Values for Grandchildren: The Role of Grandparents in Intergenerational Transmission of Income

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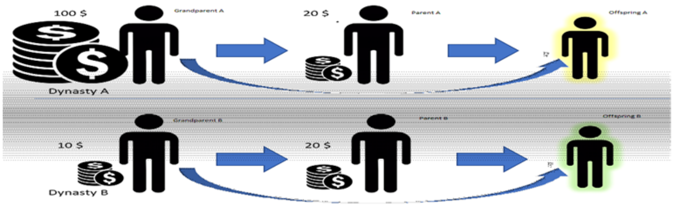
Abstract

Grandparents are fundamental pillars of families and societies. They transmit skills and values to the future generations, invest in parental human capital, provide child-care throughout direct interactions, and are bequest givers.

The aim of this paper is to analyze and quantify the impact of grandparents' socio-economic situation during different periods of their working age on the income of the two subsequent generations. For doing this, we exploit the universe of the Danish population from 1980 to 2019 and their correspondent detailed individual information on demographics, education, income, wealth, and labor history. We focus on dynasties composed by grandparents, parents and children.

Inspired by the theoretical model on inequality transmission across multiple generations introduced by *Solon (2014)*, our empirical model studies whether individual income can be explained by the parents' and grandparents' income. Using as instrument the firms' mass lay-off events in the middle of grandparents' career (i.e., between 45–55-year-old), we find that grandparents' income has a positive and significant effect on grandchildren's one and can be quantified in about 25% of the total effect of the intergenerational transmission. This direct effect is beyond the indirect effect of grandparents through parents' income. In addition, we identify larger effects once maternal grandmothers or retired grandparents living close to the grandchildren are considered.

Research Questions



This paper investigates

1) How is **income transmitted** over **multiple generations.**

2) Whether **grandparents** can play a role in this transmission.

Danish Registered Data

We contribute an answer to these questions by constructing genealogical trees of the entire Danish population during the period **1980-2019** combined with very rich administrative datasets of the Danish population.

These dataset offer an exceptional opportunity for studying intergenerational transmission of income across **three different generations**. We link grandparents, parents, and offsprings and we collect **yearly individual information** on

1) **Demographics** (*age, gender, address of residence*)
2) **Education**
3) **Wealth and types of income** (such as *labor income, self-employment income, capital gains, social benefits*)
4) **Labor outcomes** (firm's characteristics and labor history).

Descriptive Statistics. Data reported in US Dollars

	Mean	SD	N
Employee	0.85	0.36	739,943
Income	33,507.86	26,904.26	739,943
Employee (f)	0.93	0.26	313,722
Income (f)	40,497.78	22,803.68	313,722
Employee (m)	0.89	0.31	364,892
Income (m)	24,746.40	16,909.34	364,892
Employee (pGF)	0.73	0.45	137,411
Income (pGF)	30,143.33	31,352.13	137,411
Employee (pGM)	0.55	0.50	165,805
Income (pGM)	13,237.39	17,711.97	165,805
Employee (mGF)	0.73	0.45	160,592
Income (mGF)	30,428.62	31,428.78	160,592
Employee (mGM)	0.55	0.50	188,530
Income (mGM)	13,847.59	18,089.28	188,530

f: father, m: mother, pGF: paternal grandfather, pGM: paternal grandmother, mGF: paternal grandfather, mGM: paternal grandmother.

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Estimation strategy

Our estimation strategy is based on the following equation:

$$ln(y_k) = \beta_0 + \beta_1 ln(y_p) + \beta_2 ln(y_{gp}) + \varepsilon_k$$

	Rank(Income)			Ln(Income+1)		
	(1)	(2)	(3)	(4)	(5)	(6)
MatGF	0.00564*			0.00791***		
	(0.00271)			(0.00190)		
MatGM	0.0115***			0.0143***		
	(0.00267)			(0.00181)		
PatGF	-0.00439			0.00302		
	(0.00275)			(0.00191)		
PatGM	0.00421			0.00809***		
	(0.00271)			(0.00181)		
M_GParents		0.000925			0.00808***	
		(0.00130)			(0.000925)	
P_GParents		-0.0173***			0.00107	
		(0.00160)			(0.000937)	
All GParents			0.0183***			0.00209*
			(0.00158)			(0.000925)
Constant	43.85***	46.74***	45.10***	7.799***	8.262***	8.265***
	(0.289)	(0.0943)	(0.135)	(0.0558)	(0.0158)	(0.0158)
Observations	136698	567391	567391	136734	566648	566973
R2	0.04	0.03	0.03	0.01	0.01	0.01
Parental Income (ind.)	Yes	No	No	Yes	No	No
Parental Income (HH)	No	Yes	Yes	No	Yes	Yes

Standard errors in parentheses
SE clustered at the parental household level.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

We find that

- **Transmission is not memoryless of earlier generations** with a positive (although small) direct of grandparents.
- **Maternal prevalence** in the transmission.
- In addition, **time and geography do matter:** the effect is larger if the grandparent is living close to the offspring; in addition, it is also large if the grandparent is in

These results are consistent when the grandparents' income is instrumented by **mass-layoffs** when grandparents are in the middle of their own labor history (*i.e.*, during the retirement age). This instrument is

- Inspired by *Oreopulos et al. (2008)*
- It should be considered exogenous to grandparents' characteristics since
  1. It is orthogonal to grandparents' characteristics, as the decision to lay off is a result of external economic shocks in the Danish labor market.
  2. At the same time, Danish labor market is very flexible.

Conclusions

Our research highlights the role of grandparents in the human capital development of their grandchildren. We find that grandparents play a role in the dynamics of intergenerational transmission. In particular, we find that retired grandparents and/or those living next to their offspring tend to have a more significant influence.

This research question can be seen as an extension of the Becker and Tomes (1986) model, accounting for grandparental-nephew interactions. This would offer a more complete understanding of family dynamics and human capital accumulation.

Our results are also confirmed when we use mass layoffs as an instrument to identify causal effects

References

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