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VERSION: POST PRINT/GREEN OPEN ACCESS

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The final publication is available in:

Labour 2020 / DOI: [10.1111/labr.12186](https://doi.org/10.1111/labr.12186)

The Immigrant-Native Gap in Union Membership: A Question of Time, Sorting or Culture?*

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November 5, 2020

Abstract

Trade union membership is an indicator of social integration. In this paper we study the gap in unionisation rates between immigrants and natives using high-quality population-wide administrative data from Norway. We document that the average unionisation rate among immigrants increases strongly with time since arrival, but it never catches up fully with that of natives. Variables describing labour market sorting explain well above half of the gap, mainly because immigrants tend to be employed in firms and industries with lower levels of unionization. There are significant differences in immigrants' unionisation by their country of origin, but these differences are also largely accounted for by background characteristics and labour market sorting – and they do not extend to the second generation. We conclude that existing research, which has mainly relied on survey data, has understated the importance of labour market sorting for immigrants' low unionisation rates.

JEL classification: J11, J15, J5

*We would like to thank Lucio Baccaro, Michael Donnelly, Jonas Pontusson, and participants at the Unequal Democracies Workshop in Geneva, April 2018 for useful comments. Grant number 270687 (Research Council of Norway) is acknowledged.

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1 Introduction

In countries where trade unions are powerful, immigrants' unionisation rates are important indicators of their social integration. Studies show that union membership is correlated with life satisfaction, the propensity to vote, and with income (Ahlquist 2017; Flavin and Shufeldt 2016; Western and Rosenfeld 2011; Rosenfeld and Kleykamp 2012). Union membership is also tied to certain benefits for the individual worker. Even when coverage is universal, union membership entails legal advice and aid in case of labour conflict.

In most European countries, immigrants have significantly lower union membership rates than natives (Kranendonk and Beer 2016). Likely explanations concern both the supply and the demand side of the matter: To what extent unions are interested in and able to recruit workers of various backgrounds and to organize parts of the labour market where immigrants typically are employed, and to what extent cultural background and norms influence individuals' propensity to become union members. But they are also likely to concern a search and matching process, whereby union membership depends on the time spent in the host country. While there is a rich literature on the labour market integration of immigrants,¹ we know far less about the broader dynamics of social integration. It can be considered a cause for concern if immigrants are unable to enter the organized labour market where most natives are employed.

In this paper, we present a comprehensive picture of the immigrant-native unionisation gap, using high-quality and population-wide administrative register data from Norway.² Norwegian unions are classified as belonging to the Corporatist union model (Ibsen and Tapia 2017), are so-called open shop unions (collective agreements include non-organized workers), and they do not administer unemployment insurance (not practicing the Ghent system). There are no formal barriers that prevent immigrants from becoming union members, and unions have actively tried to recruit labour immigrants, in particular in the construction sector, where labour immigration has been high after the EU enlargement (Eldring, Fitzgerald, and Arnholtz 2012).

¹See Bratsberg et al. (2017) for a recent analysis of Norwegian data.

²See Bratsberg, Raaum, and Røed (2017) for an overview of immigration flows to Norway. See also Appendix Table A.1.

The union membership fee is tax deductible in Norway, which allows us to construct a precise measure of union membership from 1997 onwards, for the whole population residing in Norway. Previous studies tend to use survey data, which has well-known problems of low response rates and misreporting (e.g. Farber and Western 2001). Our data further includes detailed information on individuals' backgrounds. This allows for a more comprehensive description of the unionization patterns across various immigration groups, taking into account their labour market history and their present conditions, than what has been given in the previous literature. Compared to survey data, the administrative data has more detailed information on labour market characteristics (occupation, industry, firm characteristics), more accurate information on union membership, and population wide coverage rather than a sample of respondents that chose to answer the survey.

We first study how the immigrant-native gap evolves over immigrants' time since arrival, thereby providing a dynamic analysis of the assimilation process beyond the employment gap (e.g. Dumont et al. 2016). We distinguish between different immigration groups, as the incentives to unionise and integrate might differ depending on how long they plan to stay in Norway. We next investigate how well variables that capture skills and sorting in the labour market help explain the unionization gap between natives and immigrants (Visser 2002; Ibsen, Toubøl, and Jensen 2017; Booth 1985). This is done by estimating how the gap is affected once we control for differences in skill levels (as proxied by education and labour market experience) and labour market sorting (into employment type, industries and firms). Finally, we investigate to what extent differences in unionisation between immigrant groups can be explained by cultural differences (Kranendonk and Beer 2016), as captured by origin country dummies and a measure of the national unionisation rate in the respective originating countries.

Our results show that time since arrival, labour market skills, and sorting are all of great importance. There is less evidence for the claim that culture from the country of origin matters. We therefore conclude that claims in the existing literature regarding the relative importance of sorting and country of origin effects need to be modified. For example, Kranendock and Beer (2016: 846) argue that individual characteristics cannot

explain the immigrant-native gap in union membership. In contrast, when we include an extensive set of controls, the average immigrant-native unionisation gap is reduced from 17 percentage points to 5.3. The prevalence of a strong social custom for unionism in the country of origin, on the other hand, makes a very limited contribution to explaining the variation in migrant organization once individual differences in education and employment situation are considered.

2 Data

The data used in this study consist of merged administrative registers, encrypted to prevent identification of individuals, and made available by Statistics Norway for research purposes. The starting point is a public demographic register with information on all residents in Norway, linked to information on their employment, earnings and education. We use information on all first and second generation immigrants and a 10 percent sample of all Norwegian born residents with two Norwegian parents. The demographic registers also include information on immigration: Date of arrival, country of origin and reason for immigrating to Norway. In the case of second generation immigrants, the registers contain information on parents' country of origin.

The tax registers include information on the yearly payment of union fees, which we use to identify union membership. The observation period is 1997-2013 for most variables, and for each year we restrict the sample to individuals between the ages of 25 and 62 years and residing in Norway. Immigrants are included irrespective of age at arrival, but we exclude observations for immigrants during their year of arrival to Norway. In order to increase precision in the estimates of how origin country matters, we also exclude immigrants from countries with fewer than 30 individual yearly observations during each year between 1997 and 2013.

Union membership is defined as having non-zero union payment. Since fees are usually a percentage of wages, we restrict the sample to individuals with wages above one G (the “basic amount” in the Norwegian social security system) in a given year.³ We further

³G (grunnbeløp) is adjusted annually by the Norwegian parliament. It amounts to 90 000 NOK in 2015.

Table 1: Union membership rates in samples with different conditions

	Natives		Immigrant background		Difference	
	Mean (1)	SD (2)	Mean (3)	SD (4)	Est. (5)	SE (6)
<i>No restrictions on employment</i>						
Union membership	0.469	(0.499)	0.274	(0.446)	-0.195*	(0.000)
N	3497542		4316014		7813556	
<i>Restrictions on employment</i>						
Union membership	0.590	(0.492)	0.428	(0.495)	-0.162*	(0.000)
N	2620379		2542419		5162798	

Note: The sample is restricted to 25-62 year old (native or immigrant) residents in Norway each year in the observation period 1997-2013. In addition observations on immigrants are restricted to the year after arriving in Norway and to originating countries with at least 30 yearly observations. Additional restrictions in the lower panel are that individuals are registered with an employer and have income from employment exceeding 1 G (see footnote 3). The restrictions restrict the immigrant sample more than the native sample, reflecting higher employment rates among natives. + $p < .001$

restrict the sample to individuals who are registered with employment in the employer-employee register during that same year. How these restrictions impact sample size and the rate of unionisation is shown in Table 1. We see that with no restrictions on either wage income or registered employment, the average unionisation rate is 46.9% among natives and 27.4% among immigrants, i.e. a 19.5 percentage point difference. Restricting the sample to those who have a wage income above 1G, the sample shrinks substantially (by 22% for natives and by 37% for immigrants) and the union membership rate increases for both groups, but somewhat more for immigrants. Restricting the sample to those with registered employment has a very similar effect on sample size and union rates. Lastly, when we condition both on wages above 1G and registered employment, with an employer with a firm identifier in the data, there is a final unionisation rate of 59.0% among natives and 42.8% among immigrants; a 16.2 percentage point difference. This is the sample we will work with in the analyses throughout the paper because one important aim of our analyses is to investigate the interplay between unionization and labor market sorting into employment type, which in turn imposes restrictions on the sample of employed workers that can be included.

We combine several data sources to construct a measure of union density in the origin

countries, which we merge to the register data using the information on country of origin.⁴ As we describe below, we use union density in the origin country as an imperfect proxy for the culture of unionisation that immigrants bring with them. The union density variable does not cover all origin countries, but a significant share, and it is the average over the years 1997-2015.

Descriptive statistics are given in Table 2, for our final sample of Norwegian natives and Norwegian residents with some type of immigrant background. “Seniority” is the duration (in years) of the employment with the current employer. “Years with wages >G (s.1993)” counts the number of years from 1993 until the observation year where the individual has income from employment exceeding 1G. The wage percentiles are constructed by ranking income from employment (standardised in terms of G) in the whole sample into percentiles, ranging from the one percent with the lowest income from employment (wage percentile 1) to the one percent with the highest income from employment (wage percentile 100). “Unionisation rate firm” measures the share among other employees at the individuals’ employing firm who are registered with a union fee tax deduction. For individuals where this information on co-workers’ unionisation rate is missing (less than 1.5% of the sample), we have imputed the share to zero (this does not affect the results). “N. of employees at firm” simply counts how many individuals are registered with employment at the same employing firm in the same year. “Union density origin country (0-100)” is the average union density in the origin country in the years 1997-2015.

The data have a panel structure, hence the unit of observation is person-years. The panel is not balanced. In addition to the 16.3 percentage point gap in the union membership rates between the two groups, Table 2 shows that there are substantial differences in every other characteristic that we observe between these two groups of Norwegian residents. For instance, persons of immigrant background in our sample are on average younger and fewer are women. They are more likely to have missing education information in the registers, and fewer of them have primary or secondary education. Slightly

⁴We combine data from Rasmussen and Pontusson (2017), Visser (2016) and Visser and Gammarano (2015) to create an encompassing measure of unionization shares between countries. As data quality is an issue beyond Western countries we therefore estimate effect both on world-wide level data and restricted to western countries.

Table 2: Descriptive statistics

	Natives		Immigrant background		Difference	
	Mean (1)	SD (2)	Mean (3)	SD (4)	Est. (5)	SE (6)
<i>Dependent variable</i>						
Union membership	0.590	(0.492)	0.428	(0.495)	-0.162+	(0.000)
<i>Composition</i>						
Observation year	2005.066	(4.891)	2006.889	(4.804)	1.823+	(0.004)
Woman	0.484	(0.500)	0.449	(0.497)	-0.034+	(0.000)
Age	42.790	(10.358)	39.859	(9.533)	-2.931+	(0.009)
Immigrant			0.930	(0.254)		
Second generation			0.029	(0.168)		
One Norwegian-born parent			0.040	(0.197)		
Arrived before 7			0.026	(0.161)		
Arrived before 18			0.078	(0.268)		
Years in Norway			12.638	(10.035)		
<i>Skills</i>						
Missing education	0.002	(0.041)	0.126	(0.332)	0.124+	(0.000)
Primary education	0.322	(0.467)	0.251	(0.433)	-0.071+	(0.000)
Secondary education	0.320	(0.467)	0.240	(0.427)	-0.080+	(0.000)
Higher education	0.356	(0.479)	0.383	(0.486)	0.027+	(0.000)
Seniority	6.101	(6.386)	3.486	(4.321)	-2.615+	(0.005)
Years with wages > G (s. 1993)	11.072	(4.797)	7.570	(4.857)	-3.502+	(0.004)
<i>Employment characteristics</i>						
Employed <20 hrs/week	0.091	(0.287)	0.107	(0.309)	0.016+	(0.000)
Employed 20-30 hrs/week	0.092	(0.288)	0.089	(0.284)	-0.003+	(0.000)
Employed >30 hrs/week	0.818	(0.386)	0.805	(0.396)	-0.013+	(0.000)
Wage percentile (1-100)	54.545	(28.224)	46.331	(28.927)	-8.214+	(0.025)
<i>Labour market sorting</i>						
Public sector employment	0.375	(0.484)	0.329	(0.470)	-0.046+	(0.000)
Unionisation rate firm	0.538	(0.325)	0.443	(0.313)	-0.095+	(0.000)
N. employees at firm	358.227	(1282.427)	387.973	(1140.218)	29.746+	(1.069)
<i>Country of origin characteristics</i>						
Union density origin country (0-100)	54.259	(2.896)	38.026	(25.522)	-16.234+	(0.016)
<i>Reason for migrating</i>						
Missing/unknown/other			0.210	(0.408)		
Work			0.176	(0.381)		
Family reunion			0.196	(0.397)		
Refugee			0.202	(0.401)		
Nordic countries			0.184	(0.388)		
Education			0.032	(0.175)		
N	2620379		2542419		5162798	

Note: The sample is restricted to 25-62 year old (native or immigrant) who are a) residing in Norway and b) registered with an employer and c) have income from employment exceeding 1 G (see footnote 3) each year in the observation period 1997-2013. In addition, observations on immigrants are restricted to the year after arriving in Norway and to originating countries with at least 30 yearly observations. Further description of the variables is given in the text. + p<.001

more, however, have higher education. They have fewer years with experience in the labour market (as captured by years with wages above 1G) and with the same employer (*seniority*), are more likely to be employed with fewer hours, and their wages are lower. We also see that persons of immigrant background in our sample are less frequently employed in the public sector and they tend to work in firms with lower unionisation rates and with more employees. Finally, their countries of origin on average have lower union density than that of Norway.

93% of the persons with immigrant background in our sample are “first generation” immigrants. Only 2.9% are “second generation” (born in Norway to parents that are both born outside Norway). Out of the first generation immigrants, about 10% arrived before they were 18. On average, they have stayed in Norway for 12.6 years at the time we observe them. The causes for being granted immigration to Norway are almost equally split between work, family reunion, refugee, Nordic countries and missing information. In Figure A.1 we show how the composition of our sample of immigrants varies with time since arrival to Norway.

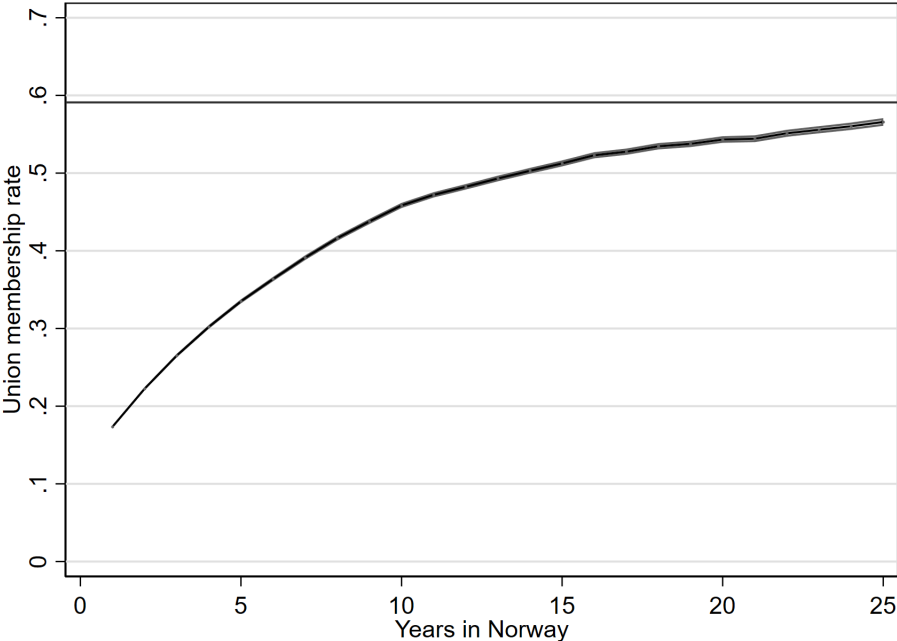
3 Explaining the immigrant-native gap in unionisation

3.1 Time since arrival

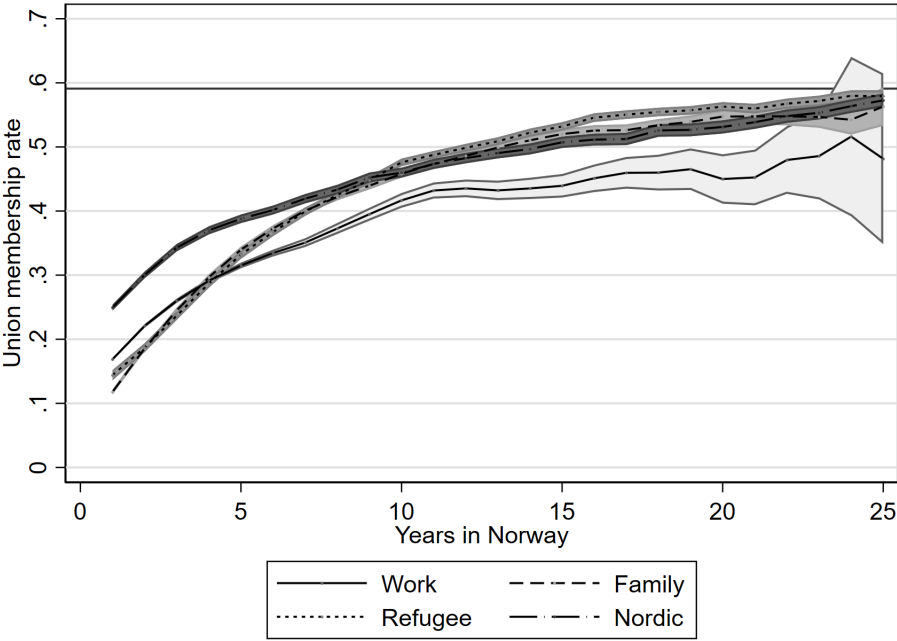
Our first question concerns the evolution of immigrants’ propensity to unionise as they stay in the receiving country and learn the language, become more familiar with the labour market, build networks, and perhaps find steady employment. For both natives and immigrants entering the labour market, it may take time to get the information necessary in order to join a union. Newly arrived immigrants have had less time to navigate the labor market and they possibly know less about the possibility and potential benefits of unionization. Language barriers could also make it more difficult for union organizers to recruit certain immigrants. The barriers are reduced with time spent in Norway.

The upper panel in Figure 1 shows the development in the unionisation rate for all first generation immigrants in our sample, from the first year after arrival to Norway

Figure 1: Union membership for immigrant groups since time of arrival.



(a) Union membership for all first generation immigrants



(b) Union membership by immigration reason

Note: The sample is restricted to 25-62 year old first generation immigrants or native who are a) residing in Norway and b) registered with an employer and c) have income from employment exceeding 1 G (see footnote 3) each year in the observation period 1997-2013. In addition, observations on immigrants are restricted to the year after arriving in Norway and to originating countries with at least 30 yearly observations.

up until 25 years later. Since our observation window is 17 years (1997-2013) and most immigrants in our sample have stayed in Norway for considerably shorter than 25 years, the gap is estimated on a changing set of observations for the immigrant sample: For X years in Norway, observations in the immigrant sample are included when the observation year matches arrival year + X . The horizontal line shows the union membership rate among the natives in our sample. We see a pretty steep rise with years since arrival, and – even though the growth rate slows down with years in Norway – the membership rates are increasing over the whole period. After 25 years, the union membership rate is not quite as high for immigrants as that for natives, but the gap is down to a few percentage points. Importantly, the pattern in Figure (a) is not driven by compositional differences in the stock of immigrants over time: If we split the sample into different cohorts based on arrival year, and plot their unionisation rates according to year since arrival, we produce a similar pattern (see Figure A.2 in the Appendix). The fact that we get a quite similar pattern suggests that entry cohort heterogeneity is not very important.

The lower panel in Figure 1 shows how union membership rates develop for different types of immigrants according to their reason for migrating to Norway. We distinguish between four groups of immigrants: Refugees and asylum seekers, labour immigrants, immigrants on family reunification and immigrants from the Nordic countries. It is reasonable to expect these groups' union density to be different because their reasons for coming to Norway differ, because their motivation for civic integration might differ since their perspectives on how long they will stay in Norway differ, and, most importantly, because their resources and skills differ. Refugees and immigrants who have been granted family reunification start out with the lowest levels of unionisation, but after five years they surpass the membership rates of labour immigrants, and after ten years they catch up and eventually surpass the union membership rates of immigrants from the Nordic countries. This pattern is consistent with refugees having stronger incentives to social integration, as they are less likely to return to their origin country.

The membership rate among labour immigrants increases over the first 10 years and then stays more or less flat right above 40 percent afterwards. One potential explanation

is that labour immigrants continuously consider whether to remain in Norway or return to their country of origin. For instance, Bratsberg et al. (2017) find that about 50 percent of labour immigrants tend to leave after five years in Norway. Due to a shorter time perspective, they might invest less in human capital development (Cortes 2004) and be less inclined to integrate into any type of civic organization, including trade unions. The different trend may also reflect sorting in the labour market or stronger persistence in country of origin effects for labour immigrants. We investigate the role of sorting and cultural origins next.

3.2 Skills and labour market sorting

The analysis this far has shown that immigrants are on average less likely than natives to be union members even after 10-15 years in Norway. Table 2, however, revealed many other differences between the two groups that are likely to matter for the likelihood of being a union member, such as education level and employment situation.

In Table 3 we explore to what extent the unionisation gap is explained by these differences. We estimate the gap using linear probability models. The first column just displays the gap to natives' unionisation according to immigrant background: (First generation) immigrants, second generation and persons with one Norwegian-born and one foreign-born parent. The "raw" gap is at 17 percentage points for first generation immigrants, 14 percentage points for second generation and 7.0 percentage points for those with one Norwegian-born parent. In the second column, we include controls for gender, age and observation years – what we term compositional controls – as there are differences in the gender and age composition of these groups, and also in what years they are observable in Norwegian registers. As we see, women and relatively older workers are more likely to be union members, and having accounted for these compositional differences, the overall gap is 14 percentage points for first generation immigrants. There is now only a negligible difference between second generation and individuals with one Norwegian-born parent: Both groups on average have about a 5 percentage point lower union membership rate than Norwegians with two Norwegian-born parents of the same sex and at the same age.

Table 3: Outcome variable: Union membership

	(1)	(2)	(3)	(4)
Immigrant	-0.17+ (0.0013)	-0.14+ (0.0013)	-0.10+ (0.0013)	-0.053+ (0.0010)
Second generation	-0.14+ (0.0049)	-0.051+ (0.0049)	-0.046+ (0.0048)	-0.013+ (0.0034)
One Norwegian-born parent	-0.070+ (0.0049)	-0.048+ (0.0048)	-0.049+ (0.0047)	-0.015+ (0.0032)
Woman		0.11+ (0.0012)	0.11+ (0.0012)	0.027+ (0.0010)
Age		0.020+ (0.00038)	0.014+ (0.00038)	0.0045+ (0.00029)
Age (squ)		-0.00013+ (0.0000046)	-0.00010+ (0.0000046)	-0.000021+ (0.0000035)
Missing education			-0.064+ (0.0021)	-0.031+ (0.0016)
Secondary education			0.031+ (0.0017)	0.0015 (0.0011)
Higher education			0.096+ (0.0015)	-0.0060+ (0.0012)
Seniority			0.027+ (0.00023)	0.019+ (0.00017)
Seniority (sq.)			-0.00074+ (0.000012)	-0.00063+ (0.0000085)
Employed 20-30 hrs/week				0.022+ (0.0014)
Employed >30 hrs/week				0.012+ (0.0012)
Public sector employment				-0.10+ (0.0082)
Unionisation rate firm (0 imp)				0.79+ (0.0016)
Year dummies	No	Yes	Yes	Yes
Income quantile (of 40)	No	No	No	Yes
Economic region dummies	No	No	No	Yes
Industry dummies	No	No	No	Yes
Firm size dummies	No	No	No	Yes
N	5162798	5162798	5162798	5162798
R2 (adj)	0.027	0.069	0.095	0.40

Note: Age and age squared are centered with mean = 0. In the analysis displayed in column (2), we have added 16 dummies for observation year. In column (4), we have added 40 dummies for 2.5% income quantiles, 46 dummies capturing economic region of residence, 90 dummies for employment industry (based on the two first digit of the employing firm's assigned NACE code), and 5 dummies capturing the employing firm's placement in a distribution of firms based on number of employees. Standard errors are clustered at the individual. + p<.001.

In the next columns, we sequentially add measures of what we have termed “labour market skills” and “labour market sorting” as controls. As pointed out by Gelbach (2016), the order in which controls are added will matter for the movements in the estimates of the immigrant-native gap. Below, we address this problem by using the decomposition method proposed by Gelbach (2016). For now we stick to this – to some extent arbitrary – order of adding controls.

The controls for “labour market skills” added in column (3) are education measures and seniority with the same employer. They all matter greatly for union membership: People with higher education are on average 9.6 percentage points more likely to be union members than people with only primary education, and those who have missing education information are 6.4 percentage points less likely. Each year of seniority with the same employer is associated with a 2.7 percentage point increase in the probability of being unionised. Controlling for the skills measures, we are left with a 10 percentage point gap in unionisation between first generation immigrants and natives, and a gap slightly below 5 percentage points for second generation and individuals with one Norwegian-born parent.

The literature on unionization has produced ample evidence that labor market position, either by sector or industry, is of key importance to explain differences in unionization (Visser 2002; Ibsen, Toubøl, and Jensen 2017; Booth 1985). Some parts of the labour market tend to be well organized, while other parts are not. This means that immigrants are likely to meet different “local” customs depending on their place of work. Once employed, they are likely to use their coworkers’ habits as cues for what behavior is expected. They are also likely to be met with social sanctions if they over time do not act in accordance with these norms. Moreover, it is more costly to organise small workplaces, compared to large manufacturing plants. This makes unions concentrate their organizational efforts on specific industries and firms. In Norway, service sectors that employ e.g. cleaning personnel and hotel and restaurant workers tend to have low union density, while parts of the public sector and manufacturing industries tend to be highly organized. Lower unionization rates among immigrants may thus reflect that they tend to be employed in

industries with lower union density. Since this variation existed prior to the increase in labour immigration, it is not purely an effect of immigration to these sectors.⁵

In the last column, we add the measures for sorting in the labour market: Indicators for working hours and wage income quantile; sector, residence region and industry dummies; and firm size dummies and a measure of the unionisation rate among other workers at the same firm.⁶ We see that full time work, and longer part time work, are associated with higher unionisation rates than working less than 20 hours per week. Public sector work, which is positively correlated with union membership, is associated with a 10 percentage points lower propensity to be unionised once we condition on the other variables.⁷

There is a particularly strong association between the firm unionisation rate and own membership: The coefficient of 0.79 means that if you compare two individuals who are similar in all other observable characteristics included in the model, and one works at a firm where unionisation is 10 percentage points higher than where the other one works, the first one is 7.9 percentage points more likely to be a union member herself than the other one. While the theoretical justification for introducing the firm's unionisation rate in the model is that organized co-workers will influence the immigrant to organize (Visser 2002; Ibsen, Toubøl, and Jensen 2017; Akerlof 1980), this variable picks up other firm characteristics that might be linked to unionization. For instance, Barth, Bratsberg, and Raaum (2012) find that immigrants have lower mobility towards better paying firms than natives, where unionization typically is lower. We have also included a series of dummies to account for firm size, addressing the frequently made alternative claim that firm size is key for union membership (Pontusson 1995). The dummies for firm size, not displayed in the Table, show that larger firms have higher union membership rates. In addition we control for industry and residence region in column (4), by including sets of dummies that are not displayed in the table.

Including all the covariates in the full model in column (4), the gap in union mem-

⁵See Finseraas, Røed, and Schøne (2020) for an analysis of the impact of labour immigration on natives' propensity to unionize. The lower unionization might be a consequence of smaller workplaces in the service sector, which has facilitated a custom of not joining unions.

⁶All the variables are described in more detail in Section 2.

⁷Both the measure for firm unionisation rate and the industry dummies turn the association between public sector work and own unionisation negative.

bership rates between natives and first generation immigrants is down to 5.3 percentage points. The gap for second generation and individuals with one Norwegian-born parent is at 1.3 and 1.5 percentage points, respectively. Composition, skills and sorting can thus explain two thirds of the immigrant native gap in unionisation, and close to the whole gap for second generation immigrants.

Thus, we find expected associations between background characteristics and unionization, but more importantly, we find that these background characteristics explain a large part of the immigrant-native gap, and are close to completely explaining the gap between second generation immigrants and natives. Moreover, we find that characteristics at the industry and firm level such as unionization levels are particularly important, implying that labour market sorting is key to understanding the gap. These results are very different from the conclusions Kranendonk and Beer (2016) derive from their analysis of survey data, presumably reflecting the limited ability of survey data to capture the crucial role played by sorting in the labour market.

3.3 Time and sorting: Decomposing the gap by years in Norway

The upper panel in Figure 2 shows how the immigrant-native gap in unionisation evolves over time since arrival to Norway, depending on whether we control for the composition, skills and labour market sorting variables used in Table 3. The solid line shows the gap with no controls, and thus corresponds to the distance between the vertical line (showing natives' membership rate) and the union membership rate for immigrants in Figure 1a. The dashed line shows the gap once we control for what we term compositional factors, like observation year, age and gender. Finally, the dotted line shows how the gap evolves over time when we include the full set of controls from Table 3.

The figure makes it clear that both time and labour market skills and sorting matter: The inclusion of all controls from column (4) in Table 3 substantially narrows the gap at all years since arrival, but the gaps keep narrowing with time over the whole period also when all controls are included. After about ten years, however, additional years seem to matter relatively less, whereas skills and sorting explain a continuously larger share of the

gap.

The sequential adding of controls in Table 3 is not a proper way of assessing which characteristics matter more for reducing the gap, as the order in which variables are added matters for how the gap moves in response (Gelbach 2016). In order to properly account for the role of the different covariates in narrowing the gap, we use the decomposition proposed by Gelbach (2016). He proposes an order-invariant decomposition approach based on the familiar omitted variable bias formula, where the effect on the gap of adding a variable is derived directly from the relationship between the variable, immigration status, and union membership (as in the omitted variable bias formula). The lower panel in Figure 2 shows the result of this decomposition for each year since arrival.

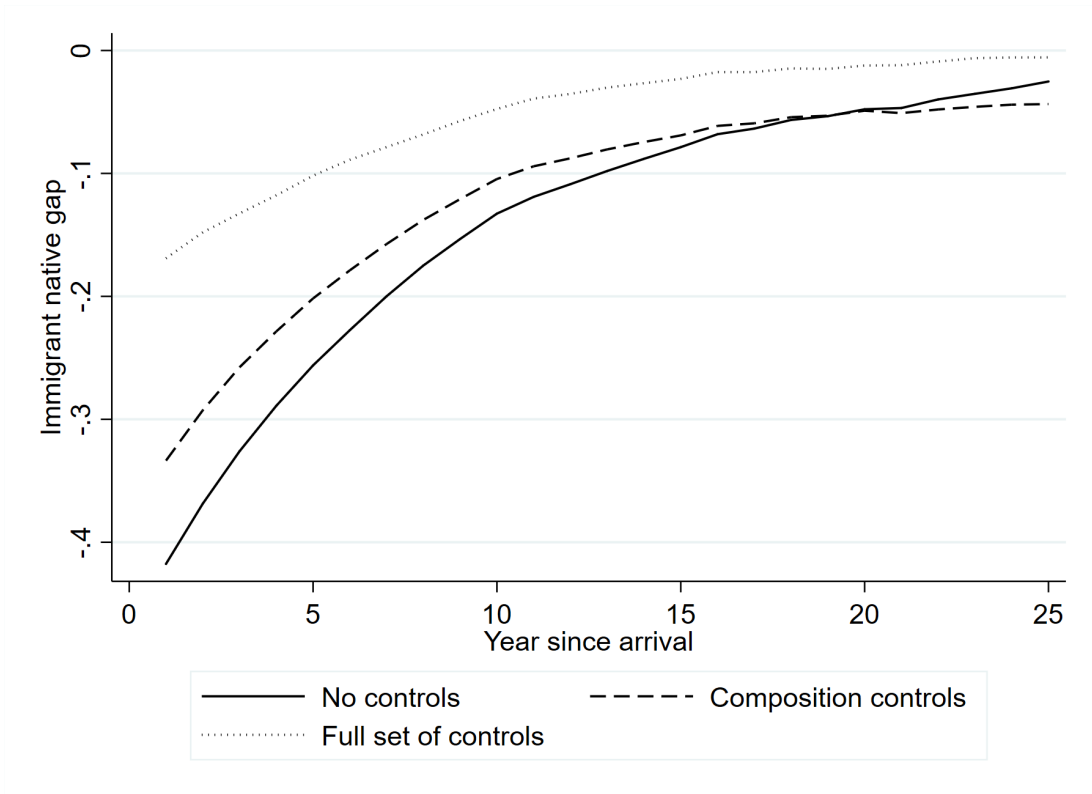
The panel structure and the number of observations in our population-wide data set allow us to estimate (with precision) the “assimilation process” associated with time since arrival and labour market integration – they allow us to decompose the gap by years in a way that has not been possible in the previous literature. This is possible since we can assess the relative importance of each factor for every year since arrival to Norway, thereby answering the question of which factors are more important at different times in the integration process. To be clear, the decomposition does not establish any causal relationships between these characteristics and unionization. In the Appendix we include a technical description of how the decomposition is conducted.

For each year since arrival to Norway,⁸ we decompose the difference in the native-immigrant gap between a regression with no controls and a regression with the full set of controls into nine parts: How much of the total reduction in the gap is due to a) the composition variables (observation year, gender and age), b) the education variables, c) the seniority variables, d) the work hours variables, e) the indicators for wage earnings rank, f) sector and industry dummies, g) the firm’s unionisation rate variable, h) the firm size dummies and i) the residence region dummies?⁹

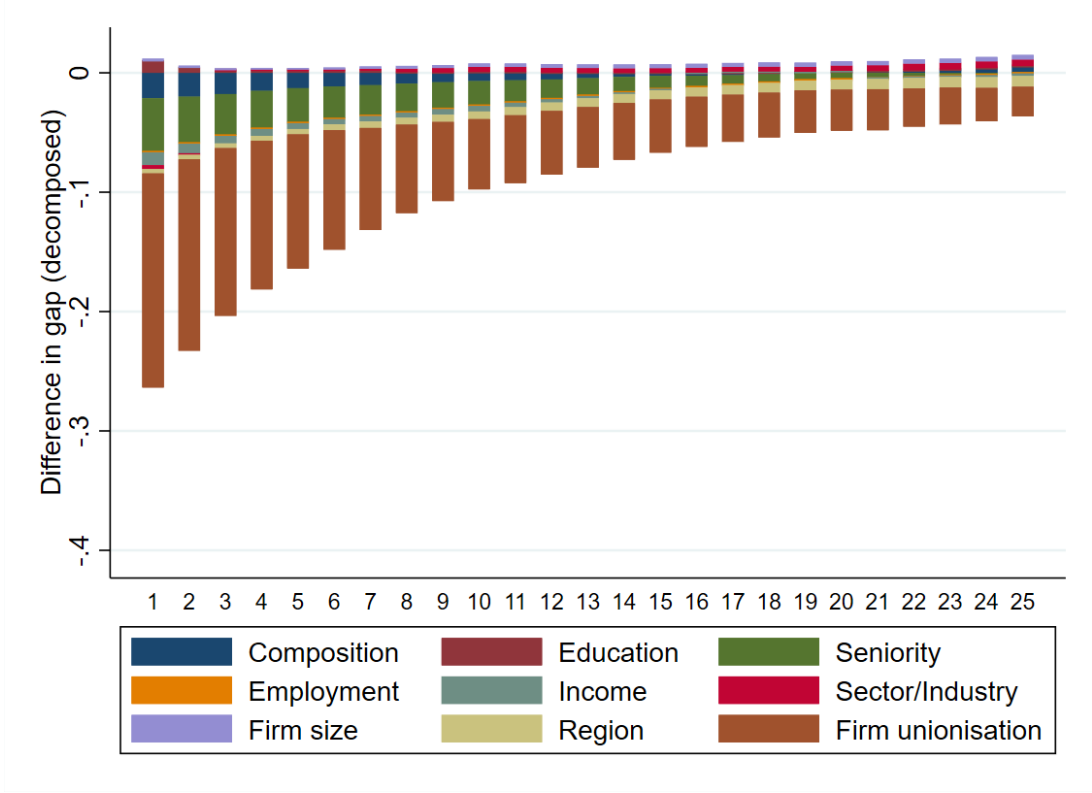
⁸As in in Figure 1 panel (a), the gap is estimated on a changing set of observations for the immigrant sample: For X years in Norway, observations in the immigrant sample are included when the observation year matches arrival year + X.

⁹The decomposition is akin to a Oaxaca decomposition, where the unexplained variation equals the values given by the dotted line in Figure 2 panel (a).

Figure 2: The immigrant-native gap in union membership rates, by years in Norway.



(a) The immigrant-native gap with and without controls.



(b) Decomposition of the difference in the gap from no controls to full set of controls.

Note: The sample is restricted to first generation immigrants and native Norwegians with two Norwegian-born parents.

From the figure it is clear that for all years since arrival to Norway, the unionisation rate at the employing firm explains the lion's share of the reduction in the immigrant-native gap when we control for all the composition and labour market skills and labour market sorting variables. The firm's unionisation rate explains between half and two thirds of the reduction in the immigrant-native gap. The share is relatively greater during earlier years after arrival to Norway, indicating that when immigrants are new in the labour market, this characteristic of the firm is relatively more important.

The second most important variable is seniority at the firm, which explains about a fifth of the reduction in the gap during the first ten years. Composition controls matter a little in the first years after arrival, but they hardly matter after ten years. Education only matters during the first two years, and in the opposite direction: The gap would have been smaller if we did not control for education level. The same goes for firm size and sector and industry. Sector and industry and residence region become relatively more important after more years since arrival.

The result illustrates our expectation that sorting in the labour market is a key explanation for the gap. The immigration-native gap in unionization is mainly accounted for by the fact that immigrants tend to work in very different firms compared to natives and are newer both in the labour market as a whole and at a particular firm. Once you take that into account, the other characteristics of immigrants play a minor role.¹⁰

3.4 The importance of ancestry culture for the immigrant-native gap

Differences in culture are often evoked to explain differences across immigrant groups in labour market related outcomes (Algan and Cahuc 2009; Kranendonk and Beer 2016; Finseraas and Kotsadam 2017; Fernández 2011). As for union membership, migrants may have different preferences for becoming a union member depending on their cultural norms and historical experiences with unionization. Alternatively, unions may perceive workers differently depending on their origins (Marino, Penninx, and Roosblad 2015), or migrants

¹⁰In Figure A.3 we show how the reduction in the gap differs when firm unionisation is not included as a control (panel a) and the decomposition of the reduction without firm unionisation (panel b). In Table A.1 we show descriptive statistics for natives and immigrants in firms with relatively low unionisation levels ($\leq 33\%$) and relatively high unionisation levels ($\geq 67\%$).

may require specific recruitment strategies, more or less costly than natives, depending on their country of origin. It has therefore been argued that unionization rates should differ between migrants depending on their country of origin, even when accounting for individual differences (Kranendonk and Beer 2016).

In studying the role of unionism culture in the origin country, we invoke a “macro”-interpretation of the social custom theory of unionisation (Visser 2002; Ibsen, Toubøl, and Jensen 2017; Akerlof 1980). Here it is argued that immigrants’ expectations about the social costs and benefits of joining unions differ because of their cultural inheritance. We can distinguish between two related arguments. The first builds on experience with unions and the second on the experience with civil society more broadly. For some immigrant groups, unions are viewed as organizations that may be trusted to represent their interests. Moreover, non-membership could lead to ostracism at the workplace. For others, unions may be viewed either as mere shells for the state (Collier and Collier 1979), or as repressed (or outright outlawed) organizations that it is dangerous to be associated with (Etchemendy 2004) – or as infiltrated by organized crime (Jacobs 2006). They may also believe that non-members are unlikely to experience strong social sanctioning.

The macro social custom theory of unionism has found support in previous research on the unionisation gap between migrants and natives (Kranendonk and Beer 2016). We are skeptical of the extent to which these results are applicable to immigrants from non-Western countries, who may be less likely to perceive unions as beneficial and constructive institutions given their historical levels of state co-optation or politicisation. As a result of exclusion or local conflicts in their home countries, migrants from non-western countries may also have had insufficient labour market experience in their originating country.

To be clear, evidence against the macro version of the social custom theory is not necessarily evidence against the classical formulation. The classical formulation builds not only on incorporation of the expectation that workers unionize because it is the right thing to do, but also that co-workers are likely to sanction workers if the union norm is violated (Booth 1985). These sanctioning effects are severely weakened (or non-existent) in the macro-model, as it is formulated at the country level rather than the firm level. Still,

Table 4: Individual characteristics and union membership.

	Immigrants			Second generation	
	(1)	(2)	(3)	(4)	(5)
Woman		0.032*	0.024*		0.038*
		(0.0014)	(0.0015)		(0.0077)
Age		0.0046*	0.0026*		0.0021
		(0.00045)	(0.00048)		(0.0030)
Age (squ)		-0.000011	-0.000013		0.000012
		(0.0000055)	(0.0000059)		(0.000040)
Missing education		-0.030*	-0.0060		0.0014
		(0.0018)	(0.0018)		(0.028)
Secondary education		0.0096*	0.0096*		-0.0095
		(0.0017)	(0.0017)		(0.0088)
Higher education		-0.0092*	-0.0046		-0.012
		(0.0017)	(0.0017)		(0.0098)
Seniority		0.026*	0.022*		0.019*
		(0.00030)	(0.00030)		(0.0015)
Seniority (sq.)		-0.00083*	-0.00074*		-0.00068*
		(0.000017)	(0.000018)		(0.000086)
Employed 20-30 hrs/week		0.022*	0.022*		0.018
		(0.0019)	(0.0019)		(0.012)
Employed >30 hrs/week		0.025*	0.025*		-0.0092
		(0.0016)	(0.0016)		(0.0096)
Public sector employment		-0.16*	-0.15*		-0.11
		(0.011)	(0.011)		(0.038)
Unionisation rate firm (0 imp)		0.75*	0.74*		0.78*
		(0.0023)	(0.0023)		(0.013)
Age below 7 at arrival			-0.044*		
			(0.0045)		
Age 7-17 at arrival			-0.019*		
			(0.0027)		
Years in Norway			0.011*		
			(0.00021)		
Yrs in Norway (sq.)			-0.00016*		
			(0.0000056)		
Constant term	0.49*	-0.17*	-0.26*	0.49*	-0.0038
	(0.0041)	(0.014)	(0.014)	(0.016)	(0.070)
Country of origin dummies	Yes	Yes	Yes	No	No
Parents' country dummies	No	No	No	Yes	Yes
Year dummies	No	Yes	Yes	No	Yes
Income quantile (of 40)	No	Yes	Yes	No	Yes
Residence dummies	No	Yes	Yes	No	Yes
Industry dummies	No	Yes	Yes	No	Yes
Firm size dummies	No	Yes	Yes	No	Yes
N	2365505	2365505	2365505	69068	69068
R2 (adj)	0.030	0.36	0.36	0.0100	0.37
F-value origin country dummies	146.7	47.1	38.4	3.74	1.96
p-value F test (origin country)	0	0	0	1.1e-11	0.0012

Note: * p<.001. Standard errors are clustered at the individual level.

friends and family are possible sanctioners, and recent research has found intergenerational transmission of union membership (Bryson and Davies forthcoming), which suggest that such channels of influence are not implausible.

In Table 4, we study how strongly a set of country of origin dummies predict immigrants' union membership, and how their predictive power changes once we account for

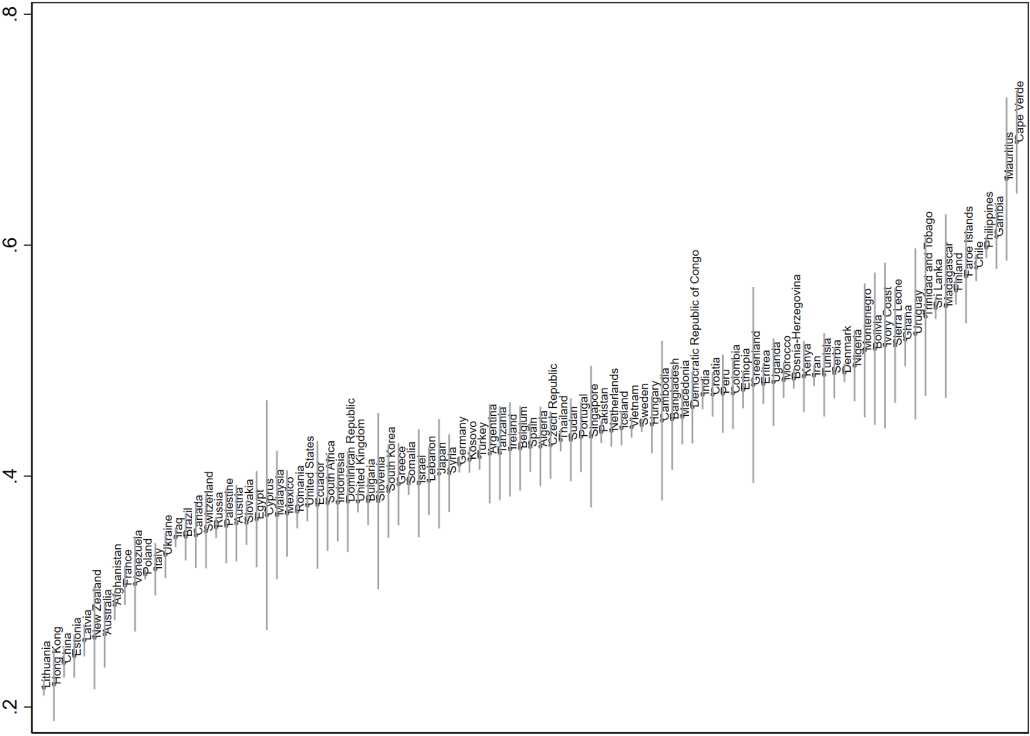
individual level characteristics. We conduct this analysis separately for first and second generation immigrants. Since we are interested in variation *among immigrants* depending on their country of origin, we now only include immigrants in the analysis; natives and individuals with one immigrant parent are excluded. The reference group are Danish immigrants in the analysis of first generation immigrants, and the children of Danish immigrants in the analysis of the second generation.

The idea behind the analysis of the second generation follows the “epidemiological approach” (Fernández and Fogli 2009; Fernández 2011) to identifying the role of cultural beliefs. While first generation immigrants bring a bundle of characteristics that are correlated with union density in the country of origin, such as human capital, second generation immigrants are all born, raised, and educated in Norway, and they face the same labor market and institutions. But the cultural heritage from their parents differ. Thus, if beliefs are transmitted across generations, we will see differences by parental country of origin, and one can attempt to proxy these slow-changing cultural beliefs by origin variables such as union density. Previous research has identified cultural transmission of cultural beliefs on female labour market participation in the US (Fernández and Fogli 2009; Fernández 2011) and Norway (Finseraas and Kotsadam 2017), and of civic values on labor market institutions in the US (Algan and Cahuc 2009).

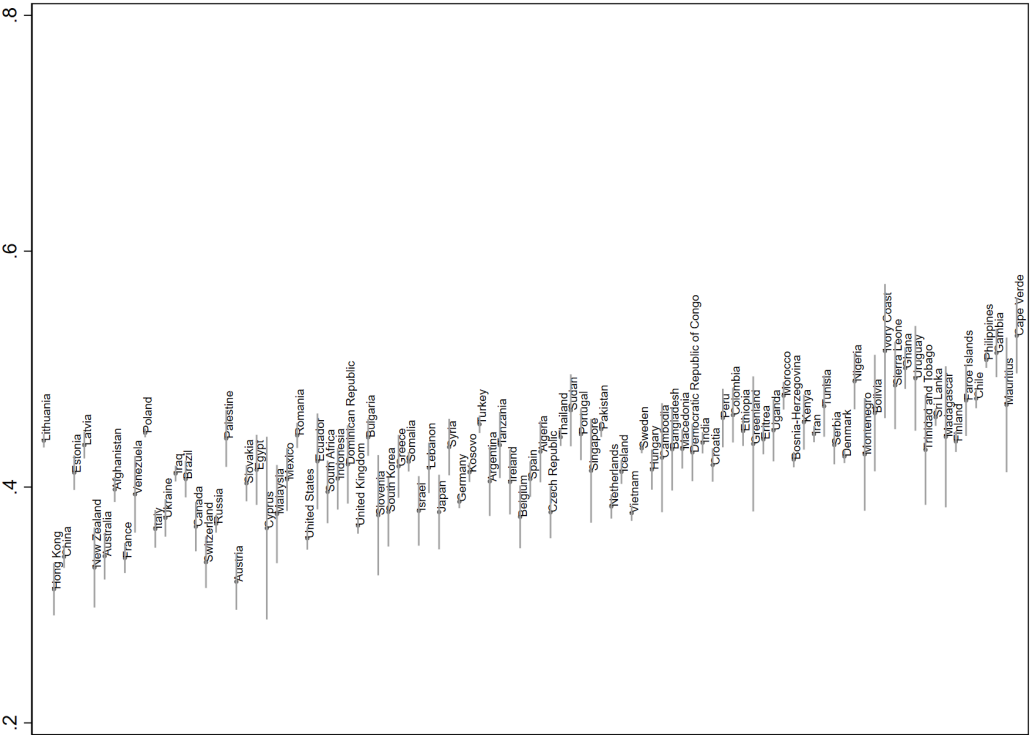
Starting with the results for first generation immigrants, we find that an F-test of the predictive power of country dummies is dramatically reduced from a model with no other controls (column 1), to a model that includes the individual level characteristics also used in Table 3 (column 2). It is further reduced once we include controls for the number of years spent in Norway, and for whether the immigrants arrived before a certain age (column 3). Country of origin dummies are much less predictive of union membership in the second generation (columns 4 and 5). This is consistent with increasing cultural assimilation across generations.

Figure 3 illustrates the variation in unionisation rates among immigrants originating from different countries. The upper panel shows the point estimate and the confidence interval for the various origin country dummies from the model in column (1) in Table 4

Figure 3: Unionisation rates among immigrants to Norway according to country of origin.

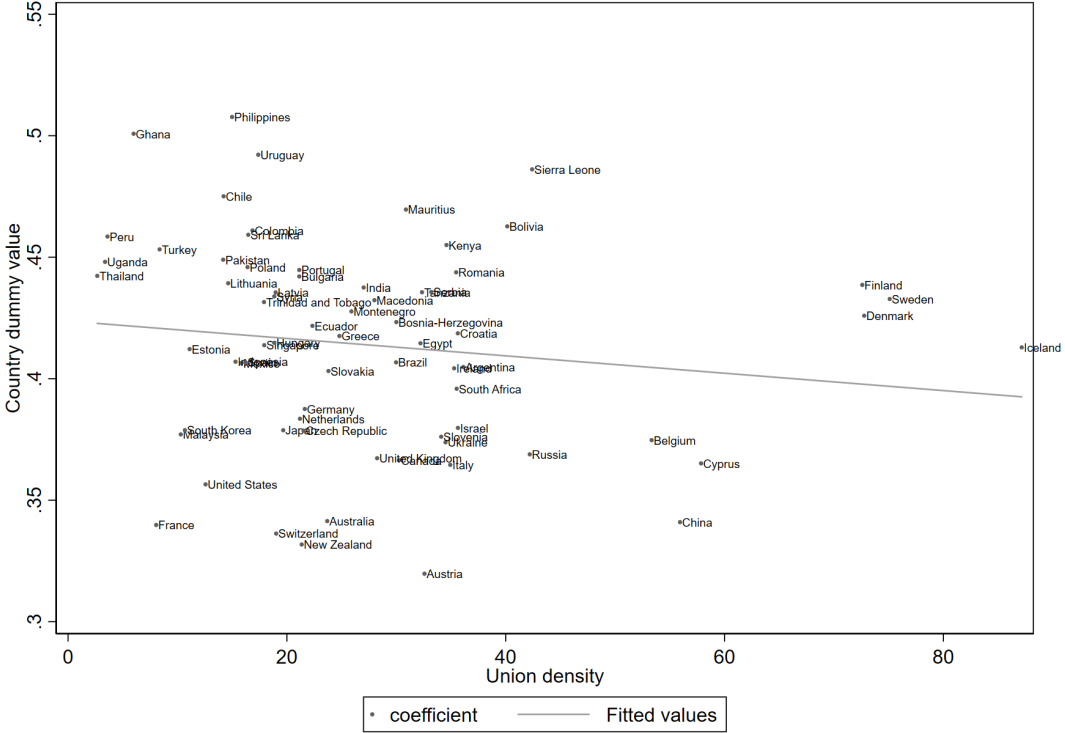


(a) No controls for composition, labour market skills and sorting, or time since arrival.

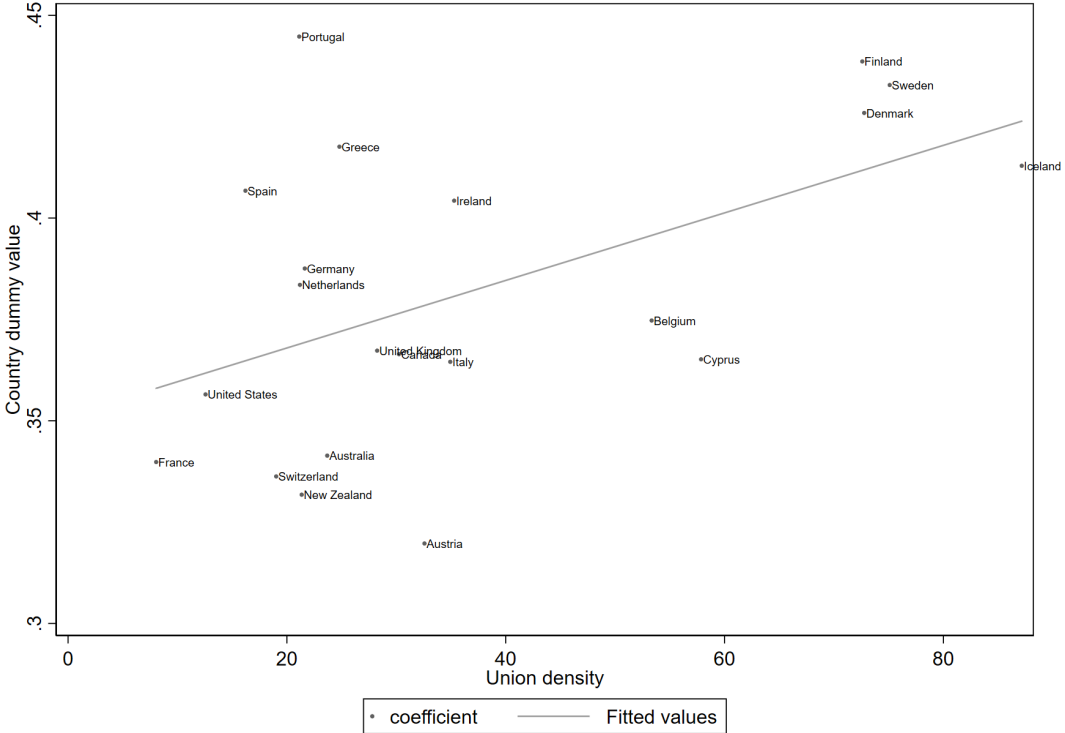


(b) Including full set of controls.

Figure 4: Country dummies (immigrants) versus union density.



(a) Full sample of countries.



(b) Western countries.

– except in this estimation Denmark is included instead of a constant term – ordered by the size of the point estimate. These are the average unionisation rates for immigrants from these countries, not controlling for any composition, skills or sorting. We see that there is huge variation across origin countries without controls.

The lower panel shows the corresponding point estimates and confidence intervals once we include the full set of controls in column (3) of Table 4. As can be seen, there is considerable contraction, especially among those countries with the lowest unionisation rates in the uncontrolled model. Though there is far less of it, there is still some variation between the origin countries. We next investigate whether union density in the origin country correlates with the remaining variation.

In the top panel in Figure 4, we plot the point estimates for the various origin country dummies against a standardized measure for union density in the origin country. There is no evidence of a positive relationship in the full sample of countries. If anything, the relationship is negative (but not statistically significant).¹¹ In the upper panel of the figure, however, we have pooled together countries with very different historical experiences with unions. It is possible that the relationship between the origin union density measure and immigrants’ behaviour in Norway is too heterogeneous for the analysis to be meaningful in the full sample of countries. In the bottom panel we therefore restrict the sample to countries that are classified within the same “Western” political-geographic region by the V-Dem project. This group of countries include the Western European and the North American countries (minus Norway; N=21). The positive correlation between originating country union density and that country’s fixed effect is statistically significant. However, the spread across the regression line is large and the positive correlation is driven entirely by the contrast between the Nordic countries and the rest; within the Nordic countries or within the group of other Western countries, the relationship is again negative. Our general impression is therefore that origin country unionisation is largely unrelated to the variation in immigrants’ unionisation rates in Norway.

¹¹The negative relationship is statistically significant ($p = 0.027$) if we exclude the Nordic countries; Denmark, Finland, Sweden and Iceland.

Concluding remarks

Immigrants in Norway have a lower tendency to organize than native Norwegians. Our results indicate that the most important factors behind the immigrant native gap in unionization can be found in the dynamics of labor market sorting. When controlling for these factors, differences between migrant groups decline sharply. Using a decomposition approach, we find that most of the gap is related to the unionisation level at the firm level. While we cannot claim that this relationship is causal, as various factors are likely to drive both firm's general unionisation levels and that of their immigrant employees, it is nonetheless a powerful predictor of the gap, and it stays important throughout the assimilation process. Our results further show that cultural factors stemming from country of origin differences are likely to exert, at best, a limited influence on migrants' propensity to unionize. Our conclusions, based on population-wide administrative data, are very different from those in Kranendonk and Beer (2016). This difference emphasises the importance of using fine-grained data in order to properly capture sorting in the labour market (see also Farber and Western, 2001).

We propose several avenues for future studies. First, more systematic research into why immigrants tend to be employed in non-unionized sectors and firms are needed. To what extent is this relationship due to a different skill distribution among immigrants and to what extent is it due to the greater trouble in organizing immigrants? Second, while we establish that firm-level unionization is strongly correlated with one's own propensity to unionize, studies that are able to identify the causal effect of firm-level union density, disentangled from correlated firm characteristics, would help assessing the validity of the micro-oriented social custom theory. Finally, the fairly slow closing of the immigrant-native gap in unionization calls for studies into successful union strategies to close this gap faster. Randomized field experiments would be particularly useful in this regard.

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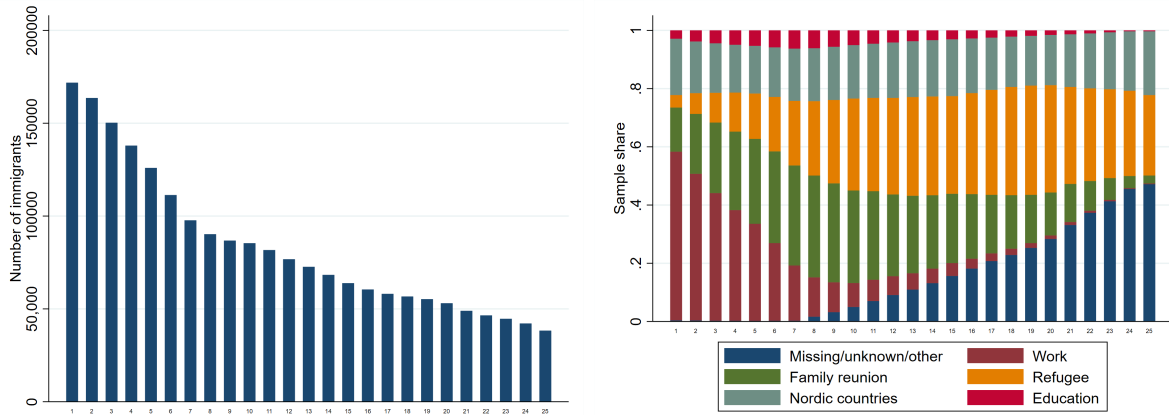
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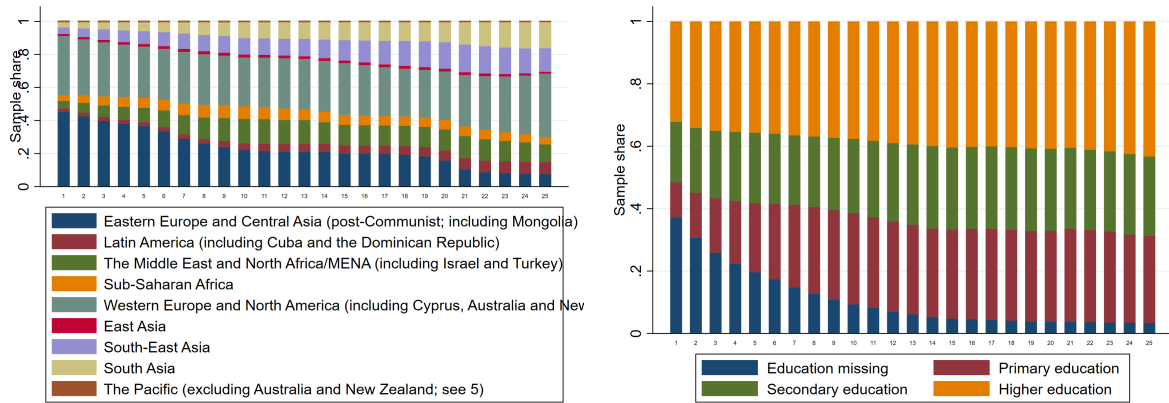
Appendix

A.1 Details on sample composition

Figure A.1: Sample attributes per year since arrival to Norway



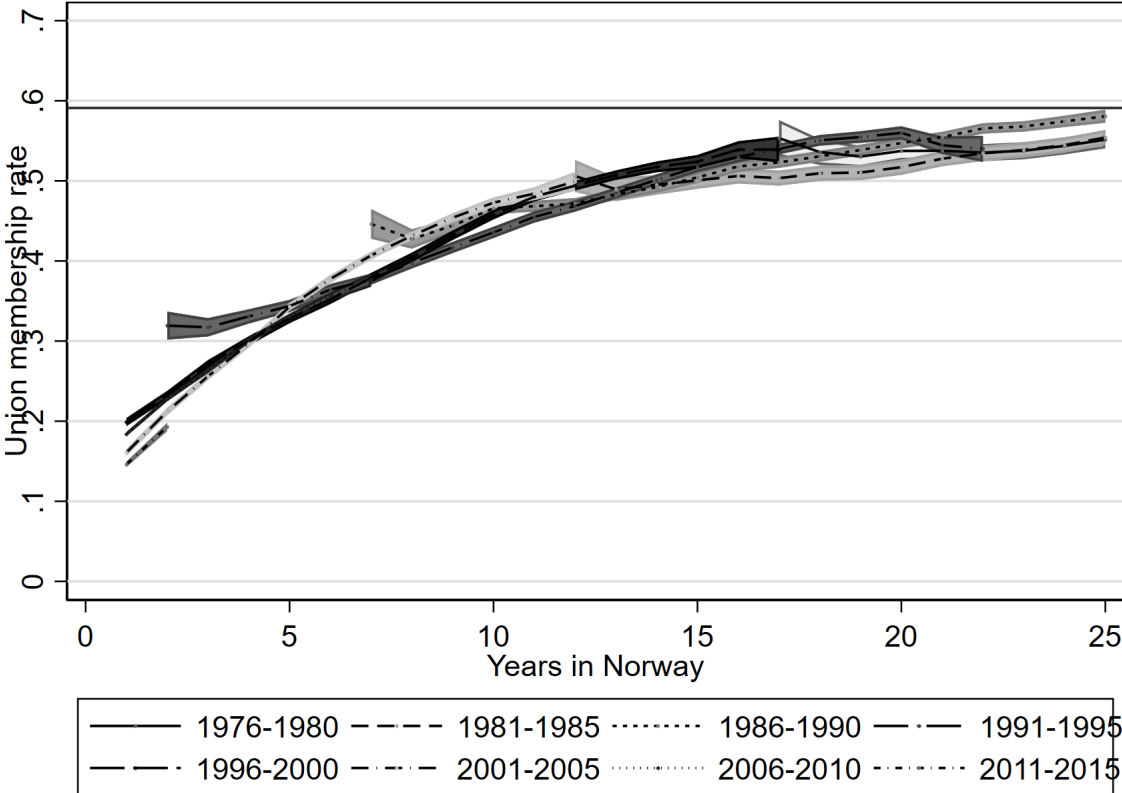
(a) Total number of immigrants in our sample. (b) Share of immigrants by cause for migration.



(c) Share of immigrants by political region. (d) Share of immigrants by education status.

A.2 Following cohorts over time

Figure A.2: Relationship between time since arrival and union membership for selected cohorts.



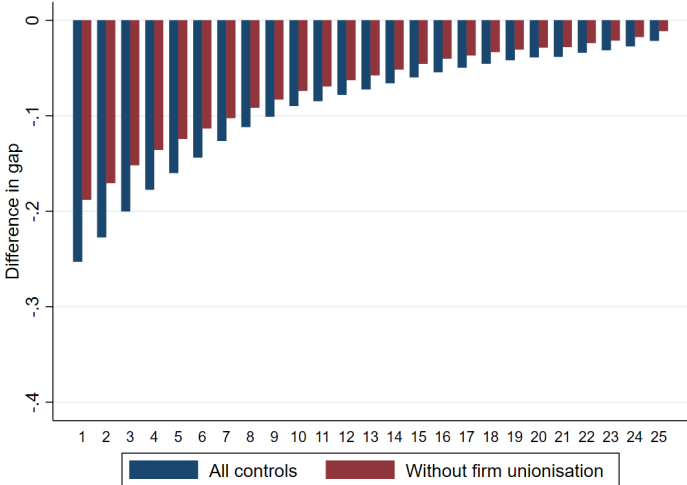
A.3 Details on the decomposition

For the decomposition of the contribution of the various covariates in reducing the immigrant-native gap in unionization rates, we use the stata command `b1x2` by Gelbach (2016). The command decomposes the respective contributions of the covariates in a way that is not sensitive to the order in which coefficients are added to the model. With the use of `b1x2` we decompose the difference between a model with the full set of covariates and a base model. The decomposition is done separately for different years of residence among the immigrants. For every year since arrival we construct a separate sample containing the immigrants that have resided in Norway for this exact number of years, in addition to the 10% random sample of natives that is included in all estimations in the paper.

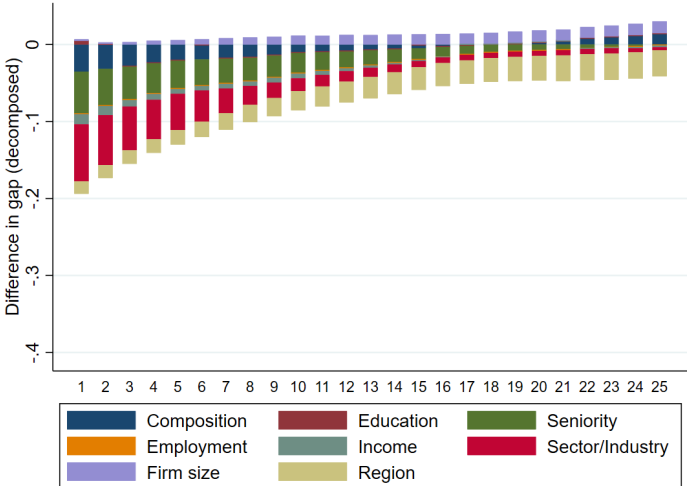
Table A.1: Descriptive statistics for employees at firms with low and high unionisation levels

	Natives				Immigrant background			
	Firm uni.rate \leq 33%		Firm uni.rate \geq 67%		Firm uni.rate \leq 33%		Firm uni.rate \geq 67%	
	Mean (1)	SD (2)	Mean (3)	SD (4)	Mean (5)	SD (6)	Mean (7)	SD (8)
<i>Dependent variable</i>								
Union membership	0.140	(0.347)	0.835	(0.371)	0.127	(0.333)	0.705	(0.456)
<i>Composition</i>								
Observation year	2005.136	(4.852)	2004.914	(4.953)	2007.248	(4.733)	2006.575	(4.902)
Woman	0.388	(0.487)	0.525	(0.499)	0.358	(0.480)	0.520	(0.500)
Age	40.541	(10.225)	44.229	(10.184)	38.055	(9.165)	41.925	(9.633)
Immigrant					0.935	(0.247)	0.916	(0.277)
Second generation					0.030	(0.172)	0.032	(0.176)
One Norwegian-born parent					0.035	(0.184)	0.052	(0.222)
Arrived before 7					0.028	(0.165)	0.028	(0.164)
Arrived before 18					0.077	(0.267)	0.083	(0.276)
Years in Norway					10.568	(9.456)	15.223	(10.437)
<i>Skills</i>								
Missing education	0.002	(0.046)	0.001	(0.037)	0.179	(0.384)	0.073	(0.260)
Primary education	0.373	(0.484)	0.287	(0.452)	0.274	(0.446)	0.221	(0.415)
Secondary education	0.380	(0.485)	0.288	(0.453)	0.268	(0.443)	0.214	(0.410)
Higher education	0.245	(0.430)	0.423	(0.494)	0.279	(0.448)	0.492	(0.500)
Seniority	5.181	(5.677)	6.811	(6.803)	2.911	(3.675)	4.151	(4.912)
Years with wages > G (s. 1993)	10.686	(4.764)	11.258	(4.816)	6.579	(4.528)	8.706	(5.042)
<i>Employment characteristics</i>								
Employed <20 hrs/week	0.079	(0.270)	0.092	(0.289)	0.102	(0.303)	0.102	(0.302)
Employed 20-30 hrs/week	0.068	(0.252)	0.101	(0.301)	0.074	(0.262)	0.098	(0.297)
Employed >30 hrs/week	0.853	(0.354)	0.807	(0.394)	0.824	(0.381)	0.801	(0.400)
Wage percentile (0-100)	51.733	(29.760)	51.892	(27.842)	45.519	(28.816)	52.173	(28.616)
<i>Labour market sorting</i>								
Public sector employment	0.063	(0.244)	0.560	(0.496)	0.068	(0.251)	0.573	(0.495)
Unionisation rate firm	0.090	(0.101)	0.825	(0.089)	0.098	(0.102)	0.801	(0.085)
N. employees at firm	57.515	(220.957)	543.644	(1686.304)	82.656	(277.976)	698.726	(1596.176)
<i>Country of origin characteristics</i>								
Union density origin country (0-100)	54.228	(3.164)	54.288	(2.687)	36.587	(25.271)	40.501	(25.881)
<i>Reason for migrating</i>								
Missing/unknown/other					0.179	(0.383)	0.258	(0.438)
Work					0.251	(0.434)	0.107	(0.309)
Family reunion					0.195	(0.396)	0.181	(0.385)
Refugee					0.173	(0.379)	0.214	(0.410)
Nordic countries					0.175	(0.380)	0.208	(0.406)
Education					0.028	(0.164)	0.031	(0.174)
N	713657		1227349		946058		825271	

Figure A.3: Decomposition excluding firm unionisation.



(a) Total reduction in gap with and without controls for firm unionisation rate.



(b) Decomposition of the difference in the gap from no controls to full set of controls, excl. firm unirate.