

On common evaluation standards and the acceptance of wage differences

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Motivation

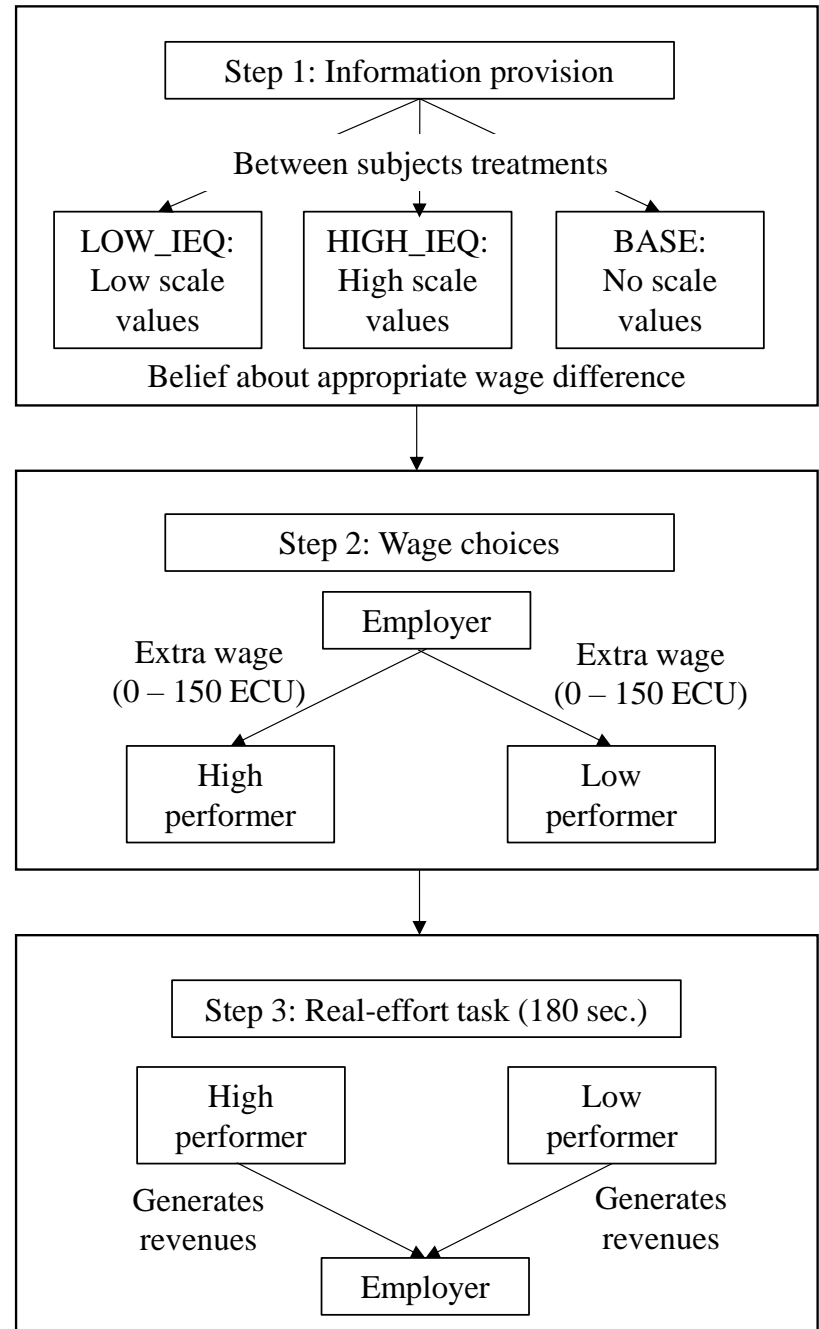
- Recent policy shift towards higher wage transparency
- Fundamental question for employers: How can the acceptance of wage differences be improved?
- Potential way: To create a social norm for stronger wage differentiation within the organization
- Typically, a multiplicity of behavioral states can be established as a social norm (Akerlof 1980, Bernheim 1994)
- Implies that social norm interventions (“norm nudges”) might be effective in guiding employees (Bicchieri and Dimant 2022)

Contributions

1. Analyzes to what extent social norms for wage inequality can be exogenously shifted and how this affects labor relationships
 - Can norm interventions be used by firms in the context of pay differentiation?
2. Extends literature on wage transparency → Endogenizes the acceptance of wage differences
 - Wages are fully transparent
 - Can acceptance of wage inequality be changed by the way its social appropriateness is communicated?

Experimental design

- One employer and two employees (“high” and “low” performer)
- “High performer” if performance in last round was higher than that of the other employee
- Exact performance differences not observable
- Incomplete labor contracts
- Belief elicitation accompanied by **exogenous norm variation**
- Strangers matching, 8 rounds



Experimental design

- (Unconditional) base payment of 150 ECU for employees
- Additional budget of 150 ECU for extra wage w_1, w_2
- After elicitation of beliefs, employer sets (transparent) extra wages before employees start to work
- Employer receives 25 ECU for every correct output e_1, e_2 by employees 1 and 2: $\pi_{empl} = 300 + 25 \cdot e_1 + 25 \cdot e_2 - w_1 - w_2$
- At the end of the experiment, elicitation of subjects' beliefs about the established norm for wage differentiation using an incentivized coordination game (Krupka and Weber 2013)

Treatments

BASE: Baseline condition (without exogenous norm variation)

LOW_IEQ: Norm for low wage inequality

HIGH_IEQ: Norm for high wage inequality

- **Variation of reference scale** (Schwarz 1985) → Hint towards the **injunctive norm** for wage differentiation:

“What is, according to your opinion, the appropriate (rounded) wage difference in ECU between high and low performers?”

LOW_IEQ	HIGH_IEQ
0 ECU	Less than or equal to 30 ECU
10 ECU	40 ECU
20 ECU	50 ECU
30 ECU	60 ECU
More than 30 ECU	More than 60 ECU

Hypotheses

- “Gift exchange”, despite no material incentive to exert any effort (Fehr, Kirchsteiger and Riedl 1993)
- Wage inequality will be considered as more appropriate in HIGH_IEQ as in LOW_IEQ (*Hypothesis 1*)
 - Attitudes and economic behavior can be shaped by the provision of norm-relevant information through the scales (Schwarz et al. 1985, Haggag and Paci 2014, Ockenfels and Werner 2014, Feldhaus et al. 2019,...)
- Employers who care about the norm should choose larger wage differences in HIGH_IEQ than in LOW_IEQ (*Hypothesis 2*).

Hypotheses

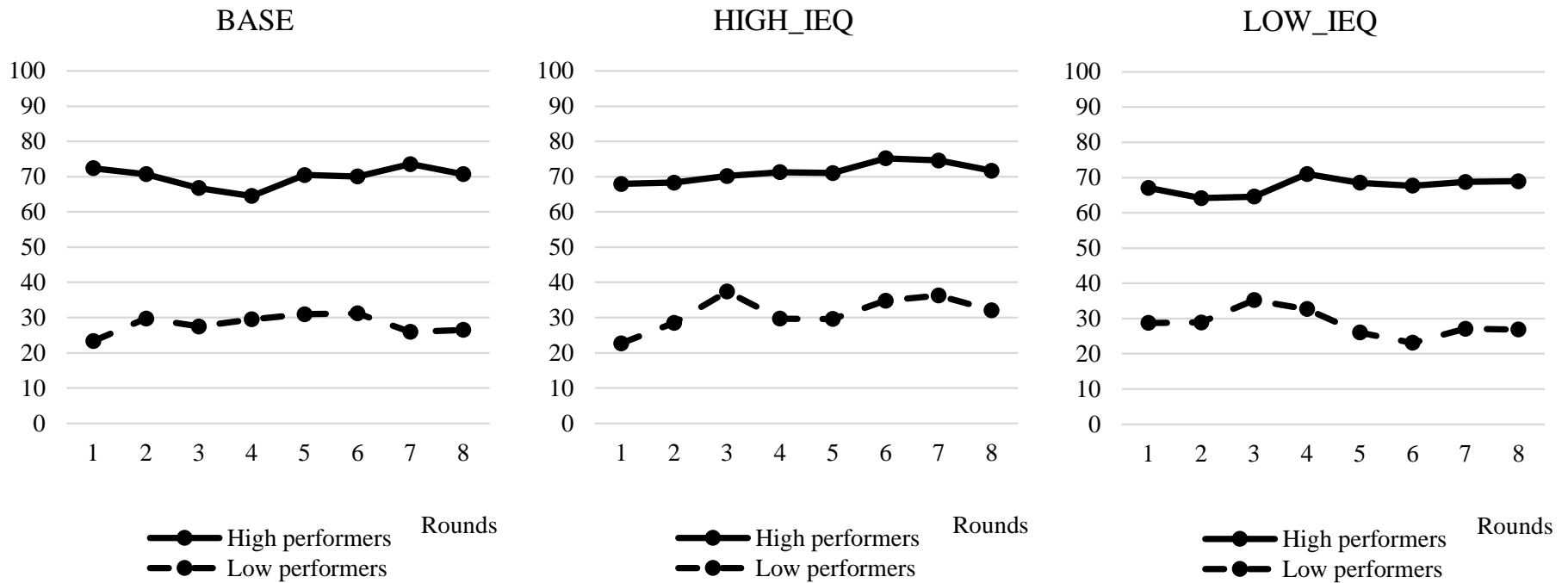
- The HIGH_IEQ treatment is associated with higher performance than the LOW_IEQ treatment (*Hypothesis 3*)
- Positive performance effect can be achieved via two channels:
 - Incentive channel: Stronger pay discrimination can induce higher performance (Berger et al. 2013, Kampkötter and Sliwka 2017)
 - Shift in relative importance of wage comparisons: Path dependency of redistributive and pro-social preferences (e.g. Ockenfels and Weimann 1999, Alesina and Fuchs-Schündeln 2007, Cassar and Klein 2019,...); weaker negative responses to wage inequality in HIGH_IEQ

Result 1: Individual acceptance of wage inequality

Treatment	All subjects	Employers	Employees
BASE	63.7	56.5	67.3
HIGH_IEQ	70.7	61.5	75.3
LOW_IEQ	38.5	35.4	40.1

- Measure: Shares of stated appropriate wage differences > 30 ECU (in %)
- Acceptance similar for HIGH_IEQ and BASE
- Acceptance substantially lower in LOW_IEQ (significantly so for all subjects and for employees only, $p = 0.002$, two-sided MWU)

Result 2: Wage offers



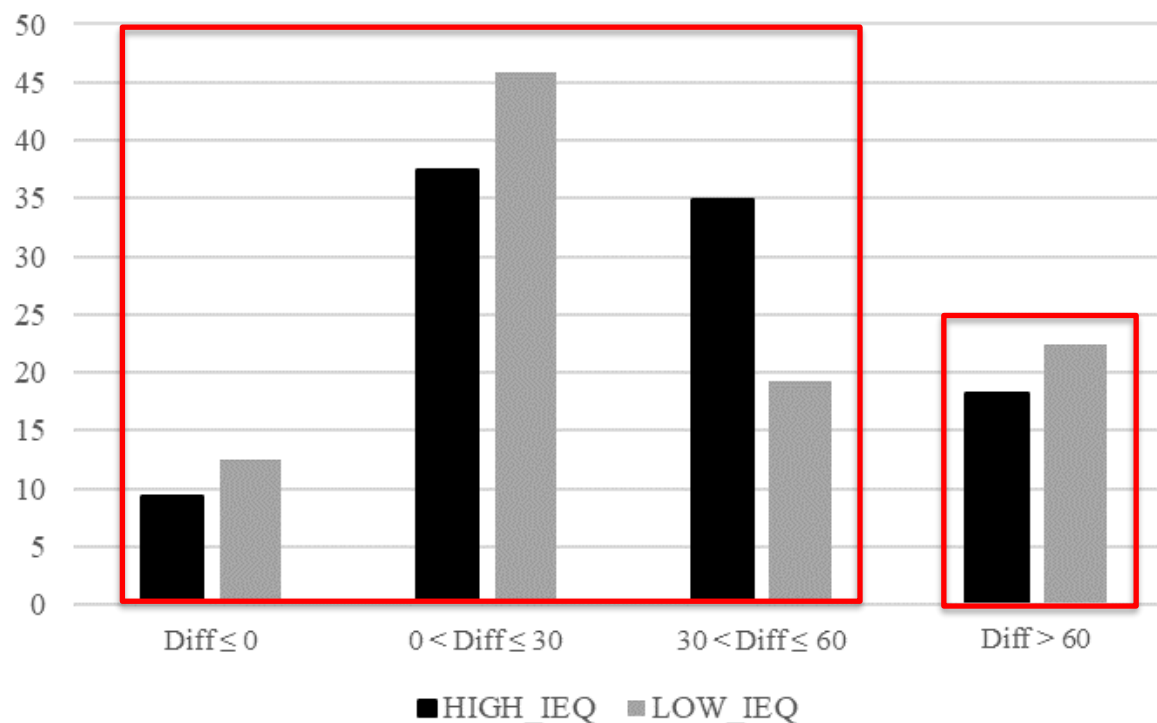
- Wages differ substantially between high and low performers
- Wage inequality does not differ between HIGH_IEQ/LOW_IEQ

Determinants of wage offers

Model No.	1	2	3
Dependent variable	Wage difference	Wage High Performer	Wage Low Performer
BASE	2.569 [5.676]	-1.563 [9.847]	-4.108 [8.189]
LOW_IEQ	6.210 [6.512]	-3.353 [9.399]	-8.831 [6.801]
MORE_THAN_30	28.062*** [3.426]	11.576*** [2.572]	-13.955*** [3.256]
Round	0.449 [0.532]	0.582 [0.498]	0.141 [0.453]
Constant	29.258*** [8.485]	74.952*** [12.265]	44.070*** [9.445]
Observations	552	552	552
Controls for sessions	Yes	Yes	Yes

The models are linear specifications with random effects on the level of employers using the wage difference between high and low performer in ECU (Model 1), the extra wage paid to the high performer in ECU (Model 2) and the extra wage paid to the low performer in ECU (Model 3) as dependent variables. Controls include dummy variables for experimental sessions. Robust standard errors are clustered on the level of an experimental subject. * and *** denominate significance on the 10%- and 1%-level. The reference category for the experimental treatment consists of observations from treatment HIGH_IEQ.

Frequencies of wage differences between high and low performers (in %)



- Heterogeneous responses of employers in LOW_IEQ

Result 3: Output

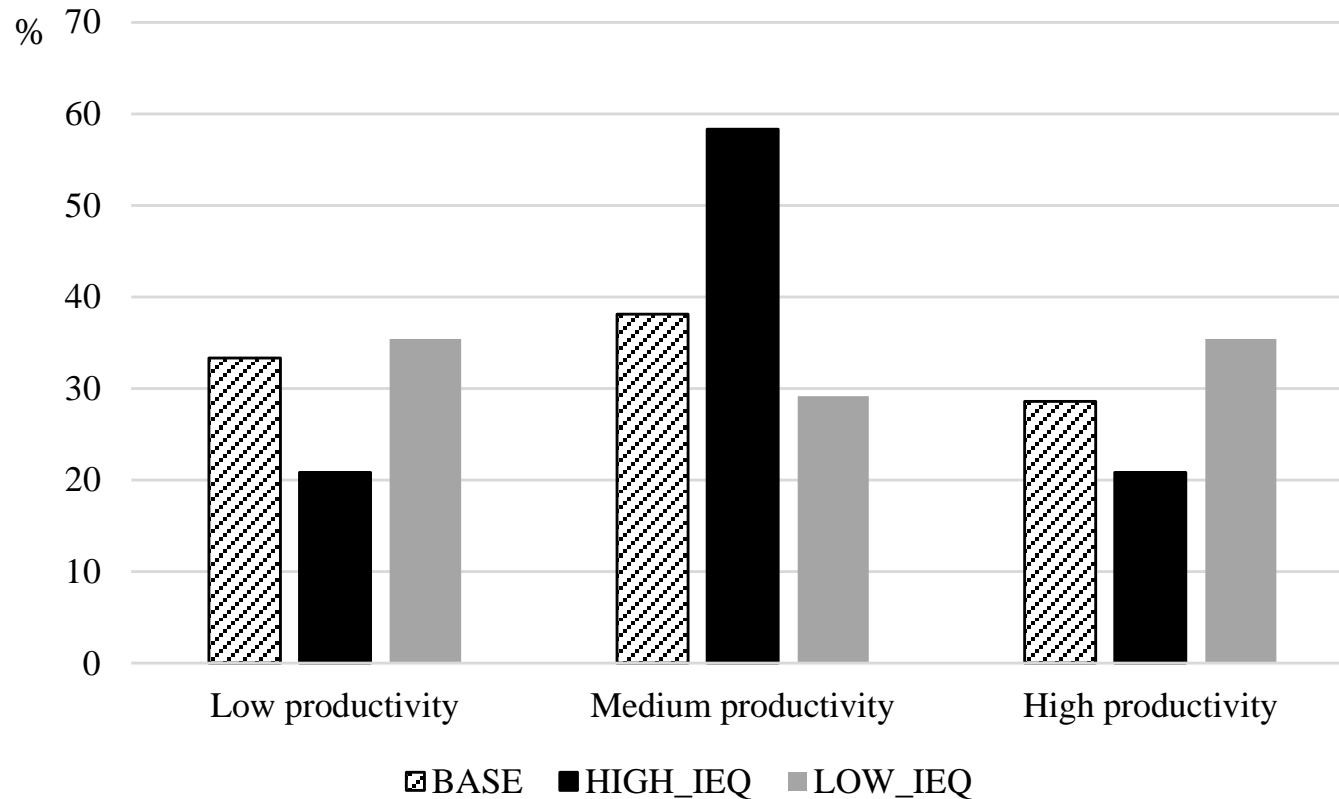
Treatment	Output total	Output high performer	Output low performer
BASE	5.36	6.45	4.26
HIGH_IEQ	5.77	6.29	5.24
LOW_IEQ	5.00	6.18	3.82

- Employees produce significant output in all treatments
- HIGH_IEQ output exceeds LOW_IEQ by some 15% ($p = 0.018$, two-sided MWU)
- Difference caused by low performers: In HIGH_IEQ, low performers produce 37% more ($p = 0.005$, two-sided MWU)

Result 4: Incentive channel versus social comparison channel

- Employees divided into three groups, based on the number of rounds in which they were assigned the role of high performers
- Productivity distributions are similar in BASE and LOW_IEQ
- HIGH_IEQ: Share of medium productivity employees is substantially and significantly higher
- More fluctuation in the assignment of the high performer role in HIGH_IEQ → stronger competition between employees
- No significant effect of relative wage comparisons on output

Distributions of employees per overall productivity category and treatments (in %)

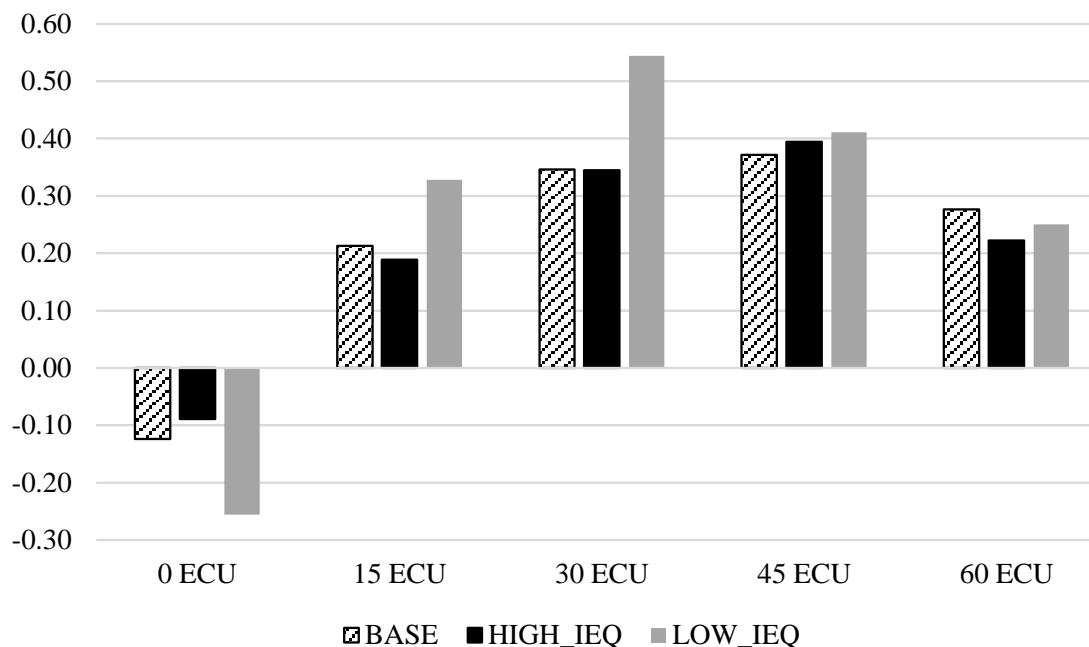


Determinants of output – Parametric analyses

Model No.	1	2	3	4
Dependent variable	Output	Output	Output	Output
BASE	-0.456 [0.351]	-0.462 [0.346]	0.107 [0.369]	-0.777** [0.382]
LOW_IEQ	-0.680** [0.323]	-0.691** [0.320]	-0.161 [0.331]	-1.117*** [0.363]
Own wage	0.011*** [0.002]	0.012*** [0.002]	0.004 [0.004]	0.021*** [0.005]
Others' wage		-0.003 [0.002]	-0.000 [0.004]	-0.004 [0.003]
Task ability	-0.030*** [0.007]	-0.029*** [0.007]	-0.028*** [0.007]	-0.017** [0.008]
Round	0.048 [0.030]	0.049 [0.030]	0.115*** [0.033]	-0.044 [0.045]
Constant	8.893*** [0.965]	8.949*** [0.960]	8.662*** [1.087]	8.018*** [1.054]
Observations	1,104	1,104	552	552
Sample	All	All	High performers	Low performers
Controls for sessions	Yes	Yes	Yes	Yes

The models are linear specifications with random effects on the level of employees, using the number of correctly solved blocks per round and employee as the dependent variable. Controls include dummy variables for experimental sessions. Robust standard errors are clustered on the level of an experimental subject. ** and *** denominate significance on the 5%- and 1%-level, respectively. The reference category for the experimental treatment consists of observations from treatment HIGH_IEQ.

Result 5: Beliefs about the commonly shared norm for wage differentiation



The figure displays subjects' average beliefs about the majority's view of the appropriateness of a given wage difference between high and low performer separately for each experimental treatment. Participants' stated beliefs are assigned values of -1 for "very socially inappropriate", -0.6 for "socially inappropriate", -0.2 for "somewhat socially inappropriate", 0.2 for "somewhat socially appropriate", 0.6 for "socially appropriate" and 1 for "very socially appropriate".

- HIGH_IEQ/LOW_IEQ: Little differences at the end

Conclusion

- Variation of norm-relevant information can shift individual beliefs about appropriateness of wage inequality
- Example from practice: “Recommended distributions”
- More than 20% in companies exceeding 500 employees use recommended distributions of performance evaluations in Germany (Kampkötter and Sliwka, 2016)
- Recommended distributions are not directly enforced
- Yet, they may serve as a means to establish a norm for the desired degree of grade and wage differentiation

Conclusion

- But: Employers' heterogeneous responses to norm information
- Here: Cues about **injunctive norm** for wage differentiation and **empirical observations** differ from each other
- For a social norm to emerge, both empirical and normative expectations have to match (Bicchieri and Dimant 2022, Bicchieri 2023)
- Monitoring and a stricter enforcement of the desired level of wage inequality by the organization might be necessary
- Sufficiently long time horizon might be required

**Thank you for your
attention!**