

30 Years of East-West Migration in Germany: A Synthesis of the Literature and Potential Directions for Future Research

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Abstract: The reunification of the socialist German Democratic Republic and the capitalist Federal Republic of Germany presents a unique setting for studying the impact of socio-economic and political change on migration. This paper provides a comprehensive review of the interdisciplinary literature on migration between East and West Germany since reunification, conducted in disciplines such as economics, demography, sociology, and human geography. We synthesise the literature with regard to data-related challenges as well as individual and contextual determinants of migration. We clarify some misinterpretations and discrepancies in previous studies, identify research gaps, and suggest directions for future research. Our review demonstrates that East-West migration mainly occurred in line with what could have been expected based on migration theory with regard to migrants' sex, age, education, labour market position, and social networks. West-East migration, in contrast, was strongly affected by return migrants who often stated non-occupational motives for moving. On the contextual level, differences in wages are better able to explain East-West migration over time than differences in unemployment rates. West-East migration, however, cannot be explained well with such macroeconomic models. This paper contributes a point of reference for future research on this topic, as well as on internal migration and socio-economic disparities in general.

Keywords: Internal migration · Return migration · Literature review · Economic disparities · Political transformation · German Democratic Republic · Macroeconomic factors · Individual-level determinants

1 Introduction

The question of who moves and why has been a central theme of migration research for many decades (*Ravenstein* 1885; *DaVanzo* 1978; *Greenwood* 1997). There is a growing body of literature that explores the individual and contextual determinants

of internal migration. Typically, the decision to move over longer distances has been closely linked to economic and job-related factors, especially in the neoclassical literature (*Green* 2018). However, the extent to which economic factors influence internal migration at the macro level is more difficult to determine than it is for international migration. This is, at least in part, due to the fact that regional economic disparities tend to be modest compared with international economic inequalities. The latter result in a global pattern of migration that is dominated by unidirectional flows from lower to higher income countries, whereas the spatial pattern of movement within countries tends to be much less unidirectional.

The reunified Germany provides a unique setting for examining the economic drivers of internal migration. The reunification of the former German Democratic Republic (GDR) and the Federal Republic of Germany (FRG) in 1990 brought political freedom but also economic disruption as well as high and persistent unemployment for East German citizens, resulting in profound East-West disparities. As a consequence, East Germany experienced substantial outmigration to West Germany in the decades following reunification, which has massive long-lasting consequences on East Germany's demographic structure (*Leibert* 2016; *Mai/Scharein* 2009).

The unique set of circumstances that characterised the reunified Germany in terms of strong regional disparities and substantial East-West migration has led to a sizeable literature on the topic, albeit one that is somewhat fragmented given its interdisciplinary nature. This makes it difficult to draw proper conclusions not only on the individual determinants but also with regard to the economic and non-economic drivers of migration. The only review of the literature has been published in German by *Wolff* (2006) about 15 years ago, so does not include the literature that has been published since. This paper aims to fill this gap by reviewing the existing literature and highlighting the insights derived from the past 30 years of research into East-West migration since the fall of the Berlin Wall. We clarify some misinterpretations and discrepancies in previous studies, identify research gaps, and suggest directions for future research into internal migration between East and West Germany.

The paper is structured as follows: by way of background, we first briefly summarise the historical developments that led to sizeable East-West migration, followed by a discussion of the different data sources that have been used in the literature. We then synthesise the findings presented in the quantitative literature on individual-level determinants of migration between East and West Germany. This is followed by a discussion of the contextual determinants, especially macroeconomic factors that drive East-West migration. In addition, we discuss the literature on migration from West to East Germany, placing a special focus on migrants who return to the East. The final section summarises the main findings and describes directions for further research.

2 Background

To understand the drivers of East-West migration and how its intensity has changed over time, the migratory trends need to be placed in the wider historical and geopolitical context of Germany since the late 1940s. In the decade following its foundation in 1949, the former GDR experienced considerable outmigration to the FRG. With the erection of the Berlin Wall in summer 1961, however, migration to the West effectively came to an end (see *Becker et al.* 2020; *Wendt* 1995). As a consequence, migration flows between the GDR and the FRG were negligible in the period 1961-1989 (*Grundmann* 1998). In summer 1989, Hungary was the first Eastern Bloc country to open the border with its Western neighbour Austria, resulting in several thousand GDR citizens crossing the Hungary-Austria border to arrive in West Germany. In October 1989, citizens throughout the GDR began demonstrating peacefully for free elections and a change of government, ultimately resulting in the fall of the Berlin Wall on 9 November, 1989 (*Rödder* 2010).

After the fall of the Berlin Wall in 1989, it was far from obvious that German reunification would be achieved within a year. Many East Germans actually feared that the repressive GDR government would change its mind and close the border again. Accordingly, people dissatisfied with the political situation in the GDR took advantage of the unexpected window of opportunity and moved to the West, mainly for political reasons (*Meck et al.* 1992). As a result, sizable migration flows from the GDR to the FRG occurred between November 1989 and March 1990 (*Grundmann* 1998). The outflow decreased after democratic elections held in the East in March 1990 showed strong support for parties that were in favour of a timely reunification with the West (*Akerlof et al.* 1991; *Meck et al.* 1992). In November 1989, the West German government had originally planned to accomplish reunification within five to ten years. Among many other factors, the sizeable East-West migration flow and the fear that “two to three million East Germans already had their bags packed” (*Rödder* 2010: 189) contributed to the implementation of an economic, social and monetary union as early as July 1990, followed by full political union in October 1990.

In early 1990, it became apparent that the economic situation in East Germany was much worse than previously expected among West German policy makers, and that labour productivity in East Germany was substantially lower than in West Germany (*Sleifer* 2006; *Berentsen* 1996; *Akerlof et al.* 1991). The implementation of the currency union and the full integration of East Germany into the Western economic market in July 1990 meant that many formerly state-owned companies in East Germany were not competitive on the Western market. This resulted in declining industrial output in all major sectors and many firms in the East closing (*Akerlof et al.* 1991). As a consequence, both unemployment and involuntary short-time employment in East Germany rose dramatically, while the number of new job vacancies plummeted (*Akerlof et al.* 1991). Unemployment in the East increased from officially zero in the GDR to more than 10 percent in 1991, double the rate in the West (*Burda/Hunt* 2001). In 1991, moreover, wage levels in East Germany amounted to only 50 percent of West German wages, but converged quickly to reach nearly

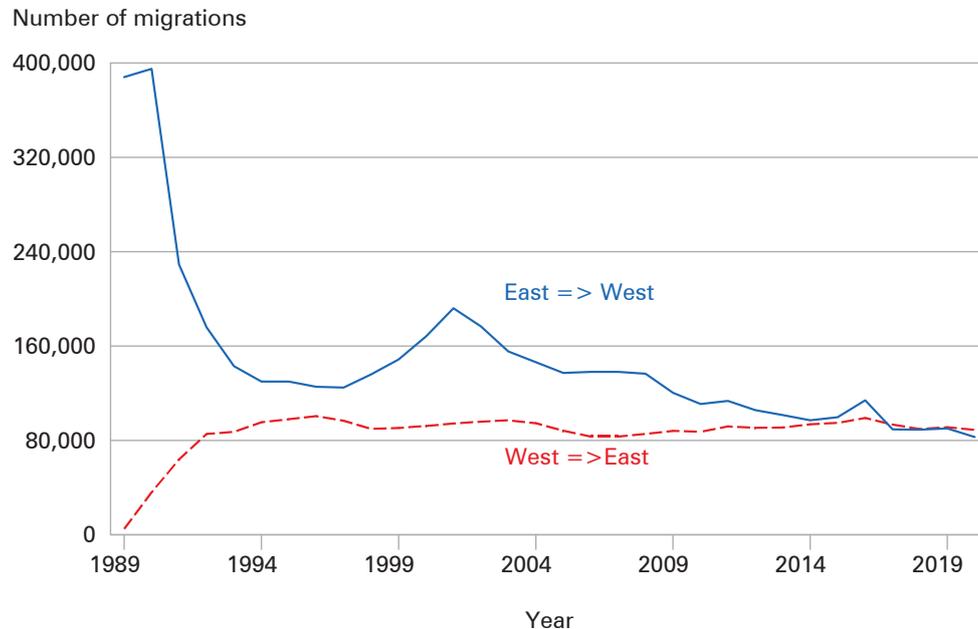
75 percent in 1995. Thereafter, wage increases stagnated and unemployment rates in East Germany remained roughly double those of the West during the two decades following reunification. Since the early 2010s, unemployment rates have converged to the lower West German level, but labour market differences between East and West Germany with regard to the rate of unemployment, wage level, and labour productivity are still visible today (*Krause 2019; Belitz et al. 2019*).

The intensity of East-West migration has changed substantially over the period 1989-2020. Figure 1 reveals that East Germany experienced very large net migration losses in 1989 and 1990. It is estimated that nearly 400,000 East Germans moved to the West in these years, whereas migration in the opposite direction was negligible (*Kempe 1999*). In the following years, internal migration to the West decreased sharply and internal migration to the East increased considerably, but East Germany continued to experience net migration losses. While the number of moves from West to East Germany was remarkably stable at around 80,000-90,000 moves per year from 1992 onwards, internal migration from East to West Germany varied strongly over time, and even reached a second peak in 2001 of more than 190,000 moves in one year. From 2001 to 2020, however, the number of moves from East to West declined consistently to about 90,000 moves. In 2017, the number of moves from East to West was exceeded by moves in the opposite direction, with East Germany recording small net migration gains for the first time since reunification. Modest net migration gains were also observed in the years 2018-2020. The minor peak in East-West migration in 2016 is attributed to high numbers of refugees, whose redistribution across Germany was captured as internal migration in the population register. If only German citizens are considered, the turnaround in East-West migration was achieved as early as 2014, with East Germany experiencing modest net migration gains ever since (*Stawarz et al. 2020*).

3 Data

The most widely used data sources for studying internal migration between East and West Germany are administrative data on annual migration flows, individual-level survey data derived from the German Socio-Economic Panel (SOEP), and individual-level administrative data from the register of the German Federal Employment Agency provided by the Institute for Employment Research (IAB).

At the time of writing, the administrative macro level data provided by the German Federal Statistical Office and the Statistical Offices of the Länder were available for the period 1991-2020. They capture all permanent and officially registered changes of address. The data are disaggregated by sex, citizenship (German and non-German), and age group (under 18, 18-24, 25-29, 30-49, 50-64, and 65 and over). The administrative data only provide information on the total numbers of moves between East and West, with no information on the region of birth. Therefore, return migrants who were born in the East, moved to the West and then returned to the East, cannot be identified in these data.

Fig. 1: Number of migrations between East and West Germany, 1989-2020

Note: Due to data limitations, Berlin is excluded in the period 1991-2020, while East Berlin is included in the figures for East Germany and West Berlin in the figures for West Germany for the years 1989 and 1990. The high number of migrations in 1989-1990 is not driven by migration from East Berlin to West Germany (*Grundmann* 1996, Table 5). See last paragraph of Chapter 3 for further details on the status of the formerly divided city of Berlin.

Source: German Federal Statistical Office, own calculations

The SOEP is a nationally representative household panel study first conducted in 1984 in West Germany. In June 1990, the SOEP was expanded to the East to cover former citizens of the GDR. In contrast to the administrative data, the SOEP contains a comprehensive set of variables that are relevant for researchers studying migration, such as education, social networks, and employment situation. Based on its annual longitudinal design, it is also possible to follow individuals over time and to identify return migrants. The main downside of the SOEP is that its sample only contains a rather small number of East-West migrants (462 observations in the period 1990-2006), and even fewer individuals who returned to the East after migrating to the West (*Fuchs-Schündel/Schündel* 2009; *Schneider et al.* 2011).

Data provided by the Institute for Employment Research (IAB) contain individual information on age, gender, and education for a random sample of employees working in Germany who are subject to social security contributions (in total around 30 million people representing roughly 56 percent of the working age population, see *Nadler* 2016). The data do not cover self-employed individuals, retirees, and young adults who are enrolled in educational programmes, resulting in a bias

towards employed individuals of working age. Furthermore, information about the situation of the household, like civil status or number and age of children, is not available. For the study of return migration, the Integrated Employment Biographies (IEB) and its 2 percent Sample of Integrated Labour Market Biographies (SIAB) have been used to follow individual migration trajectories over time from 1999 onwards.

Some other datasets have been used to study East-West migration in Germany. One study used the German microcensus for the period 1991-2003. The German microcensus, which includes the German Labour Force Survey (LFS), is a 1 percent random sample of the German population and contains a number of individual characteristics such as level of education and civil status. Participation is mandatory by law and scientific use files are available as repeated cross-sections, making it impossible to follow individuals across multiple waves (*Fuchs-Schündeln/Schündeln* 2009). A recent study used a subsample of the German pension register which includes all women and men to have ever been included in the employment registers as of December 2015 (*Kreyenfeld/Vatterrott* 2018). The pension register contains detailed information on East-West residence patterns and therefore allows researchers to study return migration. In a similar way to the data provided by the IAB, the German pension register data are biased towards employed individuals as young adults enrolled in educational programmes are not covered. Finally, earlier studies also used smaller surveys and case studies that focus on individuals who migrated from or returned to case study areas in East Germany. Most prominent in this respect is a cross-sectional survey based on telephone interviews with around 1,000 young adults who migrated from the East German federal state of Saxony-Anhalt to West Germany in the period 1998-2002 (*Friedrich/Schultz* 2005; *Schultz* 2009; *Wiest et al.* 2009).

Quantifying East-West migration in the years 1989 and 1990 is challenging given the inaccuracies in the official statistics during times of (geo)political change. West German administrative data indicate the total number of moves from East to West and from West to East for these years, but no information on the age or sex of the migrants is available. Only aggregated data derived from the residence department of the GDR (*Zentrales Einwohnerregister Berlin-Biersdorf*, ZER) contain information on the age and sex of the East-West migrants and on the origin and destination states for the years 1989 and 1990 (see *Grundmann* 1996). However, comparisons with the West German administrative data suggest that the ZER data somewhat underestimate the extent of East-West migration following the collapse of the Berlin Wall. Some insight into the motives, educational level, and civil status of these early movers is provided by a survey conducted among several thousand East-West migrants between October 1989 and March 1990 (*Meck et al.* 1992).

Finally, it is worth mentioning that Germany's present capital Berlin was divided between the GDR and the FRG until reunification, which introduces some data problems. As it is not possible to differentiate between East and West Berlin in the administrative data from the year 2000 onwards, researchers studying migration between East and West Germany typically exclude migration flows to and from Berlin. Excluding Berlin is also recommended because it ignores moves between West Berlin and its East German surrounding regions, which are attributed mainly

to (sub)urbanisation and not to conventional East-West migration (*Sander 2014; Mai et al. 2007*). In Figure 1, however, migration to and from East and West Berlin is included for the years 1989 and 1990, as for these years the administrative data are not disaggregated by federal states and only cover the total number of moves between East Germany (including East Berlin) and West Germany (including West Berlin). Based on the ZER data, *Grundmann (1996)* estimates that 12 percent of all East-West migration flows in 1989 and 8 percent in 1990 originated from East Berlin, indicating that the very high rates of 1989-1990 depicted in Figure 1 are not driven by including migration from East Berlin to West Germany.

4 Individual-level determinants of East-West migration

The literature on individual migration drivers can be structured along five main factors: age, sex, education, position in the labour market, and family and social networks. This section reviews each of these factors in turn.

4.1 Age – Large net migration losses among young adults in the 1990s and 2000s

In 1989, the population of the GDR was on average about 2.5 years younger than that of the FRG (*Grünheid/Roloff 2000*). Following reunification, a decreasing fertility rate in East Germany (*Grünheid 2009; Stauder/Jäger 2019; Kreyenfeld/Vatterrott 2018*) and age-selective migration to West Germany resulted in a rapid ageing of East Germany's population (*Mai/Scharein 2009; Menning et al. 2010*). Today, East Germany is one of the regions with the oldest populations in Europe (*Kashnitsky/Schöley 2018*). Moreover, East Germany's population is on average several years older than the population of West Germany (*Menning et al. 2010*). East Germany also recorded much lower levels of international immigration than the West (*Krause 2019*), resulting in widespread population decline, especially in rural areas (*Berentsen 1996; Prenzel 2017, Chapter 2*).

Young adults tend to be more mobile than other age groups, as they experience a range of life course transitions such as leaving home, entry into higher education, and entry into the labour market, which often trigger mobility (*Mai 2006; Bernard et al. 2014*). Throughout the entire period of 1989-2020, rates of internal migration between East and West Germany are clearly highest among young adults aged 18-29 years (*Mai 2006; Stawarz et al. 2020; Grundmann 1998*). East Germany experienced high net migration losses among young adults aged 18-29 years, children aged up to 17 years, and adults aged 30-49 years in the two decades following reunification, whereas migration flows between East and West Germany were balanced for those aged 50 and older from the mid-1990s onwards (*Stawarz et al. 2020*). Net migration losses among young adults aged 18-29 years actually

added up to 700,000 individuals across the entire period 1991-2020.¹ However, in the sub-period 2010-2020, East Germany's net migration losses among the 18-29 age group amounted to only 80,000 (basically equivalent to the figure recorded for 1991 alone). This indicates that East-West migration of young adults has declined further in the last decade, resulting in only minor net losses for the East in this age group. Among families and the elderly, East Germany has begun to even experience small net migration gains.

4.2 Sex – As many men as women left East Germany, but female migrants were younger

Thirty years after reunification, the demographic structure of rural East Germany is not only characterised by an ageing population, but also by a pronounced shortage of young adult women (*Kröhnert/Klingholz 2007; Grünheid 2009; Kühntopf/Stedtfeld 2012; Leibert 2016*). Rural East Germany generally experiences heavily skewed sex ratios among young adults, with the number of women per 100 men in the 18-29 age group falling below 70 in certain areas (*Leibert 2016*). This imbalanced sex structure is indicative of sex-selective migration among young adults, with females being much more likely to leave rural East Germany than males.

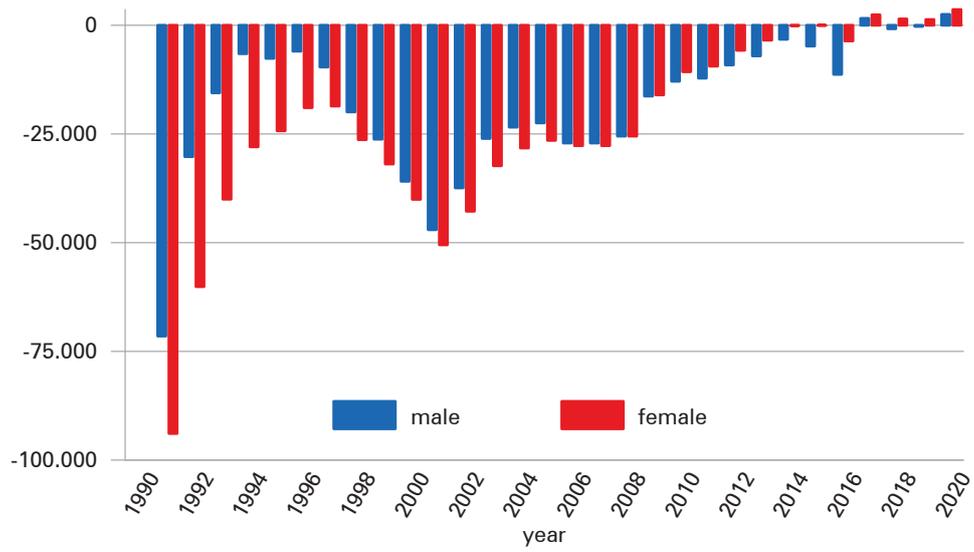
Some authors attribute the significant shortage of women in rural East Germany to more women migrating from East to West Germany in the aftermath of reunification than men (*Kröhnert/Klingholz 2007; Kröhnert/Vollmer 2012; Melzer 2016*). This conclusion, however, is based entirely on East Germany's higher net population losses among women than men, which were particularly pronounced in the 1990s (see Fig. 2, upper part). The gross migration flows both from East to West and from West to East shown in the bottom part of Figure 2, however, reveal that the extent to which women left East Germany in the period 1991-2004 was similar to that for men, and that more men moved from East to West from 2005 onwards (*Stawarz et al. 2020; Stauder 2018*). The sex differences in net migration shown in the upper part of Figure 2 are therefore the result of more men than women moving from West to East Germany (see also *Fuchs-Schündeln/Schündeln 2009; Kühntopf/Stedtfeld 2012; Scheffel 2012; Herfert 2007; Maretzke 1995; Beck 2011*). In other words, East Germany experienced higher net migration losses among women in the decades after reunification not because more women moved from East to West, but because fewer women moved from West to East.

The sex differences in total flows between East and West Germany disguise important variations in movement propensities by age. East-West migration tends to be female-dominated at the age of 18-24 years, and male-dominated at ages 25-29 and 30-49 years (*Stauder 2018; Kühntopf/Stedtfeld 2012*). East German women tend to migrate to the West earlier in the life course than East German men, but the latter catch up later, resulting in overall balanced outmigration rates for men

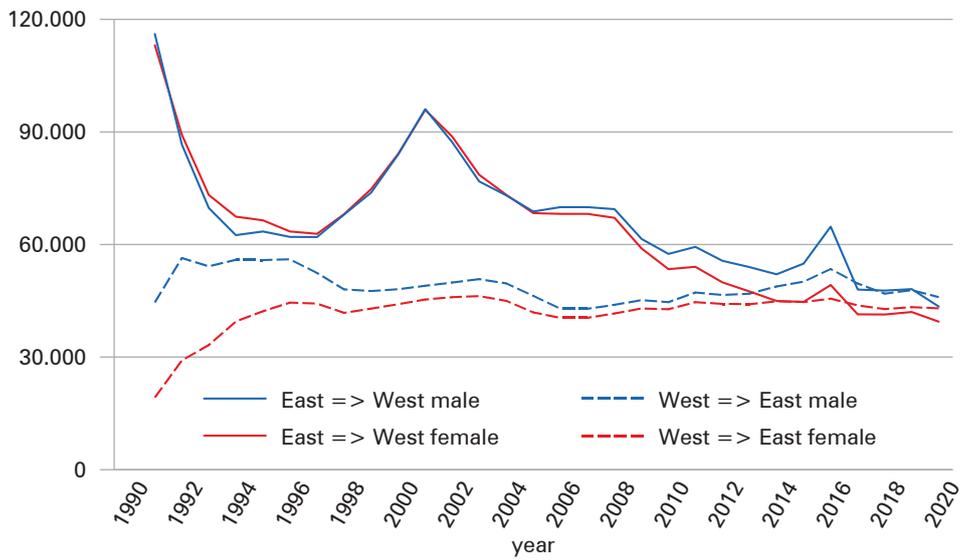
¹ This number does not even include migration flows for the years 1989 and 1990. Migration flows to and from Berlin are not included.

Fig. 2: Net migration and total flows between East and West Germany by sex, 1991-2020

Net migration by sex between East and West Germany



Total flows by sex between East and West Germany



Note: Not including Berlin

Source: German Federal Statistical Office, own calculations

and women (Stauder 2018). In the years 1989 and 1990, however, men aged 18-49 years left East Germany to a considerably higher extent than women. Higher migration levels among adult women aged 18-24 years observed in the early 1990s might therefore be attributed to them following their pioneering partners who had successfully settled in the West (Grundmann 1998; Meck et al. 1992).

Even though the administrative data show that female migration to the West was similarly high, studies based on the SOEP generally find that women born in the East were more likely to move to the West than men (i.e. *Fuchs-Schündeln/Schündeln* 2009; *Melzer/Hinz* 2019). There are two possible explanations for this finding. First, the administrative data may not capture the higher female East-West migration intensities because they have been disguised by a large number of males returning to the West (*Fuchs-Schündeln/Schündeln* 2009). Second, this finding might be related to the undercoverage of internal migration for men in the SOEP (Stauder 2018), generally resulting in higher internal migration estimates for women. In striking contrast to the SOEP-based studies, research using IAB data found that East German men in the 1990s were significantly more likely to move to West Germany than women (*Brücker/Trübswetter* 2007). As the IAB data are biased towards employed individuals above the age of 25, these findings are not inconsistent with the results derived from the administrative data.

4.3 Education – Propensity to move to the West was higher among college graduates

In migration theory, it is assumed that individuals with a higher level of educational attainment are more mobile than their less educated counterparts (*Sjaastad* 1962; *Borjas* 1987). In line with this assumption, SOEP studies conducted in the early 1990s found that East Germans who had completed more years of education reported a higher intention to move to the West and were also more likely to realise this intention (*Büchel/Schwarze* 1994). Nevertheless, in the period 1992-1997, it is estimated that East Germany overall did not incur human capital losses through migration, as a large number of highly educated West German civil servants moved to East Germany to take up positions in sectors not often required in the GDR, such as finance, insurance, and real estate (*Kempe* 1999; *Kemper* 2004). This changed during the second wave of emigration in the period 1998-2003, when East Germany suffered human capital losses due to East-West migration being dominated by more highly educated young adults who moved to the West for vocational training and university studies (*Hunt* 2000; *Kempe* 2001; *Schneider* 2005; *Schultz* 2009; *Fuchs-Schündeln/Schündeln* 2009; *Glorius* 2010; *Beck* 2011). In fact, it is estimated that East German college graduates were five times as likely to migrate to West Germany as those persons without a college degree (*Hunt* 2006; *Fuchs-Schündeln/Schündeln* 2009).

Research based on data provided by the IAB, in contrast, finds that educational level did not affect the migration decision of the working age population in the 1990s (*Brücker/Trübswetter* 2007; *Windzio* 2007). As mentioned above, the IAB data do not cover young college graduates who have been identified as the typical East-

West migrants in studies based on the SOEP and the German microcensus (*Hunt 2006; Fuchs-Schündeln/Schündeln 2009*). Accordingly, not finding an educational gradient based on the IAB data might be attributed entirely to this selection bias, indicating that the findings are not able to be generalised for the entire East-West migrant population.

4.4 Position in the labour market – Individual unemployment as a push factor

In addition to educational reasons, labour market reasons were cited by most East-West migrants interviewed in the 2000s as the main motive for moving (*Statistisches Landesamt des Freistaates Sachsen 2003; Schultz 2004, 2009*). Studies based on the SOEP for the period 1991-2012 support the notion that career-related and job-related factors mattered much more than non-economic reasons (*Stauder 2018*). In line with these considerations, research shows that East Germans who had lost their job and whose working hours had been involuntarily reduced were significantly more likely to move to the West than their employed counterparts in the 1990s (*Hunt 2000; Fuchs-Schündeln/Schündeln 2009; Windzio 2007*). As this was particularly true for those who had been laid off in the previous year, the findings indicate that in particular those persons experiencing short spells of unemployment moved to the West. In addition, unemployment spells were more likely to make men move to the West than women (*Melzer 2013a*).

The impact of individual and household income on East-West migration is less clear than the impact of unemployment, as the literature uses different income measures and provides mixed evidence. Whereas individual gross labour income and equivalised disposable household income do not have a significant impact on East-West migration (*Fuchs-Schündeln/Schündeln 2009*), higher annual net household income and daily income are associated with an increased migration risk (*Windzio 2007; Rainer/Siedler 2009*). These inconsistent findings might indicate that the effect of household income on East-West migration is not linear but rather inversely U-shaped, meaning that a linear relationship incorrectly specifies the analytical model (*Burda et al. 1998*). In addition, income apparently affects men and women differently, as men with a higher deflated monthly gross wage are more likely to migrate than women (*Melzer 2013a*). Accordingly, there is some support in the literature that labour market factors influence the migration behaviour of East German men to a greater degree than is the case for East German women. This conclusion is supported by the finding that East German women more frequently stated non-economic reasons for moving West than East German men, which is typically attributed to women following their male partner who had already found employment in the West (*Gerloff 2005; Melzer 2013b; Meck et al. 1992*). As a result – and in contrast to their male partners – East German women tend not to benefit from moving to the West in terms of individual income (*Nisic/Melzer 2013*).

4.5 Family and social networks – Having relatives in the West facilitates migration

Family-related factors and social networks play an important role in migration decisions (Cooke 2008; Thomas 2019; Haug 2008). It is generally assumed that married individuals, families with children, and home owners are less likely to migrate and this finding also holds with regards to East-West migration after reunification (Fuchs-Schündeln/Schündeln 2009; Melzer 2013a; Rainer/Siedler 2009; Meck *et al.* 1992). Having children below age 6, however, is not associated with a lower migration risk, indicating that East German parents with very young children are more flexible when it comes to relocation than those with school-aged children (Melzer 2013a). The second migration wave that peaked in 2001 was characterised by a higher share of married individuals than the first wave, which might reflect low expectations in terms of future economic convergence between East and West Germany among those who were already in the labour force around the turn of the century (Fuchs-Schündeln/Schündeln 2009).

With regard to social networks, East Germans who reported having relatives in West Germany were more likely to migrate westward than those who did not have extended family members in the West. Having colleagues in the West was not associated with an increased risk of moving, whereas the role of friends living in West Germany is ambiguous, as studies find both positive and insignificant effects on migration. Finally, the stronger the ties with the local community in East Germany, the lower the risk of moving to the West (Rainer/Siedler 2009; Fuchs-Schündeln/Schündeln 2009). Strong networks and high levels of social embeddedness at the place of residence might even have deterred unemployed individuals in East Germany from forming migration intentions and from actually moving (Kley 2013).

5 Contextual determinants of East-West migration

The literature on contextual drivers has focused mostly on macroeconomic factors but also on regional disparities and distance moved, all of which we review in this section.

5.1 Macroeconomic factors

Internal migration from East to West Germany after reunification is mainly attributed to the considerable economic and labour market differences between the former GDR and West Germany. In the 1990s and the early 2000s, labour economists were particularly interested in the question as to whether the differences in the level of wages or unemployment were mainly responsible for the heightened migration from East to West Germany. Based on a survey conducted among East German workers in 1991, Akerlof *et al.* (1991) concluded that only a small number of workers would migrate for higher wages and that the high unemployment rate in East Germany was the main cause of migration to West Germany (see also Decressin 1994). Based on

regional-level data, however, it has been demonstrated that the wage convergence between East and West Germany in the first half of the 1990s was an important factor in reducing emigration, whereas rising regional unemployment did not lead to higher levels of East-West migration (*Hunt 2000, 2006; Burda/Hunt 2001; Alecke et al. 2009; Windzio 2007*). Accordingly, in addition to huge West-East transfers and high levels of East-West commuting, it was the higher Western wages that triggered East-West migration in the 1990s and at the beginning of the 2000s (*Burda/Hunt 2001; Hunt 2006; Alecke et al. 2009; Parikh/van Leuvensteijn 2003*). The second migration wave that peaked in 2001 (see Fig. 1) can therefore be largely attributed to the slowdown in the convergence of wages between East and West Germany from the mid-1990s onwards (*Burda/Hunt 2001*). According to this line of argument, the second migration wave was dominated by East Germans who had postponed migration in the first half of the 1990s as they had been optimistic in their outlook regarding the economic development of East Germany. Once it became apparent to East German workers that economic development would continue to stall for several years at least, the second migration wave set in (*Burda/Hunt 2001*).

At first sight, it seems counterintuitive that individual unemployment is associated with increasing migration to the West, whereas regional unemployment rates are not. However, as discussed before, migration from East to West Germany in the 1990s and 2000s was dominated by young adults who intended to pursue further education and labour market entry in the West. Young adults are generally assumed to be more sensitive to origin wage levels, and relatively insensitive to origin unemployment (*Hunt 2006*). As a consequence, the large number of young adult migrants aged 18-29, who were relatively unaffected by regional unemployment, meant that the impact of unemployment was generally insignificant. Differentiating by age groups indeed demonstrates that those aged 30-49 were affected to a much greater degree by unemployment in their migration decision than those aged 18-24, indicating that young adults were much less sensitive to regional unemployment (*Goetzke/Rave 2013; Burda/Hunt 2001*). In addition, less-skilled individuals in general are affected by regional unemployment rates to a greater extent than high-skilled individuals, whereas more highly qualified individuals are more willing to move over greater distances (*Arntz 2010; Arntz et al. 2014*). These findings suggest that mobility decisions are determined mostly by individual characteristics and labour market qualifications, and to a much lesser extent by macroeconomic factors (*Ganesch 2018*).

5.2 Geographical patterns and distance to West Germany

Besides the city state of Berlin, all other five East German federal states followed the aggregated trends depicted in Figure 1, and experienced high population losses through East-West migration in the 1990s and 2000s (*Fuchs/Weyh 2016; Heiland 2004*). Only the state of Brandenburg, which benefits from its proximity to Berlin, was less affected by East-West outmigration during the 2000s, and currently even experiences moderate net migration gains (*Stawarz/Rosenbaum-Feldbrügge 2020*). A comparison of urban and rural areas reveals that industrial and urban centres in

particular, which had experienced substantial population growth in the GDR, faced massive population losses through internal migration after the collapse of the Berlin Wall (*Berentsen 1996; Kemper 2004; Grundmann 1996; Gans 1995*). In addition, internal migration in the 1990s and 2000s intensified the population losses of rural East Germany, which had already suffered from considerable outmigration to urban areas and particularly to East Berlin in the GDR (*Schmidt/Tittel 1990; Wendt 1994, 1995*). Since the early 2000s, East German cities have become increasingly attractive destinations for highly-skilled migrants from the East and the West (*Ganesch 2018; Buch et al. 2014*). The East German countryside, however, continues to experience age-selective and gender-selective outmigration (*Leibert 2016*).

In the decades after reunification, attractive destinations among East-West migrants were regions characterised by strong labour markets, such as the federal states of Bavaria and Baden-Württemberg as well as the metropolitan areas of Munich, Hamburg, Frankfurt, and Stuttgart (*Glorius 2010; Friedrich/Schultz 2006; Milbert/Sturm 2016; Maretzke 1995*). During the years 1991-1995, however, districts located close to the former border between the FDR and GDR experienced the highest inward migration rates, indicating that early East-West migrants moved over shorter distances, perhaps because they preferred to stay close to their home region (*Schlömer 2004*). This is also indicated by the fact that East-West migrants in general tend to move to federal states that are located close to their home states (*Heiland 2004; Friedrich/Schultz 2006; Grundmann 1996; Haas 2002; Schlömer/Bucher 2001; Wendt 1994*).

Whereas the state-level pattern of movement suggests that distance moved was relatively short for East-West migration, the role of geographical distance to the former border as a determinant of East-West migration is theoretically ambiguous (*Fuchs-Schündeln/Schündeln 2009*). On the one hand, greater migration distances tend to be associated with higher migration costs and lower migration intensities (*Sander 2014*). On the other hand, individuals living closer to the border may consider daily or weekly commuting as a substitute for migration (*Rüger/Sulak 2017; Stawarz et al. 2021*). Indeed, studies using the SOEP found that East Germans living closer to West Germany in terms of distance and driving time were less likely to move to the West than those living further away (*Hunt 2000; Fuchs-Schündeln/Schündeln 2009; Melzer 2013a; Melzer/Hinz 2019; Melzer 2010*). This indicates that commuting serves as an alternative to migration. A study using IAB data, in contrast, finds that East German districts located at the former German border actually experienced the highest outmigration rates to West Germany in the 2000s (*Fuchs/Weyh 2015*). In the East-West German context, the role of geographical distance therefore remains ambiguous not only from a theoretical but also from an empirical perspective.

6 Return migration

West-East return migrants are defined as East Germans who return to East Germany after having moved to the West. In the last two decades, a growing number of NGOs and local community initiatives have aimed to alleviate the demographic change

that rural East Germany faces by attracting former East-West migrants to return to the East (*Dienel et al.* 2006; *Quéva* 2018; *Scheffel* 2012). So far, however, little research has been conducted on West-East return migration, and the literature that does exist is mostly based on regional case studies and surveys done in the late 2000s.

6.1 The extent of return migration to East Germany

Estimating the volume of return migration to East Germany is not straightforward as administrative data do not provide any information about former places of residence or the place of birth. In addition, the SOEP only includes a very small number of life trajectories of East German return migrants (*Schneider et al.* 2011), and the IAB data do not contain information about the places of residence before 1999 (*Fuchs/Weyh* 2015). Due to these data limitations, in the early 2000s the German government was not even able to provide a rough estimate of how many people had returned to East Germany after reunification (*Deutscher Bundestag* 2004).

Based on the SOEP and the German pension registers, it is estimated that nearly 50 percent of the West-East migrants during the 1990s and the first half of the 2000s were return migrants (*Beck* 2004, 2011; *Kempe* 2001; *Kreyenfeld/Vatterrott* 2018). Assuming a share of 50 percent implies that more than 400,000 individuals returned to East Germany in the period 1991-1999. However, the SOEP does not define citizens of the former GDR as East Germans who left East Germany before the construction of the Berlin Wall in 1961, who fled from the GDR in the period 1961-1989, and who migrated between November 1989 and summer 1990. As a consequence, the SOEP calculations most certainly underestimate the share of return migrants among all West-East moves (*Beck* 2004, 2011).

A second indicator of interest is the share of East-West migrants who would return to the East. Regional case studies conducted in the 2000s provide quite unambiguous evidence that around 60 percent of East Germans living in the West expressed an intention to return (*Dienel et al.* 2006; *Schultz* 2009; *Statistisches Landesamt des Freistaates Sachsen* 2003; *Lang/Nadler* 2014). Estimates of the share of actual return migrants based on longitudinal individual-level data, however, range from 32 percent (*Beck* 2011) to 16 percent (*Fuchs/Weyh* 2016). Accordingly, there appears to be a significant gap between the intention to return and actually doing so, indicating a potential source for East German regions to attract return migrants and to regain human capital (*Matuschewski* 2010).

6.2 The geographical pattern of return migration

Research based on IAB data shows that most East German returnees in the period 2000-2010 moved back to their actual district of origin. Return migration rates to rural East German districts bordering the former West Germany are particularly high, a finding attributed to the shorter distances that commuters have to travel to the stronger West German labour market (*Fuchs/Weyh* 2015, 2016; *Nadler/Wesling* 2013; *Nadler* 2017). Those return migrants who did not move back to their home

region tended to prefer the city of Berlin and its hinterland as well as the other larger East German cities (e.g. Leipzig or Dresden), given that they provide attractive employment opportunities (*Fuchs/Weyh* 2015; *Herfert* 2009). Smaller East German cities such as Frankfurt (Oder) or Cottbus with less economic potential, as well as rural areas further away from the former German border, experienced lower return migration rates (*Nadler* 2017; *Nadler/Wesling* 2013).

6.3 Determinants of return migration

Previous research indicates that macroeconomic models explain the extent and direction of migration from East to West Germany very well, but are less suited for West to East migration (*Wolff* 2010). This is commonly attributed to the large share of return migrants (*Wolff* 2010) who, in addition to citing economic considerations, often also mention non-occupational motives – such as living closer to one’s family and friends – for moving back to their region of origin (*Dienel et al.* 2006; *Jain/Schmithals* 2009; *Schmithals* 2010; *Matuschewski* 2010; *Lang/Hämmerling* 2013; *Schneider et al.* 2011). That economic considerations are often not the predominant factor affecting the decision to move back to East Germany is indirectly supported by research showing that most individuals who are employed on a continuous basis retain their labour market status, but earn lower wages than in West Germany on average (*Fuchs/Weyh* 2015). Nevertheless, economic integration in terms of occupational success, income gains, and time spent in the West generally decreases the intention and actual decision to return to the East (*Fuchs-Schündeln/Schündeln* 2009; *Nadler/Wesling* 2013; *Fuchs/Weyh* 2015; *Lang/Hämmerling* 2013; *Schneider et al.* 2011; *Schultz* 2004). Correspondingly, return migration to East Germany was particularly high among individuals who had recently lost their job and thus struggled to pursue a career in the West (*Fuchs-Schündeln/Schündeln* 2009).

Lang and Hämmerling (2013) argue that there are three major types of East-West return migrants. The first type consists of individuals who often have a partner and children and who state family-related aspects as their main motive for moving back. The second type includes highly educated singles who returned primarily for economic reasons. The final type consists of migrants who returned for a variety of motives, including both economic and personal reasons. As members of the third return migration type often did not feel socially accepted in the West and earn below average wages, there is some indication that these individuals returned because they did not succeed, either socially or economically, in the West. Taken together, previous research indicates that return migrants to East Germany are, to a certain extent, more heterogeneous than East-West migrants. This is mostly because both economic and non-economic motives have a considerable impact on the decision to return (*Lang/Hämmerling* 2013). Accordingly, arguing that return migration to East Germany is related above all to failure and unfulfilled expectations in the destination region (i.e. *Schneider et al.* 2011) largely ignores the highly complex nature of return migration to East Germany and its underlying motives.

7 Conclusions and potential directions for future research

In this paper, we reviewed the literature on the individual and contextual determinants and drivers of migration between East and West Germany, which were – and to a certain degree still are – characterised by strong economic disparities (*Belitz et al.* 2019; *Krause* 2019). Given the scientific interest from disciplines such as economics, demography, sociology, and human geography in this unique setting for studying internal migration, the literature on the topic appears to be somewhat fragmented. The aim of this paper therefore was to provide a synthesis of the findings derived from these disciplines so as to make it easier for the reader to draw proper conclusions on the economic and non-economic drivers of migration.

Overall, our literature review shows that East Germans mainly behaved in line with basic principles derived from migration theory. Young, single adults were most likely to migrate from East to West Germany, whereas elderly individuals and parents of school-aged children were much less mobile. The existing literature paid little attention to the impact of family ties on East-West migration decision-making, but has shown that having relatives in West Germany enhanced the migration risk, whereas stronger ties with the local community reduced it. On average, women migrated to the West earlier in the life course than men, but the latter catch up later, resulting in overall balanced outmigration rates for men and women. In general, highly educated individuals – college graduates especially – were more likely to migrate westwards than their less educated counterparts, which resulted in severe human capital losses for East Germany, particularly around the turn of the century. In the first years after reunification, however, East Germany's human capital losses were less severe given the large number of highly educated West German civil servants who took up positions in sectors not often required in the GDR, such as finance, insurance, and real estate.

On the regional level, our review indicates that East-West migration flows were mainly directed to areas with strong labour markets, and to regions located close to the migrants' region of origin. In particular, wage differentials between East and West Germany are identified as the most prominent economic factor for westward migration; however, for persons aged 30-49 years and for those with lower levels of education, regional unemployment mattered too. Industrial centres and rural areas in East Germany suffered the most from East-West migration, whereas larger East German cities such as Leipzig, Dresden, and Potsdam have been transformed since the 2000s into attractive destinations, including for West Germans. Most rural regions in the East, however, continue to experience net migration losses to the West, even 30 years on from reunification.

At a rough estimate, around 50 percent of the individuals who have moved from West to East Germany since reunification are returnees. Compared to East-West migrants, return migrants tend to be motivated much less by economic factors and much more by family-related factors. In addition, there is a potential for East German regions to attract return migrants as many East-West migrants express an intention to move back to East Germany. In this respect, one very important precondition is the availability of attractive jobs (*Fuchs/Weyh* 2016; *Statistisches Landesamt des*

Freistaates Sachsen 2003) for which there is even some indication that returnees are willing to accept lower wages (*Fuchs/Weyh* 2015; *Schultz* 2004, 2009; *Lang/Nadler* 2014). Nevertheless, more qualitative and quantitative research needs to be carried out into the individual determinants and motives of return migration as well as the economic and social outcomes after returning home.

As far as the datasets used to study East-West migration are concerned, our review identified that research based on the IAB generates different results with regard to the impact of sex, education, and distance to the former internal border than those results derived from research based on the SOEP and administrative data. Further research is therefore required to determine the consequences of the specific selection biases of the datasets when it comes to internal migration. Due to its employee-restricted sample, it does not appear that the findings from the IAB data can be inferred for the entire population. Researchers using the IAB data and the German pension registers therefore have to be fully aware of selection biases when interpreting their results.

Our review identified several other research gaps that prompt us to suggest potential directions for future research. First, the degree to which sex-selective migration between East and West Germany on the one hand, and rural-urban migration within East Germany on the other hand, caused the strong deficit in young adult women in rural East Germany remains unclear. Previous research demonstrates that the migration intensity within East Germany was constantly higher than the intensity of East-West migration in the period 1995-2010 (*Sander* 2014; *Kempe et al.* 2001). This indicates that the shortage of women in rural East Germany could be largely attributable to female rural-to-urban migration within East Germany and not to East-West migration.

Second, due to the substantial changes in the collection of administrative data upon reunification, little is known about the determinants of East-West migration in the years 1989 and 1990, the period with by far the highest number of outflows. Historical demographic research could consider visiting the archives to collect and re-analyse data provided by the ZER and other governmental sources in an effort to gain further insights into the determinants and motives of the pioneering migrants, focusing in particular on the influence of different networks on migration decisions. In this respect, another point of interest relates to the question of whether advocates and opponents of the GDR system employed different internal migration patterns in the early 1990s. For this purpose, one could draw on the SOEP, which in 2018 added survey items on the GDR past for the East German sample. These include questions regarding membership of the governing Socialist Unity Party of Germany (SED) and participation in the peaceful protests in 1989.

Finally, we suggest that further research be conducted into the individual-level consequences of East-West and West-East (return) migration on labour market, health and demographic outcomes. For this purpose, techniques such as sequence analysis could be applied to categorise internal migration trajectories. In summary, although considerable attention has been paid in the literature to migration between East and West Germany, our review has identified several open questions regarding

the nature, causes, and consequences of three decades of East-West migration in post-reunification Germany.

List of Abbreviations

FRG	Federal Republic of Germany
GDR	German Democratic Republic
IAB	German Institute for Employment Research
IEB	Integrated Employment Biographies (provided by the IAB)
LFS	German Labour Force Survey
SED	Socialist Unity Party of Germany
SIAB	Sample of Integrated Labour Market Biographies (provided by the IAB)
SOEP	German Socio-Economic Panel
ZER	Zentrales Einwohnerregister Berlin-Biersdorf (Central register of residence)

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