Traumatic experiences adversely affect life cycle labor market outcomes of the next generation

Evidence from WWII Nazi raids

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- Between 50-85% experience a **Potentially Traumatic Event (PTE)**in lifetime
  - Being involved in a serious accident, losing a partner, being a victim of a crime or **witnessing acts of severe violence or terror**
- **PTE** pose a significant threat to physical and/or psychological well-being
- But may also extend to health and human capital of their **offspring**
- Large literature on **long run effects in utero exposure** to wars, famines, natural disasters
- We know that in utero exposure to traumatic event:
  - Affects **birth outcomes,** Childhood and adolescence **Mental health, Cognition** and **education**

    Lederman et al (2004); Camacho (2008); Black et al, (2016); Quintana-Domeque & Rodenas – Serrano (2017); Gitau Fisk & Glover (2002); Cotter & Pariante (2002); Aizer (2016); Persson & Rossin-Slater (2018)

- This may plausibly affect **entire labor market career** of the next generation
- No knowledge of effect of traumatic and stressful experiences on **entire labor career** of the next generation
- This paper aims to fill this gap and examines whether:

  1) Traumatic events experienced by pregnant mother shape **labor market outcomes** of their offspring from start of the career until retirement

  → Look at evolution of **wage earnings** over career

  → Examine whether **education**, **occupation** and **# unemployment spells** can explain the earnings penalty

  2) The prenatally exposed suffer more from **job loss** later in life

  → Use mass layoffs as a plausibly exogenous shock

Argue that **maternal stress** is likely to be the most important mechanism

- We use a specific historical setting:
  - **Unexpected proclamation** by Kingdom of Italy to seize hostilities against allied forces on September 8, 1943 (**The Armistice**)
  - German response was to occupy Italy and perform **violent raids** into municipalities to spread **fear and terror** and break potential resistance
  - Likely to cause great psychological trauma
- Design: exploit that Raids were **intentionally idiosyncratic** in time and space
- **Unique Historical** databases (raids and war casualties) linked to **Administrative data** (earnings, occupation, pensions & Soc Security) period **1974 – 2018**
- Use generalized DiD to examine effects of raids on **labor market outcomes** and consequences **job loss due to mass layoff** (Issue of **Dynamic complementarities**)

Why is this important? Is the historical setting still relevant?

- Unfortunately, **yes**…..
  - **Prevalence rate** of PTE/psychological trauma **high** across the globe
  - Shocks concentrated among **vulnerable** (low SES) people
    - Those living in **conflict areas** or **high crime** neighborhood/environment
    - More vulnerable after bereavement and to **other** adverse shocks (cf COVID)
- **Intergenerational persistence** in poverty and low SES
  - Vulnerable more often exposed + stress coping phenotype altered
- Targeted health care and social **policies** at vulnerable groups can be effective in mitigating lifelong effects of a bad start

WWII in Italy: stylized facts

- Start WWII in Italy in 1940, but **crucial date was Armistice** on September 8, 1943
  - Italy seized hostilities against the Allied forces
  - Onset of German occupation of Italy
  - Frontline started in the South and gradually moved up North <next slide>
  - Post-Armistice period accounted for 70% of all civilian casualties

- The Armistice gave rise to the outbreak of **violent Nazi raids**
  - Aimed at both the resistance fighters and Civilians
  - Deliberately **unexpected** in time and space (at least initially, also check this)
  - Aim: terrorizing population and disrupting social dimension => Psychological trauma
  - Heterogeneous: murderers, torture, deportations, property destruction


Avanzate alleate
Teste di ponte
Alleati
Andamento del fronte:
Aprile 1943
Ottobre 1943
Dicembre 1943
Giugno 1944
Settembre 1944
Aprile 1945
SVIZZERA
Bolzano
Belluno
Como
Salò
Feltre
Trieste
Milano
Padova
Torino
Verona
Venezia
Piacenza
Pola
Bologna
Genova
Rimini
Nizza
Mar
Pisa
Firenze
Ancona
Ligure
Bastia
Orvieto
Mare Adriatico
Elba
Corsica
(Fr.)
Gran Sasso
Pescara
Ajaccio
Roma
Montecassino
Foggia
Anzio
Bari
Sassari
Caserta
Brindisi
Napoli
Salerno
Sardegna
Mar
Taranto
Cagliari
Tirreno
I. Lipari
Catanzaro
Mar
I. Egadi
Palermo
Messina
Ionio
Reggio Calabria
Sicilia
Enna
Biserta
Mar
Catania
Licata
Gela
Siracusa
Tunisi
Noto
Pantelleria
Mediterraneo
Malta
Lampedusa

Three main data sources

I. **Data on Nazi Raids** (Violent episodes by Date, Municipality, Victim Type)

II. **Data on war casualties** (# victims armed conflicts by Month and Province)

III. **Administrative match worker-firm data** on demographics labor market and social security (INPS dataset)

- I & II Linked to III

In addition:

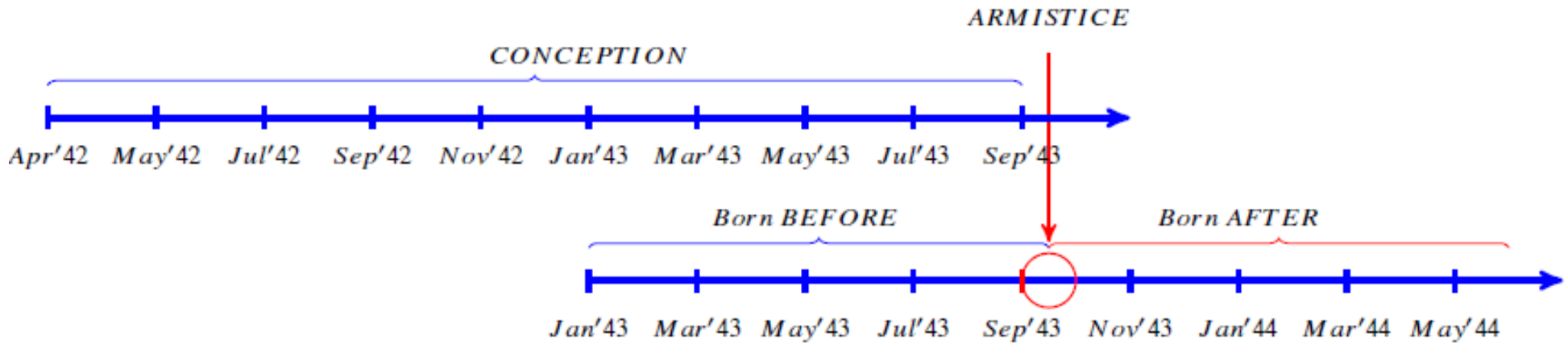
- **Health records from 900 GPs**, covering 1,8 million individuals
- Data can not be linked to (III), but can be linked to (I) and (II)
  → Use it to validate interpretation of our findings: **Is it psychological trauma/stress?** ✓

INPS data

- Individual level, **universe of Italian workers in the private sector** 1974-2018
  - Demographics:
    - → Birth date; Municipality of birth; Age at death
  - **Educational attainment** for a random subsample
  - **Labor** information:
    - → Age of first employment; occupation & earnings (1974-2018); Age at retirement and pension benefits; Firm of employment, contract termination; collection of social security benefits (UI, DI)
    - → **Matched** firm-worker information

Data selection

- Males born in **interval [-9,9] months surrounding 8 September 1943**



- Municipalities **< 200k**
- INPS register **283,975** male births in our analyses period
- **Exposure**: Raid in municipality when in utero (Assuming 9 month gestation)
- **7,8%** exposed in utero to Nazi raid (**22,194** males, **1,603** raids)

Outcome variables (INPS data)

- Log annual **earnings** in 2005, CPI adjusted (ages 30 – 60)
- **Education** (for those still at work after 2010)
- **Occupation** (Blue collar vs White collar) (ages 30 – 60)
- **DI** benefit receipt; **UI** benefit receipt (ever & number up to age 60)
- Age at **retirement**; First **pension** benefit
- Mortality (between age 30 and 60)
- **Job loss** due to mass lay-off (1983-2004)
  - **Mass Lay-off**: Firms > 25 employees facing reduction of 30%, Sullivan & Von Wachter, (2009)

Figure 8: Research design and causal effects identification: a directed acyclic graph

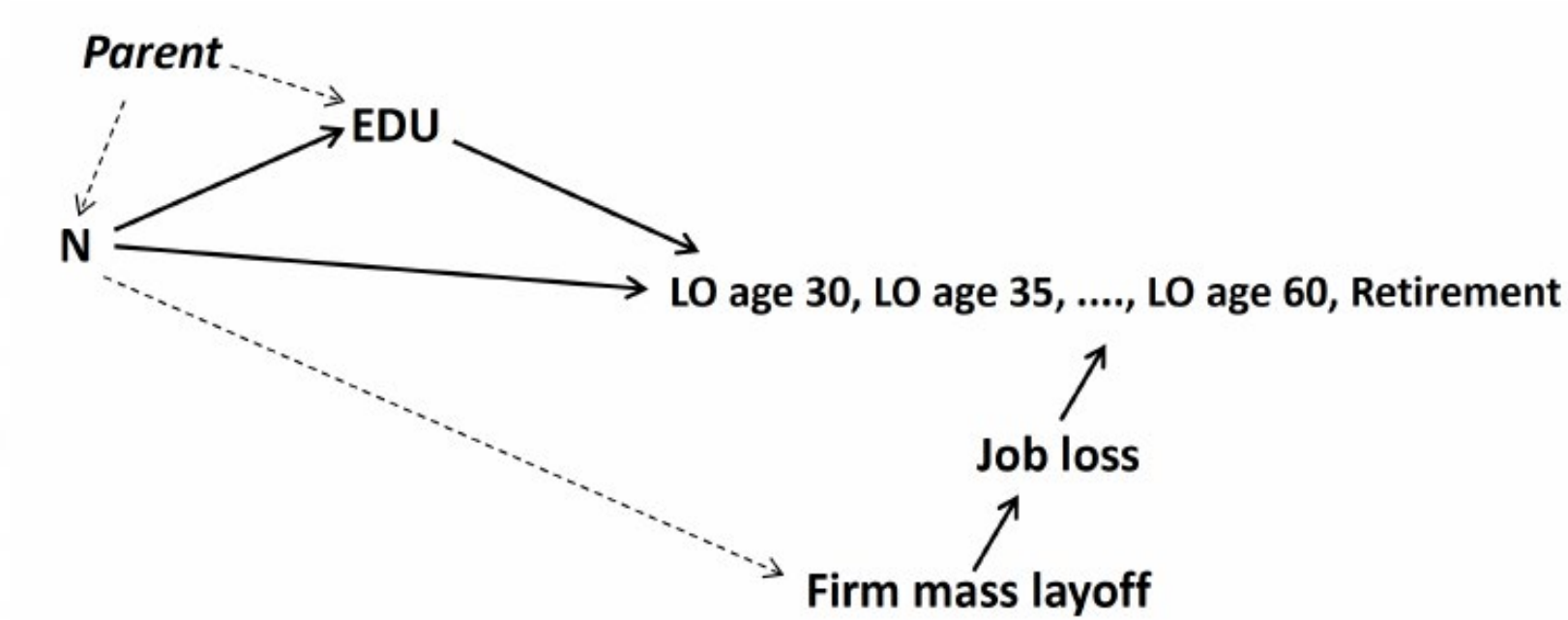


Table III: Descriptive Difference-in-Differences statistics of the sample of INPS men born between Janua 1943 and May 1944

	Control		*Treated*		*DiD*
	Before (*A*)	*After* (*B*)	*Before* (*C*)	*After* (*D*)	$(D-C)$ $-(B-A)$
earnings at 30	14579	15212	15183	15531	-285**
earnings at 40	19683	19917	20768	20622	-381**
earnings at 50	26049	26206	28721	27764	-1113***
earnings at 60	23865	24180	27689	26387	-1617***
blue collar at 30	0.8	0.8	0.73	0.77	0.04***
blue collar at 40	0.72	0.71	0.66	0.67	0.02***
blue collar at 50	0.69	0.69	0.63	0.64	0.01***
blue collar at 60	0.69	0.68	0.62	0.65	0.04***

Empirical model

- Generalized difference-in-differences:

$$y^a_{imt} = \beta^a_0 + \beta^a_1 Nazi_{mt} + \beta^a_2 War_{pt} + \alpha^a_m + \gamma^a_t + \delta^a_{tr} + \epsilon^a_{imt}$$

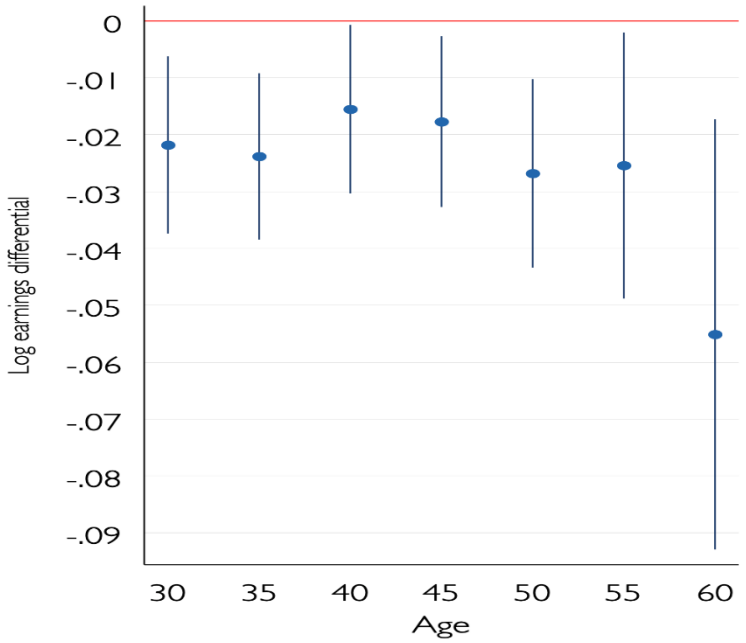
- Individual *i*, municipality *m*, born at time *t*, age *a*, province *p*, region *r*
- *Y* outcome variable at different ages
- *Nazi*, whether **exposed in utero** to Nazi raid
- *War*, general war effects (z-score, monthly #victims armed conflicts in province)
- Prime interest in β^a_1

  → Measures effect of **additional stress** over and above general war effects, municipality fixed effects, month x year fixed effects, regional trends

Things to worry about

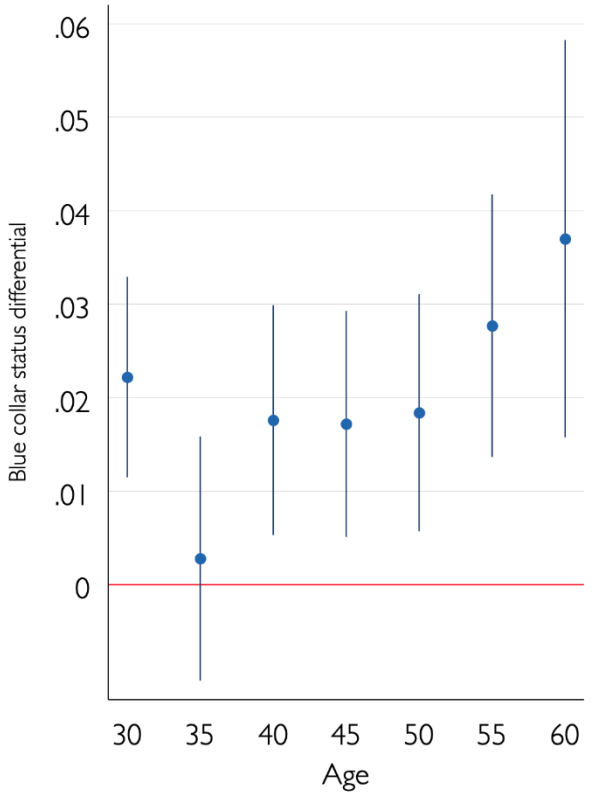
- Is the **assignment** of the **treatment** really **random?**
  - We condition on municipality fixed effects: **conditionally random** assignment ✓
  - Check for constancy of Municipality fixed effects ✓
  - Also analyses on treated municipalities only (exploit randomness in exact timing)
- Is it **stress?** (see later slide for results) ✓
  - Validate with **medical database** on medical expenditures (Neuro and Mental)
  - Data are primarily from rural areas (food situation was better)
- Is it (only) **prenatal**? (**Yes**, see later slide for results) ✓
  - Chronic psychological trauma (PTSS)/ income effects => Examine **1st** and **2nd** year of life effects
- **Parallel** pre-trends, shorter gestation, flexible time trends, spillover effects, falsification ✓

Effects on wage earnings



- Earnings effects already show up at the start of the labor market career and increase with age
  - → Do people sort into different jobs? (Education important?)
  - → Interrupted work careers?
  - → Differential retirement behavior?

Is it sorting into different type of jobs?



- Sorting into jobs can explain some of the earnings penalty

Table 6: The effect of in-utero exposure to a Nazi raid: Education attainment

	Presence in education sample	Less than secondary education	Tertiary education
Nazi raid	0.0013	0.0450**	-0.0357***
in utero	(0.0026)	(0.0188)	(0.0121)
WWII casualties (SD)	0.0005	0.0104	-0.0035
in utero	(0.0013)	(0.0076)	(0.0053)
R^2	0.0384	0.2359	0.2122
N	283,741	19,397	19,397
Time FEs	YES	YES	YES
Municipality FEs	YES	YES	YES
Reg trends	YES	YES	YES

Table VI: Other outcomes before age 60.

	Disability before 60	Dead before 60	Age at retirement	First pension (log)	No. Unemployed before 60
Nazi raid	0.0007	-0.0028	0.0595	-0.0209**	0.0309*
in utero	(0.0018)	(0.0028)	(0.0562)	(0.0093)	(0.0159)
WWII casualties (SD)	0.0033***	0.0006	0.0117	-0.0051	-0.0025
in utero	(0.0012)	(0.0009)	(0.0192)	(0.0034)	(0.0083)
R^2	0.0413	0.0627	0.1970	0.055	0.0535
N	283,720	283,720	227,987	227,987	283,720
Time FEs	YES	YES	YES	YES	YES
Municipality FEs	YES	YES	YES	YES	YES
Reg trends	YES	YES	YES	YES	YES

- **Mediation analyses** Adverhyu, Fenske & Nyshadham, JPE2019 shows that 42% of treatment effect can be explained by **education**

So, we find that **interruptions** in labor career are relevant for earnings penalty at later ages

- But maybe not just # unemployment spells, but **larger earnings penalty** after job loss of those exposed to in utero stress
  - Medical literature shows that in utero **stress/psychological trauma affects stress coping phenotype**
  - Besides direct medical effect **indirect behavioral effect**: social networks and/or effectiveness of job search strategies

Effects of a Job loss due to mass lay-off (DiDiD)

- **Mass lay-off** convenient (**exogenous**); use definition from literature
- Mass lay-off **assignment independent from in utero Nazi raid** exposure ✓

$$y^a_{imt} = \beta^a_0 + \beta^a_1 Nazi_{mt} + \beta^a_2 LO^a_{it} + \beta^a_3 LO^a_{it} * Nazi_{mt} + \beta^a_4 War_{pt} + \alpha^a_m + \gamma^a_t + \delta^a_{tr} + \epsilon^a_{imt},$$

	age 45	age 50	age 55	age 60
Layoff	-0.3061***	-0.2648***	-0.3077***	-0.3293***
	(0.0105)	(0.0100)	(0.0129)	(0.0195)
Nazi raid	-0.0245***	-0.0238***	-0.0208*	-0.0528***
in utero	(0.0078)	(0.0082)	(0.0122)	(0.0197)
Layoff × Nazi raid	- 0.0223	-0.0603**	-0.0881**	-0.0135
in utero	(0.0351)	(0.0294)	(0.0415)	(0.0603)
WWII casualties (SD)	-0.0062*	-0.0067*	-0.0105**	-0.0049
in utero	(0.0034)	(0.0034)	(0.0049)	(0.0070)

- So, a bad start **amplifies negative effects** of later life employment shocks
- **Dynamic complementarities** in skills: investments made in later life are more productive when initial stock of skills is higher
- Conversely, a **negative shock** in life **amplifies** effects negative shocks later in life
- We have two orthogonal shocks as required, but…
- Still empirically difficult to test since **parents** make **investments** in their children
- Following Yi et al (2015), the total effect of a prenatal shock (*e*) on human capital at adult ages (θ) can be decomposed into

$$\underbrace{\frac{\mathrm{d}\theta}{\mathrm{d}e}}_{A} = \underbrace{\frac{\partial\theta}{\partial e}}_{B} + \underbrace{\frac{\partial\theta}{\partial I}}_{C} \times \underbrace{\frac{\partial I}{\partial e}}_{D}.$$

- So, when **parents** make **compensating investments** as a response to the shock *C*x*D* will be negative
  - This will lead our effect to **underestimate** the true effect of job loss
- When parents make reinforcing investments (only invest in the high endowed child) *C*x*D* will be positive
  - Effect of job loss overstates the true effect
- Finding that there are penalties => parents do not make fully compensating investments

More on the interpretation of the Nazi raid effect
(Is it psychological trauma/stress and is it prenatal?)

Is it stress?

Medical database: Drug expenditures for specific disease types at the patient level

	(1) Neuro/ Mental.	(2) Cardio/ Diabetic	(3) Respir. syst.	(4) Hormone syst.	(5) Neoplasms	(6) Skin	(7) Musculo/ skeletal
Nazi raid	14.68607**	-.8137636	.2053017	.0604989	-6.213564	-1.089221	-1.453942
in utero	7.027016	3.318328	395272	.5167893	4.91778	.7845821	1.146788
WWII casualties (SD)	-2.4008	-.1176307	-.0043448	.8692845	-4.107407	-.2607241	-.8289242*
in utero	2.271634	1.307562	.0833904	.6241549	3.653428	.2934628	.4665404
Time FEs	YES	YES	YES	YES	YES	YES	YES
Municipality FEs	YES	YES	YES	YES	YES	YES	YES
Reg trends	YES	YES	YES	YES	YES	YES	YES
GP FEs	YES	YES	YES	YES	YES	YES	YES
AGE	YES	YES	YES	YES	YES	YES	YES
N	82,299	82,299	82,299	82,299	82,299	82,299	82,299

- **Only neurological/mental** health affected, no effect on other disease categories
- Food situation was not as bad as in other countries and mainly bad in big cities
  - **Indeed, no effect** on Cardio & Diabetes (associated with undernutrition)

Is it prenatal?

- Possible **lasting effect** of traumatic event on parental behavior, parenting skills, income

  => Examine effects of exposure at later ages (cf common pre-trend)

	Earnings at 30	Earnings at 35	Earnings at 40	Earnings at 45	Earnings at 50	Earnings at 55	Earnings at 60
First and Second year effects model [-24,9] window							
Nazi raid in utero	-0.0177** (0.0084)	-0.0337*** (0.0076)	-0.0137** (0.0067)	-0.0206*** (0.0069)	-0.0342*** (0.0081)	-0.0225* (0.0121)	-0.0372** (0.0190)
Nazi raid 1st year	0.0131 (0.0092)	-0.0057 (0.0067)	0.0038 (0.0058)	0.0027 (0.0063)	-0.0003 (0.0072)	0.0038 (0.0112)	0.0205 (0.0188)
Nazi raid 2nd year	0.0229 (0.0177)	0.0011 (0.0068)	0.0043 (0.0060)	0.0037 (0.0064)	-0.0015 (0.0073)	0.0013 (0.0111)	0.0042 (0.0183)

- No effect of exposure in first and second year of life for all outcome measures

Some additional checks

- **Common trend**
  - See also results 1st and 2nd year effect
- **Robust to:**
  - Flexible province trends/ Using only the fist 6 months/ changes in length of gestation/ change municipality cap
- **No spillover effects to neighboring municipalities**
- **Conditional random assignment/Alternative identification strategy**
  - Confirms occupation and layoff effects, earnings at later ages become smaller
- **Falsification test**
  - Randomly assign Nazi raids to individuals (5000 pseudo treatments)

Selection issues

- **Private sector workers are special?**
  - No
- **Fertility?**
  - Focus on conceived before Armistice (born in interval [-9,9] around September 8, 1943)
- **In utero selection?**
  - No birth records at that time, but regional level data on cause specific mortality

    => Pregnancy complications increase with WWII, but not with Nazi raids
- **Follow up mortality**
  - Examined cohort sizes at age 30 and probability of dying before age 60
- **Selective regional mobility**
  - Take treated municipalities and see if cohort sizes are different pre- and post treatment (also check on anticipation/non-randomness)

Conclusions

- We examine effect of in utero exposure to **traumatic events and related stress on later labor outcomes** of the offspring
- **Unique design:** randomly placed violent Raids across municipalities
- **Unique administrative data on universe of private sector workers** in Italy and link this to **historical data bases**
  - War casualties due to armed fights Germans and Allied forces
  - Detailed data about the timing and placing of Nazi raids
- We **start where others have stopped**
  - Effects on life-long earnings, occupation, pensions, retirement, mortality, DI and UI
  - Of particular relevance how the exposed cope with a job loss (due to mass lay-off)

- **Prenatal exposure to traumatic and stressful event** leaves a **permanent scar** that leads to worse labor market outcomes and ultimately pensions
- This is due to lower education, the **type of job** and **interruptions** in the **working career** due to unemployment
- **Stress vulnerability** may be an important mediator
- We find that a **bad start amplifies negative effects of later life shocks**.
- This suggests that **dynamic complementarities in skills** may be important
  - Investments in later life are more productive if the initial stock of kills is higher (Cunha & Heckman (2007) and conversely bad start amplify negative effects of shocks later in life
  - Also shows that parents do not make fully compensating investments

- Back of the envelop calculations show:
  - Per-person **PDV** of income losses (in 2005 euros) due to traumatic event is estimated at 14,219 euros = one year of earnings at age 30
  - It leads to **13%** increase in **probability to buys drugs** and **17%** increase in **medical expenditures** for diseases of the nervous system and mental disorders
  - Persson & Rossin-Slater find 13% increases of offspring of bereaved mothers
- Results of **direct policy relevance** and may guide policy makers in allocating resources

- Relates to situations where people are subject to **violence related stress**
  - —Cf Conflict areas, wars, but also living in high crime areas in developed world
- But also extends to stress associated **COVID-19 crisis**
  - —Health and well-being of loved ones, but also uncertainty and effects on job loss
- It is generally the low SES who suffer most => **intergenerational persistence** in low SES
- **Interventions in childhood**, or policies aimed at families living in adverse conditions could **avert a bad start** in the labor market
- Such policies could also **moderate adversities of negative shocks** during the course of the life cycle and reduce intergenerational **persistence** in **low SES**

Table II: Descriptive statistics for INPS men born between January 1943 and May 1944

	Mean	Std. Dev.	N. obs.
Nazi violence in utero	0.08	(0.27)	283,975
War victims in utero (# for 100k province pop.)	57.08	(69.38)	283,975
First year of earnings	1977	(6.61)	283,975
Last year of earnings	1994	(9.77)	283,975
Number of years with positive earnings	16	(9.89)	283,975
Earnings at 30	15014	(8123)	211,641
Earnings at 40	19999	(10240)	187,049
Earnings at 50	26582	(18626)	58,164
Earnings at 60	24712	(24785)	47,560
Blue collar at 30	0.79	(0.41)	211,641
Blue collar at 40	0.71	(0.46)	187,049
Blue collar at 50	0.68	(0.47)	158,164
Blue collar at 60	0.68	(0.47)	47,560
Ever disabled	0.11	(0.31)	283,975
Ever unemployed	0.22	(0.42)	283,975
Ever unemployed due to mass layoff	0.10	(0.27)	283,975
Retired	0.82	(0.39)	283,975
Retirement age	58	(5.39)	232,035
First monthly retirement pension	1173	(859)	232,035
Dead	0.24	(0.43)	283,975

Notes: The dark spots on the map indicate municipalities with a registered Nazi raid in the period September 1943 and May 1944.

Figure 2: Evolution of Nazi rides in the 9-/9+ around Armistice window

Sep 1943

Oct 1943

Nov 1943

Dec 1943

Jan 1944

Feb 1944

Mar 1944

Apr 1944

May 1944

B.2 Layoffs assignment

Table B2: Layoff event random assignment robustness check.

	layoff at anytime	layoff at 45	layoff at 50	layoff at 55	layoff at 60
Nazi raid	-0.0013	0.0001	-0.0018	-0.0006	0.0017
in utero	(0.0027)	(0.0018)	(0.0024)	(0.0023)	(0.0026)
WWII casualties (SD)	0.0000	-0.0004	-0.0009	0.0001	0.0001
in utero	(0.0013)	(0.0009)	(0.0011)	(0.0009)	(0.0011)
R^2	0.0426	0.0454	0.0513	0.0528	0.0666
N	283,741	187,135	170,830	158,232	101,124
Time FEs	YES	YES	YES	YES	YES
Municipality FEs	YES	YES	YES	YES	YES
Reg trends	YES	YES	YES	YES	YES

Municipality selection

- since study **potential exposure** rather than actual **victimization**, we concentrate on municipalities with resident population < 200k (sensitivity test to the treshold)
- 75% of episodes counted less than 5 victims, only 8 episodes registered more than 50 victims
- 6 municipalities registered repeated episodes (Montenerodomo, Acquila, Ateleta, Chieri, Cesena e Ravenna) - disregard them
- The average duration was of 1.7 days, 90% of them lasted 1 day only, only 1% lasted more then 17 days -disregard them

Table C1: The assignment of Nazi raids to municipalities.

	Nazi raid event (1943.09-1944.05)	
	Coefficient	Joint sign. (p-val)
Log population size	0.026***	0.1434
	(0.004)	
Population density	0.006	0.2930
	(0.008)	
Mortality 65+	0.001	0.2394
	(0.001)	
Low education	-0.006	0.2801
	(0.003)	
Log per-capita income	-0.006	0.3928
	(0.015)	
Sea access municipality	-0.010	0.6498
	(0.008)	
Snowfall	-0.000	0.2823
	(0.000)	
Rainfall	-0.000	0.1558
	(0.003)	
Maximum temperature	0.001	0.4966
	(0.001)	
Minimum temperature	-0.005***	0.6234
	(0.002)	
N	8,091	
R^2	0.11	

Table C1: Effect of prenatal exposure to Nazi raids on health expenditure types.

	(1) Neuro/ Mental.	(2) Cardio/ Diabetic	(3) Respir. syst.	(4) Hormone syst.	(5) Neoplasms	(6) Skin	(7) Musculo/ skeletal
Nazi raid	14.68607**	-.8137636	.2053017	.0604989	-6.213564	-1.089221	-1.453942
in utero	7.027016	3.318328	.395272	.5167893	4.91778	.7845821	1.146788
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in utero	2.271634	1.307562	.0833904	.6241549	3.653428	.2934628	.4665404
Time FEs	YES	YES	YES	YES	YES	YES	YES
Municipality FEs	YES	YES	YES	YES	YES	YES	YES
Reg trends	YES	YES	YES	YES	YES	YES	YES
GP FEs	YES	YES	YES	YES	YES	YES	YES
AGE	YES	YES	YES	YES	YES	YES	YES
N	82,299	82,299	82,299	82,299	82,299	82,299	82,299

Table C3: Effect of prenatal exposure to Nazi raids on probability of consuming various drug types.

	(1) Neuro/ Mental.	(2) Cardio/ Diabetic	(3) Respir. syst.	(4) Hormone syst.	(5) Neoplasms	(6) Skin	(7) Musculo/ skeletal
Nazi raid	.0363725*	.009888	.0025408	-.0028159	-.0011372	-.0059475	-.031536
in utero	.0206139	.0165968	.0058697	.010909	.0042813	.00794	.0207016
WWII casualties (SD)	-.0069781	-.0038541	.0002067	-.0047323	-.0033508*	-.0028436	.0004971
in utero	.0062256	.0055323	.0015742	.0038085	.0018029	.0032363	.0079697
Time FEs	YES	YES	YES	YES	YES	YES	YES
Municipality FEs	YES	YES	YES	YES	YES	YES	YES
Reg trends	YES	YES	YES	YES	YES	YES	YES
GP FEs	YES	YES	YES	YES	YES	YES	YES
AGE	YES	YES	YES	YES	YES	YES	YES
N	82,299	82,299	82,299	82,299	82,299	82,299	82,299

Table B16: Effect of Nazi raids on municipality level cohort size.

	cohort size 30-year-olds	cohort size 40-year-olds	cohort size 60-year-olds	cohort size 70-year-olds
Nazi Raid	0.0053	0.0055	0.0027	-0.0041
	(0.0138)	(0.0138)	(0.0130)	(0.0119)
WWII casualties	0.0011**	0.0011	0.009*	0.0007
(SD)	(0.0005)	(0.0008)	(0.0006)	(0.0005)
R^2	0.2979	0.2980	0.2880	0.2707
N	135,150	135,150	135,150	135,150
Time FEs	YES	YES	YES	YES
Municipality FEs	YES	YES	YES	YES
Reg trends	YES	YES	YES	YES

Figure B5: Monthly cohort sizes observed at the age of 30.