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Descriptive Finding

Income sources and intergenerational transfers in different regimes: The case of East Germany's transformation

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Abstract

BACKGROUND
Intergenerational transfers are a fundamental feature of the economic life cycle. In western welfare states, private transfers typically flow from members of the older generations to their children and grandchildren, especially when in need, while public transfers tend to flow in the opposite direction.

OBJECTIVE
This paper shows the changes in the relative importance of various income sources, such as labor income and public and private transfers, among eastern Germans of different age groups from 1988 to 2008. This period of rapid societal transition represents a quasi-natural experiment setting that allows us to study how different political regimes shape the patterns of income and transfers among different age groups.

METHODS
To study the income and transfer patterns among different age groups, we use the National Transfer Accounts method and rarely used data sources, such as the income survey of blue-collar and white-collar worker households conducted in 1988 in the German Democratic Republic (GDR).

RESULTS
We find that there was a shift in income and transfer patterns immediately after the fall of the Berlin Wall. We show that the elderly gained the most from reunification, and transferred an increasing fraction of their income to their children and grandchildren.

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1. Introduction

As individuals age and progress through various life stages, the relative importance of specific income sources changes. People are initially dependent on transfers, and then work to support themselves. In most western welfare states, individuals can look forward to receiving a public pension when they reach older ages. However, as the living and family arrangements of individuals vary, people may have different preferences regarding how their income is used. For example, some people may want to use their income to finance their own consumption, to save their income, or transfer it to others. We study these issues within the natural-experiment setting of Germany before and after reunification. During this period, eastern Germany underwent a structural break that changed societal arrangements and influenced almost all areas of life. The Berlin Wall fell unexpectedly in 1989, after four decades of separation. Just half a year later, eastern Germans were integrated into the western German welfare state. From 1990 onward, money was channeled to the east through the social security system and in the form of direct subsidies to raise the living standards of easterners to equal those of westerners (Wagner 2001).

Earlier research has shown that case studies from countries in which clear structural breaks have occurred are very valuable for helping us gain a better understanding of the impact sudden political changes have on the lives of individuals. The end of the Apartheid regime in South Africa is an important example. Case and Deaton (1998) showed that when elderly black South Africans were granted access to the country's pension system, their living conditions changed. The study also found that having a higher income was beneficial not only for the health and material circumstances of the individuals who received these pension benefits, but also for the health and well-being of their families. Downward transfers from the elderly were equally beneficial for young women in these extended families (Duflo 2003).

Our case study on eastern Germany contributes to this research. We focus on a structural break, and describe two emerging patterns. First, we document how the income patterns of eastern Germans changed after reunification. We show that the relative importance of different income sources and the relative magnitude of labor income and public pension transfers for different age groups changed after reunification. Second, we study how elderly people in eastern Germany used their increased pension income. In relative terms, eastern German pensioners and individuals close to pension age experienced the biggest gains in income, as they benefited from the generous western German pension system. Meanwhile, a large percentage of younger individuals suffered from unemployment. Our study suggests that the wealth gained by the elderly was shared within families across generations.

Using data from the only income and expenditure survey that was carried out in eastern Germany prior to reunification, we are able to calculate, for the first time, income profiles for eastern Germans before and after the dissolution of the GDR. Using the National Transfer Account methodology, we are able to make these combined pre- and post-reunification data internationally comparable. Thus, we show, for the first time, the rapid transformation of a country as it transitioned from having a socialist economy to having a market economy. Especially as the population ages, studies that focus on how individuals support themselves as they age offer important insights (Lee and Mason 2011). By comparing the years before and after reunification, we are able to describe how eastern Germans supported themselves while living in the GDR, and how these patterns changed as they were integrated into the economic, political, and social system of the Federal Republic of Germany (FRG).

2. Data and methods

To address the question of how patterns of income and of public and private transfers among eastern Germans changed after reunification, we use the National Transfer Account (NTA) methodology. This theoretical framework is based on Samuelson (1958), Diamond (1965), and Lee (1994). NTAs offer detailed information on income, the utilization of public expenditures and revenues by age, and the corresponding private transfers by age. To estimate the NTAs for eastern Germany, a micro-survey is used that allows us to calculate relative age shares for synthetic cohorts. The income variables used for this analysis are reported on the individual level. The age profiles are then scaled to match the macroeconomic control totals of the respective year. The micro-surveys used for this study are the 1988 income survey for the GDR, and the Income and Expenditure Surveys for 1993, 2003, and 2008, by region.

The 1988 income survey of blue-collar and white-collar worker households (Statistik des Haushaltsbudgets 1988/89) is one of the rare representative, individual-level data sources from the GDR. It contains information on 30,000 households with around 80,000 individuals. The survey collected information on income level, income composition, and changes in income (Staatliche Zentralverwaltung für Statistik 1988). The German Income and Expenditure Surveys in 1993, 2003, and 2008 (Einkommens- und Verbrauchsstichprobe, or EVS) serve as the micro-foundation of the relative age shares for the later years. The EVS is based on a representative quota sample of Germany's private households, and provides information on income, consumption, transfers, savings, and assets. We assume that the originally reported values for private transfers hold true, and that the transfers from the rest of the world equal zero.

Population estimates are available in one-year age groups, and are provided by the German Federal Statistical Office. Macro-control totals to match the System of National Accounts are provided by the National Accounts of the Federal Statistical Office of the respective year.

To compare the estimates for several years, we normalize the results and express them relative to the average labor income of a prime-age adult (age 30–49). This normalization is especially useful given that the realistic exchange rate for the GDR mark is unknown. Estimates of the value of the currency range from the official exchange rate of 1:1 to 10:1. All of the results are smoothed with the Friedman "supersmoother" in R, using the population of eastern Germany as weights.

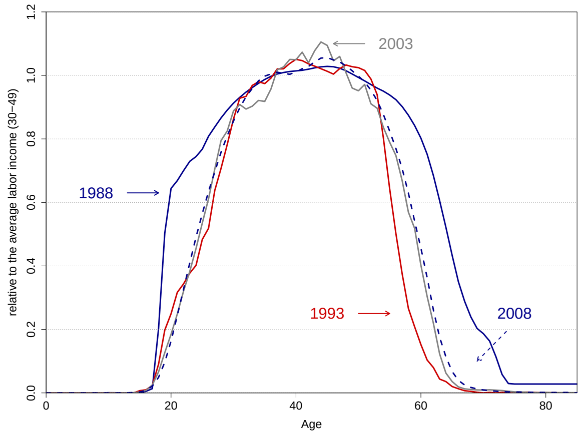
3. Results

3.1 Changes in income sources

We show the major income sources (i.e., labor income and public pension income) of individuals at different ages, and how these sources changed during the transition period. Figure 1 displays the labor income by age, normalized to the average income of a prime-age adult in the respective year. Labor income refers to the compensation of employees, and does not include income from self-employment, as very few eastern Germans were and are self-employed. In 1988, we see a very evenly distributed income profile over all ages. A steep rise in income before age 20 indicates that most people entered the labor market early; less than one percent of the population were enrolled in tertiary education (Statistisches Amt der DDR 1990). At around age 60, individuals started to exit the labor market, and thus no longer generated income from paid employment. The majority of eastern Germans were employed, even most mothers (Rosenfeld, Trappe, and Gornick 2004). The profiles for the later years are more compressed due to the longer periods of time spent in education, early retirement, and unemployment.

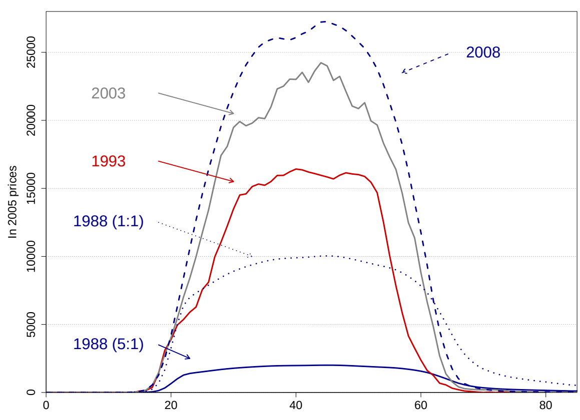
The normalization of labor income to the average labor income of a prime-age adult does not show the sharp increase in income among eastern Germans. Figure 2 illustrates the values using real prices (Consumer Price Index) to adjust the estimates. We show two different estimates for 1988: the first uses the official exchange rate of 1:1, and the second uses a more realistic exchange rate of 5:1. Before 1990, the average labor income of a prime-age eastern German adult was around 2,000 euros (expressed in 2005 prices), based on the more realistic exchange rate of 5:1. Five years later, the average labor income of a prime-age adult was eight times higher. Another 10 years later, the average labor income was just over 20,000 euros. By 2008, the average labor income exceeded 25,000 euros.

Figure 1: Labor income by age relative to the average labor income of a prime-age adult in the respective year, eastern Germany 1988, 1993, 2003, 2008



Source: Income survey 1988, Income and Expenditure surveys 1993, 2003, and 2008.

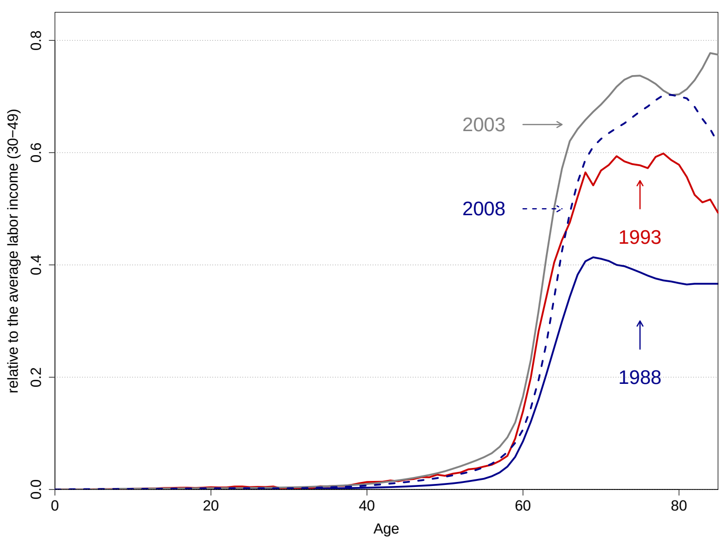
Figure 2: Labor income by age, eastern Germany 1988–2008, expressed in 2005 prices



Source: Income survey 1988, Income and Expenditure surveys 1993 and 2003, and 2008.

Although the increase expressed in 2005 prices is substantial, in relative terms, people of younger and older working ages earned less than they did in 1988. It appears that another age group may have gained more income than people of working ages. Indeed, public pension benefits for the elderly rose substantially (Figure 3). Before 1990, an average pensioner in the east only had around 38% of the average labor income of a prime-age adult with which to support himself, and no additional savings to rely on. This changed dramatically after reunification, when eastern Germans became eligible to receive benefits from the generous western German pension system. The average eastern German pensioner had 53% of the average labor income of a prime-age adult by 1993, and 68% by 2003. Within just 15 years, the relative income of the average eastern German pensioner had doubled. However, it appears that this sharp rise in pensioner income was transitory, as by 2008 the income of the average eastern German pensioner had fallen to 62% (Table 1). The first group of eastern German pensioners, and especially the female pensioners had spent more years in employment than their western German counterparts, which resulted in higher per capita public pension benefits than western Germans. Later, indivuduals suffered from unemployment and disrupted working histories, which lowered their pension benefits.

Figure 3: Public pensions by age, eastern Germany 1988–2008



Source: Income survey 1988, Income and Expenditure surveys 1993 and 2003, and 2008.

Table 1: Development of pension income and amount transferred to younger generations, East Germany, results for individuals aged 65+ (average per capita)

	1988	1993	2003	2008
Pension income as a percentage of the average earnings of a prime-age adult	38%	53%	68%	62%
Percentage of income transferred to younger generations	>0	2.7%	5.7%	1.7%
Transfers received if unemployed (% of disposable income)	-	0.3%	11.5%	5.0%

Source: National Transfer Accounts, own calculations.

3.2 The importance of private transfers from old to young

Table 1 shows the rise in pension income and the increase in the relative share of private transfers to succeeding generations. Our data do not allow us to generate precise calculations of the transfer amounts in 1988, the survey indicates small positive values. The micro profiles show inflows at younger rather than at older ages, which suggests that familial transfers were flowing from older people to younger people. Shortly after reunification, we find that only a small fraction of the income of older people is transferred to succeeding generations. As pension wealth increased, the size of the average private transfer from the older to the younger generation became larger. Estimates of the size of these intergenerational transfers are based on reported values from the surveys. Earlier studies have shown that patterns of private transfers vary depending on the survey. Borchers (1997) found that more than 80% of adult individuals transferred money to a family member over the past year, whereas Kohli et al. (2006) found that less than one percent of the population in eastern Germany receive a gift or an inheritance in a given year. Previous studies suggest that individuals tend to not report having received smaller gifts. Thus, it appears that the number of donors is larger than the number of recipients (Szydlik and Motel 1999). Nonetheless, the Income and Expenditure Surveys offer some data suitable for studying private transfers, and our method allows us to conduct a meaningful analysis, despite the limitations of the data.

The finding that resources are shared within families is particularly interesting. We would now like to investigate the question of whether the generation who were most in need benefited from these transfers. To exemplify the magnitude of transfers, we looked at individuals between the ages of 18 and 65 who were unemployed at the time of interview. Unemployment soared during the economic contraction of the 1990s and many families were affected by job losses. Shortly after reunification, inter-household transfers were low: on average, individuals received less than 10 euros of private transfers per month. In 2003, individuals in the same age range who reported that they were unemployed received around 50 euros of net transfers per month, independent of their current family situation. These transfers represented about 11% of their total disposable personal income. Given the findings of other studies, which indicate that family transfers usually flow from older to younger individuals, and are mostly between close family members (Albertini, Kohli, and Vogel 2007), our results indicate that elderly people in the east were using their increased income to help younger family members in need. In 2008, when public pension benefit levels had declined because a growing number of pensioners had interrupted work histories, private intergenerational transfers were also lower.

4. Discussion

The results of our descriptive analysis show, for the first time, the development of income, pensions, and private transfers for different age groups, beginning before the dissolution of the GDR to 18 years after reunification. During this period of transition, the living conditions and the relative incomes of eastern Germans of all ages changed markedly. We show that although income levels rose sharply after reunification, as a percentage of the average labor income of a prime-age adult, income was distributed more evenly across the age groups before reunification. We also find that older people, and especially individuals who were pensioners or were close to retirement age, saw their incomes rise after reunification. Within just 13 years after reunification, the average pension income rose from less than 40% to almost 70% of the average labor income of a prime-age adult. Over the same period, the share of their income that elderly eastern Germans transferred to younger generations doubled.

These findings suggest that private downward transfers increase with higher pension incomes after reunification in eastern Germany. Our findings are in line with the results of other research that showed that in times of crisis or economic uncertainty, close networks and family ties are especially important. Szydlik and Schupp (1998) argued that after reunification, intergenerational relations became stronger due to the greater degree of economic uncertainty. Meanwhile, Kohli et al. (2000) asserted that as family ties have become stronger and the needs of the younger generations have become greater, private transfers from older generations to their descendants are occurring more frequently. They also found that these downward intergenerational transfers increase the well-being of middle-aged people in eastern Germany (Kohli et al. 2000). Here the assumption is that closer networks or more family contacts can e.g. prevent feelings of loneliness and isolation or help to cope with everyday living. In times of economic uncertainty and general insecurity, members of the older age groups provided assistance to their younger relatives, and shared their greater resources. Studies from South Africa (Case 2004) and Mexico (Aguila, Kapteyn, and Smith 2015) also suggest that these transfers could help to protect the health and survival of older eastern Germans. As the health of elderly people in eastern Germany has improved markedly since reunification (Vogt and Kluge 2013; Klenk et al. 2007; Gjonça, Brockmann, and Maier 2000), it is possible that they benefited from this protective effect. Our descriptive study cannot answer this question, but our results may serve as a first step toward addressing this relationship analytically.

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