# **REMOTE WORKING AND NEW FORMS OF WORK: EVIDENCE FROM INAPP-PLUS**



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### AIM

When the pandemic hit in the spring of 2020, many private companies and public administrations had to resort to working-from-home (WFH) arrangements for their employees. While remote working was rather uncommon before the pandemic, this became the prevalent work arrangement for a large fraction of the working population.

**Aim** of the analysis is to investigate the workers transition to teleworking evaluating the impact of demographic and jobs' characteristics on the probability of having worked from home, partially or totally, during the second wave of the pandemic.

Fitting a logistic regression model (using Stata software) it is possible to estimate the different attitudes among workers towards remote working more accurately, studying probability of having worked from home (partially or totally) during the second wave of the pandemic.

In order to achieve this goal, we have used "*Remote Working*" as the dependent variable (*RW***=1** if the respondent worked remotely at least one day)

- Gender. Categorical. Dummy variable: Female, Male (ref. cat.).
- Job. Categorical, 9 values. PROFESSIONI NON QUALIFICATE (ref. cat.), LEGISLATORI, IMPRENDITORI E ALTA DIRIGENZA,

The last Ninth Survey (INAPP-PLUS 2021) on Labour Participation and Unemployment makes it possible to shed scientific light on these debates.

## DATA AND METHODS

The analysis is carried out using **PLUS microdata**, a sample survey on the Italian labour market supply developed and administered by (INAPP).

The survey has been released in 2021 (March – July) on a sample of about 46.000 individuals but note though that our research interest lies with the respondents who are **employed**. We therefore exclude those who are not employed, pensioners and students from our empirical analysis.

After a set of questions, the survey asks: "How many days have you worked *remotely in the past month?*", with two possible recoded answers: "Never"/"At least one day".



PROFESSIONI INTELLETTUALI, SCIENTIFICHE E DI ELEVATA SPECIALIZZAZIONE, PROFESSIONI TECNICHE, PROFESSIONI NEL LAVORO D'UFFICIO, PROFESSIONI ESECUTIVE QUALIFICATE NELLE ATTIVITÀ COMMERCIALI E NEI SERVIZI, ARTIGIANI, OPERAI SPECIALIZZATI AGRICOLTORI, Ε CONDUTTORI DI IMPIANTI, OPERAI DI MACCHINARI FISSI E MOBILI E CONDUCENTI DI VEICOLI and FORZE ARMATE.

- Age group. Categorical, 6 intervals. 18 to 24 (ref. cat.); 25-29; 30-39; 40-49; 50-64; 65-74.
- Education. Categorical, 4 levels. Elementary School; Middle School; High School; University (ref. cat.).
- Work. Categorical. Dummy variable: Public (ref. cat.), Private.
- ATECO. Categorical., 21 levels:

• Inapp-Plus: March – July 2021 • Individuals 18-74 years = 46.282					Variables		ODDS	Sign.	Var		ODDS	Sign.	
• Workers = 19.025			Gender	Male	(base)				(base)				
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Share of remote workers, before the pandemic and in 2021 (% values). Note: Design weights are applied.					LEGISLATORI,	2.08	0,000		В	1,93	0,109		
				Job	ALTA DIRIGENZA	2,00			С	1,24	0,157		
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						INTELLETTUALI,				E	4,68	0,000	
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	Tes/At least of		ever			DI MACCHINARI	0.50	0.004		Т	1,41	0,406	
Maraayar tha incidence of remote workers growe with the increase in the						FISSI E MOBILI E	0,50	0,001		U	4,63	0,000	
Moreover, the incluence of remote workers grows with the increase in the						CONDUCENTI DI				cons	1,22	0,008	
metropoliton areas													
menopontari areas.						QUALIFICATE	(base)		A: Agriculture, Forestry and Fishing				
Days worked remotely in 2021, by demographic size of municipalities (% values) <i>Note: Design weights are applied.</i>						FORZE ARMATE	0,75	0,221	<ul> <li>B: Mining and Quarrying</li> <li>C: Manufacturing</li> <li>D: Electricity, Gas, Steam and Air Conditioning</li> </ul>				
					Age group	18-24 anni	(base)						
						25-29 anni <b>1,93</b> 0,00				) Supply F: Water Supply: Sewerage Waste Manag &			
						30-39 anni 40-49 anni	2,67	0,000	Remediatio	diation Acti.			
How many days have you worked At least			At loast ono			50-64 anni	3,18	0,000	F: Construction				
	uays nave you worked	Never	At least one	Total	Education	65-74 anni	<b>2,93</b> 0,000		<b>G</b> : Wholesale & Retail Trade; Repair Of Motor				
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30.000 - 100	.000 inhabitants	66,85	33,15	100						ur.			
										an Health an	d Social Work	Activities	
100.000 - 25	0.000 inhabitants	61,84	38,16	100					R: Arts	Entertainme	nt and Recreat	ion	
									<b>S</b> : Other	Service Act	vities		
> 250.000 in	habitants	51,69 48,31 100					T: Act. of HH as Empl.; Undiff. Goods-Se Prod. Act. of HH				Goods-Serv		
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			S										

FIGURE: In Italy, before the pandemic, 2.458.210 employees (11%) worked remotely; in 2021 agile workers rose to 7.262.999 and the share of total employment rose to **32,5%**.

**TABLE**: The incidence of agile workers was **39,7%** in the public administration and **30,8** in the private sector.

This fitted **MODEL** says that, holding covariates at a fixed value, the odds of WFH for female over the odds of WFH for male (ref. cat.) is 0,85. In terms of % change, we can say that the odds for female are 15% lower than the odds for male. In other words, the hazard to work from home is slightly higher for male rather than female.

Regarding the job, ISTAT considers categories 1, 2 and 3 high-skilled workers; categories 4, 5 and 6 medium-skilled workers; categories 7 and 8 lowskilled workers (for the last group there is a clear disadvantage). The hazard of WFH is higher for older workers (older ones have more confidence than the youngers, "age 18-24" ref. cat.) and lower for those who have a low-medium education level ("Laurea" ref. cat.). Moreover, the risk is higher for those working in the private sector than in the public administration (ref. cat.). Finally, the hazard of WFH is higher for almost all Ateco sectors over the odds of WFH for "Agricoltura" ("A" ref. cat.).

### References

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