

When capitalism takes over socialism: the impact of unification on the economic divide between East and West Germany

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Abstract

Thirty years after German unification, economic convergence between East and West German households has slowed down and differences in income and wealth persist. In this paper, we document economic differences between East and West German households along the national distribution of income and wealth. For this, we employ the Distributional National Accounts (DINA) method which aligns micro data with internationally standardized national accounts. We find that East German residents still earn and own a fraction of their West German counterparts with this gap expanding towards the top of the distribution. We then show that this gap is explained by both lower capital ownership and less valuable capital held by East Germans.

JEL Classification: D3, E01, H2 H5, J3

Keywords: Income distribution; Capital accumulation; Income composition; Top Incomes

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1 Introduction

30 years after German unification, sizable economic differences between East and West German households persist. Median disposable income in East Germany stabilized at 85% of the West German average (Krause, 2019). Average wealth of East German households is still less than 50% of the West German average (Albers et al., 2022).¹ Only in recent years, a critical debate about the adequacy of policies accompanying the German unification has evolved.

After unification in 1990, the overriding majority of firms and real estate in East Germany was sold to West German investors. Countries from the former East Bloc adopted different privatization strategies ranging from voucher privatizations, manager-buyouts or auctions to foreign investors (Sutela, 1998; World Bank, 1996). Among them, the East German privatization process was unique in its centralized organization via the “Treuhandanstalt”, which was headed by West German managers and politicians, and its unique pattern of mostly selling the capital of the former socialist state to West-German investors, i.e., the citizens from the neighbouring capitalist state that simultaneously implemented its institutions.² Substantial tax reliefs on real estate and business investments – mostly directed at West German top income earners – fostered investment flows going to East Germany in the 1990s.³ Sinn and Sinn (1994) summarize the economic unification process as follows: “Property rights worth mentioning have not been assigned to East Germans, but unrealistically high wages have been promised – a combination well designed to prevent investment and to maximize unemployment.”

In this paper, we study how the process of German unification contributed to cementing economic differences between East and West Germany. While a large literature has investigated the *labor* income gap between East and West Germany,

¹Other persistent differences between East and West Germany have been documented, for example, for financial literacy (Bucher-Koenen and Lamla-Dietrich, 2018), preferences for redistribution (Alesina and Fuchs-Schündeln, 2007), egalitarian sex-role attitudes (Bauernschuster and Rainer, 2012), solidarity behavior (Brosig-Koch et al., 2011), social trust (Heineck and Süßmuth, 2013), and inflation expectations (Goldfayn-Frank and Wohlfart, 2019).

²Numbers on how much wealth was restituted to pre-1950 owners?

³The economic literature on German reunification has highlighted these large investment flows and fiscal transfers from West to East Germany. See, e.g. Dornbusch et al., 1992; Von Hagen et al., 2002; Burda and Hunt, 2001; Snower and Merkl, 2006

we extend the analysis to *capital* income and ownership, which has received little attention so far. The German unification provides a unique case study on the long-run distributional consequences of large-scale privatization of formerly state-owned land, houses and firms.

We first document economic differences between East and West German households along the national distribution of income and wealth from 1992 to 2018. For this, we employ the Distributional National Accounts (DINA) method which aligns micro data with internationally standardized national accounts. Income distribution results are our own calculations by region extending our project "Distributional National Accounts (DINA) for Germany, 1992-2018" (Bach et al., 2022) following the methodology established by Piketty et al. (2018). Wealth distribution results are our own calculations by region based on Albers et al. (2022).

We show, for the first time, how national income and wealth is distributed across the entire German adult population living in either East or West Germany from 1992 to 2018. We find that East German residents still earn and own a fraction of their West German counterparts with this gap expanding towards the top of the income and wealth distribution. For example, the richest 1% of West German residents earned, on average, ca. 800,000 Euros (constant 2015) in 2007, while their East German peers earned less than 400,000 Euros. The main source of these differences emerges from a substantial gap in business incomes from partnerships, quasi-corporations and corporations.

To analyse the causes of these persistent gaps, we analyze the intensive and extensive margins of the capital (income) gap: Do East Germans still earn less capital income due to lower capital, particularly business ownership? Or have they build businesses, but their capital is still less valuable and yields lower returns? We find that East-Germans have caught up in building businesses. However, East German businesses still yield much lower returns. We employ the reweighting approach developed by DiNardo et al. (1996) using information from the IAB Establishment Panel and show that differences in firm's characteristics like average firm size explain a substantial share of the revenue gap between East- and West-German owned establishments. In this regard, our findings are in line with previous literature high-

lighting the importance of establishment size and lower concentration of managers for the productivity gap between establishments in East and West Germany (Kluge and Weber, 2016; Burda and Severgnini, 2018). We are the first to show that similar characteristics also explain the gap between East- and West-German *owned* establishments and thus East and West German business incomes. Human capital does not differ significantly between the East and the West as knowledge and education was in large parts transferable (Fuchs-Schündeln and Izem, 2012).

This paper is organized as follows. Section 2 briefly explains the main concepts and methodical steps of our distributional analysis based on the Distributional National Accounts framework. Section 3 presents new results on the income and wealth distributions in East and West Germany. Section 4 gives an overview of the economic aspects of the German unification. Section 5 investigates possible drivers behind the persistent East and West German income gap. Section 6 concludes.

2 Income concepts, sources and methods

We estimate the pretax income distributions at the federal level and separately for East and West German (tax) residents between 1992 and 2016, following the DINA methodology laid out in Piketty et al. (2018) and Blanchet et al. (2021). In this section, we will briefly describe our method. For a more detailed discussion of the method, country-specific adjustments, specific micro-macro alignment steps, and underlying assumptions, see Bach et al. (2022).

In our analysis, we focus on the pre-tax income distributions of East and West German residents and thus, their ability to earn labor and capital income. Thus, we only construct pretax factor and pretax national (post-replacement) income based on the Distributional National Accounts methodology introduced by Piketty et al. (2018) and Blanchet et al. (2021).

Pre-tax factor income comprises all gross market incomes, namely wages and salaries gross of employers' and employees' social insurance contributions, self-employment and business incomes including retained profits, dividends and interest, and incomes from renting including imputed rents of homeowners. Under this

income concept pensioners mostly receive zero income. We, therefore, restrict our sample to 20- to 64-year-olds when using this concept. We also construct pre-tax national (post-replacement) income by adding insurance-based replacement incomes such as old-age pensions, unemployment and sickness benefits (Arbeitslosengeld I, Krankengeld) from factor income and subtracting paid social security contributions. Both concepts add up to net national income.

For our analysis, we combine microdata of the personal income tax (PIT), SOEP survey data and the sectoral accounts published by the national statistical office. We use the universe of personal income tax returns as benchmark dataset. The triennial micro-files of the wage and income tax statistic (*Lohn- und Einkommensteuerstatistik*) include all tax units subject to income or payroll taxes. We add synthetic non-filer observations from the Socio-Economic Panel (SOEP) survey data to construct a representative dataset for the German population of 20⁺-year-olds which comprises about 47m synthetic tax units and about 65m synthetic individuals (2007).⁴

Lastly, we align our representative micro dataset with the national accounts aggregates, by reconciling each income in the microdata with its macroeconomic counterpart. Namely, on the labor income side, we close the micro-macro gap for wages and salaries, self-employment income, social insurance contributions and benefits, respectively. On the side of capital incomes, we align the micro and macro aggregates of imputed rents by homeowners, rental income received by landlords, dividends, interest received and paid, respectively. Thereafter, we distribute incomes for which we have aggregate information but no distributional counterpart in the microdata. Namely, we distribute retained earnings proportional to distributed profits, i.e. dividends and withdrawals. VAT is distributed proportionally to income (ie distributionally neutral), property taxes are distributed to homeowners and landlords. This step closes the gap between micro-level pretax incomes and the net national income aggregate.

⁴Non-filers are imputed by marital status, East/West German tax residence, age groups and gender.

3 The economic gap between East and West

In this section, we document economic differences between East and West German households along the national distribution of income and wealth. We show results based on the Distributional National Accounts (DINA) method which aligns micro data with internationally standardized national accounts. Income results are our own calculations by region based on Bach et al. (2022). Wealth results are our own calculation by region based on Albers et al. (2022).

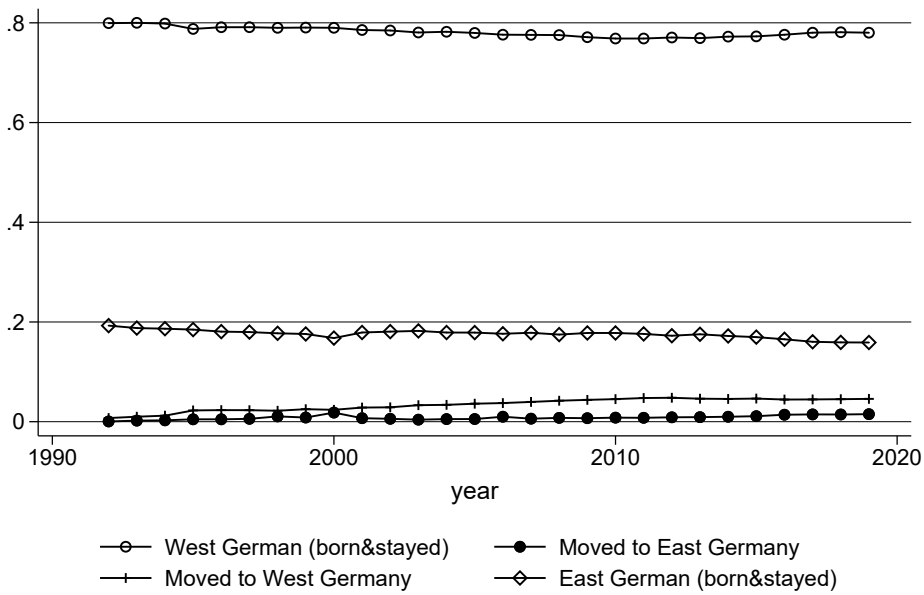
As part of our analysis classifies the population according to their current residence, which might differ from their region of birth, we start this section with a brief exposition of the mobility of the German born population between East and West Germany. As Figure 1 shows, ca. 80% of the population born in West Germany stayed in West Germany and less than 1% moved to East Germany. Ca. 16% were born in East Germany and stayed there; ca. 4% were born in East Germany and moved to West Germany. This means that one fifth of the population born in East Germany chose to relocate. Young, single and college-educated individuals are more likely to migrate West as well as those from low income counties (Fuchs-Schündeln and Schündeln, 2009). Where information on the birth region is available, we will analyse these four groups separately.

3.1 The income distribution in East and West Germany

In 2018, national income per capita exceeded 30.000 Euros in the two southern states (Baden-Wuerttemberg and Bavaria) and in the independent city of Hamburg in the north. In East German states, national income was below 25.000 Euros and in two East German states even below 20.000 Euros (Mecklenburg-Western Pomerania and Saxony-Anhalt) (see Appendix Figure .1).

Net national income per capita in East Germany is 73.1% of the West German per capita level in 2017. The persistent gap between East and West German incomes stems from both lower capital income and lower labor income, as shown by Figure 2. But while the share of East German labor income has reached 70% of West German labor income in 2017, East German capital income is 60% of the West German

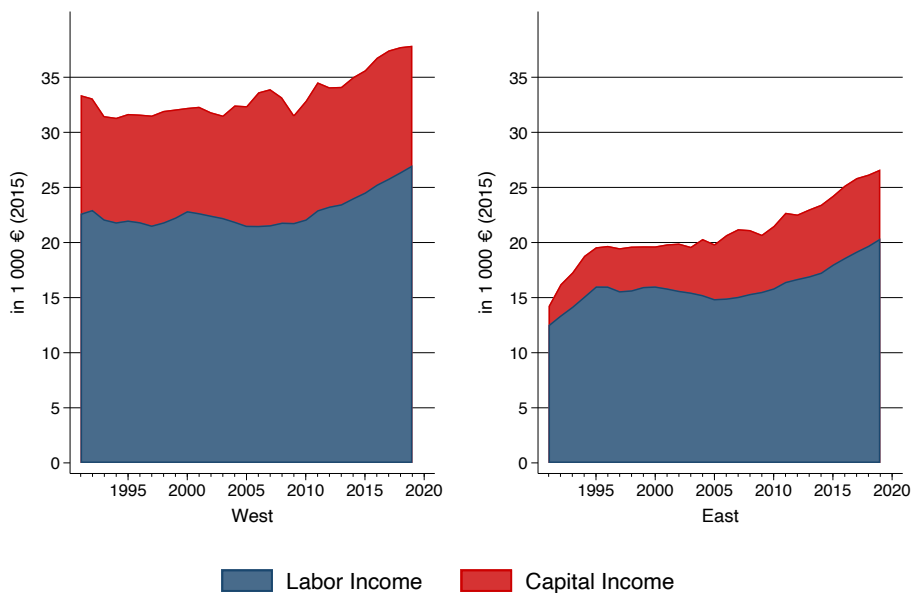
Figure 1: German population by residence and birth region



Source: SOEP v36.

level. Hence, lower capital income contributes 38.3% to the persistent income gap between East and West Germany. The large literature documents the reasons for labor income differences, highlighting lower skills (**tbc**).

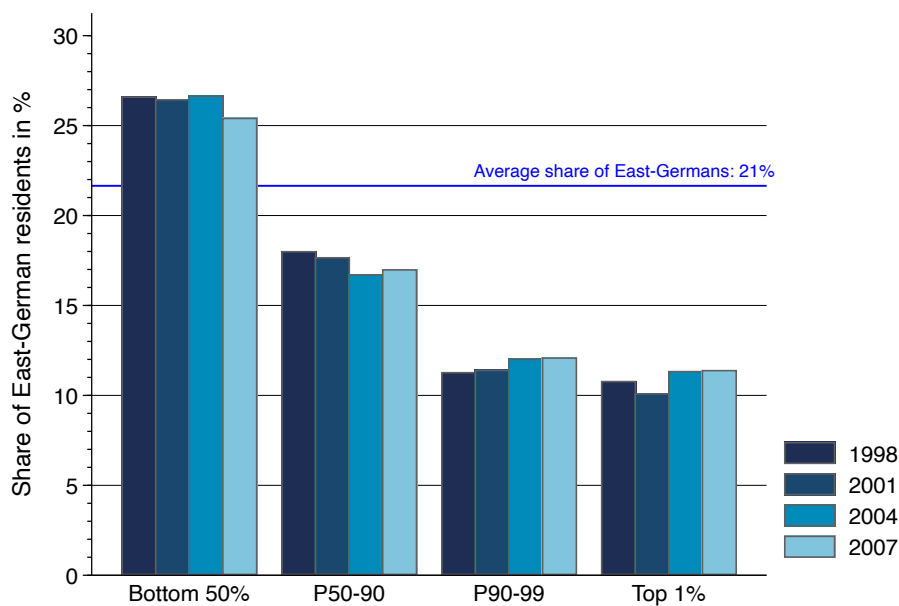
Figure 2: Net national income per capita: capital and labor income



Source: Own calculations based on the national accounts of federal states (*VGR der Länder*), Statistische Ämter der Länder, excluding Berlin. In line with the DINA methodology, the population is restricted to the 20 years and above.

Figure 3 shows how East Germans sort into the overall German factor income distribution. While East Germans represent ca. 21% of the population (highlighted by the blue horizontal line), they are slightly over-represented with 26% within the bottom 50% of the market income distribution. Moving further to the top of the distribution, East Germans are increasingly under-represented. They represent about 12% among the 10% highest-earning German residents. Strikingly, no clear (converging) pattern is visible over the time period 1998 to 2007.

Figure 3: **East Germans in the German pretax factor income distribution, 1998 - 2007**



Source: Own calculations based on our integrated database of PIT and survey data updated to national accounts.

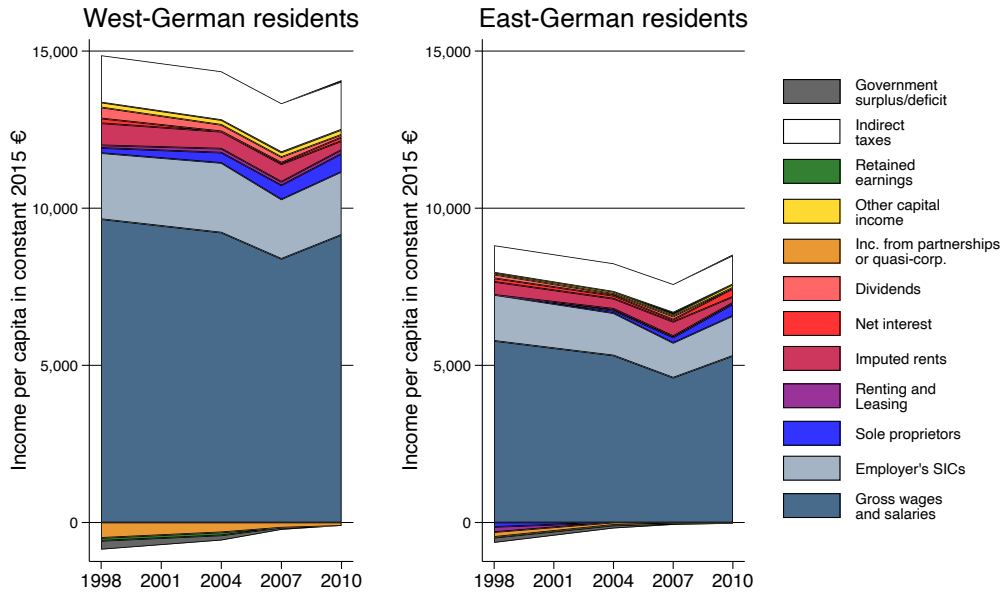
Figure 4 shows the average income and factor income composition in East and West Germany by income group for the year 2007. The upper panel shows the income composition of the bottom 50% (left upper panel) and the middle 40% (P50-90) (right upper panel). Income differences between East and West Germans in the bottom 90% are largely explained by labor income differences. Moving further to the top of the income distribution, labor income differences diminish and capital income differences expand. The lower panel shows the income composition of the top decile broken down into the bottom 9% of the top decile (left lower panel) and the top 1% (right lower panel). Average income of the top 1% was 800,000 Euros in West Germany and 500,000 Euros in East Germany (current Euros). While the top

percentile's average income from wages and self-employment is of similar magnitude in East and West Germany, capital income from corporate, quasi-corporate and non-corporate firms as well as interest income in West Germany greatly exceeds East German levels. Thus, capital income explains the difference in top incomes between East and West Germany.

Figure 4: Income composition in West and East Germany by income group, Bottom 90%

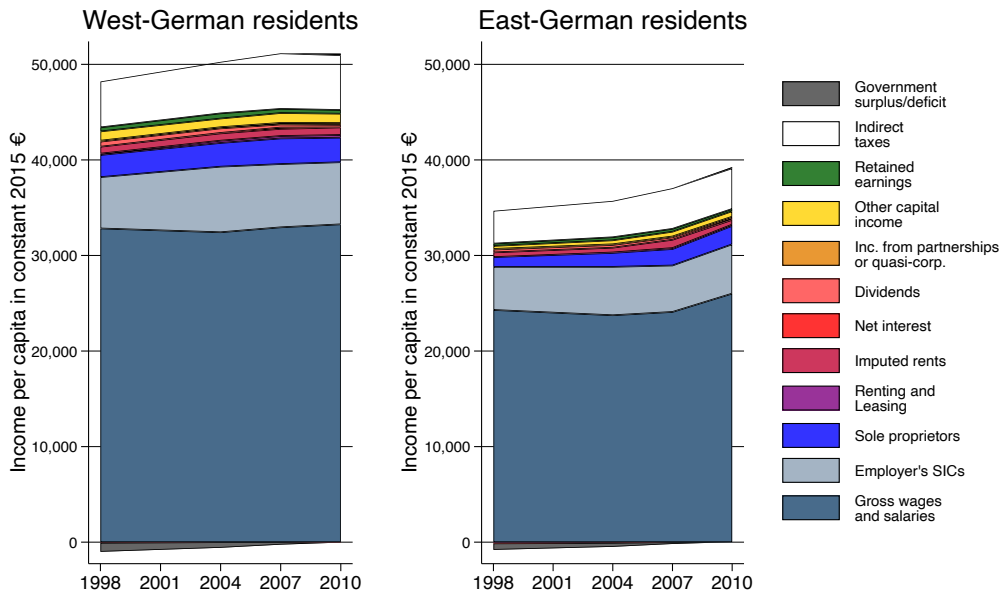
(a) Bottom 50%

Bottom 50



(b) P50-90

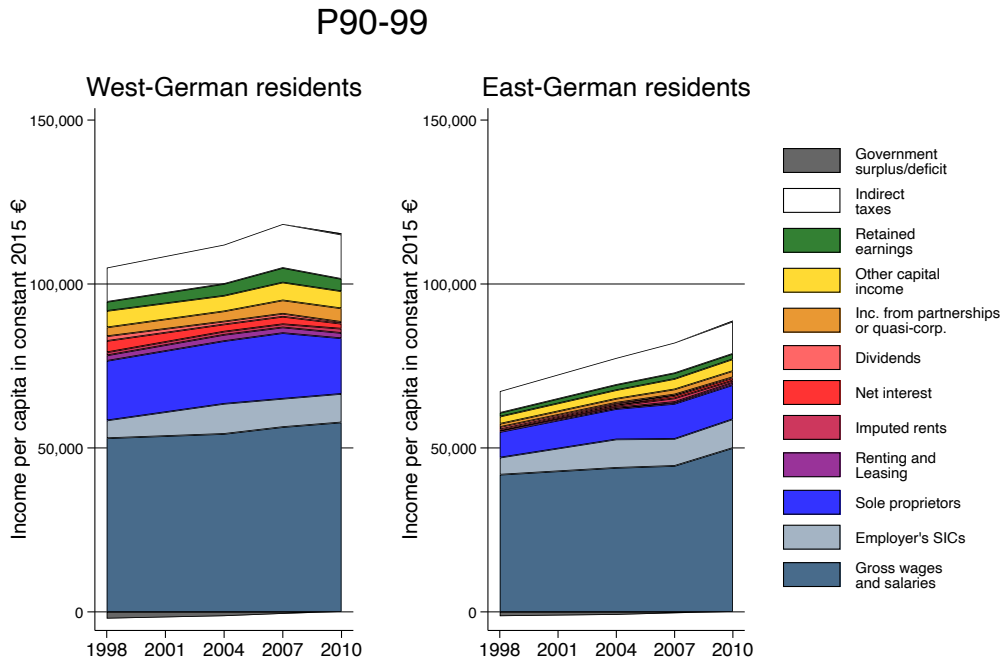
P50-90



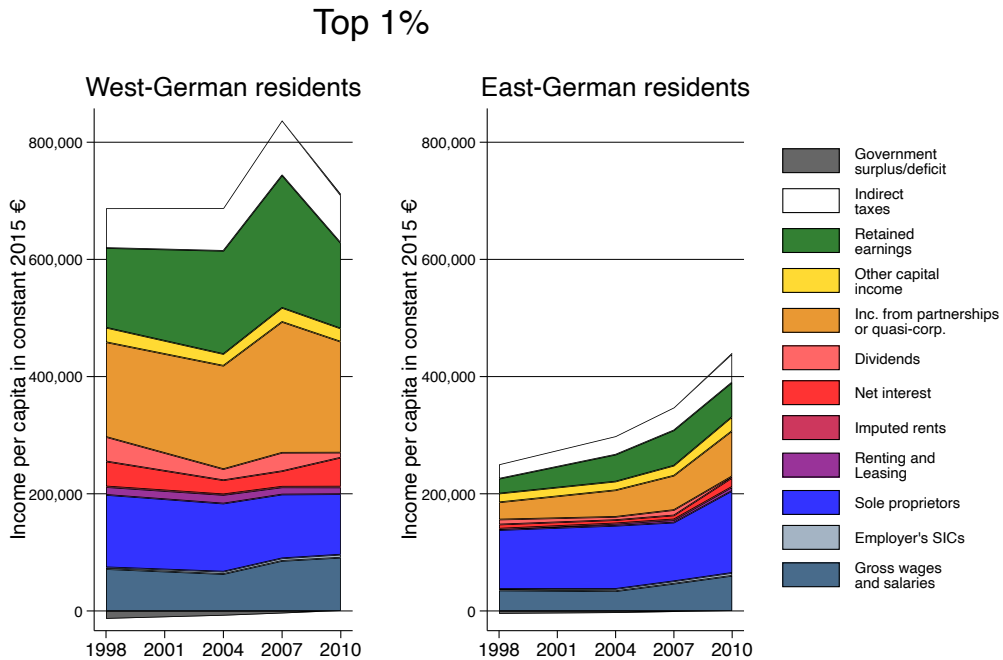
Source: Own calculations based on our integrated database of PIT and survey data uprated to national accounts.

Figure 5: Income composition in West and East Germany by income group, Top 10%

(a) P90-99



(b) Top 1%



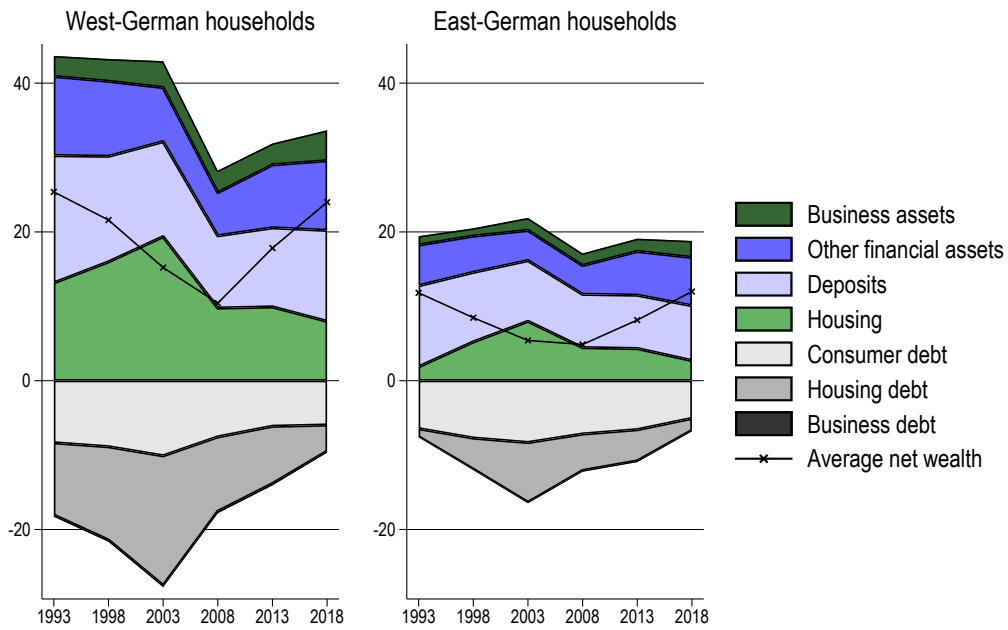
Source: Own calculations based on our integrated database of PIT and survey data uprated to national accounts.

3.2 The wealth distribution in East and West Germany

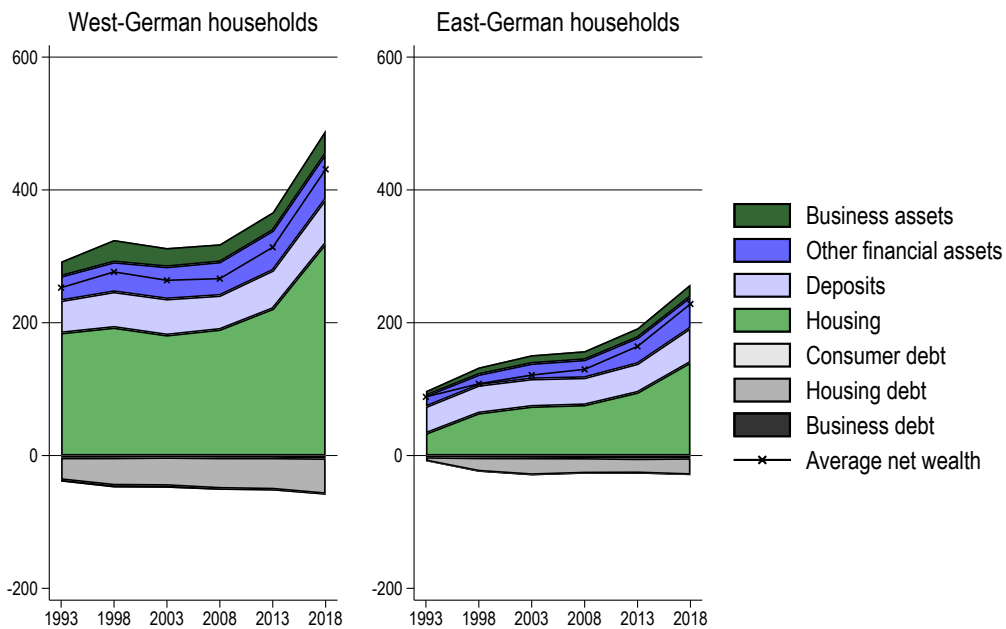
Looking at the wealth distribution in East and West Germany reveals, broadly speaking, a similar picture as for income. Figure 6 shows the average portfolio of West and East German households belonging to the national 90% of the wealth distribution. Figure 7 shows the respective averages for the top 10%. East German households belonging to the poorer 90% of the German wealth distribution are about half as rich as their West German counterparts. The wealth gap is extremely high at the very top of the distribution: In 2018, West German households belonging to the national top 1% owned an average net wealth of more than 12 million Euros, while East German households of the same group own ca. 3 million Euros. While the West-German affluent are richer across all asset types, they own higher levels of business and housing wealth in particular.

Figure 6: Wealth composition in West and East Germany by wealth group, Bottom 90%

(a) Bottom 50%



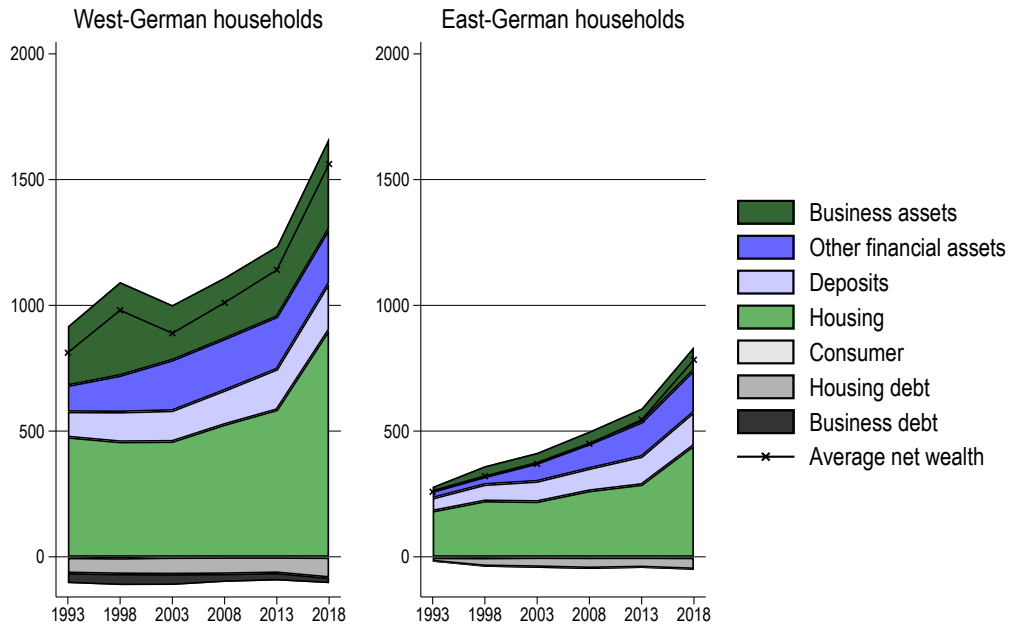
(b) P50-90



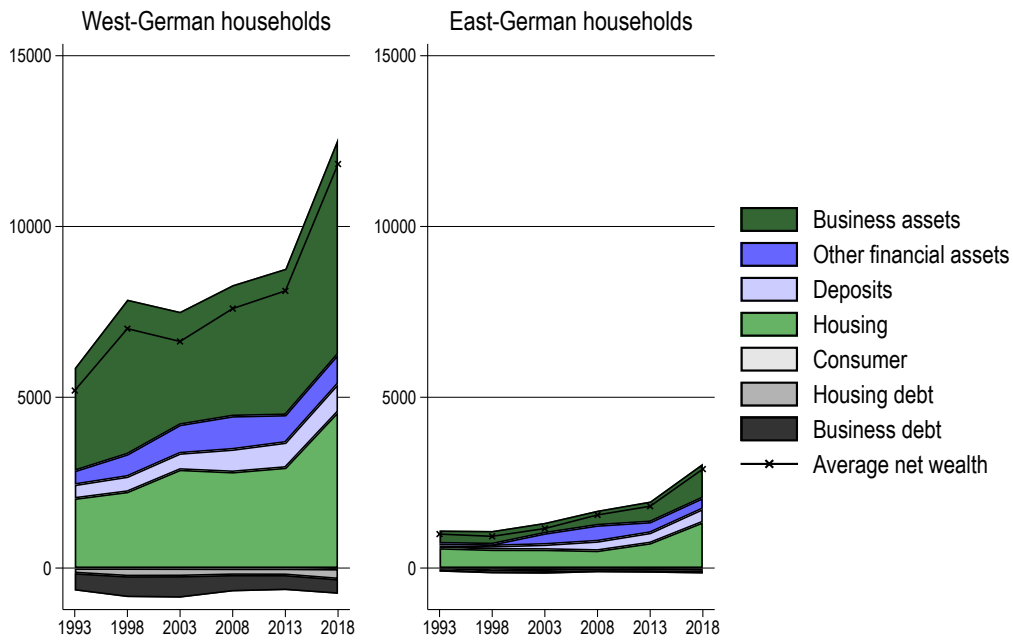
Source: Own illustration based on calculations from by Albers et al. (2022) in 1000 Euros and in prices of 2015.

Figure 7: Wealth composition in West and East Germany by wealth group, Top 10%

(a) P90-99



(b) Top 1%



Source: Own illustration based on calculations by Albers et al. (2022) in 1000 Euros and in prices of 2015.

4 The economic unification of Germany

On May 18 1990, the treaty of the monetary, economic and social union (MESU) of the Federal Republic of Germany (FRG) and the former German Democratic Republic (GDR) was signed. East German fiscal and monetary sovereignty was transferred to West Germany and the economic order of the FRG was transplanted to the GDR. As Collier and Siebert (1991) note, unification meant "merging a large open economy, relatively well-endowed with capital and technology, with a smaller, semi-autarkic economy, relatively well-endowed in labor and land."

For the former GDR, unification kicked-off a "dramatic process of de-industrialization" (Von Hagen et al., 2002, p. 13). Industrial production fell by two-thirds as the capital stock was largely judged obsolete and production techniques outmoded (Burda and Hunt, 2001; Priewe, 1993). One-third of jobs were lost (Burda, 2006, p. 4f). Those who kept their jobs benefited from an unprecedented wage hike achieved through negotiation by West German labor unions that aimed at reaching parity between East and West German wage levels by 1994 (Burda and Hunt, 2001).

Unification also meant a large-scale privatization of formerly state-owned firms, houses and land. Privatization procedures varied greatly across the former Eastern Bloc countries, from voucher privatizations to manager-buyouts to the auctioning of big companies to national and international investors (Ther, 2016; Sutela, 1998). While, for example, Poland and Hungary pursued a quick and early privatization and reforms with a high share of sales to outsiders, the Czech Republic and Slovenia – the countries with the lowest income inequality in Eastern Europe today – postponed radical reforms, privatized slowly and under strict government control, liberalized foreign trade in several stages so firms could adjust, and regulated the housing market heavily. The East-German privatization process was unique, first, in its centralization via a state-owned trust agency, second, in its rapidity, and, third, in its low share of capital ownership transferred to the citizens of the former GDR. The federal government of the FRG set up a state-owned trust agency (*Treuhandanstalt*), that was responsible for the privatization, restructuring and closure of formerly state-owned enterprises. Ther (2016, p.85) underlines that "the economy of the GDR was exposed to the most radical shock therapy in postcommunist Europe".

The *Treuhandanstalt* became the owner of 126 former centrally-managed combines and 95 regionally-managed combines, including more than 8,000 firms with about 45,000 plants⁵ and of an estate of 62,000 km² ($\approx 57\%$ of the total GDR area) immediately in March 1990 – even before the economic and monetary union of East and West Germany. By the end of 1992, 83% of these enterprises were privatized (Priewe, 1993, p. 337). By late 1992, already 83% of firms were already privatized or closed (Priewe, 1993).

The overriding majority of the firms was sold to West German investors and companies, often operating in the same or similar industries (Windolf, 1996; Mergele et al., 2020). “Firms with higher baseline productivity are more likely to be privatized, [...], [were] more often acquired by West German investors, and [were] more likely to remain in business even [after] 20 years” (Mergele et al., 2020). On the other hand, the share of restitution to former owners or sale to foreign investors remained low (Priewe, 1993). The largest West German investments went to manufacturing, construction and the service sector in East Germany. “[M]ost firms were sold to enterprises that operate in the same or similar industries.” (Dornbusch et al., 1992). Dornbusch et al. (1992, p. 244) highlight “the immediate and strong infusion of market skills and state-of-the-art technology at the level of the firm” from the sale to outside investors. At the same time, transfer of ownership and control to Western enterprises further increased the concentration of means of production ownership in Germany. The privatization process thus transferred formerly state-owned East German capital to mostly West German owners. Sinn and Sinn (1994) summarize the economic unification process as follows: “Property rights worth mentioning have not been assigned to East Germans, but unrealistically high wages have been promised – a combination well designed to prevent investment and to maximize unemployment.”

However, the switch to a market economic system induced a start-up boom in East Germany. During the 1990s, the self-employment rate in East Germany grew rapidly and reached the West German level in 2004. Yet, these new East-German firms were on average smaller (for details, see IWH, 2010) and less successful when

⁵ As a result, about 41% of the total GDR work force (41 million employees), were working in *Treuhandanstalt* firms in mid-1990 (Priewe, 1993, p. 337).

compared to their West German counterparts (Brixy and Grotz, 2004; Fritsch, 2004). A relatively high share of the newly emerging businesses in East Germany was in industries such as retailing, hospitality and catering, which are characterized by low entry barriers in terms of financial resources and required qualifications (Fritsch et al., 2014).

Substantial tax reliefs on real estate and business investments – mostly directed at West German top income earners – fostered investment flows going to East Germany in the 1990s. **tbc**

In sum, the economic unification process in Germany in the 1990s, from the viewpoint of West German top income earners, opened up unique large-scale investment opportunities to acquire land, houses and firms in East Germany so that much of the formerly state-owned firms and real estate were acquired by West German investors.

5 Explaining persistent economic differences

In Section 3, we presented the different wealth and capital income distributions in East and West Germany from 1992 to 2018. In this section, we seek to explain the reasons behind the persistent differences in capital income and wealth and relate these differences to the unification process (**to do**).

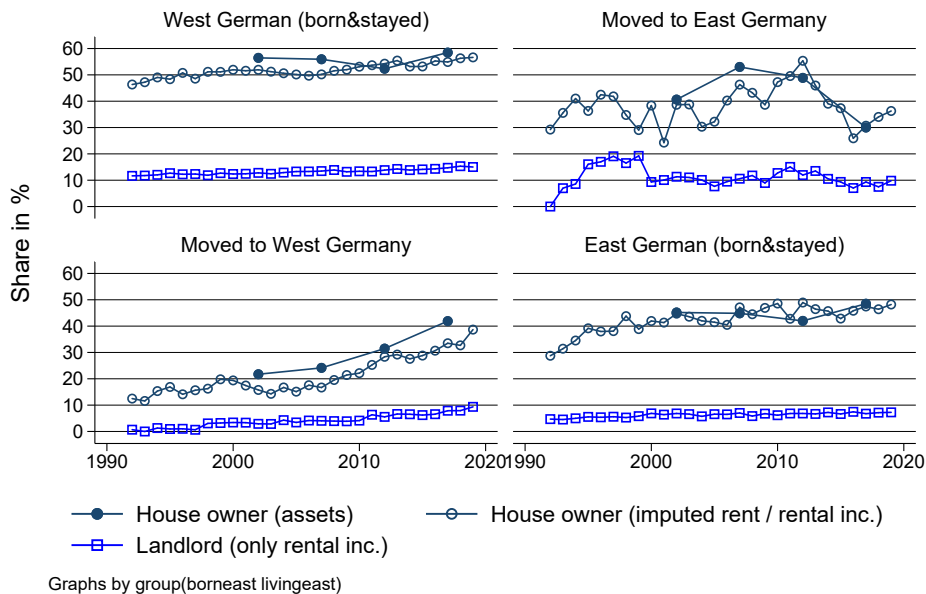
Capital income earned by those living in East Germany may be lower for three reasons. First, capital ownership maybe less likely among East German households than among West German households. A substantial fraction of capital income generated in East Germany might be flowing to West German capital owners (and abroad) as they invested in East Germany after unification. This applies to land, tenant-occupied housing and businesses. Second, capital income might be lower because East Germans own *lower levels* of capital. This applies even if the return on capital is the same for East and West German investors. Third, capital income is lower because East German capital yields lower returns than West German capital - for a given level of investment. Or put differently, the characteristics of East German-owned houses, land and firms might be such that they generate less capital

income. We will address these potential reasons subsequently.

5.1 Capital ownership (extensive margin)

We first analyze the ownership rates for different asset classes by the four population groups: West German (born&stayed), moved to East Germany, moved to West Germany, East German (born&stayed). Figure 8 shows that West German born persons are more likely to own a house and to rent out than East German born persons. For West Germans (born&stayed), the house ownership rate increased from below 50% in the 1990s to almost 60% in 2019. For East Germans (born&stayed), the house ownership rate increased from less than 30% in 1992 to almost 50% in 2019. For East Germans, who moved to West Germany, house ownership was at 10% in the 1990s and increased to 40% in 2019. Note that those who moved did not yet catch up with those who stayed. The probability to be a landlord is highest for West Germans (born&stayed) with a rate of ca. 15%, whereas the probability is less than 10% for the other three groups.

Figure 8: **Ownership of real estate by residence and birth region**



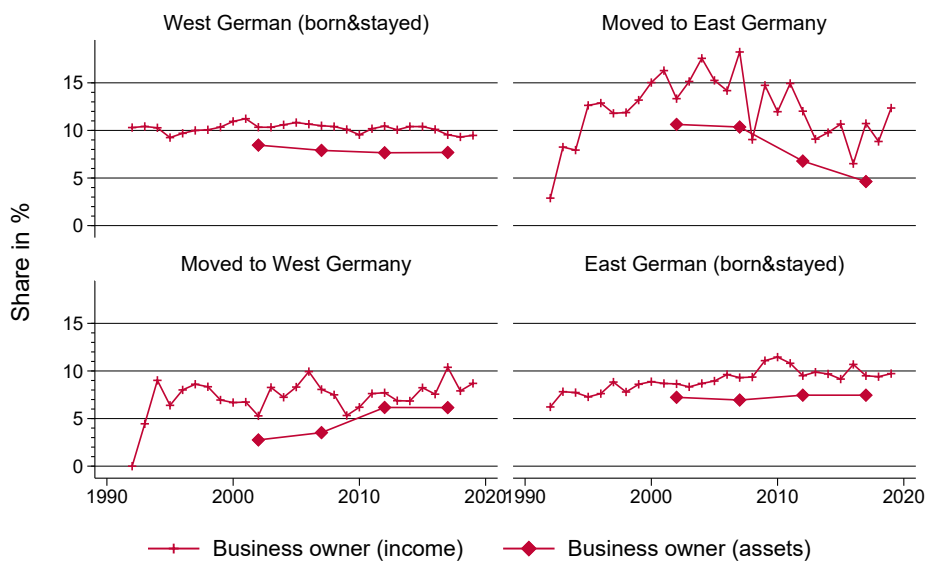
Notes: SOEP v36. House owner is either defined by owning non-zero real estate assets or receiving rental income/imputed rent. Landlord is defined by receiving rental income.

Figure 9 shows that business ownership is quite similar for East and West Germans (born&stayed). The probability to earn self-employment income is at ca.

10% for both types. The probability to own business assets is somewhat lower at ca. 7%, but also similar. Those who moved to West Germany record lower probabilities to own business assets or earn self-employment income, although we detect an increasing trend.

We conclude from this subsection that differences in ownership rates likely fail to explain the persistent differences in capital income and wealth. We, therefore, proceed with analyzing the differences in capital held by East and West Germans.

Figure 9: Ownership of businesses by residence and birth region



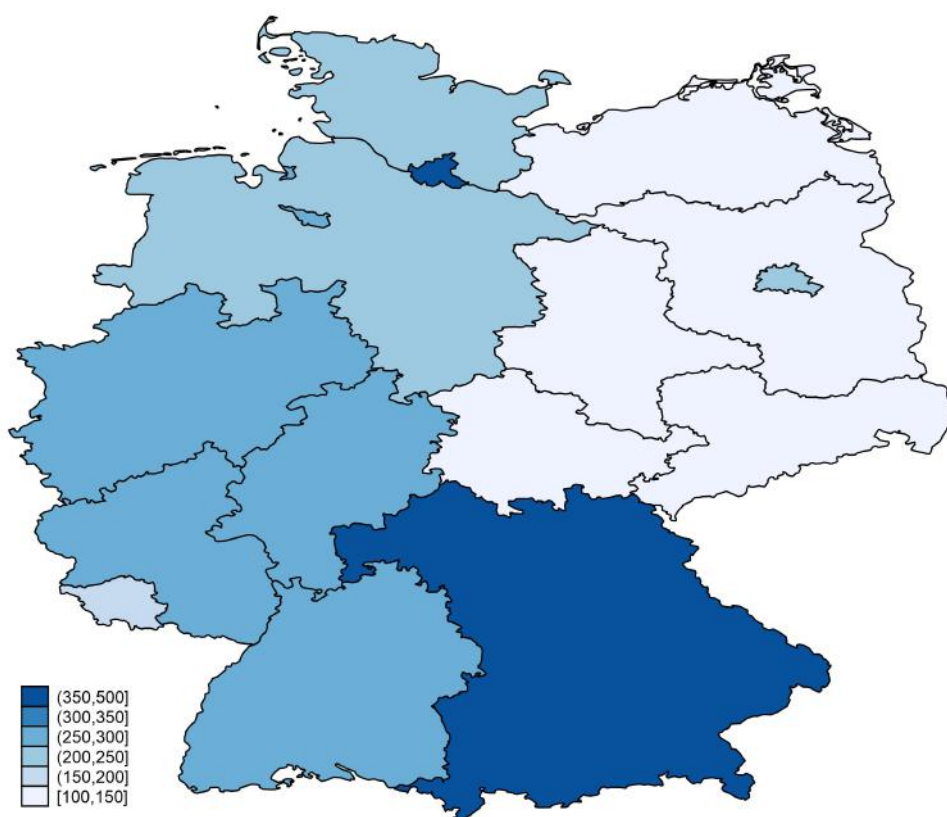
Graphs by group(borneast livingeast)

Notes: SOEP v36. Business owner is defined as either owning business assets or receiving self-employment income. Note that self-employment income also accrues to sole proprietors or liberal professions without notable business assets so that the share of business owners defined by self-employment income is higher.

5.2 Capital ownership (intensive margin)

Average wealth and capital income levels of East German households are lower than for West German households along the German income and wealth distribution (see Section 3). But how do asset-specific averages differ if we exclude those who do not own these assets? Now, we analyze regional differences conditional on owning a particular asset. Figure 10 shows that average real estate wealth is highest for households living in Bavaria or Hamburg, followed by the states of South-West Germany. Average real estate in East Germany is between 100,000 and 150,000 Euros compared to more than 350,000 Euros in Bavaria.

Figure 10: **Average net real estate wealth by federal state**



Notes: SOEP v35, calculations weighted using household weights from Bartels and Schröder (2020). Average real estate wealth in 1000 Euros in current prices in 2017 conditional on non-zero net real estate wealth.

include federal state map with business wealth

5.3 Characteristics of capital owned (intensive margin)

Reasons for the persistent income differences between East and West German firms include smaller firms, lower concentration of managers, fewer headquarters, and fewer industrial clusters generating network effects in East Germany (Kluge and Weber, 2016; Burda and Severgnini, 2018). Can these factors explain the persistent capital income gap between East and West German households? To answer this question, we use firm data of the IAB's Establishment Panel and employ the reweighting approach developed by DiNardo et al. (1996) (DFL). The IAB Establishment Panel provides information on revenue,⁶ wage sum, ownership (East German, West German or other majority ownership), legal form (sole proprietorship, partnership/(quasi-)corporation), number of employees, industry (manufacturing/service) at the establishment level. We restrict the sample to firms in either East or West German majority ownership which leaves us with about 1.8m West-German-owned establishments (unweighted about 11,00) and about 345,000 East-German-owned establishments (unweighted about 3,000) per year from 2000 to 2019.

The goal is to assess the extent to which income differences between East and West German households can be explained by differences in the distribution of firm-types. In the following, we explain how we adapt the DFL method to our purposes.

Let each firm be characterized by a vector (y, z, c) comprising a continuous variable y (revenue), a vector of attributes z (i.e., headquarter vs. subsidiary, legal form, firmsize), and a regional ownership identifier c . The joint distribution of revenue and attributes of firms owned by the population of c is $F(y, z, c)$, while $F(y, z|c)$ denotes the distribution of y conditional on the distribution of z in c . Following DiNardo et al. (1996), the density of revenue of firms owned by the population of c , $f_c(y)$, can be written as

$$f_c(y) \equiv f(y; c_y = c, c_z = c). \quad (1)$$

⁶Unfortunately, there is no information on profits net of expenses.

The notation allows us to express the density of revenue y of firms owned by one population subgroup conditional on the distribution of attributes z of firms owned by the other population subgroup. For example, while $f(y; c_y = W, c_z = W)$ denotes the actual density of revenue of West-German owned firms (W), $f(y; c_y = W, c_z = E)$ is the counterfactual density of revenue of West-German owned firms, applying the distribution of attributes of East-German owned firms (E). The aim of the DFL reweighting method is to estimate the counterfactual density, which (taking the example for E and W) is defined as

$$f(y; c_y = W, c_z = E) = \int f(y|z, c_y = W) dF(z|c_z = E) \quad (2)$$

$$= \int f(y|z, c_y = W) \phi_z(z) dF(z|c_z = W), \quad (3)$$

$$(4)$$

where $\phi_z(z)$ denotes the reweighting function

$$\phi_z(z) = \frac{dF(z|c_z = E)}{dF(z|c_z = W)} = \frac{Pr(c = E|z)}{Pr(c = W|z)} \cdot \frac{Pr(c = W)}{Pr(c = E)}. \quad (5)$$

The probability of observing a firm owned by subpopulation c , given firm attributes z , can be estimated with a probit model:

$$Pr(c_z = c|z) = Pr(\epsilon > -\beta' H(z)) = 1 - \phi(-\beta' H(z)). \quad (6)$$

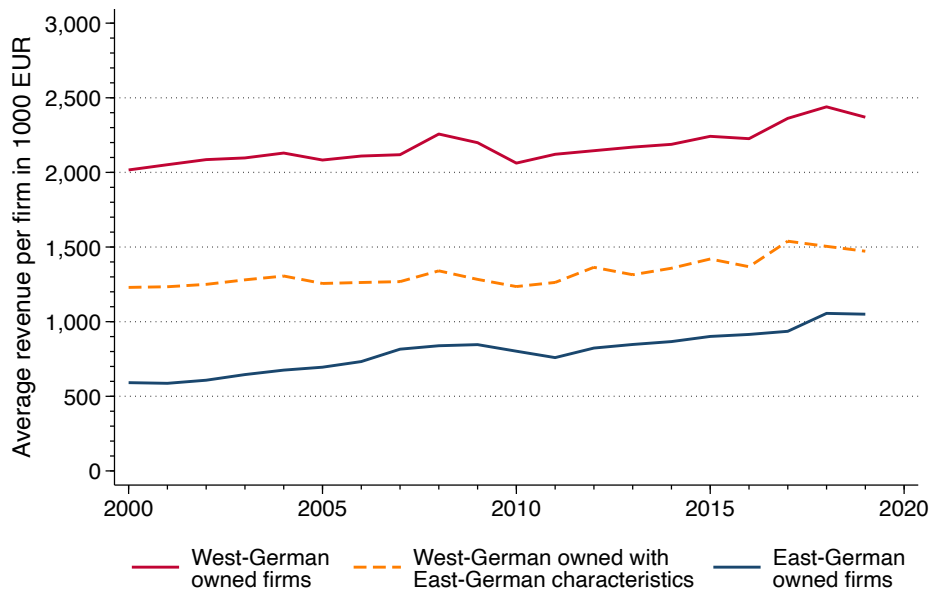
where $\phi(\cdot)$ is the cumulative normal distribution and $H(z)$ is a vector of covariates. East-German firms are smaller, less likely to be a headquarter or a corporation and more likely to operate in the service sector than in manufacturing (see Table or Figure with sample descriptives).

We split establishments into 16 subcategories with two legal forms groups (sole proprietors and small partnerships vs. corporations), four establishment size groups based on the number of employees, two groups indicating if the establishment is a headquarter or subsidiary. In our counterfactual, West-German owned firms are

reweighted according to the distribution of attributes of East-German-owned firms for each available year.

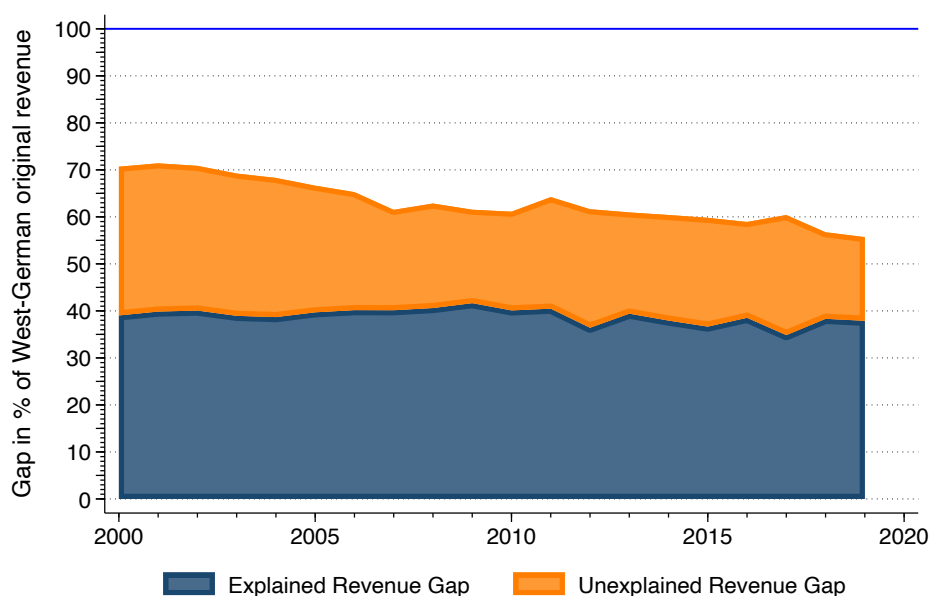
Figure 11 presents the results of our DFL reweighting exercise. We find a substantial a persisting revenue gap between East- and West-German owned establishments. While in 2000 West-German owned firms made an average revenue of about 2 million EUR, East-German owned firms' revenue was about 600,000 EUR. This gap has decreased until 2019, when West-German owned firms made about 2.4 million EUR in revenue, while East-German owned firms made about 1.1 million EUR. However, the explained part of this revenue gap, due to differences in firm size, headquarter density, and legal form remains stable over time (see Figure 12).

Figure 11: **Average revenue of East- and West-German owned plants**



Source: Own calculations based IAB Establishment Panel. Reweighted by legal form, headquarter/subsidiary, and firm size.

Figure 12: Revenue gap between East- and West-German owned plants



Source: Own calculations based on the IAB Establishment Panel. DFL reweighted by legal form, headquarter/subsidiary, and firm size.

6 Conclusion

In this paper, we documented economic differences between East and West German households along the national distribution of income and wealth. For this, we employed the Distributional National Accounts (DINA) method which aligns micro data with internationally standardized national accounts. We found that East German residents still earn and own a fraction of their West German counterparts with this gap expanding towards the top of the distribution. We then showed that this gap is explained by both lower capital ownership and less valuable capital held by East Germans.

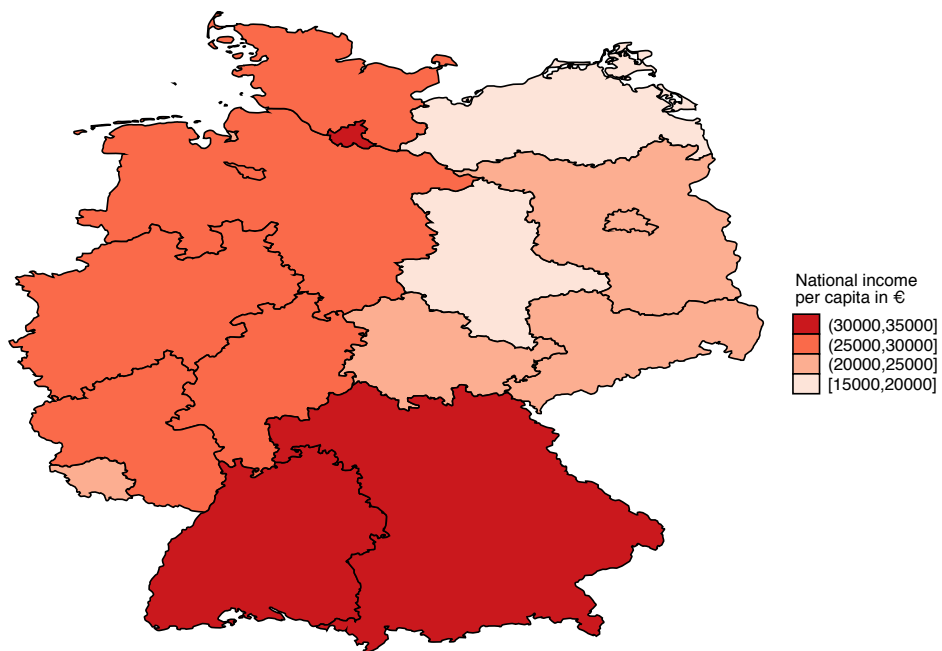
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Figure .1: Net national income per capita, 2018



Source: Own calculations based on the national accounts of federal states (*VGR der Länder*), Statistische Ämter der Länder.