

# 1 Figures

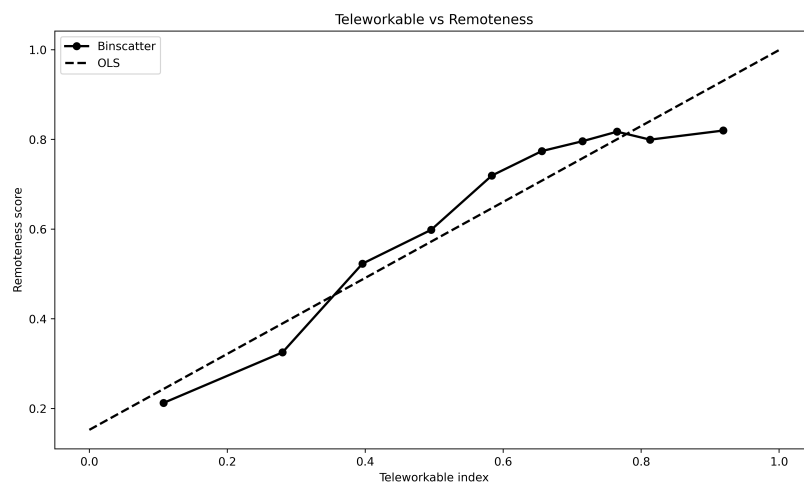


Figure 1: Remote v. Teleworkabe Scores

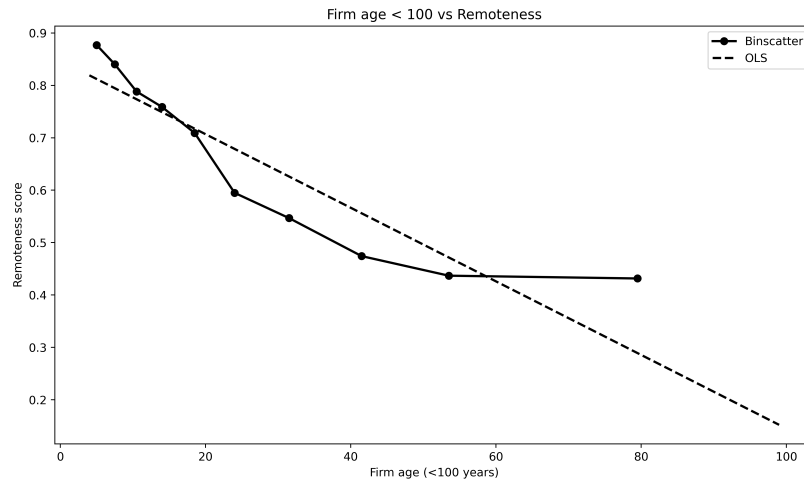


Figure 2: Remote v. Firm Age (< 100 employees)

## 2 Table of Means

Table 1: Table of Means

	Startup	Non-Startup	All
<b>Panel A: Firm-level</b>			
Growth	0.20 (0.31)	0.06 (0.16)	0.09 (0.22)
Leave	0.26 (0.31)	0.21 (0.28)	0.22 (0.29)
Join	0.35 (0.32)	0.17 (0.18)	0.22 (0.24)
Teleworkable Score (0–1)	0.67 (0.18)	0.54 (0.25)	0.57 (0.24)
Remote Score (0–1)	0.85 (0.29)	0.57 (0.41)	0.64 (0.40)
Employees (Count)	271 (1432)	2740 (9555)	2126 (8380)
Age	7 (2)	43 (34)	34 (33)
Rent (\$/sq ft)	49 (21)	37 (19)	40 (20)
Centrality Score	1401 (1794)	945 (1295)	1058 (1449)
Seniority Levels (Count)	3.63 (0.76)	3.86 (0.49)	3.81 (0.58)
N	10450	31530	41980
<b>Panel B: User-level</b>			
Total Contributions (percentile rank 1–100)	61.67 (27.19)	47.32 (28.92)	50.27 (29.16)
Restricted Contributions (percentile rank 1–100)	64.57 (26.73)	45.96 (29.40)	49.78 (29.84)
N	10896	42124	53020

*Notes:* Each cell shows the mean on the first line and the standard deviation (SD) beneath it in parentheses. Decimal precision reflects each variable's scale. *Growth*, *Leave*, and *Join* rates are fractions between 0 and 1. *Teleworkable* and *Remote* scores are index values between 0 and 1. The sample period spans 2016 H2–2022 H1 at the firm level and 2017 H1–2022 H1 at the user level; *N* denotes the number of observations in each subgroup.

### 3 Mechanisms

We begin with the “base” specification:

$$y_{it} = \alpha + \beta_1 (\text{remote}_i \times \text{covid}_t) + \beta_2 (\text{remote}_i \times \text{covid}_t \times \text{startup}_i) \\ + \delta (\text{covid}_t \times \text{startup}_i) + \text{FE}_{it} + \varepsilon_{it},$$

which captures how the outcome responds to remote work during COVID and whether that effect differs in young firms.

In the **rent** “mirror” model we add two additional channels:

$$y_{it} = \alpha + \beta_1 (\text{remote}_i \times \text{covid}_t) + \beta_2 (\text{remote}_i \times \text{covid}_t \times \text{startup}_i) \\ + \delta (\text{covid}_t \times \text{startup}_i) + \gamma_1 (\text{covid}_t \times \text{rent}_i) + \gamma_2 (\text{remote}_i \times \text{covid}_t \times \text{rent}_i) \\ + \text{FE}_{it} + \varepsilon_{it},$$

so that  $\gamma_1$  and  $\gamma_2$  capture how both the baseline COVID effect and the remote-work premium vary with local office rents.

Likewise, the **centrality** (HHI) model adds:

$$y_{it} = \alpha + \beta_1 (\text{remote}_i \times \text{covid}_t) + \beta_2 (\text{remote}_i \times \text{covid}_t \times \text{startup}_i) \\ + \delta (\text{covid}_t \times \text{startup}_i) + \gamma_1 (\text{covid}_t \times \text{hhi}_i) + \gamma_2 (\text{remote}_i \times \text{covid}_t \times \text{hhi}_i) \\ + \text{FE}_{it} + \varepsilon_{it}.$$

By turning on each check-mark (rent, centrality, seniority) one at a time—and then in combination—we “mirror” the base COVID×Remote specification through different mechanisms.

### 3.1 User Productivity Mechanisms

Table 2: User Productivity Mechanisms

Specification	Total Contributions							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Baseline	✓	✓	✓	✓	✓	✓	✓	✓
Rent		✓		✓		✓		✓
HHI			✓	✓			✓	✓
Seniority					✓	✓	✓	✓
<b>Panel A: OLS</b>								
Remote $\times$ 1(Post)	-2.66*** (0.99)	0.18 (2.33)	-2.52* (1.30)	1.14 (2.45)	12.69 (11.42)	14.73 (11.41)	16.23 (11.83)	19.07 (11.83)
Remote $\times$ 1(Post) $\times$ Startup	9.18*** (2.69)	8.50*** (2.74)	8.33*** (2.92)	8.47*** (2.92)	8.09*** (2.76)	7.93*** (2.79)	7.60*** (2.95)	7.75*** (2.95)
N	52,995	51,392	51,392	51,392	51,392	51,392	51,392	51,392
<b>Panel B: IV</b>								
Remote $\times$ 1(Post)	-17.36** (8.72)	-662.28 (1258.52)	123.22 (577.60)	-312.49 (1438.40)	-21312.51 (66029.30)	160.32 (922.16)	957.68 (3030.76)	-267.63 (3882.03)
Remote $\times$ 1(Post) $\times$ Startup	31.85*** (12.28)	117.04 (170.78)	211.08 (709.68)	238.68 (398.71)	-47.81 (427.16)	70.47 (66.79)	-107.21 (379.62)	227.12 (1235.02)
N	52,995	47,771	47,771	47,771	47,771	47,771	47,771	47,771
KP rk Wald F	26.05	0.09	0.02	0.04	0.03	0.08	0.05	0.00

### 3.2 Firm Mechanisms

Table 3: Firm Scaling Mechanisms

Specification	Growth							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Baseline	✓	✓	✓	✓	✓	✓	✓	✓
Rent		✓		✓		✓		✓
HHI			✓	✓			✓	✓
Seniority					✓	✓	✓	✓
<b>Panel A: OLS</b>								
Remote $\times \mathbb{1}(\text{Post})$	0.00 (0.00)	0.01 (0.01)	-0.02*** (0.01)	-0.02 (0.01)	0.03 (0.02)	0.03 (0.02)	-0.02 (0.03)	-0.02 (0.03)
Remote $\times \mathbb{1}(\text{Post}) \times \text{Startup}$	0.07*** (0.02)	0.07*** (0.03)	0.06** (0.02)	0.06** (0.03)	0.07*** (0.02)	0.07*** (0.02)	0.06*** (0.02)	0.06** (0.02)
N	41,980	38,760	38,760	38,760	38,760	38,760	38,760	38,760
<b>Panel B: IV</b>								
Remote $\times \mathbb{1}(\text{Post})$	0.01 (0.01)	-0.13*** (0.05)	-0.05* (0.03)	-0.17*** (0.05)	-0.01 (0.07)	-0.14* (0.08)	-0.15** (0.07)	-0.27*** (0.08)
Remote $\times \mathbb{1}(\text{Post}) \times \text{Startup}$	0.21** (0.10)	0.20* (0.11)	0.08 (0.11)	0.07 (0.11)	0.17 (0.10)	0.16 (0.10)	0.09 (0.11)	0.09 (0.11)
N	41,980	38,760	38,760	38,760	38,760	38,760	38,760	38,760
KP rk Wald F	16.53	10.68	10.28	8.00	9.25	8.00	7.75	6.33

## 4 Firm Scaling

### 4.1 OLS

Table 4: Firm Scaling OLS

**Panel A: All Outcomes**

	Outcome		
	Growth	Join	Leave
Remote $\times$ $\mathbb{1}(\text{Post})$	0.00 (0.00)	0.01** (0.00)	0.02*** (0.00)
Remote $\times$ $\mathbb{1}(\text{Post}) \times \text{Startup}$	0.07*** (0.02)	0.05* (0.03)	-0.01 (0.01)
N	41,980	41,980	41,980

**Panel B: FE Variants**

	Growth			
	(1)	(2)	(3)	(4)
Remote $\times$ $\mathbb{1}(\text{Post})$	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Remote $\times$ $\mathbb{1}(\text{Post}) \times \text{Startup}$	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Time FE			✓	✓
Firm FE		✓		✓
N	41,980	41,980	41,980	41,980

## 4.2 Instrumental Variables

Table 5: Firm Scaling IV

### Panel A: All Outcomes

	Outcome		
	Growth	Join	Leave
Remote $\times$ $\mathbb{1}(\text{Post})$	0.01 (0.01)	0.04*** (0.01)	0.05*** (0.01)
Remote $\times$ $\mathbb{1}(\text{Post}) \times \text{Startup}$	0.21** (0.10)	0.23** (0.11)	0.09 (0.06)
N	41,980	41,980	41,980
KP rk Wald F	16.53	16.53	16.53

### Panel B: FE Variants

	Growth			
	(1)	(2)	(3)	(4)
Remote $\times$ $\mathbb{1}(\text{Post})$	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Remote $\times$ $\mathbb{1}(\text{Post}) \times \text{Startup}$	0.20 (0.10)	0.21** (0.10)	0.20** (0.10)	0.21** (0.10)
Time FE			✓	✓
Firm FE		✓		✓
N	41,980	41,980	41,980	41,980
KP rk Wald F	8.26	16.53	8.26	16.53

### 4.3 First Stage

Table 6: First-Stage Estimates – Firm Scaling

Instrument	Dependent variable	
	Remote $\times$ 1(Post)	Remote $\times$ 1(Post) $\times$ Startup
Teleworkable $\times$ 1(Post)	0.826*** (0.028)	-0.000 (0.000)
Teleworkable $\times$ 1(Post) $\times$ Startup	-0.412*** (0.077)	0.414*** (0.072)
1(Post) $\times$ Startup	0.455*** (0.055)	0.575*** (0.052)
Time FE	✓	✓
Firm FE	✓	✓
Partial F	437.86	16.54
N	41,980	41,980



## 5 User Productivity

### 5.1 OLS

Table 7: User Productivity – OLS

Panel A: All Outcomes

	Outcome	
	Total	Restricted
Remote $\times$ 1(Post)	-2.66*** (0.99)	-1.96** (0.99)
Remote $\times$ 1(Post) $\times$ Startup	9.18*** (2.69)	8.30*** (2.62)
N	52,995	52,995

Panel B: FE Variants

	Total Contributions					
	(1)	(2)	(3)	(4)	(5)	(6)
Remote $\times$ 1(Post)	-1.29 (1.05)	-2.38** (1.01)	-1.29 (1.05)	-2.38** (1.01)	-2.66*** (0.99)	-2.79*** (0.99)
Remote $\times$ 1(Post) $\times$ Startup	2.74 (2.92)	6.19** (2.82)	2.75 (2.92)	6.20** (2.82)	9.18*** (2.69)	9.77*** (2.68)
Time FE			✓	✓	✓	✓
Firm FE		✓		✓	✓	
User FE					✓	
Firm $\times$ User FE						✓
N	53,020	52,995	53,020	52,995	52,995	52,718

## 5.2 Instrumental Variables

Table 8: User Productivity – IV

### Panel A: All Outcomes

	Outcome	
	Total	Restricted
Remote $\times$ $\mathbb{1}(\text{Post})$	-17.36** (8.72)	-19.25** (8.88)
Remote $\times$ $\mathbb{1}(\text{Post}) \times \text{Startup}$	31.85*** (12.28)	34.94*** (12.13)
N	52,995	52,995
KP rk Wald F	26.05	26.05

### Panel B: FE Variants

	Total Contributions					
	(1)	(2)	(3)	(4)	(5)	(6)
Remote $\times$ $\mathbb{1}(\text{Post})$	-306.40 (246.93)	-18.75** (9.01)	-306.96 (247.32)	-18.76** (9.01)	-17.36** (8.72)	-19.30** (8.79)
Remote $\times$ $\mathbb{1}(\text{Post}) \times \text{Startup}$	2265.39 (4881.21)	38.28*** (13.01)	2264.90 (4882.69)	38.30*** (13.02)	31.85*** (12.28)	33.67*** (12.32)
Time FE			✓	✓	✓	✓
Firm FE		✓		✓	✓	
User FE					✓	
Firm $\times$ User FE						✓
N	49,287	52,995	49,287	52,995	52,995	52,718
KP rk Wald F	0.04	27.41	0.04	27.41	26.05	25.60

### 5.3 First Stage

Table 9: First-Stage Estimates – User Productivity

Instrument	Dependent variable	
	Remote $\times$ 1(Post)	Remote $\times$ 1(Post) $\times$ Startup
Teleworkable $\times$ 1(Post)	0.25*** (0.03)	0.00*** (0.00)
Teleworkable $\times$ 1(Post) $\times$ Startup	0.09 (0.05)	0.34*** (0.04)
1(Post) $\times$ Startup	0.14*** (0.04)	0.65*** (0.03)
Time FE	✓	✓
Firm FE	✓	✓
User FE	✓	✓
Partial F	60.08	36.85
N	52,995	52,995