The Impact of the RDC on the Italian Labour Market: A Study of Employment Intensity and Participation

LIS-LISER workshop on "Fighting Poverty: Measurement and Policy Challenges"

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Overview

Motivation

- Italy was a latecomer among European countries for what concerns guaranteed minimum income (MI) protection:
    - The first national MI scheme (REI) was introduced in 2018.
    - It was then replaced in April 2019 by the much more generous, and 'selective universal' RDC (*Reddito di Cittadinanza*, lit. Citizenship Income).

- The MI system was then reformed in 2023 → RDC replaced by ADI starting from January 2024 (*Assegno di inclusione*, lit. Inclusion allowance).
    - The reform was partly motivated by a heated political debate on the **labour supply disincentives** of the RDC.

- Indeed, the ADI is designed to exclude households of 'employable' individuals from guaranteed MI.

Research question

Motivated by the MI reform, in our paper take a step back and focus on the labour supply effects of the RDC. More specifically, we ask the following related questions:

(1) Did RDC discourage labour supply in terms of days worked per month?

(2) Is the RDC able to promote good quality jobs?

- The labour supply effects of the RDC have indeed been widely debated but **largely understudied** (only one paper focusing on Tuscany, a specific Italian region). This debate was one of the most important motivations of the MI reform.

- Especially important since RDC significantly contributed to poverty reduction (some numbers later).

The ADI reform

- The reform of the MI system was carried out in 2023 with the new MI scheme (ADI) starting from January 2024.

- The reform somewhat marks an *inversion* in the political importance attached to MI protection in Italy → RDC was endowed with more resources and closer to the principle of **'selective universalism'**.

- The **key idea** underlying the reform is that some households, despite being poor, should not receive MI → instead they should be (re)included via the labour market.

- Indeed, the ADI limits MI protection to households satisfying a new **'categorical' eligibility requirement**.

- Otherwise, RDC and ADI are rather similar: top-up schemes; income, wealth, residence requirements, labour activation obligations.

The RDC: main eligibility conditions

The main focus of this work is the **RDC** → means-tested top-up MI scheme based on household resources.

Eligibility requirements
- Residence requirement: **10 years**, the last 2 of which continuously.
- Compulsory Isee declaration.

Means-testing conditions
- **Isee** (composite income+wealth indicator): below €9,360.
- **Income**: household equivalent income lower than €6,000 increased to €9,360 for renters, and to €7,560 for elderly households.
- **Real assets**: Real assets (excluding family home) below €30,000.
- **Financial assets**: lower than €6,000 (increasing with household size up to €10,000).
- **Equivalence scale** assigns 1 to the first adult, 0.4 to additional adults, and 0,2 to minors. Capped at 2.1 (2.2 in case of disability).

The RDC: the working of the scheme

Working of the scheme

- The amount of the benefit was computed as the difference between the €6,000 threshold (€7,560 for the elderly) and household equivalent income → **top-up**.

- Distributed as a **monthly benefit**. Renters entitled to rent compensation up to €280 per month (€150 if also an elderly household). Mortgage payers entitled to mortgage compensation up to €150 per month.

- **Duration**: 18 months, renewable after a 1-month suspension.

- Able-to-work beneficiaries were obliged to sign a 'Work Pact' with the public employment services (PES) and to accept 'suitable' job offers → **work conditionality** (although weakly enforced).

- 20% waiver on the labour income earned while RDC beneficiary.

- Starting from 2022, partial cumulation with the new child allowance (AUUF).

The ADI: main eligibility conditions

The RDC has been replaced by the **ADI** $\to$ more details on the new MI scheme.

Eligibility requirements
- Residence requirement: **5 years**, the last 2 of which continuously.
- Compulsory Isee declaration.

Means-testing conditions
- **Isee** (composite income+wealth indicator): below €9,360.
- **Income**: household equivalent income lower than €6,000 increased to €7,560 for elderly households.
- **Real assets**: Real assets (excluding family home) below €30,000 and family home worth less than €150,000.
- **Financial assets**: lower than €6,000 (increasing with household size up to €10,000).
- **Equivalence scale** related to specific characteristics of the household (e.g., care loads) $\to$ see cases Capped at 2.2 (2.3 in case of disability).

Working of the scheme

- The amount of the benefit is computed for the RDC (including rent and mortgage compensation) → **top-up**.

- Distributed as a **monthly benefit**.

- **Duration**: 18 months, renewable after a 1-month suspension. Then, 12 months, renewable after a 1-month suspension

- Able-to-work beneficiaries are obliged to sign a 'Work Pact' with the public employment services (PES) and to accept a 'suitable' job offer → **work conditionality** (although weakly enforced).

- €3,000 waiver on the labour income earned while ADI beneficiary.

- Complete cumulation with the new child allowance (AUUF) in compensation for the lower weight of children in the ADI equivalence scale.

RDC and poverty alleviation

Did the RDC reduce poverty? Literature review

- **Gallo and Raitano (2019)**: microsimulation using IT-SILC 2017 → RDC reduces poverty risk (AROP) by 1.5 and severe poverty risk (AROP40%) by 2.0 p.p. Additionally, reduction in poverty intensity by 6.6 and 11.1 p.p, respectively. 1.2 p.p. impact on Gini of disposable income.

- **Curci et al. (2020)**: Bank of Italy static microsimulation model (BIMic); expenditure information from the HBS survey incorporated with statistical matching techniques → under a 65% take-up assumption, the RDC reduces the Gini index of equivalent disposable income by 1.1 p.p, the consumption-based absolute poverty rate by 3 p.p, and the consumption gap ratio 6.9 p.p.

- **Checchi et al. (2023)**: sample of almost 35,000 individuals from an INPS survey on ISEE-support services (sample selection: ISEE below €10,000) → the RDC has a positive effect on liquidity constraints on basic goods (replacement of shoes, clothes) and on self-perceived quality of life (family/friendship relationships, health).

Did the RDC reduce poverty? The ADI reform

- **Bovini et al. (2023)**: Bank of Italy static microsimulation model (BIMic); assuming take-up rates in line with December 2022 beneficiaries (for RDC) and with the ADI technical report (for ADI), the reform reduces the anti-poverty effect of MI $\rightarrow$ without MI consumption-based absolute poverty rate would have been 9.9%. It was 7.5% with the RDC and would have been 8.3% with the ADI (-0.8 p.p). Similar results for child absolute poverty (-0.6 p.p).

- **Sacchi et al. (2023)**: micro-simulation on IT-SILC data; assuming full take-up of both RDC and ADI, the reform reduces the anti-poverty effect of MI $\rightarrow$ severe poverty risk (AROP40%) is estimated to be 9.2% in the absence of MI, 7.2% with RDC and 8.0% with ADI (-0.8 p.p.). Similar effects for AROP and Gini of disposable income.

- **UPB (2023)**: Parliamentary Budget Office microsimulation model using administrative data on ISEE declarations; assessment of loss/gain in terms of benefit generosity of the reform by household characteristics $\rightarrow$ ADI more generous in case care loads; RDC more generous for tenants and very large households.

Did the RDC reduce poverty? An estimation

As outlined above, the RDC significantly contributed to poverty reduction → an estimation of the size of this poverty-reduction effect and of the potential impact of the ADI reform is provided below → **static microsimulation**

Empirical strategy

(1) Using the 2019 wave of the AD-HBS dataset (same dataset used in the present paper, presented later) → simulation of ADI eligibility requirements (including those based on wealth).

(2) Re-computation of consumption-based absolute poverty and consumption inequality indicators subtracting RDC and (simulated) ADI from consumption expenditure → results in the next slide!

→ Key assumption: **the RDC is entirely spent within the month**.

Poverty/inequality effects of RDC and ADI reform

	Before RDC	With RDC	With ADI
Absolute poverty - Households			
Headcount (%)	7.3	6.5	7.0
Income gap ratio (%)	26.2	20.4	22.9
Poverty gap ratio (%)	1.9	1.3	1.6
Absolute poverty - Individuals			
Headcount (%)	8.7	7.8	8.3
Income gap ratio (%)	27.3	21.6	23.7
Poverty gap ratio (%)	2.4	1.7	2.0
Consumption Expenditure Inequality (Gini Index)			
Household expenditure	0.322	0.318	0.320
Equivalised expenditure	0.310	0.307	0.309

Aprea, Gallo, Raitano (2024) "The Reform of the Minimum Income Scheme in Italy: Distributive Effects", ITEJ

The data

A novel administrative-survey linked dataset for Italy (I)

- We use an innovative database named **AD-HBS** → developed merging survey data from the Italian HBS (Household Budget Survey) with administrative longitudinal information managed by INPS (social security).

- The HBS survey records detailed information on household consumption expenditure and on a wide set of sociodemographic characteristics of individuals (gender, age, education, ...) → no panel component, so the information refers to the year of interview (wave).

- Administrative INPS data record detailed information on **labour earnings** and various types of public transfers, including RDC → **exact identification of all RDC recipients** among the individuals living in the households interviewed in the 2015-2022 HBS waves.

- HBS waves up to 2022 → no direct information on the ADI.

A novel administrative-survey linked dataset for Italy (II)

- Earnings information is **longitudinal** and spans the entire working history → earnings and contract duration, some socio-demographic variables (gender, year and province of birth), some specifics of the labour contract (closed- vs open-ended, part- vs full-time, professional qualification).

- With some assumptions, earnings/transfers information may be decomposed at the **monthly level**.

- Wealth information is available only for the subset of households filing an ISEE declaration (will be used in future drafts).

→ The AD-HBS dataset, was developed within a joint research project between the Department of Economics and Law of Sapienza University of Rome and the Direction I of the **Treasury Department of the Italian Ministry of Economy and Finance**.

Summarising the data

- In summary, our dataset is a **balanced monthly panel** spanning the January 2017 – December 2021 period (60 months).

- The information recorded includes: labour earnings (for the entire working history), **days worked**, **RDC benefits**, public transfers, sociodemographic characteristics from the year of HBS interview.

Some sample restrictions to avoid some potentially confounding factors:

1. All individuals aged less than 18 or over 59 in 2019 (not working age) or enrolled in a study programme at the time of interview.

2. All individuals receiving old-age or disability pensions, and all those receiving REI (the previous MI).

3. Final sample used for the matching procedure has 10,121,760 individual-year-month observations on 168,696 unique individuals, 10,881 of which received the RDC for at least one month of RDC.
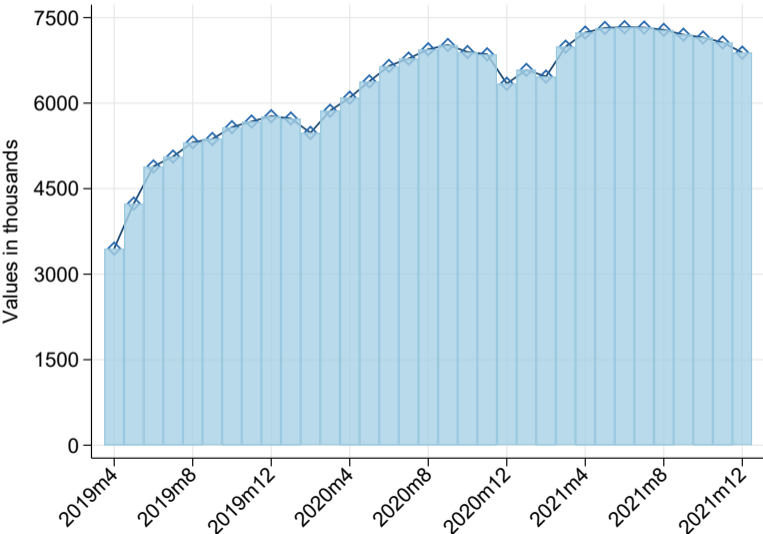
Empirical strategy

Labour supply effects of the RDC - identification

- Our empirical strategy builds on DiD and its generalization.

- The AD-HBS data directly indicate which individuals receive the RDC and the specific month they begin receiving it, starting from the policy's introduction (April 2019).

- Therefore: $T_i = \begin{cases} 1 & \text{if } \text{RDC}_i > 0 \text{ in month } t \\ 0 & \text{it } \text{RDC}_i = 0 \text{ in month } t \end{cases}$

- To enhance comparability of treated and control groups - and the validity of the (conditional) parallel trend assumption - we use 1:1 exact matching (without replacement) 1 month before the individual access to the RDC program.

- Matching variables are gender, NUTS-1 region of residence, and education level (exact); age, working days, monthly earnings (4 lagged pediods), and yearly earnings for 2017 and 2018 (0.1 caliper).

Treated individuals - cumulative number of beneficiaries

The baseline specification is a standard TWFE model:

$$y_{i,t} = \alpha_i + \lambda_t + \beta T_{i,t} + \varepsilon_{i,t}$$

where $y_{i,t}$ represents the outcome variable: either the number of days worked in a given month-year t or a binary indicator for (type of) employment status (in future drafts).

To get how the RDC affect out outcomes over time, we extend the TWFE model in an event-study design:

$$y_{i,t} = \alpha_i + \lambda_t + \sum_j \beta T_i * D_{i,t-j} + \gamma T_i + \sum_j \delta_j D_{i,t-j} + \varepsilon_{i,t}$$

with $J = [-4; 12]$ and normalized to $j = -1$.

Empirical strategy - Callaway and Sant'Anna

TWFE and Event-study design estimates may suffer some heterogeneity bias if the treatment effects differ depending on cohorts/time of treatment. Callaway and Sant'Anna (2021) estimator corrects for such potential bias.

$\rightarrow$ Callaway and Sant'Anna (2021) estimator to our binary and staggered treatment design, where unit i can enter treatment in period $G = 1, 2, ..., G$.

Accordingly, the ATT defined on each cohort g in time t is defined as follows:

$$ATT_{g,t} = E[y_{i,t} - y_{i,g-1}|G_g = 1] - E[y_{i,t} - y_{i,g-1}|C = 1]$$

where $C = 1$ is an indicator for the control group. Under the assumption of conditional parallel trends the ATT identifies the causal effect.

Descriptive evidence

Descriptive evidence: unmatched vs matched sample (i)

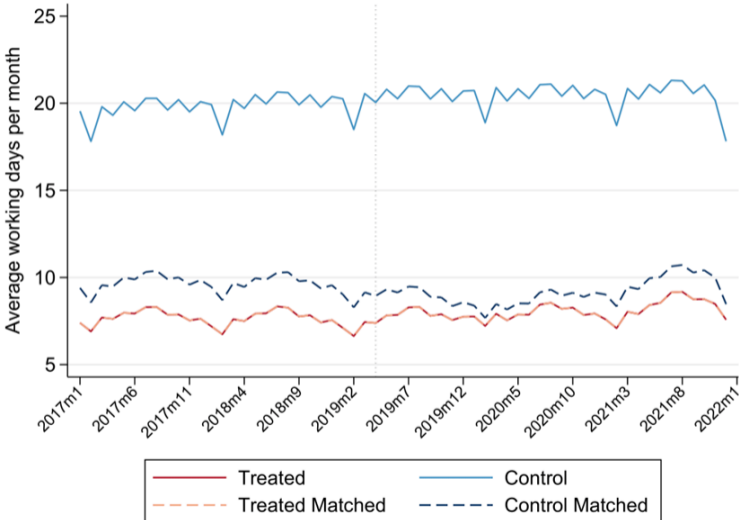|	Unmatched sample			Matched sample		
	Treated	Control	Difference (C-T)	Treated	Control	Difference (C-T)
Gender (Men)	0.441	0.486	0.045***	0.441	0.457	0.0157*
Migrant (Yes)	0.186	0.081	-0.105***	0.186	0.111	-0.0752***
Education:						
Lower secondary	0.612	0.282	-0.33***	0.612	0.618	0.002
Upper secondary	0.341	0.497	0.155***	0.341	0.338	-0.003
Tertiary	0.046	0.221	0.175***	0.046	0.044	-0.002
Occupational status:						
Blue-collar	0.951	0.634	-0.317***	0.951	0.867	-0.0836***
Clerks	0.049	0.33	0.281***	0.049	0.131	0.0815***
White-collar	0.000	0.036	0.036***	0.000	0.002	-0.002*

*Note: *** p<0.01, ** p<0.05, * p<0.1. Difference is a standard t-test; Migrant status, qualification, part-time, fixed-term contract, experience, are not used in the matching algorithm.*

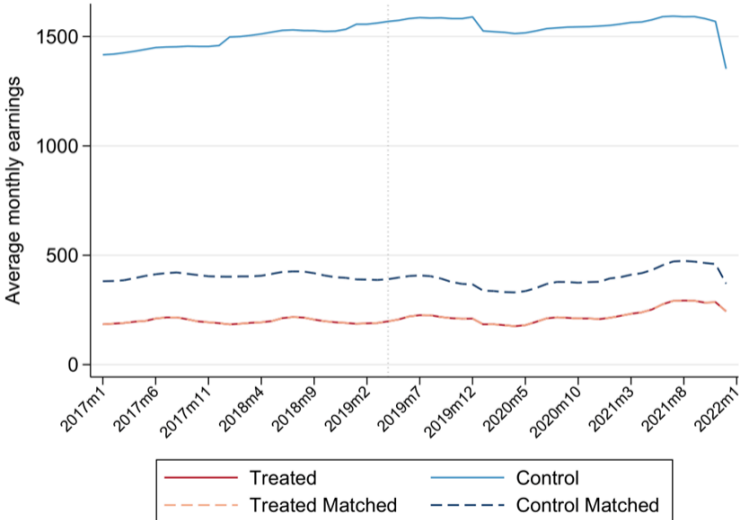## Descriptive evidence: unmatched vs matched sample (ii)

	Unmatched sample			Matched sample		
	Treated	Control	Difference (C-T)	Treated	Control	Difference (C-T)
Nuts 1:						
North-west	0.119	0.248	0.128***	0.119	0.109	-0.100
North-east	0.062	0.208	0.146***	0.0619	0.0602	-0.0001
Centre	0.155	0.224	0.069***	0.155	0.162	0.007
South	0.663	0.319	-0.344***	0.663	0.669	0.006
Part-time	0.556	0.226	-0.300***	0.552	0.360	-0.166***
Fixed-term contract	0.553	0.166	-0.387***	0.552	0.396	-0.156***
Experience	369.2	877	507.9***	369.2	542.9	173.7***
Total earnings	166.1	1,556	1390***	166.1	334.6	168.5***
Monthly worked days	6.91	20.53	13.62***	6.91	8.03	1.124***

*Note: *** p<0.01, ** p<0.05, * p<0.1. Difference is a standard t-test; Migrant status, qualification, part-time, fixed-term contract, experience, are not used in the matching algorithm.*

Average working days per month: unmatched vs matched sample

Average monthly earnings: unmatched vs matched sample

A summary of the descriptive evidence

- Large differences between controls and matched controls.

- **Very weak overall conditions for both treated and matched controls**:
  1. average days worked per month range between 7 and 10 days for both groups (slightly higher for matched controls).
  2. Monthly earnings (including zeroes) are less than €500 for both groups (around €250 for the treated).

- The Covid-19 restrictions do not seem to have had a decisive role on both average days worked and monthly earnings.

Econometric results

The effect of RDC on days worked per month: TWFE

- The baseline model is a standard TWFE with a non-staggered treatment design.
    1. Model 1: entire sample, no additional covariates.
    2. Model 2: restricted sample (at least one working record in the estimation period), information on partime, fixed-term contract, and occupational status (Blue-collar, Clerk, White-collar).

	Model 1	Model 2
RDC treatment	-0.104	0.113
	(0.088)	(0.181)
Intercept	8.396***	22.560***
	(0.064)	(0.225)
Adjusted R-squared	0.00	0.05
Number of observations	1,232,520	311,112

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

The effect of RDC on days worked per month: Event-study
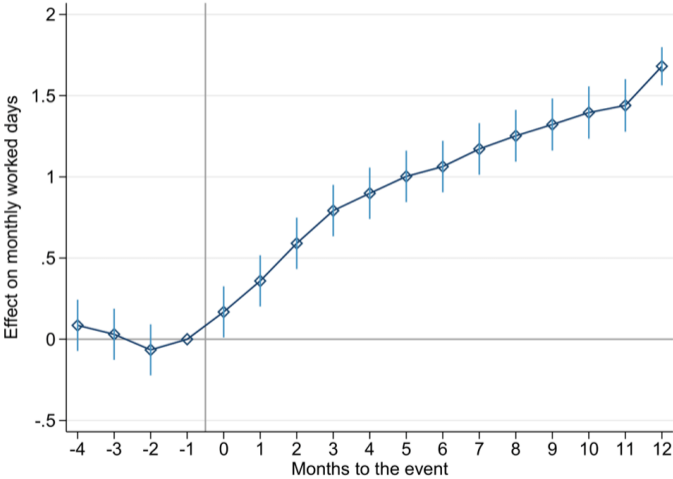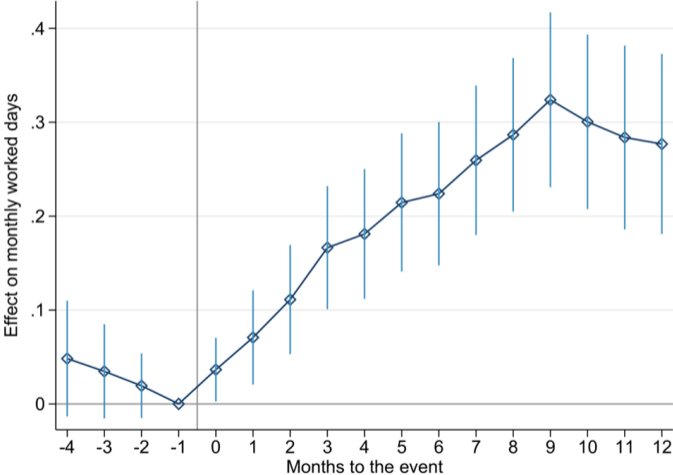
Summary of the econometric evidence

- Non-significant effects in the (non-staggered) TWFE specification → point estimate of the ATT turns positive when considering the subsample with at least one working period and labour market outcomes.

- RDC appears to have a positive effect on average days worked in the event-study extension of the TWFE framework → one year after receiving the RDC, treated individuals work, on average, slightly over 1.5 days more than controls (never treated).

- Allowing for heterogenous ATTs across entry cohorts reduces the magnitude of the effect (maximum +0.3 days 9 months after the receiving RDC) → relevance of different mechanisms for different entry cohorts.

- What about job quality? → crucial step in future drafts.

Discussion

- The introduction RDC does not seem to have discouraged labour supply, contrary to the heated political and press debate that motivated the MI reform in Italy.

- Allowing for cohort-specific ATTs, our results are broadly in line with Maitino et al. (2024).

- Relevant results in light of the:
  (1) High marginal income taxes (80% until the ISEE declaration is updated, then 100%)
  (2) Potential relevance of informal work (no info in the data).

- The RDC improves poor workers' reservation wage, making low-pay temporary jobs less attractive to them $\rightarrow$ important to focus on job quality.

- Overall, is the reform justified?

- Further estimates taking into account the switch-in and switch-out treatment designs (de Chaisemartin and D'Haulfoeuille 2022).

- Specific focus on the first entry cohort (April 2019).

- Focus on job quality: part-time, fixed-term as dependent variables

- Heterogeneity analyses: work experience (both in terms of weeks and earnings).

- Distribuitonal analyses: effects on poverty/inequality taking into account labour supply responses.

Thank you for your attention!

Comments and suggestions are highly appreciated

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The ADI equivalence scale is augmented by the following amount in the following cases:

(1) 0.5 for each member with disability;
(2) 0.4 for each member aged over 60;
(3) 0.4 for adult members with care loads;
(4) 0.3 for each member in specific assistance programmes;
(5) 0.15 for each minor (up to the second).

Extra table

	Ipotesi 1		Ipotesi 2 (*memoria trattamento*)	
	Modello 1	Modello 2	Modello 1	Modello 2
Trattamento RDC	-0.104	0.113	0.884***	1.541***
	(0.088)	(0.181)	(0.102)	(0.202)
Intercetta	8.396***	22.560***	8.396***	22.503***
	(0.064)	(0.225)	(0.064)	(0.224)
R-quadro corretto	0.00	0.05	0.00	0.05
Numero di osservazioni	1,232,520	311,112	1,232,520	311,112

*Note: *** p<0.01, ** p<0.05, * p<0.1.*

Extra table (job quality iniziali)

	Ipotesi 1			Ipotesi 2 (*memoria trattamento*)		
	Partime	A termine 2	Più di €800	Partime	A termine 2	Più di €800
Trattamento RDC	-0.006	0.010	0.012***	-0.003	-0.031***	0.024***
	(0.006)	(0.006)	(0.004)	(0.008)	(0.008)	(0.005)
Intercetta	0.470***	0.547***	-0.028***	0.470***	0.547***	-0.028***
	(0.006)	(0.006)	(0.004)	(0.006)	(0.006)	(0.004)
R-quadro corretto	0.02	0.03	0.58	0.02	0.03	0.58
Numero di osservazioni	311,112	348,048	403,188	311,112	348,048	403,188

*Note: *** p<0.01, ** p<0.05, * p<0.1.*