# Managerial Labor Market Competition and Incentive Contracts
# 高管劳动力市场竞争与激励合同设计

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# Introduction

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- Labor market competition gives total pay increases with firm size.

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**What I provide:**

- An explanation based on the executive job ladder.

# Introduction — motivating facts

**Data:** U.S. S&P 1500 companies, 1992 - 2016

**Key variables:**

- `firm size` by market capitalization
- `performance-based incentives` by PPS, *pay-for-performance sensitivity*

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Size incentive premium:

- Controlling for total compensation, year $\times$ industry dummies, etc.

$$\texttt{Corr(PPS, firm size) > 0}.$$

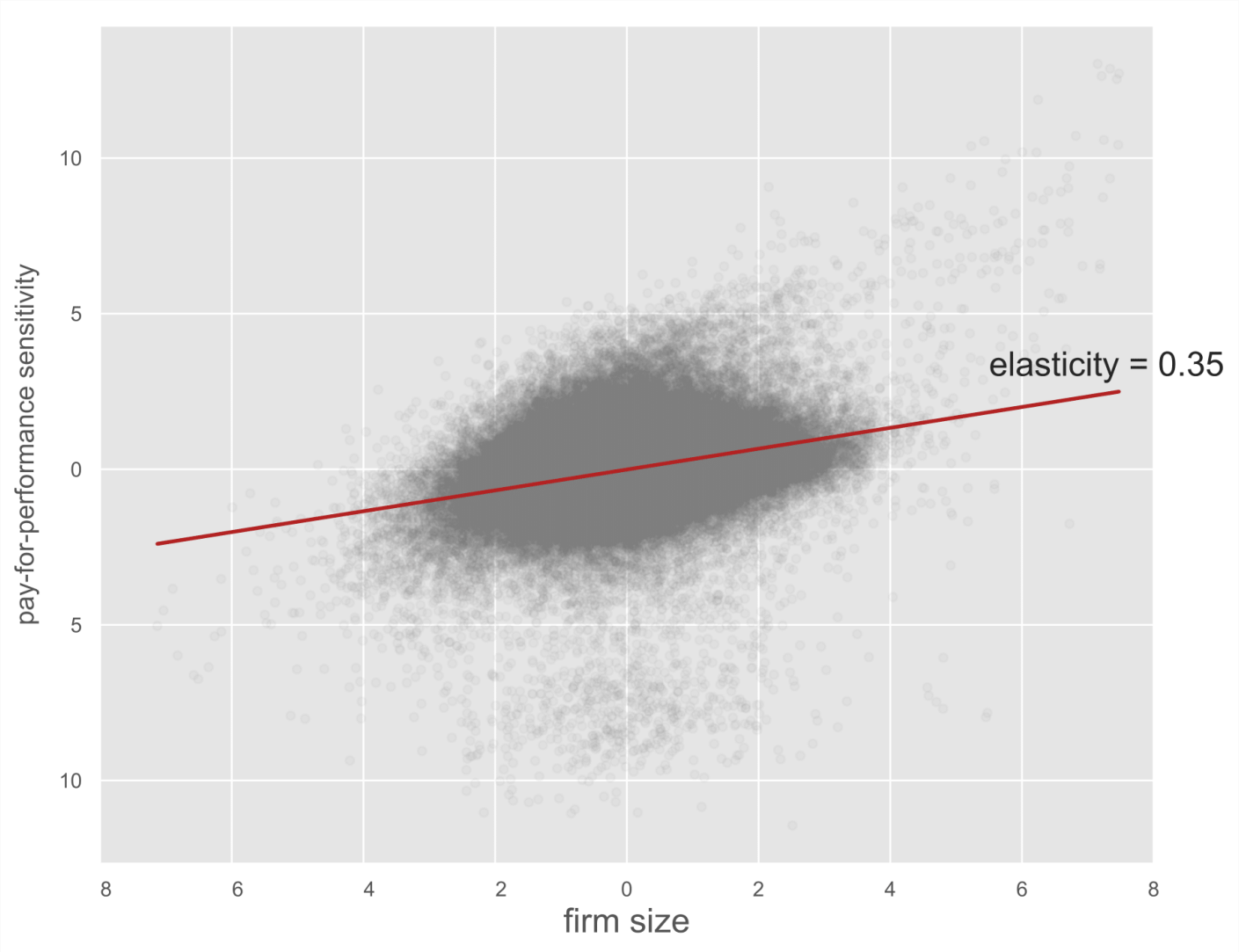


**Figure 1:** PPS increases in firm size (size incentive premium)

Scatter and linear fit of **log**(PPS) on **log**(Mktcap), based on S&P 1500 firms from 1992 to 2016.

# Introduction — size incentive premium and labor market

| | log(PPS) | | | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| log(firm size) | 0.585*** | 0.347*** | 0.316*** | 0.325*** | 0.316*** |
| | (0.0141) | (0.0247) | (0.0029) | (0.0036) | (0.0029) |
| log(firm size) × J-J rate | | | 0.716** | | |
| | | | (0.1054) | | |
| log(firm size) × GAI | | | | 0.055*** | |
| | | | | (0.0112) | |
| log(firm size) × inside-CEO-% | | | | | -0.087*** |
| | | | | | (0.0196) |
| log(total pay) | | 0.609*** | 0.692*** | 0.0687*** | 0.684*** |
| | | (0.0350) | (0.0046) | (0.0056) | (0.0046) |
| tenure, age, year | X | X | X | X | X |
| other controls | X | X | X | X | X |
| industry | X | X | | | |
| year × industry | X | X | | | |
| Obs. | 146,747 | 128,006 | 128,006 | 79,476 | 128,006 |
| adj. $R^2$ | 0.442 | 0.482 | 0.487 | 0.482 | 0.485 |

1. GAI, general ability index is provided by Custódio et al. (2013)
2. Fraction of inside CEO is provided by Martijn Cremers and Grinstein (2013).

# Introduction — model intuition

Model:

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What are labor market incentives?

- on-the-job executives can be poached by outside firms
- labor market incentives: effort $\leftarrow$ productivity $\leftarrow$ poaching offer

# Introduction — model intuition, cont'd

Key assumption (Gabaix and Landier, 2008):

- $\texttt{cash flow} = \texttt{firm size} \times \texttt{executive productivity}$
- larger firms can always outbid smaller ones
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Labor market incentives decrease in firm size

- job ladder effect — position on the ladder
- wealth effect — wealthier executives are harder to incentivize

# Introduction — contributions

This paper

1. documents the firm size incentive premium

2. develops a dynamic equilibrium framework to explain the premium

3. explains the significant increase in executive compensation since the mid 1970s (Frydman and Saks 2010)

# Related Literature

- Assignment models:
  - Tervio (2008), Gabaix and Landier (2008), Edmans et al. (2009), etc.
  - My paper adds dynamics and search frictions.
- Moral hazard models
  - Gayle and Miller (2009), Gayle et al. (2015)
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  - My paper features a job ladder towards larger firms.
- Dynamic contract literature
  - moral hazard: Spear and Srivastava (1987), etc.
  - limited commitment: Thomas Worrall (1988, 1990), etc.
- Labor search literature
  - sequential auction: Postel-Vinay and Robin (2002), etc.

# Road Map

1. Model
2. Data & evidence
3. Structural estimation
4. Explain the pattern since the mid 1970s

# The Model

# Set Up: Moral Hazard

Discrete time and infinite periods

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Executives:

- risk averse, $u(w) - c(e)$, $e \in \{0, 1\}$, $c(1) = c$, $c(0) = 0$,

$$u(w) = \frac{w^{1-\sigma}}{1-\sigma}$$

- effort $e$ stochastically increases executive productivity $z \in \mathcal{Z}$
- $z$ is persistent, follows a discrete Markov Chain process

$$z_t = \rho_0(e) + \rho_z z_{t-1} + \epsilon_t$$

- die with $\eta \in (0, 1)$, the match breaks up, the job disappears

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Firms:

- firm size $s \in \mathcal{S}$, exogenous and permanent
- production (cash flow) $y(s, z) = \alpha_0 s^{\alpha_1} z$, $\alpha_0, \alpha_1 \in (0, 1]$.

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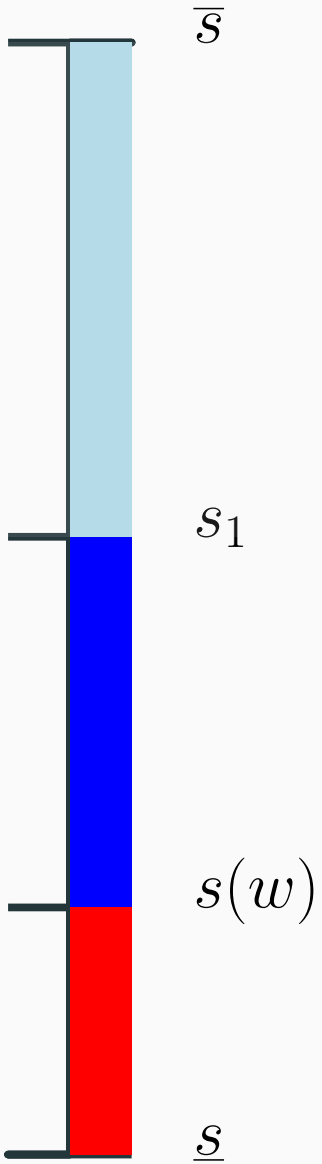
Bertrand Competition:

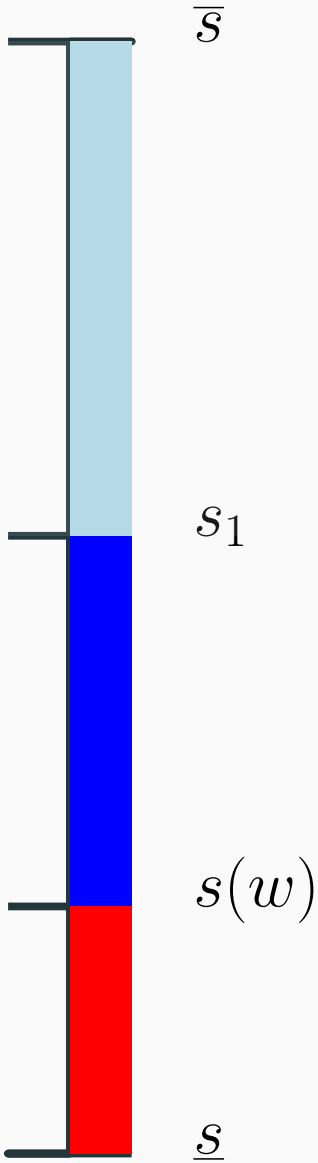
- current firm $s$ versus outside firm $s'$
- each has a bidding frontier, $\overline{W}(z,s)$, defined by

$$\Pi\left(z, s, \overline{W}(z,s)\right) = 0$$

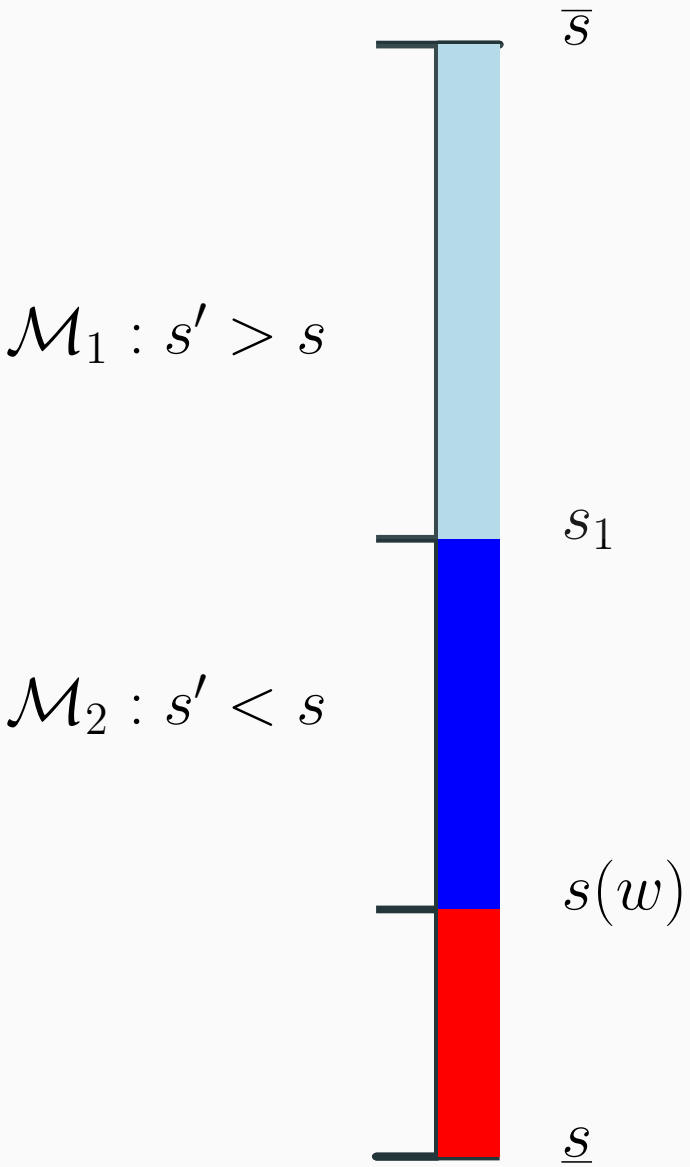
- $\overline{W}(z,s)$ increases in $z$ and $s$


$\overline{s}$
$s_1$
$s(w)$
$\underline{s}$

$\mathcal{M}_1 : s' > s$

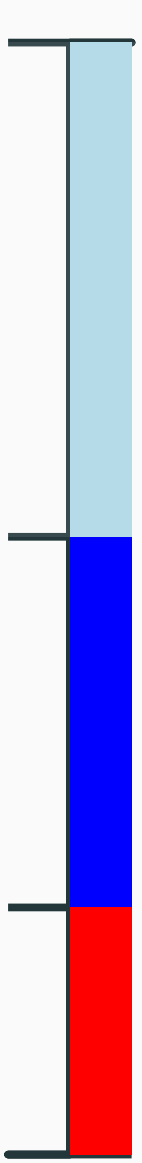



job-to-job transitions




job-to-job transitions

compensation renegotiation




$\mathcal{M}_1 : s' > s$ job-to-job transitions

$\mathcal{M}_2 : s' < s$ compensation renegotiation

$\mathcal{M}_3 : s' < s$ no competitive outside offer

# Contracting Problem

Firms maximize profits by choosing

- current period compensation $w$
- state-contingent continuation value $W(z', s')$

subject to

| | |
|---|---|
| *Promise-keeping Constraint*, | (PKC) |
| *Incentive Compatibility Constraint*, | (IC) |
| *Participation Constraint of executive*, | (PC-Executive) |
| *Participation Constraint of firm*, | (PC-Firm) |

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&W(z', s') \geq \mathbf{min}\{\overline{W}(z', s'), \overline{W}(z', s)\}, && \text{(PC-Executive)}\\
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&W(z', s') \leq \overline{W}(z', s), && \text{(PC-Firm)}
\end{aligned}$$

Details

# The Equilibrium

A recursive equilibrium consists of

- the value functions $\{W^0, W, \Pi\}$;
- the optimal contracts $\sigma = \{w, W(z', s')\}$ for all $z' \in \mathbb{Z}$ and $s' \in \mathbb{S}$;
- a transition probability function $\Gamma(z'|z)$ following the optimal effort choice;
- a distribution of executives across employment states evolving according to flow equations.

# The Optimal Contract

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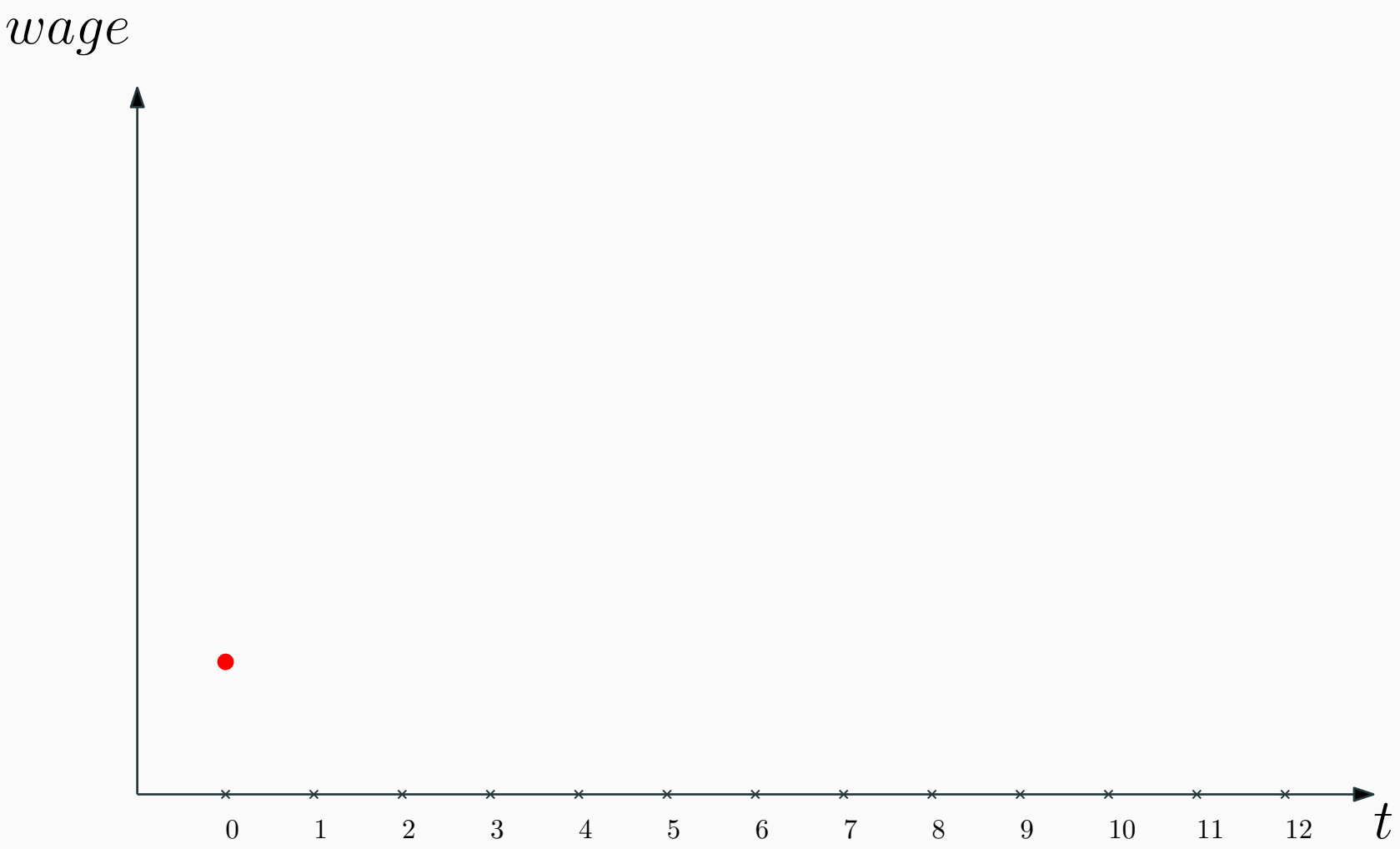

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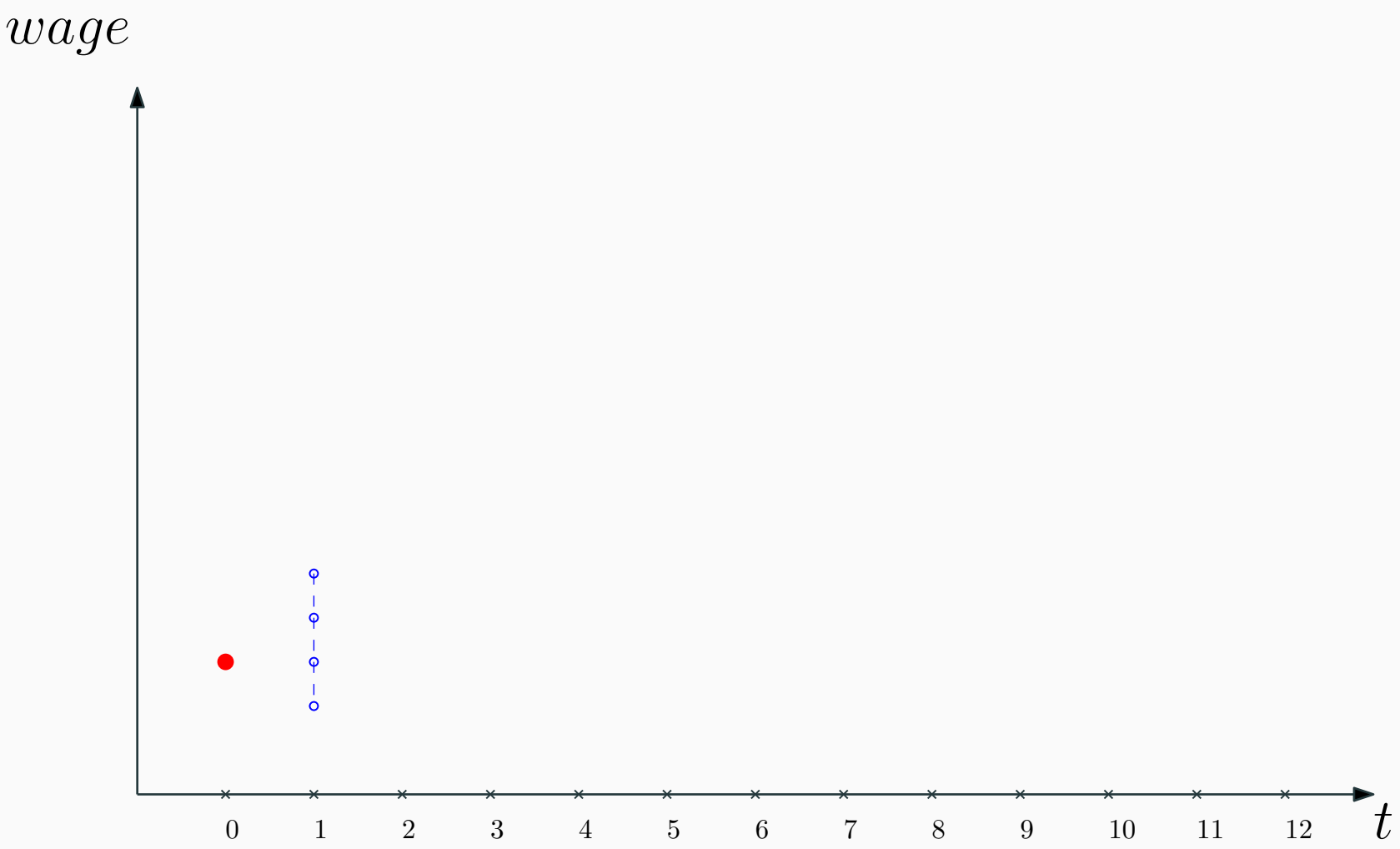

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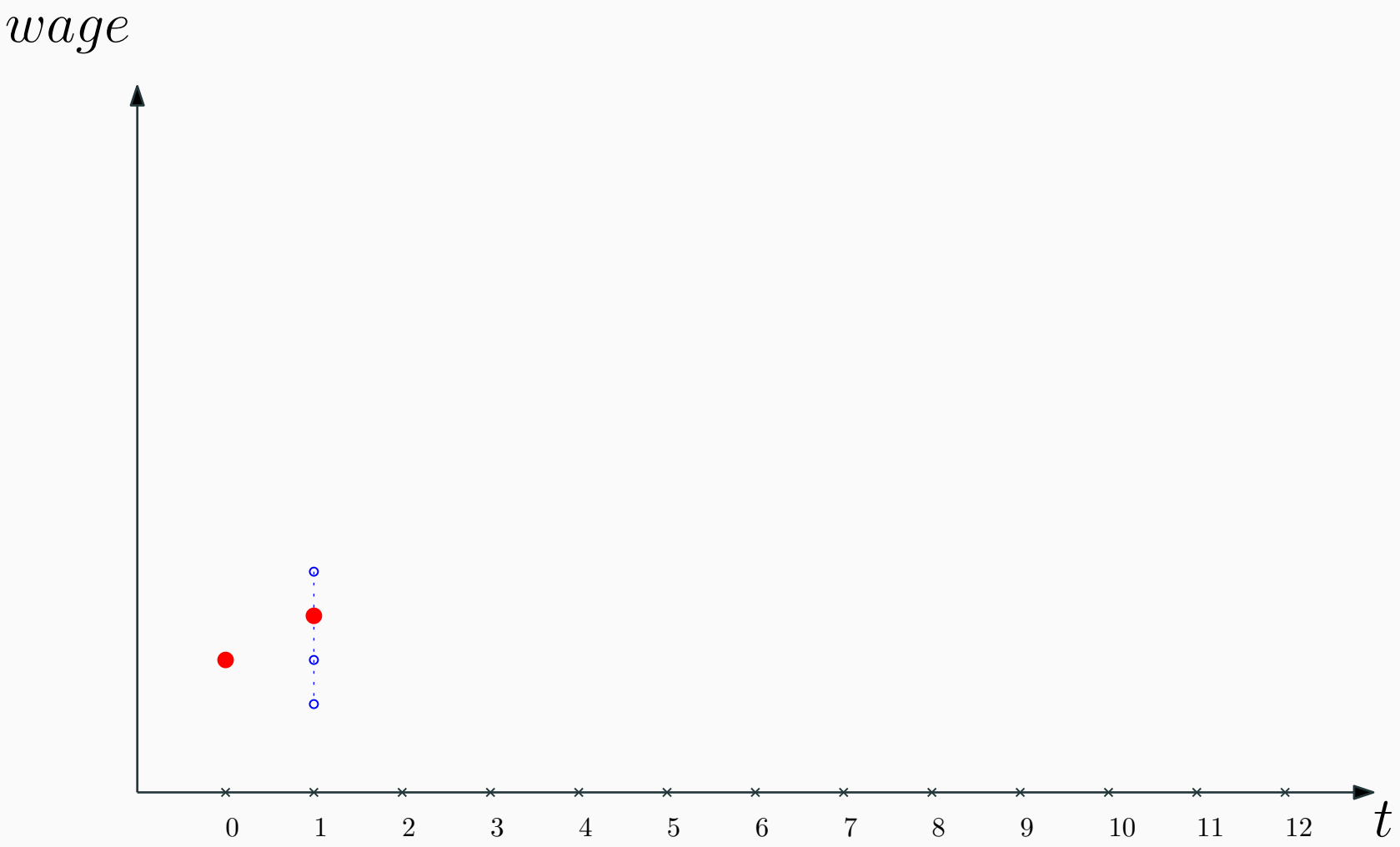

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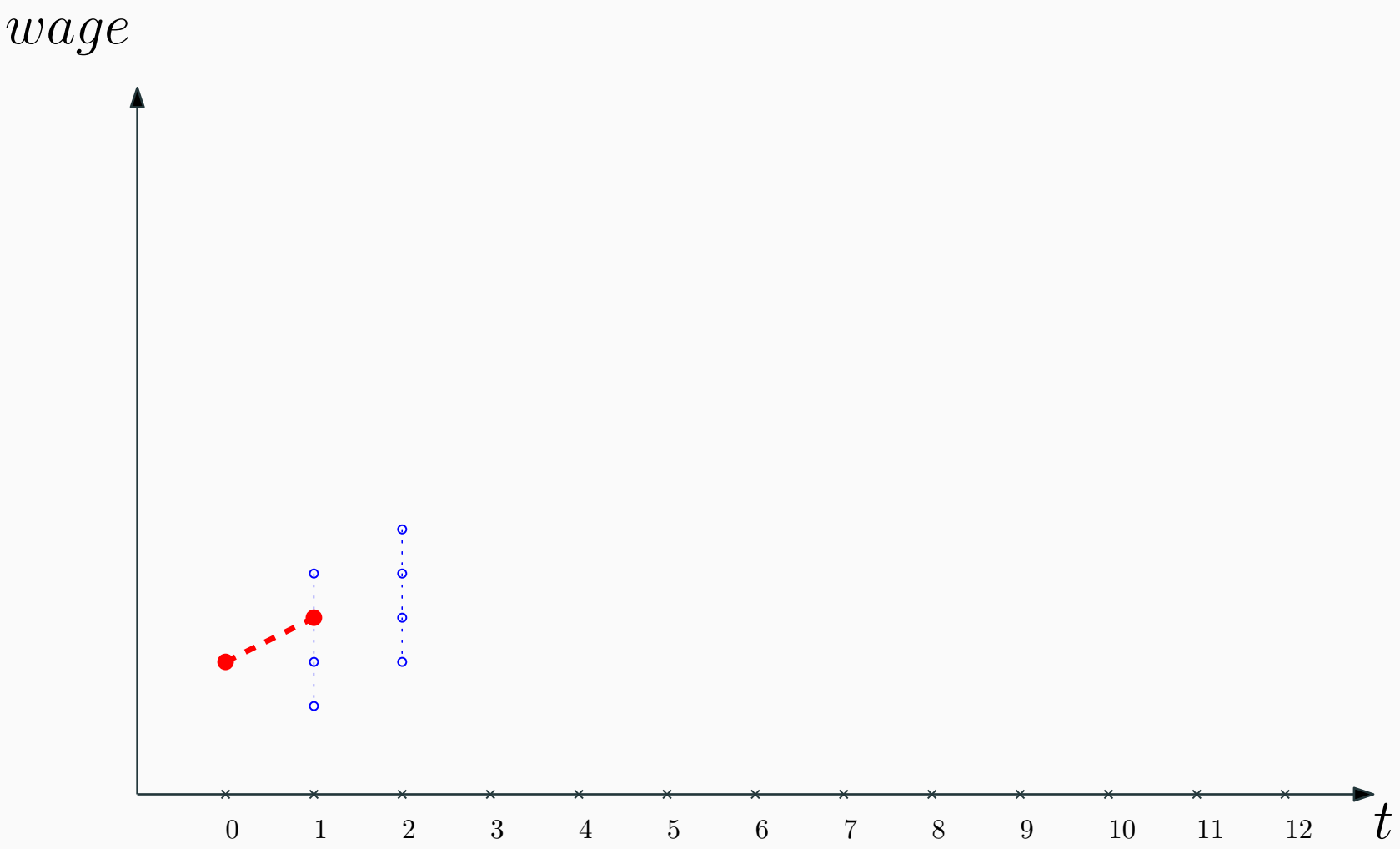

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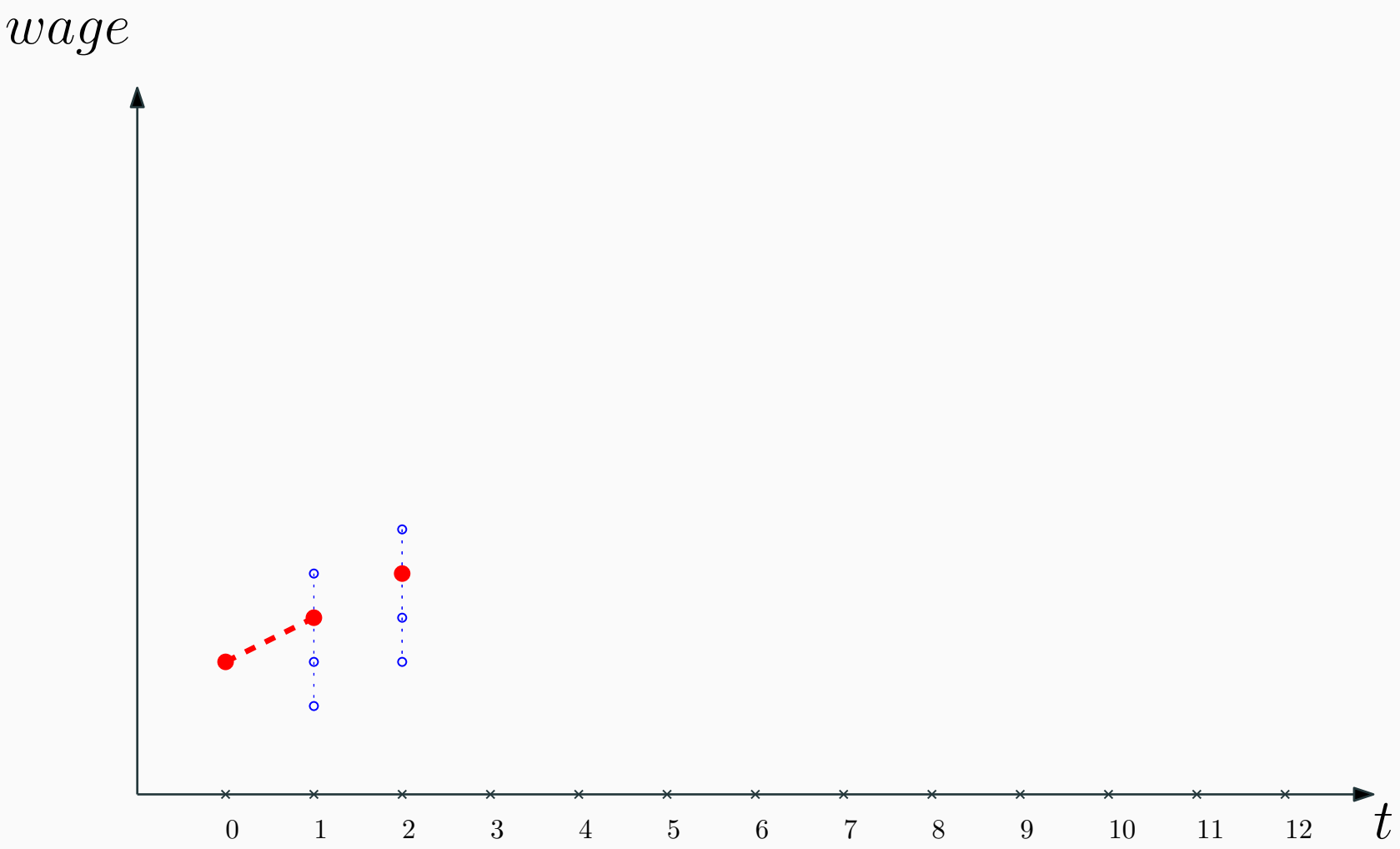

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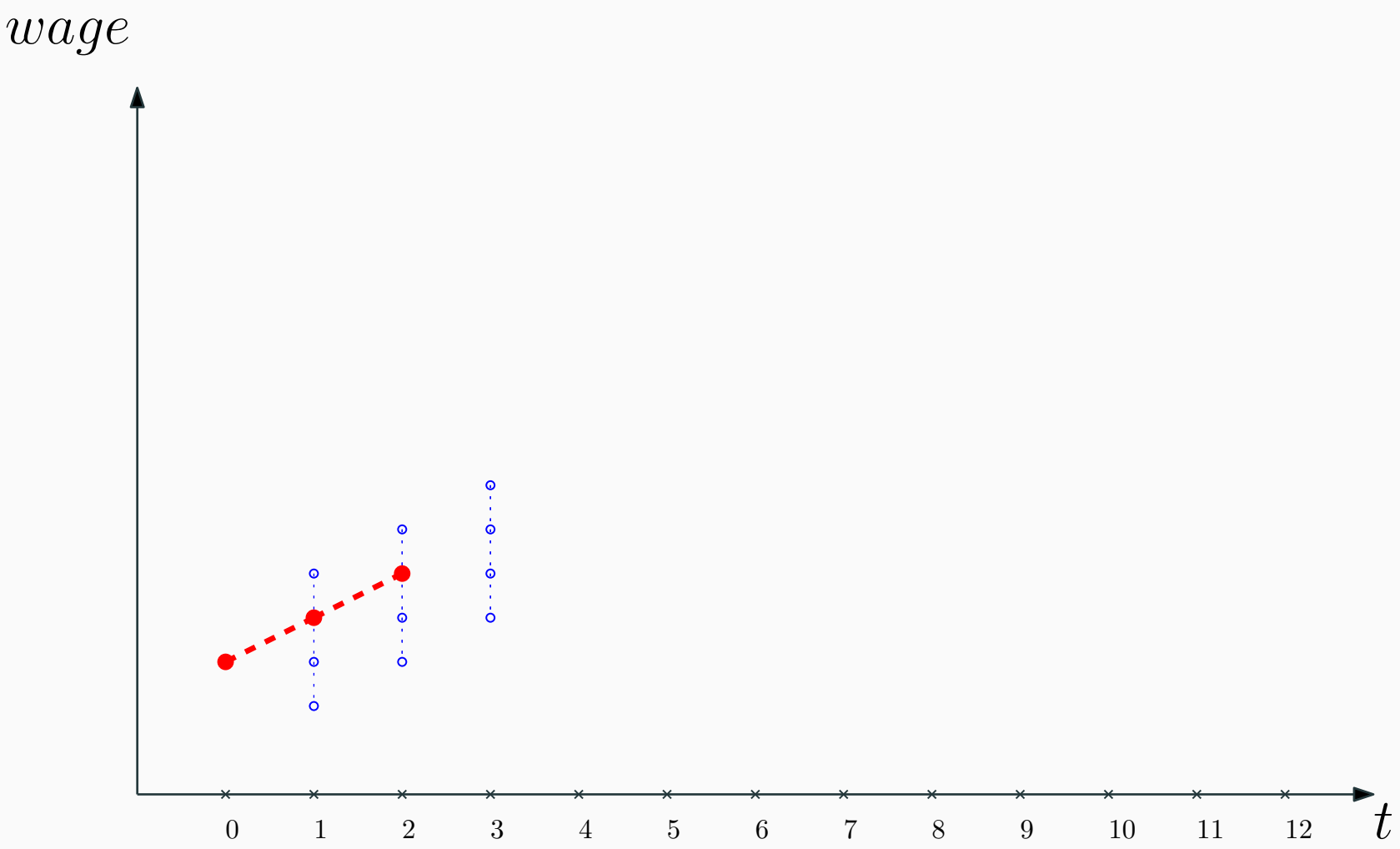

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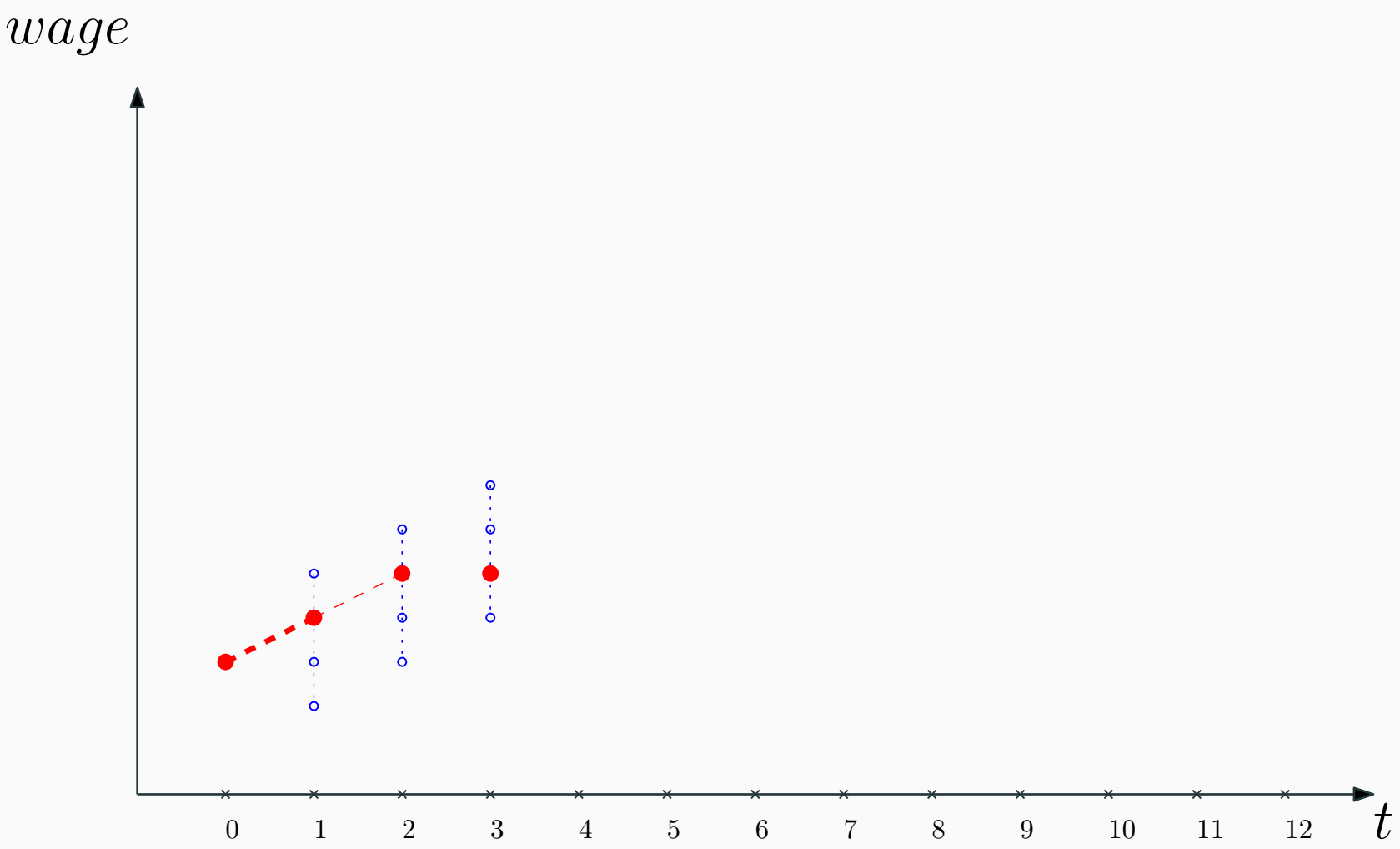

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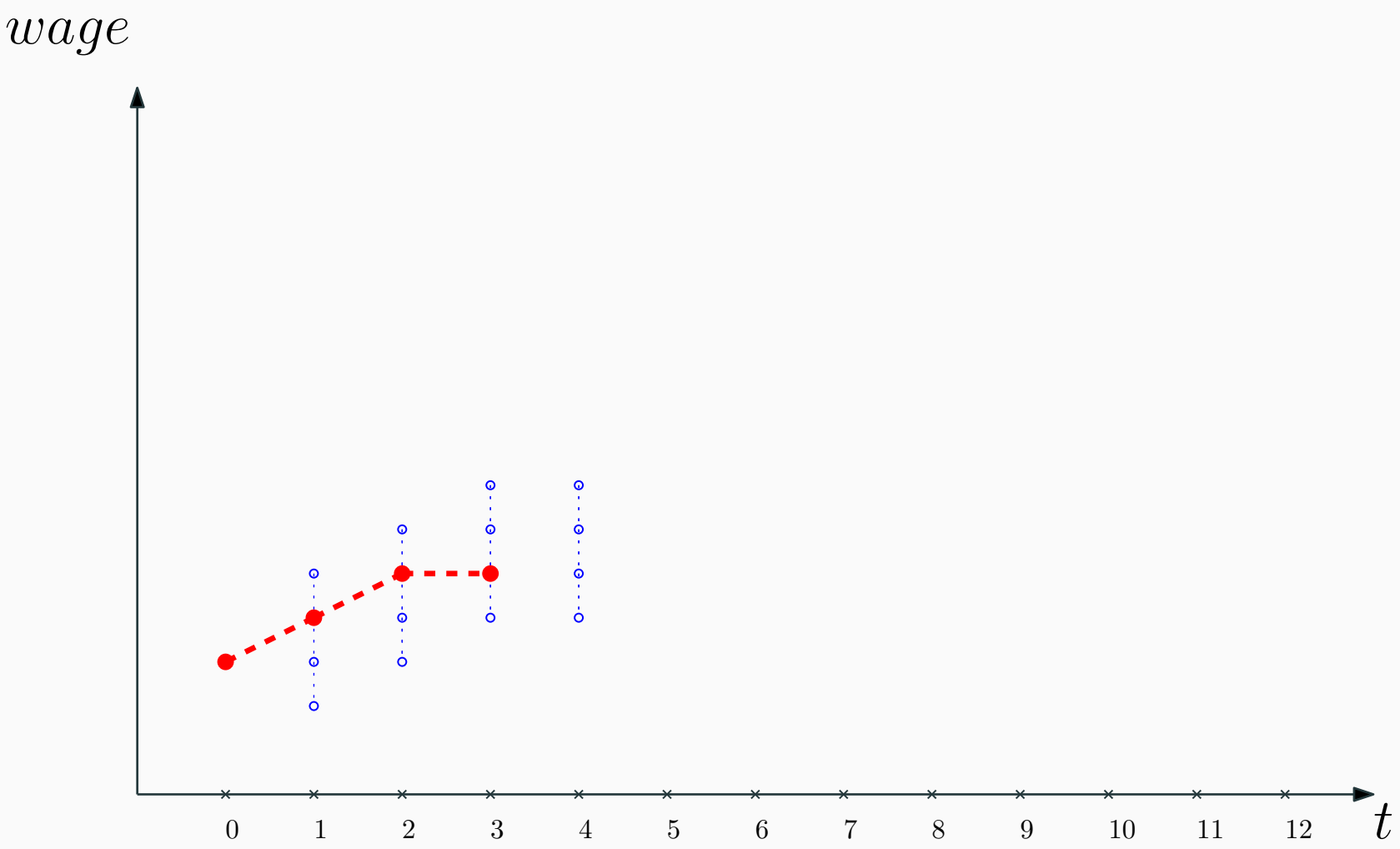

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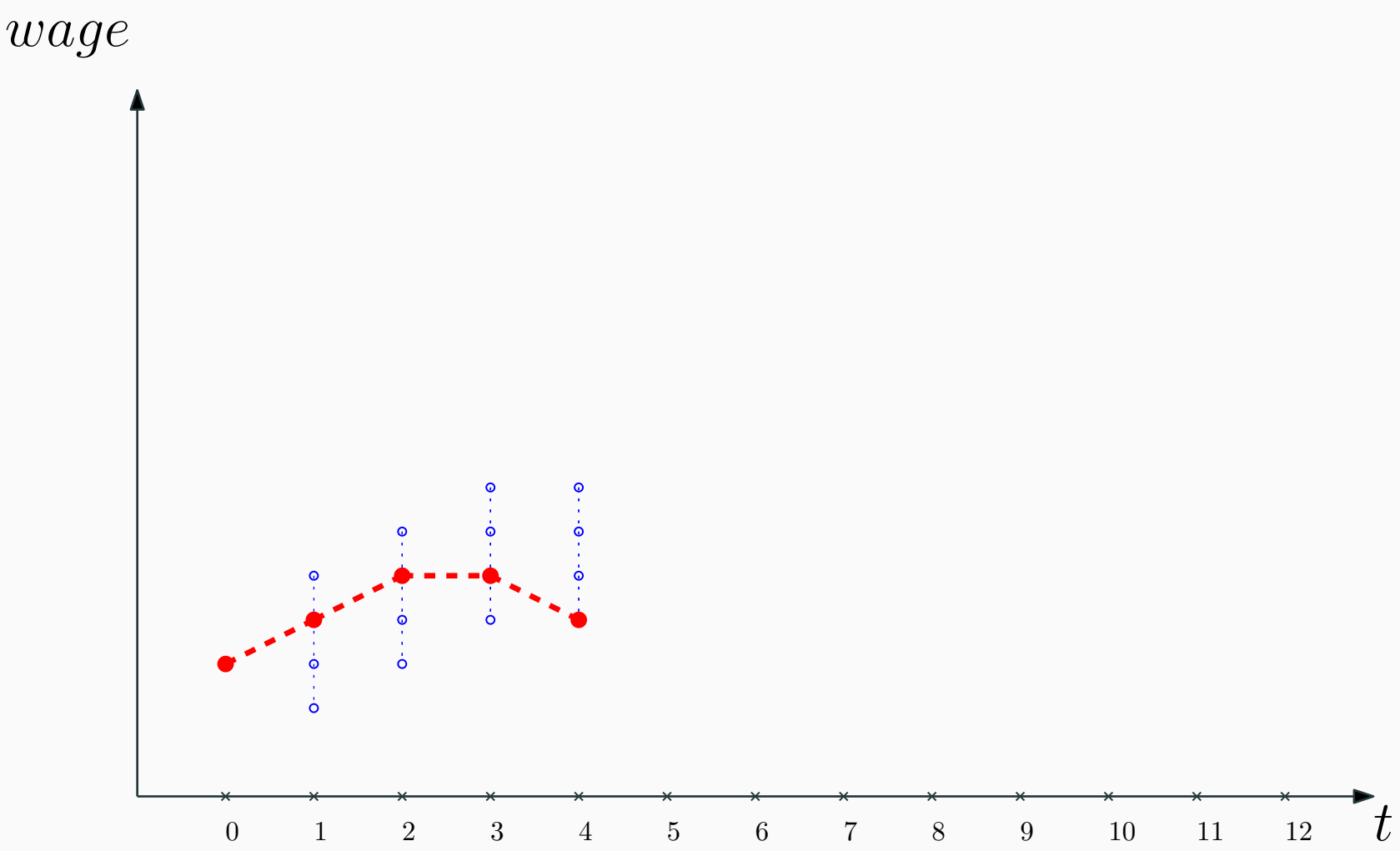

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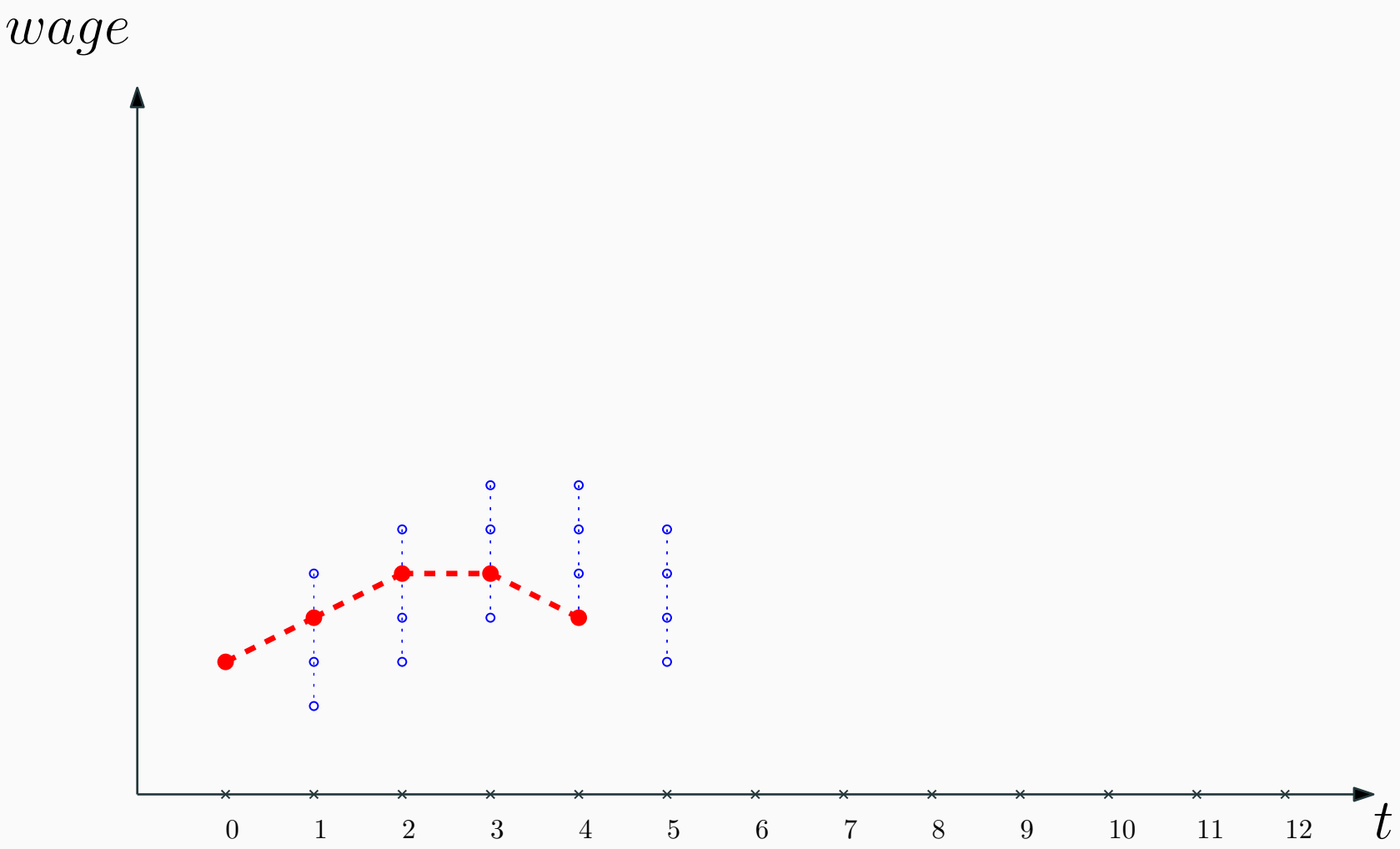

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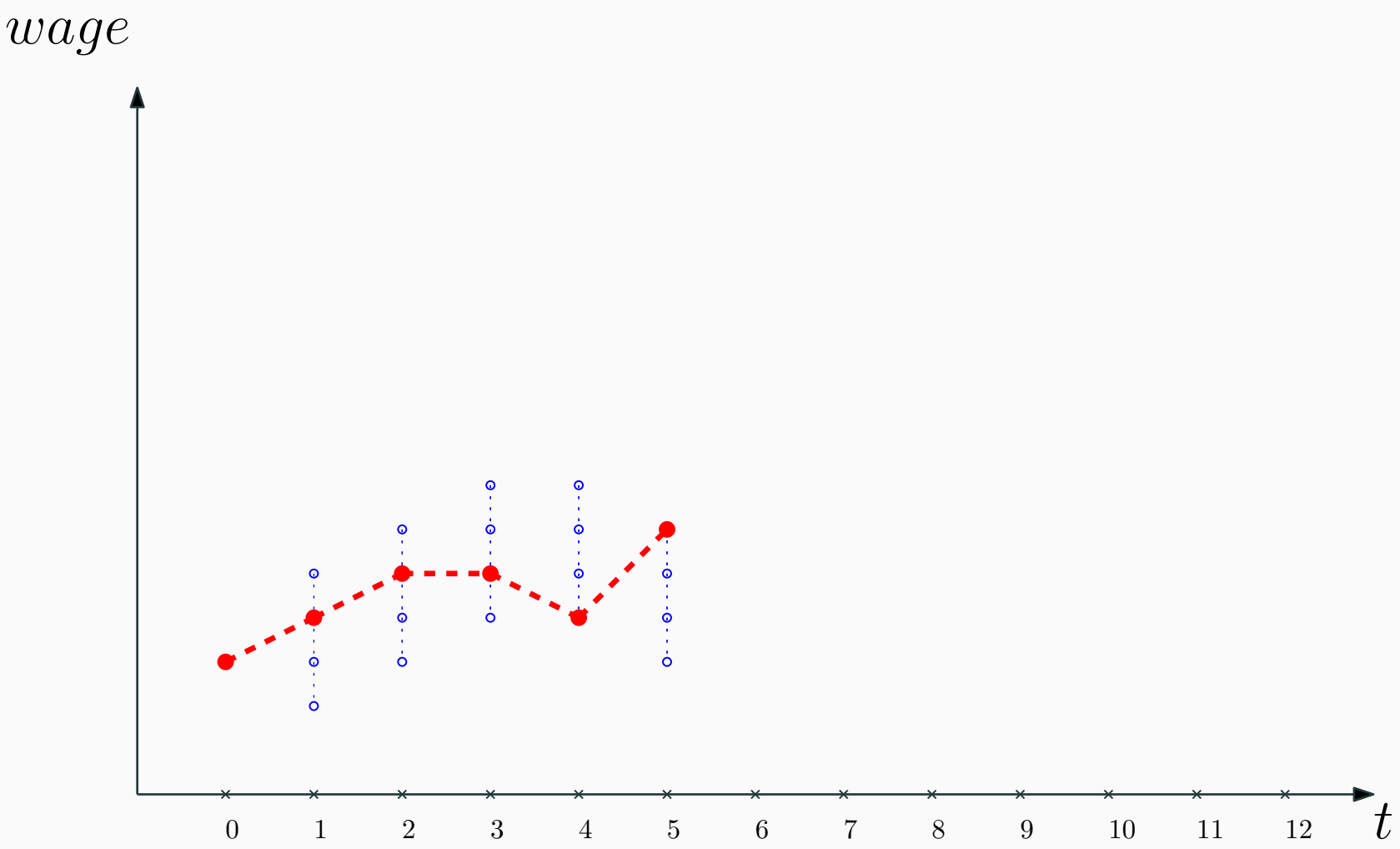

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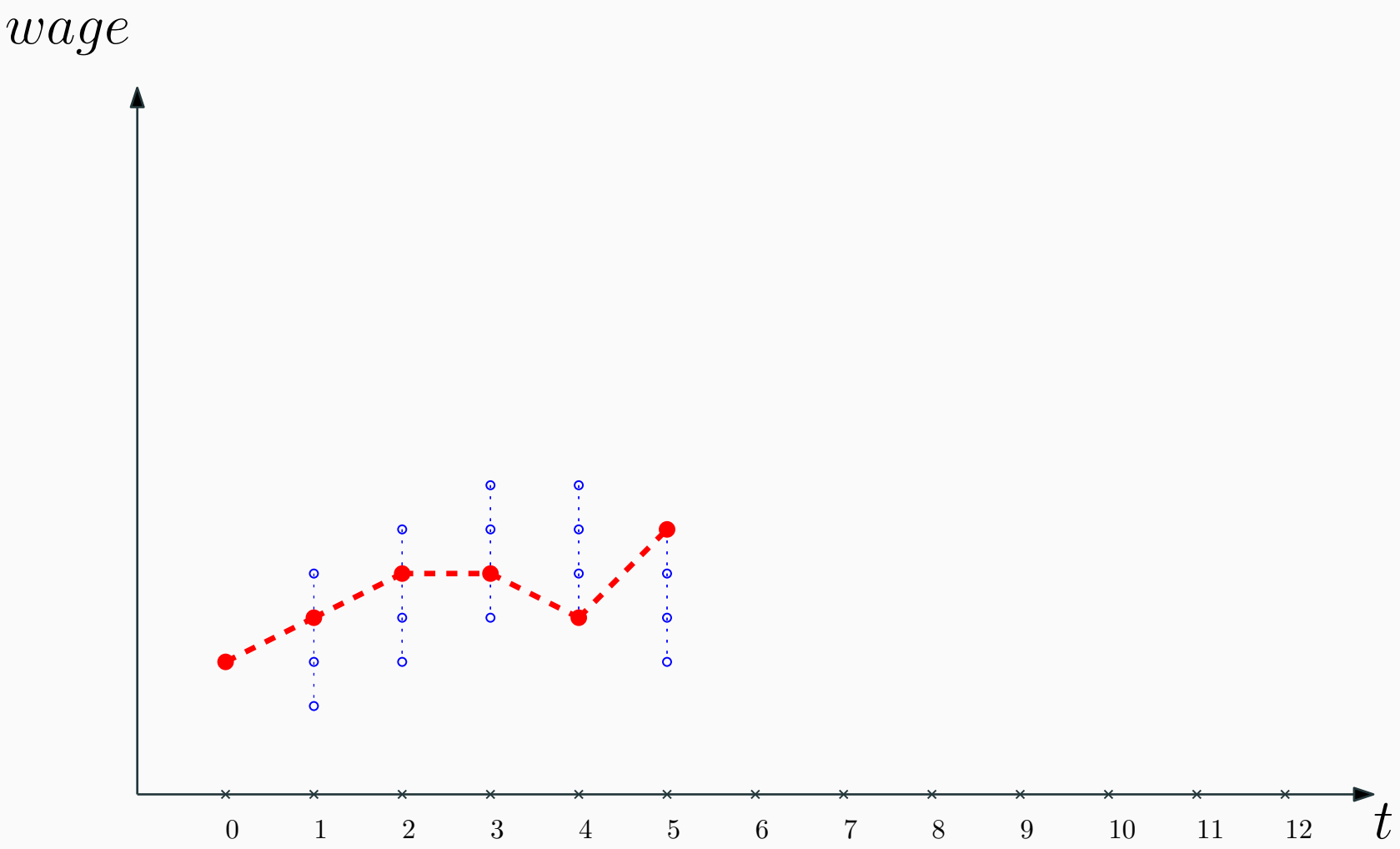

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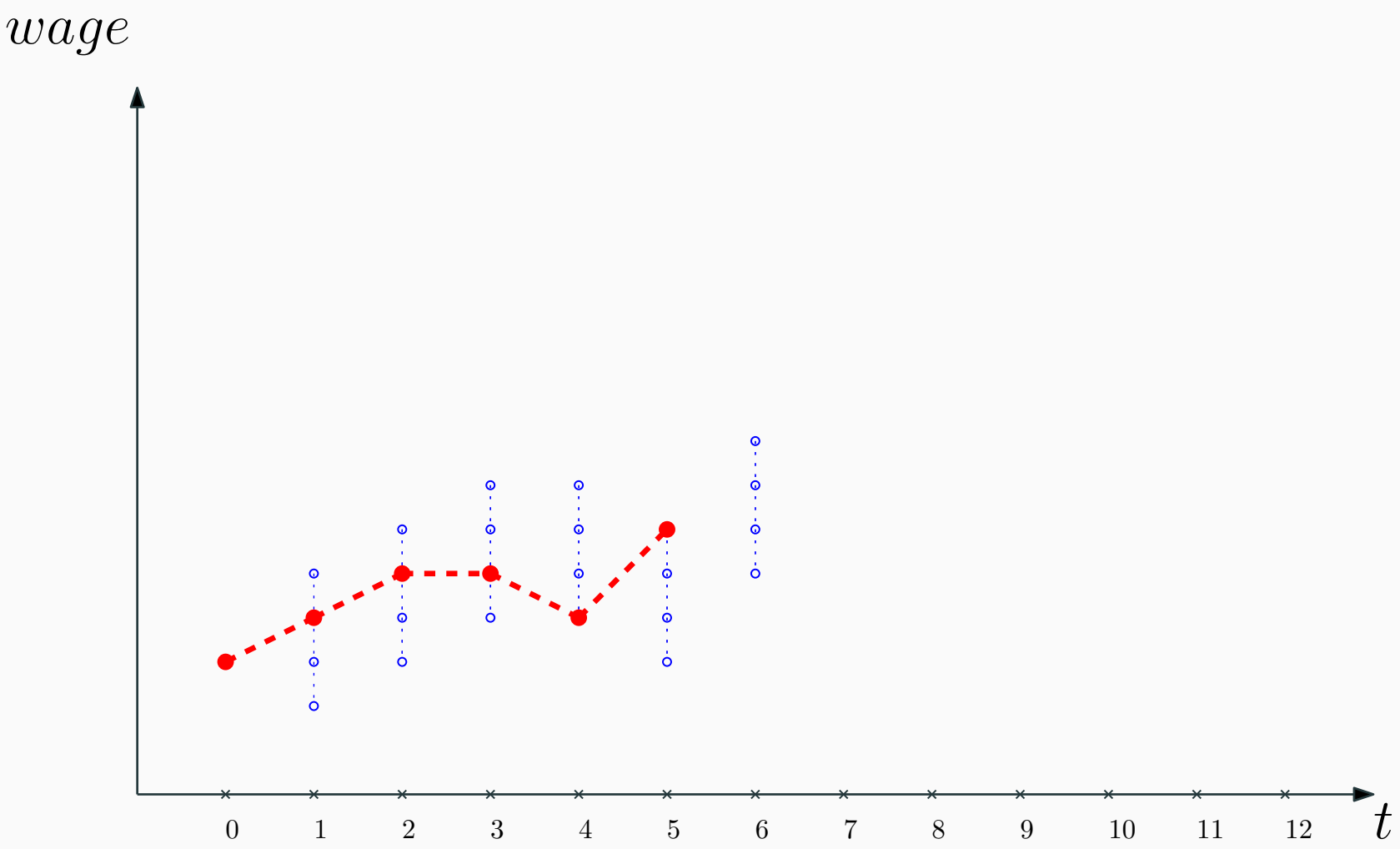

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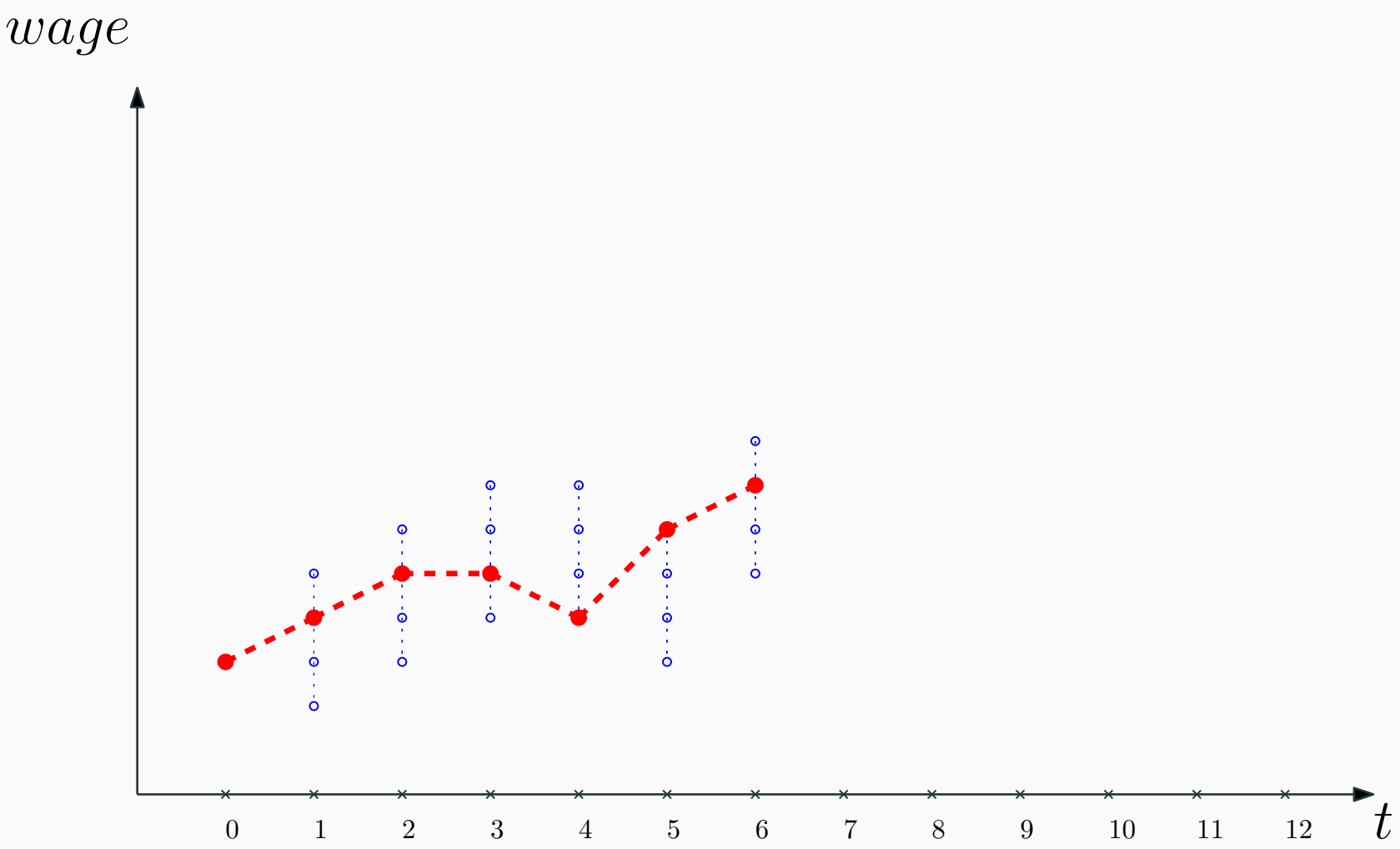

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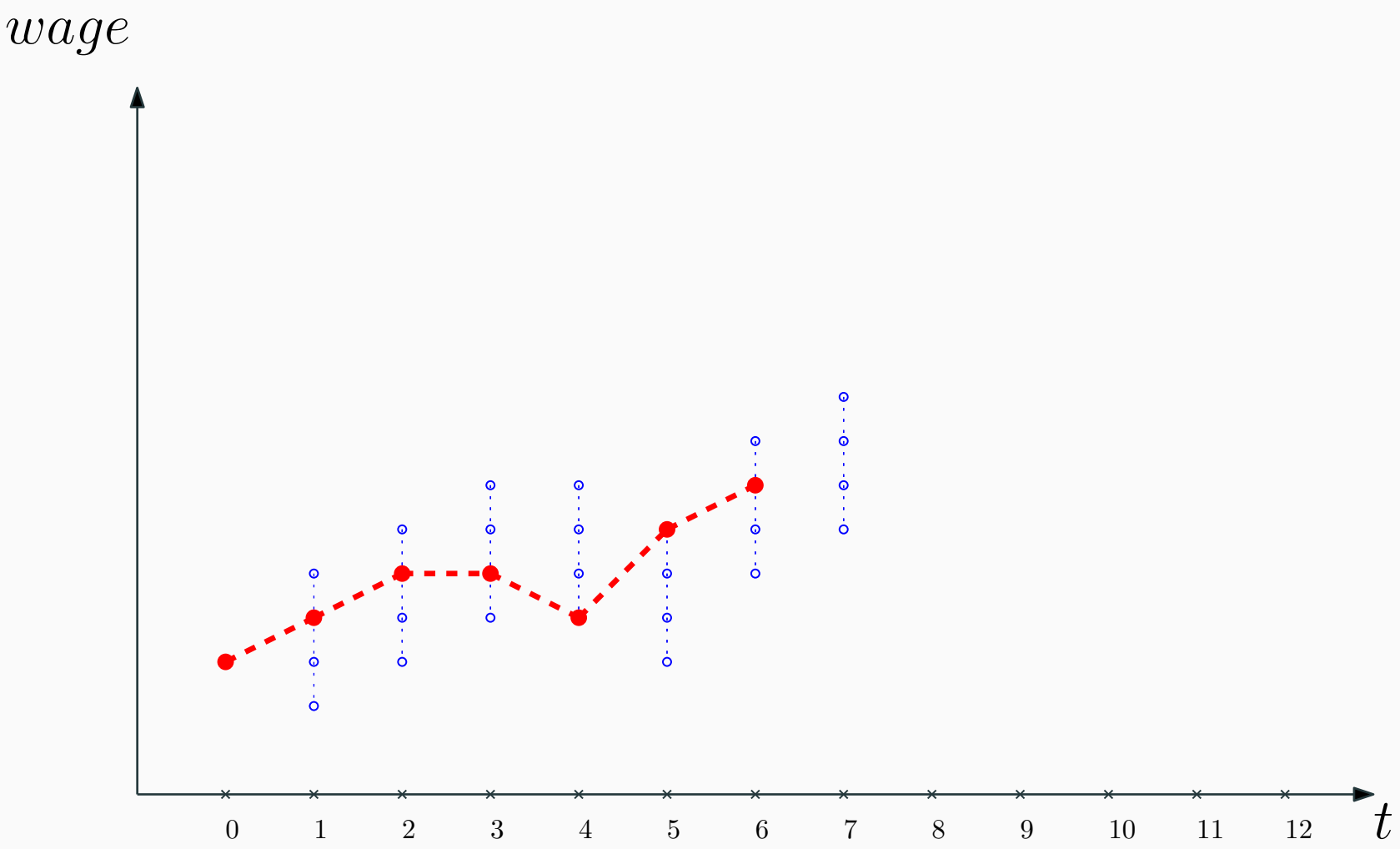

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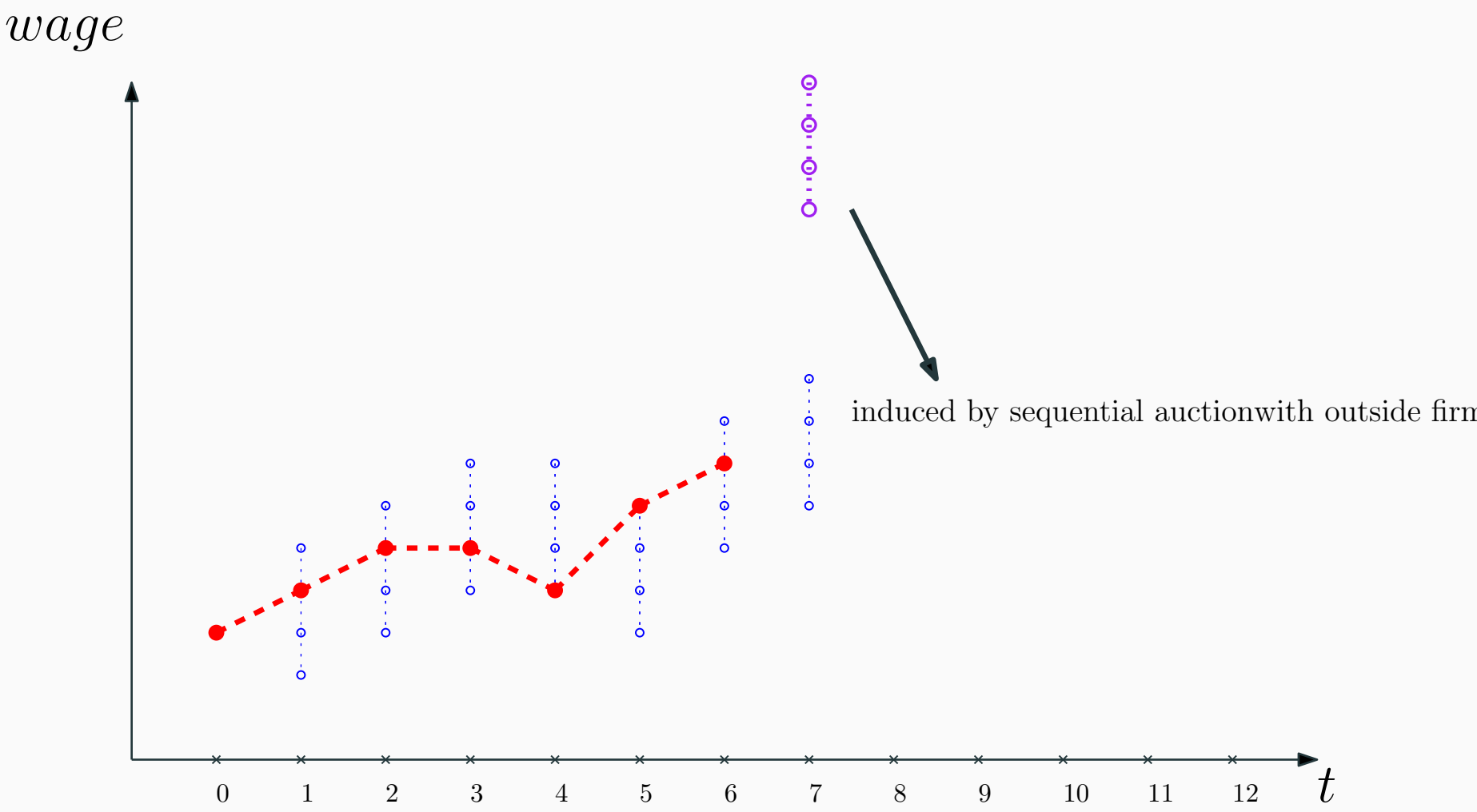

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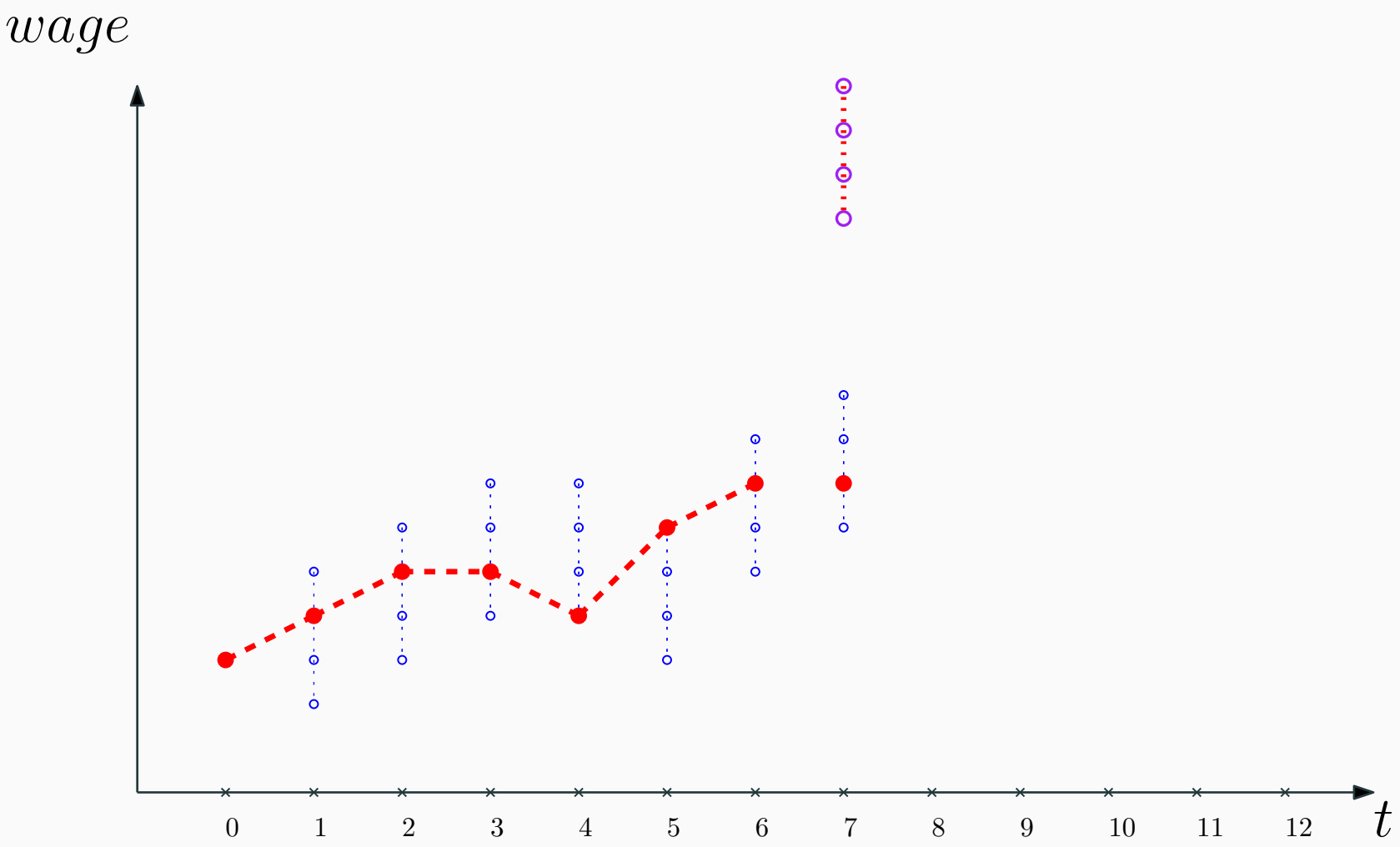

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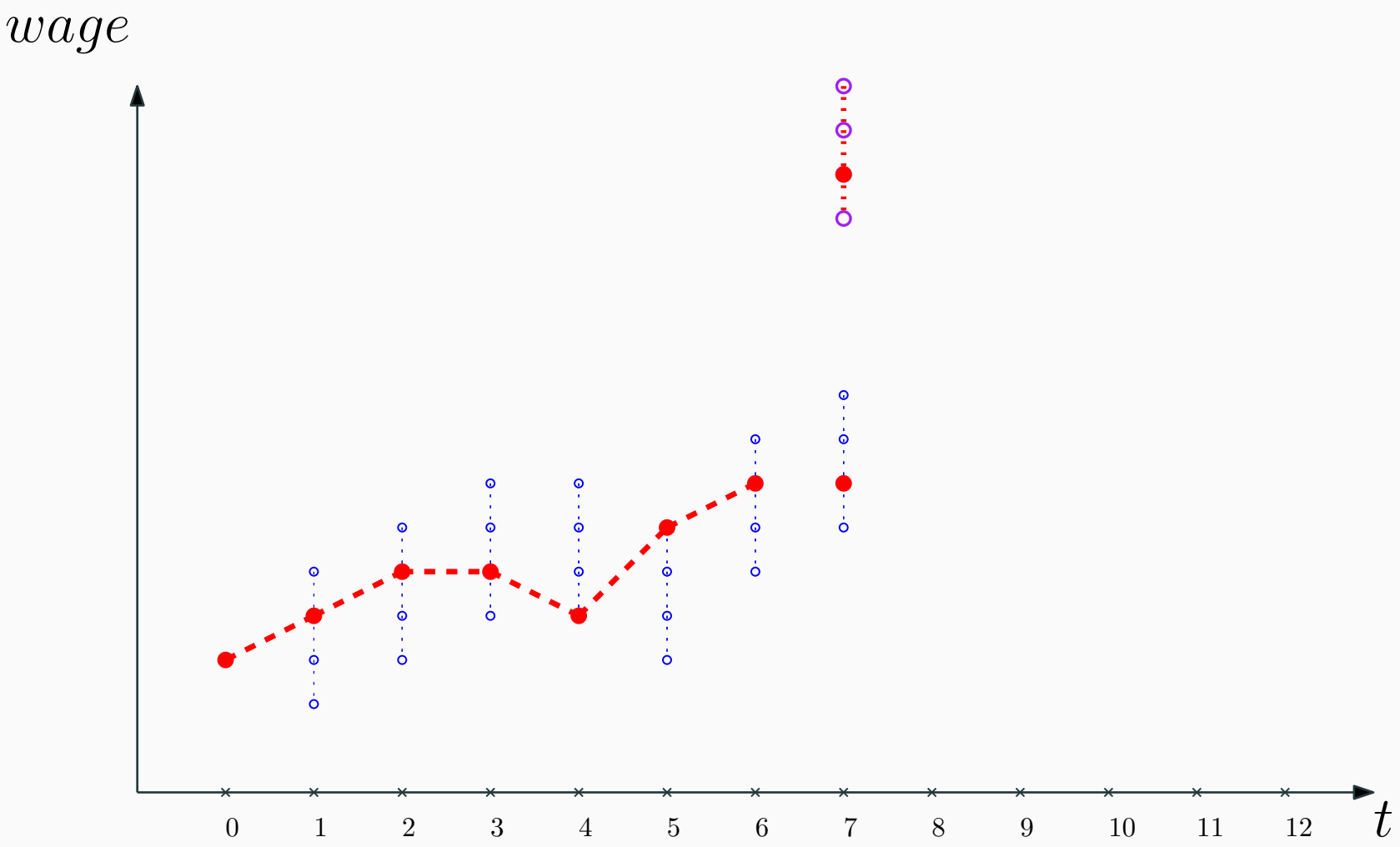

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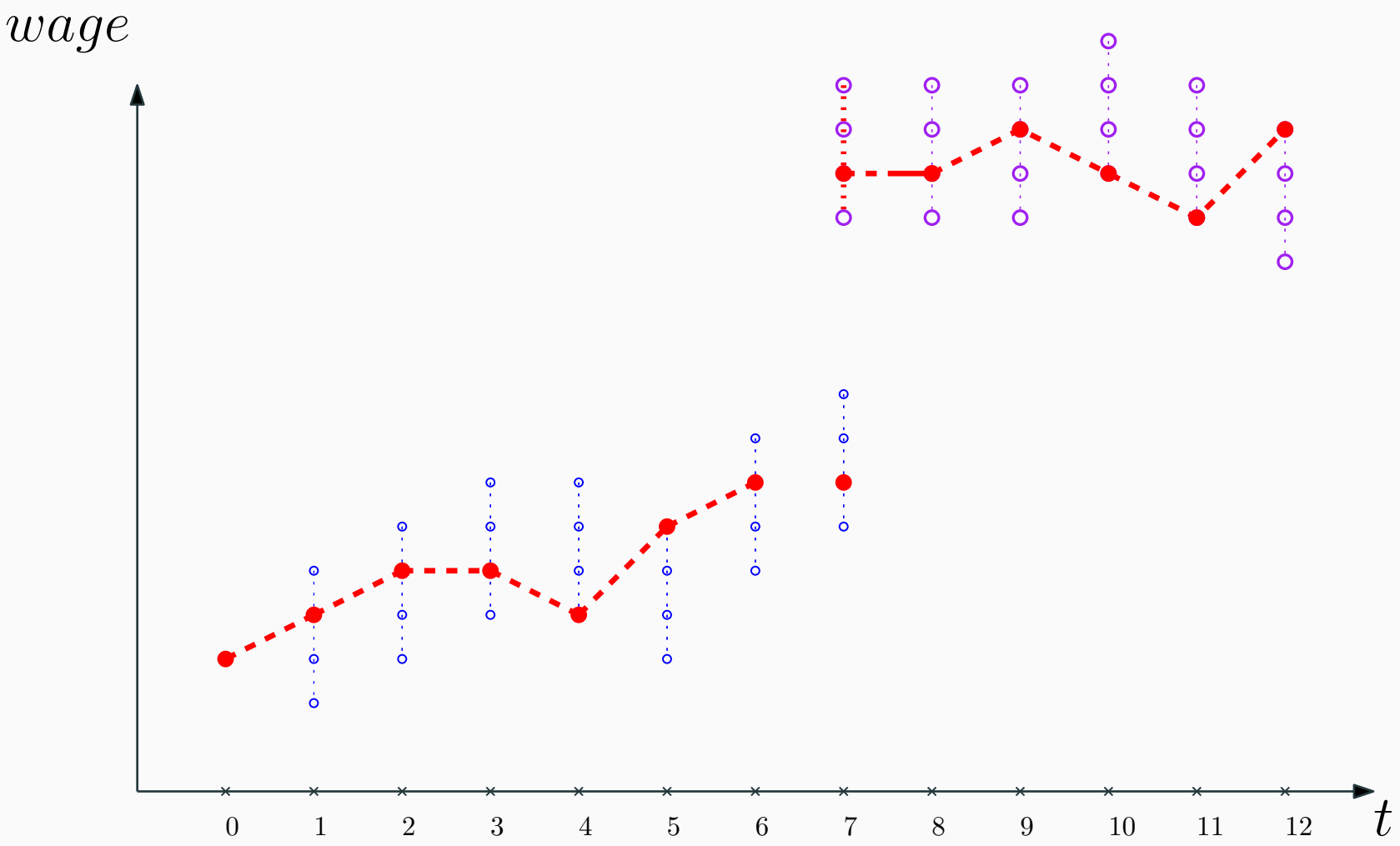

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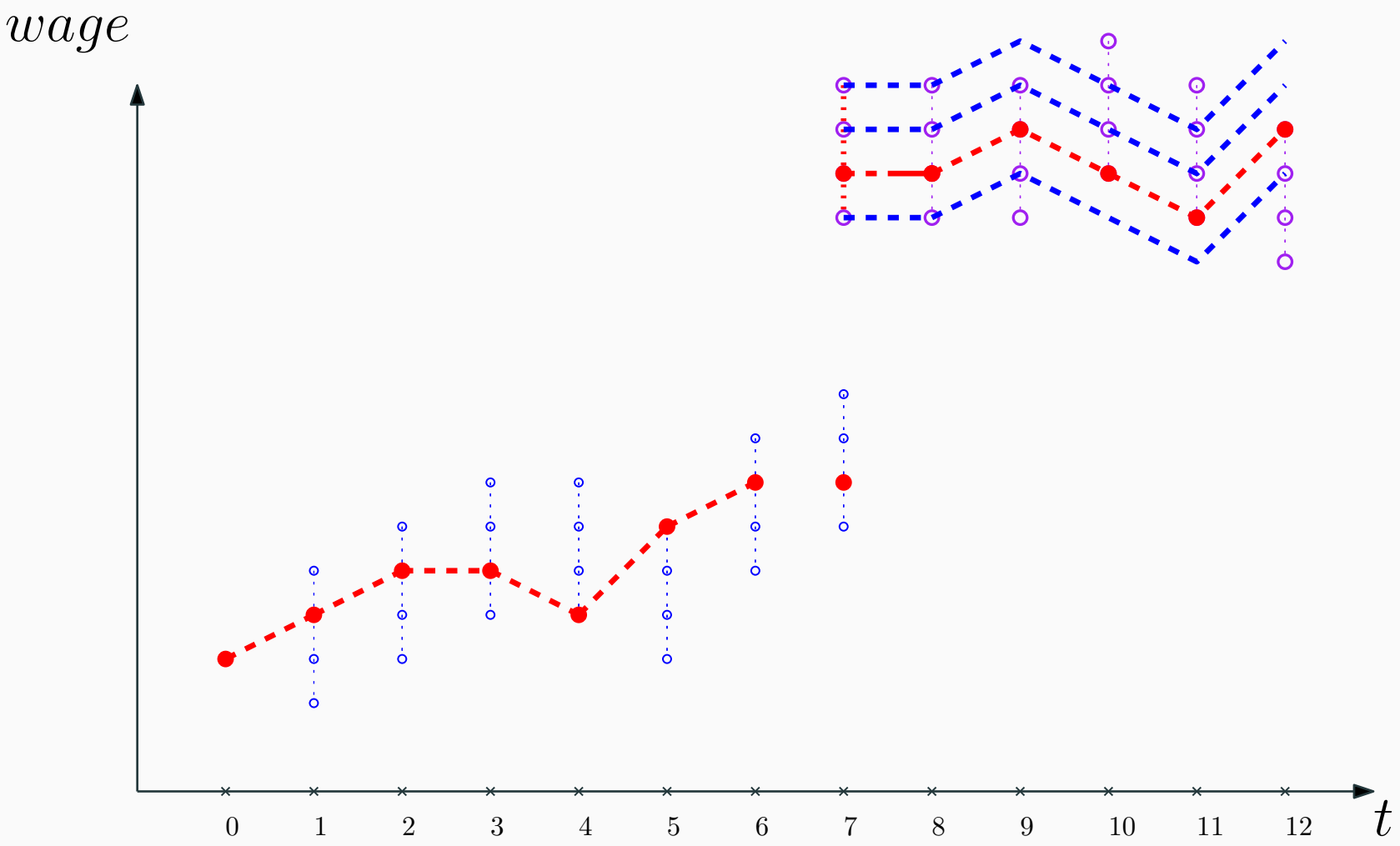

# Size incentive premium

# Labor market incentives

What is the incentive out of $W(z')$?

$$\mathcal{I}[W(z')] \equiv \mathbb{E}_{z'}\Big[W(z')|e=1\Big] - \mathbb{E}_{z'}\Big[W(z')|e=0\Big].$$

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The incentive compatibility constraint is

$$\underbrace{\sum_{s'\in\mathcal{M}_1} F(s')\mathcal{I}[\overline{W}(z',s)] + \sum_{s'\in\mathcal{M}_2} \mathcal{I}[\overline{W}(z',s')]F(s')}_{\text{Labor Market Incentives}} + \underbrace{\sum_{s'\in\mathcal{M}_3} F(s')\mathcal{I}[W(z')]}_{\text{Performance-based Incentives}} \geq \tilde{c},$$

where

$\mathcal{M}_1 : s' \geq s,$ lead to job turnovers

$\mathcal{M}_2 : s' < s,$ improve compensation, no job turnovers

$\mathcal{M}_3 :$ other or no outside firms

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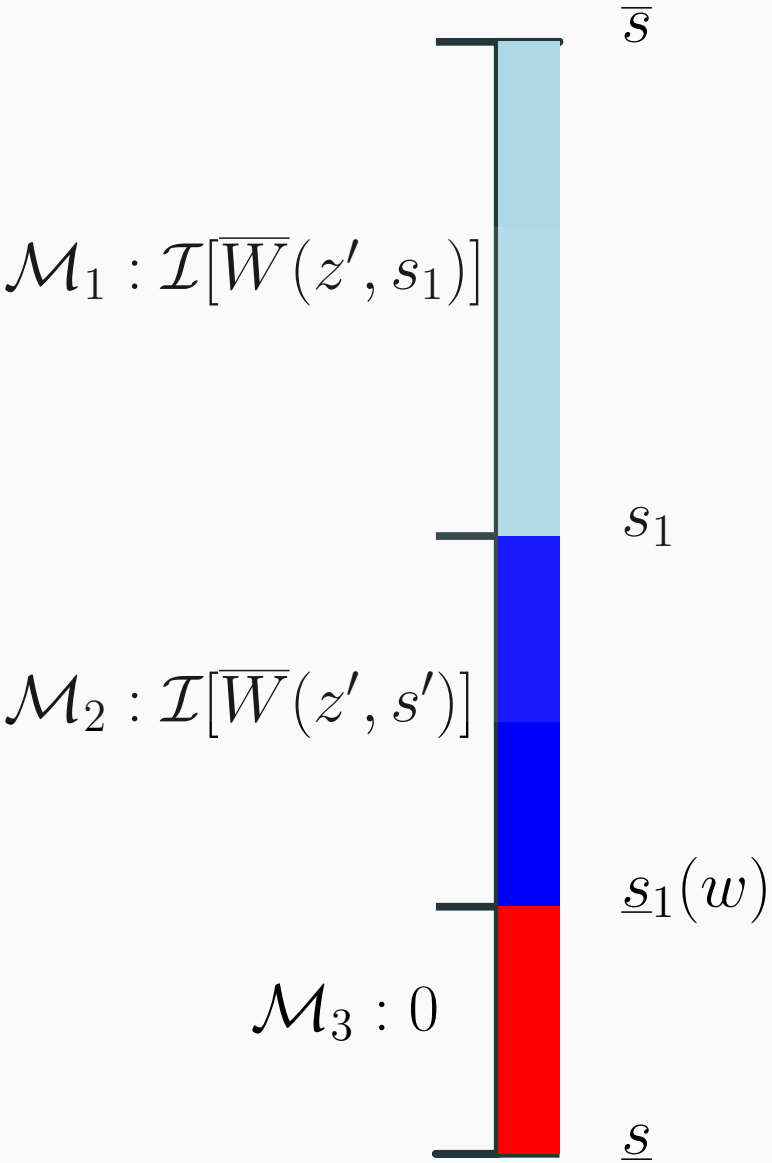

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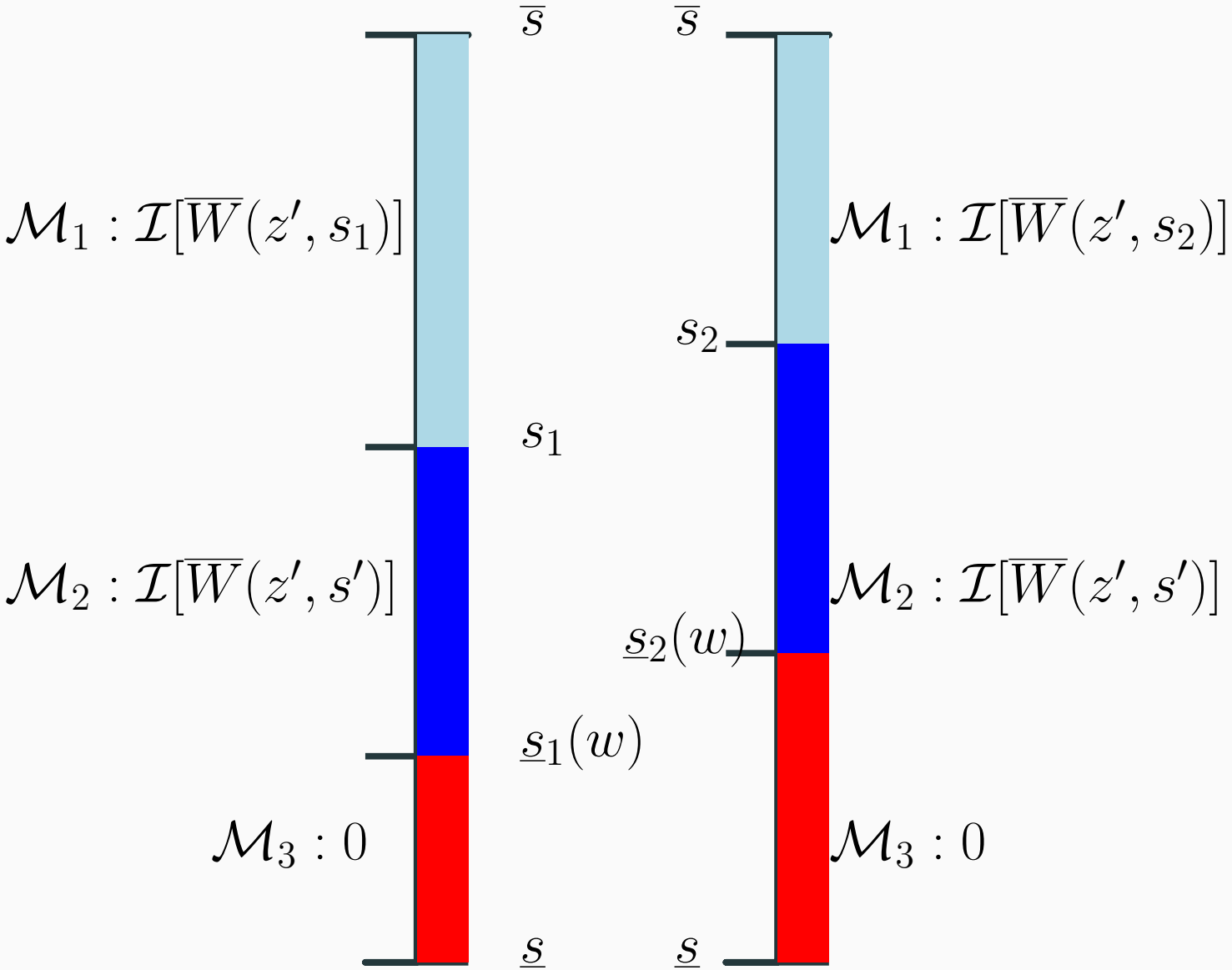

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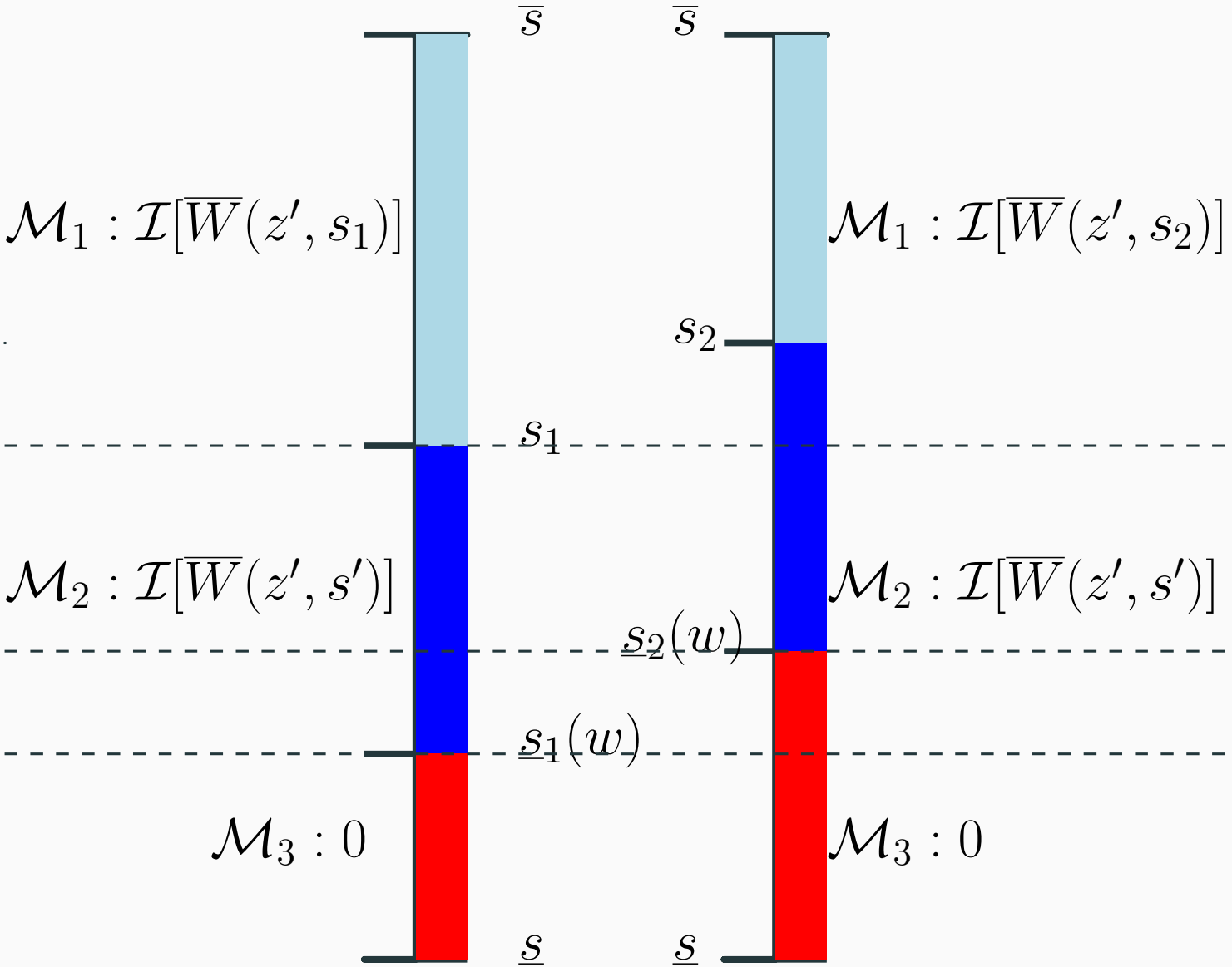

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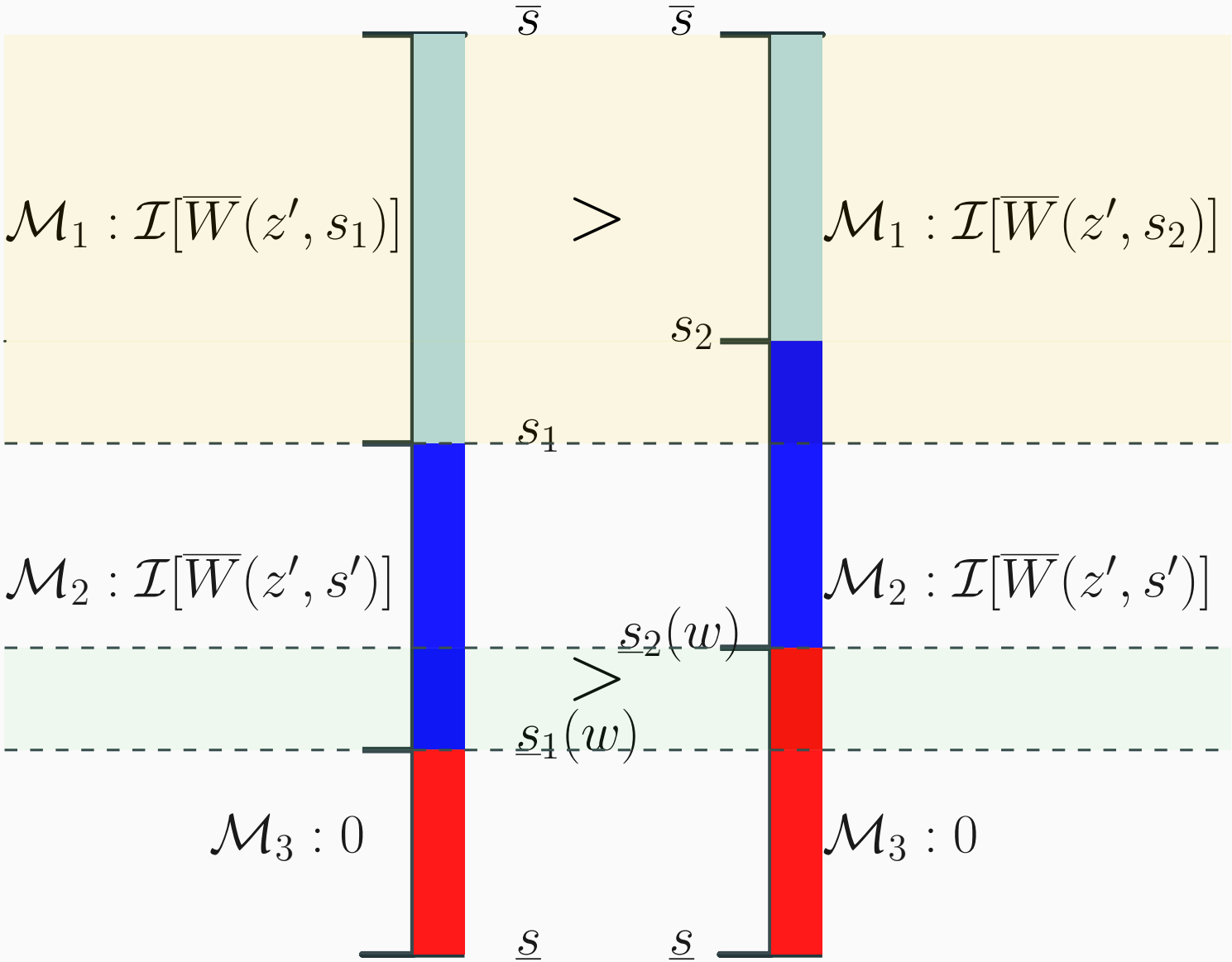

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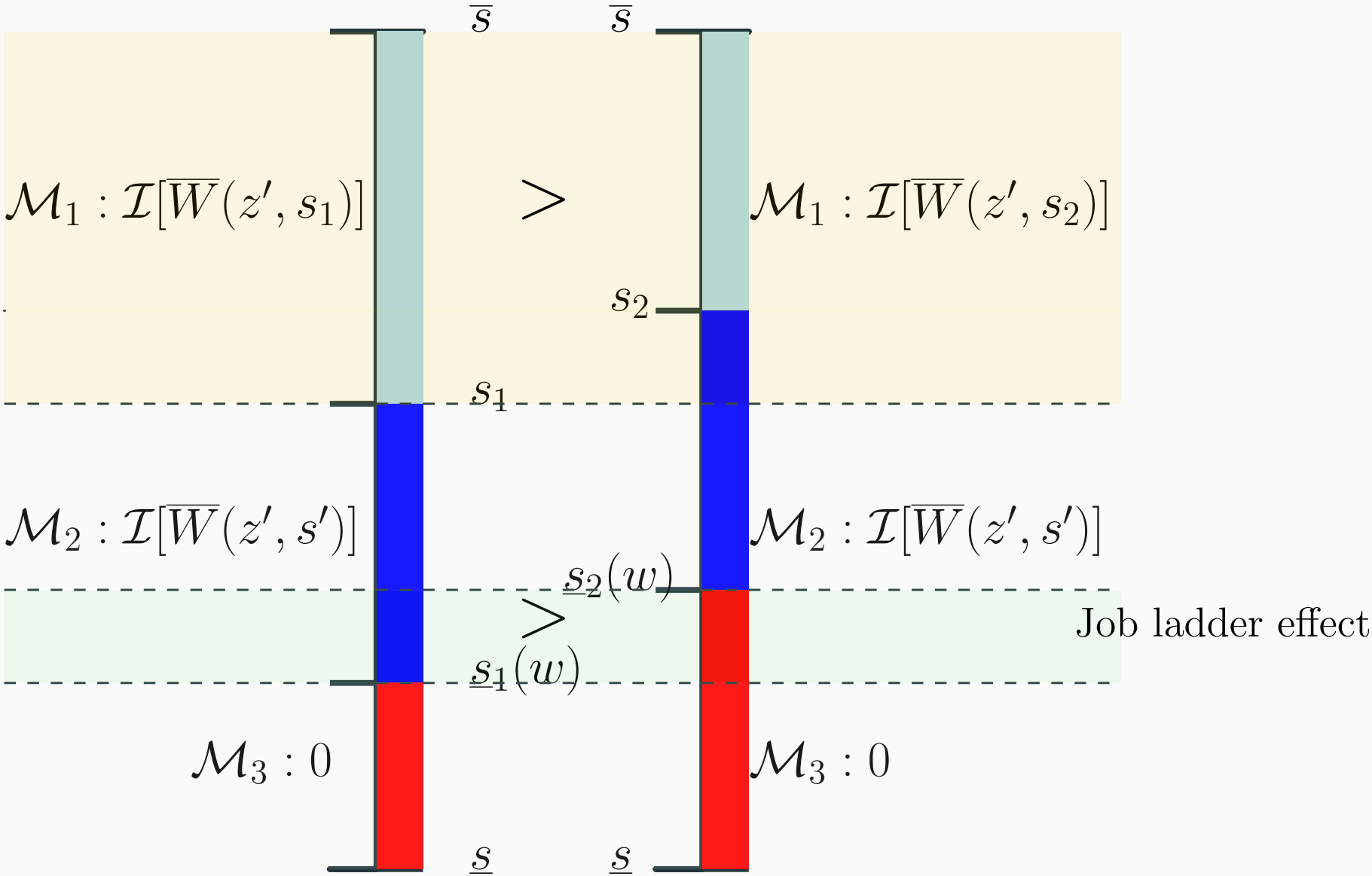
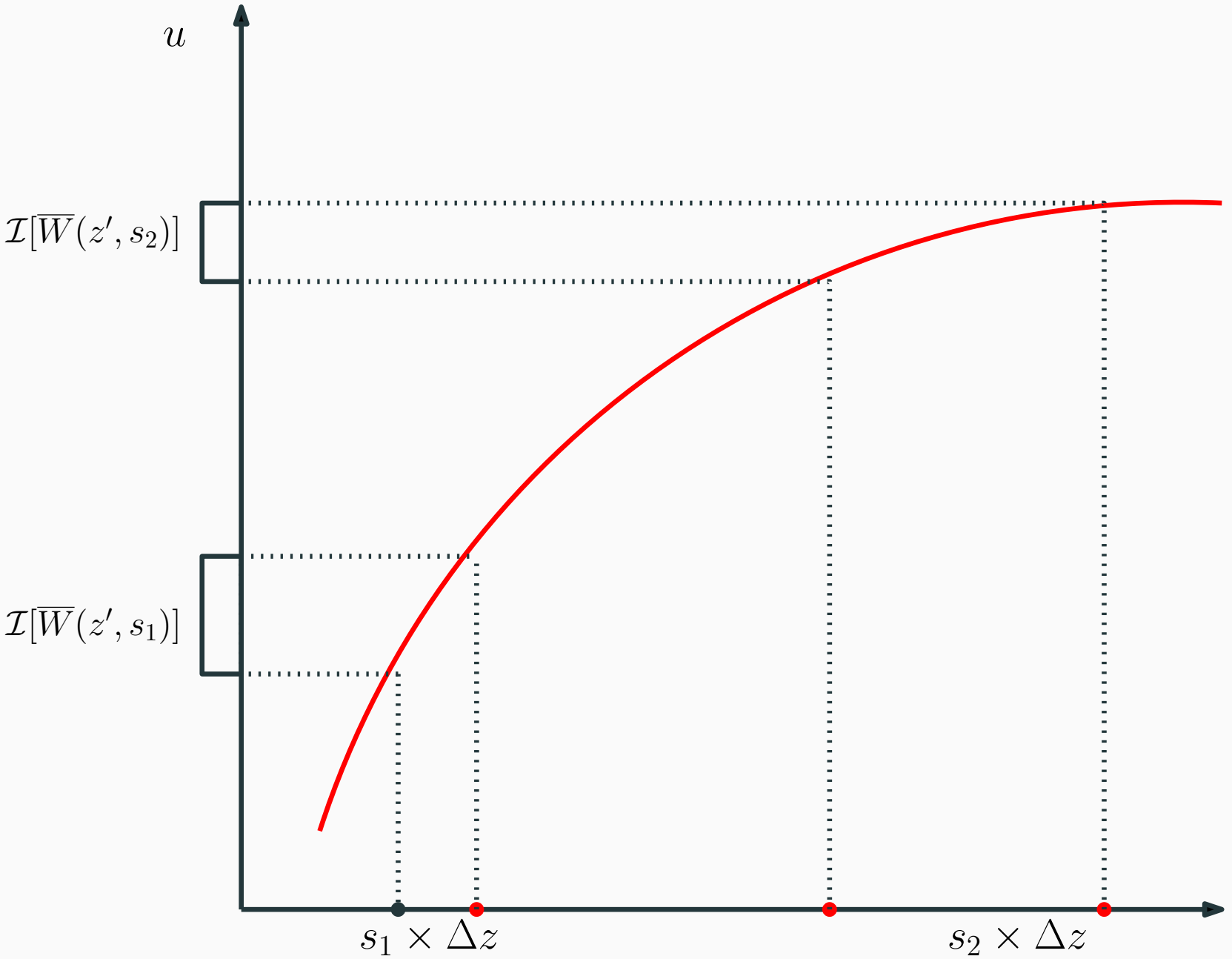


# Incentives from $\overline{W}(z', s)$ decrease in $s$



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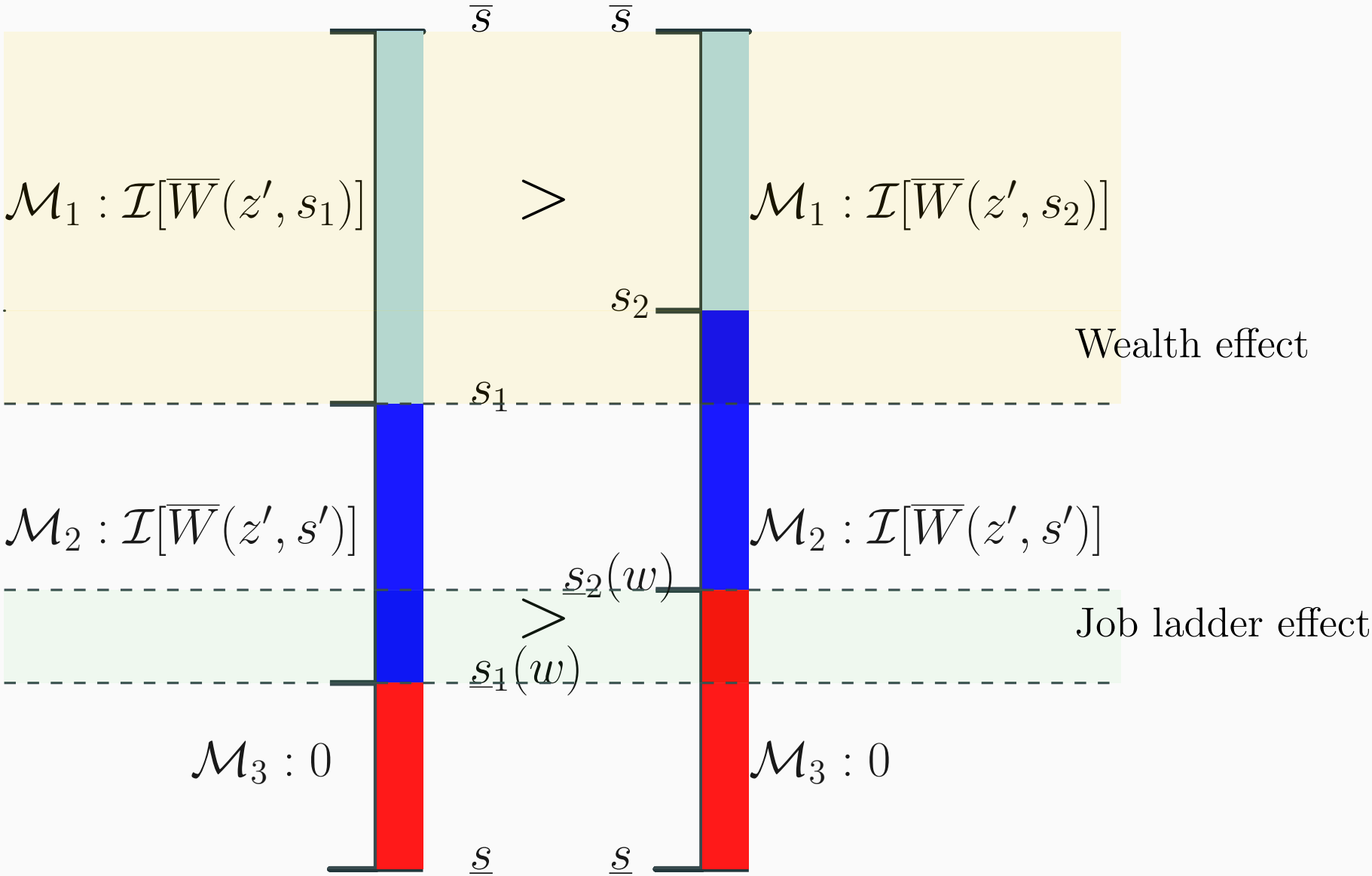

# Incentives from $\overline{W}(z', s)$ decrease in $s$

**Proposition**

Suppose the executives' utility is of the CRRA form and the cost of effort $c = \overline{c}(s)$, then $\mathcal{I}\left(\overline{W}(z', s)\right)$ decreases in $s$ if

$$\sigma > 1 + \frac{s^{1-\alpha_1}}{\alpha_1}\psi'(s), \tag{1}$$

where $\psi(s)$ is a function of $s$ that is positive and increasing in $s$.

# Summary

- Firms compete to retain/attract executives.
- Firm size matters.
- Labor market incentives decrease in firm size due to a job ladder effect and a wealth effect.

# Data and Evidence

# Data

## Assemble a new dataset

- ExecuComp & BoardEX + hand-collected from LinkedIn/Bloomberg
- ExecuComp: annual records on top executives' compensation
- BoardEX: detailed executive employment history
- Final sample: 35,088 executives, 218,168 executive-year obs., spanning the period 1992 to 2016.

## Define job turnovers

- Job-to-job transition: leaves the current firm, and starts to work in another firm within n? days.
- Exit: otherwise.

# Data

## Assemble a new dataset

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- BoardEX: detailed executive employment history
- Final sample: 35,088 executives, 218,168 executive-year obs., spanning the period 1992 to 2016.

## Define job turnovers

- Job-to-job transition: leaves the current firm, and starts to work in another firm within 180 days.
- Exit: otherwise.

# Reduced-form evidence

1. Managerial labor market is active. Details
   - annual job-to-job transition rate 5%
   - relatively stable over years industries

2. Executives climb job ladders towards larger firms. Details
   - about 72% of job-to-job transitions are towards larger firms
   - for the rest, 20% of them are promotions from non-CEO to CEO

# Reduced-form evidence

3. Executives in larger firms have less job-to-job transitions. Details
   - Cox model, 1% increase in firm size leads 8.3% lower hazard of job-to-job transitions.

4. Starting from the same level of compensation, the pay-growth is higher in larger firms. Details
   - 1% increase in firm size leads to 10% increase in pay-growth rate

# Estimation

# Model Specifications

- utility function of CRRA form

$$u(w) = \frac{w^{1-\sigma}}{1-\sigma}$$

- production function of multiplicative form

$$y(s, z) = e^{\alpha_0} s^{\alpha_1} z$$

- productivity process by $AR(1)$, discretized by Tauchen (1989)

$$z_t = \rho_0(e) + \rho_z z_{t-1} + \epsilon_t$$

- the distribution of poaching firms: truncated log-normal $F(s)$

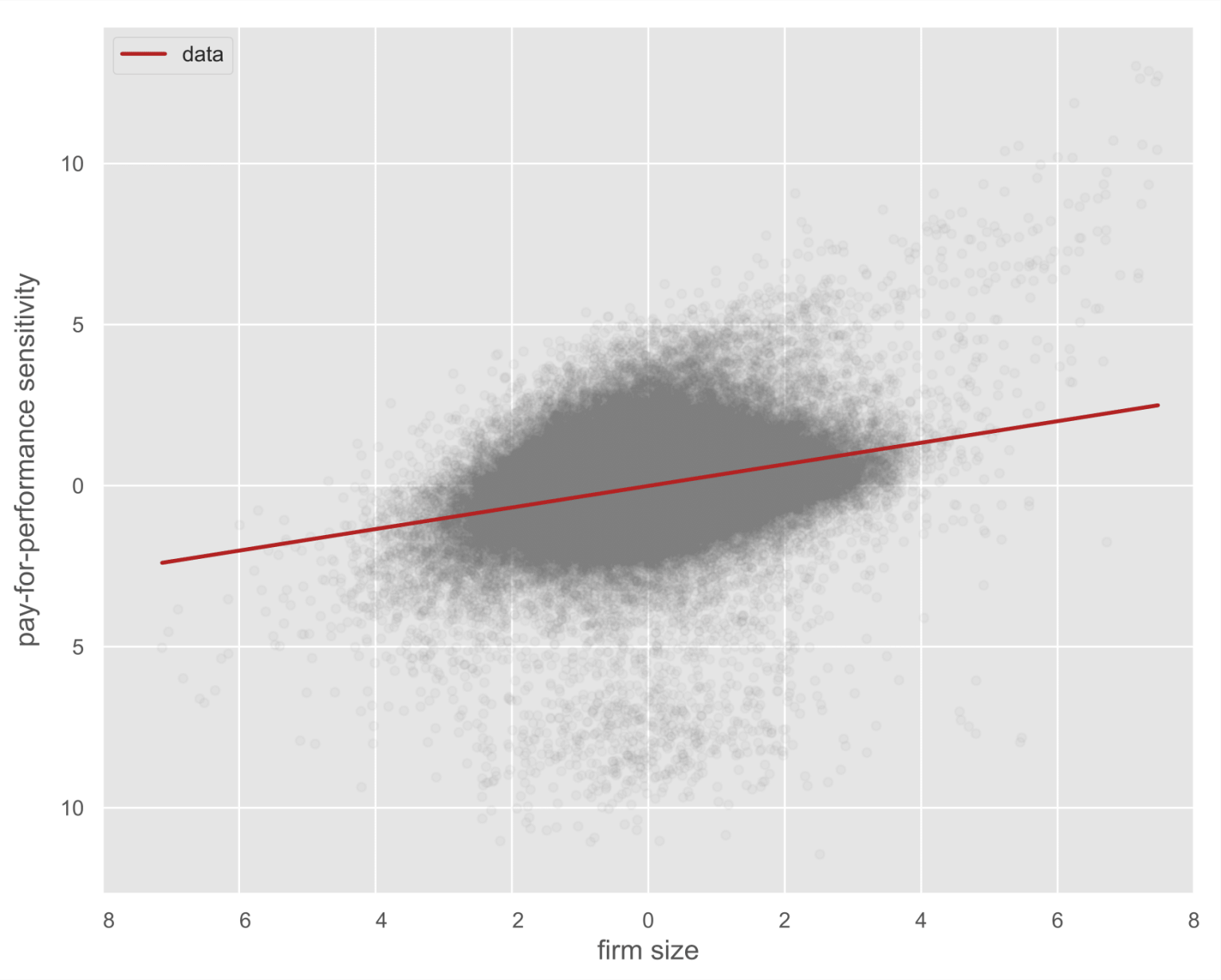
# Parameters

| Parameters | Description |
|---|---|
| $\eta$ | the death probability |
| $\lambda_1$ | the offer arrival probability |
| $\rho_z$ | the $AR(1)$ coefficient of productivity shocks |
| $\mu_z$ | the mean of productivity shocks for $e = 1$ |
| $\sigma_z$ | the standard deviation of productivity shocks |
| $\mu_s$ | the mean of $F(s)$ |
| $\sigma_s$ | the standard deviation of $F(s)$ |
| $c$ | cost of efforts |
| $\sigma$ | relative risk aversion |
| $\alpha_0, \alpha_1$ | production function parameters |

# Moments and Estimates

| Moments | Data | Model | Estimates | Standard Error |
|---|---|---|---|---|
| Exit Rate | 0.0691 | 0.0691 | $\eta = 0.0695$ | 0.0127 |
| J-J Transition Rate | 0.0498 | 0.0473 | $\lambda_1 = 0.3164$ | 0.0325 |
| $\hat{\rho}_{\text{profit}}$ | 0.7683 | 0.6299 | $\rho_z = 0.8004$ | 0.0366 |
| *Mean*(profit) | 0.1260 | 0.1144 | $\mu_z = 0.0279$ | 0.0014 |
| *Var*(profit) | 0.0144 | 0.0160 | $\sigma_z^2 = 0.1198$ | 0.0044 |
| *Mean*(log(size)) | 7.4515 | 7.4806 | $\mu_s = 1.2356$ | 0.0365 |
| *Var*(log(size)) | 2.3060 | 2.1610 | $\sigma_s = 2.5795$ | 0.1211 |
| *Mean*(log(total pay)) | 7.2408 | 7.2665 | $\alpha_0 = -1.5534$ | 0.0147 |
| *Var*(log(total pay)) | 1.1846 | 0.8960 | $\alpha_1 = 0.5270$ | 0.0217 |
| $\beta_{\text{total pay - size}}$ | 0.3830 | 0.2822 | | |
| $\beta_{\text{PPS - total pay}}$ | 1.1063 | 1.1997 | $\sigma = 1.1038$ | 0.0030 |
| *Mean*(log(PPS)) | 8.4994 | 8.478 | $c = 0.0814$ | 0.0259 |
| *Var*(log(PPS)) | 3.4438 | 3.35872 | | |

# Data


data
10
5
0
5
10
pay-for-performance sensitivity
8
6
4
2
0
2
4
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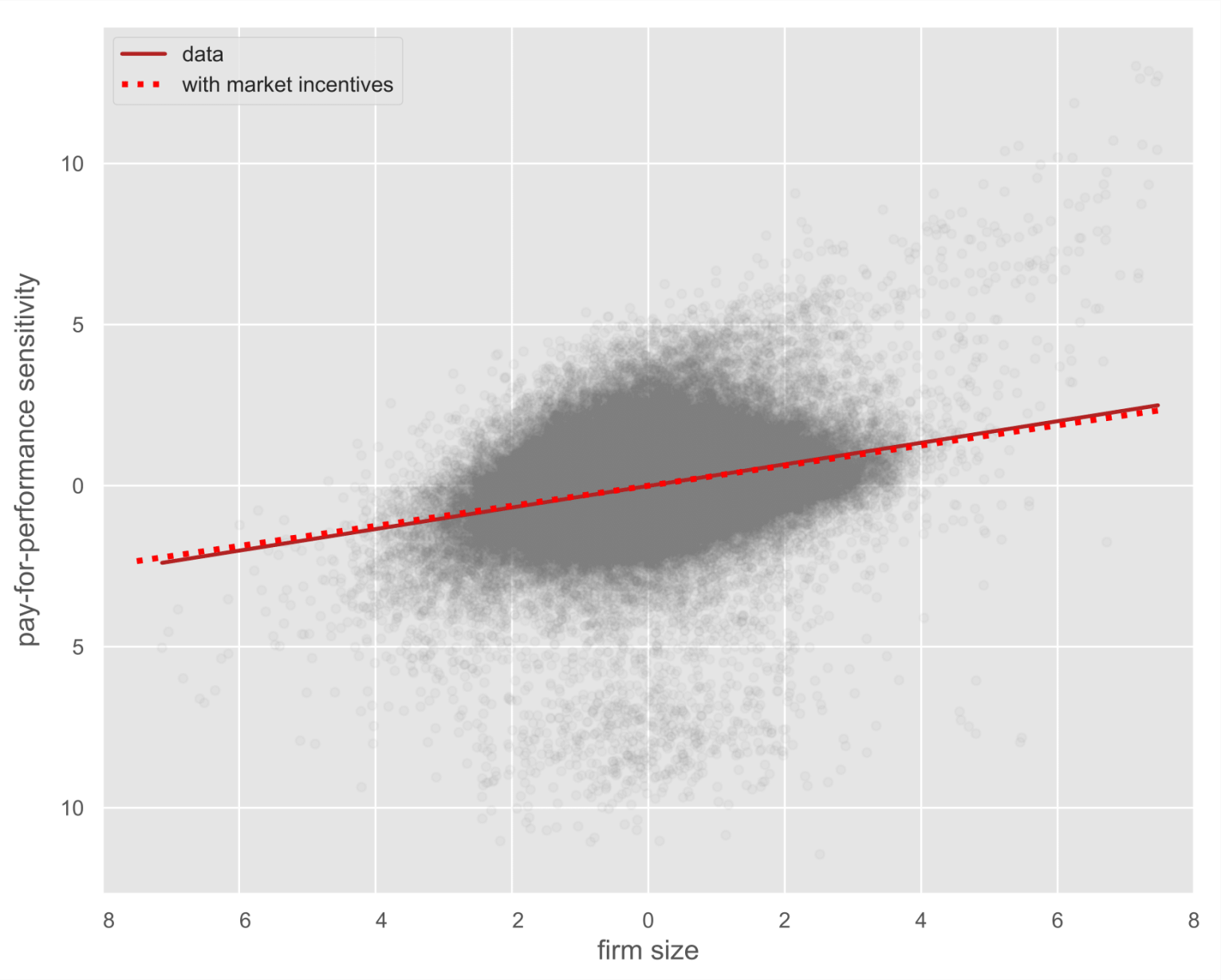
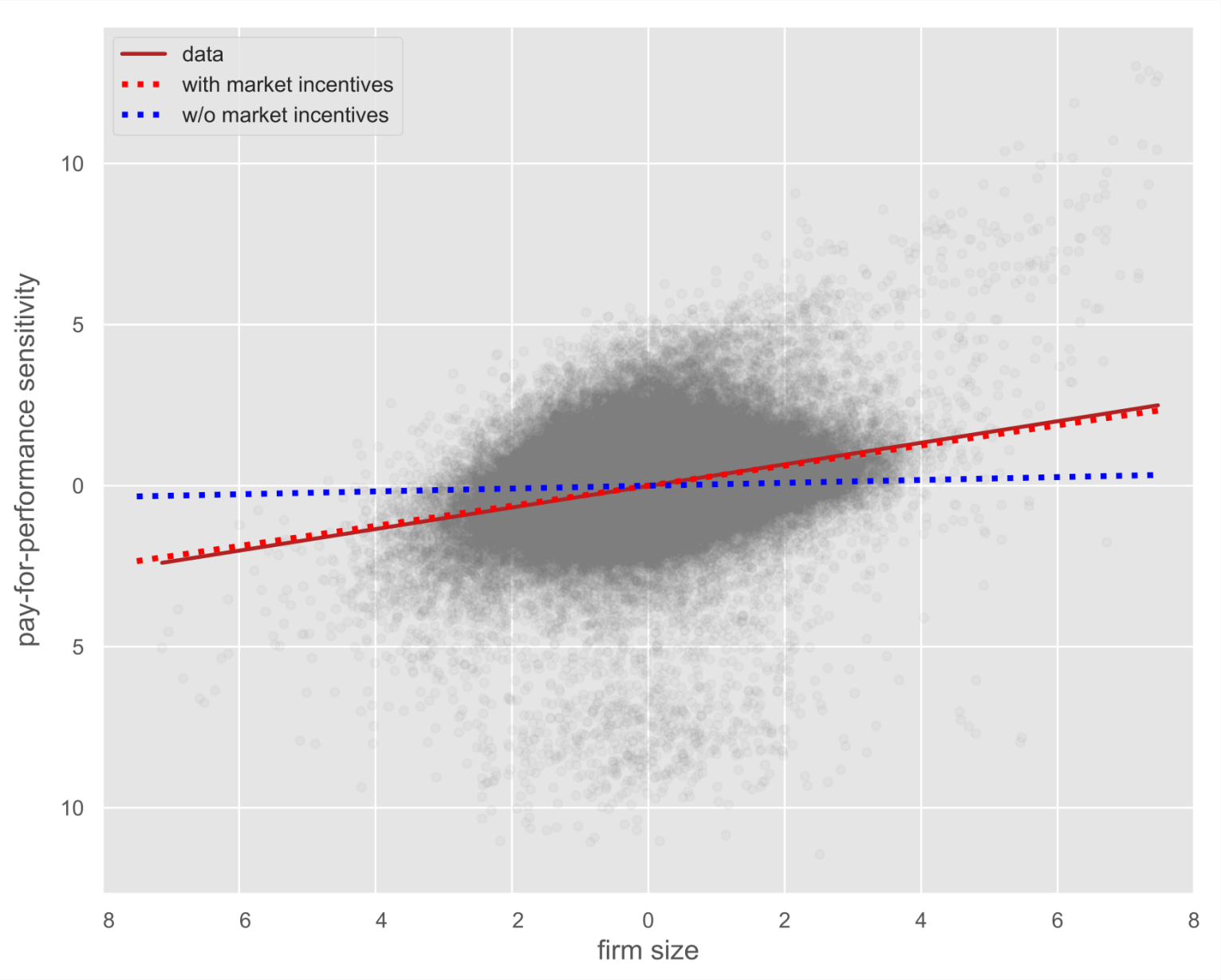
8
firm size

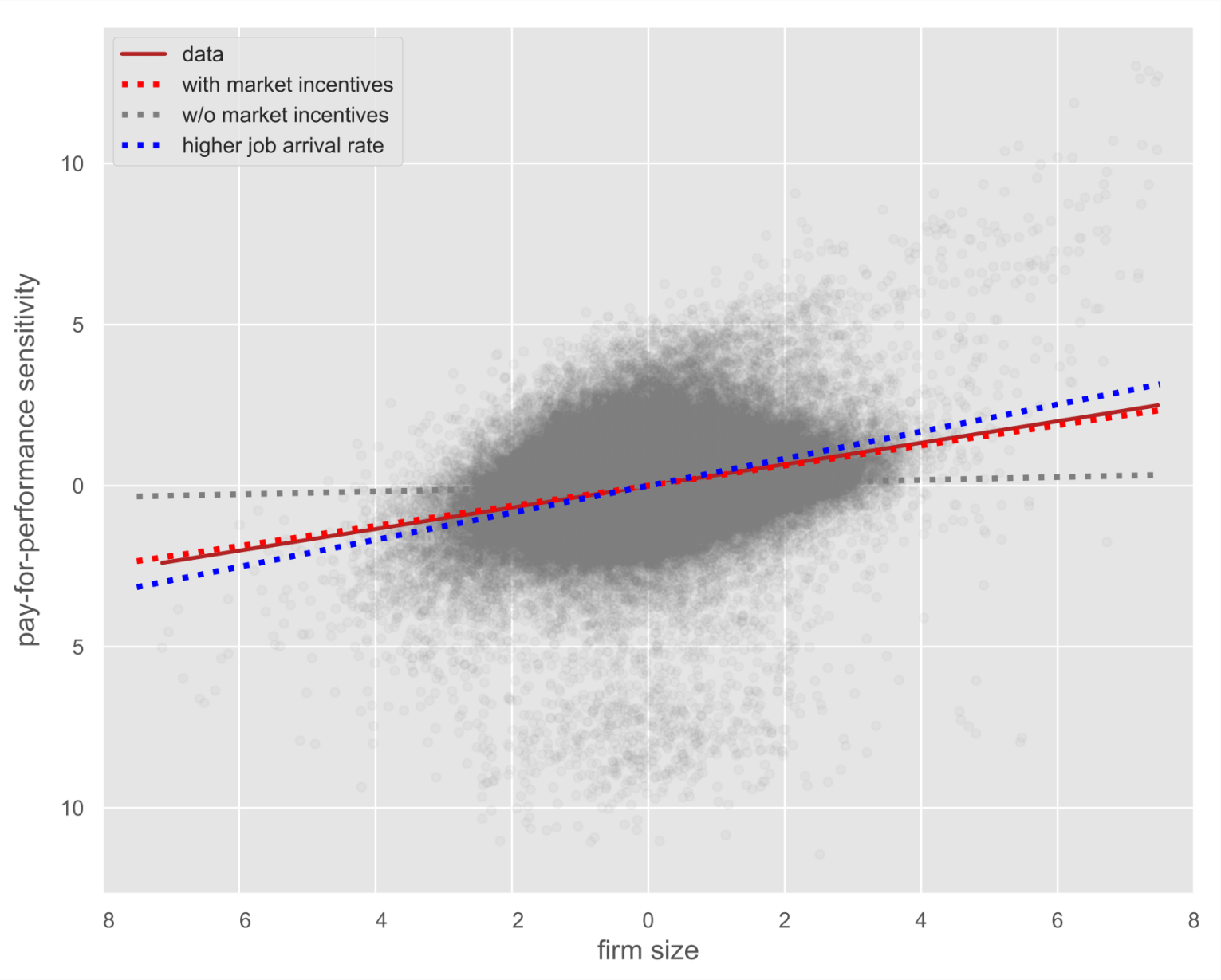
# Predictions — model



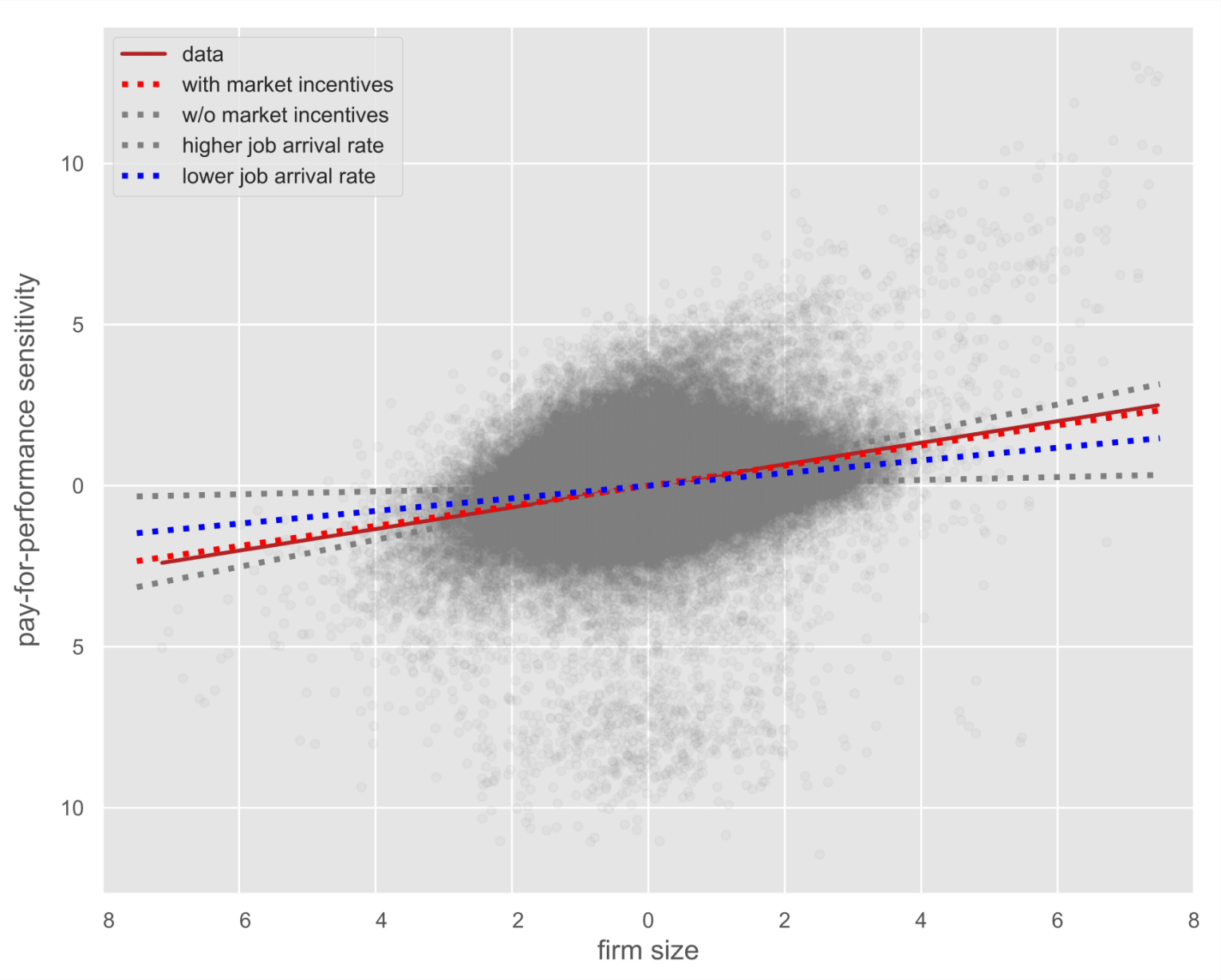
# Predictions — without labor market incentives



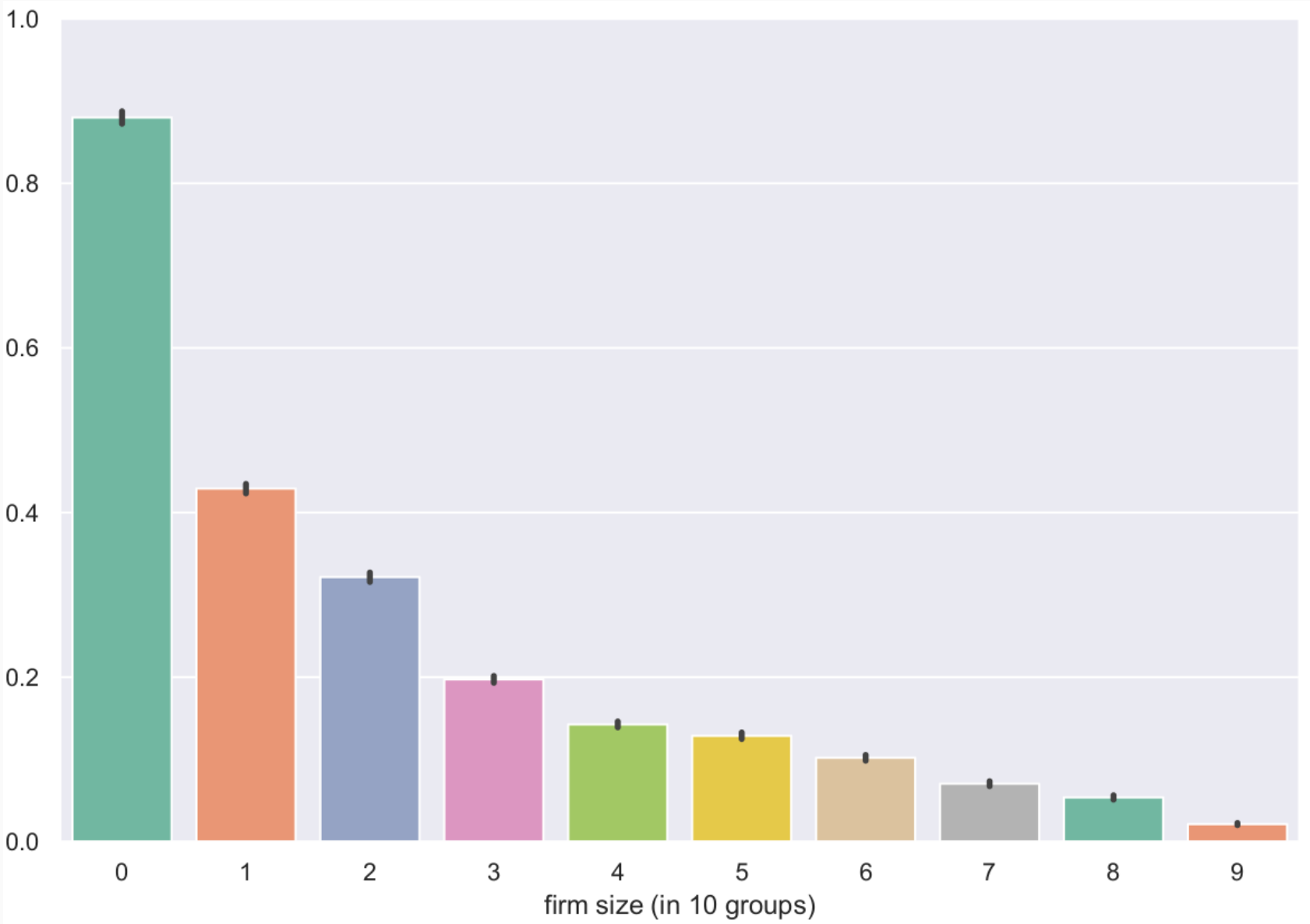
# Predictions — with higher job arrival rate



# Predictions — with lower job arrival rate



# Fraction of labor market incentives



# The pre-1970 puzzle

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Frydman and Saks (2010) document that since the mid-1970s:

1. sharp increase in total and incentive pay.
2. more inequality among executives
3. higher correlation between compensation and firm size

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Frydman and Saks (2010) document that since the mid-1970s:

1. sharp increase in total and incentive pay.
2. more inequality among executives
3. higher correlation between compensation and firm size

These facts can be quantitatively explained by an exogenous increase in higher job arrival rate $\lambda_1$.

- Huson et al. (2001), Murphy and Zabojnik (2007): An increasing number of CEO openings have been filled through external hires.
- Frydman (2005): Executive jobs have increasingly placed greater emphasis on general rather than firm-specific skills.

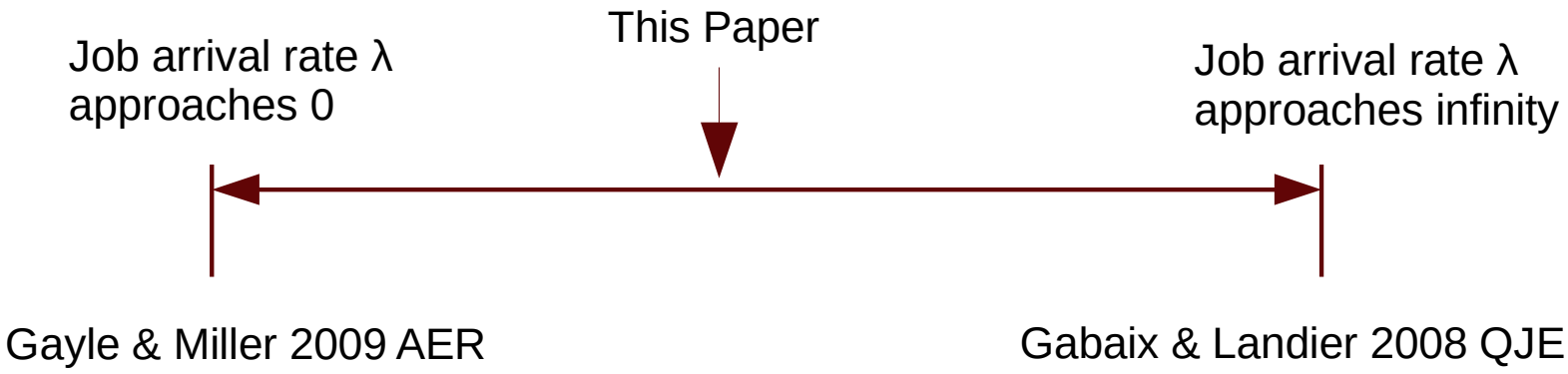
# Calibration for moments in the 1970s and 1990s

| Moments | Data | | Model | |
|---|---|---|---|---|
| (dollar value in year 2000) | 1970s | 1990s | $\lambda_1 = 0.05$ | $\lambda_1 = 0.4$ |
| Mean total pay (thousand) | 1090 | 4350 | 985 | 4296 |
| Mean size (million) | - | - | 2426 | 5710 |
| Mean PPS (thousand) | 21.743 | 120.342 | 24.972 | 125.310 |
| $\beta_{totalpay-size}$ | 0.199 | 0.264 | 0.175 | 0.240 |
| Percentiles of total pay (thousand) | | | | |
| 25th percentile | 640 | 1350 | 109 | 1217 |
| 50th percentile | 930 | 2360 | 478 | 2957 |
| 75th percentile | 1310 | 4430 | 1596 | 5860 |

# A conjecture by Gabaix and Landier (2008)

> Another possibility is that the U.S. CEO market before 1970 was more like the contemporary Japanese CEO market. Companies would groom their CEOs in-house and not poach them from other firms. Hence, this labor market would just not be described well by our model. We conclude that our frictionless benchmark model does not apply unamended to the pre-1970 sample and leave the search for a fuller model to future research.
>
> — Gabaix and Landier (2008)

# A model links GM and GL



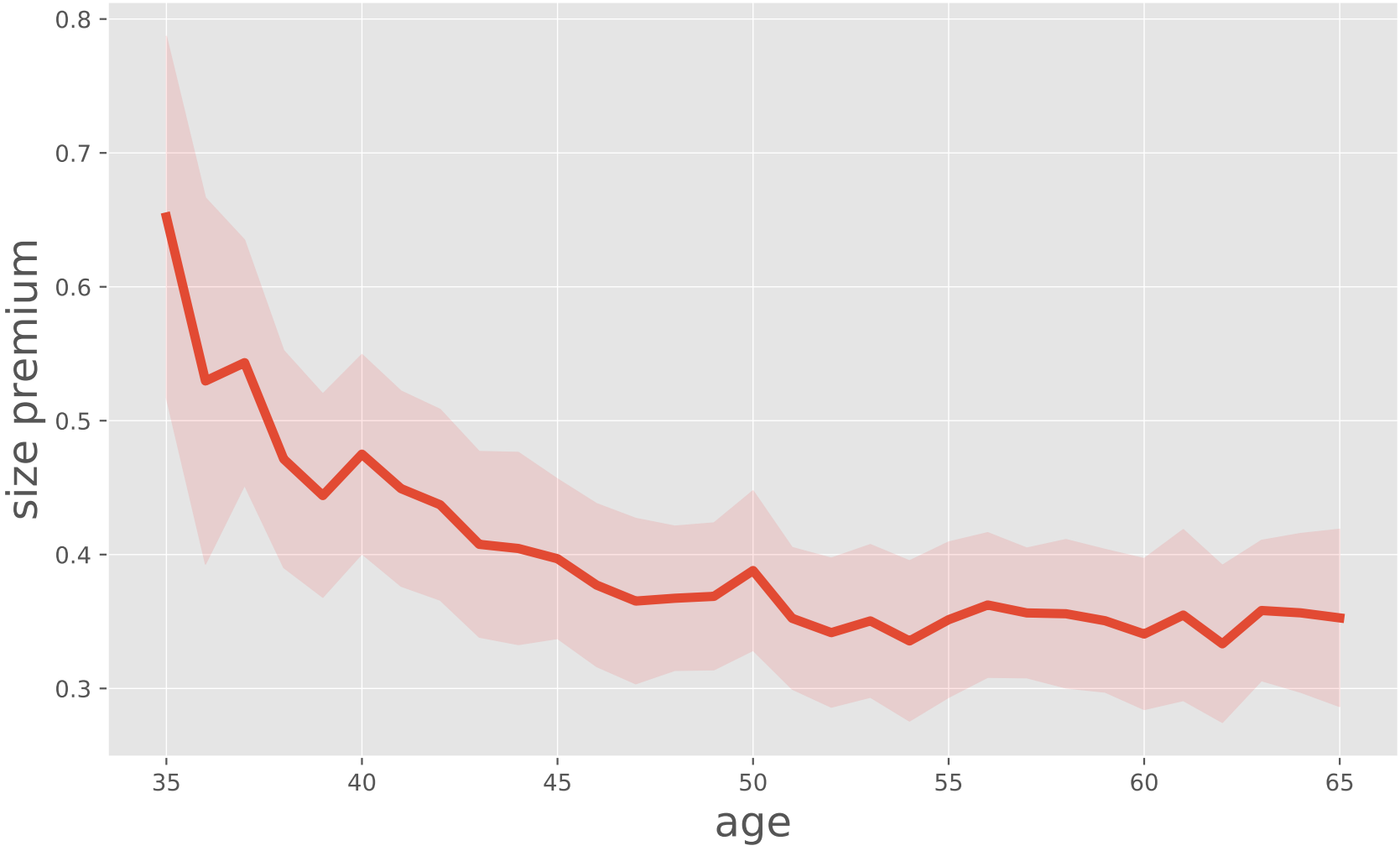

- In terms of compensation level, a “weighted sum” of GM and GL
- In terms of incentives, the interaction gives labor market incentives

# Takeaways

# Takeaways

- Small and medium firms take advantage of the labor market incentives.
- Managerial labor market competition explains firm size incentive premium.

# Firm size incentive premium over age



**感谢大家问题和建议。**

http://bohuecon.github.io

# Contracting Problem

Firms choose $\{w, W(z', s')\}$ to maximize profits

$$\Pi(z, s, V) = \max_{w, W(z', s')} \sum_{z' \in \mathbb{Z}} \sum_{s' \in \mathbb{S}} \left[ y(s, z') - w + \tilde{\beta} \Pi(z', s, W(z', s')) \right] \tilde{F}(s') \Gamma(z'|z)$$

subject to

$$V = u(w) - c + \tilde{\beta} \sum_{z' \in \mathbb{Z}} \sum_{s' \in \mathbb{S}} W(z', s') \tilde{F}(s') \Gamma(z'|z), \tag{PKC}$$

$$\tilde{\beta} \sum_{z' \in \mathbb{Z}} \sum_{s' \in \mathbb{S}} W(z', s') \tilde{F}(s') \Big( \Gamma(z'|z) - \Gamma^s(z'|z) \Big) \geq c, \tag{IC}$$

$$W(z', s') \geq \min\{\overline{W}(z', s'), \overline{W}(z', s)\}, \tag{PC-Executive}$$

$$W(z', s') \leq \overline{W}(z', s), \text{ for all } z' \in \mathbb{Z} \text{ and } s' \in \mathbb{S}. \tag{PC-Firm}$$

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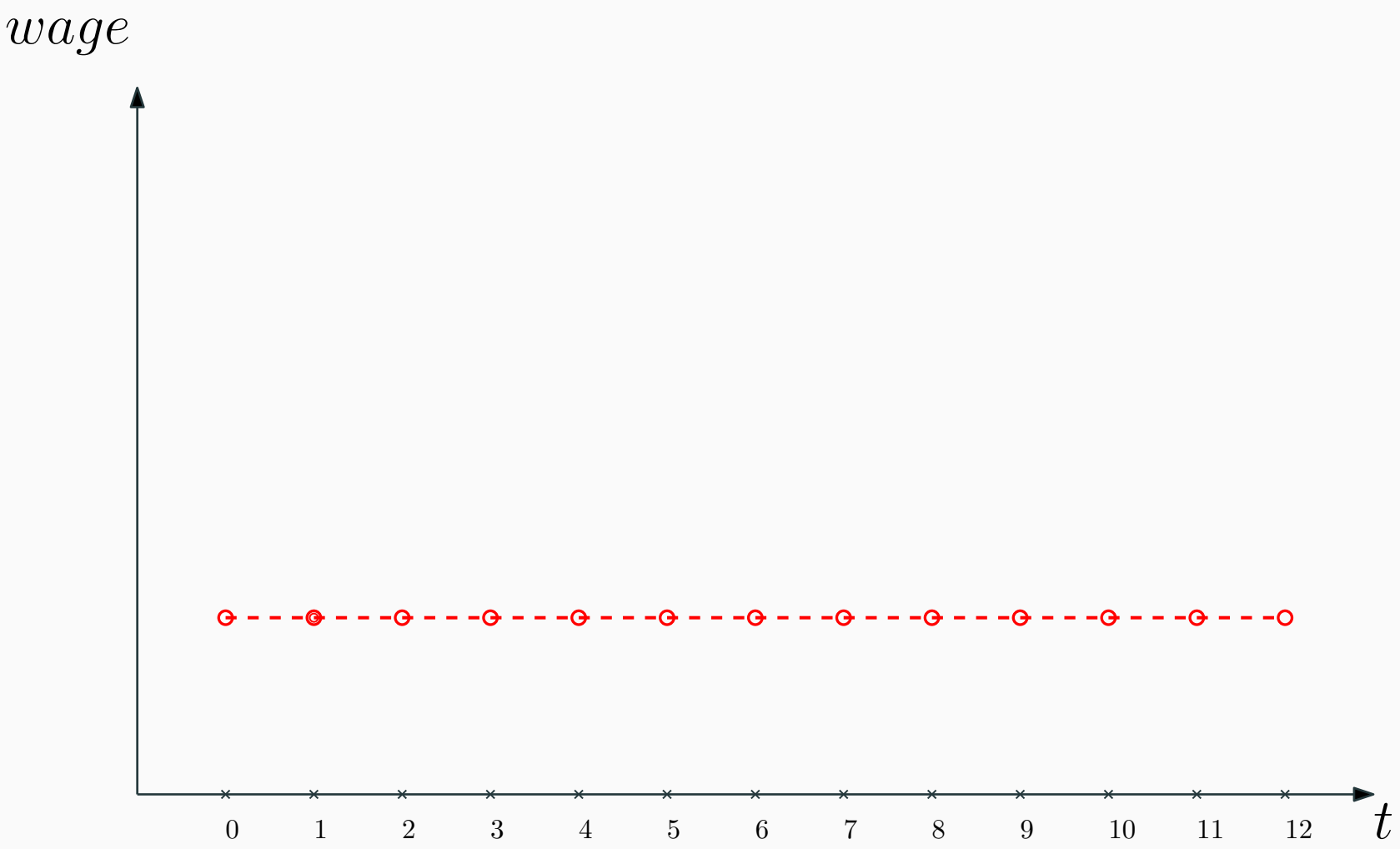
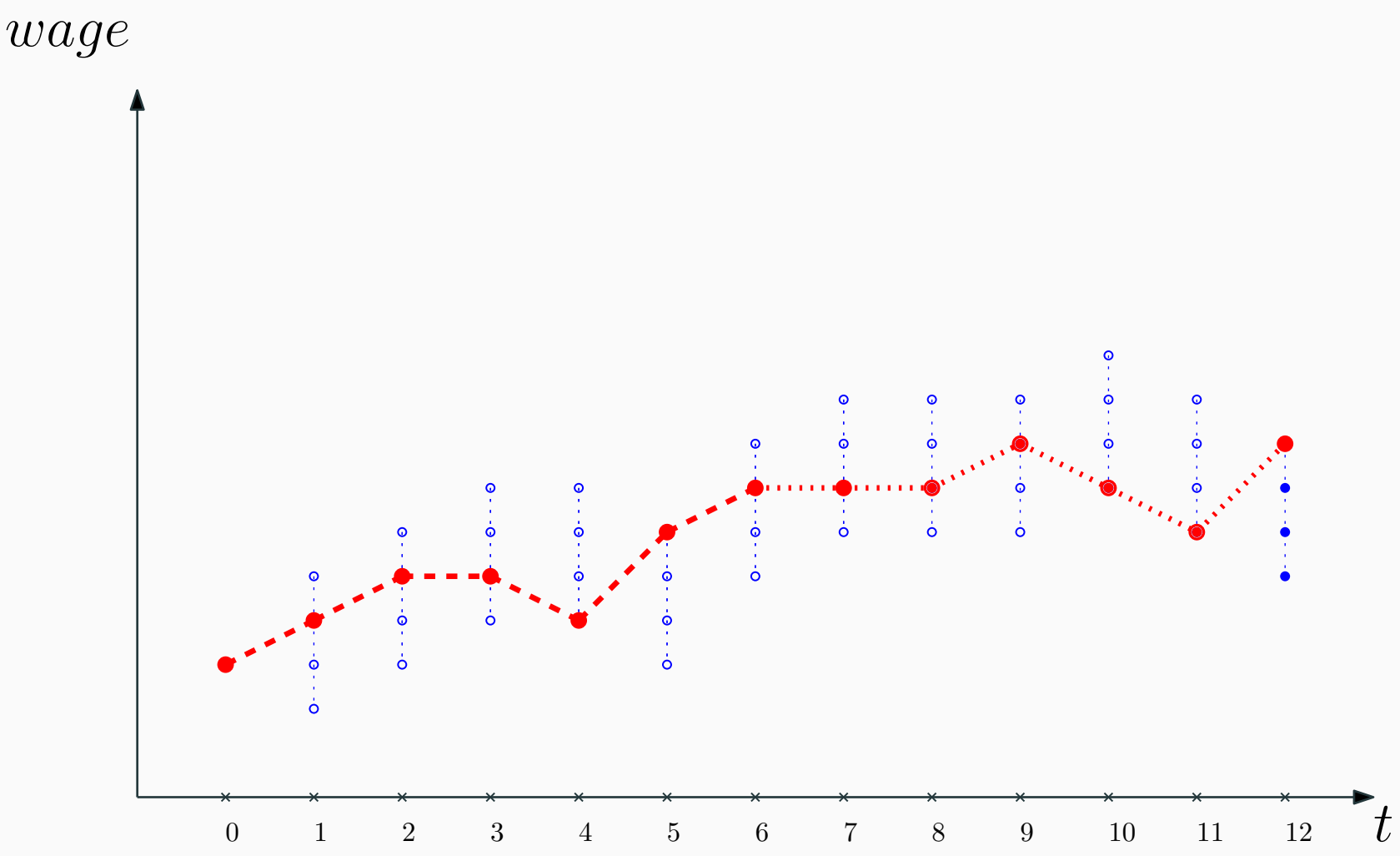
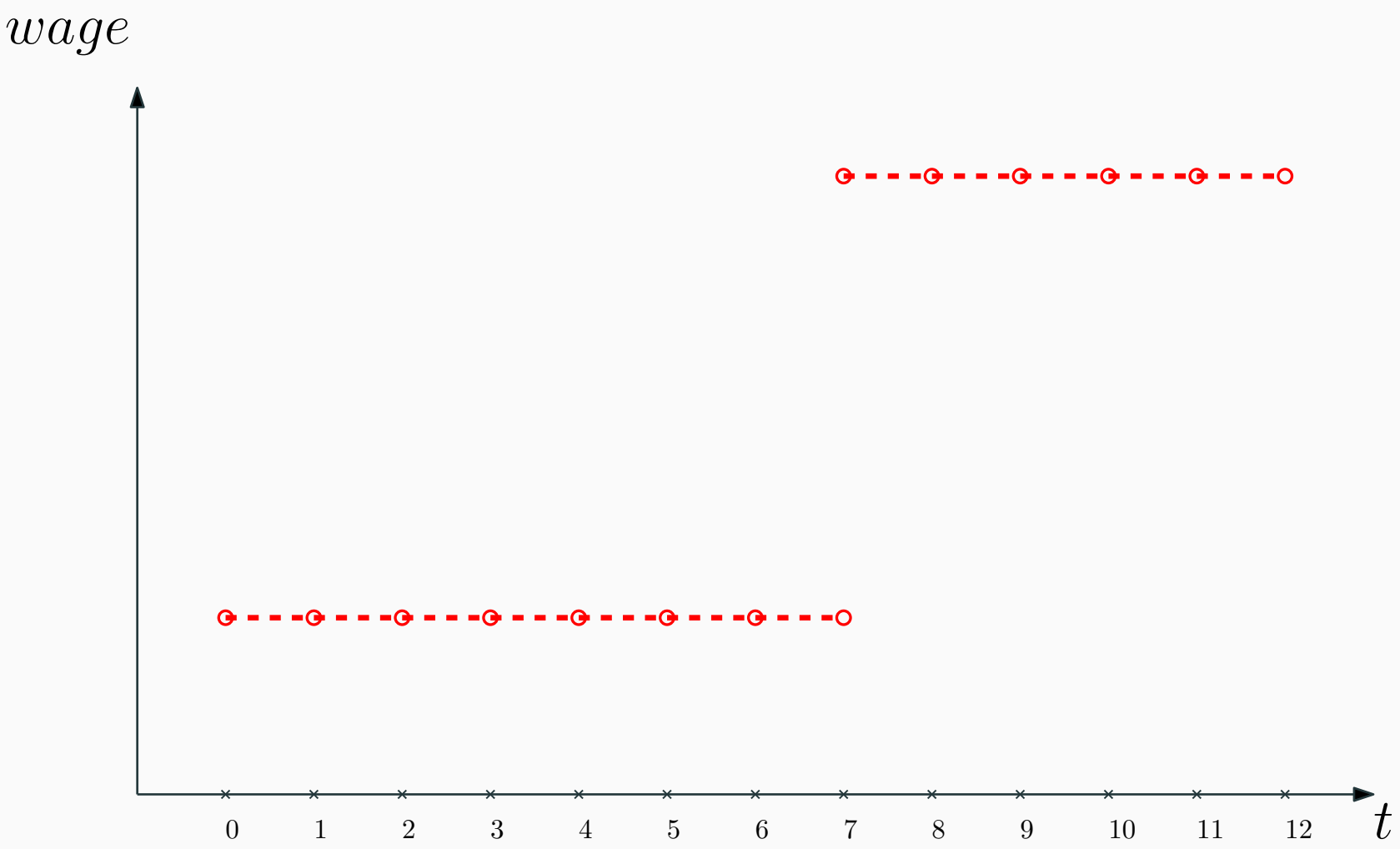
# No Moral Hazard, Full Commitment



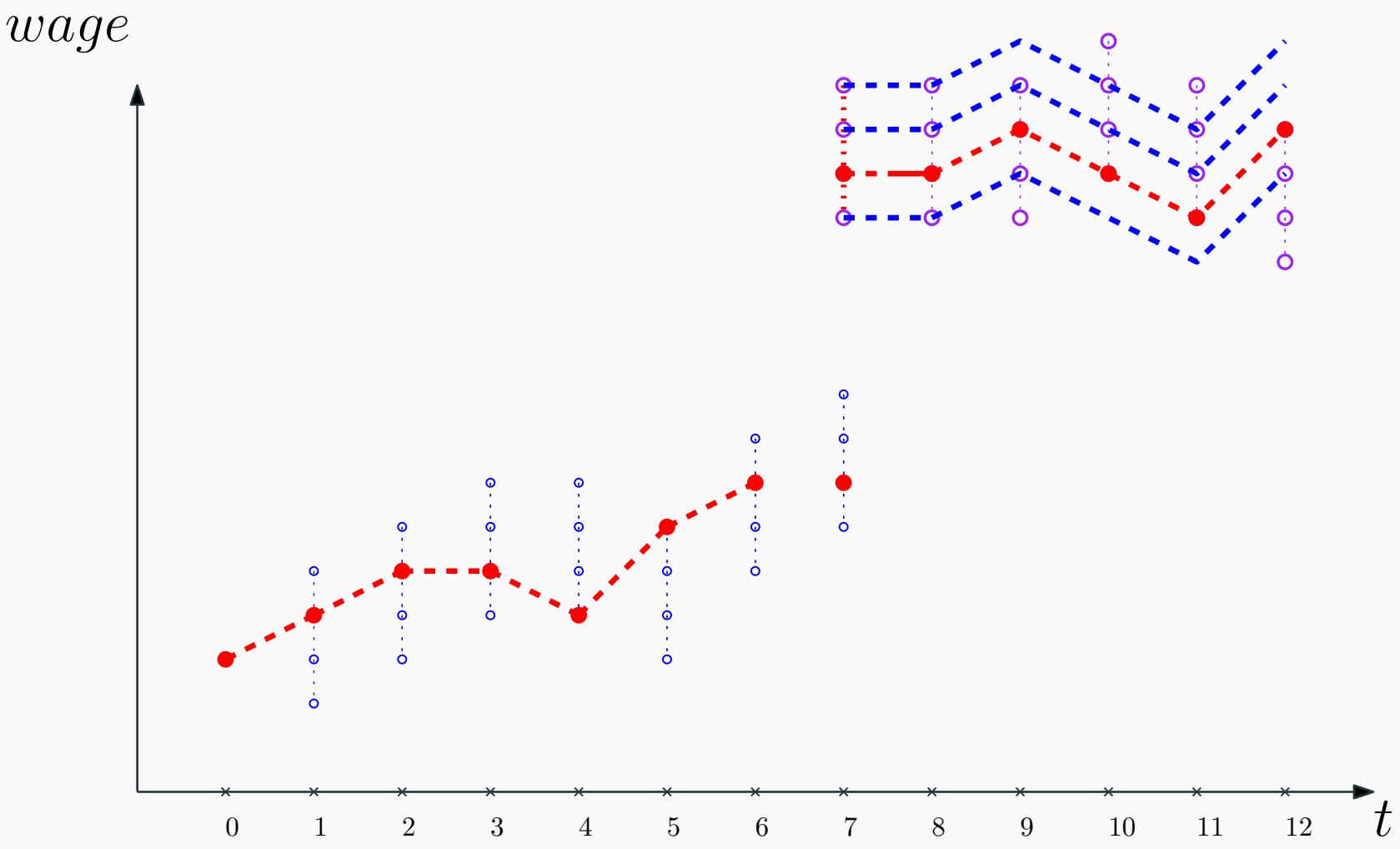
# Only Moral Hazard



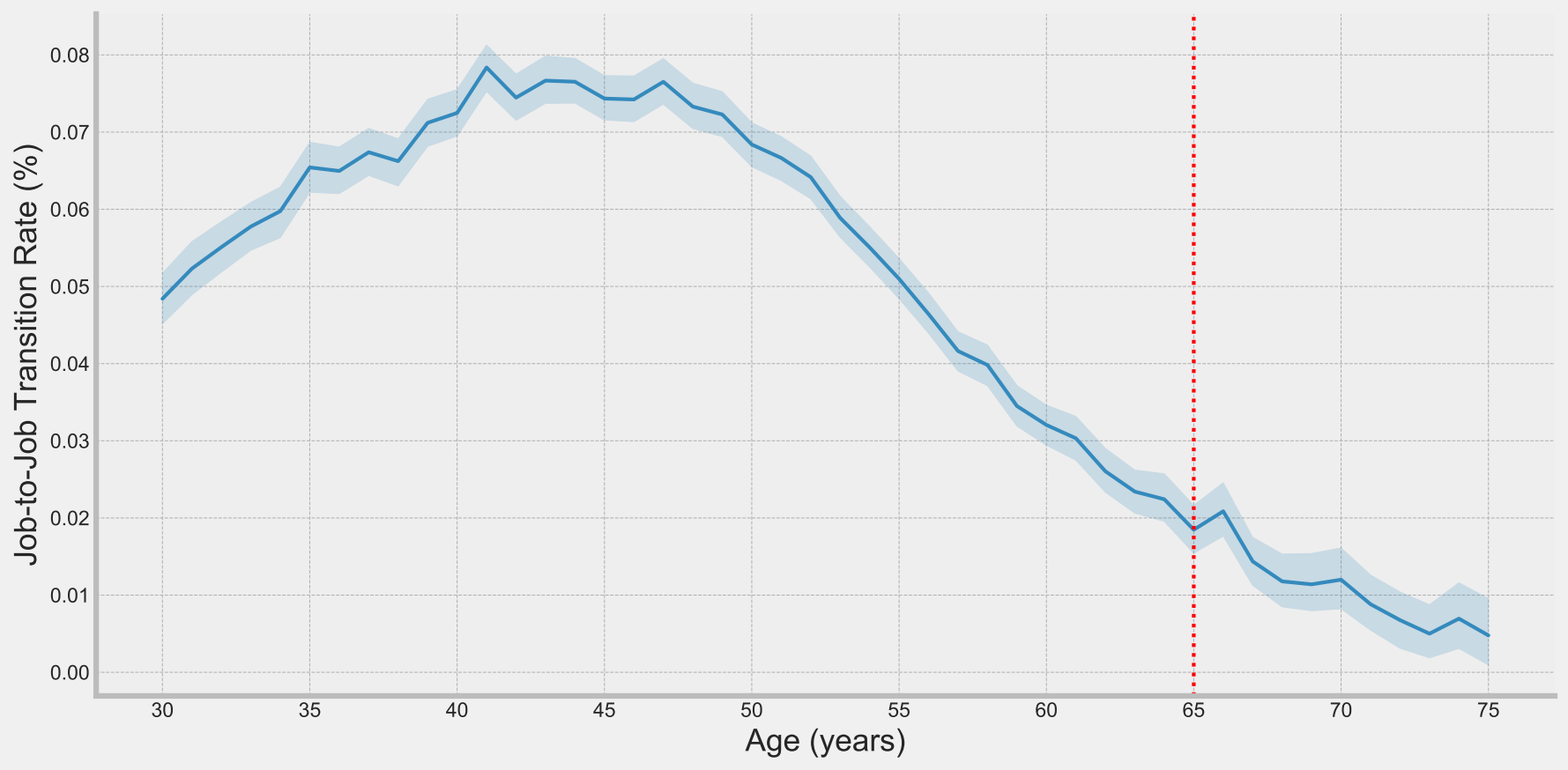
# Only Limited Commitment



# Optimal Contract



# Job-to-job transition rate over age

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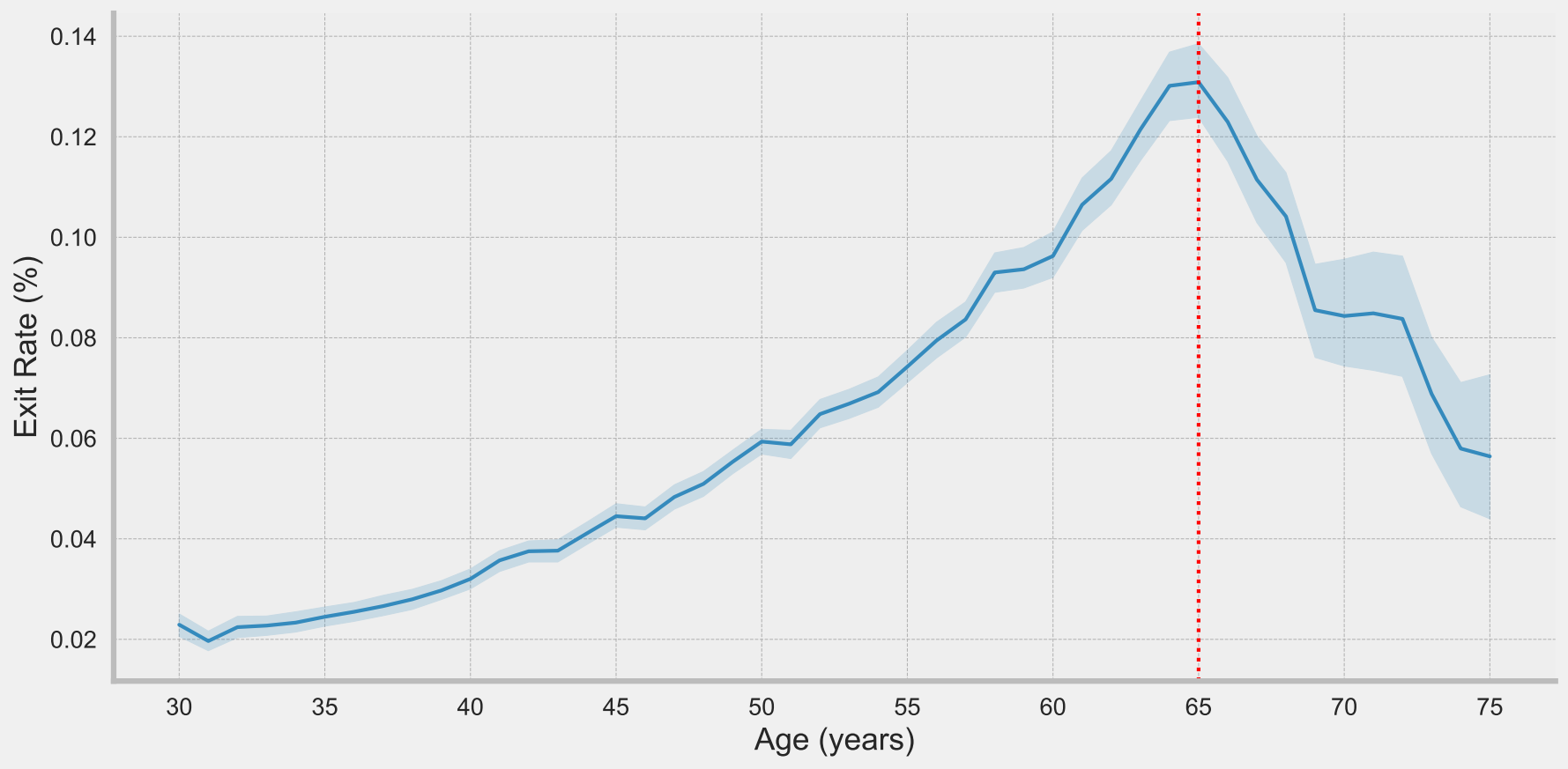
# Exit rate over age

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# Climb the Job Ladder

Table 3: Change of firm size upon job-to-job transitions

*Panel A: All executives*

| Firm size proxy | Total obs. | Firm size decrease obs. (%) | Firm size increase obs. (%) |
|---|---|---|---|
| Market Cap | 2567 | 985 (39%) | 1582 (61%) |
| Sales | 2617 | 1051 (40%) | 1566 (60%) |
| Book Assets | 2616 | 1038 (40%) | 1578 (60%) |

*Panel B: Across age groups*

| Age groups | Total obs. | Firm size decrease obs. (%) | Firm size increase obs. (%) |
|---|---|---|---|
| $\leq 40$ | 100 | 34 (34%) | 66 (66%) |
| [40, 45) | 381 | 135 (35%) | 246 (65%) |
| [45, 50) | 701 | 262 (37%) | 439 (63%) |
| [50, 55) | 766 | 304 (40%) | 462 (60%) |
| [55, 60) | 261 | 179 (43%) | 82 (67%) |
| [60, 65) | 73 | 52 (39%) | 21 (61%) |
| [65, 70) | 30 | 7 (25%) | 23 (75%) |
| $\geq 70$ | 6 | 1 (16%) | 5 (84%) |

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Table 4: Job-to-Job Transitions and Firm Size

| | Job-to-Job Transition | |
|---|---|---|
| | (1) | (2) |
| log(Firm Size) | 0.917**** | 0.972* |
| | (0.0109) | (0.0139) |
| Age | 0.985**** | 0.967*** |
| | (0.00273) | (0.0112) |
| log(tdc1) | | 0.830**** |
| | | (0.0150) |
| Market-Book Ratio | 0.942**** | 0.939**** |
| | (0.0150) | (0.0157) |
| Market Value Leverage | 1.033** | 1.035** |
| | (0.0139) | (0.0142) |
| Profitability | 0.913**** | 0.905**** |
| | (0.0197) | (0.0199) |
| Year FE | Yes | Yes |
| Industry FE | Yes | Yes |
| *N* | 154635 | 118119 |
| chi2 | 496.1 | 491.4 |

Table 1: Compensation growth increases with firm size

| | $\Delta \log(tdc1)$ | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| $log(firm\ size)_{-1}$ | 0.112*** | 0.154*** | 0.108*** | 0.107*** | 0.141*** | 0.127*** |
| | (0.00903) | (0.0129) | (0.00183) | (0.00189) | (0.00177) | (0.00489) |
| $log(firm\ size)_{-1} \times EE90$ | | | 0.0711* | | | |
| | | | (0.0403) | | | |
| $log(firm\ size)_{-1} \times EE190$ | | | | 0.0759** | | |
| | | | | (0.0353) | | |
| $log(firm\ size)_{-1} \times gai$ | | | | | 0.0233*** | |
| | | | | | (0.00546) | |
| $log(firm\ size)_{-1} \times inside\ CEO$ | | | | | | -0.000232*** |
| | | | | | | (0.0000696) |
| $log(tdc1)_{-1}$ | -0.290*** | -0.390*** | -0.251*** | -0.251*** | -0.304*** | -0.253*** |
| | (0.0200) | (0.0262) | (0.00173) | (0.00173) | (0.00267) | (0.00173) |
| *Dummies* | X | X | X | X | X | X |
| *Other contorls* | | X | X | X | X | X |
| Observations | 129068 | 106819 | 106820 | 106820 | 58188 | 106820 |
| adj. $R^2$ | 0.157 | 0.216 | 0.260 | 0.260 | 0.233 | 0.262 |

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Table 2: Performance-based incentives increases with firm size

| | log(*delta*) | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *log(firm size)* | 0.604*** | 0.347*** | 0.525*** | 0.529*** | 0.561*** | 0.571*** |
| | (0.0141) | (0.0247) | (0.00512) | (0.00499) | (0.00310) | (0.0139) |
| *log(firm size)* × *EE90* | | | 0.359* | | | |
| | | | (0.118) | | | |
| *log(firm size)* × *EE190* | | | | 0.415** | | |
| | | | | (0.101) | | |
| *log(firm size)* × *gai* | | | | | 0.0648*** | |
| | | | | | (0.00156) | |
| *log(firm size)* × *inside CEO* | | | | | | -0.000458* |
| | | | | | | (0.000202) |
| *log(tdc1)* | | 0.609*** | -0.251*** | -0.251*** | -0.304*** | -0.253*** |
| | | (0.0350) | (0.00173) | (0.00173) | (0.00267) | (0.00173) |
| *Dummies* | X | X | X | X | X | X |
| *Other contorls* | | X | X | X | X | X |
| Observations | 146747 | 128006 | 125858 | 125858 | 75747 | 125858 |
| adj. $R^2$ | 0.442 | 0.514 | 0.521 | 0.521 | 0.531 | 0.521 |

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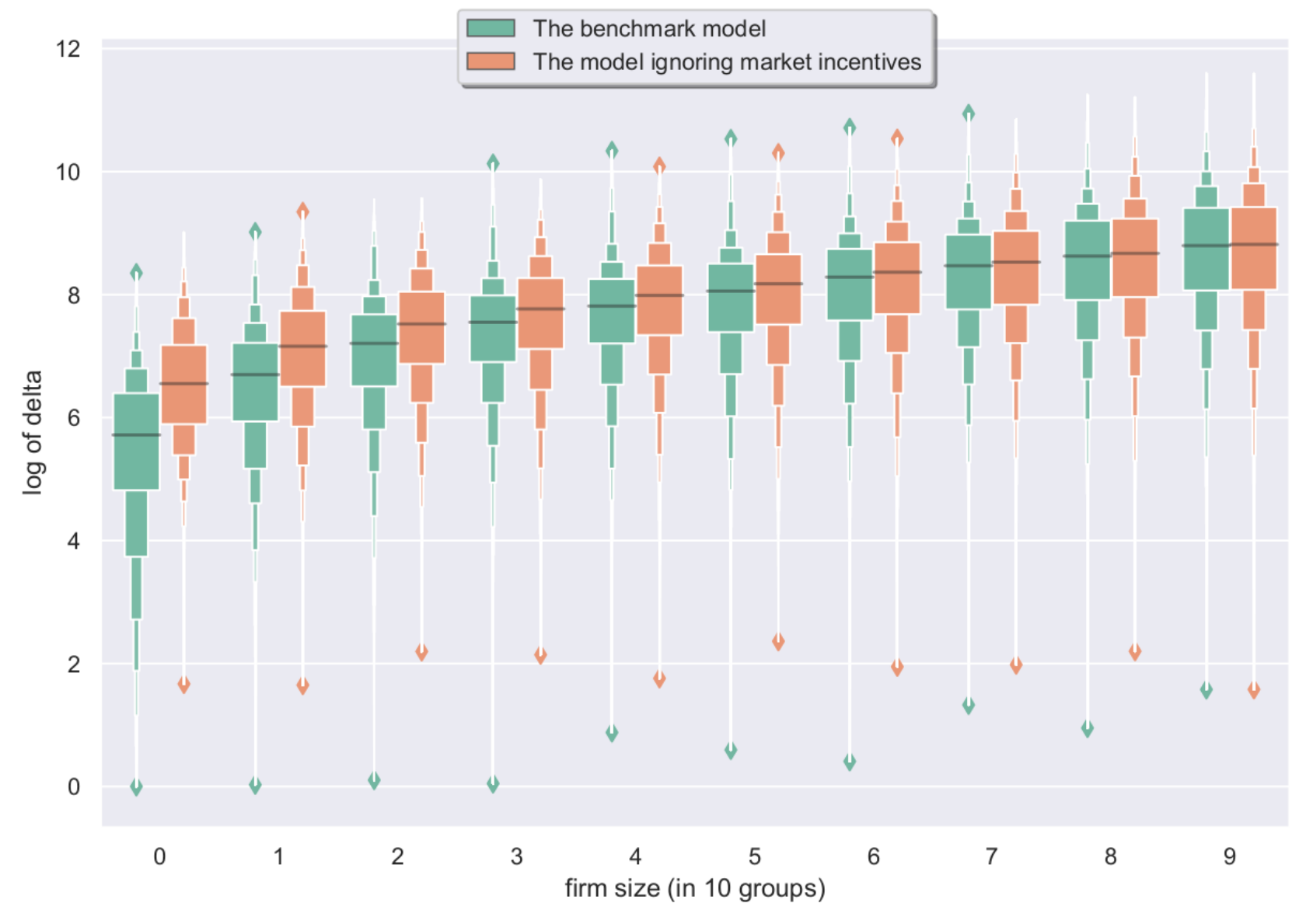
# If labor market incentives are ignored ...

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CEO's of "Small Firms" in S&P 500

tdc1: total compensation
delta: dollar-percentage incentive

| Company | Market Cap millions | tdc1 000's | delta 000's/% |
|---|---|---|---|
| INCYTE CORP | 446.408 | 2432.9734 | 60.939838 |
| WESTROCK CO | 547.828 | 2800.668 | 130.96215 |
| ENVISION HEALTHCARE CORP | 678.6906 | 1777.991 | 217.729 |
| PRICELINE GROUP INC | 886.0817 | 1775.531 | 165.73476 |
| LKQ CORP | 889.9763 | 2602.093 | 473.70974 |
| REGENERON PHARMACEUTICALS | 897.3801 | 3094.134 | 566.14187 |
| SKYWORKS SOLUTIONS INC | 1113.547 | 2638.243 | 128.10688 |
| CENTENE CORP | 1130.155 | 4584.605 | 344.02299 |
| ALASKA AIR GROUP INC | 1194.977 | 950.098 | 99.525198 |
| HOLOGIC INC | 1276.448 | 2709.708 | 428.10996 |
| ACUITY BRANDS INC | 1328.171 | 1102.528 | 133.42285 |
| ANSYS INC | 1368.129 | 3738.803 | 431.01562 |
| GARTNER INC | 1474.909 | 8945.338 | 158.65569 |

CEO's of "Large Firms" in S&P 500

tdc1: total compensation
delta: dollar-percentage incentives

| Company | Market Cap millions | tdc1 000's | delta 000's/% |
|---|---|---|---|
| TIME WARNER INC | 79965.89 | 18545.215 | 1212.9513 |
| CONOCOPHILLIPS | 80163.26 | 35442.729 | 4520.5571 |
| UNITED PARCEL SERVICE INC | 82439.55 | 3120.042 | 340.01132 |
| VERIZON COMMUNICATIONS INC | 83233.88 | 19425 | 861.09722 |
| HOME DEPOT INC | 86128.2 | 35750.103 | 2014.3633 |
| AT&T INC | 94944.89 | 17283.529 | 1666.3201 |
| COCA-COLA CO | 95494.39 | 12781.61 | 425.62199 |
| PEPSICO INC | 97836.48 | 15268.415 | 2919.7995 |
| CISCO SYSTEMS INC | 121238.6 | 16269.85 | 5981.3853 |
| CHEVRON CORP | 126749.6 | 13125.882 | 1106.8351 |
| INTL BUSINESS MACHINES CORP | 129381.2 | 21693.615 | 1298.8777 |
| INTEL CORP | 147738.2 | 6101.835 | 1874.5755 |
| WAL-MART STORES INC | 192048.2 | 16652.894 | 1465.7708 |
| EXXON MOBIL CORP | 344490.6 | 48922.808 | 3843.027 |

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