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Saving behavior among immigrant and native youth

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Abstract
This study investigates the role of migration background in the saving behavior of youth, with a focus on immigrant generation, national origin, and the influence of cultural and socioeconomic factors. Drawing on a nationally representative dataset of over 28,000 secondary school students in the Netherlands, we employ binary logit models to analyze two dimensions of saving behavior: the likelihood of saving money and the propensity to use bank accounts for savings. Our findings reveal significant disparities in saving behavior among immigrant and non-immigrant youth. Migrant youth are less likely to save overall, and when they do, they exhibit a reduced inclination to use bank accounts for their savings. Furthermore, the study uncovers nuanced patterns within the immigrant youth population. First-generation immigrant youth display lower levels of saving and bank account usage compared to their second-generation counterparts, particularly to those with one foreign-born parent. Distinct national origin effects are observed, as Turkish and Moroccan youth exhibit reduced likelihoods of saving, particularly through bank accounts, compared to Surinamese and Dutch Antillean youth. The results also indicate that the disparities in saving behavior across migration background, immigrant generation, and national origin are partly explained by socioeconomic and cultural forces. Socio-economic status and parental education emerge as key determinants, with higher parental socio-economic resources and education levels positively associated with youth saving behavior and bank account usage. Additionally, religious affiliation, particularly among Muslim youth, contributes to variations in saving behavior due to the prohibition of interest-bearing transactions.

Keywords Saving behavior, Immigrants, Financial inclusion, Youth finance, Inequality

Introduction

Teenagers learn, among many other things, how to deal with money and how to save. Saving behavior concerns not only whether children save at all -and how much-, but also how: in a formal way, such as via a bank account, or in an informal way, by storing cash at home. Learning to save money (to satisfy longer-term goals and as a protection against unexpected setbacks), and to keep money safe through a bank account (rather than storing it at home) are important financial skills. Critically, the patterns of financial behavior youth develop as teenagers influence their saving behavior as adults

(Ashby et al., 2011; Brown & Taylor, 2016; Webley & Nyhus, 2006), and in the longer-run even bare consequences for their retirement preparations (Palaci et al., 2017; Robertson-Rose, 2020). Therefore, it is important to examine whether differences in saving behavior unfold between youth from different backgrounds.

It is striking, then, that we know so little about how immigrant youth learn how to deal with money in their teen years. Although ample studies have been done on the determinants of children's' saving behavior (e.g., Ali et al., 2014; Elliott et al., 2011; Friedline, 2012), there is a dearth of research on the role of migration background. As studies in this field focus on children without a migrant background, little is known about saving behavior among migrant youth, and how they differ from non-migrant ('native') youth.

Some studies have been done on racial differences in savings among youth in the United States. Evidence suggests that, compared to Black children, White children are more likely to have a savings bank account (Friedline et al., 2012, 2013; Gutter et al., 2010; Kim et al., 2011), and generally save far more money (Friedline et al., 2013). Research findings also suggest that these differences persist into adulthood (Friedline et al., 2013), thereby contributing to racial inequalities in the United States.

To date, however, it has not been studied whether migrant and non-migrant youth differ in their likelihood to save. In the European context, in which we embed our paper, this is an omission given the strong increase in immigration and ethnic diversity. Immigrant youth -consisting of those who are born abroad ('first generation') and those who have at least one foreign-born parent ('second generation')- make up a sizeable number of contemporary populations. Thus far, migration scholars have shown that there are pronounced ethnic inequalities in Europe, as evidenced by lower education, higher unemployment, lower status jobs, and lower wages among immigrants, especially from outside the European Union (Drouhot & Nee, 2019; Heath, 2008). We argue that ethnic inequalities go beyond formal education and labor market position, and also include saving behavior (Ahmed et al., 2010; Islam et al., 2013). When already disadvantaged immigrant groups save less and are less inclined to save via bank accounts than natives, this creates another layer of ethnic inequality.

The aim of this paper is to examine the role of migration background in the saving behavior among youth, i.e., (a) whether youth save money at all, and (b) if they do, if they save via a bank account or only in cash. Our theoretical model integrates insights from research on youth's savings behavior with conceptual frameworks from migration research on the structural integration of immigrant groups. Specifically, from the migration field, we address three key immigrant characteristics that have guided much of the work on migration background and structural integration (Drouhot & Nee, 2019; Heath, 2008). First, we consider the role of immigrants' *national origin* in saving behavior. Thus, in addition to simply contrasting immigrants and natives, we pay attention to the considerable heterogeneity in terms of origin countries within the immigrant population. Second, we examine differences by *immigrant generation*. Ethnic inequalities are more pervasive when they not only occur among first-generation youth, but also among immigrant youth who are born and raised in the host country, i.e., the second generation. Third, we pay attention to the role *of religious affiliation*, in particular to the potential divide between Muslim and non-Muslim youth. Prior work shows that, in European countries, there is a bright Muslim boundary (Foner & Alba, 2008) as evidenced by strong anti-Muslim sentiments (Savelkoul et al., 2012) and pervasive discrimination in

the labor market (Fernández-Reino et al., 2023), social segregation between Muslims and non-Muslims (Kalmijn & Van Tubergen, 2006; Leszczensky & Pink, 2017; Simsek et al., 2022), and a structurally disadvantaged position of Muslim immigrant groups (Heath & Martin, 2013).

To study this, we rely on large-scale, nationally representative survey data among youth aged 11–19 in the Netherlands. As many other (western) European countries, the Netherlands has become rapidly ethnically diverse since the 1960s, with many youth having an immigrant background. Around the time of data collection, around 21% of the population aged 11–19 had a migration background (CBS Statline, 2021). The survey data were collected among 28,000 children in 216 secondary schools. In terms of national origin, we focus on the four biggest non-EU migrant groups in the Netherlands: Turkey, Morocco, Suriname, Dutch Antilles (over 2,400 children in total). The migration from these countries started in the 1960s and 1970s (Van Meeteren et al., 2013), which means that there is a substantial second generation. Importantly, the groups differ in their dominant religious affiliation: while those from Turkey and Morocco are overwhelmingly Muslim, those from Suriname and the Dutch Antilles are largely Christian/secular (Van Tubergen, 2007). Hence, including these groups allows for assessing the role of Muslim affiliation in the saving behavior of immigrant youth.

Theory and hypotheses

In this study, we develop a framework for understanding the role of migration background in saving behavior among youth. Within our broader conceptual model, we advance two general mechanisms, which emphasize the role of socioeconomic and cultural factors. From these mechanisms, we derive hypotheses.

Socioeconomic factors

First, we expect that the link between migration background and saving behavior among youth is partly driven by socioeconomic characteristics, i.e., the socioeconomic resources of the parents and the children.

In the broader literature on the (persisting) ethnic inequalities in European labor markets, it has often been argued that much of the disadvantage that children of immigrants experience has to do with the lack of resources of their parents (Drouhot & Nee, 2019). We argue that such intergenerational transmission of inequality also contributes to the disadvantaged position held by the groups that we study: immigrant groups from Turkey, Morocco, Suriname and Dutch Antilles (Witteveen & Alba, 2018). The foreign-born adults from these groups are lower educated, face higher unemployment levels, more often have temporary work and earn less than the non-migration population in the Netherlands (CBS 2021). Evidence suggests that people from these four non-EU countries are subject to substantial discrimination in the Netherlands (Blommaert et al., 2014; Thijssen et al., 2021). Although second-generation youth are higher educated than the first generation (Van Ours & Veenman, 2010), they are still at a considerable disadvantage compared to their native peers. In the 'tracked' Dutch educational system, they follow programs at lower educational tracks than their non-migrant peers (Van de Werfhorst & Van Tubergen, 2007).

We expect that the disadvantaged position of these groups has consequences for the saving behavior of immigrant youth. Prior work shows that children from more affluent,

higher-educated families receive more money from their parents, making saving more likely (World Bank, 2011). Higher-educated parents more strongly encourage long-term planning (including saving), and they are also more inclined to save via bank accounts. In addition, higher-educated parents more frequently discuss financial issues with their children (Gutter et al., 2009). Studies show that young people whose parents have a higher socioeconomic status have more financial knowledge (Amagir et al., 2020; OECD, 2017).Over and beyond parental resources, children's own resources can also influence their saving behavior. Studies show that in western countries, educational track is a strong driver of financial literacy among children – a relationship which seems especially strong in the Netherlands (Amagir et al., 2020; OECD, 2017). Children enrolled in the more advanced educational tracks develop substantial financial literacy, such as in their mathematics and economics classes. Such financial skills help youth to manage their savings wisely (LeBaron & Kelley, 2021). Additionally, education can influence saving because it encourages an outlook to future events and conditions. Being oriented on the future is known to be conducive to saving money (Otto, 2013).

Cultural factors

In addition to socioeconomic forces, we also expect that cultural factors play a role in understanding the link between migration background and saving behavior.

A central theoretical angle to explain saving behavior among youth is family financial socialization theory. This posits that children pick up financial behavior by how their parents act with and talk about money: parental guidance can increase children's saving behavior (Kim, 2005; LeBaron & Kelley, 2021). Parental behavior and attitudes related to saving, such as talking about saving and being conscientious, increase saving among children (Serido & Deenanath, 2008). Such saving behavior acquired during youth persists into adulthood (Brown & Taylor, 2016; Webley & Nyhus, 2006). Elaborating on these theoretical mechanisms, we argue that migrant and non-migrant parents may have acquired different attitudes and practices towards savings-which they then pass on to their children. Such cultural legacy effects relate to the country in which their parents were raised, but also to their religion.

With respect to parental origin country effects, cultural practices refer both to the extent of saving behavior and to the way in which people save. In the Netherlands, gross domestic savings were (in 2001) almost 30%, whereas they were much lower (around 20-25%) in Suriname, Dutch Antilles, Turkey and Morocco (World Bank, 2023). Informal saving arrangements outside formal financial institutions are more common in the home countries of migrants arriving in the Netherlands. People are more likely to save cash at home or use a Rotating Savings and Credit Association (ROSCA), such as the *daret* in Morocco (World Bank, 2014), the *altın günü* in Turkey (Bilecen, 2019) or the *kasmoni* in Suriname (Nooteboom, 2004). The World Bank reports that in Turkey, 15 per cent save by storing gold, and many more save via a Rotating Savings and Credit Association or by saving foreign currency (World Bank, 2011). Also, in Morocco, the number of people saving informally is twice as large as the number of people saving formally, while almost half does not have any savings (World Bank, 2014). Lower aggregate saving rates, and higher proportions of informal saving, are the result of a variety of factors, such as the macroeconomic conditions, lower female labor participation, educational attainment, policies disincentivizing saving, limited financial literacy or a

suboptimal functioning financial system. (World Bank, 2011). Stronger macroeconomic volatility may also mean that saving behavior changes more quickly in these countries of origin compared to the Netherlands.

In this study, we posit that, these cultural practices in the parental origin country continue to play a role in the host society. In line with this assumption, studies among Turkish migrants in Germany and among Suriname migrants in the Netherlands reveal that migrants still use the informal saving systems they grew up with (Bilecen, 2019; Nooteboom, 2004). Studies among (adult) immigrants in the United States suggest that the level of financial access in the home country is associated with financial behavior in the United States (Osili & Paulson, 2008) and that retirement saving behavior is correlated with average saving behavior in the home country, even for second-generation migrants (Richwine, 2023). A study on migrants (aged 25+) in Germany and the United Kingdom reveals that savings were higher among (first and second generation) migrants who originated from countries in which people emphasized the importance of material gains and saving (Fuchs-Schündeln et al., 2020).

Immigrant parents and their children are also influenced by the culture of the host country. This is known as bicultural socialization, and implies that the behavior of children of migrants is likely to be 'in between' the behavior of their parents and the behavior of non-migrant children (Wachter, 2022). We assume that foreign-born children are more strongly socialized in the culture of their parental home country (and less so the culture of the Netherlands), as compared to second-generation youth -which is why we expect to see that second-generation youth saving behavior to resemble more closely that of their native peers.

We also expect to see that religious affiliation plays a role in saving behavior. According to many islamic scholars, receiving or paying interest on money (*riba*) is forbidden in the Quran and therefore not in line with Islamic faith (Borchgrevink & Birkvad, 2022; Kamla & Alsoufi, 2015). In 1999, the European Council of Fatwa and Research ruled that *riba* is acceptable in the context of mortgages, if no other options are possible. Yet, studies show that *riba* norms are a reason for a substantal group of Muslim migrants do not take up mortgages due to these religious rules -as evidenced by studies in Norway (Borchgrevink & Birkvad, 2022) and Canada (Mensah & Williams, 2013).

These *riba* norms could also influence saving behavior. While saving money itself is not condemned, or even seen as laudable, it has to be done in a way that avoids this issue of interest (Kamla & Alsoufi, 2015). For those who whish to follow these rules, saving either has to be done either outside the financial system, or via specific Islamic finance products, which are less readily available in the Netherlands, and not uncontroversial among parts of the Muslim community (Kamla & Alsoufi, 2015). Adherence to such religious rules is the result of internal negotiations, may be interpreted in a different way by different Muslims (Borchgrevink & Birkvad, 2022).

The riba norms could drive differences in savings among the four largest immigrant groups that we study. Specifically, immigrants from Turkey and Morocco are overwhelmingly Muslim (>95%), while only a small minority is so among those from Suriname (<15%) and the Dutch Antilles (1%) (Van Tubergen, 2007). We assume that among Muslims immigrants in the Netherlands a certain share comply with the riba norms, and pass on these rules to their children.

Hypotheses

Based on the theoretical framework, and the presumed role of socioeconomic and cultural factors in shaping saving behavior, we derive four hypotheses. The first hypothesis concerns the 'overall' migrant-native difference. Based on to the described socioeconomic and cultural mechanisms, we expect that:

H1. Migrant youth (a) are less likely to save, and if they do, (b) they save less often via bank accounts than non-migrant youth (*migration*).

Similarly, we expect to see that, among those with a migrant background, immigrant generation and national origin matter. As second-generation migrant youth are more similar to native youth both socioeconomically and culturally than first-generation migrant youth, we expect that they save more often, and when they do, use bank saving more frequently. Within the second generation, we expect to see that those with one native-born parent more strongly resemble the non-migrant population than those with two foreign-born parents. In addition, we expect to see that Turks and Moroccans, because of being disadvantaged groups and having a large share of Muslims, are less likely to save (via bank accounts). Hence, we get the following predictions:

H2. First-generation migrant youth (a) are less likely to save, and if they do, (b) they save less often via bank accounts than second-generation migrant youth (*immigrant generation*), particularly those who have one native-born parent.

H3. Turkish and Moroccan migrant youth (a) are less likely to save, and if they do, (b) they save less often via bank accounts than Surinamese and Antillean migrant youth (*national origin*).

Informed by the theoretical framework, we then examine to what extent these differences by migration background, immigrant generation and national origin are explained by socioeconomic and cultural forces. We hypothesize that, when taking these factors into account, part of the differences will disappear:

H4. The relationships between migration background, immigrant generation, national origin and saving behavior among youth are partly due to socioeconomic and cultural differences (*socioeconomic and cultural forces*).

Data, measures and methods

Data

Data in this study are from the 'National Surveys of Students in the Netherlands' (NSSN), which are repeated cross-sectional surveys among secondary school students. The surveys were designed and conducted by Nibud, the Dutch National Institute for Budget Education. The surveys were conducted for the first time in 1984 and repeated every two or three years. This study pools surveys from 1996, 1999 and 2001. Editions prior to 1996 were excluded because they lacked information on key variables; editions after 2001 were excluded because they were no longer collected via schools but via online surveys, introducing the risk of self-selection.

All secondary schools in the Netherlands were invited to cooperate in the survey. Subsequently, a selection was made among schools that responded positively in order to obtain a representative sample according to region, school's religious denomination, school type, and school year. The representativeness of our sample in terms of school level, school year, gender, and ethnicity strongly resembled that of other data sources involving students in the Netherlands (Zeijl & Kappelhof, 2004).

Participating schools selected multiple classrooms for participation; within these classrooms, all students participated. Students had two hours to fill in the questionnaire (self-completion). On average, 136 children per school participated in the survey. The survey responses were checked in detail by Nibud for inconsistencies, excessive missing items, and deliberately providing wrong answers. Inconsistencies were corrected and respondents with many missing items or who clearly provided wrong answers were removed from the survey. Comparisons of our data with other survey data (the Health Behavior in School-aged Children [HBSC] survey and the data from the Ministry of Education showed very similar answer patterns on the compared questions ranging from gender to wellbeing and music preferences (Zeijl & Kappelhof, 2004). Our final sample consists of 28,791 respondents, out of the roughly 750,000 children in this age range.

Measures

Dependent variable

To construct our two dependent variables, we rely on the question '*Do you save or does anyone else save for you?*'. Students were presented with several answer categories, including type of savings, of which they could select more than one. Based on the information, we create two dependent variables. First, *any savings*, which captures whether students save at all (1) or not (0). Second, *bank savings*, which indicates -among those who save- whether they save (1) with bank account only or with bank account and privately or (0) save only privately.

Independent variables

Regarding *migration background*, we differentiate between those having (1) at least one of their parents born abroad and (0) those with two parents born in the Netherlands. Among those with a migrant background, we create a variable for *immigrant generation*. We use dummy variables to distinguish between the first-generation (i.e., those born abroad), and the second-generation (i.e., those born in the Netherlands with at least one foreign-born parent). Within the second generation, we further differentiated between students with two foreign-born parents and those with one foreign-born parent. We exclude (a small number of) respondents whose parents were born in two different foreign countries; who were born abroad despite having two Dutch-born parents; or who do not live with their own parents.

For those with a migration background, we also include a measure of *national origin*. For this, we take the country of birth of the parents. For second-generation immigrant youth from ethnically mixed parents, we rely on the country of birth of the parent who is born abroad. The survey identifies origins in the following categories: Suriname, Dutch Antilles, Turkey, Morocco, and 'other' migration origin. Based on the hypothesized relations, and also to ensure sufficient numbers for each category, we collapse the groups into: (1) Surinamese/Antilleans, (2) Turks/Moroccans, and (3) Other.

We capture parents' socio-economic status with different measures. To begin, we include *parents' educational level*, which measures the highest level of education attained by the parents. If there is a difference between parents' education, we use the education of the highest educated parent. We differentiate between (1) primary or lower vocational/lower general (in Dutch: 'vmbo', 'mavo'), (2) intermediate vocational ('mbo'), (3) intermediate general, university preparation ('havo','vwo') and (4) vocational college/

university ('hbo', 'wo'). We also include *employment status* of the father and mother as another indicator of socio-economic status. We further include information on the *household composition*, differentiating between (1) two-parent and (0) one-parent households. We also include *parental saving*, distinguishing between children whose parents save on their behalf (1) or not (0), and also how much *pocket money* they receive in Euros per week.

We include a measure of *education level* based on the question 'At which school type are you?'. We distinguish between (1) lower vocational/lower general ('vmbo', 'mavo'), and (2) intermediate general, university preparation ('havo','vwo') and (3) 'bridge period', which includes first- and/or second-year pupils who are part of a mixed school type. A dummy variable is used to capture whether children (1) have a part-time job or (0) not. To measure *Muslim affiliation*, we rely on the question 'Which religious belief do you have?'. We include a dummy variable, contrasting those indicating (1) Islam with (0) the rest (e.g., no religion, Protestant, Catholic).

Control variables

We control for survey year, gender, and age. Table 1 presents an overview of summary statistics for the dependent, independent and control variables. The question phrasing (in Dutch) and our translation for all included variables can be found in Supplement 1.

Methods

Empirical strategy

We estimate binary logit models with robust standard errors, clustering at the school level. We analyze the dependent variables in two steps. First, we estimate logit models whether students save at all. Second, among those who do, we estimate logit models of whether they save with a bank account. We present findings for the 'gross' differences by migration status, national origin and immigrant generation (model 1), and subsequently assess how much these are explained by socioeconomic and cultural factors (model 2). To compare coefficients across models and facilitate the interpretation of effect sizes, we present Average Marginal Effects, AMEs (Mood, 2010). All analyses are performed with Stata 17.

Missing data

For some variables, there is a considerable share of missing data (see Table 1), particularly for parental education and parental employment. Following best practices, we use multiple imputation with chained equations to impute the missing data (20 imputations). For the imputation model, we include auxiliary variables (school year, language spoken with parents, and having a holiday job) in addition to the main variables. These auxiliary variables are selected based on (1) having few missings (<7.5%), (2) significant correlation with our main variables, and (3) significant correlation with the missingness of our main variables (Van Buuren, 2018). We run our analyses for each imputed data set separately, then pool the results.

Table 1 Summary statistics of dependent, independent and control variables ($N = 27{,}791$)

Variable	% Missing	Mean	Std. Dev.	Range
Any savings	0	0.88		0/1
Bank savings	0	0.89		0/1
Migration status	0			
No migration background		0.83		0/1
First generation		0.04		0/1
Second generation -two migrant parents		0.06		0/1
Second generation -one migrant parent		0.07		0/1
National origin	0			
Netherlands		0.83		0/1
Suriname/Dutch Antilles		0.03		0/1
Turkey/Morocco		0.04		0/1
Other		0.09		0/1
Father employed	9.34	0.85		0/1
Mother employed	11.75	0.62		0/1
Education parents (highest)	28.44			
Primary or lower vocational		0.40		0/1
Intermediate general		0.23		0/1
Intermediate vocational		0.10		0/1
Vocational college/university		0.26		0/1
Education child	0.69			
Bridge period		0.14		0/1
Lower vocational		0.47		0/1
Intermediate general		0.38		0/1
Part-time job	1.38	0.47		0/1
Pocket money (Euro per week)	9.20	4.68	4.99	0-104
Two-parent household	0	0.93		0/1
Others save for me	0	0.43		0/1
Muslim	6.73	0.05		0/1
Male	0.51	0.48		0/1
Age	1.03	14.44	1.47	11–19
Survey year	0			
1996		0.28		0/1
1999		0.42		0/1
2001		0.29		0/1

Table 2 Saving goals per origin group

	Native	Suriname	Dutch antilles	Turkey	Morocco	Other
1 Special purpose	0.43	0.30	0.40	0.30	0.30	0.37
2 To have a buffer	0.53	0.48	0.45	0.47	0.38	0.46
3 For study	0.13	0.24	0.17	0.15	0.22	0.19
4 My parents make me	0.07	0.07	0.12	0.04	0.06	0.08
5 To take over parent's enterprise	0.01	0.01	0.02	0.03	0.02	0.01
6 No reason	0.32	0.36	0.33	0.35	0.34	0.34

Proportion of youth per origin group who save who tick the box for this saving goal. Respondents could tick multiple boxes

Results

Descriptive results

To provide more context to the group differences in saving behavior, Table 2 provides a description of answers to questions about the reason for saving. In general, youth are most likely to save to have a buffer, for a specific goal (the survey gives examples such as a holiday or a scooter), or to save without a clear purpose. Saving for their future study

is less common, and saving because parents make them or to eventually take over the family business is rather rare. Non-migrant youth save in particular for specific goals or to have a buffer, and are least likely to save for their study. Youth from Suriname and Morocco are more likely to save for their study; other differences between groups are smaller.

Hypotheses testing

The findings for the logit models are presented in Table 3 (any savings), and Table 4 (bank savings -among those who save). It was hypothesized (H1) that migrant youth (a) are less likely to save, and if they do, (b) they save less often via bank accounts than non-migrant youth. This hypothesis is supported in our study. Specifically, we find that migrant youth have a 9.5% points [p.p.] lower probability to save any money than non-migrant youth (Table 3, M1). Among those who do save, we find that migrant youth have an 8.3 p.p. lower probability to save with a bank account (Table 4, M5).

We also find evidence for differences across immigrant generations and national origin groups. In line with expectations (H2), we find that first-generation migrant youth (a) are less likely to save, and if they do, (b) they save less often via bank accounts than second-generation migrant youth. This difference is particularly clear compared to second-generation migrant youth with only one foreign parent. Also, foreign-born youth have a 7.3 p.p. lower probability to save any money (Table 3, M3), and, among those who do, a 13.9 p.p. lower probability to deposit money on a bank (Table 4, M7). In line with H3, findings indicate that youth from Turkish or Moroccan origin are less likely to save money (-5.0 p.p. – Table 3, M3), and less likely to do so formally (-8.1 p.p. – Table 4, M7) than youth with Surinamese or Antillean roots.

It was argued that these 'gross' differences by migration background, immigrant generation and national origin would be due to socioeconomic and cultural forces (H4). To test these hypotheses on mediation effects, we expect that (1) these factors impact saving behavior, and (2) that including these factors reduces the gross effects.

To begin with (1), we find some evidence which suggests that children from parents with more socio-economic resources save more often, and use bank savings more frequently. For example, we find that children from fathers who have a paid job, have 2.8 p.p. higher probability to save (Table 3, M2) and 3.7 p.p. higher probability to use bank accounts than children from unemployed fathers (Table 4, M6). We also find support that youths' education matters. Youth who follow the most theoretically oriented education track (i.e., intermediate general or university preparation), are more likely to save (+4.6 p.p., Table 3, M2) and to save on bank accounts (+6.0 p.p., Table 4, M6). The likelihood to save is also higher among youth who have a part-time job (4.3 p.p. Table 3, M2). Finally, youth who have others who save on their behalf (-13.6 p.p., Table 3, M2), or who receive more pocket money (-0.0.0, Table 3, M2), are less likely to save, possibly indicating a perceive lower urgency to have a financial buffer. These findings indicate that socioeconomic factors matter for saving behavior by youth, although the role of pocket money and parental saving was not in the expected direction.

Regarding cultural factors, we look at religion. We find evidence which supports the idea that Muslim youth save less often, and when they do, less often use a bank account than non-Muslim youth. The 'Muslim' factor plays a role in both steps: we find that

Table 3 Logistic regression of any savings. Presented are average marginal effects

	Full sample				Migrants			
	M1		M2		M3		M4	
Migrant	−0.095	***	−0.060	***				
	(0.006)		(0.006)					
National origin								
(ref = Suriname/Dutch Antilles)								
Turkey / Morocco					−0.050	*	−0.048	
					(0.020)		(0.025)	
Other					0.004		−0.016	
					(0.020)		(0.018)	
Generation (ref = 1st generation)								
2nd, 2 foreign-born parents					0.020		0.029	*
					(0.014)		(0.013)	
2nd, 1 foreign-born parent					0.073	***	0.067	***
					(0.017)		(0.016)	
Father employed			0.030	***			0.048	**
			(0.007)				(0.015)	
Mother employed			0.000				0.040	**
			(0.004)				(0.014)	
Education parents								
(ref = primary & lower vocational)								
Intermediate general			0.008				0.034	
			(0.006)				(0.020)	
Intermediate vocational			0.017	*			0.050	
			(0.008)				(0.028)	
Vocational college/university			0.005				0.033	
			(0.006)				(0.018)	
Education child (ref = lower vocational)								
Bridge period			0.038	***			0.042	
			(0.008)				(0.025)	
Intermediate general			0.045	***			0.052	***
			(0.005)				(0.015)	
Two-parent household			0.013	*			0.008	
			(0.005)				(0.013)	
Others save for me			−0.136	***			−0.206	***
			(0.005)				(0.014)	
Part-time job			0.042	***			0.048	***
			(0.004)				(0.012)	
Amount of pocket money			−0.001	***			−0.001	
			(0.000)				(0.001)	
Muslim			−0.054	***			−0.014	
			(0.009)				(0.018)	
Control variables	YES		YES		YES		YES	
N	28,791		28,791		4,792		4,792	

Note standard errors in parentheses. * $p<0.05$, ** $p<0.01$, *** $p<0.001$ (two-sided tests). Control variables: age, survey year, gender

Muslim youth have around 5.5 p.p. lower probability to save any money (Table 3, M2), and 4.4 p.p. lower probability to save on a bank account (Table 4, M6).

We also find some evidence supporting (2), i.e., when including socioeconomic and cultural factors, the 'gross effects' of migration background, generation and national origin become smaller or even disappear. The gross migration background 'effect' on any savings reduces from −9.5 p.p. (Table 3, M1) to −6.1 p.p. when adding socioeconomic and cultural factors (Table 3, M2), -an overall reduction of (9.5–6.1 / 9.5=) 36%.

Table 4 Logistic regression of bank savings among youth who save. Presented are average marginal effects

	Full sample				Migrants			
	M5		M6		M7		M8	
Migrant	−0.083	***	−0.043	***				
	(0.007)		(0.007)					
National origin								
(ref = Suriname/Dutch Antilles)								
Turkey / Morocco					−0.081	***	−0.016	
					(0.021)		(0.024)	
Other					0.015		0.010	
					(0.016)		(0.017)	
Generation (ref = 1st generation)								
2nd, 2 foreign-born parents					0.081	***	0.068	***
					(0.019)		(0.018)	
2nd, 1 foreign-born parent					0.139	***	0.090	***
					(0.022)		(0.021)	
Father employed			0.035	***			0.039	*
			(0.007)				(0.016)	
Mother employed			0.014	**			0.031	*
			(0.004)				(0.015)	
Education parents								
(ref = primary & lower vocational)								
Intermediate general			0.018	**			0.027	
			(0.006)				(0.019)	
Intermediate vocational			0.025	**			0.004	
			(0.009)				(0.029)	
Vocational college/university			0.030	***			0.055	**
			(0.006)				(0.019)	
Education child (ref = lower vocational)								
Bridge period			0.037	***			0.042	*
			(0.009)				−(0.020)	
Intermediate general			0.060	***			0.068	***
			(0.006)				(0.017)	
Two-parent household			0.002				0.017	
			(0.006)				(0.016)	
Others save for me			0.011	*			0.010	
			(0.005)				(0.015)	
Part-time job			0.054	***			0.090	***
			(0.004)				(0.015)	
Amount of pocket money			0.000				0.002	
			(0.000)				(0.001)	
Muslim			−0.044	***			−0.041	*
			(0.009)				(0.019)	
Control variables	YES		YES		YES		YES	
N	25,448		25,448		3,740		3,740	

Note standard errors in parentheses. * $p<0.05$, ** $p<0.01$, *** $p<0.001$ (two-sided tests). Control variables: age, survey year, gender

Regarding bank savings, the reduction is 48%. Differences in saving behavior by immigrant generation also become smaller when taking into account socioeconomic and cultural factors. We find a reduction of 7% for any savings, and 36% for bank savings comparing the first generation with the second generation who has one Dutch parent. However, when comparing the first generation with second generation youth with two foreign-born parents, including these mediating factors results in a small increase in the

difference, With respect to national origin, the gross differences between youth from Turkish or Moroccan origins and those with Surinamese or Dutch Antillean roots are completely explained by socioeconomic factors and religious affiliation. All in all, these findings largely confirm H4.

Additional analyses

To assess the robustness of our results we performed numerous additional analyses. First, it could be argued that parental money and time is divided between their children, and that the role of socioeconomic resources may be different in a household with more children. Given that the number of children varies between households of different origin groups and non-migrants, this could influence the migrant-non-migrant savings gap. We replicated our Tables while including a variable on the number of siblings the respondent has, using the subsection of the data containing this specific question (see Supplemental Materials, Table S2a-S2c). Second, about a third of the youth in our sample receive money for buying clothes, which could influence the role of pocket money. Hence, we supplemented our measure for pocket money with a binary variable on whether the respondent receives money for clothes (see Supplemental Materials, Tables S3a-S3b). Third, we replicated our Tables while using probit or linear probability models (see Supplemental Materials, Table S4a-S4d). In all these replications, our conclusions are identical.

Conclusions

Saving behavior that teenagers learn, can influence their financial position throughout their life. While there are numerous studies on children's saving behavior in general, little is known about differences between native and immigrant youth. Given that the latter group is growing in many Western countries, we aimed to explore the role of migration background in the saving behavior of youth, particularly focusing on differences related to immigrant generation, national origin, and cultural and socioeconomic factors. We used data from National Surveys of Students in the Netherlands, covering data among over 28,000 children aged 11–19 from over 200 schools in the Netherlands.

Our findings confirm that migration background is indeed associated with differences in saving behavior among youth. Migrant youth are less likely to save money overall, and when they do, they are less inclined to use bank accounts for their savings. This is in line with the family financial socialization theory: children's behavior is influenced by the country in which they were raised, and even where their parents were socialized.

It is clear, however, that there are also substantial differences within the group of migrants, that are sometimes even larger than the average migrant-non-migrant gap. Within the group of migrant children, presumed greater exposure to Dutch cultural ideas about saving is associated with a higher probability of saving: first generation migrants save least often, followed by second generation migrants with two foreign-born parents, then by second generation migrants with one foreign-born-parents, and native youth saves most often. Comparisons between migrant groups based on ethnicity show that children from Turkish or Moroccan parents save less often than children from Surinamese, Antillean or other parents. Again, the pattern for formal saving reflects that for saving in general: groups who are less likely to save money at all, are more likely to do so informally if they save.

Socioeconomic factors play an important role in shaping youth saving behavior. Having parents who work, who are higher educated or who form an intact family is associated with a higher likelihood of youth saving, as well as using formal banking channels for their savings. The same is true for children's socioeconomic position as indicated by their education and having a part-time job. This is in line with the argument that these children have more financial understanding, which is conducive to saving more. Yet, receiving more pocket money or having others save on the child's behalf is associated with a lower likelihood of saving, possibly indicating a lower perceived need to save themselves. Such precautionary motives for saving among youth may also be indicated by the descriptive findings showing that among youth from all backgrounds, the most common motivation to save is 'to have a buffer'. Given cultural-religious norms related to *riba* (paying or receiving interest), we also expected that particularly Muslim children are less likely to save in a formal way, which is supported by the results. Our results thus show that both cultural and socioeconomic differences between migrants and non-migrants, and among migrants, are important in understanding their differences. In addition, we find different saving behavior among migrant youth even after taking into account socioeconomic factors and religious affiliation. These may be driven by cultural practices inherited from parents' origin country.

While our results are robust to different ways of testing, several suggestions emerge to further study these questions. First, we invite researchers to study the role of cultural legacies while also taking into account self-selection among immigrants more explicitly. Research findings suggest that immigrants are not a representative sample of their origin country (Feliciano, 2020). While some self-selection patterns among the immigrant parents, such as education, were taken into account, other factors were not. For example, migrants tend to be less risk averse than non-migrants (Heitmueller, 2005). This personality trait does not only increase the likelihood of migration, this selectivity among the immigrant parents could potentially drive the difference in saving behavior between migrant and non-migrant youth. If so, the socialization process still plays a role in the saving behavior of youth, but rather than a broader cultural legacy effect, it would imply a more specific effect of parental socialization. Second, qualitative interviews with children and their parents could help exploring how family financial socialization is different for different groups of children, and what other factors should be studied. Third, new data could also include more migration-specific questions, such as on savings in the home country or sending of remittances. There are no studies yet the prevalence of remittances among youth and how this influences whether they save or not and this would be an interesting avenue for future work. Fourth, follow-up research is encouraged to incorporate measures of parental income, which is known to vary widely between immigrant and non-immigrant families. Parental income was not included in the data we analyzed, probably because children tend not to know the income of their parents. Parental education, occupational status, parental saving behavior and the amount of pocket money probably capture some of the potential influence of parental income, but a direct measurement would be preferable to assess whether it influences child saving behavior.

Given the importance of childhood saving experiences, there have been some interventions aiming at, for instance, increasing children's financial literacy (Amagir et al., 2022). Our study shows that these may be particularly valuable for migrant children,

given their lower saving behavior. However, given the numerous differences between these groups, it is also evident that improving financial knowledge in itself is unlikely to also change socioeconomic and cultural differences between migrant and non-migrant children.

In conclusion, our research provides valuable insights into the complex dynamics of saving behavior among migrant and native youth. We contribute to a more comprehensive understanding of the financial lives of first- and second-generation youth in Europe, and to existing literature on ethnic inequality. As societies continue to grow in diversity, addressing these disparities becomes even more imperative to promote greater financial inclusion and equality among young individuals from various backgrounds.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s40878-024-00389-w.

Supplementary Material 1

Author contribution

Both authors were strongly involved with the conceptualization of the manuscript; data cleaning, imputation and analysis; writing and re-writing the manuscript.

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Data availability

The datasets generated and/or analysed during the current study are available in the DANS [Data Archiving and Networked Services] repository: https://dans.knaw.nl/nl/data-stations/social-sciences-and-humanities/?

Code availability

The computer codes for data preparation and analyses are available at https://osf.io/qn5tz/.

Declarations

Competing interests

The authors declare that they have no competing interests.

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