In and Down:
The Costs of Immigrant Investors

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July 9, 2026

Abstract

Using Swedish administrative data and a carefully matched sample, I show that immigrants who participate in the stock market incur 37% higher return loss than comparable native-born investors. The gap reflects underdiversification rather than greater risk-taking and persists among second-generation immigrants, pointing to a durable disadvantage in household financial outcomes. Two patterns help explain it. First, return losses are lower among immigrants from more financially literate origin countries. Second, immigrants with native-born partners incur substantially lower losses, whereas longer duration of stay in Sweden does not attenuate the gap. These results suggest that financial capability and close social ties matter for the quality of financial participation, and that market entry alone does not ensure comparable financial outcomes.

Keywords: Immigrant integration; Household finance; Portfolio inefficiency; Financial literacy; Social networks
JEL Codes: G11, G41, G50

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I am grateful to my supervisors Sara Jonsson and Ai Jun Hou for their generous guidance along the journey. Moreover, I thank Steffen Andersen, Marieke Bos, Hans Hvide, Jens Josephson, Gustav Martinsson, Elias Rantapuska, and seminar participants at 2024 RBFC, 2024 BFWG Annual Conference, 2024 PhD Nordic Finance Workshop, 2025 Luxembourg Workshop on Household Finance and Consumption, and Stockholm Business School for their constructive comments. I appreciate the technical support from Niklas Landberg. I also thank Nasdaq Nordic Foundation for the research funding. All errors are my own.

1 Introduction

A longstanding question in the study of immigration is how well immigrants integrate into the economic life of their host countries. A large literature shows that immigrants differ from natives in wealth accumulation, portfolio composition, and participation in formal financial markets (Amuedo-Doranles and Pozo, 2002; Cobb-Clark and Hildebrand, 2006; Hao, 2004; Osili and Paulson, 2008; Seto and Bogan, 2013). Recent work further emphasizes that these differences are heterogeneous within the immigrant population and reflect variation in the cultural and institutional environments of immigrants' countries of origin (Asgharian et al., 2024; Ek et al., 2025; Haliassos et al., 2017). Existing evidence has therefore greatly improved our understanding of whether immigrants enter financial markets at all. Much less is known, however, about what happens after entry. Do immigrant households who overcome participation barriers invest as effectively as comparable natives, or do disparities persist in the quality of financial decision-making?

This paper studies that question through the lens of portfolio diversification. Poor diversification exposes households to avoidable idiosyncratic risk and lowers the risk-return efficiency of their portfolios. As a result, underdiversification can generate persistent welfare losses, slow wealth accumulation, and amplify vulnerability to adverse shocks. These consequences may be particularly relevant for immigrants, whose economic integration often involves frictions in information acquisition, financial learning, and access to local institutions. Understanding whether immigrant investors bear systematically larger diversification costs therefore sheds light not only on financial behavior but also on broader patterns of economic integration.

To quantify these costs, I use the return-loss measure proposed by Calvet et al. (2007), which captures the opportunity cost of holding an underdiversified portfolio relative to the efficient market benchmark. I combine Swedish administrative records on individual asset holdings with market data to reconstruct investors' portfolios at the individual level. After matching immigrant and native-born investors on a rich set of socioeconomic characteristics, the baseline sample consists of 171,615 natives and 75,906 immigrants who actively participate in the stock market. The results reveal a large and robust gap in portfolio efficiency: immigrant investors incur an additional 38 basis points of annual return loss, corresponding to roughly 30% more than com-

parable natives. In other words, immigrants who are "in" the stock market remain economically "down" in the sense that they bear higher avoidable costs from under-diversification. The gap is especially pronounced among men and among the less educated.

The paper then examines two broad mechanisms behind this gap: financial capability and social embeddedness. A long-standing literature shows that many households hold poorly diversified portfolios and that portfolio quality varies systematically with investor sophistication (Barber and Odean, 2000; Calvet et al., 2007; Goetzmann and Kumar, 2008; Polkovnichenko, 2005), and that financial literacy is an important predictor of portfolio efficiency (Lusardi and Mitchell, 2011; von Gaudecker, 2015). Because individual-level literacy measures are unavailable in my setting, I proxy immigrants' financial capability using the financial literacy level of their countries of origin, measured by the 2014 Standard & Poor's Global Financial Literacy Survey. I find that immigrants from more financially literate origin countries experience significantly lower diversification losses: a one-standard-deviation increase in home-country financial literacy is associated with a 19-basis-point reduction in return loss.

Financial behavior, however, is shaped not only by internal capability but also by the social and organizational environment in which decisions are made. For immigrants, integration into the host society may affect access to financial information, familiarity with domestic investment norms, and exposure to informal channels of learning. A large literature shows that social interaction and information diffusion matter for stock market participation (Bonaparte and Kumar, 2013; Changwony et al., 2015; Georgarakos and Pasini, 2011; Hong et al., 2004; Kaustia and Torstila, 2011). Yet much less is known about whether social embeddedness also affects the quality of financial choices conditional on participation. This paper addresses that question by examining three indicators of integration: years since arrival in Sweden, second-generation immigrant background, and partnership with a native-born Swede. These proxies capture different dimensions of embeddedness and reveal a nuanced pattern. Mere exposure is not enough: longer duration of stay does not significantly reduce return loss. By contrast, immigrants with a native-born partner incur substantially lower losses, consistent with closer ties to natives facilitating financial learning or reducing informational frictions. The gap also persists across generations: second-generation

immigrants whose parents were both foreign-born continue to exhibit significantly higher return loss than natives with native-born parents.

The paper contributes to three strands of literature. First, the paper extends the literature on immigrant participation in financial markets by shifting attention from market entry to the quality of post-entry financial decision-making. Prior studies mainly examine whether immigrants own stocks and mutual funds, and how participation varies with origin-country institutions, culture, language, or individual skills (Asgharian et al., 2024; Ek et al., 2025; Gan et al., 2022; Haliassos et al., 2017; Luik and Steinhardt, 2016; Osili and Paulson, 2008; Seto and Bogan, 2013). In contrast, I study whether immigrant investors who already participate in the stock market are able to translate participation into equally efficient portfolio choices. In doing so, the paper highlights a previously overlooked dimension of immigrant disadvantage: participation alone does not guarantee comparable financial outcomes.

Second, the paper contributes to the literature on household financial capability and portfolio performance. Existing work links financial literacy to portfolio quality and investment outcomes (Lusardi and Mitchell, 2011; von Gaudecker, 2015), but evidence remains limited, especially in settings where direct literacy measures are unavailable. By exploiting cross-country variation in financial literacy among immigrants' countries of origin, I show that differences in financial capability are strongly associated with economically meaningful differences in portfolio efficiency. More broadly, the results suggest that financial capability acquired in the country of origin continues to shape investment behavior in the host country.

Third, the paper contributes to research on social interaction and economic integration. Prior studies show that social ties and peer effects shape households' willingness to participate in financial markets (Changwony et al., 2015; Georgarakos and Pasini, 2011; Hong et al., 2004; Kaustia and Torstila, 2011), and recent evidence suggests that immigrants may also affect natives' participation through social learning (Girshina et al., 2024). I show that social embeddedness matters not only for participation, but also for the efficiency of financial choices once households are already in the market. Crucially, not all integration proxies are equally predictive: passive time in the host country does not reduce the gap, whereas close ties to native-born individuals do—suggesting that the quality of social connections matters more than their

duration.

Taken together, the findings point to a persistent dimension of inequality in household finance: immigrants who enter the market incur systematically higher avoidable portfolio losses, and these disparities are associated with differences in financial capability and social embeddedness. The results suggest that barriers to financial integration persist well after formal market entry, reflecting differences in financial capability rooted in origin-country environments and in the degree of social embeddedness in the host country.

The remainder of the paper is organized as follows. Section 2 describes the data and provides an overview of the immigrant-native return-loss gap. Section 3 presents the baseline results. Section 4 examines financial literacy, while Section 5 studies the role of social integration. Section 6 concludes.

2 Data and Variables

2.1 Data Sources

The sample is constructed by matching three datasets: (i) financial asset data from the Swedish Wealth Register, (ii) demographic and socioeconomic data from the Longitudinal Integrated Database for Health Insurance and Labor Market Studies (LISA), and (iii) asset price history from Refinitiv Eikon. The first two datasets are maintained by Statistics Sweden (SCB).

The Wealth Register records all financial assets held outside retirement accounts as of December 31 each year, compiled from sources such as the Swedish Tax Agency, welfare agencies, and financial institutions. Assets, as well as various types of liabilities, are reported at the individual level and include bank accounts, stocks, and mutual funds, both domestic and foreign.[1] Importantly, the dataset also covers nontaxable securities and assets held by individuals below the wealth tax threshold. Since the data are based on reports from financial institutions and provide full population coverage, concerns over measurement error and selection bias are minimal. The dataset spans from 1999 to 2006, after which Sweden abolished its wealth tax.[2] Each financial asset

[1] Taxable wealth also includes capital insurance products, real estate, cars, and boats, though these are not directly relevant to this study.

[2] One potential concern is the underreporting of overseas assets due to tax evasion. To address this, in

entry in the Wealth Register specifies the number of shares held and is identified by its International Security Identification Number (ISIN). Overall, the Swedish Wealth Register is an exceptionally detailed database covering all residents.

This study employs cross-sectional data rather than panel data, as immigrant status is time-invariant. Specifically, the analysis focuses on the 2006 cross-section. Between 1999 and 2005, banks were required to report only small bank accounts accruing more than 100 SEK[3] in annual interest. From 2006 onward, banks had to report all accounts exceeding 10,000 SEK. Additionally, focusing on 2006 captures a larger group of immigrant investors, enhancing statistical power.

2.2 The Universe of Financial Asset

Following prior literature on stock market participation (e.g., Andersen et al., 2019), this study focuses on equity shares and mutual funds, as these are the most accessible financial assets for typical investors. After excluding missing values and clearly erroneous entries, the wealth registry contains approximately 7,000 stocks and mutual funds. To reduce computational complexity and account for the fact that many assets are held by only a few investors, this study focuses on a representative sample of financial assets.

To construct this asset universe, I begin by randomly selecting 10,000 individuals and screening their financial asset holdings in the wealth registry. For each asset, I collect price history and compute monthly returns from January 1991 (or from its inception date, if later) to December 2006, yielding a maximum of 192 monthly observations per asset. When calculating mutual fund returns, I use net asset values, which reflect investor returns after deducting various fees (cf. Busse et al., 2021; Pástor and Vorsatz, 2020).[4] For later beta estimations, I exclude assets with fewer than 24 monthly return observations. The final dataset consists of 766 financial assets, comprising 457

an unreported analysis, I exclude immigrants who arrived in Sweden after age 20, under the assumption that those migrating before entering the labor market are more likely to open local investment accounts subject to tax authority oversight. The results remain largely unchanged and are available upon request. Calvet et al. (2007) conclude that unreported foreign assets account for only a modest fraction of Swedish household wealth. Generally, illegal overseas investments involve fixed costs and are only relevant for the very wealthy.

[3] 100 SEK is roughly 14.60 USD as of the last trading day in 2006.

[4] A large body of literature uses gross returns when evaluating mutual fund performance, particularly in terms of abnormal returns (e.g., Irvine et al., 2024). In an unreported analysis, I find that the results remain largely similar when estimating betas using gross returns.

non-money-market mutual funds, 15 money-market mutual funds (treated as risk-free assets equivalent to cash), and 294 stocks.

For each asset j, I estimate its monthly expected return using the global CAPM:

$$r^e_{i,t} = \beta_j r^e_{m,t} + \varepsilon_{j,t}, \tag{1}$$

where $r^e_{j,t}$ and $r^e_{m,t}$ denote the excess returns of the individual asset and the market portfolio during month t, respectively. Since Sweden is a small and open economy, Swedish investors can invest in global assets to mitigate concentration in domestic stocks. Under covered interest parity, currency risk from global assets can be hedged using forward or futures contracts, ensuring that the corresponding domestic excess return in SEK is equal to the USD excess return measured as the index return over the US Treasury bill rate. Effectively, the global CAPM assumes that the currency-hedged world index is mean-variance efficient for Swedish investors.[5] Between January 1991 and December 2006, the benchmark market portfolio yielded an annual excess return of $\mu_b = 4.40\%$. Given its standard deviation of $\sigma_b = 13.2\%$, this implies a Sharpe ratio of $S_b = \mu_b/\sigma_b = 33.2\%$.

2.3 The Individual Sample and Their Portfolios

Investor-level data are obtained from the LISA dataset, which provides comprehensive demographic and socioeconomic information on individuals' age, gender, place of residence, employment status, industry of employment, education level, marital status, and total income (including labor earnings and capital gains). The LISA database also records individual immigration histories, including the year of immigration and country of origin, facilitating empirical identification.

For each individual, financial assets are defined as the sum of risk-free assets (bank account balances and money-market mutual funds) and risky assets (non-money-market mutual funds and stocks) in SEK at year-end 2006. To ensure that portfolio holdings are economically meaningful and empirically feasible, I restrict the sample to adults who hold at least 10,000 SEK in risky assets and whose portfolios contain only assets included in the asset universe defined in Section 2.2 (cf. von Gaudecker, 2015). Immi-

[5] I refer the readers to the Online Appendix of Calvet et al. (2007) for a more detailed and rigorous description.

grants who have resided in Sweden for more than 30 years are excluded.

To address potential differences in socioeconomic characteristics between immigrants and native-born individuals, I employ a matching procedure combining exact matching and nearest-neighbor matching. Exact matching is performed on gender, marital status, bachelor's degree attainment, county of residence, and employment type to ensure that each treated individual (immigrant) is matched only to control individuals (native-born) with identical values for these categorical variables. Within these exact-matched strata, I apply nearest-neighbor matching on continuous variables, including age, total wealth, income, financial assets, real assets, and debt. These covariates have been widely documented as determinants of stock market participation and risk-taking behavior (Campbell, 2006, for a comprehensive review). For instance, leverage, especially housing mortgage, affects portfolio choice. The effect has been documented with the potential channels of consumption commitment of housing (Chetty et al., 2017) and debt retirement (Becker and Shabani, 2010). Specifically, each immigrant is matched to two native-born individuals without replacement. The final sample consists of 247,521 investors, of whom 171,615 are native-born and 75,906 are immigrants.

The primary outcome variable is annual return loss (RL), as proposed by Calvet et al. (2007), which quantifies the costs of underdiversification. Given full details on portfolio composition, I calculate the weight vector ω and obtain the expected excess return μ_i and risk σ_i for each investor's risky portfolio, deriving their Sharpe ratio as $S_i = \mu_i/\sigma_i$. Relative to the benchmark market portfolio, return loss is computed as:

$$RL_i = \omega_i \cdot (S_b\sigma_i - \mu_i). \tag{2}$$

Table 1 presents summary statistics for individual and portfolio characteristics, split by immigrant identity. While most covariates are well-balanced, immigrants tend to have slightly higher income but lower real assets and total wealth. However, the return loss difference is substantial: immigrants incur an excess return loss of 39 basis points on an annual basis, approximately 31% higher than the mean for native-born investors. This disparity appears to stem from portfolio inefficiency rather than differences in risk-taking behavior, as both groups allocate similar proportions (around 50%) of their portfolios to risky assets.

[Insert Table 1 around here.]

As noted, a key departure from the approach of Calvet et al. (2007) is my focus on individual-level rather than household-level portfolio data. This choice is motivated by both conceptual and empirical considerations. First, since this study examines differences in portfolio performance between native and immigrant investors, an individual-level perspective provides a more direct and intuitive measure of financial decision-making under the assumption that investors within the same household manage their own portfolio independently. Defining household-level immigrant status introduces complexities, as one must determine the household head's identity and account for mixed households, where an immigrant may benefit from the financial knowledge or network of a native-born spouse. This could bias the estimated differences in portfolio efficiency, as mixed households may exhibit characteristics that are not representative of either purely immigrant or native-born households. Similar concerns apply to other demographic and socioeconomic attributes, which further justifies the use of individual-level data in previous studies on portfolio choice (e.g., Florentsen et al., 2019; Goetzmann and Kumar, 2008).

Second, individual-level portfolios allow for a more precise identification of investment behavior and diversification choices. Household portfolios, by construction, tend to be more diversified than individual ones, as they aggregate holdings across multiple investors with potentially different risk preferences and levels of financial literacy. This mechanical diversification effect could attenuate differences in return loss, making it more difficult to detect systematic disparities between native and immigrant investors.

A potential drawback of this approach is that it does not account for intra-household financial decision-making, where spouses or other household members may coordinate their investments.[6] However, focusing on individual investors ensures that the estimated return loss differences stem from personal investment decisions rather than joint household strategies. This distinction is crucial for understanding the specific constraints that immigrant investors face in the stock market.

[6]Spouses could have heterogeneous risk preferences that evolve over time. For instance, Addoum (2017) finds that couples significantly alter their financial allocations after retirement, whereas singles' allocations remain relatively stable.

3 The Immigrant-Native Gap in Return Loss

As illustrated before, a simple mean comparison reveals a clear gap between native-born and immigrant investors in terms of underdiversification costs. To further investigate the return loss gap and its determinants, I estimate the following OLS model:

$$RL_i = \alpha + \beta Immigrant_i + \gamma' X_i + \varepsilon_i \tag{3}$$

where the dependent variable RL_i represents the return loss due to holding a suboptimal portfolio, as defined in Eq. 2. The key explanatory variable, $Immigrant_i$, takes a value of one if the individual is an immigrant and zero otherwise. X_i is a vector of covariates identified in the literature as relevant for financial decision-making and used for sample matching. Continuous variables in X_i are log-transformed to account for potential nonlinear relationships and improve statistical properties. Additionally, the specification includes city fixed effects to control for geographic differences in information access and investment costs. For example, financial information may circulate more efficiently in densely populated areas.

To disentangle the main drivers of return loss, I take the logarithm of Eq. 2 under the assumption that all terms are positive:

$$\ln RL_i = \ln \omega_i + \ln \left(S_b \sigma_i - \mu_i \right) \tag{4}$$

The first term measures portfolio aggressiveness, while the second term captures portfolio inefficiency. These components serve as the basis for further analysis throughout the paper.

Table 2 presents the regression results. Column (1) shows that immigrants incur an average return loss that is 38 basis points (bps) higher than that of native-born investors, representing a 30% increase relative to the native-born benchmark of 125 bps.[7] The estimated effect is consistent with the raw gap observed in Table 1, indicating that sample matching has accounted for most confounding factors. This return loss gap is economically meaningful—comparable in magnitude to the gender gap, as reflected by the coefficient on the $Male$ dummy variable. Given that the average immigrant in-

[7] As described in Section 2.3, the return loss is computed based on the MSCI World Index. A robustness check using the MSCI Europe Index produces highly similar results, as shown in Table A1.

vestor holds approximately 350,000 SEK in financial assets, the additional return loss amounts to 1,330 SEK per year (38 bps × 350,000 SEK). While this may seem modest in absolute terms, it compounds over time, exacerbating wealth inequality.[8]

A decomposition of return loss in Columns (2)–(4) of Table 2 indicates that portfolio inefficiency is the sole driver of the return loss gap. Immigrants' portfolios exhibit lower Sharpe ratios and/or higher volatility.[9]

[Insert Table 2 around here.]

The baseline results also indicate that return loss decreases with several measures of financial sophistication, such as financial and real asset holdings, income, and education level. The decomposition shows that investors with higher financial assets and income exhibit both lower portfolio aggressiveness (i.e., they allocate a smaller fraction of wealth to risky assets) and lower inefficiency. By contrast, individuals with a bachelor's degree benefit from lower inefficiency but not from reduced aggressiveness. These findings align with Calvet et al. (2007), who document that financial sophistication is generally associated with higher portfolio efficiency. However, they also find that wealthier and more sophisticated households tend to take on greater investment risk, leading to higher absolute return losses. My results echo those of Florentsen et al. (2019), who document widespread underdiversification among Danish investors, particularly among individuals with low education, income, and wealth.

The baseline analysis suggests that certain investor characteristics are strongly associated with return loss. To explore whether these factors amplify or mitigate the return loss gap between immigrants and native-borns, I introduce interaction terms in Eq. 3. Specifically, I examine the effects of gender and education, two factors that have drawn attention in prior literature and play a significant role in the baseline results.

Panel A of Table 3 shows that the return loss gap is larger for male immigrants. While immigrants overall do not invest more aggressively than native-borns, male immigrants allocate a significantly larger share of their portfolios to risky assets and

[8] Bhamra and Uppal (2019) show that when accounting for familiarity bias in asset allocation and intertemporal consumption-savings decisions, the long-term welfare loss from underdiversification may be amplified by a factor of four.

[9] More precisely, the term $(S_b\sigma_i - \mu_i)$ in Eq. 4 can be rewritten as $(S_b - \frac{\mu_i}{\sigma_i})\sigma_i$. The results in Table A2 show that both components are significant: the annualized volatility of immigrants' risky portfolios is 2.6 percentage points higher, while their Sharpe ratios are 1.2 percentage points lower than those of native-born investors.

exhibit lower diversification efficiency, leading to a 24-bps larger return loss gap compared to female immigrants. Related to the finding that men trade more excessively (Barber and Odean, 2001), one interpretation is that male immigrants may be more likely to take on poorly diversified risky positions in settings where pre-immigration financial knowledge is less transferable to the host-country market.

Panel B of Table 3 suggests that higher education helps reduce the return loss gap. Immigrants with a bachelor's degree face a significantly smaller return loss gap, which appears to stem from better portfolio diversification rather than lower risk exposure. This finding is consistent with research indicating that better-educated immigrants are more likely to overcome financial disadvantages when integrating into a new economic environment (Hainmueller and Hopkins, 2015; Turper et al., 2015).

[Insert Table 3 around here.]

4 Financial Literacy in Country of Origin

Immigrants differ significantly in their exposure to financial systems prior to arriving in Sweden, including the level of financial literacy in their country of origin. Cross-country evidence suggests that nations with higher financial literacy tend to offer better access to and usage of financial services (Grohmann et al., 2018). At the micro level, von Gaudecker (2015) finds that, on average, investors in the Netherlands achieve reasonably effective portfolio outcomes. However, individuals with below-median financial literacy who rely primarily on their own judgment incur 50 bps higher return losses. The study further concludes that financial literacy does not play a significant role for individuals who seek external financial advice, but overconfidence may be a key factor for those at greater risk of return losses, as they tend to trust their own investment decisions excessively.

This study revisits the relationship between financial literacy and return loss in a setting where immigrants face barriers to consulting local financial advisors, leading to less variation in access to external financial advice. In other words, immigrant investors are more likely to rely on their own ability to collect and process financial market information. While individual-level financial literacy is unobservable in my dataset, I use country-level financial literacy as a proxy. This data is obtained from the

S&P Global Financial Literacy Survey (Klapper et al., 2015), which is particularly relevant to this study as it includes a direct question on risk diversification. The survey also tests knowledge of inflation, numeracy, and compound interest, and an individual is classified as financially literate if they correctly answer at least three out of four questions. The global average financial literacy rate is 33%, but there is substantial variation across countries (see Table A3).

To formally examine the relationship between financial literacy and return loss, I estimate the following model using the immigrant subsample:

$$RL_{ic} = \alpha + \beta FL_c + \gamma' X_i + \varepsilon_{ic} \tag{5}$$

where the key explanatory variable, FL_c, measures the fraction of financially literate adults in an immigrant's country of origin c. The vector of individual-level covariates, X_i, remains largely unchanged from Eq. 3, except for the inclusion of years since immigration, a commonly used control in studies on immigrant financial behavior (cf. Gan et al., 2022; Osili and Paulson, 2008). Standard errors are clustered at the country-of-origin level.

Table 4 presents the results. Column (1) suggests that a one-standard-deviation increase in financial literacy (17 percentage points) is associated with a 19 bps reduction in return loss. Columns (2)–(4) further decompose return loss using Eq. 4, confirming that financial literacy improves portfolio efficiency but does not significantly affect portfolio aggressiveness. Additionally, it is worth noting that longer residence in Sweden does not significantly reduce return loss, a finding that will be explored further in Section 5.1.

[Insert Table 4 around here.]

To further understand the impact of financial literacy, I examine the number of assets held in an investor's portfolio, a commonly used heuristic for assessing portfolio diversification (Barber and Odean, 2000; Florentsen et al., 2019; Goetzmann and Kumar, 2008). Specifically, I construct two dummy variables indicating: (1) whether an investor holds only one asset in their portfolio, and (2) whether that single asset is a stock rather than a mutual fund. Intuitively, holding a single asset does not necessarily imply underdiversification if that asset is a well-diversified mutual fund (e.g., an in-

dex fund). However, holding a single individual stock exposes investors to substantial idiosyncratic risk and results in severe underdiversification.

I then replace the dependent variable in Eq. 3 with the two dummy variables described above and estimate the model on both the exact-matching sample and the immigrant-only sample. The results, shown in Table 5, indicate that immigrant investors are 5.9 percentage points more likely to hold only one asset, representing a 20% increase relative to native-born investors (for whom 29% hold a single asset). Moreover, conditional on holding only one asset, immigrants are 15.7 percentage points more likely to hold a stock rather than a mutual fund, compared to a native-born average of less than 19%.

These findings suggest that immigrants have a stronger preference for individual stocks over mutual funds, which may contribute to their higher return loss. A plausible interpretation is that this pattern reflects differences in financial literacy, as Sweden ranks among the highest in financial literacy in the global survey. Columns 3 and 4 further confirm that higher financial literacy, even measured at country-of-origin level, is associated with lower probability of exemplary underdiversification. Specifically, a one-standard-deviation increase in financial literacy could reduce the probability of holding one asset (or holding one stock instead of one fund in the single-asset portfolio) by 3.4 (or 6.8) percentage points. Taken together, these results suggest that financial literacy not only promotes stock market participation (as documented by Van Rooij et al., 2011), but also helps retail investors make better portfolio choices by mitigating underdiversification.

[Insert Table 5 around here.]

5 Social Integration

5.1 Duration of stay

A common assumption is that immigrants who have lived in Sweden for an extended period will exhibit financial behaviors and decision-making patterns more similar to those of native-born Swedes. This hypothesis has been validated in the U.S. context, where a longer duration of stay is associated with higher stock market participation,

both at the extensive and intensive margins (Gan et al., 2022; Osili and Paulson, 2008). However, it remains unclear whether a longer residence in Sweden is correlated with lower return loss.

To examine this, I estimate the following specification using the immigrant-only sample:

$$RL_{ict} = \alpha + \lambda_c + \beta_t \sum_{t=2}^{30} YSI_t + \gamma' X_i + \varepsilon_{ict}, \tag{6}$$

where RL_{ict} represents the return loss of immigrant investor i from country c who has resided in Sweden for t years. The key explanatory variable, YSI_t, is a set of indicator dummies for years since immigration. Country-of-origin fixed effects (λ_c) are included to account for systematic differences in financial literacy and investment habits across source countries. Standard errors are clustered at the country-of-origin level.

The results, plotted in Figure 1, indicate that the duration of stay alone does not exhibit a monotonic relationship with return loss after controlling for home country fixed effects. This finding is somewhat counterintuitive, as one might expect prolonged exposure to the Swedish financial environment to naturally improve investment efficiency.

A plausible explanation is that many immigrants maintain strong financial and informational ties to their country of origin, which may limit their passive absorption of financial norms in Sweden. Despite Sweden's high financial literacy rankings according to the S&P Global Financial Literacy Survey, immigrants may not automatically internalize these advantages through mere exposure. This is consistent with the broader insight from behavioral economics that durable changes in financial behavior require active engagement and experiential learning rather than simple environmental proximity (Lusardi and Mitchell, 2011). Understanding the nuances of the Swedish stock market therefore likely requires active engagement with local financial networks, not merely the passage of time. This result motivates an investigation into whether specific forms of social integration—and in particular, the quality of social ties to native-born individuals—can facilitate more effective financial learning.

[Insert Figure 1 around here.]

5.2 Partnership with a Native-born

Compared to native-born Swedes, immigrants face greater challenges in acquiring both general and financial market-specific information. Given the information-sensitive nature of financial markets, it is particularly relevant to examine immigrants' access to local financial information. Prior studies have shown that active participation in local society can yield informational benefits. For instance, Hong et al. (2004) find that households who interact more with their neighbors or attend religious services are more likely to participate in the stock market, as these social settings facilitate the exchange of investment-related information. Similarly, other studies document that social interaction—including engagement in local political matters (Bonaparte and Kumar, 2013; Kaustia and Torstila, 2011), membership in social groups (Changwony et al., 2015; Georgarakos and Pasini, 2011), and religious beliefs (Renneboog and Spaenjers, 2012)—plays a role in shaping financial decision-making.

In line with this literature, I propose a straightforward proxy for immigrants' social integration: whether an immigrant has a native-born partner. This includes registered partnerships, cohabitation, civil marriages, and similar arrangements. Having a native partner is likely to be strongly correlated with: (1) Swedish language proficiency, which facilitates access to financial news and market updates; (2) improved exposure to local financial information through informal social channels, reducing the costs of acquiring and processing market-relevant knowledge; and (3) greater familiarity with Swedish financial institutions and investment norms, enabling more effective portfolio decision-making. These patterns are consistent with the idea that close ties to native-born individuals may facilitate financial learning and reduce informational frictions, though the observational design does not allow for a causal interpretation.

To test this hypothesis, I modify the baseline specification by introducing a native-partner dummy:

$$RL_{ic} = \alpha + \lambda_c + \beta Native\ partner_i + \gamma' X_i + \varepsilon_{ic} \tag{7}$$

where *Native partner*$_i$ is a dummy variable indicating whether immigrant investor i has a native-born partner. The vector of control variables X_i remains the same as in Eq. 5.

A potential concern is that immigrants from certain countries (e.g., other Scandinavian nations) are naturally more likely to have a native partner, due to cultural and linguistic similarities. These immigrants may also inherently experience lower return losses, regardless of their partner's nationality. To mitigate this concern, I include country-of-origin fixed effects (λ_c) in the model. Standard errors are clustered at the country-of-origin level.

Table 6, Column (1), shows that immigrants with a native-born partner experience an average reduction in return loss of 22 bps compared to those with an immigrant partner. Columns (2)–(4) decompose return loss and reveal that this improvement is entirely driven by a higher Sharpe ratio, suggesting that having a native spouse is associated with better-constructed investment portfolios.

[Insert Table 6 around here.]

However, this finding raises an important question: Does the benefit stem from improved access to financial information, or simply from learning from the native partner's higher financial literacy? This concern is particularly relevant given that Sweden ranks among the most financially literate countries in the world, with 71% of adults classified as financially literate according to the S&P Global Financial Literacy Survey. If financial literacy is the primary driver, then similar benefits should be observed among immigrants whose partners come from other highly financially literate countries.

To address this issue, I construct a "control" group of immigrants whose partners are from Canada (68% financial literacy), Israel (68%), the United Kingdom (67%), Germany (66%), or the Netherlands (66%). I exclude Nordic countries for the same reason stated above. The "treatment" group consists of immigrants whose partners are native-born Swedes. The underlying assumption is that both groups have similar exposure to financially literate partners, but only the treatment group benefits from superior access to local market information.

I re-estimate Eq. 7 using only these two groups. The results, presented in Table A4, indicate a similar but slightly smaller effect of 19 bps after controlling for country-of-origin fixed effects. This suggests that both financial literacy and local information access play a role, but the latter remains an important channel in explaining immigrants' improved portfolio performance.

[Insert Table A4 around here.]

5.3 Second-Generation Immigrants

The results from the previous section indicate that a longer stay in Sweden alone does not significantly reduce the return loss of first-generation immigrants' portfolios. Given that the persistent gap is linked to financial literacy in the home country and social embeddedness, one might expect the return loss gap to shrink or even disappear when comparing second-generation immigrants with other native-born individuals.

To test this hypothesis, I construct a variable that further distinguishes between different groups of native-born individuals. The LISA database allows for linking individuals to their parents and identifying parental birthplace. Following the definition used in Ek et al. (2025), an individual is classified as a second-generation immigrant if at least one parent was born abroad. However, the degree of exposure to Swedish society is expected to be stronger for those with one native-born parent, potentially influencing portfolio choices. To capture this variation, I introduce a categorical dummy variable, *Second_gen*, which divides the sample into three groups: both parents were born in Sweden (baseline group); one parent was born abroad; or both parents were born abroad.

It is important to note that this subsample includes only native-born individuals, excluding first-generation immigrants. The *Second_gen* variable replaces the *Immigrant* dummy in Eq. 3, and the results are presented in Table 7.

[Insert Table 7 around here.]

In general, the return loss gap is smaller for second-generation immigrants than for their first-generation immigrant parents, though it does not completely disappear. Specifically, individuals whose parents were both foreign-born experience an average return loss that is 19 bps higher than that of the baseline group (native-born individuals with two native-born parents). The decomposition in Columns 2–4 reveals that portfolio inefficiency remains significant for individuals whose both parents were immigrants. However, the return loss gap is substantially smaller for those with one native-born parent.[10]

[10] In an unreported further analysis, there seems to be no evidence that the gender of the native-born parent influences the return loss gap.

These patterns are consistent with two interpretations: having a native-born parent may provide direct exposure to host-country financial knowledge, while selection into intermarriage may also reflect greater prior social integration on the part of the immigrant parent (Behtoui, 2010). Both channels point in the same direction: greater embeddedness in host-country networks is associated with lower portfolio losses across generations.

These results not only reinforce the previously identified mechanisms of financial literacy and social integration but also highlight the long-term, intergenerational disadvantage that immigrants face in terms of investment performance. By examining return loss, this analysis extends previous research on parental influences on risk-taking attitudes (Dohmen et al., 2012) and investment decisions (Ek et al., 2025; Zhao and Cui, 2021). Additionally, Knüpfer et al. (2023) explicitly test portfolio similarities between investors and their parents, confirming the existence of bidirectional and intergenerational social learning in investment behavior.

6 Concluding Remarks

The household finance literature has long emphasized that stock market participation is, in general, suboptimal for many households (Haliassos and Bertaut, 1995), and immigrants tend to participate even less frequently than native-born individuals. Taken together, these findings might suggest that encouraging immigrants to invest in the stock market is sufficient to improve their financial well-being. However, this paper shows that a crucial question remains: even conditional on participation, do immigrant investors achieve portfolio efficiency comparable to that of their native-born counterparts? Prior research has not provided a clear answer to this question.

Leveraging a highly detailed administrative dataset, this paper documents a significant portfolio performance gap between immigrants and natives. Measured in terms of underdiversification loss, immigrant investors experience a 30% (or 38 bps) higher return loss than native-born investors. This key result, encapsulated in the paper's title, underscores that those immigrants who are "in" (participating in the market) are also "down" (facing greater losses).

To understand the mechanisms underlying this disparity, the paper explores two

primary channels: financial literacy and social embeddedness. The findings suggest that immigrants who are better integrated into Swedish society and those from countries with higher financial literacy tend to have lower return losses. Moreover, the persistence of the return loss gap even among second-generation immigrants suggests that wealth inequality between immigrants and natives is likely to persist across generations, reinforcing concerns about long-term disparities in financial well-being.

Despite using a cross-section of 2006, the findings of this paper remain highly relevant given the growing importance of immigrants in Sweden and globally. Since the early 2000s, the immigrant population in Sweden has nearly doubled from approximately one million to over two million, constituting 19% of the total population as of 2023 according to Statistics Sweden. Similar trends are observed across advanced economies, where immigrants play an increasingly significant role in shaping national economies and societal dynamics (OECD, 2024). The persistent immigrant-native gap documented in this study aligns with disparities in other economic domains, such as wages and employment (Åslund et al., 2022; Dustmann et al., 2022). Using a more recent 2012 sample of Danish investors, Florentsen et al. (2019) show that immigrants bear higher underdiversification costs even with a simpler portfolio measure, suggesting the pattern is not specific to Sweden or to this period. Taken together, addressing these gaps is both timely and consequential for promoting long-term economic equality and social cohesion.

The findings carry concrete implications for policy. The evidence that financial literacy and social ties to native-born individuals are associated with lower return losses—while passive duration of stay is not—suggests that policies focused solely on increasing participation may yield limited welfare gains. More effective may be policies that actively strengthen financial capability and lower informational barriers, such as multilingual financial guidance or simplified diversification-oriented onboarding tools on investment platforms.

While immigrant investors face higher return losses, their expected excess return remains positive, suggesting that stock market participation can still be beneficial. However, it is important to acknowledge that a positive expected return is not sufficient to ensure that participation is welfare-improving for risk-averse individuals. A higher expected return must also compensate for the additional risk taken, particu-

larly for investors who are less financially sophisticated or more prone to suboptimal portfolio choices.

This distinction matters for welfare assessment. Risk-averse agents may be worse off if the additional expected return from participation does not sufficiently compensate for the costs of poor diversification and excess volatility. In other words, while the average return from participation may exceed the risk-free rate, some immigrant investors could still experience lower overall utility due to heightened exposure to idiosyncratic risk. This concern is amplified under behavioral preferences that are especially sensitive to losses relative to a reference point—such as Prospect Theory (Kahneman and Tversky, 1979)—which may be more salient for investors with limited experience in domestic financial markets.

Future research could further explore the welfare implications of financial market participation for immigrants, focusing on whether specific interventions—such as subsidized financial literacy programs, simplified investment products, or community-based financial education—can promote welfare-enhancing participation rather than simply increasing participation rates.

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Table 1: Summary statistics

This table presents a summary of demographic and socio-economic characteristics of individuals as well as the portfolio features on the matched sample as of 2006. All the investors within the sample hold complete portfolios which must consist of at least one risk-free asset and one risky asset. $Single$ is a dummy taking value of one if the individual is not associated with any kind of partnership including registered partnership, cohabitation and civil marriage. $Bachelor$ is a dummy indicating whether the investor holds at least a bachelor's degree. $Primary\ employment$ is determined by the largest fraction of income source, and it is a categorical variable taking values of zero to four. $Income$ refers to all-factor annual income including both labor and capital earnings. $Return\ loss$ is defined by Eq. 2. The column %Diff is computed by the difference between the two means divided by the mean of natives.

	Full sample		Native-born	Immigrant	%Diff	t-stat
	Mean	Std. Dev.	Mean	Mean		
Age	43.22	14.16	43.17	43.34	0.39%	2.92
Male	0.46	0.50	0.46	0.46	0.00%	0.19
Single	0.36	0.48	0.36	0.36	0.00%	0.20
Bachelor	0.53	0.50	0.53	0.53	0.00%	0.14
Income	280,069	245,329	276,192	287,815	4.21%	10.06
Total debt	418,066	1,039,621	417,674	418,849	0.28%	0.30
Financial assets	347,728	2,015,949	345,708	351,764	1.75%	0.76
Real assets	966,961	2,479,438	991,957	917,024	-7.55%	8.11
Total wealth	1,344,648	4,327,913	1,358,858	1,316,260	-3.13%	2.22
Primary employment	1.34	0.95	1.34	1.34	0.00%	0.20
Unemployed	0.09		0.09	0.10		
Employed	0.69		0.66	0.75		
Self-employed	0.09		0.13	0.01		
Student	0.05		0.05	0.06		
Pensioner	0.07		0.07	0.07		
Return loss (%)	1.38	1.56	1.25	1.64	31.20%	55.43
Portfolio Inefficiency(%)	2.54	2.14	2.33	2.96	27.04%	67.43
Risky share	0.55	0.31	0.55	0.56	1.82%	6.90
# Observations	247,521		171,615	75,906		

Table 2: Gap in return loss and its contributors

This table presents the results of the OLS regression specified in Eq. 2. Column 1 documents the baseline result, while Columns 2-4 shows the decomposition according to Eq. 4. *Aggresiveness* refers to the fraction of risky assets in one's complete portfolio, while *Inefficiency* is the return gap between fully-diversified market portfolio and one's risky portfolio. *Single* is a dummy taking value of one if the individual is not associated with any kind of partnership including registered partnership, cohabitation and civil marriage. *Bachelor* is a dummy indicating whether the investor holds at least a bachelor's degree. *Primary employment* is a categorical dummy where being unemployed is the base level. *Income* refers to all-factor annual income including both labor and capital earnings. *p<0.1, **p<0.05, ***p<0.01.

	RL (1)	Log(RL) (2)	Log(Aggres.) (3)	Log(Ineff.) (4)
Immigrant	0.375***	0.185***	-0.003	0.188***
	(0.006)	(0.004)	(0.003)	(0.003)
Male	0.414***	0.268***	0.012***	0.256***
	(0.006)	(0.004)	(0.003)	(0.003)
Log(Age)	0.148***	0.025***	-0.033***	0.059***
	(0.012)	(0.008)	(0.006)	(0.006)
Single	-0.111***	-0.067***	0.001	-0.069***
	(0.008)	(0.005)	(0.004)	(0.004)
Bachelor	-0.052***	-0.005	0.005	-0.010***
	(0.006)	(0.004)	(0.003)	(0.003)
Primary employment				
Employed	-0.213***	-0.092***	-0.004	-0.088***
	(0.013)	(0.009)	(0.007)	(0.006)
Self-employed	-0.163***	-0.121***	-0.140***	0.019***
	(0.015)	(0.010)	(0.007)	(0.007)
Student	-0.119***	0.051***	0.181***	-0.130***
	(0.019)	(0.013)	(0.009)	(0.009)
Pensioner	-0.149***	0.012	0.093***	-0.081***
	(0.017)	(0.012)	(0.009)	(0.008)
Log(Real assets)	-0.004***	0.002***	0.001***	0.001***
	(0.001)	(0.0004)	(0.0003)	(0.0003)
Log(Fin. assets)	-0.241***	-0.227***	-0.221***	-0.006***
	(0.003)	(0.002)	(0.001)	(0.001)
Log(Debt)	0.022***	0.013***	0.003***	0.010***
	(0.001)	(0.0005)	(0.0003)	(0.0003)
Log(Income)	-0.022***	-0.017***	-0.016***	-0.002**
	(0.002)	(0.001)	(0.001)	(0.001)
Municipality FE	Yes	Yes	Yes	Yes
# Observations	257,521	257,521	257,521	257,521
Adjusted R^2	0.078	0.096	0.121	0.079

Table 3: Gender, Education and Return Loss Gap

This table relates to the modified regression model Eq. 2 in which interaction terms *Immigrant*×*Male* and *Immigrant* × *Bachelor* are introduced respectively. All other individual controls and the decomposition remain the same as in the baseline regression. *p<0.1, **p<0.05, ***p<0.01.

Panel A: Gender				
	RL (1)	Log(RL) (2)	Log(Aggres.) (3)	Log(Ineff.) (4)
Immigrant	0.264*** (0.009)	0.127*** (0.006)	-0.021*** (0.004)	0.148*** (0.004)
Male	0.334*** (0.007)	0.227*** (0.005)	-0.001 (0.004)	0.228*** (0.003)
Immigrant×Male	0.239*** (0.013)	0.125*** (0.008)	0.040*** (0.006)	0.085*** (0.006)
Individual Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
# Observations	257,521	257,521	257,521	257,521
Adjusted R^2	0.079	0.097	0.121	0.080
Panel B: Education				
	RL (1)	Log(RL) (2)	Log(Aggres.) (3)	Log(Ineff.) (4)
Immigrant	0.455*** (0.009)	0.240*** (0.006)	0.029*** (0.005)	0.211*** (0.004)
Bachelor	-0.002 (0.008)	0.029*** (0.005)	0.025*** (0.004)	0.004 (0.004)
Immigrant×Bachelor	-0.149*** (0.013)	-0.101*** (0.008)	-0.059*** (0.006)	-0.043*** (0.006)
Individual Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
# Observations	257,521	257,521	257,521	257,521
Adjusted R^2	0.078	0.097	0.121	0.079

Table 4: Financial Literacy and Return Loss

With the subsample consisting of only immigrants, this table presents the results of the OLS regression specified in Eq. 5. Column 1 documents the baseline result, and Columns 2-4 exhibit the result of decomposition according to Eq. 4. *Financial literacy* is obtained from the 2014 S&P's Global Survey, and measures the fraction of financially literate adults in a given country. The *YSI* stands for years since immigration to Sweden. All other individual controls remain the same as in the baseline regression. Standard errors are clustered at country-of-origin level. *p<0.1, **p<0.05, ***p<0.01.

	RL (1)	Log(RL) (2)	Log(Aggres.) (3)	Log(Ineff.) (4)
Financial literacy	-0.011*** (0.003)	-0.005*** (0.001)	0.0004 (0.001)	-0.005*** (0.001)
Log(YSI)	-0.015 (0.021)	0.004 (0.014)	0.012 (0.009)	-0.007 (0.012)
Individual Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
# Observations	63,096	63,096	63,096	63,096
Adjusted R^2	0.091	0.103	0.125	0.095

Table 5: Immigrant, Financial Literacy and Exemplary Underdiversification

This table presents results of the examination on two particular portfolio compositions using the baseline regression Eq. 3 with two alternative dependent variables: (1) a portfolio consisting of only one asset, and (2) that only asset being a stock instead of a mutual fund. Columns 1 and 2 use the sample from matching, while Columns 3 and 4 use the sub-sample consisting of only immigrants. *Financial literacy* is obtained from the 2014 S&P's Global Survey, and measures the fraction of financially literate adults in a given country. *p<0.1, **p<0.05, ***p<0.01.

	Only one asset (1)	Only one stock (2)	Only one asset (3)	Only one stock (4)
Immigrant	0.059*** (0.002)	0.157*** (0.003)		
Financial literacy			-0.002*** (0.0004)	-0.004*** (0.001)
Sample	Matched	Matched	Immigrant	Immigrant
Individual Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
# Observations	257,521	77,579	63,096	21,927
Adjusted R^2	0.068	0.137	0.070	0.151

Table 6: Social Integration and Return Loss

Using the model specified in Eq. 7, this table exhibits whether immigrants' social integration, captured by whether their partners are native-borns, affects return losses. The sample only consists of immigrants who have a partner, a cohabitant or a spouse. *Native partner* is a dummy taking value of one if the immigrant's partner is a native-born. All other individual-level controls remain the same as in the baseline regression. Standard errors are clustered at country-of-origin level. *p<0.1, **p<0.05, ***p<0.01.

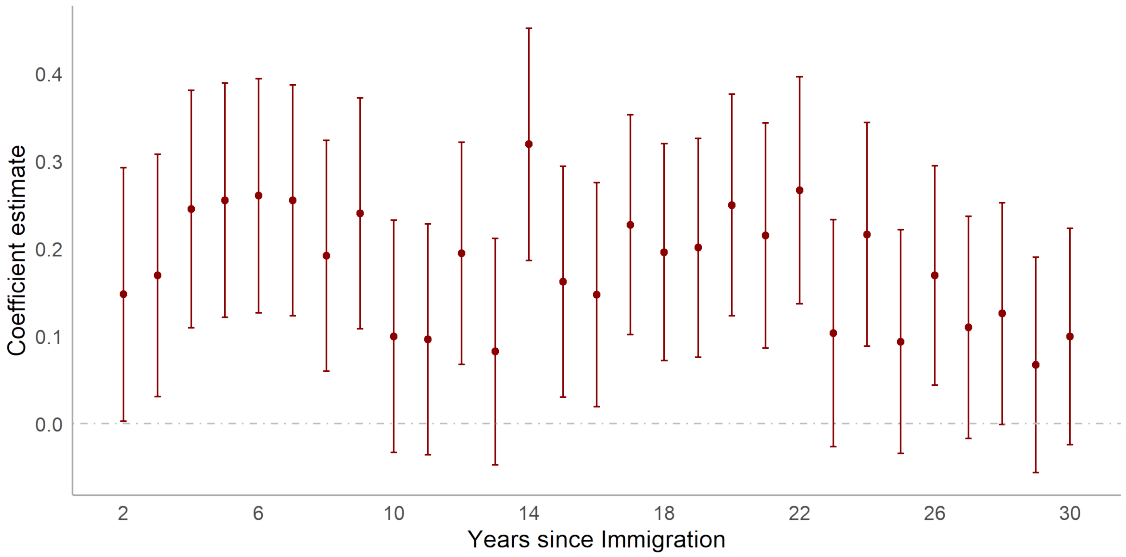
	RL (1)	Log(RL) (2)	Log(Aggres.) (3)	log(Ineff.) (4)
Native partner	-0.207***	-0.097***	-0.005	-0.092***
	(0.030)	(0.018)	(0.010)	(0.011)
Individual Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
Country-of-origin FE	Yes	Yes	Yes	Yes
# Observations	48,617	48,617	48,617	48,617
Adjusted R^2	0.110	0.112	0.101	0.108

Table 7: Return Loss of Second-generation Immigrants

With the sub-sample consisting of only native-borns, this table presents the results of modified Eq. 3. Instead of the *Immigrant* dummy, the variable of interest is a categorical dummy *Second_gen* indicating one of the three alternatives regarding their parents: (1)both parents are native-borns (the benchmark), (2)one native-born parent and one immigrant parent, and (3) both parents are immigrants. Column 1 documents the baseline result, and Columns 2-4 exhibit the result of decomposition according to Eq. 4. All other individual-level controls remain the same as in the baseline regression. *p<0.1, **p<0.05, ***p<0.01.

	RL (1)	Log(RL) (2)	Log(Aggres.) (3)	log(Ineff.) (4)
Second-gen Immigrant				
One native parent	0.078***	0.028***	-0.017***	0.046***
	(0.005)	(0.004)	(0.003)	(0.002)
No native parent	0.203***	0.078***	-0.041***	0.119***
	(0.008)	(0.006)	(0.005)	(0.004)
Individual Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
# Observations	1,744,673	1,744,673	1,744,673	1,744,673
Adjusted R^2	0.065	0.091	0.106	0.055

Figure 1: Stay Duration and Return Loss



Using the immigrant-only sample, this figure plots the results from Eq. 6 and depicts the relation between return loss and immigrant's length of stay, measured by the number of years since their first-time registration as a Swedish resident. The 95% confidence intervals of estimate are illustrated. Standard errors are clustered at country-of-origin level.

A Supplementary tables

Table A1: Return Loss Gap with Alternative Benchmark

The benchmark market portfolio is MSCI Europe Index, instead of MSCI World Index used in the baseline setting. Otherwise the specification is the same as in Table 2. *p<0.1, **p<0.05, ***p<0.01.

	RL (1)	Log(RL) (2)	Log(Aggres.) (3)	Log(Ineff.) (4)
Immigrant	0.475***	0.155***	-0.003	0.157***
	(0.008)	(0.004)	(0.003)	(0.003)
Individual Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
# Observations	257,521	257,521	257,521	257,521
Adjusted R^2	0.078	0.096	0.121	0.079

Table A2: Further Decomposition of Portfolio Inefficiency

The specification embedded to this table is identical to Eq. 3, except that the dependent variable is replaced by volatility and the Sharpe ratio, respectively. $Volatility$ measures the annualized standard deviation of monthly excess returns.*p<0.1, **p<0.05, ***p<0.01.

	Volatility (1)	Sharpe Ratio (2)
Immigrant	0.026***	-0.012***
	(0.0004)	(0.0002)
Individual Controls	Yes	Yes
Municipality FE	Yes	Yes
# Observations	257,521	257,521
Adjusted R^2	0.076	0.053

Table A3: Financial Literacy Survey Results by Country

The table presents the relevant part of the Global Financial Literacy Survey. The survey pertains to four questions regarding inflation, numeracy, compound interest and risk diversification, respectively. A person is defined as financially literate when they correctly answers at least three out of the four financial questions described above. The column of Financial Literacy indicates the proportion of financially literate adults. The full list can be found in Klapper et al. (2015).

Country	Financial Literacy	Country	Financial Literacy
Afghanistan	0.14	Jordan	0.24
Algeria	0.33	Kenya	0.38
Argentina	0.28	Lithuania	0.39
Australia	0.64	Mexico	0.32
Bangladesh	0.19	Moldova	0.27
Bolivia	0.27	Netherlands	0.66
Bosnia and Herzegovina	0.24	Nicaragua	0.20
Botswana	0.52	Nigeria	0.26
Brazil	0.35	Pakistan	0.26
Cambodia	0.18	Peru	0.28
Cameroon	0.38	Philippines	0.25
Canada	0.68	Poland	0.42
Chile	0.41	Portugal	0.26
China	0.28	Romania	0.22
Colombia	0.32	Russia	0.38
Costa Rica	0.35	Rwanda	0.26
Croatia	0.44	Saudi Arabia	0.31
Czech Republic	0.58	Serbia	0.38
Egypt	0.27	South Africa	0.42
Estonia	0.54	South Korea	0.33
Finland	0.63	Spain	0.49
France	0.52	Sri Lanka	0.35
Georgia	0.30	Sweden	0.71
Germany	0.66	Switzerland	0.57
Ghana	0.32	Tanzania	0.40
Greece	0.45	Thailand	0.27
Guatemala	0.26	Turkey	0.24
Hungary	0.54	Uganda	0.45
India	0.24	Ukraine	0.40
Indonesia	0.32	United Arab Emirates	0.38
Iran	0.20	United Kingdom	0.67
Iraq	0.27	United States	0.57
Israel	0.68	Venezuela	0.25
Italy	0.37	Vietnam	0.24
Japan	0.43	Zimbabwe	0.41

Table A4: Social Integration and Return Loss with Subsample

The sample only contains immigrants whose partner is either native-born or from Canada, Israel, United Kingdom, Germany and Netherlands. Other details can be found in the notes stated in 6. *p<0.1, **p<0.05, ***p<0.01.

	RL (1)	log(RL) (2)	Log(Aggress.) (3)	Log(Ineff.) (4)
Native partner	-0.185*** (0.052)	-0.126*** (0.028)	-0.030* (0.015)	-0.096*** (0.023)
Individual Controls	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes
# Observations	21,134	21,134	21,134	21,134
Adjusted R^2	0.070	0.087	0.102	0.067