

The Changing Nature of Work: What Can We Learn From Time Use Diaries?

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Motivations

- The rise of remote work in the aftermath of the pandemic has fundamentally reshaped how work is structured.
- This transformation has potential implications for workers, employers and policymakers as it affects commuting behaviour, work life balance, wellbeing and, possibly, productivity.
- Research so far has focused on short term pandemic and post-pandemic shifts in behaviour and their effects.
- The sustained presence of remote working, its implications and motivations warrant further study.

Questions

- 1) How has working from home changed during and up to three years after the first strict lockdown?
- 2) Has a new equilibrium been reached?
- 3) Why does remote work remain more prevalent than before the pandemic?

This paper

- We use new time use diary data collected by the UK's Office for National Statistics (ONS) between 2020 and 2024, offering a comprehensive view of evolving work behaviours.
- We compare work patterns across different time periods.
- We examine how individuals allocate time to various activities when working remotely versus in the workplace, and their enjoyment and self-perceived productivity.

Preview of findings

- First, remote work has remained a stable feature of the labour market beyond the immediate effects of the pandemic. The mean number of minutes in remote working reported across time use diaries has remained stable since November 2022.
- Second, remote workers use the time saved from commuting to do more work and generally do not report higher enjoyment across most daily activities, including paid work, compared to their counterparts in an office.
- Third, workers' perceived productivity is marginally lower with remote work, suggesting that the choice to work from home may not be primarily driven by efficiency gains in work.
- These findings suggest that the avoidance of commuting and its associated costs—both financial and non-financial—could be a primary motivator for workers to choose remote working.

Contributions

- Measuring working from home: Barrero et al, 2024; Buckman et al, 2025; Kmetz et al, 2025.
- Remote working, wellbeing and time use: Adams et al, 2023; Aksoy et al, 2023b; Cowan, 2024; Gimenez Nadal et al, 2024; Denzer and Grunau, 2024.
- Workers' incentives for remote work: Bloom et al, 2023; Ramani et al, 2023; Fenizia and Kirchmaier, 2025

Data

- OTUS: nationally representative time use data on UK adults aged 18 years and older.
- Data collection took place across eight waves between April 2020 and March 2024.
- Respondents are asked to fill out a time diary for two randomly allocated days during the fieldwork period (one weekday and one weekend day)
 - * The final sample used in this analysis includes 8,406 weekday diaries
 - * Innovation: in the last wave respondents were asked about their self-perceived productivity every time they reported an episode of paid work.
- Continuous time-use diaries are regarded as the best tools for tracking behavioural changes, as they minimize recall bias and are less influenced by social desirability bias compared to survey questions (Gershuny et al., 2019; Sullivan et al., 2021).

Before 2020: working from home in time use data

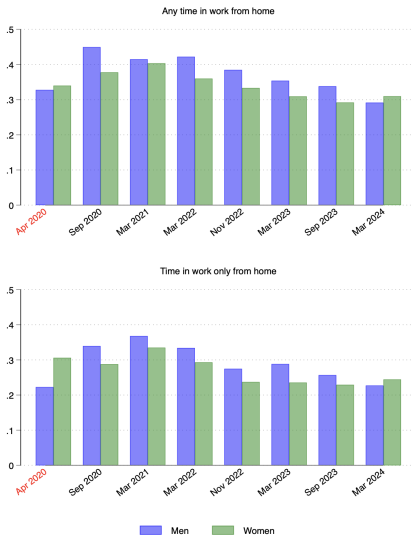
Table 1: UK Time Use Survey 2014/15

	Men	Women
Total time in work	368.3	284.6
sd	(232.5)	(230.9)
Time in work from home	32.97	21.31
sd	(110.6)	(77.91)
% of diaries reporting any work from home	17.3	14.5
% of diaries reporting only work from home	6.1	5.8
N	2,034	2,010

Notes: UKTUS data, weekday diaries of respondents in employment.

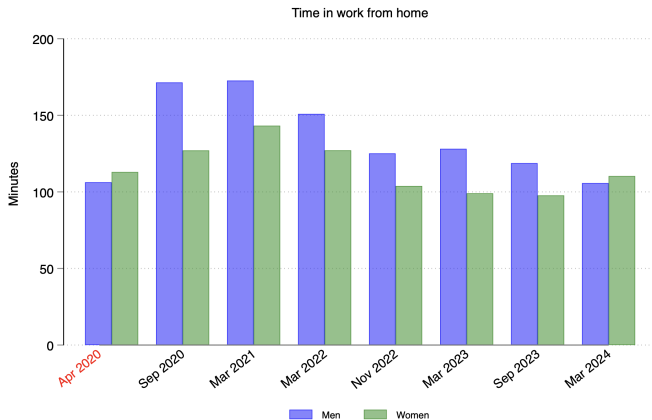
Results: Time in work from home

Figure 1: Proportion of diaries



Results: Time in work from home

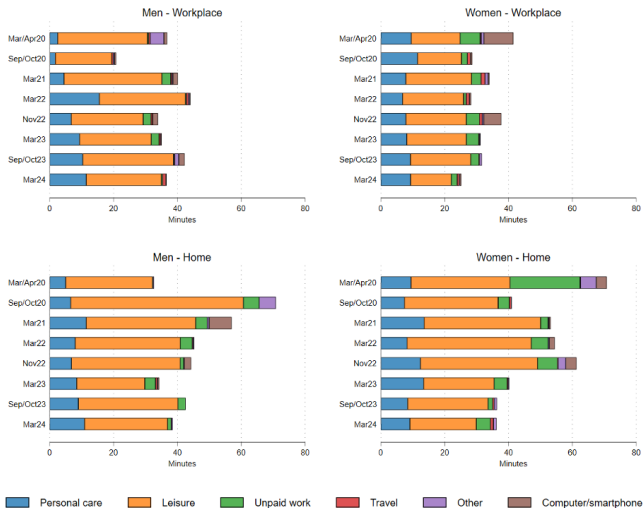
Figure 2: Mean time in WFH across all diaries



Notes: OTUS data 2020-2024

Results: Working from home and secondary activities

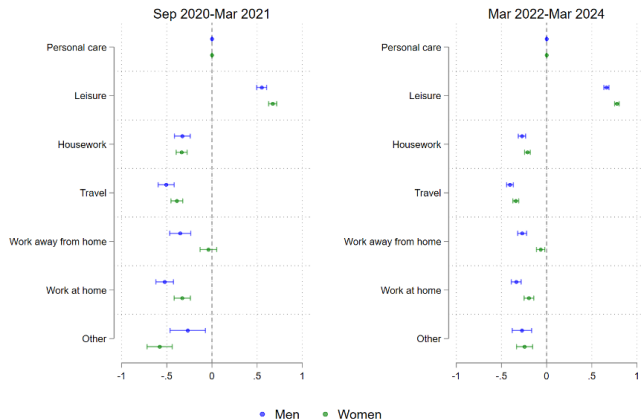
Figure 3: Mean time in secondary activities by work location



Notes: OTUS data 2020-2024

Results: Working from home and enjoyment

Figure 4: Instantaneous enjoyment by type of activity



Notes: Data from eight waves of OTUS time diary surveys, April 2020- March 2022 (left) and November 2022 to March 2024 (right). Observations are episodes of activities reported in diaries by respondents in employment during a weekday. The dependent variable is defined as the instantaneous enjoyment reported by respondents for each episode. Controls include socio-demographic characteristics of the respondents and length of the episode.

Results: Working from home and time in other activities

Table 2: Differences in time in all activities, 2022-2024

	(1) Personal care	(2) Leisure	(3) Unpaid work	(4) Travel	(5) Paid work
WFH	20.425*** (6.313)	-6.018 (6.854)	-2.456 (4.505)	-42.350*** (3.431)	38.877*** (8.946)
Female	43.506*** (5.507)	-5.217 (5.670)	50.653*** (4.160)	-8.594*** (2.784)	-75.639*** (8.734)
Female*WFH	-49.279*** (8.958)	-7.342 (8.920)	-23.976*** (6.223)	8.083* (4.382)	56.302*** (12.094)
Constant	671.183*** (12.651)	288.769*** (11.352)	93.820*** (9.529)	55.352*** (5.700)	303.822*** (17.463)
N diaries	6,242	6,242	6,242	6,242	6,242
R-squared	0.033	0.073	0.165	0.076	0.072

Notes: Data from five waves of OTUS time diary surveys (March 2022 to March 2024). Observations are diaries by all or graduate respondents in employment during a weekday. The dependent variable is defined as total minutes in an activity. Controls include socio-demographic characteristics of the respondents (age, marital status, household size, household income, number of children by age group) and a set of region dummies.

Results: Working from home and enjoyment in other activities

Table 3: Differences in enjoyment in other activities, 2022-2024

	(1)	(2)	(3)	(4)
	Personal Care	Leisure	Unpaid work	Travel
WFH	-0.054** (0.024)	-0.066** (0.032)	-0.065 (0.051)	-0.020 (0.047)
Female	-0.032 (0.019)	0.075*** (0.026)	0.019 (0.038)	0.076** (0.032)
Female*WFH	0.050 (0.033)	0.071* (0.042)	0.070 (0.062)	-0.022 (0.060)
Constant	5.224*** (0.046)	5.902*** (0.074)	4.779*** (0.082)	4.811*** (0.085)
N episodes	46,385	22,022	15,694	12,108
R-squared	0.002	0.011	0.038	0.016

Notes: Data from five waves of OTUS time diary surveys (March 2022 to March 2024). Observations are episodes of activities reported in diaries by respondents in employment during a weekday. The dependent variable is defined as the instantaneous enjoyment reported by respondents for each episode. Controls include socio-demographic characteristics of the respondents (age, marital status, household size, household income, number of children by age group) and a set of region dummies.

Results: Working from home and productivity

Table 4: Self-perceived productivity, March 2024

	(1)	(2)	(3)	(4)
	Self-reported Productivity	Pr(Prod<89%)	Pr(Prod<99%)	Enjoyment
WFH	-0.196** (0.091)	0.173* (0.102)	0.388*** (0.116)	-0.248** (0.106)
Female	0.256*** (0.078)	-0.308*** (0.093)	-0.133 (0.100)	0.065 (0.091)
Female*WFH	0.024 (0.118)	0.036 (0.141)	-0.085 (0.163)	-0.016 (0.139)
Constant	3.113*** (0.307)			5.028*** (0.278)
N episodes	1,651	1,651	1,651	1,638
R-squared	0.072			0.070

Notes: Data from March 2024. Observations are episodes of activities reported in diaries by graduate respondents in employment during a weekday. The dependent variable is defined as the self-perceived productivity reported by respondents for each episode. Controls include socio-demographic characteristics of the respondents (age, marital status, household size, household income, number of children by age group) and a set of region dummies. Estimates reported for probit models are marginal effects.

Conclusions

- First, remote work has remained a stable feature of the labour market beyond the immediate effects of the pandemic. The mean number of minutes in remote working reported across time use diaries has remained stable since November 2022.
- Second, remote workers use the time saved from commuting to do more work and generally do not report higher enjoyment across most daily activities, including paid work, compared to their counterparts in an office.
- Third, workers' perceived productivity is marginally lower with remote work, suggesting that the choice to work from home may not be primarily driven by efficiency gains in work.
- The results have important implications for the design of incentives by employers and policymakers.