Inheritance and wealth inequality: Evidence from population registers

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Starting point

• Wealth has become more unequally distributed
• Flows of inherited wealth has increased
• **How do inheritances influence the wealth distribution of heirs?**

  “...*Inheritance perpetuates and may intensify inequalities arising originally from other causes. ... The extent of its influence on distribution remains an open question, which cannot be decided merely by theoretical reasoning ... but requires in addition something in the nature of a quantitative analysis of the relevant facts.*”

  Wedgwood, 1929, pp. 60-61.
Key advantage: Population wide register data

• New Swedish database

• *All* decedents and *all* their heirs

• Inheritance years (*cohorts*): 2002–2005

• Details about estates, inheritances (incl. 0’s), insurances, taxable gifts

• Panel data on marketable net worth (*wealth*) of the heirs
  • Exclude spousal bequests

⇒ Leaves us with: 200,000 decedents and 600,000 heirs
What we find

• Inheritances are unequally distributed

• Inheritances *reduce* wealth inequality!  
  (I’ll explain why!)

• Inheritance taxation plays minor role, but may *increase* inequality  
  (I’ll explain why!)

• Mobility increases: poor move up and rich fall down!
Causal effect

• DiD: Compare evolution of wealth distributions across cohorts

• **Cohorts**: inherited vs. not yet inherited

• Counterfactual is thus not a world without inheritances!
The distributions of estates and inheritances

**SKEWED!**

Decedent: 82 years
Estate >200,000 SEK

Heir: 55 years
Inheritance <100,000 SEK

10 SEK ≈ 1 Euro
The effect of inheriting on the wealth distribution: A graphical analysis

Cohort 2002 in 2001 vs. 2003

Cohort 2004 in 2001 vs. 2003
The effect of inheriting on... Placebo

**Cohort 2002 in 1999 vs. 2001**

**Cohort 2004 in 1999 vs. 2001**
Development of the Gini coefficient

![Graph showing the development of the Gini coefficient from 1999 to 2007 for different cohorts. The graph indicates that the Gini coefficient decreases over time for each cohort.]

- 2002 cohort inherits
- 2003 cohort inherits
- 2004 cohort inherits
Why do inheritances reduce wealth inequality? – *Relatively* more important for the less wealthy!

Figure: Inheritance by wealth deciles
What is the role of the Swedish inheritance tax?

Progressive $\tau_B$: 0, 10, 20, and 30 percent

But, the average, effective tax rate was rarely above 20 percent

Finding: The tax may actually have contributed to increased wealth inequality among heirs!

Caveats:
1) A more progressive tax may yield a different result
2) Does not account for redistribution of inheritance tax revenues
3) Does not account for popular sentiments towards equalization
How can a progressive inheritance tax increase wealth inequality?

Figure: Inheritance tax payments by wealth decile
Mobility effects

Evolution of Shorrocks-Prais index (trace in tr.matrices)
Concluding remarks

• Inheritances *reduce* wealth inequality among heirs
  – Similar results in survey data (e.g. US: Wolff (2002, 2003), Gittleman & Wolff (2014), SWE: Klevmarken (2004) UK: Karagiannaki (2011), Crawford & Hood (2015), Japan: Horrioka (2009)

• Limitations/Need for more analysis:
  – Cannot perfectly account for pre-inheritances responses
  – ...or the impact of all inter vivos gifts
  – Need to distinguish between lifecycle and inherited wealth of donees?
  – Inheritance tax analysis still incomplete
# Descriptives of heirs

| Cohort:                                    | 2002       | 2003       | 2004       | 2005       |
|--------------------------------------------|------------|------------|------------|------------|
| Age at inheritance                         | 54.5       | 54.6       | 54.9       | 55.1       |
| Child of the decedent (%)                  | 56.7       | 57.1       | 55.6       | 59.4       |
| Woman (%)                                  | 50.7       | 50.5       | 50.7       | 50.6       |
| Married (%)                                 | 53.8       | 53.2       | 52.7       | 52.3       |
| Upper secondary or post-graduate degree (%)| 24.6       | 25.4       | 25.7       | 26.2       |
| Taxable labor income $t−1$ (SEK)           | 220,041    | 224,993    | 227,687    | 234,903    |
| Wealth $t−1$ (SEK)                         | 638,967    | 590,612    | 625,364    | 691,191    |
| Gross inheritance (SEK)                    | 82,520     | 83,430     | 88,791     | n.a.       |
| Net inheritance (SEK)                      | 73,025     | 73,737     | 78,131     | n.a.       |
| Paying inheritance tax (%)                 | 32.9       | 33.0       | 34.2       | n.a.       |
| Have received taxable gifts (%)            | 1.9        | 1.9        | 2.0        | n.a.       |
| Taxable gifts (SEK)                        | 2,683      | 2,796      | 2,866      | n.a.       |
Inheritance effects on wealth inequality

| Outcome:                  | Gini | P90/P50 | P99/P50 | Top1% | Top10% | Bot. 50% | CV  | P75-P25  | P99-P1  |
|---------------------------|------|---------|---------|-------|--------|----------|-----|----------|---------|
| Treatment effect ($\delta$) | −0.035*** | −0.601*** | −1.876** | −0.023** | −0.029*** | 0.018*** | −4.320 | 64,998*** | 259,586* |
|                           | (0.008) | (0.163) | (0.831) | (0.010) | (0.004) | (0.005) | (3.007) | (15,484) | (128,255) |
| Mean of $y$               | 0.802 | 6.609   | 20.618  | 0.189 | 0.556  | −0.015  | 6.79 | 765,926  | 5,545,335 |
| Effect in %              | −4.36 | −9.10   | −9.10   | −12.70 | −5.21  | −       | −63.62 | 8.49     | 4.68     |

The direct mechanical effect on Gini: **6 percent reduction**
Sensitivity analyses

- Different inequality measures (CV, Top shares, Percentile ratios):
  - ineq. effect decreases, but dispersion increases

- Adjusting for (potential) undervaluation of assets: same result!

- Children heirs only: same result!

- Gifts as inheritance in advance: larger effect

- Expectations and pre-inheritance wealth accumulation: little impact