The Wealth Gap Between Ageing Immigrants and Native-Born in Ten European Countries*

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Abstract: Using data from the Survey of Health, Aging and Retirement in Europe from 10 European countries, this study contributes to the research on immigrants' economic incorporation by focusing on the nativity wealth gaps in mid and late life. Three origin groups of immigrants were distinguished: non-European, post-Communist, and western, central, and south European countries. We estimated the size of the wealth gap between each immigrant population and natives, the sources of the gap, and the trajectory of wealth convergence. The data revealed that the mean net worth of native-born groups was higher than that of all immigrant sub-groups. The gap was widest for non-European immigrants and lowest for West, Central, and South European immigrants. Differences in the rate of homeownership accounted for the largest portion of the gap, while neither differential levels of income nor education accounted for much of the gap between native-born and either non-European immigrants or immigrants from post-communist countries. Reception of gifts or inheritances did not account for a meaningful portion of the gaps. Estimation of the rate of convergence suggests that it would take an average of 85 years after arrival for an average immigrant household to bridge the wealth gap between it and an average native-born household. The rate of wealth convergence was somewhat faster for non-Europeans and slower for West, Central, and South Europeans.

Keywords: Immigration, Wealth Inequality, European Societies, Immigrants' Economic Integration, SHARE data

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The ever-growing literature on immigrants' economic incorporation in host countries reveals that the economic disadvantage of immigrants is substantial upon arrival in the host country, but tends to decline with the passage of time. Hence, as immigrants master the local language, acquire cultural codes, adjust their occupational skills, and expand their domestic networks and ties, they experience occupational and economic mobility [e.g. Chiswick 2005; Algan et al. 2010; Gorodzeisky and Semyonov 2011; Maskileyson and Semyonov 2017]. Nevertheless, even if immigrants reach earning parity with natives at some point in the course of their working lives, the gap in accumulated wealth at later stages of the life course may still be substantial. This is because the economic disadvantages experienced by immigrants in their early years in the host country may limit their ability to save, invest, or purchase a home, and therefore to accumulate wealth.

Curiously, whereas the body of research on the incorporation of immigrants into the labour market of the host society has become substantial, less attention has been given to immigrants' accumulated wealth and wealth disparities between immigrants and natives at later stages of their life course [for notable exceptions, see Ferrari, 2020; Lewin Epstein and Semyonov 2013]. This neglect is unfortunate because well-being at an older age is largely dependent on the resources and benefits accumulated in the past. We argue that accumulated wealth better represents and better captures the potential for consumption and the ability to cope with existential needs, especially at older age, when labour market earnings are reduced, or are non-existent.

In the present paper, thus, we contribute to knowledge in the field of inequality and immigration by turning attention to the wealth holdings of immigrants and the nativity wealth gap at later stages of the life. We do so, first, by estimating the size of the wealth gap between immigrants and natives and, second, by examining the extent to which the size of the nativity wealth gaps varies across the three origin groups of immigrants in European societies. We then estimated the extent to which the gap can be attributed to differential earnings, intergenerational transfers, and home-ownership. Lastly, we estimated the rate of wealth convergence between each immigrant group and comparable native-born, based on the relationship between wealth and years since migration.

Similar to Ferrari [2020], we take advantage of data from the SHARE (Survey of Health, Aging and Retirement in Europe) project to conduct empirical analyses, distinguishing three groups of immigrants: non-Europeans, immigrants from post-Communist countries, and immigrants from West, Central, and Southern European countries (WCS). For each group of immigrants, we estimated the level of household wealth compared to natives. We believe that the findings of the study are instructive regarding the extent of economic inequality between migrants and natives in late life, as well as the sources of these disparities. As such, they provide more general insight into the long-term consequences of migration.

Determinants and sources of the nativity wealth gap

Previous studies that focused on the nativity wealth gap invariably found that the wealth holdings of immigrant households are lower than that of native-born households [e.g. Cobb-Clark and Hildebrand 2006; Painter and Qian, 2016; Hao, 2007 for the US; Shamsuddin and DeVoretz 1998 for Canada; Bauer et al. 2011 for the US, Australia, and Germany; Gibson et al. 2010 for New Zealand; and Lewin-Epstein and Semyonov, 2013 for Israel]. The wealth gap is typically attributed to disparities in three important sources of wealth: labour market earnings, home ownership and intergenerational transfers. On all three dimensions, immigrants usually lag behind the native-born population. That is, immigrants' lower wealth holdings in older age may result from lower lifetime earnings, lower amounts of intergenerational transfers, lower rates of homeownership, or a combination of the three.

Turning first to labour market earnings, a large number of studies repeatedly reveal that immigrants face difficulties in attaining lucrative jobs and converting their human-capital resources into economic outcomes; therefore, their earnings are lower than the earnings of native-born individuals with similar work related attributes. [e.g. Alba and Foner 2016; Chiswick 2005; Büchel and Frick 2004]. For some groups (mostly immigrants from less developed countries and immigrants that are socially or ethnically distinct from the host population), the earnings penalty lasts for many years after arrival; in some cases, the penalty persists in the second generation as well [e.g. Duleep 2015; Maskileyson and Semyonov 2017; Algan et al. 2010]. For other immigrants (mostly those arriving from rich, highly-developed countries and of similar ethnic origin), the earnings penalty is minimal, and in some cases earnings surpass that of comparable native-born populations [Maskileyson and Semyonov 2017]. The earnings penalty experienced by immigrants (even if only temporary) may have long-lasting consequences for wealth accumulation. That is, the earnings disadvantages of immigrants may hinder their ability to save, invest, and accumulate assets throughout the years compared to the native-born population.

A second source of individual and household wealth is intergenerational transfers. Such transfers had become more significant in the latter part of the 20th century as aging "baby-boomers" had accumulated sufficient wealth to assist their offspring with inter-vivo gifts and bequeaths. From a social inequality perspective, such intergenerational transfers are likely to increase the gap between the 'poor' and the 'rich' [e.g. Benton and Keister 2017; Szydlik 2004; Keister 2003; Pikety 2014]. Immigrants' likelihood of receiving transfers is likely to vary in accordance with the circumstances of migration. Overall, however, the likelihood of receiving transfers is expected to be lower among immigrants than among the native-born individuals. This is especially true for immigrants who leave places with depressed economic conditions or unstable political systems. In such cases, immigrants are more likely to remit and transfer money to family members left in their country of origin than to receive transfers and financial support [e.g. Vallejo

and Keister 2019]. Furthermore, in many cases, immigration implies a break with the past, which decreases family ties and the likelihood of receiving intergenerational transfers. Thus, it is reasonable to expect a lower likelihood of immigrants receiving in vivo or intergenerational transfers compared to native-born populations.

Access to homeownership—a third most important source of wealth disparities—is often singled out as the most important component of household wealth. For the overwhelming majority of households (except for the very rich), housing is the single largest component of household wealth, and is often used as a proxy for wealth [e.g. Wind 2017; Semyonov and Lewin-Epstein 2011]. As a form of wealth, housing is a particularly attractive asset because it provides existential security and a sense of belonging. Furthermore, the house can be used while still maintaining its values, and often the value even appreciates over time [Mathä, Porpiglia, and Ziegelmyer 2017]. Thus, homeownership has become, for most families, an efficient strategy for building wealth assets and as a major component of intergenerational transfers.

Immigrants' disadvantages in the housing market were demonstrated and discussed in several studies that arrived at similar conclusions. First, rates of homeownership are considerably lower among immigrants than among native-born individuals [Alba and Logan 1992; Bourassa 1994; Lewin-Epstein and Semyonov 2000]. Second, the value of the housing assets of immigrants who own their own homes is lower than that of housing owned by natives [Semyonov, Lewin-Epstein, and Davidov 2002]. The disadvantages of immigrants in the housing market can be attributed to several factors. First and foremost, immigrants may lack the necessary economic resources, especially shortly after their arrival in the host country, to invest in housing and make regular and steady mortgage payments. Second, immigrants are likely to find the housing market less accessible than natives. The purchase of a home requires familiarity with the institutional and financial arrangements that exist in the new country. Such familiarity takes time to acquire.

Further, immigrants may face barriers in the form of unwelcoming institutions and agents that operate in the housing market. Financial institutions may be reluctant to provide loans to immigrants due to insufficient credit history or uncertainty regarding the immigrant's future plans, as well as a lack of a solid credit record. Immigrants may also face constraints derived from their legal status or from restrictions on home and business ownership as well as outright discrimination [Akresh 2011]. Aside from institutional and social barriers, immigrants may have different preferences or views than natives regarding the permanency of their residence, which may also affect or delay decisions concerning the purchase of housing. Consequently, immigrants are less likely to benefit from financial gains derived from the housing market, which in turn have a profound effect on accumulated wealth and wealth disparities [Mathä et al. 2017].

Some studies have found that with the passage of time, immigrants are able to accumulate wealth in the host country and to narrow wealth disparities with

the native-born population [e.g. Cobb-Clark and Hildebrand 2006; Painter, Holmes and Bateman 2016: Painter and Qian 2016; 2016; Semyonov and Lewin-Epstein 2011]. Others contend that the wealth gap has remained substantial throughout the years. According to Hao [2004], for instance, it takes an average of 22 years of residence (in the United States) for immigrants to close the wealth gap and to catch up with the wealth holding of comparable native-born Americans. In New Zealand, however, Gibson, et al. [2010] detected lower levels of wealth among migrant couples (but not among mixed couples); the gap partially disappeared when demographic and labour market attributes were introduced to the analysis as control variables. According to Shamsuddin and DeVoretz [1998], immigrants to Canada were able to close the wealth gap within a period averaging 15 years. The impact of length of residence in the host country, regardless of the size of the wealth gaps and its rate of convergence, may vary considerably across immigrant sub-groups.

In the analysis that follows, we aim to contribute to the body of knowledge on immigration and immigrant well-being in later life by studying nativity wealth disparities and their sources in ten European countries. Based on the theoretical and empirical literature on wealth inequality, we expect that differences between immigrant and native-born households in earnings, intergenerational transfers, and especially homeownership would account for substantial portions of the nativity wealth gap. We also expect the wealth disparities between immigrants and native-born households to be more pronounced for immigrants who arrived from less developed and poor economies and who are culturally and ethnically different from the majority population in the host societies.

In the context of European societies, we expect wealth disparities to be most pronounced for immigrants of non-European origin, followed by immigrants from post-communist countries, and lowest for immigrants from rich WCS European countries. This is due not only to differences in human capital resources but also to differential treatment by the host society stemming from cultural differences and prejudice. Lastly, we expect the wealth gap to decline with the passage of time in the host country. The wealth of immigrants from WCS European countries is likely to converge rapidly to that of natives. The process of convergence for non-European immigrants is expected to be slower because they are more likely to face discrimination in the labour and housing markets and are more likely to remit rather than receive intergenerational support.

Immigration in the European context

Before proceeding with the data analysis, we provide a brief review of the context of immigration in Europe. Until the middle of the 20th century, Europe was mostly a source of emigration (mainly to North and South America), but after World War II, many European countries were transformed from emigration societies into important destinations for immigrants. Indeed, during the second

half of the previous century, immigration changed the demographic composition and ethnic fabric of most European countries. More specifically, many European countries have become home to communities of immigrants from Africa, Asia, South America, and Eastern Europe.

The influx of immigrants to Western European countries in the post-World War II era is often attributed to high demand for workers due to rapid economic growth, rising educational levels, declining fertility, and the ageing of the population. The demand for the labour force, mostly in Western and Central European countries, was met by a large supply of immigrant labour from outside and within Europe. Initially, in the middle of the 20th Century, the demand was met by recruitment and importation of guest workers and labour migrants from poor countries outside and inside Europe coupled with the arrival of a large number of ex-colonials from Asia, Africa, and the Pacific. Later on (especially since the mid-1980s), European countries were faced with an influx of refugees and asylum seekers from the Middle East, Africa, and the former Yugoslavia. After the downfall of the former Soviet Union, the initial inflows were also followed by large numbers of immigrants from the former Soviet Union and post-socialist countries [Castles and Miller 2003].

Consequently, the relative size of the foreign-born population in Western Europe, whether ex-colonials, immigrants, guest workers, labour migrants or refugees and asylum seekers, has grown steadily. Indeed, immigration from less-developed countries in Asia, North Africa, Sub-Saharan Africa, the Middle East, and Latin America, coupled with immigration from Southern and Eastern Europe, contributed not only to the growth of the Western Europe population (that otherwise would exhibit negative population growth) but also to changes in the composition of the population [Parsons and Smeeding 2006]. Currently, the immigrant population in Europe is highly diverse and varies considerably across countries. For example, Germany has large immigrant populations from Turkey, the former Yugoslavia, and the former Soviet Union. Switzerland has become home to immigrants from former Yugoslavia, Turkey, Sri-Lanka, India, and China. The Netherlands received large numbers of Moroccans and Surinamers. The United Kingdom hosts ex-colonials from India, Pakistan, and the West-Indies. In Belgium and France, large numbers of immigrants arrived from ex-colonies in Sub-Sahara and North Africa, and the Scandinavian countries have accepted both immigrants from neighbouring countries and asylum seekers from Africa and the Middle-East. Yet, despite cross-country differences in immigrants' country of origin, they can be roughly divided into three major sub-groups of origin: immigrants from the poor, less-developed countries outside Europe (non-Europeans); immigrants from post-communist, mostly East European, countries; and immigrants from West, Central, and South (WCS) European countries.

Data and variables

Data for the analysis were obtained from the Survey of Health, Ageing and Retirement in Europe (SHARE). SHARE is a nationally representative panel study of households with at least one person aged 50 and over in Europe [Börsch-Supan et al. 2013]. The SHARE dataset is especially suited for the study of wealth disparities in older age due to the rich financial information collected, along with sociodemographic and household attributes.

The unit of analysis in this study is the household (not individuals), as wealth is typically a household attribute. It should be noted, however, that SHARE data are derived from national probability samples, and since foreign-born populations constitute a small share of all societies, their numbers in the sample are quite small. Therefore, for the purpose of the present analysis, we combined data from nine EU-15 countries and Switzerland, all of which participated in waves 5, 6, and 7 of the SHARE and included more than 90 sampled households of immigrants. The list of countries, the number of native-born and immigrant households, and their mean net worth by nativity status and by region of origin are presented in Appendix A.

The SHARE data in all countries were collected in respondents' homes using face-to-face interviews and a computer-based questionnaire (computer assisted personal interviewing – CAPI). The questionnaire covered a wide range of topics and was highly structured to ensure the comparability of data across countries. Individual level data included information on country of birth and length of residence in host society (for non-natives), along with demographic and life-course details. Household data were obtained from the primary respondent. Nativity status of the household was based on responses to a question on place of birth. We distinguished between households whose members were all native-born (hereafter Native-Born Households) versus households in which at least one adult was not born in the country of residence (hereafter Immigrant Households)[1]. The immigrant households were further divided into three sub-groups according to country of origin: immigrants who arrived from countries outside Europe (hereafter Non-Europeans), immigrants who came from post-communist Europe[2], and immigrants from West, Central, and Southern Europe[3] (hereafter WCS-Europe).

[1] The inclusion of households with 'at least one foreign-born' in the 'immigrant household' category increased the number of "immigrant" households. This resulted in more conservative estimates of the nativity gap. Nonetheless, the majority of these households were all-immigrant households.

[2] Post-communist European countries are: Albania, Bosnia and Herzegovina, Bulgaria, Belarus, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kosovo, Latvia, Lithuania, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, and Slovenia.

[3] The West and Central European countries (WCS) are: Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Greenland, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Net worth—the dependent variable—served as the measured indicator of household wealth. Net worth is defined as the sum of real and financial assets minus debts. Real assets included the values of primary housing, other real estate, owned businesses, and owned cars. Financial assets were composed of the sum values of all accounts, bonds, stock, mutual funds and savings. Debts include housing debts (primarily mortgages) and all financial debts. All assets and debts were measured in Euro terms adjusted for purchasing parity power (PPP) for Germany, 2015.[4] Countries differ considerably in the average level of household wealth as well as in the shape of its distribution, although in all countries, the distribution is highly skewed. Since we are interested in the nativity wealth gaps within countries, we standardised the distribution of net worth in each country on a ranked 100-point scale.[5] Such a standardised ranking scale enables a comparison of the gap across countries with different mean values and reduces the skewness of the wealth distribution. Yet, it should be noted that similar (almost identical) results were obtained when net worth was expressed in Euro terms and transformed into logarithmic distribution following procedures utilised in previous studies of wealth inequality [e.g. Campbell and Kaufman, 2006; Cobb-Clark and Hildebrand, 2006; Semyonov and Lewin-Epstein, 2011, 2013].

Household attributes that were selected as predictors of a household's net worth include income (in Euros), gift or inheritance (received or not), and home-ownership (owner versus non-owner). Other household characteristics were introduced as control variables. These include: age (couple's average in years), household type (distinguishing between lone male, lone female, and couple), number of children, education (couple's average years of formal schooling), labour force status (retired versus at least one person economically active), pension recipient (at least one person collecting pension), and community type (rural versus urban). The 10 countries were included in the analysis as a set of dummy variables for control purposes. The definitions of all variables, their detailed measurements, and the mean (or percentage) values are listed in Appendix B.

Data analysis proceeded in several steps. First, we provide a descriptive overview of the wealth distribution for all population groups and estimates of the wealth gap between each sub-group of immigrants and native-born. Second, we estimated a set of regression equations predicting net worth as a function of nativity status, controlling for household characteristics and country of residence as dummy variables. Subsequently, we decomposed the nativity wealth

[4] Germany was chosen, as it is the largest European economy. It was also the base category in the regressions. The year 2015 was chosen as this was the latest year for PPP correction supplied by SHARE at the time.

[5] The 100-point scale of household wealth was constructed for each country separately as follows: all households with no wealth or negative wealth were lumped together into zero (0) category. All households with positive wealth were divided into 100 equal size categories from 1 (low) to 100 (high) according to the amount of their net worth.

gap for each sub-group of immigrants into components that can be attributed to differentials in income flow, reception of gifts and intergenerational transfers, homeownership, human-capital resources, and demographic attributes, and the portion of the gap that can be attributed to nativity status. Lastly, we estimated the trajectory of wealth convergence between each sub-group of immigrants and native-born under different assumptions regarding the shape of wealth growth over time.

Analysis and findings

Descriptive overview

Table 1 is a descriptive overview of household wealth (measured as average position on the ranked order 100-point scale) for native households and for all sub-groups of immigrants. The table also displays the wealth gaps between immigrants and the native-born population in terms of mean differences and ratios. The data presented in Table 1 revealed that the mean position of native-born households on the 100-point ranked scale was higher than that of all sub-groups of immigrants, indicating a wealth gap in favour of natives. The net worth of immigrants who arrived from non-European countries was considerably lower than the wealth of native-born households, as well as that of other migrant populations. The wealth holding of WCS immigrants, although slightly lower than that of the native-born population, was considerably higher than the wealth holding of the other two sub-groups of immigrants. The wealth of immigrants from post-communist countries fell somewhat between the non-European and the immigrants from WCS countries. These patterns held, with very few exceptions, within each of the host countries (see Appendix A).

Immigrant households differed from the native-born population not only in levels of net worth but also with respect to an array of socio-economic and demographic attributes (figures not presented). Immigrants tended to be somewhat younger than the native-born population; they were less likely to be retired, and when retired, they were less likely to collect pension. Immigrants, more than natives, were attracted to urban places where employment opportunities were relatively abundant. Differences in educational levels between immigrants and natives vary across countries. In some countries, the level of formal education of immigrants' years of formal schooling was lower than that of native-born. In other countries, it was similar or even higher. Similarly, differences between natives and immigrants in household income and the likelihood of receiving gifts and transfers were not consistent across countries (not shown here). However, with regard to homeownership (which was the single most important component of net worth for the overwhelming majority of households), the data showed that in all countries immigrant households were less likely to own a home compared to natives.

Table 1: Household Net Worth (100-point ranked scale) and disparity in mean net worth between native-born households and immigrant households, and ratio of net worth of immigrant households to native-born households by nativity status of households across ten European countries (on ranked scale)

	Mean Net Worth (Ranked)	Disparity (Native – Immigrant Group)	Ratio (Immigrant/ Native)	N
		(Ranked)	(Ranked)	
Household nativity status				
Native born HH	50.68	–	–	36,062
Immigrant HH	42.64	8.04	0.84	4,406
Origin of immigrant household				
Non-Europeans	29.79	20.89	0.59	872
Post-communist Europeans	39.54	11.14	0.78	889
West, Central and South Europeans	48.26	2.42	0.95	2,645

NOTE: All currency is adjusted by PPP for Germany 2015; All countries include the respondents of waves 5, 6 and 7 (without repeats), except the Netherlands (wave 5), Greece (6 and 7), and Luxembourg (5 and 6)

Determinants of wealth and sources of wealth disparities

Although the descriptive findings are quite informative and interesting in their own right, it is not clear from these data whether and to what extent differences in wealth holdings between sub-groups of immigrants and the native population can be attributed to nativity status, their place of origin, dissimilarities in the socio-demographic characteristics of the households, or different rates of home-ownership. Therefore, in the analysis that follows, we present estimates of a series of regression equations predicting net worth (expressed in terms of relative position on the standardised 100-point scale).

Two sets of regression equations predicting net worth were estimated. In Equations 1a and 1b, we let net worth be a function of a household's nativity status and household's attributes (i.e. age, education, family type, income, labour-force status, gift, rural residence). A variable for years since migration was not included in these models because we addressed and considered the impact of tenure in the host country on wealth in a later section. In Equation 1a nativity status is defined by a dummy variable distinguishing between foreign-born households and native households. In Equation 1b, nativity status is defined by

Table 2: Coefficients of regression equations (standard errors) predicting household net worth (measured on 100-point ranked scale) in 10 European countries

Models	1a	1b	2a	2b
HH nativity status (ref. native)				
Immigrant HH	–8.813**		–4.33*	
	(–0.57)		(–0.45)	
Origin of immigrant HH				
Non-Europeans		–17.35**		–8.03**
		(–1.32)		(–1.04)
Post-communist Europeans		–11.19**		–6.02**
		(–1.03)		(–0.73)
West, Central, South Europeans		–4.84**		–2.39**
		(–0.67)		(–0.56)
Household Attributes				
Age	0.17**	0.16**	0.14**	0.14**
	(–0.02)	(–0.02)	(–0.02)	(–0.02)
Household type (ref. couple)				
Lone-male	–11.64**	–11.44**	–5.48**	–5.41**
	(–0.52)	(–0.52)	(–0.44)	(–0.44)
Lone-female	–15.30**	–15.11**	–8.01**	–7.95**
	(–0.44)	(–0.44)	(–0.36)	(–0.36)
Years of education	1.47**	1.46***	1.19**	1.19**
	(–0.05)	(–0.05)	(–0.04)	(–0.04)
Number of children	–0.75**	–0.68**	–0.41**	–0.38**
	(–0.12)	(–0.12)	(–0.10)	(–0.10)
Retired	1.12*	1.05*	0.61	0.59
	(–0.53)	(–0.52)	(–0.42)	(–0.42)
Receive pension (=1)	0.81	0.69	0.1	0.05
	(–0.60)	(–0.59)	(–0.49)	(–0.49)
Household income (logged)	7.32**	7.25**	5.20**	5.17**
	(–0.28)	(–0.28)	(–0.24)	(–0.23)
Received gift or inheritance	5.24**	5.18**	4.30**	4.27**
	(–0.49)	(–0.49)	(–0.41)	(–0.41)
Rural	3.36**	3.18**	–0.97**	–1.04**
	(–0.35)	(–0.35)	(–0.30)	(–0.30)
Home owner		36.56**	36.45**	
			(–0.33)	(–0.33)
Intercept	47.69**	48.04**	26.98**	27.26**
	–(0.67)	(0.67)	(–0.57)	(–0.57)
R-square	0.19	0.19	0.45	0.45

N = 39,474

NOTE: Robust standard errors in parentheses; all currency is adjusted by PPP for Germany 2015; Age, years of education, number of children and logged household income are centered around the grand mean; Country fixed effects, compared with Germany, are calculated but not shown.

**p<0.01, *p<0.05

three dummy variables representing immigrant's origin (i.e. non-Europe, post-communist, and other European countries) versus native-born households. In Equations 2a and 2b, we added homeownership to the set of predictors of net worth. All equations were estimated as fixed-effects models by including dummy variables representing all countries included in the sample.[6] The results of the analysis are presented in Table 2 (country coefficients are not displayed).

The findings reveal that the average wealth holding of all sub-groups of immigrants was significantly lower than the wealth holding of native-born households, even after controlling for household attributes. This is evident from the negative sign for immigrants in Equation 1a and for the three subgroups of immigrants in Equation 1b). In line with expectations, the wealth disparity was most pronounced for the group of non-European immigrants (b = –17.35 points in Equation 1b) and least pronounced for immigrants who arrived from WCS countries (b = –4.84 in Equation 1b). The wealth disadvantage of immigrants from post-communist countries fell between the two other groups (b = –11.19 points in Equation 1b). Comparing the values of these coefficients to the raw disparities presented in Table 1 suggests that even after controlling for variations in the socio-demographic attributes of households, wealth disparities between sub-groups of immigrants and native-born hardly changed. We can conclude, then, that immigrants are less successful than natives with similar socio-demographic attributes in accumulating wealth. The coefficients representing the household's attributes revealed that the household's net worth was positively associated with larger income flows and with the reception of gift or inheritance. Net worth also tended to increase with the level of education and it was strongly associated with household's composition.

Regardless of nativity status, households composed of lone males or lone females tended to have lower levels of net worth than households inhabited by a couple. The number of children in the household was negatively associated with households' accumulated wealth. Other things being equal, residence in rural areas was associated with lower net worth. However, once we controlled for household attributes, and income in particular, labour force status (whether retirement status or collection of pension) was not significantly associated with a household's net worth. Although net worth was strongly influenced by almost all socio-demographic attributes of households (as well as by income and reception of gifts), the nativity wealth gaps remain substantial, negative, and significant in Equations 1a and 1b.

In Equations 2a and 2b, we included homeownership as an additional predictor of net worth. Homeownership has long been viewed as the most important source of wealth assets for most households and is often used as a proxy of

[6] Fixed effects models were preferred over hierarchical linear modeling due to the small number of degrees of freedom at the second level with only 10 countries.

wealth. We expect, therefore, that differential rates of homeownership between immigrant sub-groups and natives will become a major source for the disparities in net worth. Consistent with our expectation, the data revealed that inclusion of homeownership among the predictors of net worth (in Equations 2a and 2b) caused a considerable decline in the size of the coefficients representing nativity status (compared to their size in Equations 1a and 1b).

The decline in the size of the coefficients suggests that a substantial portion of the wealth disparity between immigrants and native-born households can be attributed to differential rates of homeownership. Yet, it is important to note that even after taking into consideration differences in the rate of homeownership between immigrants and natives, the net worth of the former remained substantially and significantly lower than that of the latter. This is evident from the regression coefficients (b = –4.33 for immigrants in Equation 2a and b = –8.03; b = –6.02; and b = –2.39 for non-Europeans, post-communist, and WCS immigrants, respectively, in Equation 2b).

Decomposing the nativity wealth gaps

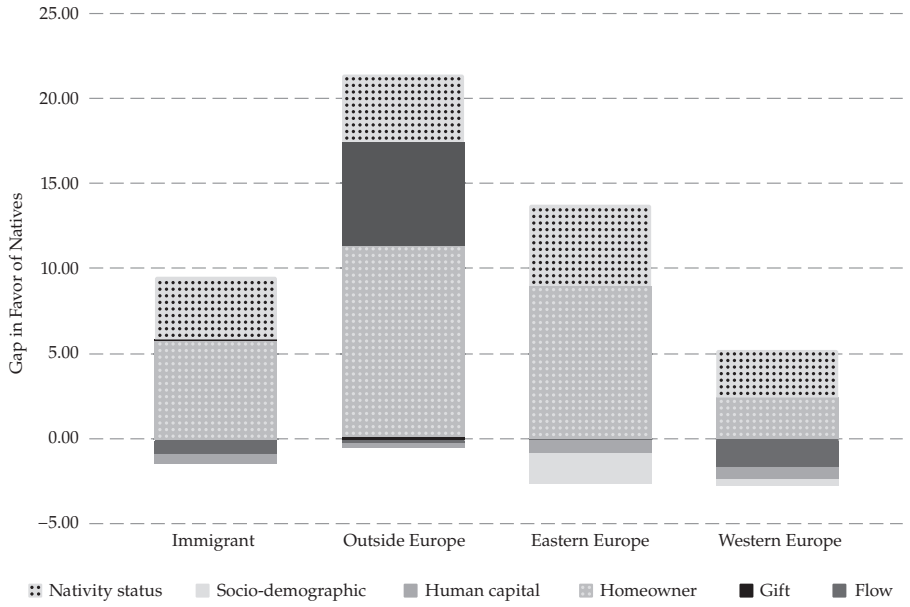
In the analysis that follows, we decomposed the wealth gap between each subgroup of immigrants and the native-born population into the portions of the gap that are attributed to nativity status and to the differences in various households' characteristics. Several techniques are commonly used for decomposing mean gaps between groups using regression models. The model adopted here decomposed the wealth gap into two major components: the portion of the gap attributed to mean differences in the attributes of the groups and the portion of the gap attributed to nativity status (unexplained portion). The first component was further divided into mean differences of specific attributes (i.e. homeownership, income flows, intergenerational transfers, and socio-demographic attributes).

The decomposition procedure adopted here can be formulated using the following notation:

$$Yn - Yi = \Sigma\, [bn_j\, (Xnj - Xi_j)] + k$$

where Yn and Yi are the mean values of wealth position (measured on the 100-point scale) of natives and immigrants, respectively; Xn and Xi are the mean values of all j predictors of wealth for natives and immigrants, respectively; and bn are the j coefficients associated with each of the predictors of wealth for the native population. k is the portion of the wealth gap that remains unexplained (cannot be attributed to mean differences in characteristics) and is thus attributed to nativity status. The results of the decomposition computation are displayed in Table 3 for each of the immigrant populations. A graphic illustration of the gaps and of the components of the gaps for each group is provided in Figure 1.

Figure 1: Components of the wealth-gap between immigrant groups and native-born European households (obtained through indirect standardization)



The largest wealth disparity was observed between native-born and non-European households (Yn – Yi = 20.89 wealth points), and the smallest gap (only 2.42 points) was between WCS immigrants and Native-born households. According to the analysis, most of the gap between non-European immigrants and native-born households (81.2% or 17.0 points) was attributed to differences in the characteristics of the households, and only 18.8% (3.9 wealth points) was attributed to nativity status. By contrast, in the gap between native-born and WCS immigrant households, almost the entire (albeit very small) gap was attributed to nativity status (2.76 wealth points). In the case of immigrant households from post-communist countries, 57.2% of the gap (6.37 wealth points) was attributed to different characteristics, and 42.8% of the total gap (4.77 wealth points) was attributed to nativity status. Apparently, the data suggest that the portion of the gap attributed to nativity status was inversely related to the size of the wealth disparity.

Given the strong effect of homeownership on the relative size of household wealth (previously presented in Table 2), it is not surprising that differential rates of homeownership played the single most important role in explaining the differential levels of wealth accumulation between immigrant populations and the native-born. Homeownership accounted for about 54%, 80%, and about 100% of

Table 3: Decomposition of the total gap in net worth (measured on a 100-point ranking scale) between native-born and immigrant households in 10 European countries

	Immigrant		Non-European Immigrants		Post-communist		West ,Central and South European countries	
	Rank	%	Rank	%	Rank	%	Rank	%
Total gap	8.04	100.00%	20.89	100.00%	11.14	100.00%	2.42	100.00%
Gap due to nativity status	3.7	46.02%	3.94	18.85%	4.77	42.84%	2.76	113.80%
Gap due to different source	4.34	53.98%	16.95	81.15%	6.37	57.16%	–0.33	–13.80%
Sources:								
Income	–0.89	–11.11%	–0.25	–1.19%	–0.09	–0.81%	–1.63	–67.41%
Gift	0	0.04%	0.07	0.35%	0.05	0.45%	–0.06	–2.30%
Homeowner	5.74	71.37%	11.32	54.17%	8.96	80.41%	2.45	101.33%
Human capital	–0.6	–7.42%	–0.25	–1.20%	–0.77	–6.95%	–0.64	–26.25%
Socio-demographic	0.09	1.10%	6.06	29.00%	–1.78	–15.95%	–0.46	–19.17%

the wealth gaps between native-born and non-European immigrants, immigrants from post-communist countries, and WCS European immigrants, respectively. Interestingly, neither differential levels of income flows nor education account for much of the wealth gap between native-born and either non-European or immigrants from post-communist countries. In the case of immigrant households from WCS Europe, wealth was actually 60% lower than expected, based on their (relatively high) income flows. Differences in the reception of gifts or inheritances did not account for a meaningful portion of any of the wealth gaps. Differences in socio-demographic attributes accounted for a substantial portion of the wealth gap (16%) only between non-European and native-born households.

Estimating the convergence of wealth

Following studies that underscore improvement in immigrants' economic status with the passage of time in the host country, it is reasonable to also expect a growing convergence of household wealth between natives and immigrants over time. In this section, we discuss the findings of estimated trajectories of immigrants' wealth accumulation associated with length of residence in the host country and our quest for a hypothetical point of conversion with native households' wealth. We estimated a regression equation predicting household's wealth as a function of nativity status along with household's characteristics and interaction terms between nativity status and years since migration (YSM). The equation was estimated, first, for the migrant population as a whole (column 1), and second, when distinguishing among the three sub-groups of immigrants (column 2).

The estimated coefficients for the interaction between YSM and immigrant origin enabled us to arrive at the hypothetical number of years it would take an immigrant household to close the wealth gap with a comparable native-born household. The results of the analysis are displayed in Table 4, and the graphic illustrations of the rate of wealth convergence are presented in Figure 2. To avoid a cumbersome presentation of the coefficients pertaining to household's attributes (previously included in Table 2), only the coefficients of the interaction terms between YSM and immigrant origin are displayed in Table 4.

The findings derived from Equation 1 suggest that, other things equal, the rate of increase in wealth for an 'average' immigrant household was distinctly slow, as evident by the small (positive) coefficient of the interaction between nativity status and years since migration (b = 0.105 in Equation 1). According to this estimate, it would take an average of almost 85 years for a migrant with average characteristics (8.9/0.105 = 85) to bridge the wealth gap with an average native-born household. However, the data based on Equation 2 revealed that the rate of linear increase in wealth over time was statistically significant only among non-European households (b = 0.32). Specifically, it would take the average non-European household approximately 60 years (19.6/0.32 = 60) to close the rather wide wealth

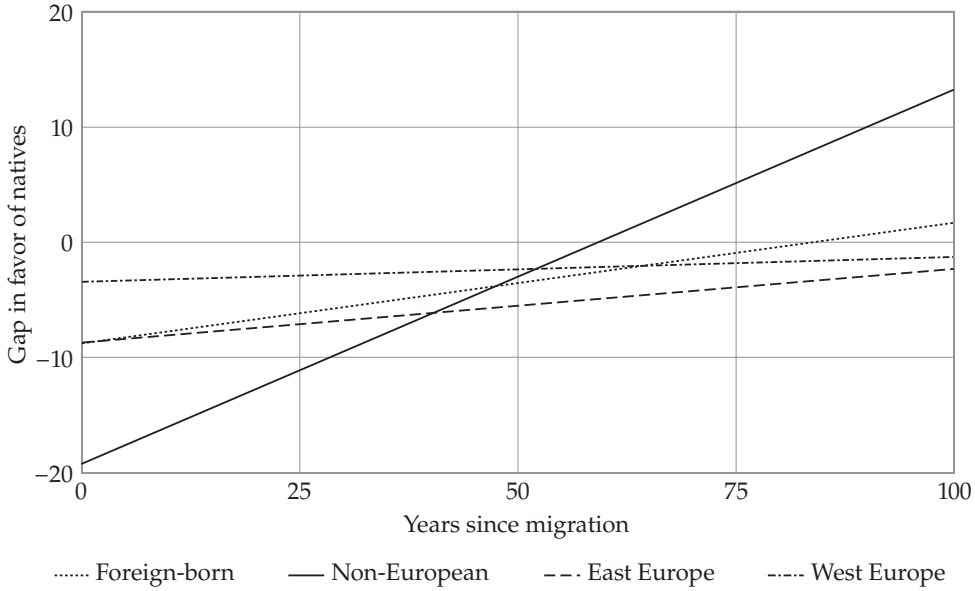
Table 4: Coefficients of regression equations (standard errors) predicting net worth (measured on 100-point ranking scale) as a linear function of nativity status and interactions with years since migration (YSM) in 10 European countries

Models	1	2
Nativity status (ref. native born)		
Immigrant HH	–8.763**	
	(1.180)	
Immigrant HH X YSM	0.105**	
	(0.023)	
Origin of immigrants HH (ref. native born)		
Non-European		–19.152**
		(2.684)
Post-communist countries		–8.673**
		(1.694)
West, Central and South Europe (WCS)		–3.377*
		(1.447)
Outside Europe X YSM		0.324**
		(0.061)
Post-communist X YSM		0.064
		(0.034)
WCS X YSM		0.021
		(0.028)
Intercept	27.044**	27.441**
	(0.569)	(0.572)
R-square	0.452	0.453

N = 39,474

Note: The estimated equations include all socio-demographic characteristics that were presented in Table 2 (the coefficients are not presented to save space and to avoid repetitions); robust standard errors in parentheses; all currency is adjusted by PPP for Germany 2015; Age, years of education, number of children and household income are centered around the grand mean; country fixed effects, compared with Germany, are calculated but not shown. ** $p<0.01$, * $p<0.05$

Figure 2: Estimated trajectory of growth in net wealth for immigrant groups as a linear function of years since migration in 10 European countries (Based on regression equations presented in Table 4)



gap with comparable native-born households. For migrants from post-communist countries, the coefficient was small (b = 0.06) and was on the border of statistical significance. For immigrant households from WSC Europe, the coefficient was even smaller (b = 0.02) and not statistically significant. Apparently, and contrary to our expectations, the very small (almost negligible) wealth gap between WCS European immigrants and native-born households was not affected by time spent in the host country but was attributed to other sources (especially differences in rates of homeownership). Nearly identical findings were obtained when the growth of wealth was modelled as either exponentially increasing, or with a declining rate (results can be obtained from the authors upon request).

Conclusions and discussion

We embarked on the present research with the goal of examining wealth gaps between immigrant and native-born households at later stages in the life course within the context of European societies. We contend that the study of wealth disparities in later stages of life is most meaningful because, at later stages of life, people tend to exit the economically active labour force, and therefore, their

economic well-being becomes more dependent on wealth and assets accumulated in the past than on flows of earnings. The data for the present analysis were obtained from national samples of mid-life and older-age households in ten European countries. Although some minor cross-national variations in wealth distributions may exist, the analysis clearly showed that in all 10 countries, the wealth accumulated by immigrants, even at an older age and after many years of stay in the host country, was considerably lower than the wealth holding of socioeconomically identical native-born households.

The nativity wealth gap was most pronounced in the case of non-European immigrants (who arrived from mostly poor countries outside Europe and who typically differed from the native-born population in racial and ethnic composition and in culture). By contrast, the gap was least pronounced in the case of immigrants arriving from Western, Central, or South European countries (countries that are similar in many characteristics to the host countries). The nativity wealth gap was intermediate (although still considerable) in the case of immigrants who came from post-communist countries. Interestingly, the analysis revealed that neither differential levels of income nor differential reception of intergenerational transfers accounted for a substantial portion of the nativity wealth gap for all groups of immigrants.

The data revealed that the largest portion of the gap was attributed to homeownership. Apparently, lower rates of homeownership among immigrants, whether due to a lack of necessary financial resources or limited access to credit or cultural constraints, have had detrimental consequences for the wealth accumulation of immigrants. The rate of wealth convergence observed among all immigrant groups was quite slow, and for an average immigrant household, the gap (which still persists in the older age population) was not likely to be closed during the life time. Notably, the only group that could possibly reach wealth convergence with comparable native-born households at some point in time was the most disadvantaged group (i.e. non-European immigrants). The 'steep' rate of convergence among the non-European immigrants, however, might be biased due to the low levels of initial wealth that can lead to a steeper increase of wealth (especially in the initial years).

In summary, the data revealed that immigrants were lagging far behind native-born in the accumulation of wealth, and they were unlikely to be able to close the nativity wealth gap in their life time. Such disparities, indeed, have significant consequences for inequalities in economic well-being between immigrants and native-born individuals, not only at a young age but also at later stages of life. Although not studied here, lower levels of accumulated wealth may also decrease the amount of intergenerational transfers to be received by the second generation; hence, they may also increase wealth disparities between sons and daughters of immigrants and native born. Given that homeownership was found to be the single most important source of the nativity wealth gap, we contend that public policies designed to promote and increase homeownership among immigrants can decrease the wealth gap between immigrants and natives across generations.

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