GRINS FOUNDATION

Spoke 3 – Households' Sustainability

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Italiadomani PIANO NAZIONALE DI RIPRESA E RESILIENZA

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Outline

Objectives of Spoke 3

The Work Packages

Examples of contributions to the data platform:

- Administrative data on doctors and university students
- Derived from primary data
- Surveys

Composition of Spoke 3

43 researchers from 13 different institutions

Coordinator: Napoli Federico II

Universities: Bari, Bergamo, Bologna, Cagliari, Padova, Palermo, Torino, Tor Vergata,

Institutions: EIEF, Ania, Prometeia, Intesa

Background: labor economics, health economics, human capital, household finance,
Keywords: inequality, microeconometrics

General objective: participate to the construction of the Amelia platform, contributing data and analysis to improve individuals and households' resilience to shocks.

Shocks and economic responses

Economic resources (income, earnings, wages, consumption, wealth) are subject to considerable variation from one year to the next. What are the sources of these changes?

- Labor market risk: unemployment, productivity (health, demographics, etc.), skill prices (technology, international trade, offshoring, etc); poor matching with firms (frictions, firm-related shocks)
- Asset markets risk: inflation, fluctuations in asset prices (stocks, bonds, local housing prices)
- Health risk: temporary vs. permanent health shocks and disabilities
- Environmental risk: effect on wages, real estate properties
- Fiscal and monetary policy shocks: taxes, transfers, cost of mortgages, etc.
- Choice: Human capital accumulation (health, education), leaves, retirement, portfolio reallocation.

What is the impact of shocks on behavior?

Ex-ante responses

- Investment in human capital
- Insurance (health, casualties, environment)
- Health prevention
- Life-cycle saving
- Precautionary savings
- Precautionary labor supply
- Defer durable adjustment
- Portfolio re-allocation
- Implicit contracts with employer

Ex-post responses

- Cut consumption, leisure, bequests
- Run down assets or borrow
- Social & family networks, charities
- Government insurance
- Moving, migration

Shock resilience and inequality

Resilience is the ability to bounce back from shocks and adapt in the face of adversity.
It is not the absence of vulnerability or hardship, but the capacity to recover from difficult situations.

Well designed institutions can improve ex-ante insurance (education, health) or ex-post insurance, especially for shocks that are hard to insure formally (large health costs, disability, unemployment, etc)

Shock resilience connects to analysis of the source and consequences of **inequalities** in human capital, income, wealth. Questions:
- is the recent rise in earnings inequality an increase in “permanent” or “transitory” inequality?
- what type of interventions are useful to reduce inequalities?

To address these issues, Spoke 3 aims to:
- construct a sustainable data platform to measure health, economic, environmental shocks;
- study their effects on households and propose policies to improve resilience.

Work-Packages of Spoke 3

The WP follow individuals and households over their life cycle, during which they face health shocks (WP1), invest in education (WP2), participate in the labor market (WP3), take financial decisions (WP4).

WP1: Sustainable health care

WP2: Human capital

WP3: Individuals and households in the labor market

WP4: Financial resilience

Each WP is associated to **deliverables and milestones.**

Budget is allocated to participants and to **Open Calls**, stimulating contributions outside the GRINS network.

WP1: Sustainable health care

Objective

This work package analyzes the relation between health shocks, socio-economic variables (income, wealth, education) and environmental factors, and the policies that can be implemented to shelter households.

Key projects

- Health Atlas (PI: Atella). Aggregate health data obtained integrating administrative data. The Atlas will produce health indicators at province level.
- Health-Lab (PI: Atella). Data can be accessed at the lowest level of disaggregation in accordance to Italian privacy law. The Lab will produce a dashboard with indicators and periodic reports (Tor Vergata).
- Eco-health labels (PI: Guerriero)

WP1: Contribution by Vincenzo Atella

Indicators of GP activity and type of expenditure

GP activity	Type of expenditure
Consultazione schede MMG	Spesa accertamenti
Interventi infermieristici MMG	Spesa accertamenti di laboratorio
N contati con MMG	Spesa accertamenti diagnostici
N prescrizioni	Spesa accertamenti non di laboratorio
Richiesta farmac MMGi	Spesa altre prestazioni diagnostiche e terapeutiche
Richiesta indiretta tramite familiare MMG	Spesa farmaceutica
Telefonata del paziente	Spesa farmaceutica ATC A
Telefonata indiretta MMG	Spesa farmaceutica ATC B
Visita Ambulatoriale MMG	Spesa farmaceutica ATC C
Visita Domiciliare Diretta MMG	Spesa farmaceutica ATC D
Visita Domiciliare indiretta MMG	Spesa farmaceutica ATC G
Visite di controllo	Spesa farmaceutica ATC H
Visite specialistiche	Spesa farmaceutica ATC J
Utilizzo risorse sanitarie	Spesa farmaceutica ATC L
Accertamenti di laboratorio	Spesa farmaceutica ATC M
Accertamenti diagnostici	Spesa farmaceutica ATC N
Accertamenti non di laboratorio	Spesa farmaceutica ATC P
Quantità accertamenti	Spesa farmaceutica ATC R
Quantità DDD	Spesa farmaceutica ATC S
Quantità farmaci	Spesa farmaceutica per generici
	Spesa farmaceutica per NON generici
	Spesa farmaci Classe A
	Spesa farmaci Classe C
	Spesa visite di controllo

Prevalence and incidence by:

- Region
- Province
- Age class
- Sex
- Class of IMC

Possibility to compare with :

- Eurostat
- Global Burden of Diseases

WP1: Example of indicators - Diseases

Malattie infettive e parassitarie	**Malattie del sistema circolatorio**
Tubercolosi e altre malattie infettive	Ipertensione
Neoplasie*	Altre malattie vascolari
Cancro	Fibrillazione atriale, flutter, altre aritmie
Malattie endocrine-metaboliche, disturbi dell'immunità	Altre malattie cardiovascolari
Malattie endocrine	Aterosclerosi coronarica, altre malattie cardiache
Diabete Mellito	Malattia vascolare periferica
Disturbi della tiroide	Malattia cerebrovascolare
Gotta e altre artropatie cristalline	Insufficienza cardiaca congestizia
Malattie del sangue e correlate	Infarto miocardico acuto, arresto cardiaco
Anemie	Ictus emorragico acuto, ictus ischemico acuto
Altre malattie ematologiche	Trombosi venosa profonda
Disturbi mentali	**Malattie del sistema respiratorio**
Depressione	Malattia polmonare ostruttiva cronica
Ansia e disturbo da stress post-traumatico	Asma
Demenza	**Malattie del sistema digerente**
Schizofrenia	Disfunzioni gastrointestinali
Disturbo bipolare	**Malattie del sistema genito-urinario**
Malattie del sistema nervoso e degli organi di senso	Disfunzioni genito-urinarie
Disturbi dell'occhio	Insufficienza renale cronica, malattia renale terminale
Cataratta	Iperplasia prostatica
Altre malattie del sistema nervoso centrale	**Malattie del sistema muscolo-scheletrico**
Glaucoma	Osteoartrite
Altri disturbi dell'orecchio	Mal di schiena
Disturbi vestibolari	Osteoporosi
Malattia di Parkinson, sclerosi multipla, paralisi	Artrite reumatoide
Disturbi convulsivi	**Condizioni acute** **

*I tumori maligni includono il colon, i polmoni, la pelle, la prostata, il seno, l'emopoietico, il collo dell'utero e altri tumori.
** Le condizioni acute includono: immunizzazioni, screening per malattie infettive, neoplasie benigne, cefalee e emicranie, otite media, infezione respiratoria acuta, altre malattie respiratorie, polmonite, influenza, insufficienza renale acuta, disturbi della riproduzione femminile, malattie dermatologiche, lesioni e cause esterne, frattura dell'anca, codici E residui, non classificati, altri codici E

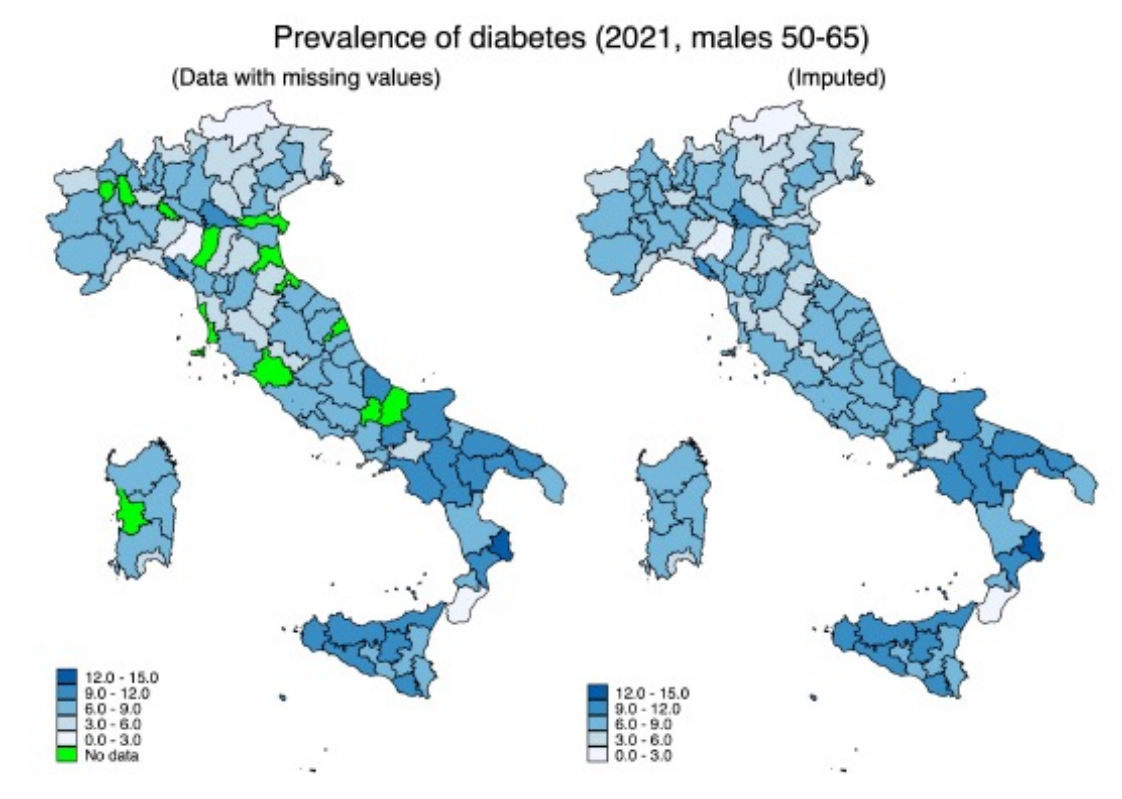
Prevalence and incidence by:

- Region
- Province
- Age class
- Sex
- Class of IMC

Possibility to compare with :

- Eurostat
- Global Burden of Diseases

WP1: Health Atlas – Example of map



WP2: Human capital

Objective

The work package focuses on the economic, institutional and social factors that affect investment in human capital and the efficiency of education process.

Key projects

- Database on university students: Angelo Paletta (PI) and Magalì Fia (PI). Integration of university, administrative and survey data to construction a panel on students' careers.
- Informed educational choice: Lodigiani (PI), a survey **on parents and children** wellbeing, cognitive and non cognitive skills, and role of parenting
- Contrasting unconscious bias in education: Di Tommaso (PI)
- Survey on Italian graduated expats: Moressa (PI)

WP2: Contribution by Elisabetta Lodigiani: Informed educational choice

- **Survey** last-year lyceums students (100 schools across Italy, min 3000 students) + follow up 1 year later
- Dashboard of selected information:
  - Demographics
  - Beliefs on upcoming university choice
  - Beliefs on *major-specific* monetary (e.g. expected income) and non monetary (e.g. work-life balance)
  - Preferences, attitudes and abilities

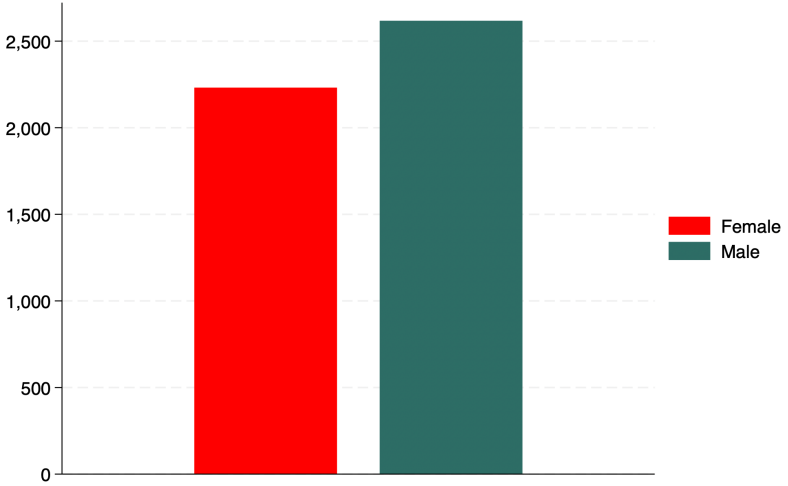
- Link expectations to real life labor market information (by major, by gender, by macro area..)
  - Labor Force Survey, AlmaLaurea

- Construct **indices** of those gaps

WP2: Examples of indicators

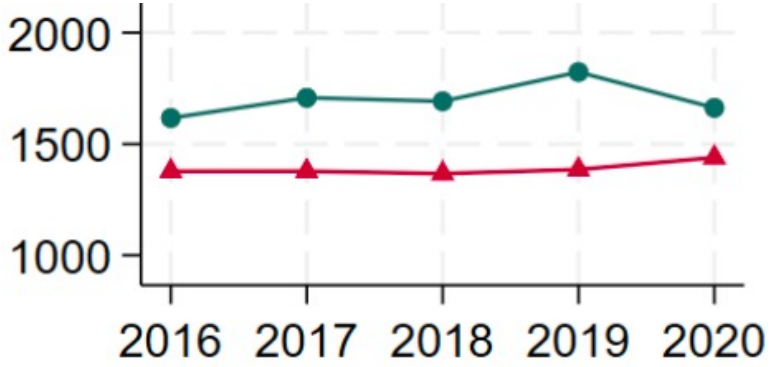
Example: Architecture and Civil Engineering

Expected mean monthly earnings at age 40 (€)



Source: our survey, 626 students

Mean monthly earnings, age group 36-45 (€)



Source: Labour Force Survey 2016-2020

WP2: Contribution by Magalì Fia and Angelo Paletta- Database of University students

Codebook group:

- Codebook with description of how data are structured within different databases. It is a building block to merge administrative data from partner universities and AlmaLaurea data on students' backgrounds and occupational status. This codebook is instrumental in creating a panel database of university students.

Dashboard group:

- Central themes: International Mobility Inbound and Outbound from BA to Master; Geographic Attractiveness/Mobility in the School-to-University Transition; Geographic Attractiveness/Mobility in the Transition from BA to Master; Careers and Dropouts/Success Rates; Employment/Access to the Job Market; Impact on Careers and Employability of Measures Against Inequalities (Tuition fees, scholarships)
- We have defined preliminary indicators for each theme, to inform stakeholders on relevant topics

Privacy group:

- Dedicated to ensuring that every step of our project adheres to the standards of data protection

Ongoing discussions to expand the database with additional databases (Ministry of Education, ISTAT)

WP2: Database of university students: examples

Themes	Indicator	Description
Impact of Inequalities on Careers and Employability	**Students' employability * status for each socio-economic status category** (high/medium/low family income or parent's educational attainment) * Employability measured by having a job, salary, type of contract, skill-(mis)match	Ratio between the number of students employed for different socio-economic status categories and the total number of students employed *We consider also salary, type of contract, skill-(mis)match
Employment/Access to the job market	**Employment gender gap**: (% of male graduates in year t employed in year t+x) - (% of female graduates in year t employed in year t+x), with x=1,3,5	Difference in employment rates between male and female graduates at one, three, and five years after graduation.
	Gender Pay Gap: (Net monthly earnings | gender = male in year t+x) - (Net monthly earnings | gender = female in year t+x), with x=1,3,5	Difference in net monthly earnings between male and female graduates at one, three, and five years after graduation.
	Child employment penalty: (Percentage of graduates in year t employed & with children in year t+x) - (Percentage of graduates in year t employed & without children in year t+x), with x=0,1,3,5)	It measures the difference in employement rate between those who have children and those who do not in the year of graduation and at 1, 3 and 5 years after graduation.
Geographic Attractiveness/Mobility in the Transition from Bachelor's to Master's	**Capability of attracting students from other universities**	Ratio of students from other universities to total number of students enrolled in master's degree courses
	Heterogeneity index: (Gini heterogeneity index)	University's ability to attract students with varying degrees of heterogeneity (incoming heterogeneity)
	Quality of life indices for mobility: (Average/Median lifestyle scores of the departure universities' region/province of movers – the lifestyle score of the arrival university's region/province)	Role of lifestyle in the region/province of the university according to public rankings on mobility

WP3: Individuals and households in the labor market

Objectives

This WP focuses on the sources of skill mismatch and on the design of policies that can ease the school-to-work transition and reduce youth unemployment. It also provides guidance on the type of skills that can be built upon by learning during working life, contributing to society's sustainability in the long-run.

Key projects

- Gender inequalities: Fort (PI), will produce indicators on gender inequalities within the household based on newly collected data from time-use diary survey in Emilia-Romagna and Campania.
- Women Empowerment Program: Pandolfi (PI), RCT of a female Mentor as Role Model to University students selected from the main Universities in Southern Italy, particularly in the STEM
- Small area measures of vulnerability: Pratschke (PI), geo-referenced indicators of labor market, poverty, segregation, and inequality, integrating INPS data, ISTAT data and other administrative data.

WP3: Contribution by Margherita Fort
Time-Use Observatory on Young Households

- Newly designed survey on households with children aged 0-10 at province level in two Italian regions (Emilia-Romagna, Campania), about 2000 individuals in total.

- Endorsement by regional authorities of Emilia-Romagna first step towards sustainability of the project.

Proposed delivery plan, conditional on infrastructure limitations and institutional set-up: March 2025

1. Micro-data (first batch of the data collection); access limited to IT-personnell handling the platform;
2. *anonymization handled by the AMELIA (service requested)*
3. Indicators construction through AMELIA with do files provided by the research team: first version of the relevant do-files: June 2025
4. Final version of the do-file for indicators construction and template to produce the report *(service requested: automatic update of the report through AMELIA)*
5. Publication of the indicators through the platform and diffusion of a report related to them *(dashboarding service requested possibly through maps similar to health ATLAS)*

WP3: Time-use observatory. Geo-referenced indicators of gender inequalities at province

Indicators based on socio-economic survey data: gender gaps in

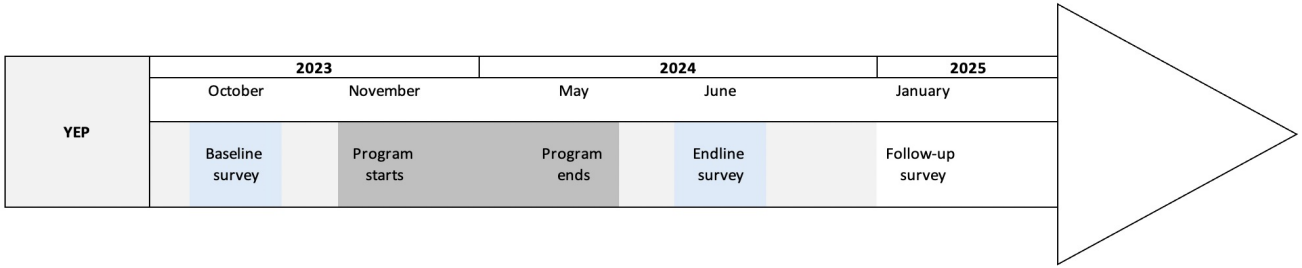
- participation to the labour market
- perception of family-life burden: i) house chores; ii) child-care
- decision making: i) economic decisions; ii) children-related decisions
- stereotypes about gender roles and hyper-masculine norms
- returns to time-investments: i) future career achievements; ii) prosocial attitudes
- parental leave uptake: i) mandatory parental leave; ii) optional parental leave
- fertility intentions
- mental load

Indicators based on time-use survey data: work-in-progress

- Will consider primary and secondary activities and incidence and composition of multi-tasking
- Indicators will be produced by STATA do files and can be exported as .xls Table (rows: provinces of 2 regions; columns: indicators; total number of indicators will easily be above 100).

WP3: Contribution by Lorenzo Pandolfi
Mentoring Program for Women's Empowerment

- Randomized Controlled Trial to study the effects of mentoring programs for female university students in Southern Italy (in collaboration with an NGO working on human capital development in Southern Italy).
- ~ 600 students in total, each interviewed (i) at baseline, (ii) at the end of the program, and (iii) six to nine months after the program.
- Longitudinal dataset with ~1800 interviews and data on students' (i) beliefs and expectations, (ii) confidence and self-esteem, (iii) educational outcomes, and (iv) labour market outcomes. Indicators on those outcomes for female students in STEM and the associated gender gap.
- Timeline:



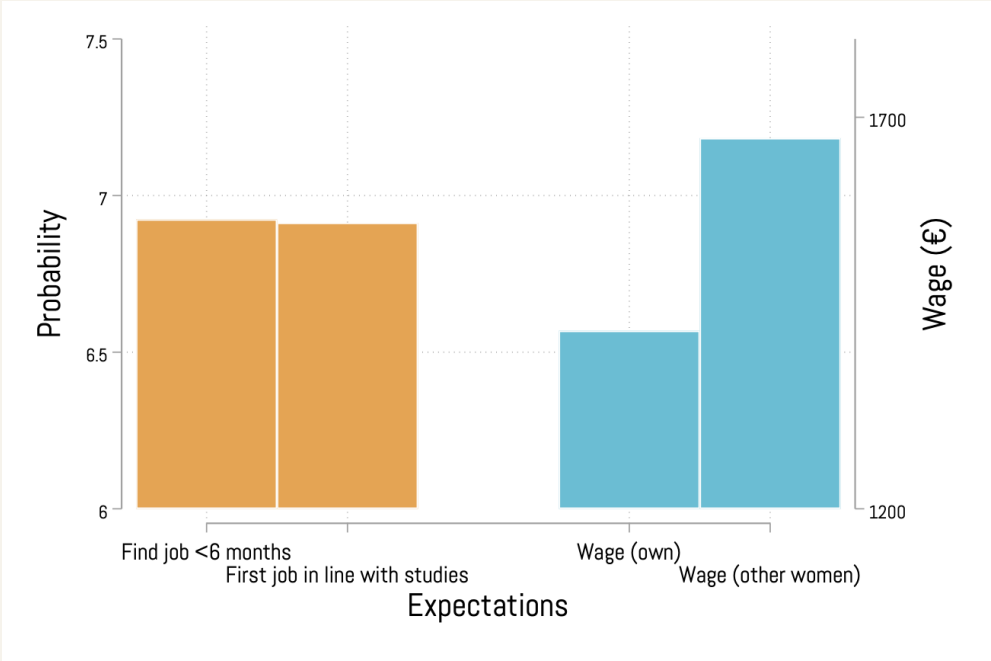
WP3: Mentoring programme for women's empowerment. Examples of indicators on expectations and beliefs

Q: Pensa a te stessa al termine del tuo percorso di studi. Su una scala da 1 a 10 (dove 1 indica un evento poco probabile e 10 indica un evento molto probabile), quanto ritieni probabile che troverai un impiego entro 6 mesi?

	Poco probabile 1	2	3	4	5	6	7	8	9	Estremamente probabile 10	Non sa
Probabilità che tu riesca a trovare un impiego entro 6 mesi											

Q: Pensando a te stessa al termine del tuo percorso di studi, ti aspetti che il tuo stipendio mensile per il tuo primo impiego, al netto di tasse e detrazioni sia?

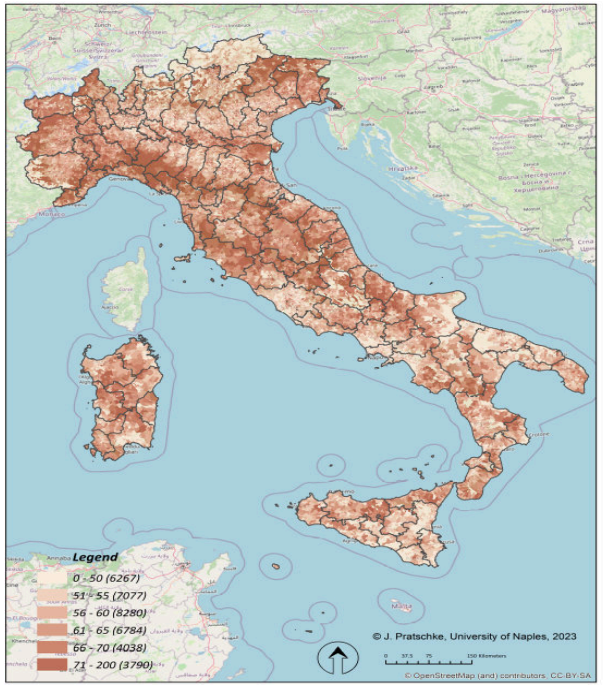
	Con quale probabilità accadrà?
a) Compreso tra 0 e 500 euro	x%
a) Compreso tra 500 e 1000 euro	x%
a) Compreso fra 1000 e 1500 euro	x%
a) Compreso fra 1500 e 2000 euro	x%
a) Compreso tra 2000 e 2500 euro	x%
a) Compreso tra 2500 e 3000 euro	x%
a) Maggiore di 3000 euro	x%
Totale	100%



WP3: Contribution by Jonathan Pratschke: Small area measures of vulnerability

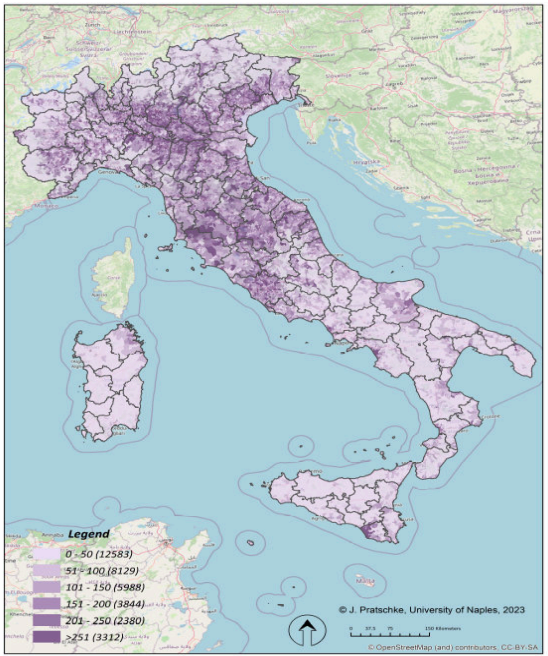
Index of demographic dependence, 2021:

dependents 0-14 and 65+, compared with population 15-64

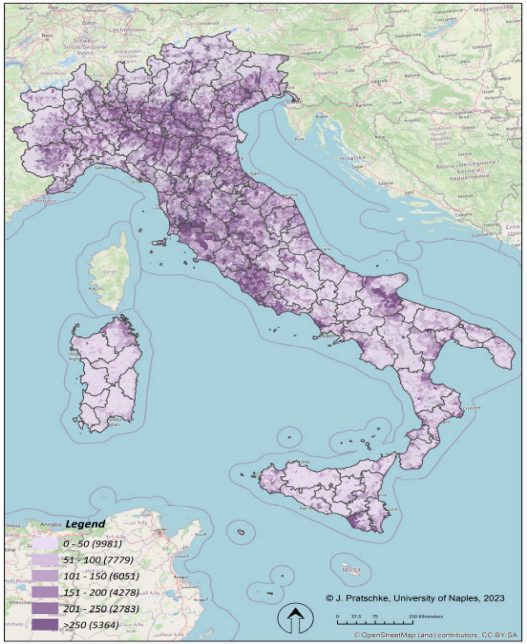


WP3: Small area measures of vulnerability. Example of map

Presence of foreign citizens, 2011



Presence of foreign citizens, 2021



WP4: Financial resilience

Objectives:

This work-package aims to improve our measuring of the consequences of economic, environmental and health shocks for households, study the sources of inequalities of earnings, consumption, and wealth, and guide policy for interventions aimed at improving households' resilience to shocks

Key projects

- Quarterly panel (PI: Jappelli). Key variables collected in every wave, and special sections on environmental risk, household finances, expectations, social interactions, health, etc.
- Historical Household Budget Dataset (PI: Vecchi), harmonizing Istat and Bank of Italy data, to assess the distributional effects of major shocks in the history of Italy.
- Energy indicators and house prices: Giarda (PI)
- Income support policies in Puglia: Peragine (PI)
- Climate change and house prices: Origo (PI)

WP4: Contribution by Tullio Jappelli: Quarterly panel

8 waves: October 2023 / February 2024, … to July 2025)
5,000 interviews, with refreshment
Quarterly Statistical Bulletin
Questionnaire: a fixed component and special sections, survey experiments

Dashboard of selected variables by socioeconomic groups (age, gender, region, education, etc)

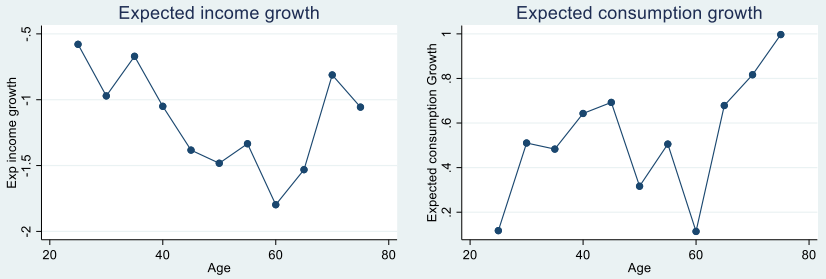
Collaboration UNINA - ANIA
Monthly newsletter, quarterly cycle
From March 2024 to December 2025

- Month 1: macro variables
- Month 2: micro variables
- Month 3: special focus

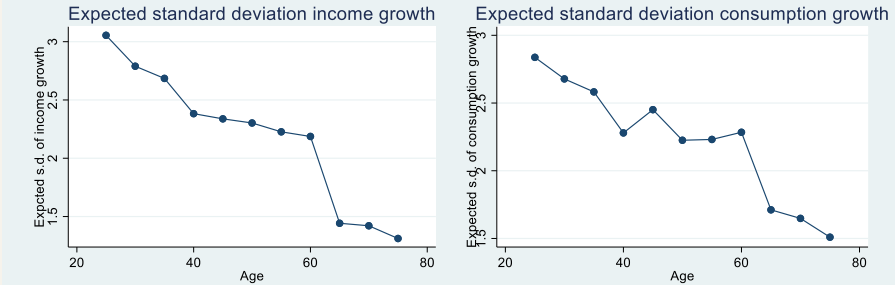
Variables	
Household disposable income	Y
Household earnings and pensions	YL
Individual total income	PY
Individual earnings and pensions	IPYL
Real assets	AR
Financial assets	AF
Total debt	PF
Net wealth (AR+FA-PF)	W
Total consumption	CTOT
Food consumption	CFOOD
Energy bill	CENER
Gas bill	CGAS
Health expenditures	CHEALTH
Homeownership	HOWN
Expected disposable income growth	EY
Expected labor income growth	EYL
Expected consumption growth	EC
Expected health expenditures	ECHEALTH
Expected house price growth	EHPRICE
Expected GDP growth	EGDP
Expected inflation	EINFL
Expected unemployment rate	EUNEM
Expected nominal interest rate	ER
Expected nominal interest rate on mortgages	ERMORT

WP4: Quarterly panel. Example from Wave 1

Expected Y growth, C growth, π, r



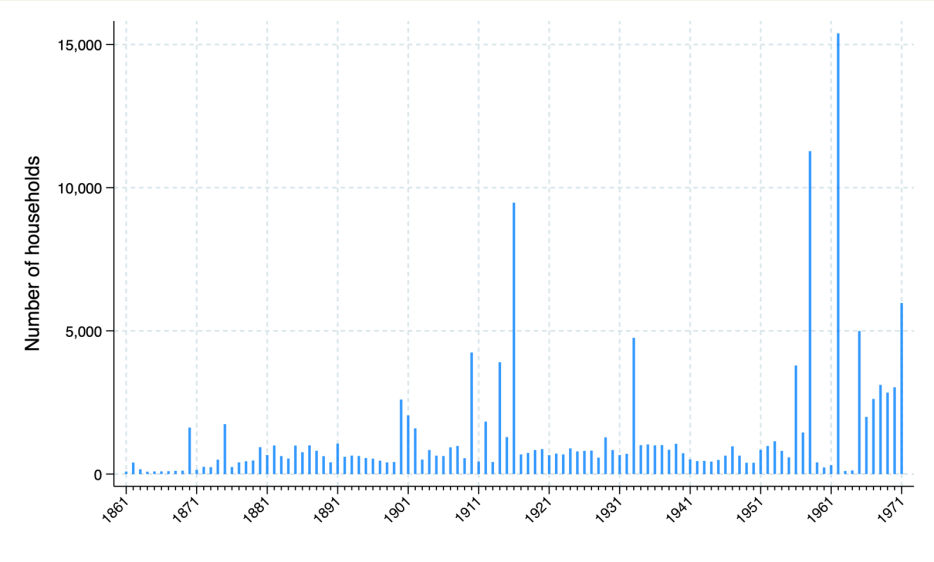
Variability of expected Y growth, C growth, π, r

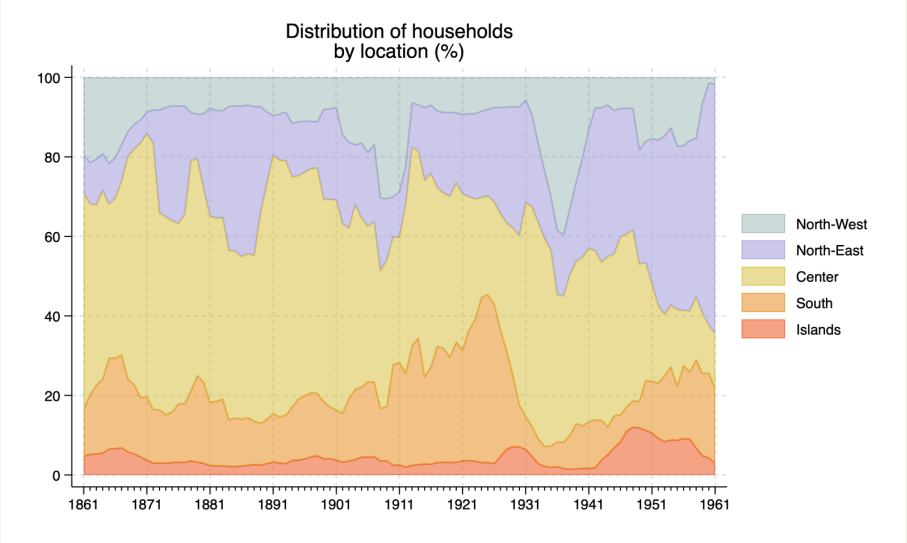


WP4: Contribution by Giovanni Vecchi
The Historical Household Budgets (HHB) Database

- Bank of Italy's SHIW (1977-2020) and Istat's surveys on household expenditures (1980-present day) are extended back to 1861 through the Historical Household Budgets (HHB) database.
- The final version of the database is expected to provide *yearly* household-level income (and/or expenditure) distributions from 1861 to the present day.
- For the period prior to SHIW and HBS, hh-level data are retrieved from a wide selection of historical sources available in public and private archives. Sources range from episodic large-scale national-level surveys to a myriad of other local documents.
- The development of Handwritten Text Recognition (HTR) is a critical step to process the historical material (mostly administrative data) that is being collected in the archives over the whole national territory.
- As of February 2024, the HHB database counts 95,432 records for the years preceding modern surveys.
- The expected size of the HHB database by the end of the project exceeds 3 million records.

HHB current temporal and spatial coverage





Issues for the platform

Supply all possible data, or data that will not be updated over time ?

Besides data, room on the platform for newsletter, questionnaire, reports?

Language: Italian, English, or both?

Thanks