

Labor Market Competition with Immigrants and Party Choice: Evidence From A Skill-Cell Approach*

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Abstract

Most research on the political consequences of immigration highlights the role of cultural animosity rather than labor market competition. We challenge this position by pointing to important problems with the operationalization of labour market competition in most of the existing literature. To overcome these problems we rely on Borjas' skill-cell approach, which incorporates that labour market competition is two-dimensional and depends on the combination of education level and potential experience in the labor market. By access to detailed administrative data covering the whole Norwegian population, we get a precise measure of each skill-cells' exposure to immigration and relate this measure to voting behaviour in five national elections. We find results which support labor market competition theory, and evidence of a polarizing effect of immigration on vote shares. The polarizing effect points to the existence of a protectionist and a compensatory response to labour market competition with immigrants.

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1 Introduction

Immigration into and within Europe has increased rapidly over the last 25 years. Norway is no exception. Over the period we analyze in this paper (1993-2009), the immigrant share of the population increased from 5 to 10 per cent. Parallel with the increase, the composition of the immigrant population is increasingly dominated by immigrants from low-income countries. Over the same period, a very heterogenous set of anti-immigration parties have increased their vote shares or consolidated their positions in national parliaments across Europe. The Austrian Freedom Party (FPÖ), the Danish People's Party (DF), and the Swiss People's Party (SVP) are prominent examples. Fremskrittspartiet (FrP), Norway's main anti-immigration party, increased its vote share from 6.3 percent in 1993 to 22.9 percent in 2009. After the 2013 election, they entered the government offices as a coalition partner to Høyre (H), the main conservative party. Concerns among segments of the electorate about the consequences of immigration is one obvious reason for the improved position of anti-immigration parties. During the 1990s, FrP was the only alternative for voters opposing immigration, and although the social democratic party Arbeiderpartiet (Ap) advocated strict immigration policies when in government 2005-2013, FrP remains the issue owner of immigration issues in election campaigns (Karlsen and Aardal 2007).

Broadly speaking, there are two schools in the academic literature on why people oppose immigration. The first has its theoretical underpinnings in economics and argues that the economic consequences of immigration, in particular downward pressure on wages, is an important explanation for opposition to immigration (e.g. Mayda 2006). The second school draws from sociology and psychology, and argues that the cultural consequences of immigration is the main driver of anti-immigration sentiments (e.g. Sides and Citrin 2007). This paper is situated in the first school. However, we stress throughout the paper that we believe that a horse-race between these two approaches is a flawed way to approach this issue, as economic and cultural drivers obviously can operate at the same time.

Specifically, we study the importance of downward pressure from immigration on natives' wages and employment opportunities on vote shares. To emphasize labour market competition with immigrants as important for political behaviour is highly controversial. In their review of the literature on immigration attitudes, Hainmueller and Hopkins (2014) argue that labour market competition theory has been debunked as important for immigration attitudes. According to them, labour market competition theory is a "zombie theory" (pg. 241) due to its resilience in the literature despite its limited empirical support.

We argue that Hainmueller and Hopkin's (2014) position needs to be reassessed. The key challenge when assessing the importance of labour market competition is to identify voters who compete with immigrants on the labour market. Unfortunately, the previous literature has relied on too coarse measures of exposure to competition. Typically binary indicators of whether the voter is low-skilled or high-skilled has been used, and these indicators have been directly derived from the respondents' level of education (Scheve and Slaughter 2001; Mayda 2006; Hainmueller and Hiscox 2007, e.g.). As we spell out below, the labour economics literature on wage effects of immigration has for long argued that we need to take into account not only level of education, but also labour market experience when identifying who is competing with immigrants (Borjas 2003). It is no surprise that labour market theory has received scant support if its key variable has been poorly defined.

We follow Borjas (2003) and identify voters competing with immigrants on the labour market by classifying voters into different skill cells. Bratsberg et al. (2014) use this approach on Norwegian data and find negative wage effects of immigration for natives with similar skills as the immigrants. We use the same high quality, population-wide administrative data as Bratsberg et al (2014) to show that an increasing level of immigrants within ones skill cell is associated with decreasing wage levels over the period we study.

Next we theorize how the labour market consequences of competition will influence party choice. We point to the common expectation that the anti-immigrant party FrP will become more attractive as voters exposed to competition will decrease immigration (the

protectionist response), but we also highlight the potentially offsetting effect of increased demand for income redistribution and regulation of the labour market (the compensatory response). Although we expect the former to dominate the latter, voter polarization is one potential empirical implication of immigration.¹

Our analysis of the vote share of FrP provide robust evidence that labour market competition is important for party choice. A one SD increase in the share of immigrants within a skill cell is associated with a two percentage points increase in FrP's vote share. This OLS estimate is robust to a set of controls and remains when applying an IV-approach to account for potential selection problems into skill cells. The point estimate is larger for share of EU immigrants than for non-Western immigrants, further pointing to labour market competition as being important.

The analyses of vote shares for other parties show, however, that the impact of immigration is more complicated than just fueling anti-immigration voting. We find that immigration is associated with decreasing vote shares for FrP's main competitors on the left (Ap) and on the right (H). However, we also find a positive relationship with the vote share of Sosialistisk Venstreparti (SV); a New Left, pro-immigration party. Thus, we find signs of a polarizing effect of immigration, moving voters away from the political center. Using individual level panel data, we show that ideological predispositions prior to the immigration shock are important for how individuals respond to the shock. Those holding leftist positions on both immigration and economics prior to the shock are more likely to vote for SV. Our interpretation is that voters with this particular ideological predisposition demand more social protection and regulation when facing competition from immigrants, making FrP voting an unattractive vote choice. We consider the polarizing effect of immigration to be an important finding of the paper, and in the conclusion we elaborate on the theoretical and empirical implications of this result.

¹The offsetting effect implies that the expected net effect on FrP's vote share depends on the welfare state platforms of competing parties, a point missed in the previous empirical literature.

2 Labor Market Competition with Immigrants and Voting

Immigration and Wages

Standard neoclassical labor market theory says that an increase in the supply of one type of skill has a negative effect on the marginal product of that skill. In a competitive labor market, wages are set by the marginal product, thus workers holding the skill which has increased in supply will experience a decrease in their wage level. The effects are the exact opposite for workers with skills that are complementary to the skill which has increased, thus they should expect a wage increase. The implication is that the effect of immigration on individuals' wages depends critically on immigrants' skills. To the degree that immigrants are mainly substitutes (complements) for natives, wage effects will be negative (positive). In addition to potential effects on wages, immigration might also push natives out of the labor market.

There are two main approaches to the empirical study of immigration and wages. One approach is the area-approach, which takes advantage of geographical variation in immigration and study its relationship to wages in the area (e.g. Card 1990). The second approach is to use identify workers who are exposed to competition from immigrants and study their wage development. Borjas' (2003) skill cell approach, which we rely on in this paper, belongs to the second class of studies.

The skill cell approach was developed as a response to some troublesome aspects of the area approach in wage studies.² A key concern in area studies is the endogenous sorting of immigrants and natives according to characteristics of the local labor market. When people move in response to immigration, immigration influences wages in all regions, not just the region experiencing the shock (Borjas 2003). This implies that it is difficult to identify wage effects of immigration using the area approach and it calls for a national rather than a regional approach to identify wage effects. This reasoning is transferable to studies of the political effects of immigration, in particular if one is interested in labour

²A vast research literature in labor economics using the area approach—although of which the greater part is based on US data—often find small and often insignificant wage effects of immigration, yet effects tend to be more negative in the European studies (See Okkerse 2008, for a review).

market competition as the mechanism of the political effects.

The skill-cell approach allocates individuals to 32 skill groups defined by the combination of educational attainment and potential labor market experience.³ Defining skill group by the combination of education and experience incorporates the idea that workers with the same level of education, but different levels of experience, is unlikely to be perfect substitutes on the labour market (Borjas 2003, 1339). The “two-dimensionality” of the skill cell approach is particularly important when studying the wage effects of immigration because even skills cells within the same level of education tend to experience different levels of immigrant competition. The different exposure to immigration across skill cells with the same level of education—which we document for Norway in Figure 1 below—implies that level of education is a poor proxy for exposure to competition. Thus, it is ill-suited to identify effects of competition.

Another beneficial aspect of the skill cell approach is that it is more difficult to “escape” your skill cell if exposed to competition than it is to escape a geographic area, industry or occupation which is exposed to immigration.⁴ This eases the need for an instrumental variables approach to identify effects of immigration, in particular when we follow skill cells over time, as we do below. However, there might still be concerns about immigrant selection to skill cells with a positive wage development, which, if not accounted for, will cause a downward bias in the wage estimates (Borjas 2003). In a robustness check we rely on an IV-approach to study the severity of this bias.

It is important to keep in mind that the estimated wage effect using Borjas’ (2003) skill cell approach is the *partial* effect of immigration. The partial effect is the impact of immigration on the wages of workers with similar skills as the newcomers, given the supply of other factors and aggregated supply. In recent years, Ottaviano and Peri (2012) and others, have moved beyond the partial effect and attempt to estimate the *total* effect of immigration. When estimating the total effect one aims to account for immigration-induced changes in the supply of other factors, as well as the possibility for natives and immigrants to be imperfect substitutes within skill groups. Ottaviano and Peri’s estimate

³See Bratsberg et al. (2014) for a study of wage effects of immigration on Norwegian data.

⁴But see Ottaviano and Peri (2012).

of the short-run impact of immigration on native wages is negative, but smaller than the one reported in Borjas (2003).⁵

Finally, a major topic of discussion in the recent empirical literature is whether immigrant and native labor within the same skill cell are close substitutes in production, which is a key assumption in Borjas' approach. A set of papers analyzing US data conclude that the evidence points in the direction of perfect substitution Borjas (2003); Borjas, Grogger, and Hanson (2010); Aydemir and Borjas (2007); Jaeger (1996), while others find indications of imperfect substitution (Ottaviano and Peri 2012, 2008; Manacorda, Manning, and Wadsworth 2012). Bratsberg et al's (2014: 379ff) study on Norwegian data is the most relevant in our case, and they find a high degree of substitutability between natives and immigrants with similar skills.

Immigration and Voting

The negative effect on wages and positive effect on the risk of unemployment imply that immigration might have effects on policy preferences. Most intuitively, we should expect support for liberal immigration policies to be affected. Unless workers were fully aware of the effects of immigration prior to immigration taking place, we should expect support for immigration of similar skill-type workers to change in a more restrictive direction when the detrimental effects manifest.⁶ Voters respond to the negative effects of immigration by demanding restrictions of entry, i.e a protectionist, insider response.

However, immigration-induced negative effects on wages and heightened risk of unemployment might also influence support for public transfers. We might label this a compensatory or regulatory response. Standard models predict that support for income redistribution will increase if wages fall and risk of unemployment increases (e.g. Cusack, Iversen, and Rehm 2006). The theoretical expectation for how support for social insurance will change is less straightforward. For a given risk of unemployment, a drop in wage income will lead to lower support for social insurance because workers become more

⁵With regard to the total effect, their estimates for the US between 1990 and 2006 reduced the average native wage by 0.4 percent in the short run but increased the native wage by 0.6 percent in the long run.

⁶Support for immigration of skill-types which are complementary to their own, might however change in a positive direction.

concerned with current consumption and less willing to pay taxes to insure their income (Moene and Wallerstein 2001; Markussen 2008; Barth et al. 2015). However, an increase in the risk of unemployment will increase support for social insurance to smooth consumption between periods with and without employment (Moene and Wallerstein 2001; Iversen and Soskice 2001; Rehm 2011). Thus, if wages drop and risk increases simultaneously, the net effect of immigration on support for public transfers is ambiguous.⁷

Immigration and public transfer policies are important dimensions of Norwegian electoral politics in the period we study, making it plausible that labor market competition with immigrants will have electoral consequences. To fix ideas we can set up our reasoning using Adams et al.’s (2005) unified spatial-behavioral theory of voting. Let i index voters, p parties, I the immigration dimension, S the social transfers dimension, and g non-policy dimensions. Voter i ’s (dis)utility from voting for party p can then be expressed as:

$$U_i(p) = -\alpha_I(X_{iI} - X_{pI})^2 - \alpha_S(X_{iS} - X_{pS})^2 + \sum_g \alpha_{pg}t_{ipg} + Z_{ip} \quad (1)$$

where X_{iI} , X_{iS} , X_{pI} , and X_{pS} are the voter and party positions on immigration and social transfers, the α ’s refer to the salience of the dimensions,⁸ and t_{ipg} is a set of non-policy linkages between parties and e.g. socioeconomic groups (for instance class voting due to parental socialization). Finally, Z_{ip} is a random utility term which captures unobserved attraction to parties, which ensures that the model is probabilistic rather than deterministic.

Our claim is that X_{iI} and X_{iS} are functions of the share of immigrants in i ’s skill cell due to the economic consequences of immigration into i ’s skill cell. One might think of voter positions on immigration as being determined by two components; a deep, time-invariant or slowly changing normative belief about the benefits of immigration,⁹ and a time-varying component, reflecting the current cost/benefits of immigration (the “price”

⁷Personal labor market consequences of immigration have been found to push support for redistributive in a leftist direction (Finseraas 2008; Burgoon, Koster, and Van Egmond 2012a). We are not aware of any empirical studies of how immigration affects support for social insurance. If immigration in addition influences aggregate unemployment rates, this will be an additional channel for immigration to influence support for social insurance (see e.g. Markussen 2008).

⁸As in classical spatial theory, this set-up assumes that issue salience is the same across voters.

⁹Analogous to consumers’ preferences for different consumption goods in standard economics theory.

of immigration). Similarly for position on social transfers. Holding platforms, salience, and position on other dimensions constant, voters move closer to the position of the party with a restrictive immigration policy platform when facing labour market competition from immigrants. In the Norwegian context these voters should become more likely to vote for FrP, which is the anti-immigration party in Norwegian politics.¹⁰ Obviously, party platforms are not constant, and will shift with shifts in voter preferences.¹¹ Thus, voters exposed to competition with immigrants have to shift further in a restrictive direction than the parties, e.g. $\Delta X_{iI} > \Delta X_{pI}$, in order for voter utilities to change. Below we explain why this is plausible in our case.

The immigration-induced positive shift in the utility from FrP's platform might be lower if X_{iS} is a function of share of immigrants. This is because increased risk of unemployment will push X_{iS} to the left, which will decrease the utility from FrP's platform for most voters, since FrP's position on social transfers is to the right of center. During the 1970s and 1980s, FrP advocated a right-libertarian position on the welfare state, but they have since moved away from this position. Today they have no clear ideological position on the welfare state, which differentiates them from the main anti-immigration parties in Sweden and Denmark.¹² In this case, $|\Delta X_{iI}| > |\Delta X_{iS}|$ has to hold for $\Delta U_i(FrP) > 0$ (again holding party positions constant). If, however, the main effect on X_{iS} is through lower wages, immigration will cause a shift to the right on the social transfer dimension, but to the left on redistribution. Depending on how sensitive demand for redistribution and social insurance are to wage changes, the shift on the social transfer dimension will not necessarily work against the positive shift in utility from closeness to FrP's immigration platform.

The ambiguous effects of immigration on X_{iS} make it plausible that the protectionist response outweigh the compensatory response so that the probability of voting for FrP will increase from labour market competition with immigrants. However, since there are

¹⁰Here we assume that voters are forward-looking and votes sincerely, not strategically.

¹¹See Adams (2012) for a review of the literature.

¹²FrP advocate lower tax rates and supports policies which makes the tax system less progressive, however, due to Norway's large oil fund they do not have to advocate cuts in social transfers to finance the tax cuts. The main anti-immigration parties in Sweden and Denmark have pro-welfare state positions.

two possible responses to the shock, one might envision that different groups of voters choose different responses. One way to think of this choice is that your response depends on your deep-held normative convictions, i.e. that the short-term effect is a function of your normative views, or that normative views decide which policy dimension is being “triggered” by the economic shock. Recent research on political responses to job loss during the Great Recession indeed finds that the response depends on ideological predispositions (Margalit 2013). Thus, exploring the effects of immigration for different types of parties is important.

Previous Empirical Research on Immigration and Political Behavior

Like the literature on immigration and wages, the literature on the electoral consequences of immigration has relied on two strategies. The most popular approach is to take advantage of geographical variation in immigration or ethnic diversity and study its relationship to local political outcomes (see e.g. (Arzheimer 2009)). Sørensen (2015) analyzes the relationship between immigration and Frp voting at the local level, using both aggregate and individual level data. Utilizing a two-way fixed effects approach, he finds small, short-term, positive effects of immigration shocks on Frp voting. Few studies attempt to account for geographical sorting, but Halla et al. (2014) and Harmon (2014) are two recent exceptions.¹³ Halla et al. (2014) study the relationship between share of immigrants in the local community and voting for the Freedom Party of Austria (FPÖ). To give their estimates a causal interpretation, they rely on a 2SLS-approach where they instrument actual immigrant share with predicted immigrant share based on historical settlement patterns. They find a positive relationship between immigrant share and FPÖ vote share, in particular in areas with low- and medium-skilled immigration. Harmon (2014) studies the relationship between immigration and party bloc vote shares. He too relies on a 2SLS approach where he instruments the immigrant share with highrise homes’ share of the

¹³See also Enos (forthcoming) and Dahlberg, Edmark, and Lundqvist (2012). Enos (forthcoming) relies on a large restructuring of public housing in Chicago to identify how proximity to Blacks causes Conservative voting behavior among Whites. Proximity to long-term minorities is a different issue than immigration, in particular when interested in the labour supply effects of immigration. Dahlberg et al. (2012) use a Swedish refugee placement policy to identify a negative effect of ethnic diversity on preferences for redistribution, but they do not study its impact on vote choices.

1970 housing stock, and finds that immigration increases the right-wing bloc's vote share. These studies have designs which makes it plausible that they identify causal effects of immigration. However, since they follow areas over time they are ill-suited as tests of to what degree labour market competition is the mechanism behind the results.

The second strategy attempts to directly identify competition at the individual level and examine its relationship to political views. The early, seminal, papers using this approach (Scheve and Slaughter 2001; Mayda 2006) use level/years of education as a proxy for exposure to competition. Both papers find that low-skilled workers are more likely to oppose liberal immigration policies. Moreover, both papers rely on the area approach to study heterogeneity in the education-preference relationship. Scheve and Slaughter (2001) find no evidence that the education-preference relationship depends on the size of the immigration population in the local labor market, but Mayda (2006) find that high educated workers are relatively more pro-immigration in countries where immigrants have a skill-mix in their favor.

Due to these studies, and others, there is a consensus in the empirical literature that low-skilled workers are less supportive of liberal immigration policies (see e.g. Hainmueller and Hopkin's (2014) review of the literature.) However, there is disagreement over to what degree these findings reflect labor market competition with immigrants. Some argue that educational differences in immigration preferences reflect tolerance, openness and political correctness, pointing to empirical findings that highly educated workers are more likely to support immigration of all skill-types, including skills they compete with (Hainmueller and Hiscox 2007, 2010; Hainmueller, Hiscox, and Margalit forthcoming).

Level of education is, however, a coarse measure of exposure to competition. Some recent papers use more specific measures of exposure to immigrant competition and find support for competition theory (Ortega and Polavieja 2012; Pecoraro and Ruedin 2014; Malhotra, Margalit, and Mo 2013).¹⁴ Most notably, Ortega and Polavieja (2012) identify variation in exposure through survey items regarding how much on-the-job training which is necessary to conduct their job, and how important manual and communicative

¹⁴In addition, Finseraas, Pedersen, and Bay (forthcoming) find that educational differences in immigration opinions change with the business cycle in a manner consistent with competition theory.

skills are in their job. They find that those holding communicative skills are particularly likely to support immigration, also when they attempt to account for endogeneity. Pecoraro and Ruedin (2014), using Swiss panel data, find a negative relationship between increases in proportion foreign-born within one’s occupation and wages and support for equal opportunities for foreigners.¹⁵ Neither of these studies examine party choice.

3 Empirical Strategy

Skill cells

We follow Borjas (2003) and classify individuals into four education groups, which correspond to less than high school, high school graduate but no college diploma, short college/university, and long college/university education. Potential labor market experience is measured as years since leaving school, with school-leaving age computed as six plus statutory years of the individual attainment (so-called “Mincer experience”). Then individuals with one to 40 years of potential experience are allocated into eight five-year experience intervals. The combination of the four education groups and eight experience groups constitutes the 32 different “skill-cells”.

Immigrant share

Our independent variable is the proportion of immigrants in each skill group. The construction of this variable is made possible by access to information from several administrative registers that cover all residents of Norway during the period 1993-2010.¹⁶ Even though we have access to top quality data, there are some challenges with regard to placing some immigrant groups into skill cells. First, data on immigrants’ educational attainment typically stems from Norwegian educational institutions, supplemented with decennial surveys of the immigrant population. Therefore educational attainment is often missing for newly arrived immigrants. For immigrants with missing education records, we

¹⁵See Burgoon, Koster, and Van Egmond (2012*b*) for a similar approach on support for redistribution. They find that those with a high share of foreigners in their occupation are more supportive of redistribution.

¹⁶Some standard info on the data her.

assume that their schooling distribution is similar to that of immigrants with the same gender, age, and origin. Our approach is explained in detail in the Appendix.

Second, for some immigrant groups, experience before arrival as well as years spent in the host country are not necessarily comparable to potential experience among natives. Many immigrants from distant, developing countries have both limited and a very different labor market experience due to conflicts and high rates of unemployment.¹⁷ In our register data, we have access to complete earnings histories for all residents since 1967, enabling us to observe actual post-arrival experience for immigrants. Based on these records, for migrants from developing countries we replace potential experience with the cumulative years with positive earnings in Norway, ignoring any pre-arrival experience. Constructing this “effective experience” measure, we keep the Mincer experience measure for immigrants from high-income source countries, assuming that they have worked and accumulated experiences in labor markets very similar to what they enter in Norway.

Finally, although our measure of labour supply of immigrants’ is constructed from population-wide register data, there are at least two sources of measurement error. First, a sizeable portion of the immigrant workers have been hired by foreign contractors, especially after the expansion of the EU in 2004. They work in Norway, but are employed in foreign firms and contractors (Dølvik and Eldring 2008), implying that their labour supply is not registered in our data. Second, immigrants may work “off the books”, which is a source of measurement error that may have increased over the period of analyses.¹⁸ Both sources of measurement error will probably lead to an understatement of the actual immigrant share in the Norwegian labour market. If registered and unregistered immigrants are positively correlated within skill cells, and if they both have the same effect on voting behaviour, this will lead us to overstate the true effect of immigration on voting.¹⁹ However, we will argue that because these measurement errors are related

¹⁷Empirical studies of immigrant earnings profiles suggest that economic returns to potential experience prior to arrival differ considerably by region of origin (Barth, Bratsberg, and Raaum 2004). While earnings profiles of immigrants from the Nordic countries are very similar to those of natives, immigrants from developing countries earn substantially less at arrival. The gap is reduced during the first 10-15 years in Norway, but there is no convergence (on average) after that.

¹⁸In a survey of Polish Building and construction workers, 35 percent responded (in 2006) that they did not pay taxes (Friberg and Eldring 2011).

¹⁹Still, we cannot rule out a negative correlation. A negative correlation is present if the unregistered

to immigration, the estimated effect will consist of the combined effect of registered and non-registered immigrants.²⁰ In a robustness check we rely on a 2SLS approach to correct for measurement error.

Data on vote choice

There is no administrative data of election results broken down by skill cells. Thus, we have to rely on survey data to get estimates of vote choices in the different skill cells. This is challenging because a typical survey data set contains relatively few observations from each skill cell, in particular for the most unusual skills cells (like the combination of few years of labor market experience and no education beyond compulsory schooling). The implication is that we need to combine data from a large amount of surveys to be sure that we get a reasonable estimate of the distribution of votes for each election for all skill cells.

In order to achieve this we combine information from 61 surveys which contain the necessary information to identify each voter's skill cell and a question on what party s/he voted for in the previous national election.²¹ We do not include surveys asking about what party you would have voted for if there were a national election tomorrow, since FrP often get higher support between election years. We include some measurement error by using between election year surveys, since we then assume that voters belonged to the same skill cell in the election year as in the year of the survey. This will be inaccurate for those completing education between the election year and the time of the survey.²² In addition, misreporting might increase with the number of years since the prior election. However, measurement error in the dependent variable will usually not bias coefficient estimates, only increase the standard errors (Wooldridge 2003, 302).

After pooling data from the surveys we derive the vote shares for each skill cell in the five elections over the 1993-2009 period. In the main specification we weight the skill cells labour is used as a substitute for registered.

²⁰Hanson (2006) discusses the difference between legal and illegal immigration in the US labour market. He argues that if the omitted variable is immigrant-related, one could, instead of treating it as a measurement error, consider the estimated impact as the total effect of immigration (legal plus illegal).

²¹There is a list of the included surveys in the Appendix.

²²Since we know voters' year of birth there is no bias in labor market experience.

by the number of observations behind the aggregated vote share (Borjas, 2003). Since we are not interested in estimating descriptive statistics of the population we do not use the survey weights from the specific surveys.²³ The number of observations behind each skill cell aggregate ranges from 54 (skillcell 32, 1993) to 1934 (skillcell 20, 2009), the mean/median is 654/515 observations.²⁴

Empirical specification

In our main analysis of vote choice, we study the aggregated vote shares in each skill cell in the five national (Storting) elections (1993, 1997, 2001, 2005, 2009) for which we have data on the proportion immigrants in each skill cell. Let y be the vote share of the particular party for voters with education i , experience j , at election t . Following Borjas (2003) we estimate WLS/OLS regressions²⁵ of the following form:

$$Y_{ijt} = \beta I_{ijt} + \alpha_i + \gamma_j + \mu_t + \alpha_i * \gamma_j + \alpha_i * \mu_t + \gamma_j * \mu_t + \epsilon_{ijt} \quad (2)$$

where α_i refers to fixed effects (FE) for levels of education, γ_j refers to FE for levels of experience, and μ_t refers to FE for years.²⁶ As in Borjas (2003) we also add interactions between the fixed effects. The inclusion of these fixed effects implies that *we identify the effect of immigration from changes within skill cells which are independent of skill cell specific trends*. This is a powerful design, as it implies that we account for general shifts in e.g. the relationship between education and party choice.²⁷ Standard errors are clustered at the skill level, since the variation we base our identification on varies across skill cells.²⁸

As mentioned, we weight the skill cells by the number of observations behind the

²³One alternative is to use post-stratification techniques to get estimates of votes shares in each skill cell (Lax and Phillips 2009). However, we prefer the transparent approach of aggregating the raw survey data.

²⁴Nine skill cells have less than 100 observations. The mean is lowest for the 2001 election (476). In general, the number of observations is lowest in the skill cell of those with the combination of low level of education and few years of labor market experience.

²⁵An alternative to estimating the models using OLS is to estimate the vote shares jointly in a seemingly unrelated regressions (SUR)-framework (Tomz, Tucker, and Wittenberg 2002). However, since we include the same covariates in all regressions, SUR and OLS will yield identical coefficient estimates.

²⁶ ϵ_{ijt} is the error term, assumed to be normally distributed.

²⁷Berglund (2007) argues that socio-economic characteristics have become less important for party choice over the period we study.

²⁸All results go through if we instead rely on standard errors which only adjust for heteroscedasticity.

aggregated vote share. The purpose of the weighting is to improve precision of the estimates, but it will be a red flag with regard to bias from omitted variables if estimates vary substantively depending on whether weights are applied (Solon, Haider, and Wooldridge 2013). We therefore report robustness checks were we do not use weights.

The β coefficient will be unbiased as long as the residual in (2) is orthogonal to I_{ijt} . The identifying assumption is that there are no skill-group specific residual change in voting behaviour that is correlated with the immigrant share. One potential threat to this assumption is the existence of external factors affecting both voting behaviour and inflow of immigrants within skill-cells. For example, we know that changes in business cycles affect migrant flows; immigrant flows increase when labour demand is high, and decrease when labour demand is low. Furthermore, if the share of votes to FrP is also systematically affected by business cycles, our estimate of the immigration effect on voting behaviour will be biased. To account for this we include an estimation where a skill-specific unemployment variable is included, measured as the share of natives within each cell who were registered as unemployed during the year. In robustness checks, we also examine other potential threats to the identifying assumption. Moreover, we construct an instrument for observed immigrant share based on a push-model of immigration and directly tackle the endogeneity problem in a 2SLS framework.

Connection between the theoretical and empirical specification

It is useful to consider the empirical specification in equation 2 in light of the theoretical model in equation 1. We do not measure the salience of the issue dimensions (α_I) or the party platforms (X_{pI}). These variables do not vary across skill cells, but they do vary across elections. The inclusion of the year fixed effects implies that the impact of these variables are accounted for. The non-policy, socio-demographic attractions to FrP are captured by the education dummies (and the experience dummies), which represent an important correlate of party choice in Norway (e.g. Finseraas and Vernby 2014).

Above we argue that our set-up implies that shifts in party platform positions will plausibly be smaller than shifts among voters. We believe this is plausible because each

skill cell comprises a small part of the electorate, so that shifts within one skill cell will not have much impact on the distribution of policy positions in the electorate as a whole. More specifically, we assume that FrP do not weight the importance of a small number of skill cells very heavily when they decide their policy platform. Even if parties have core voter groups which they pay particular attention to, theoretical multiparty spatial models suggest that as long as there are sufficiently strong non-policy attachments to parties, then parties will calibrate their platform position against changes in the median or mean position of the electorate (Adams 2012, 409). Moreover, some empirical studies find that parties located away from the center—like FrP on the immigration dimension—are less likely to shift its position in response to shifts in public opinion (Adams et al. 2006). Thus, we consider our empirical specification to be well suited to identify the impact of immigration.

4 Empirical results

Immigration and wages

We begin the empirical analysis by re-examining the relationship between immigration and wages since the analysis in Bratsberg et al. (2014) does not cover all the election years in our analysis. To study the impact of immigration on wages we use the empirical set-up as described in equation (2), with the outcome variable being the log of annual earnings. We study the relationship using annual data, covering the years 1993-2009, since there is no reason to restrict the analysis to the election years. By studying annual earnings we capture the combined effect on hourly wage, work hours per week, and days worked.

The results for earnings are presented in Table 1. The coefficients in the table are those for the immigrant share variable in the different specifications. In all specifications we find a negative and significant relationship between the immigrant share and log of annual earnings. According to the estimates in row 1, a one percentage point increase in immigrant share is associated with a 0.66 percent reduction in annual earnings. The coefficient is robust to a set of controls, and drops in size only when we control for the

Table 1: Regression results. The dependent variable is log of annual earnings. N=544, except in row 4 where N=480 (see note).

1. Immigrant share	-0.66*** (0.16)
2. Control unemployment	-0.66*** (0.15)
3. Control log native labour force	-0.72*** (0.16)
4. Control share in public sector	-0.62*** (0.19)
5. Control share on disability pension	-0.47*** (0.13)
6. New EU immigrants	-2.20** (0.82)
7. Non western immigrants	-0.65*** (0.20)

Note: Robust standard errors adjusted for clustering on skillcell in parentheses. All regressions include education group FE, experience group FE, year FE, and interactions between these FE. We do not have data on sector of employment prior to 1995, thus number of observations in row 4 is 480. *** p<0.01, ** p<0.05, * p<0.1

share on disability pension (which is a potentially endogenous control). The negative wage effects are in line with Bratsberg et al. (2014), but their estimates are somewhat more negative.²⁹

In rows 6 and 7 we replace the total immigrant share with the share from new EU countries and from non-western countries, respectively. The negative wage effect is substantively larger for share of immigrants from the new EU countries, while we find a similarly sized coefficient for non-western immigrants as for total immigrant share. We should thus expect labour immigration from new EU countries to be more strongly associated with voting than non-western immigration.

Immigration and vote shares

In the rest of the paper we analyze the relationship between immigrant shares and vote shares. Figure 1 presents the descriptive relationships between immigrant share and FrP

²⁹Bratsberg et al. (2014) restrict their analysis to men, while we include both genders.

Table 2: Regression results. The dependent variable is FrP vote share. N=160.

1. Immigrant share	0.45*** (0.11)
2. Unweighted regression	0.49** (0.10)
3. Work force	0.46*** (0.12)
4. Control unemployment	0.45*** (0.11)
5. New EU immigrants	0.87** (0.35)
6. Non western immigrants	0.52** (0.17)

Note: Robust standard errors adjusted for clustering on skillcell in parentheses. All regressions include education group FE, experience group FE, year FE, and interactions between these FE. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

vote shares in the different skill cells, while our first set of regression results are presented in Table 2. The figure suggests that immigrant share and FrP vote share trends together in most skill cells, although to a lesser degree in the top skill cells (those with high education). To see the correlation in trends more clearly, we regress immigration share and FrP vote share against the year trend for each skill cell, and plot the correlations in Figure ???. The figure shows a positive and significant correlation between the trends ($\beta = .57$, $SE = .22$, $p = .01$).

The estimates in Table 2 provide clear evidence that support for FrP increases in those skill cells where the immigrant share increases. According to the estimate in the top row, a one standard deviation increase in a skill cell's immigrant share increases support for the Progress Party on average about two percentage points, which has to be considered as a politically important effect. Figure 3 illustrates this result through a partial regression plot. This figure shows the variation in immigrant share (taking the controls into account) which produces the regression coefficient in the top row of Table 2.

The estimate is slightly larger if we do not weight the data (second row), but the similarities of the estimates with and without weights are reassuring with regard to potential misspecification problems (Solon, Haider, and Wooldridge 2013). Table 2 further shows

Figure 1: Immigrant share and FrP vote share by skill-cell groups

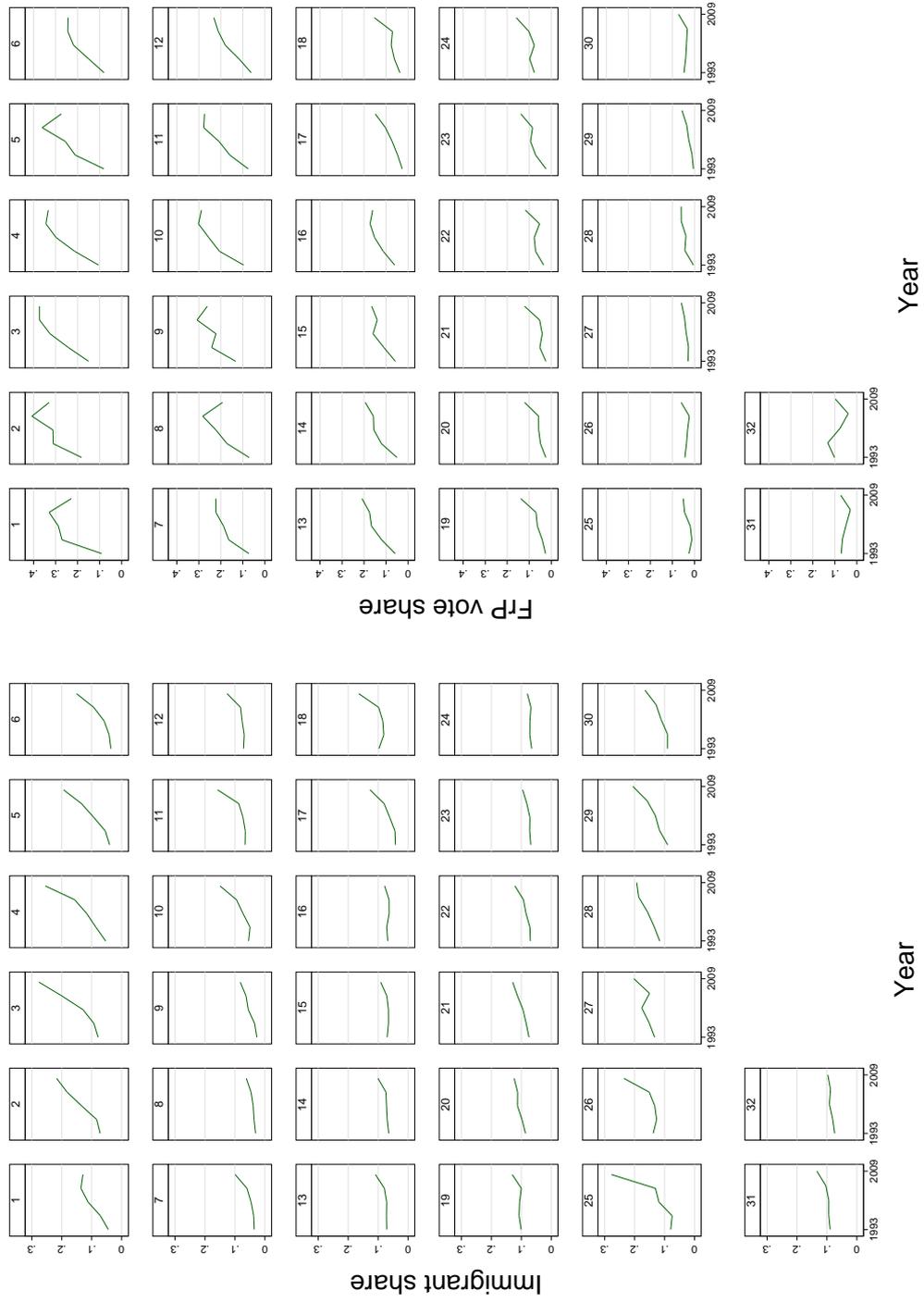
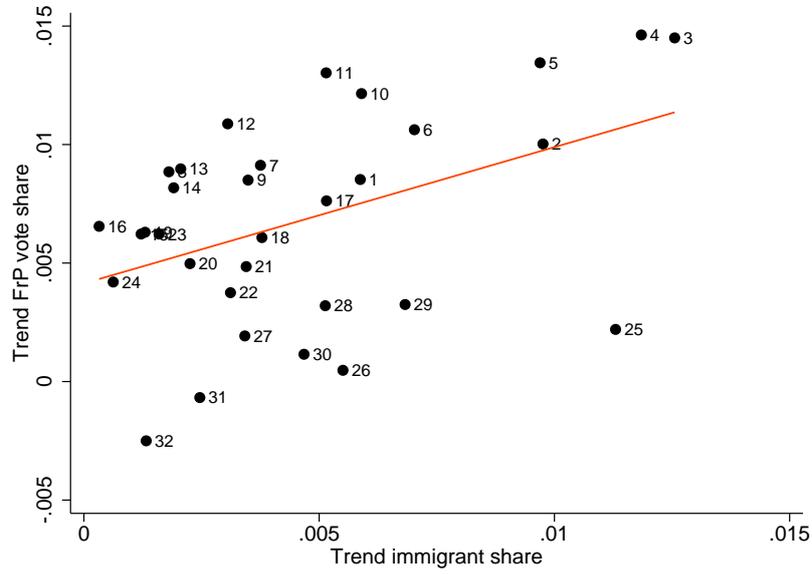
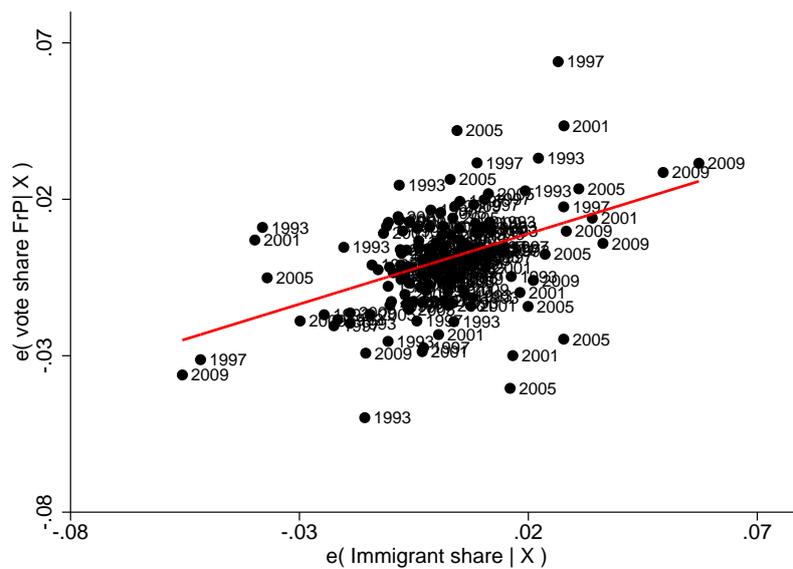


Figure 2: Trends in immigrant shares and FrP vote shares



Note: The figure shows the correlation between each skill cell's trend in immigrant shares (X-axis) and FrP vote shares (Y-axis). $\beta=.57$, $SE=.22$, $p=.01$, $N=32$.

Figure 3: Partial regression plot from main specification



that results are robust to measuring the immigration supply shock as the proportion of the work force (row 3), i.e. excluding natives without employment.

In row 4 we return to our main measure of the immigration supply shock, but control for the skill cell unemployment level to ease concerns about a spurious correlation between immigrant share and voting. Controlling for the unemployment rate might introduce a degree of post-treatment bias since immigration might cause higher unemployment. This check is nonetheless useful because there is a relationship between both skill-cell unemployment and wages (Bratsberg et al. 2014) and unemployment and the success of anti-immigration parties (see Arzheimer 2009).³⁰

In Table A-1 in the Appendix, we show that the correlation between immigrant share and FrP's vote share is robust to a set of additional controls; the number of natives in the skill cell (to rule out that the main results for immigrants share are driven by a change in the number of natives in the cell), the share on disability pension in the skill cell (as a potentially spurious driver of the immigrant share coefficient), and the share employed in the public sector (since public sector workers are less exposed to labour market competition). Furthermore, we find a similar immigrant share coefficient if we lag the immigrant share by one year. Next, OLS estimation on bounded dependent variables like ours is potentially problematic, so it is often recommended to transform the dependent variable to logit form to convert it to an unbounded variable (e.g. Tomz, Tucker, and Wittenberg 2002, 68). When doing so we get similar conclusions, but a slightly less precise estimate ($t=1.85$).

Finally, in Table A-2 we show that we get significant coefficients for immigrant share when excluding single election years in a rotating fashion. The coefficient is also quite stable across these regressions, except for when we exclude the 2009 election. The coefficient is larger when we exclude the 2009 election, i.e. data from the 2009 election pushes the immigrant share coefficient downwards. Thus, skill cells which experienced an increase

³⁰A positive correlation between being unemployed yourself and voting for a anti-immigration party is quite conclusively established, but the relationship between the aggregate level of unemployment and support for far-right parties is debated (see discussion in Arzheimer 2009). The inconclusive results might reflect that it is not obvious how voters respond to the trade off between higher costs and higher need of unemployment compensation. Moreover, the anti-immigration parties' welfare state policies are very heterogeneous. The unemployment coefficient in row 4 is negative but insignificant.

in its immigrant share from 2005 to 2009 responded to a lesser degree than immigrant supply shocks between the other election years. We suspect that this could be related to the financial crisis, even though Norway was not heavily hit by the crisis. In line with this interpretation, the immigrant share estimate when excluding the 2009 election becomes more similar to the others when we control for skill cell unemployment.

As in Borjas' (2003) analysis of wage effects, the immigration effect is mainly driven by the changes in immigrant share net of skill-specific trends. This is evident Figure A-1 which shows that there is no relationship between immigrant share and FrP's vote share if we leave out the interactions between the fixed effects. This is not surprising in light of the growth of FrP's vote share since the early 1990s. Since the beginning of the 1990s, FrP has grown relatively faster among those with high education, since very few of those with high education voted FrP when FrP was a small party. Those with high education tend to be in skill cells with a smaller growth in immigrant share, thus, this underlying trend conceal the impact of labour market competition from immigration. That said, this underlying trend clearly points to factors unrelated to labor market competition as important factors behind support for FrP.

If economic concerns are the sole reason immigrant share is related to vote shares, we should not expect the country background of immigrants to matter *per se*. However, we *should* expect the effect to vary with the skills of the immigrant group causing the supply shock. Our analysis above as well as previous research (Bratsberg et al. 2014) show that wage effects for this period are stronger for Western than for non-Western immigrants, leading us to expect a stronger correlation between FrP's vote share and share of Western immigrants. Rows 5 and 6 show the results when we replace the immigrant share variable with the share of immigrants from the new EU countries and share of non-western immigrants. Immigrants from the new EU countries are mainly low-skilled labour immigrants, construction workers in particular. Since the 2004 expansion of the EU, there has been a massive increase in immigration from this group. Non-western immigrants are typically refugees and asylum seekers of which there has been a steady growth over the period (see Brochmann and Hagelund (2012) for an overview of immigration to Norway

over this period).

Since labour immigrants are closer substitutes to natives than non-western immigrants, we should see a larger impact of new EU immigration than non western immigration. In contrast, if immigration drives FrP voting due to non-economic, cultural concerns, as conventional wisdom claims (Hainmueller and Hopkins 2014), we should see larger impact of non-western immigration. In line with the competition theory, the results show a much larger coefficient for new EU immigration. We find results in the same direction if we estimate the coefficients simultaneously. When running such a regression we find a coefficient for non-western immigrant of .39 (cluster SE=.16) compared to .65 (cluster SE=.36) for new EU immigration, however, since the latter coefficient is somewhat imprecisely estimated we cannot reject a null hypothesis of equal coefficients.

Endogeneity

One concern about the previous estimates is that there is a correlation between the residual and immigrant share, for instance due to business-cycle effects. In addition measurement error is a potential concern. Borjas (2003) expects his wage estimates to be downward biased from selection since immigration is likely to be targeted towards skill-cells with a positive wage development. So far we have addressed this concern by adding controls for e.g. the unemployment rate. The results in Table A-1 suggest that this potential bias is not very important.

An alternative approach to the selection problem is to identify the effects of immigration from exogenous variation in immigrant share. One promising source of exogenous variation is “migration-push” factors in migration-exporting countries. Inspired by Lull (2015), we allow the effects of the push factors to vary across skill cells, and set up a regression model predicting the number of immigrants from exporting countries—we have information on ancestry country from the register data—in each skill cell from a set of push-factors. These push variables are $\log(\text{GDP})$, $\log(\text{population size})$, the freedom of assembly and association index (Cingranelli and Richards 2010), the political terror scale (Giavazzi, Petkov, and Schiantarelli 2014), \log of years of civil war 1800-2007, \log of years

Table 3: Regression results. Voting. N=160.

	Frp Second stage	Frp Reduced form	Im. share First stage
Pred. im. share	.54*** (.11)		
Instrument		2.81*** (.32)	1.52** (.33)
Kleibergen-Paap F-value	76		

Note: Robust standard errors adjusted for clustering on skillcell and small sample bias in parentheses. All regressions include education group FE, experience group FE, year FE, and interactions between these FE. Variables used to construct predicted immigrant share are log(GDP), log(population size), Freedom House Civil Liberties index, statedep, indicator for former communist dictatorship, interaction former communist and log GDP, index of rule of law, linguistic fractionalization, average temperature, proportion of European descent. *** p<0.01, ** p<0.05, * p<0.1

of interstate wars 1800-2007, number of battle deaths, log of the employment rate, and log of distance to Oslo. From the predicted number of immigrants, we derive a predicted share of immigrants in each skill cell. Next, we use the predicted share of immigrants as an instrument for the observed immigrant share in a 2SLS-set up.

The 2SLS-results in Table 3 are indistinguishable from the OLS-results in Table 2. In light of the prior expectation of a downward bias this is somewhat surprising. When we use the 2SLS-approach on the wage-equation we find that, if anything, the OLS estimates are biased upwards (see Table A-3, which is in contrast to effects of immigration to the US (Llull 2015).

In support of the validity of the IV-approach, we get very high F-values in the first-stage, and the instrument is strongly related to FrP in the reduced form. The reduced form estimate suggests that a one standard deviation shift in the instrument increases FrP vote share with about 2.1 percent. Thus, we conclude that there is not much selection bias in the OLS-estimates on vote shares.

Table 4: Regression results. Voting. N=160.

	Vote share FrP	Vote share Ap	Vote share H	Vote share SV
Immigrant share	0.45*** (0.11)	-0.58*** (0.21)	-0.34** (0.14)	0.44** (0.16)
Unweighted regressions	0.49*** (0.10)	-0.51*** (0.16)	-0.35** (0.16)	0.37** (0.15)
New EU immigrants	0.87** (0.35)	-1.19* (0.63)	-0.73** (0.27)	0.48 (0.31)
Non western immigrants	0.52*** (0.17)	-0.58* (0.31)	-0.42* (0.23)	0.64*** (0.21)

Note: Robust standard errors adjusted for clustering on skillcell in parentheses. All regressions include education group FE, experience group FE, year FE, and interactions between these FE. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Other parties

Next we examine how immigrant share influences the vote share of other parties. The results for three relevant parties are presented in Table 4, where we for comparison also include the results for FrP. These parties are Arbeiderpartiet (Ap, Labour), Høyre (H, The conservative party), and Sosialistisk Venstreparti (SV, the Socialist Left Party). Ap is a social democratic party which appeals to voter groups with similar characteristics as FrP's core voters, H is a secular conservative party and FrP's main competitor on the right, while SV is a New Left party diametrically opposed to FrP on many dimensions, in particular on immigration. We find no significant results for the other main parties.

The results show that the increase in FrP's vote share is partly on expense of Ap, for which we consistently find negative and significant effects. This result is unsurprising since there is competition between these two parties for the votes of the low pay, low educated segments of the electorate (see e.g. Finseraas and Vernby 2014). Immigration is also negatively related to the vote share of H, thus parties competing with immigrants appears to abandon the main party both on the right and on the left. For both Ap and H, the coefficients are larger for labour immigration, pointing to competition as an important mechanism.

Perhaps the most surprising results are those for SV. SV is the most immigration-friendly party in the Norwegian Storting, but similar to FrP, they appear to gain in skill cells with an increasing share of immigrants.³¹ Thus, the protectionist and the compensatory response appears to exist together. We do not find a larger coefficient for EU immigration for SV, in contrast, the non-western immigration coefficient is the largest. This finding suggests that non-economic policy concerns are more important for SV's vote share than for the vote share of FrP, Ap, and H. Importantly, the results together points to immigration as a driver of voter polarization rather than causing uniform shifts in one partisan direction.

The polarizing effect of labour market competition

To dig deeper into the polarizing effect of labour market competition, we return to the theoretical framework, which posits that workers can react to competition by demanding less immigration or more public intervention. The former links competition to FrP voting, the latter links competition to SV voting. Based on the previous results we suggest that a voter's choice of response depends on her deep held values on these issues: Those who hold leftist ideological predispositions will become more likely to vote SV when facing labour market competition from immigrants, those without a normative commitment to the left are more likely to turn to FrP. One way to think about this in the theoretical framework above is that the response is determined by the normative, time-invariant views on immigration and public intervention. While the economic shock moves the time-varying components in the same direction for all voters, the normative views determine to what degree the different dimensions are triggered when circumstances change. For those holding leftist ideological predispositions, the immigration induced economic shock mainly triggers the social transfers and regulation dimension, while the immigration dimension are triggered for those holding rightist predispositions.

We are unable to provide a rigorous test of this claim, but we employ the panel feature of the Norwegian election studies to shed some light on this perspective. The panel feature

³¹In the Appendix we show that we get larger effects for SV when we instrument immigrant share.

Table 5: Regression results. Voting.

	Voting FrP	Voting SV
Immigrant shareXRrestrictive _{t-1}	0.45 (0.71)	-1.46** (0.53)
Immigrant shareXRredistribution _{t-1}	0.10 (0.54)	1.17*** (0.38)
Immigrant share	0.44 (0.80)	-0.73 (0.64)
Restrictive immigration policy _{t-1}	0.23*** (0.05)	-0.10*** (0.04)
More redistribution _{t-1}	-0.03 (0.03)	0.05** (0.02)
Observations	2,498	2,498

Note: Robust standard errors adjusted for clustering on skillcell in parentheses. All regressions include education group FE, experience group FE, year FE, and interactions between these FE. *** p<0.01, ** p<0.05, * p<0.1

is a rotating panel where a subset of the respondents in each election is re-interviewed in the subsequent election (four years later). We pool the subset of respondents who are interviewed for the second time in the 1993-2009 elections and add the information about these respondents from the first interview four years earlier. In particular we add information about their views on immigration and income redistribution. Next, we estimate regression models identical to those above, but on individual level data, and add interaction terms between previously stated political preferences and current exposure to labour market competition with immigrants:

$$Y_t = \beta_1 I_t + \beta_2 I_t \times P_{t-1} + \beta_3 P_{t-1} + \alpha_i + \gamma_j + \mu_t + \alpha_i * \gamma_j + \alpha_i * \mu_t + \gamma_j * \mu_t + \epsilon_{ijt} \quad (3)$$

where P_{t-1} is the political view as measured in the previous election. As before, α_i refers to fixed effects (FE) for levels of education, γ_j refers to FE for levels of experience, and μ_t refers to FE for election years, and we add interactions between the fixed effects. The key interest is on β_2 which tells us whether the impact of immigrant share depends on views on immigrants/redistribution in the previous election.

Views on immigration policy is measured using a question where voters are asked to express their view on immigration on a scale from 0 to 10, where 0 equals “easier for immigrants to get access to Norway” while 10 equals “even more restrictions on immigration to Norway”.³² We recode this variable to the 0 to 1 range. We measure views on income redistribution using the question on whether they agree that “we have come far enough in reducing economic inequalities”. Respondents are asked to state their views using Likert-scale answer categories.

The results are presented in Table 5. Two important results emerge. First, immigrant share is positively related to FrP voting irrespective of ideological predisposition, however, the effect is much larger among those holding restrictive views on immigration prior to the immigrant shock. The effect is doubled if we go from the most liberal ($\text{Restrictive}_{t-1} = 0$) to the most restrictive ($\text{Restrictive}_{t-1} = 1$). Second, immigrant share is negatively related to SV voting for most voters, however there is a positive correlation for those initially holding very liberal immigration views and egalitarian views on redistribution. This group score 0 on $\text{Immigrant share} \times \text{Restrictive}_{t-1}$, thus the marginal effect of immigrant share is positive since $1.17 - 0.73 > 0$. We hasten to add, however, that the small sample size makes it difficult to draw strong conclusions, so results should only be considered as suggestive.

5 Conclusion

Immigration creates opportunities and challenges for receiving countries. In most advanced economies, immigration causes a downward pressure on wages and employment opportunities of workers with similar skills, at least in the short run. We demonstrate such effects in Norway, and propose that workers have two political responses; they can demand more restrictive immigration policies or they can demand more public intervention in the form of social transfers and regulations. Previous research has mainly been preoccupied with the former response, which we show is unfortunate. This is because when there is several responses, the structure of party competition, the positioning of the political par-

³²The asymmetry in the scale was present in all years

ties on the relevant political dimensions, will determine the popularity of the responses, and thus what parties which will gain and lose among voters competing with immigrants on the labour market. Unless one party combines policies to address both responses, several parties might gain votes among those facing competition from immigrants. Incorporating these party position differences is a major challenge to cross-national studies of the electoral consequences of immigration, and might explain the conflicting results in the empirical literature.

We are the first study of political responses to immigration which utilizes the skill cell approach to identify who competes with immigrants. Using this approach we find much more support for labour market competition theory than in the previous literature. We find that Norway's most right-wing party on immigration and the most left-wing party on public interventions gain votes among voters exposed to labour market competition from immigrants. Voters' choice of response appears to depend on ideological predispositions, which we suggest is because ideology determines what political dimension is being triggered when exposed to competition.

Our results show that immigration causes political polarization among voters exposed to its labour market consequences. The polarized response among voters might make it more difficult to reach political consensus on policy changes to counterweight the negative wage effects. Further theoretical and empirical studies of the polarizing effect of labour market competition with immigrants appear as an important direction of research. In our view, too much of the literature on the political consequences of immigration have been concerned about the relative importance of ideology and self-interest. Our results suggest that understanding the *interaction* between ideology and economic consequences is a more fruitful direction of research.

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Appendix

List of survey data sets

Data are gathered from 61 data sets. A majority of the data sets are provided by the Norwegian Social Science Data Services (NSD) and publicly available (www.nsd.uib.no) for free unless noted. NSD is not responsible for the analyses/interpretation of data. All surveys are nationwide:

National Election Studies 1993, 1997, 2001, 2005, 2009, 2013 (recall question)

Local Election Studies 1995, 1999, 2003, 2007

The EU referendum study 1994

Standard Eurobarometer 42.0 1994

Statistics Norway's Omnibus Surveys, a total of 40 surveys in the period 1994-2004

European Social Survey 2002, 2004, 2006, 2008, 2010, 2012

International Social Survey Programme 1996, 2010, 2011, 2012

Comparative Study of Electoral Systems 1997, 2001, 2005, 2009

Generations and Gender Survey (GGG-Norway) 2007/2008

Respons Time Series of Opinion Polls 2005-2012

Medborgerundersøkelsen 2001

FAMI-survey on views on poverty 2007

NOVA-survey on views on globalization 2008/2009

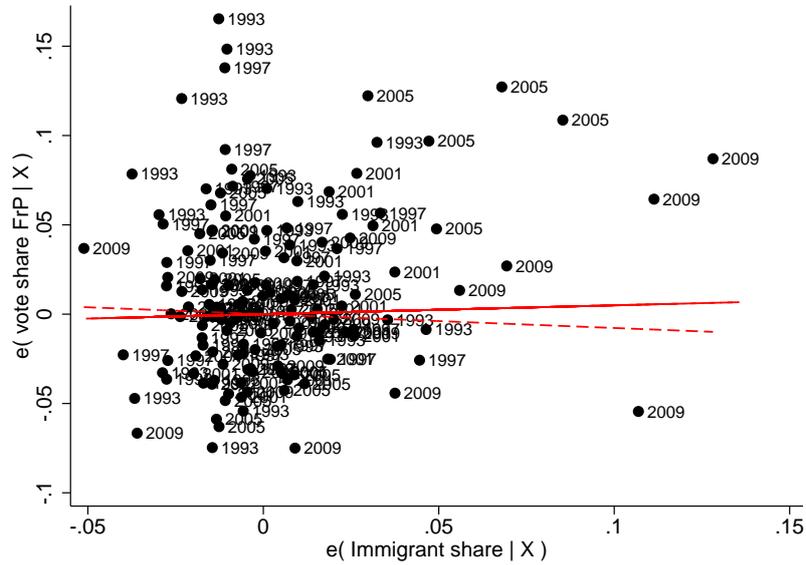
Additional information on the allocation of immigrants to skill cells

We use educational attainment collected from the National Education Database. The education database is built up from records obtained directly from Norwegian educational institutions and the Norwegian State Educational Loan Fund, as well as self-reported attainment taken from census records and two surveys (from 1989 and 1999) that were administered to all foreign residents with missing educational attainment. Still, missing education remains a problem in the immigrant labor force data. To illustrate, the fraction of resident immigrants in our data with missing records of educational attainment is 0.138 in 1993, 0.121 in 1999, and 0.387 in 2006. In order to compute immigrant shares by education and experience levels, it is therefore necessary to allocate immigrants with missing data across skill groups.

Our allocation procedure starts with the assumption that for each observation year, birth cohort, gender, and country of origin (broadly defined in four major regions), the distribution of attainment is the same for immigrants with missing and non-missing data. To illustrate the procedure, consider the 427 resident male immigrants born in 1959 in one of the neighboring Nordic countries and counted in the Norwegian labor force in 2006. Of these 47-year old men, 129 have missing on educational attainment. Among the 298 men with non-missing data, the frequency distribution across the four attainment levels used in the analysis is 40, 27, 25, and 8 percent. Accordingly, we estimate that, in 2006, the count of Nordic male high-school dropouts with 30 (= 47 – 17) years of experience is 52 persons ($0.40 * 129$) higher than the observed count (120); that of high-school graduates with 28 years of experience is 35 persons higher; that of men with some college and 24 years of experience 32 persons higher; and that of college graduates with 21 years of experience 10 persons higher than the observed count. When we follow the same procedure for other birth years, we estimate that the 2006 count of Nordic male dropouts with 26-30 years of experience is 202 persons higher than the observed count of 596 persons. A feature of the allocation procedure is that it tends to blow up counts in low education-low experience cells and leave counts in high attainment-high experience cells unchanged. The reason for the latter is that very few immigrants in the oldest birth cohorts (i.e., born before 1946) have missing data. Conversely, for the majority of, say, 20-year old Nordic males, we lack education data, and these individuals must by definition belong to a low attainment-low experience cell.

Additional empirical results

Figure A-1: Partial regression plot without interactions between the fixed effects



Note: The full line is the regression line when the outlier in the bottom righthand corner is excluded. The dotted line is the regression line when this observation is included. Both regression lines have a slope which is insignificantly different from zero.

Table A-1: Regression results. The dependent variable is FrP vote share. N=160, except in row 2 where N=128 (see note).

1. Log native labor force	0.38*** (0.13)
2. Share in public sector	0.40*** (0.10)
3. Share on disability pension	0.39*** (0.11)
4. Immigrant share $t - 1$	0.46*** (0.11)
5. $\text{Log}(\frac{FrP}{1-Frp})$	2.62* (1.42)

Note: Robust standard errors adjusted for clustering on skillcell in parentheses. All regressions include education group FE, experience group FE, year FE, and interactions between these FE. All regressions are weighted by the number of observations behind the aggregated vote share. We do not have data on individuals' sector of employment prior to 1995, thus number of observations in row 2 is 128 as the 32 skill cell observations from the 1993 election have missing information on share in public sector. *** p<0.01, ** p<0.05, * p<0.1

Table A-2: Regression results. Vote share FrP. N=128.

	Excl 1993	Excl 1997	Excl 2001	Excl 2005	Excl 2009
Immigrant share	0.41*** (0.11)	0.40** (0.13)	0.50*** (0.13)	0.45** (0.11)	0.72** (0.30)
Control unemployment	0.38*** (0.09)	0.40** (0.13)	0.51*** (0.13)	0.46** (0.12)	0.67** (0.30)

Note: Robust standard errors adjusted for clustering on skill cell in parentheses. All regressions include education group FE, experience group FE, year FE, and interactions between these FE. All regressions are weighted by the number of observations behind the aggregated vote share. *** p<0.01, ** p<0.05, * p<0.1

Table A-3: Regression results. Voting. N=160.

	Frp Second stage	Frp Reduced form	Im. share First stage	SV Second stage	SV Reduced form	ln(wage) Second stage	ln(wage) Reduced form	Im. share First stage
Pred. im. share	.54*** (.11)			.64*** (.17)		-.43*** (.15)		
Instrument		2.81*** (.32)	1.52** (.33)		1.79*** (.50)		-1.24** (.60)	2.88*** (.29)
Kleibergen-Paap F-value	76			76		95		
Observations	160	160	160	160	160	544	544	544

Note: Robust standard errors adjusted for clustering on skillcell in parentheses. All regressions include education group FE, experience group FE, year FE, and interactions between these FE. Variables used to construct predicted immigrant share are log(GDP), log(population size), Freedom House Civil Liberties index, statedep, indicator for former communist dictatorship, interaction former communist and log GDP, index of rule of law, linguistic fractionalization, average temperature, proportion of European descent. *** p<0.01, ** p<0.05, * p<0.1