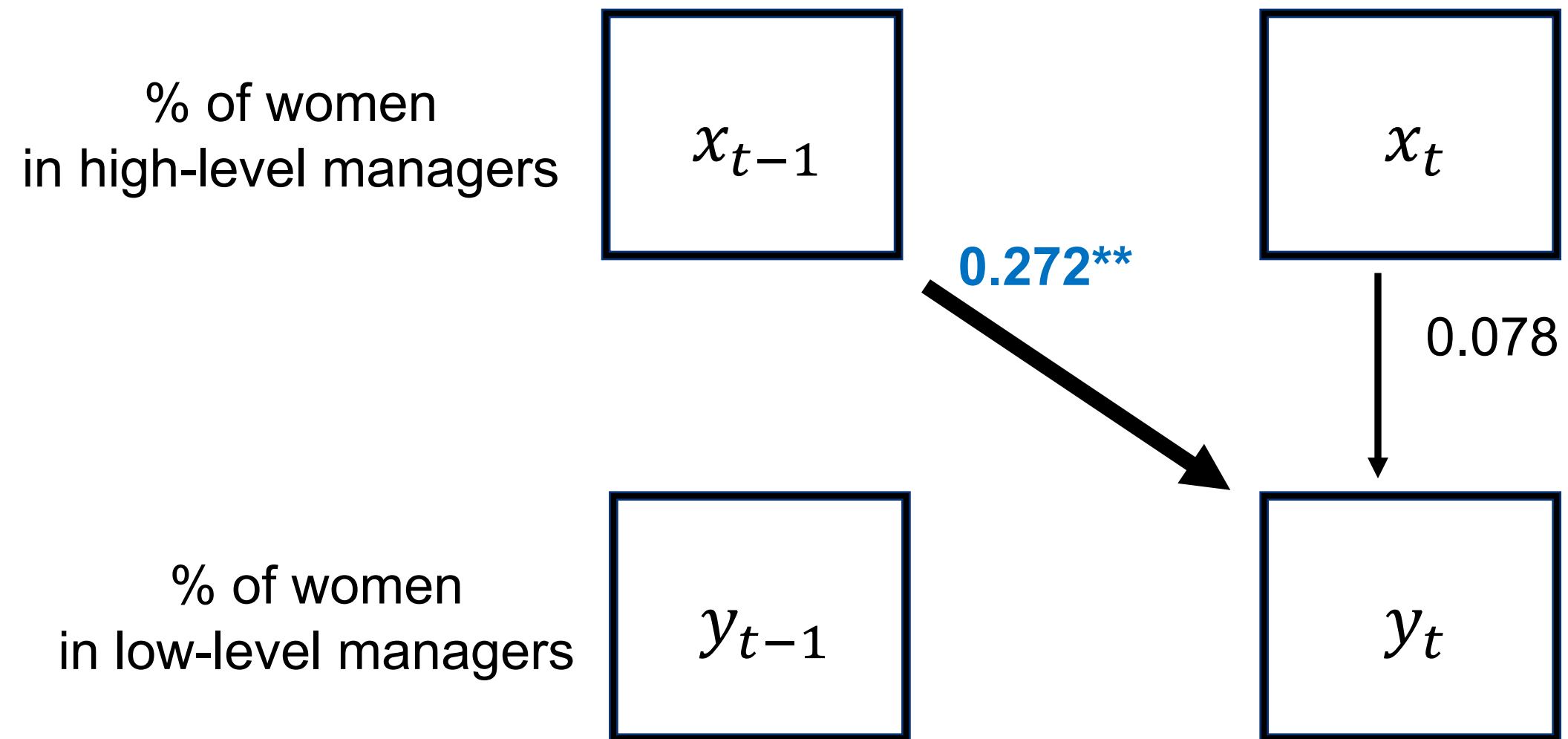
Cross-lagged panel model with fixed effects
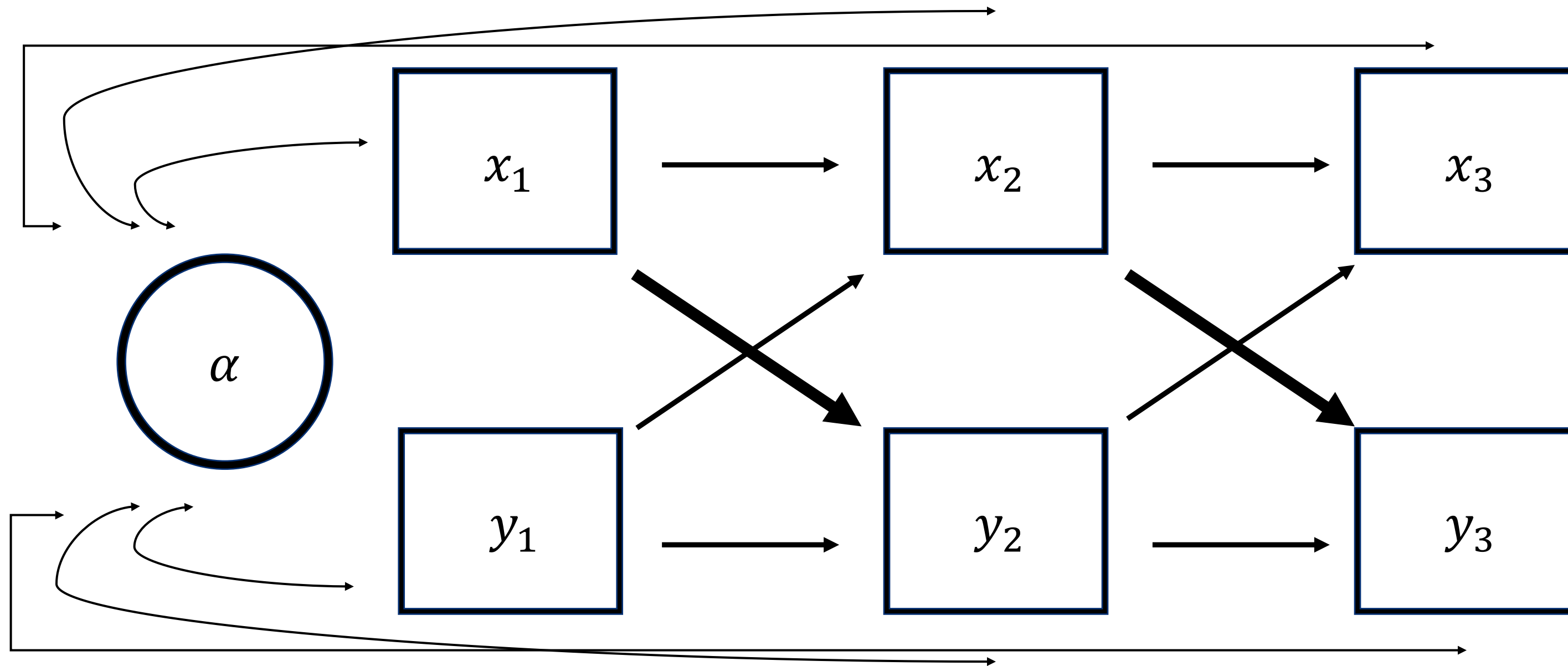
Materials and methods

➤ CSR Data (Toyo Keizai *Inc.*) 2008-2016

- Panel data for large Japanese firms

- Make balanced panel: N = 3,069 (341 firms * 9 years)

➤ Outcome: % of women in low-level management (t)

➤ Independent: % of women in high-level management (t-1)

- Control: % of women in low-level management (t), N of employees (logged, t-1), % of female employees(t-1), average salary (logged, t-1), year dummy

Fixed effects model

% of women
in high-level managers

x_{t-1}

x_t

0.272**

0.078

% of women
in low-level managers

y_{t-1}

y_t

Cross-lagged panel model with fixed effects

% of women
in high-level managers
x_{t-1} → x_t

0.241**

0.073

% of women
in low-level managers
y_{t-1} 0.823*** y_t
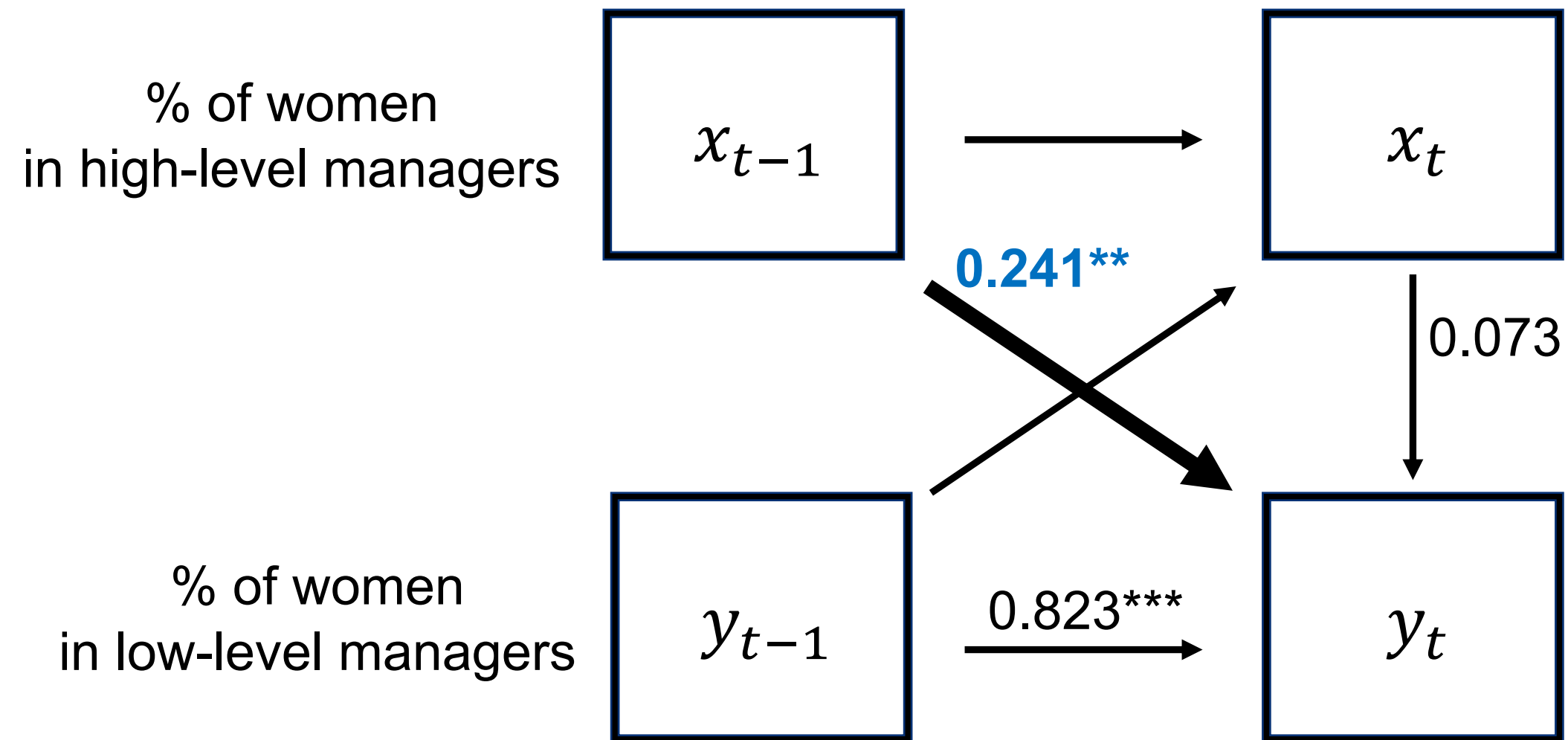
Conclusion

- The share of women in high-level management positions increases those of women in lower-level management positions in the following year.

    - even after conditioning reverse causality

    - Trickle-down effect !

Implication

- Mitigate vertical gender segregation from higher positions

  -> Will increase the female share in subordinate positions

  -> Will improve gender equality in the entire organization.

  - Leading to a virtuous cycle

- The impact of *Change from the Top*

Thank you.

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