

A new gender gap in remote working?

The role of occupational characteristics across 30 European countries

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Ambiguous consequences of flexible work

Flexible work is an arrangement that allows employees to make choices influencing when, where, and for how long they engage in work-related tasks

- It increases autonomy and decreases monitoring (ter Hoeven & van Zoonen, 2015)
- Reduces commuting time (Nagler et al., 2024)
- Increases job satisfaction and well-being (Chandola et al., 2019)
- But reduces social interaction at the workplace (Mergener & Trübner, 2022)

The consequences are gendered

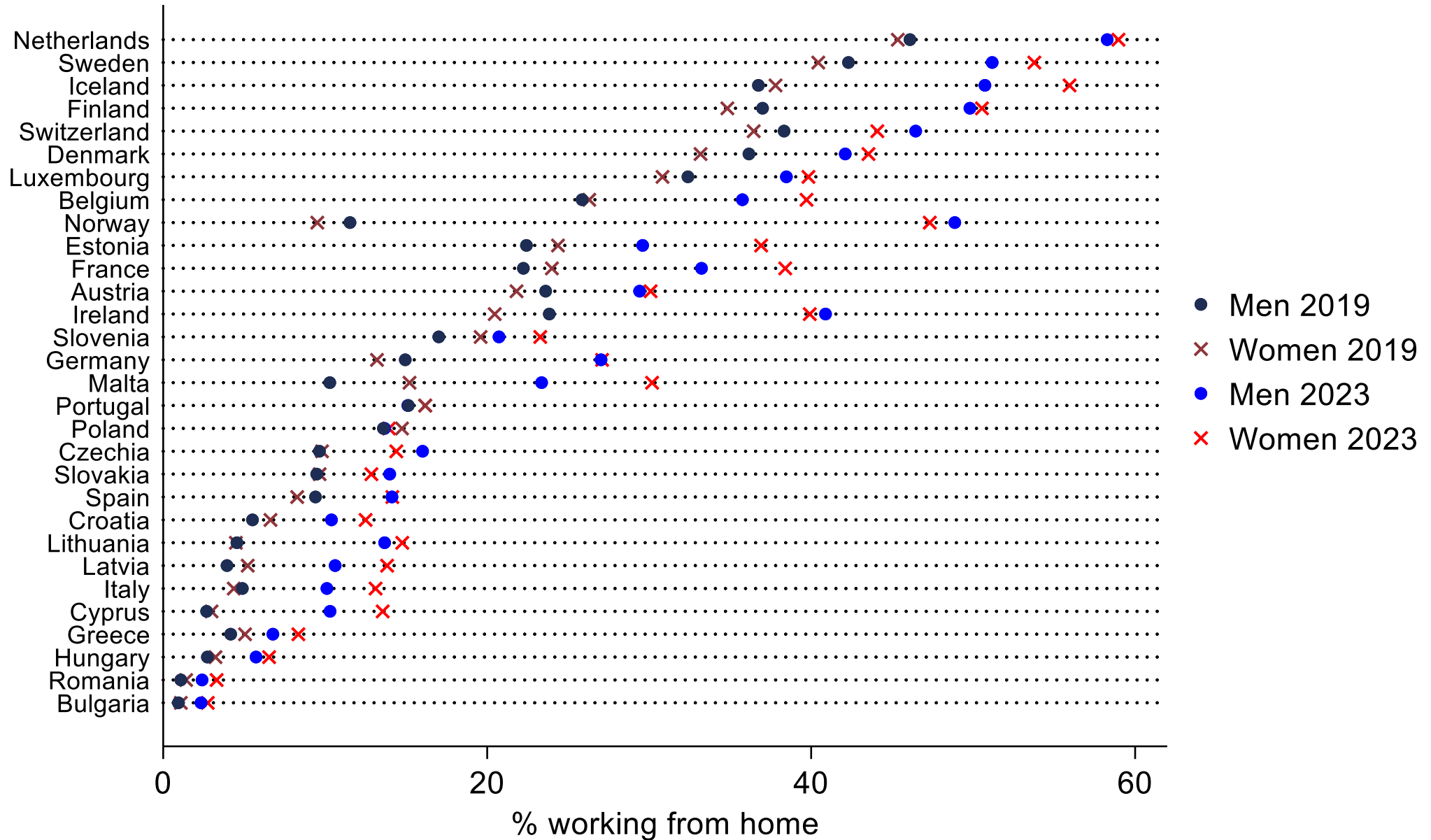
Women

- Can return to work faster after childbirth (Chung & van der Horst, 2018)
- Experience lower work-family conflict (Laß & Wooden, 2023)
- Do even more housework and childcare (Wang & Cheng, 2023; Leshchenko & Chung, 2025)

Men

- Participate more in some childcare tasks (Kuang et al., 2025)
- Increase paid work hours (Lott & Chung, 2016; Lyttelton et al., 2022)
- Especially when flexibility stigma is high (Leshchenko, 2026)

Gendered expansion of remote work



What drives the gender gap in remote work?

Pre-pandemic evidence:

- Occupational gender segregation (Kley & Reimer, 2023; López-Igual & Rodríguez-Modroño, 2020)
- Managers, skilled professionals, clerical, and higher-educated workers are more likely to work remotely than manual workers or those in the social and service sectors (Sostero et al., 2020)

Research questions

- How did the gender gap in remote working change between 2019 and 2023 in Europe?
- How is the gender gap in remote working shaped by individual and occupational characteristics, such as skill level, work logic, and the share of female employees?

Contribution

- Examination of gender variation in remote work over time
- Acknowledgement of structural and cultural contexts that can shape decisions on work location
- Application of Oaxaca–Blinder decomposition to quantify the contribution of individual, occupational, and firm composition to gender differences

Theoretical background

Gender-specific patterns in remote work

Structural explanation (Manser & Brown, 1980)

Gender differences in wages and career prospects can translate into lower bargaining power within households. Remote work may reinforce this by increasing women's availability for domestic responsibilities.

Cultural explanation (West & Zimmerman, 1987)

Gender roles are actively performed in everyday life. Norms around women as primary caregivers persist, leading to remote work being used as a strategy to reconcile paid work and family responsibilities.

Flexibility stigma

negative perceptions of workers who use flexible working arrangements

- Men who request flexibility experience wage and career penalties (Matysiak et al., 2025)
- Small premium for fathers, not mothers, who request flexibility (Munsch, 2016)
- Remote workers are perceived as less committed to work (Cha et al., 2025)
- Lower probability of using remote work due to expectations to be physically present and the fear of career hindrance (Chung, 2020; Abendroth et al., 2022)



Who works more remotely?

- Men are more likely to hold positions with remote work access
- For women, remote work helps combine work and family

H1a: Before the COVID-19 pandemic, similar shares of men and women worked remotely

- Due to COVID-19, stigma and access restrictions to remote work might have been reduced, allowing women to take even more advantage of it

H1b: In 2023, women were more likely to work remotely than men

Occupational groups and flexibility

- Highly educated and those in high-prestige occupations usually can work remotely
- Those in service, teaching and healthcare can do less tasks at home (Minkus et al., 2022)

Oesch class schema (2006)

Vertical and horizontal occupational characteristics

Vertical: Marketable skill levels

- 1: Professional/managerial
- 2: Associate professional/managerial
- 3: General/vocational
- 4: Low/unskilled

Horizontal: Work logics

- 1: Interpersonal service
- 2: Technical
- 3: Organizational

Vertical characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2019				2023			
	Men		Women		Men		Women	
	Prevalence	Remote work	Prevalence	Remote work	Prevalence	Remote work	Prevalence	Remote work
Level 1 (highest)	25	40	32	34	28	56	36	47
Level 2	16	23	17	18	16	34	17	32
Level 3	40	9	39	9	38	11	36	15
Level 4 (lowest)	19	3	12	3	18	3	11	3
Total	100%		100%		100%		100%	



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Total	100%		100%		100%		100%	

H2a: Compared to low-skill occupations, individuals in occupations with medium or higher skills exhibit a greater likelihood of remote work

H2b: The higher the skill level of an occupation, the greater its contribution to explaining the gender gap in remote work

Horizontal characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2019				2023			
	Men		Women		Men		Women	
	Prevalence	Remote work	Prevalence	Remote work	Prevalence	Remote work	Prevalence	Remote work
Interpersonal service	21	19	53	16	20	22	52	20
Technical	56	12	16	15	56	19	16	25
Organizational	23	30	31	22	24	44	32	42
Total	100%		100%		100%		100%	



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Organizational	23	30	31	22	24	44	32	42
Total	100%		100%		100%		100%	

H2c: Compared to interpersonal service, individuals in organizational occupations, followed by technical occupations, exhibit a greater likelihood of remote work

H2d: Organizational occupations contribute the most to explaining the gender gap in remote work, followed by technical occupations, while interpersonal service occupations contribute little or not at all

Intersection of vertical and horizontal characteristics

Vertical characteristics: more remote work among medium-skilled

Horizontal characteristics: more remote work among organizational occupations

H2e: Medium-skilled organizational occupations contribute the most to explaining the gender gap in remote work use



Cultural context and flexibility

- Women in female-dominated occupations are less likely to work remotely, but there is no association for men (Minkus et al., 2022)
- Remote work in female-dominated occupations should be higher because of more care responsibilities
- Potential reduction in flexibility stigma, mainly benefiting women

H3: Female-dominated occupations explain a larger share of the gender gap in remote work than male-dominated or gender-integrated occupations.

Data and Methods

Data and sample

Dataset: European Union Labor Force Surveys (LFS)

Individuals: Employed or self-employed aged 25–54, excluding respondents on parental leave

Countries: EU-27, plus Iceland, Norway, and Switzerland

Years: 2019 (n=1,105,817) and 2023 (n=807,071)

Remote work measure

“When answering the following question, please think about the four weeks from [date] to [date]: How often did you work from home during this time?”

- On at least half of all working days (5% in 2019 vs 10% in 2023)
 - Less often (10% in 2019 vs 15% in 2023)
 - Never
- } Combined

Our measure: binary

never remote work vs any remote work

Occupational characteristics measure

Original: 17-class schema developed by Oesch (2006)

Possible to construct from ISCO-08 2-digit codes

This study: adopted to 11 classes. Removed armed forces, independent logic, and unskilled clerks (who are collapsed with skilled clerks)

Technical	Female share	Organizational	Female share	Interpersonal	Female share
1: Technical experts	27	5: Higher-grade managers and administrators	46	8: Socio-cultural professionals	71
2: Technicians	18	6: Lower-grade managers and administrators	54	9: Socio-cultural semi-professionals	69
3: Skilled manual	15	7: (Low-)skilled clerks	66	10: Skilled service	63
4: Low-skilled manual / agricultural	22			11: Low-skilled service	82

Other explanatory factors

Individual-level:

Age: 25-39 and 40-54 years

Education: low, medium, high

Full-time vs part-time employment

Self-employment

Commuting

Living in a city, town, or rural area

Company-level:

Workplace size: 1-9, 10-19, 20-49, 50 or more employees

Analytical strategy

- 1) Descriptive findings on the gender gap in remote work
- 2) Predicting remote work use by applying linear probability models for dichotomous outcomes.

Separately for women, men, and the years 2019 and 2023

- 3) Determining the extent to which gender differences could be attributed to compositional differences between individuals and the companies they work for, and to occupational characteristics by applying decomposition methods (Oaxaca-Blinder)

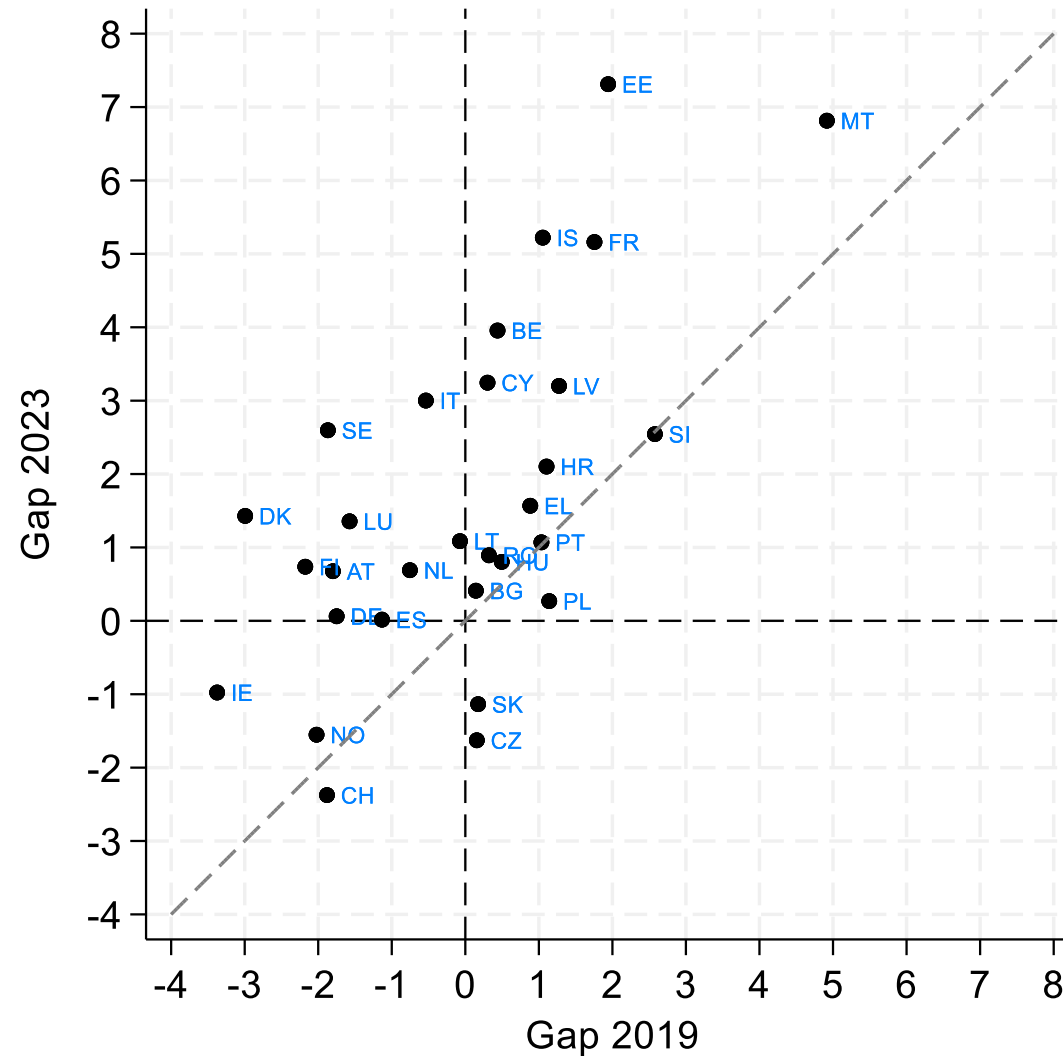
For 2 and 3

separate models are built for horizontal and vertical characteristics, and 11 classes

Results

The gender gap in remote work

Gap: women - men

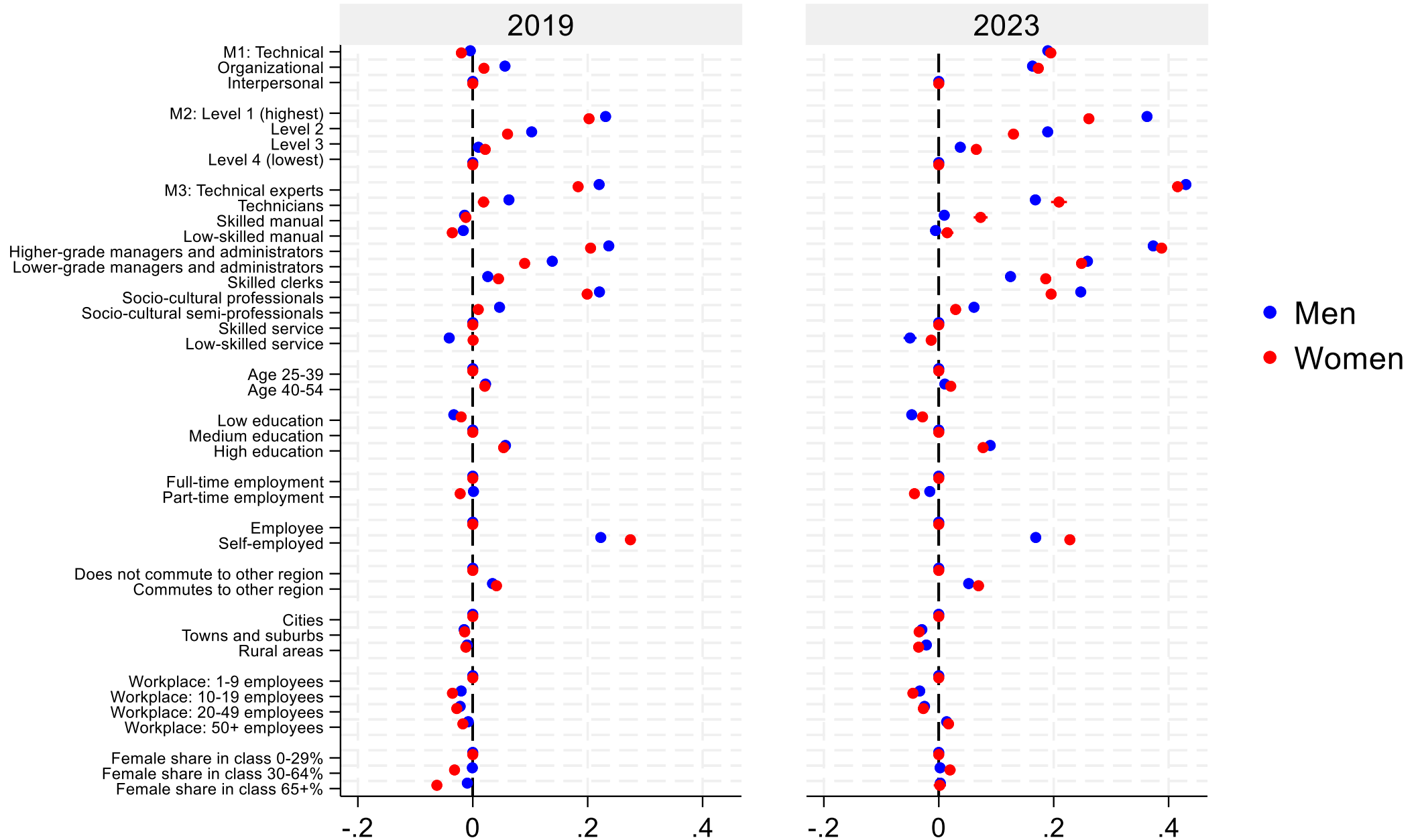




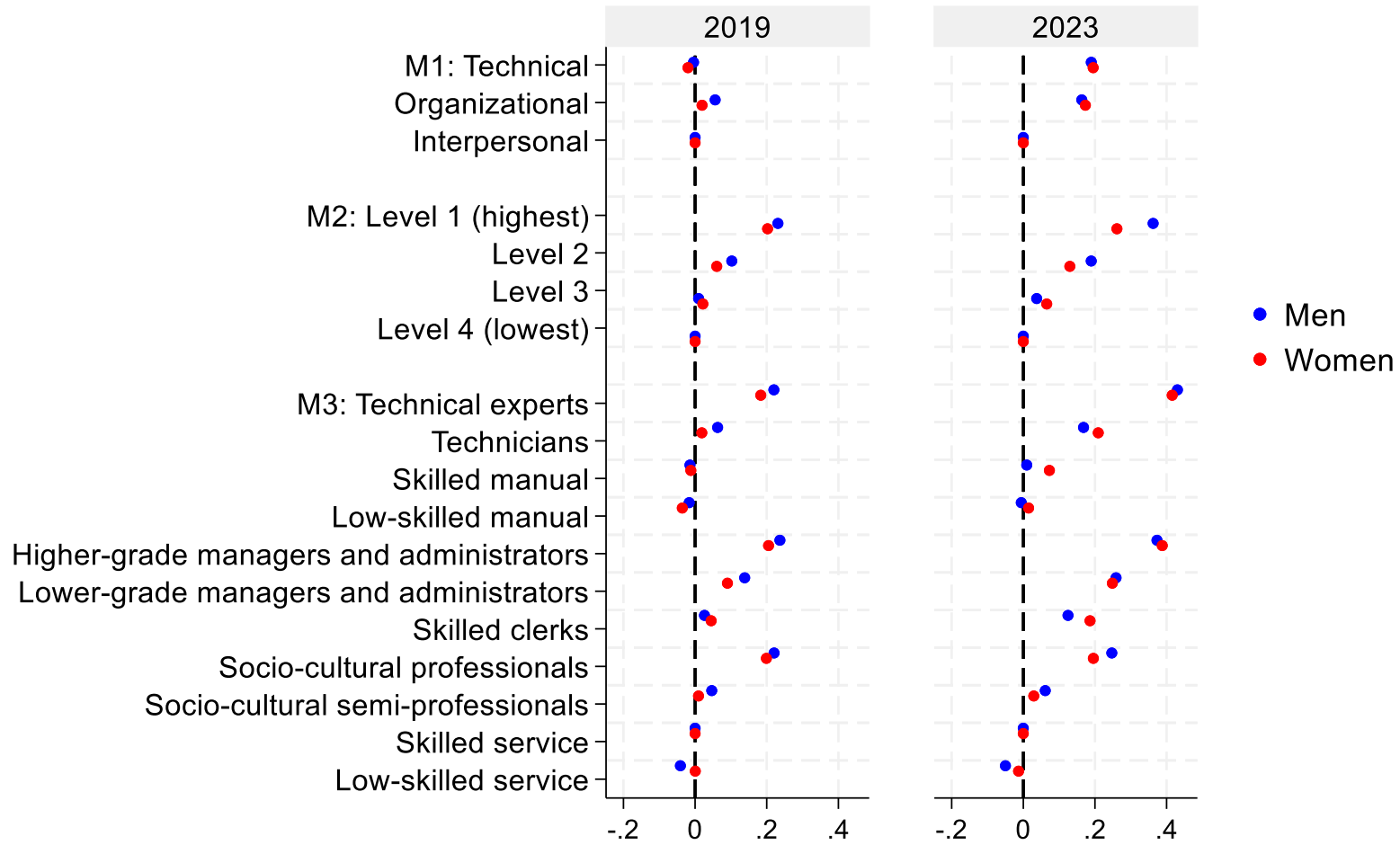
Gender gaps in remote work across occupations

		2019			2023		
		Men	Women	Gap	Men	Women	Gap
Technical	1: Technical experts	39	37	-2	62	62	0
	2: Technicians	18	16	-2	30	34	4
	3: Skilled manual	9	13	4	9	14	5
	4: Low-skilled manual / agricultural	3	2	-1	3	2	-1
Organizational	5: Higher-grade managers and administrators	41	36	-5	57	58	1
	6: Lower-grade managers and administrators	28	22	-6	41	40	-1
	7: (Low-)skilled clerks	9	10	1	21	27	6
Interpersonal	8: Socio-cultural professionals	39	32	-7	45	37	-8
	9: Socio-cultural semi-professionals	19	13	-6	23	19	-4
	10: Skilled service	8	7	-1	9	8	-1
	11: Low-skilled service	4	3	-1	4	3	-1
	Total	18	18	0	26	28	2

The probability of remote work use



The probability of remote work use is higher

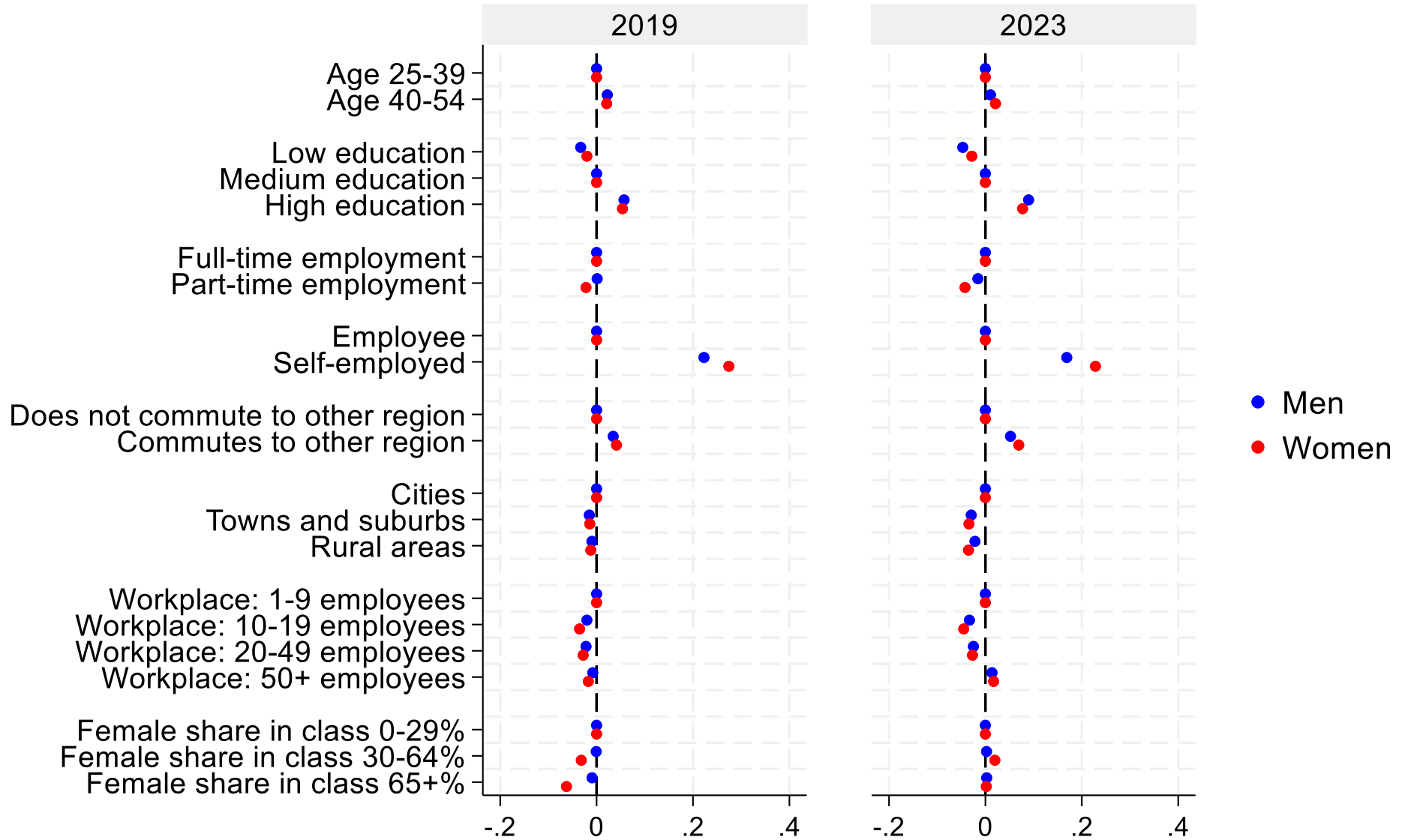


H2a: in medium and high-skill occupations



H2c: in organizational occupations

The probability of remote work use



Decomposition analysis

	2019			2023		
	Men	Women	Difference	Men	Women	Difference
Value	0.1774	0.1773	-0.0001, p=0.879	0.2594	0.2782	b=0.0189, p < 0.001

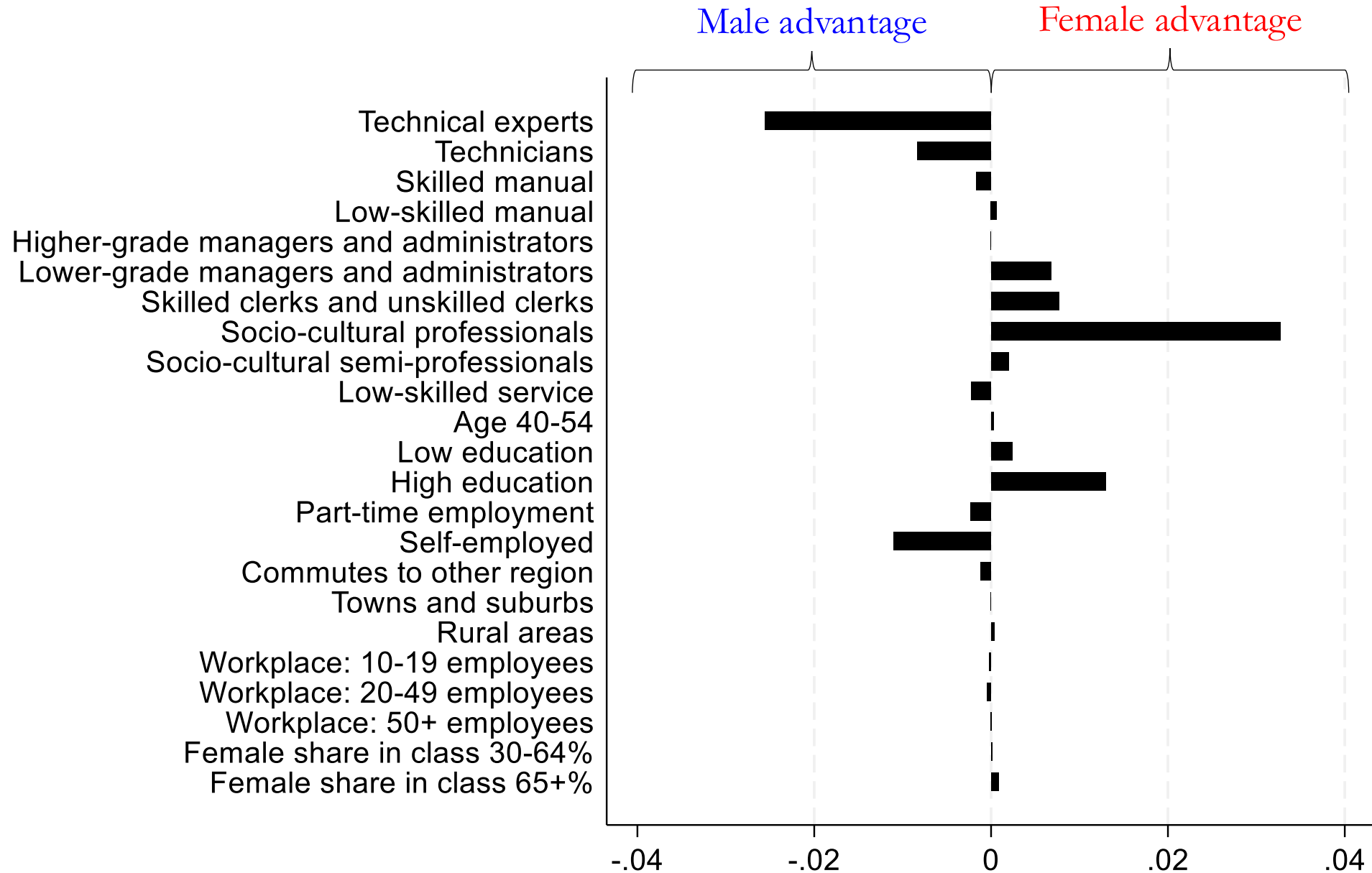
H1a: Before COVID-19, similar shares of men and women worked remotely



H1b: In 2023, women were more likely to work remotely than men



Decomposition analysis (2023)



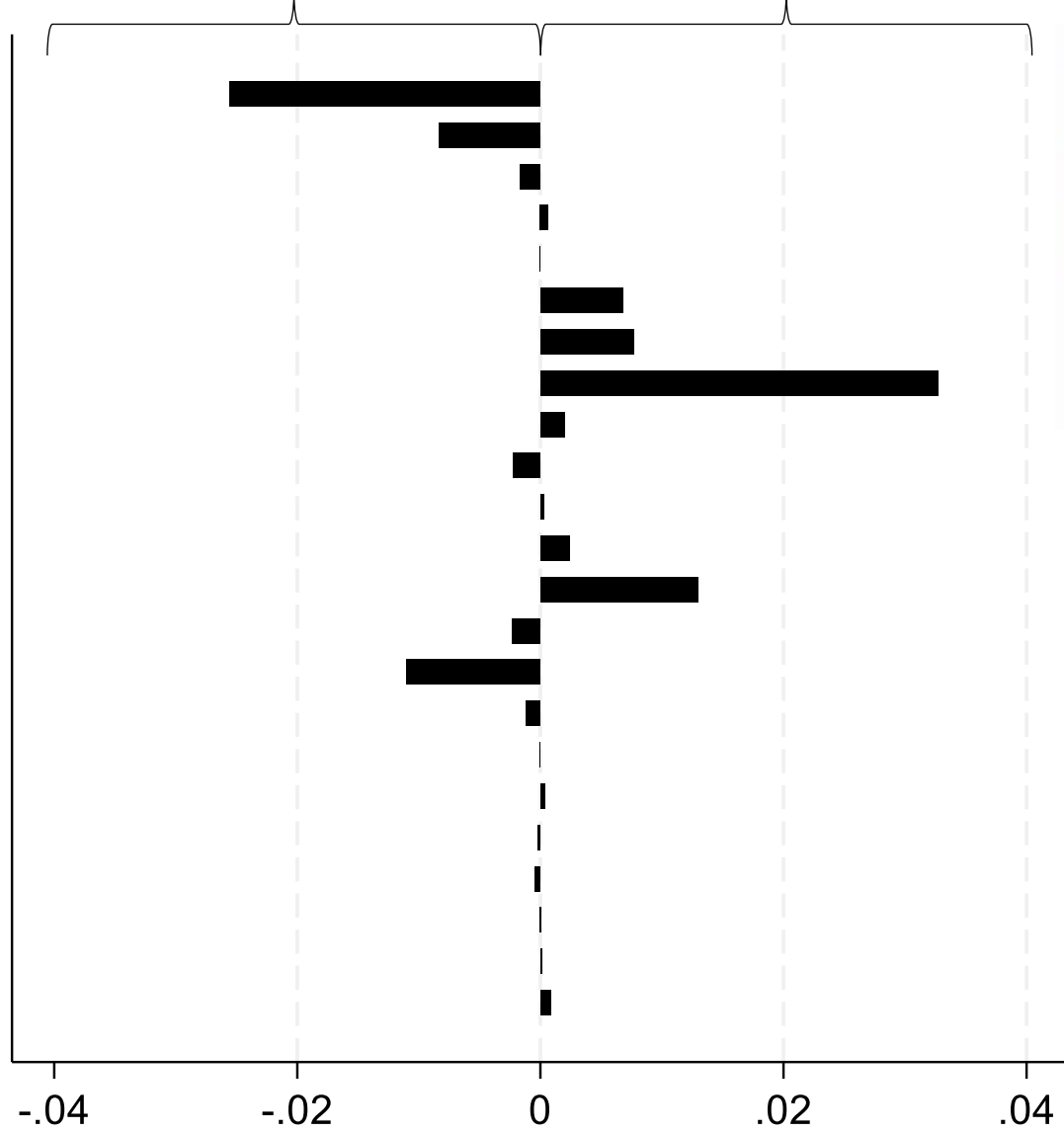
Decomposition analysis (2023)

Male advantage

Female advantage

- Technical experts
- Technicians
- Skilled manual
- Low-skilled manual
- Higher-grade managers and administrators
- Lower-grade managers and administrators
- Skilled clerks and unskilled clerks
- Socio-cultural professionals
- Socio-cultural semi-professionals
- Low-skilled service
- Age 40-54
- Low education
- High education
- Part-time employment
- Self-employed
- Commutes to other region
- Towns and suburbs
- Rural areas
- Workplace: 10-19 employees
- Workplace: 20-49 employees
- Workplace: 50+ employees
- Female share in class 30-64%
- Female share in class 65+%

H2b: Medium and high-skilled occupations explain more of the gender gap

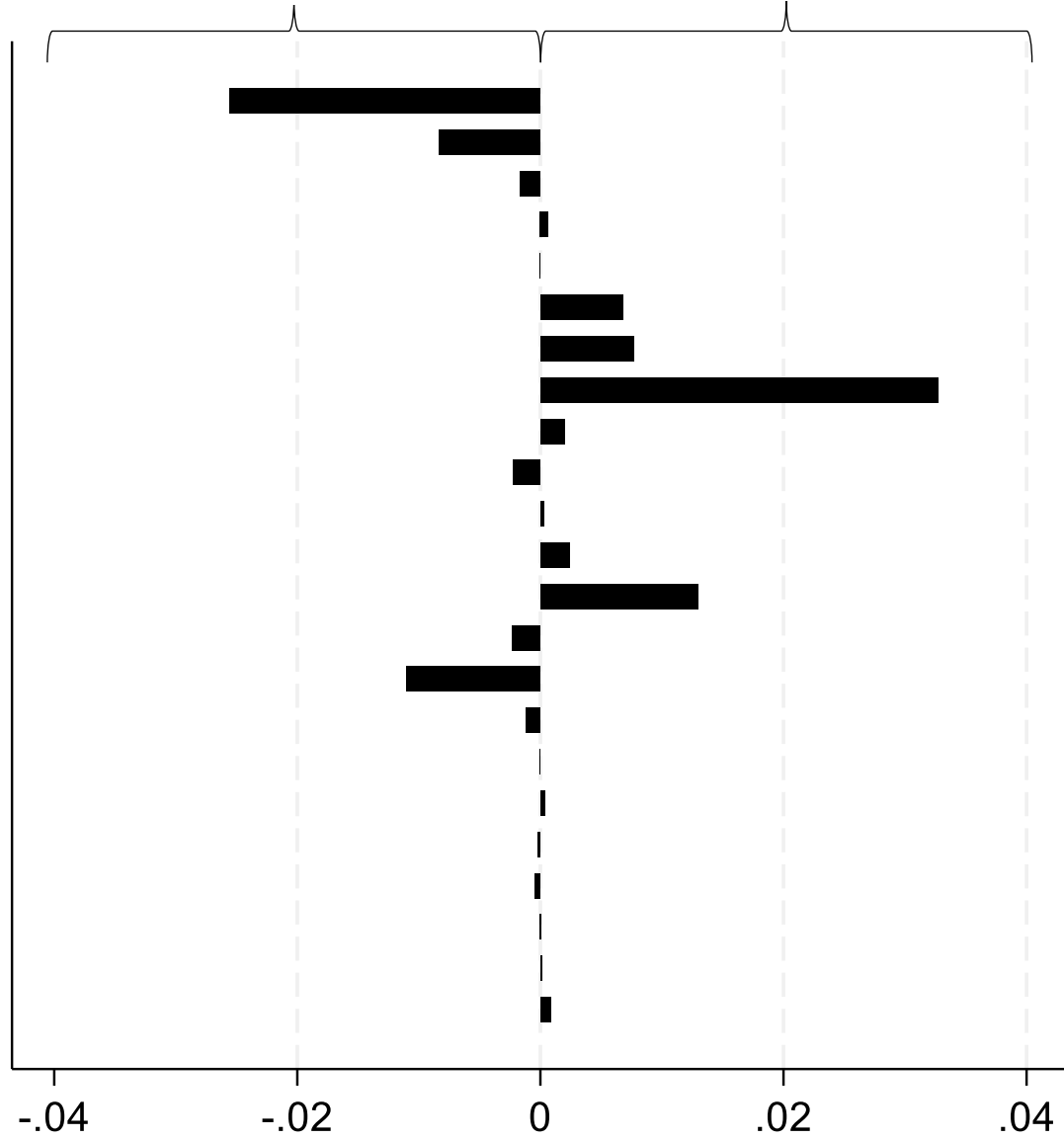


Decomposition analysis (2023)

Male advantage

Female advantage

- Technical experts
- Technicians
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- Higher-grade managers and administrators
- Lower-grade managers and administrators
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H2d: Organizational occupations explain more of the gender gap



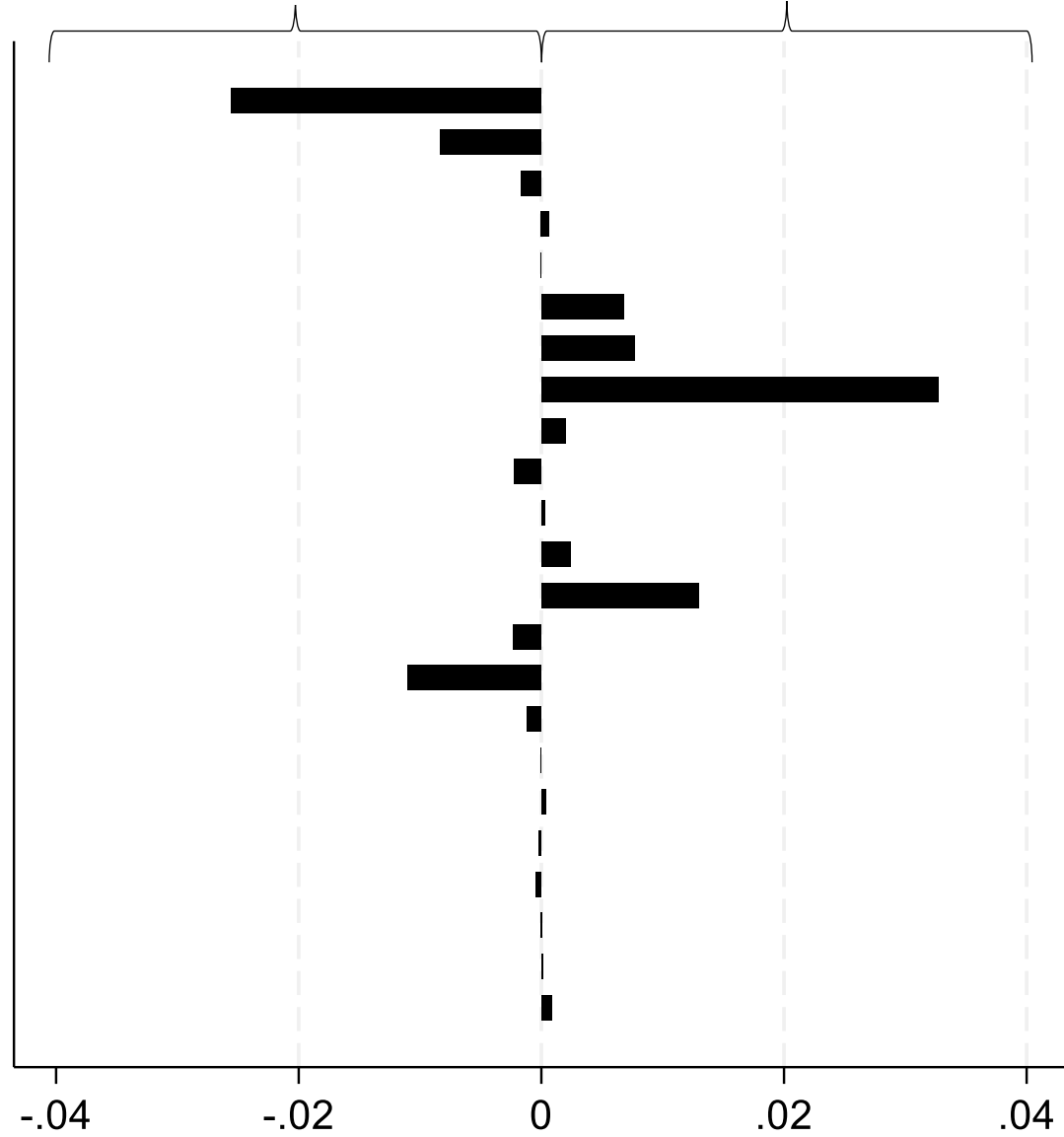
Decomposition analysis (2023)

Male advantage

Female advantage

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- Skilled manual
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- Higher-grade managers and administrators
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H2e: Medium-skilled organizational occupations explain more of the gender gap

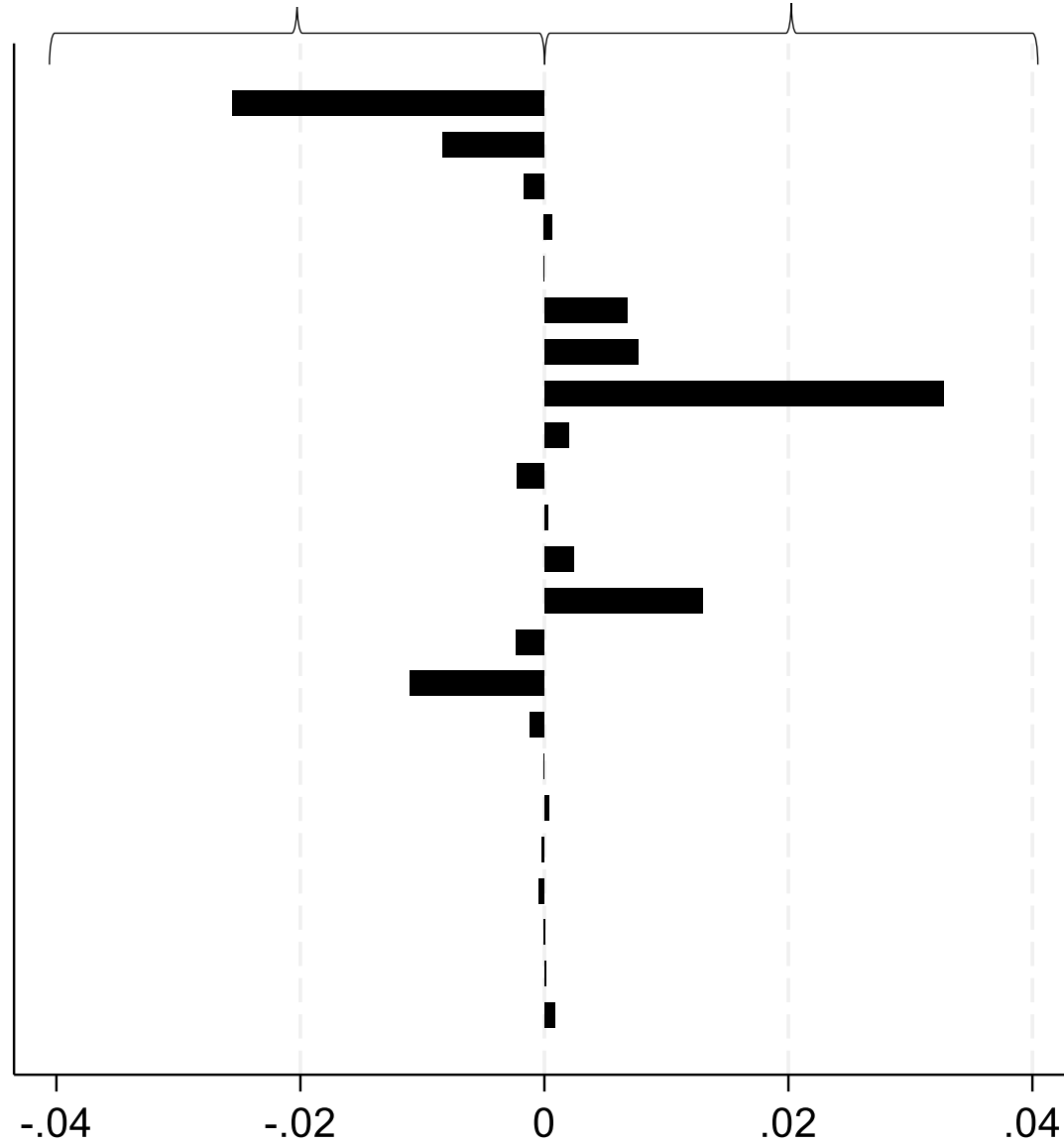


Decomposition analysis (2023)

Male advantage

Female advantage

- Technical experts
- Technicians
- Skilled manual
- Low-skilled manual
- Higher-grade managers and administrators
- Lower-grade managers and administrators
- Skilled clerks and unskilled clerks
- Socio-cultural professionals
- Socio-cultural semi-professionals
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H2e: Female-dominated occupations explain more of the gender gap



Conclusion

- Change in the gender composition of remote workers: post-COVID, more women than men work remotely
- The increase happened in medium and high-skilled occupations and in organizational and technical occupations
- The female advantage in remote work is due to high-skilled interpersonal occupations; high-skilled technical occupations reduce it
- The share of female workers did not explain the gender gap in remote work

Discussion

New gender gap in remote work?
More women are using it than men



Different expectations in the workplace
presence, temporal availability, and
technological adoption



The gap depends on national and
occupational contexts



Firms need to be sensitive to different
cultures, establish equitable rules, and
ensure transparent communication



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*Thank
you*

Content

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Gendered expansion of flexible work

Theoretical background

Vertical characteristics

Horizontal characteristics

Data and methods

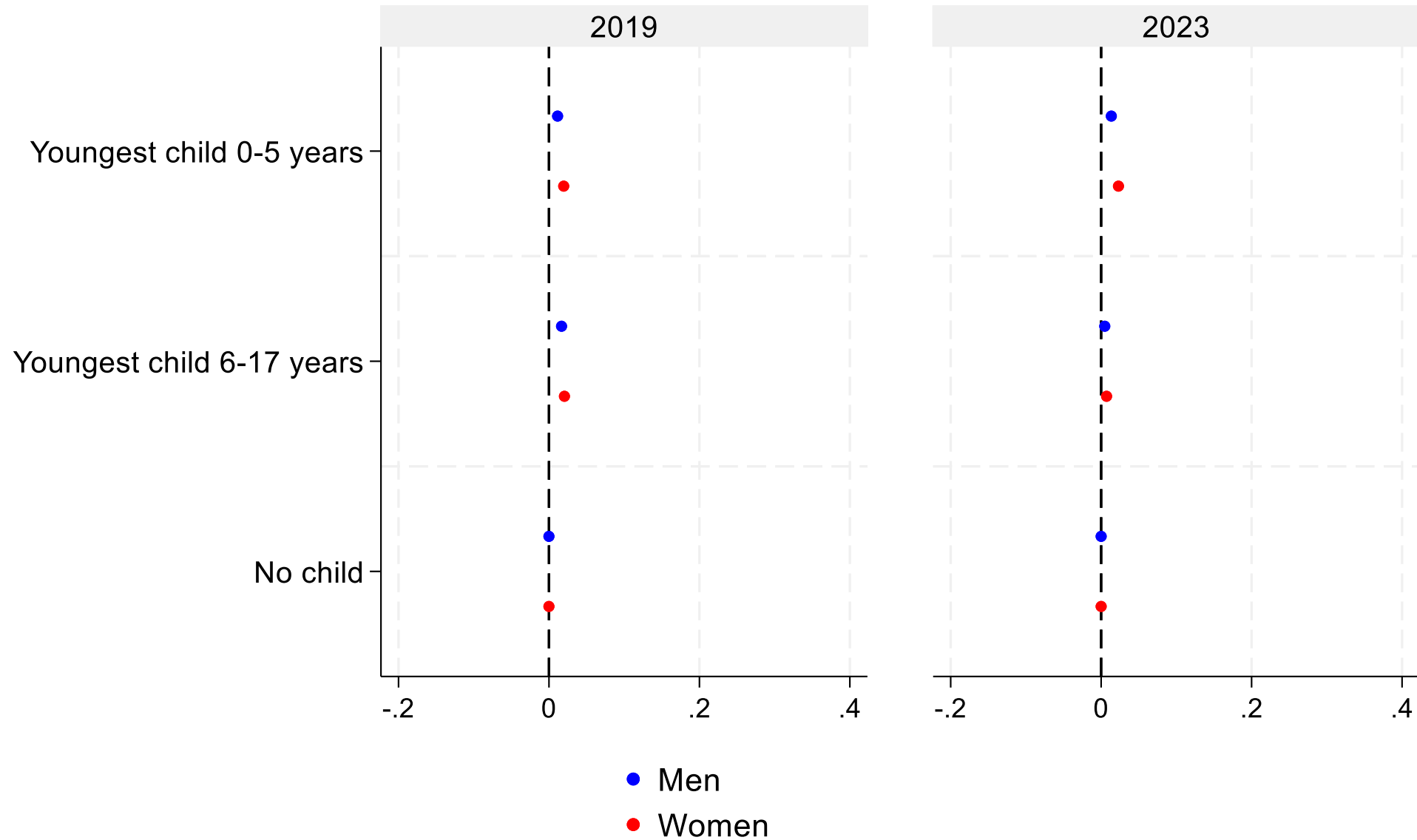
Occupations measure

Gender gap in remote work

Probability of remote work use

Decomposition analysis

Effects of children



Logic	Occupational class	Distribution (%)	Female share in class (%)	Remote work 2019 (%)	Remote work 2023 (%)	Change in remote work (pp.)
Technical	1: Technical experts	7	27	38	62	24
	2: Technicians	4	18	18	31	13
	3: Skilled manual	14	15	9	10	1
	4: Low-skilled manual / agricultural	12	22	2	3	1
Organizational	5: Higher-grade managers and administrators	11	46	39	57	18
	6: Lower-grade managers and administrators	8	54	25	40	15
	7: (Low-)skilled clerks	8	66	10	25	15
Interpersonal	8: Socio-cultural professionals	12	71	34	39	5
	9: Socio-cultural semi-professionals	4	69	15	21	6
	10: Skilled service	16	63	8	8	0
	11: Low-skilled service	3	82	3	3	0
	Total / Average	100	46	18	27	9



	Men	Women
Technical experts	9	4
Technicians	7	2
Skilled manual	22	4
Low-skilled manual	17	6
Higher-grade managers	11	11
Lower-grade managers	7	9
Skilled clerks	5	12
Socio-cultural professionals	7	19
Socio-cultural semi-professionals	2	5
Skilled service	11	21
Low-skilled service	1	6
Full-time employment	94	78
Part-time employment	6	22
Low education	14	10
Medium education	49	40
High education	37	50



	Men	Women
Employee	84	90
Self-employed	16	9
Does not commute to other region	87	89
Commutes to other region	13	11
Age 25–39	48	45
Age 40–54	52	55
1–9 employees	23	24
10–19 employees	12	12
20–49 employees	14	16
50+ employees	37	37
Others / not stated	13	11
Cities	40	41
Towns and suburbs	32	32
Rural areas	28	27
0–29%	49	13
30–64%	34	38
65+%	17	49
No child	46	43
Youngest child 0–5	18	15
Youngest child 6–17	22	27

Table 2 *The 17-Class (and Collapsed Eight-Class) Schema Based on Different Work Logics*

Self-employed		Employees			
Independent work logic		Technical work logic	Organizational work logic	Interpersonal service work logic	
Large employers (>9) Firm owners Salesmen	Self-employed professionals Lawyers Accountants	Technical experts Mechanical engineers Computing professionals	Higher-grade managers and administrators Business administrators Financial managers	Sociocultural professionals University teachers Journalists	Professional/ managerial
		Technicians Electrical technicians Safety inspectors	Associate managers and administrators Managers in small firms Tax officials	Sociocultural semi-professionals Primary school teachers Social workers	
Petite bourgeoisie with employees (<9) Restaurant owners Farmers		Skilled crafts Machinery mechanics Carpenters	Skilled office Secretaries Bank tellers	Skilled service Children's nurses Cooks	Generally/ vocationally
Petite bourgeoisie without employees Shopkeepers Hairdressers		Routine operatives Assemblers Machine operators	Routine agriculture Farm hands Loggers	Routine office Mail sorting clerks Call centre employees	
Oesch (2006)				Routine service Shop assistants Home helpers	

Marketable skills: