

LITERACY AND THE MIGRANT-NATIVE WAGE GAP

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PRELIMINARY – DO NOT CIRCULATE!

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Abstract

The ability to read and write is one of the most important skills in modern society, and industrialized countries typically pride themselves in having near perfect literacy rates. In 2010, the largest-scale German adult literacy test to date was conducted, and found illiteracy to be twice as prevalent as expected. We use this unique dataset in order to shed light on the determinants of literacy, the consequences of low literacy for participation in the labor market, and the returns to literacy in terms of wages. Because the data also covers a large number of migrant respondents, we are able to assess to what extent employment and wage gaps between natives and migrants are rooted in lower literacy of the latter group. Finally, we look at whether the returns to literacy for migrants are different in catholic vs. non-catholic areas as well as conservative vs. left-leaning regions of the country.

JEL Codes: .

Keywords: .

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1 Introduction

This research uses data from the Level One Study (LEO), which was commissioned by the University of Hamburg and conducted by TNS Infratest early and mid 2010. LEO is a nationally representative study and surveyed more than 8,000 individuals. It was the declared goal of the survey to get precise estimates of the magnitude of illiteracy in the adult German speaking population. Respondents are scored on a continuous literacy scale, but we also have indicator variables for whether the respondent is functionally illiterate or dyslexic – where the definition of functionally illiterate is the one used by the OECD: ‘A person is functionally illiterate who cannot engage in all those activities in which literacy is required for effective functioning of his group and community and also for enabling him to continue to use reading, writing and calculation for his own and the community’s development.’ The LEO study found the prevalence of functional illiteracy to be around 15% – twice the number that had been expected. The surprisingly large dimension of the problem makes it even more important to look at what predicts literacy, and what the outcomes of illiteracy are on the labor market. One would expect that being literate enormously facilitates participation in the labor market and that for those who have a job literacy is valued in terms of wages – to quantify these mechanisms is the first aim of this paper. Subsequently we also look at whether those who perform poorly on the test tend to select into particular occupations – most likely those jobs where such skills are not needed.

It is a stylized fact that migrants participate in the labor market to a lesser degree than natives and that those migrants who do participate earn less than natives. It is however necessary to disentangle effects of possibly lower education levels from pure discrimination. On top of that, many migrants are held back by the fact that their level of literacy is lower than that of natives. Our data allows us to investigate whether there remains a participation gap or a wage gap after factoring out literacy levels in the German language. Another objective of the paper is to look at whether the returns to literacy for migrants differ between conservative and more left-leaning areas of the country, or between catholic and non-catholic parts. With rational employers, such differences should not exist once

skills are accounted for.

The next section gives a quick review of the preliminary results that are presented in Tables 1 through 6.

2 Results

It is important to get a feel for what the predictors of low literacy scores are. Table 1 presents a regression of the continuous literacy score on individual characteristics. Column (1) shows the results for natives, column (2) for migrants, and column (3) pools all respondents. As is expected, the level of education is highly correlated with literacy in all groups. Being male is associated with lower scores, as is being single and living in a smaller city. When looking at the migrants, older age and a longer time since migration are negatively linked to literacy. This makes sense, as in our equation the time since migration simply amounts to a control for age at migration. Since it is well known that learning languages becomes more difficult with age, the negative sign is to be expected. Some languages of origin are also associated with lower scores, mainly those that do not use Latin letters. The pooled sample in column (3) shows that migrants have on average much lower literacy skills than natives – which could play a role in explaining possible employment and wage gaps.

We start with a look at employment gaps in Table (2). Columns (1) and (2) show results for natives with the continuous literacy score and dummies for functional illiteracy and dyslexia, respectively. Columns (3) and (4) repeat these specifications for migrants. For natives, continuous literacy is highly statistically significant and positively linked to the probability of being employed. Not surprisingly, the same is true for the specification using indicator variables: being functionally illiterate amounts to a 5% lower probability of being employed as compared to an individual who is above the threshold for functional illiteracy. For this paper we define as 'dyslexic' someone who is not functionally illiterate but whose literacy skill do not exceed those of a fourth-grader. Being dyslexic does not

come with a lowered probability of being employed, which could be because these people can find jobs in the area of manual labor. The most important factor for being employed is education, however. Most interesting is that the 'employment penalty' of low literacy skills is about twice as large for migrants. Functionally illiterates are roughly 10% less likely to be employed than their more literate counterparts. While the differing coefficients may point to discrimination, another interpretation would be that migrants lack networks that are needed to score a job despite being illiterate.

Table 3 digs deeper into this issue. The dependent variable is again an indicator for employment, and the main point of this table is to show the coefficient for being a migrant. When educational background is not controlled (column 1), migrants are 5% less likely to be employed – this could be dubbed the native-migrant employment gap. When education is factored out in column (2), the gap shrinks to 2.5% and is only marginally significant. Including literacy on top of that in column (3) cuts the employment gap in half again – and it is not statistically significant anymore. The same is true when the indicators for functional illiteracy and dyslexia are used: While the effects of low literacy are again statistically significant, there does not seem to be any remaining employment gap between a migrant and native of the same literacy skill and education level.

When it comes to wages, the following tables always show two estimates for the same general specification: one which accounts for the selected sample that is employed and one that does not. In other words: we estimate a Heckman model for each of the wage equations. Table 4 shows the wage equation estimates for the native population. Columns (1) and (2) use the continuous literacy variable, (3) and (4) the indicator variables. It can be seen, that among the employed there are highly significant returns to literacy: being functionally illiterate is associated with about 10% lower earnings in the specification that does not correct for sample selection. In the Heckman model this number climbs to 13%, which points to the fact that the illiterates that actually do select into the labor market have other qualities that are positively related to wages. Contrary to the employment equation, being dyslexic also predicts having lower wages (roughly 4%). In sum, for natives there are substantial wage penalties for being of low literacy. Table 5 repeats the same

wage equations for migrants. What stands out is that the coefficients are larger than for the native population, which would point to higher wage penalties for illiteracy in migrants. However, the estimates are so imprecise that none of the estimates is statistically significantly different from zero. In other words: surprisingly, we do not find evidence for a wage penalty towards migrants.

We revisit the discrimination issue in Table 6. The first four columns show estimates for a wage equation with all respondents, native and migrant, pooled. Columns (1) through (4) do not correct for sample selection, whereas columns (4) through (8) do. Surprisingly, in the non-selection-corrected estimates, it appears that without controlling for education, there is no difference in wages between migrants and natives. This finding even turns into 6% higher wages for migrants, conditional on literacy and attained educational level. The more credible estimates are of course the Heckman models from column (4) on. Without controls for literacy and education we find the expected result of roughly 8% lower wages for migrants. Controlling for education even flips the sign of this coefficient, yet it is not statistically significant. When literacy is controlled, the coefficient increases in magnitude to roughly .05, indicating that migrants at the same education and literacy level earn roughly 5% more than natives. Even though the coefficient is only marginally significant in one of the specifications, this is a very surprising finding.

Estimations for interactions of migrant status and the comparison of different German regions are not yet shown.

3 Summary

So far we have found evidence that there is a substantial penalty in terms of employment for those who are of low literacy. The penalty appears to be twice as large for migrants when compared to natives (Table 2). We also find large wage penalties for low literacy in those who are employed, even though for migrants the coefficients are not statistically significant.

TABLE 1: LITERACY EQUATION. DEPENDENT VARIABLE: LITERACY TEST SCORE.

	(1) Natives	(2) Migrants	(3) All
migrant			-5.526*** (0.641)
schoolGDR	-0.503 (0.607)		
age	0.045 (0.085)	-0.566*** (0.220)	-0.001 (0.074)
agesq	-0.001 (0.001)	0.005* (0.003)	-0.001 (0.001)
time_migr		0.305* (0.157)	
time_migr2		-0.003 (0.003)	
language_2		-4.430** (2.160)	
language_3		-4.476** (2.270)	
language_5		-5.415 (3.455)	
language_6		-2.476 (2.366)	
language_7		-2.313 (2.519)	
language_8		-2.071 (2.016)	
language_9		-7.587*** (2.559)	
education_2	4.895*** (0.495)	3.293** (1.407)	4.602*** (0.537)
education_3	6.250*** (0.680)	4.996 (3.346)	6.077*** (0.824)
education_4	9.213*** (0.846)	6.924*** (2.175)	8.973*** (0.851)
education_5	4.710** (2.319)	2.452 (3.015)	3.970* (2.090)
schoolabroad	-5.851*** (1.651)	-1.939 (1.602)	-4.711*** (0.987)
male	-3.112*** (0.420)	-2.310*** (0.704)	-2.970*** (0.409)
partner	1.004** (0.394)	0.455 (0.979)	1.028** (0.412)
bilingual	-2.742** (1.140)	1.493 (1.869)	-1.156 (0.913)
educ_mother_1	-1.205*** (0.417)	-2.137* (1.170)	-1.580*** (0.442)
educ_mother_3	0.816 (0.846)	-1.788 (1.911)	0.551 (0.683)
educ_father_1	-1.236* (0.745)	-0.922 (0.869)	-1.496** (0.586)
educ_father_3	0.906* (0.494)	2.262 (1.649)	0.922* (0.519)
PersHH	0.297 (0.234)	-1.392** (0.576)	0.040 (0.243)
child6	-0.370 (0.382)	0.851 (0.661)	-0.307 (0.288)
child713	0.157 (0.299)	1.233 (0.959)	0.254 (0.220)
child1417	-0.262 (0.567)	1.233 (0.844)	-0.117 (0.509)
du_bik1	-0.907* (0.517)	-1.311 (1.142)	-0.928* (0.510)
du_bik2	-0.984** (0.421)	-2.639** (1.338)	-1.104** (0.431)
state_dummies	yes	yes	yes
Constant	46.967*** (1.951)	56.355*** (4.310)	48.525*** (1.793)

Observations

Standard errors in parentheses clustered at the state level

*** p<0.01, ** p<0.05, * p<0.1

TABLE 2: EMPLOYMENT EQUATION NATIVES/MIGRANTS. DEPENDENT VARIABLE: EMPLOYED (YES/NO).

	(1)	(2)	(3)	(4)
	Natives Lit Spec	Natives Funct Spec	Migrants Lit Spec	Migrants Funct Spec
Literacy Score	0.002*** (0.000)		0.005** (0.002)	
functional illiterate		-0.050*** (0.016)		-0.094** (0.044)
dyslexic		-0.016 (0.011)		-0.034 (0.035)
schoolGDR	-0.020 (0.014)	-0.021 (0.014)		
age	-0.001 (0.002)	-0.001 (0.002)	-0.005 (0.006)	-0.006 (0.006)
agesq	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
time_migr			0.006 (0.004)	0.006 (0.004)
time_migr2			-0.000 (0.000)	-0.000* (0.000)
language_2			-0.075 (0.082)	-0.076 (0.085)
language_3			-0.061 (0.046)	-0.065 (0.043)
language_5			0.004 (0.070)	-0.002 (0.067)
language_6			0.013 (0.085)	0.010 (0.089)
language_7			-0.018 (0.053)	-0.019 (0.051)
language_8			-0.066** (0.030)	-0.068** (0.032)
language_9			-0.035 (0.067)	-0.044 (0.065)
education_2	0.080*** (0.014)	0.080*** (0.014)	0.048** (0.024)	0.049** (0.023)
education_3	0.108*** (0.018)	0.107*** (0.019)	0.108** (0.048)	0.109** (0.048)
education_4	0.085*** (0.017)	0.087*** (0.017)	0.045 (0.035)	0.053 (0.038)
education_5	0.013 (0.037)	0.013 (0.037)	-0.144* (0.079)	-0.143* (0.077)
schoolabroad	-0.017 (0.025)	-0.014 (0.026)	-0.032 (0.029)	-0.034 (0.031)
male	-0.005 (0.006)	-0.007 (0.006)	0.020 (0.027)	0.019 (0.027)
partner	0.063*** (0.008)	0.063*** (0.008)	0.049*** (0.018)	0.049*** (0.018)
bilingual	0.007 (0.024)	0.006 (0.024)	-0.056 (0.062)	-0.055 (0.061)
educ_mother_1	-0.006 (0.008)	-0.006 (0.008)	-0.007 (0.057)	-0.007 (0.057)
educ_mother_3	0.004 (0.014)	0.005 (0.013)	0.030 (0.058)	0.025 (0.056)
educ_father_1	-0.011 (0.010)	-0.011 (0.010)	-0.020 (0.031)	-0.022 (0.030)
educ_father_3	0.025*** (0.008)	0.026*** (0.007)	0.029 (0.053)	0.033 (0.053)
PersHH	0.007 (0.005)	0.007 (0.005)	0.021 (0.021)	0.019 (0.021)
child6	-0.019* (0.010)	-0.019* (0.010)	-0.037 (0.038)	-0.036 (0.039)
child713	-0.005 (0.007)	-0.005 (0.007)	-0.044* (0.026)	-0.040* (0.024)
child1417	-0.000 (0.009)	-0.000 (0.009)	-0.037 (0.025)	-0.034 (0.024)
du_bik1	-0.001 (0.009)	-0.001 (0.009)	0.086** (0.038)	0.088** (0.040)
du_bik2	0.013** (0.005)	0.013** (0.005)	0.021 (0.034)	0.020 (0.034)
state_dummies	yes	yes	yes	yes
Constant	0.751*** (0.055)	0.845*** (0.052)	0.714*** (0.207)	0.973*** (0.158)

Observations

Standard errors in parentheses clustered at the state level

*** p<0.01, ** p<0.05, * p<0.1

TABLE 3: EMPLOYMENT EQUATION ALL RESPONDENTS. DEPENDENT VARIABLE: EMPLOYED (YES/NO).

	(1)	(2)	(3)	(4)
	No Lit/Edu	No Lit	Lit Spec	Funct Spec
migrant	-0.051*** (0.016)	-0.025* (0.014)	-0.013 (0.013)	-0.014 (0.013)
Literacy Score			0.002*** (0.000)	
functional illiterate				-0.063*** (0.018)
dyslexic				-0.018* (0.010)
age	0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)
agesq	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
education_2		0.081*** (0.012)	0.072*** (0.012)	0.071*** (0.012)
education_3		0.112*** (0.016)	0.099*** (0.016)	0.098*** (0.017)
education_4		0.092*** (0.016)	0.072*** (0.017)	0.075*** (0.017)
education_5		-0.043 (0.045)	-0.052 (0.044)	-0.052 (0.044)
schoolabroad	-0.053** (0.024)	-0.052** (0.023)	-0.042* (0.022)	-0.041* (0.021)
male	-0.002 (0.005)	-0.005 (0.006)	0.001 (0.007)	-0.000 (0.007)
partner	0.067*** (0.008)	0.062*** (0.008)	0.060*** (0.008)	0.059*** (0.008)
bilingual	-0.023 (0.032)	-0.015 (0.031)	-0.012 (0.030)	-0.014 (0.031)
educ mother_1		-0.010 (0.008)	-0.007 (0.007)	-0.006 (0.008)
educ mother_3		0.010 (0.013)	0.009 (0.014)	0.009 (0.013)
educ father_1		-0.017 (0.011)	-0.014 (0.011)	-0.013 (0.011)
educ father_3		0.028*** (0.010)	0.026** (0.010)	0.027** (0.010)
PersHH	0.009 (0.006)	0.009 (0.006)	0.009 (0.006)	0.009 (0.006)
child6	-0.026** (0.013)	-0.025* (0.013)	-0.025* (0.013)	-0.025* (0.013)
child713	-0.013 (0.009)	-0.011 (0.008)	-0.011 (0.008)	-0.011 (0.009)
child1417	-0.011 (0.008)	-0.009 (0.009)	-0.008 (0.009)	-0.009 (0.008)
du_bik1	-0.000 (0.011)	0.003 (0.010)	0.005 (0.010)	0.006 (0.010)
du_bik2	0.006 (0.008)	0.010 (0.006)	0.012** (0.006)	0.012** (0.006)
state_dummies	yes	yes	yes	yes
Constant	0.884*** (0.055)	0.851*** (0.055)	0.748*** (0.059)	0.868*** (0.056)
Observations

Standard errors in parentheses clustered at the state level

*** p<0.01, ** p<0.05, * p<0.1

TABLE 4: WAGE EQUATION, NATIVES. DEPENDENT VARIABLE: LOG WAGES.

	(1) Lit Spec	(2) Lit Spec Heckman	(3) Funct Spec	(4) Funct Spec Heckman
Literacy Score	0.003*** (0.001)	0.004*** (0.001)		
functional illiterate			-0.098*** (0.036)	-0.131*** (0.043)
dyslexic			-0.033 (0.022)	-0.043* (0.023)
age	0.032*** (0.003)	0.031*** (0.003)	0.032*** (0.003)	0.031*** (0.003)
agesq	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
education_2	0.143*** (0.018)	0.195*** (0.064)	0.142*** (0.017)	0.195*** (0.064)
education_3	0.244*** (0.029)	0.313*** (0.098)	0.243*** (0.030)	0.313*** (0.098)
education_4	0.518*** (0.029)	0.571*** (0.068)	0.521*** (0.028)	0.577*** (0.069)
education_5	0.264** (0.111)	0.275** (0.115)	0.263** (0.111)	0.275** (0.115)
schoolabroad	-0.110*** (0.043)	-0.121** (0.050)	-0.106** (0.042)	-0.116** (0.048)
schoolGDR	0.007 (0.027)	-0.005 (0.032)	0.007 (0.027)	-0.005 (0.032)
firmtenure	0.015*** (0.002)	0.015*** (0.002)	0.015*** (0.002)	0.015*** (0.002)
firmtenure2	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
lgworkhrs	0.496*** (0.031)	0.497*** (0.031)	0.495*** (0.032)	0.496*** (0.032)
male	0.211*** (0.030)	0.207*** (0.033)	0.209*** (0.030)	0.204*** (0.033)
partner	0.060** (0.024)	0.101* (0.061)	0.060** (0.023)	0.102* (0.061)
bilingual	-0.050 (0.036)	-0.044 (0.034)	-0.052 (0.035)	-0.046 (0.033)
NdepEmpl	-0.115*** (0.036)	-0.114*** (0.036)	-0.115*** (0.036)	-0.114*** (0.036)
du_befr	-0.164*** (0.032)	-0.163*** (0.033)	-0.164*** (0.032)	-0.163*** (0.033)
du_mini	-0.586*** (0.045)	-0.584*** (0.045)	-0.586*** (0.045)	-0.584*** (0.045)
educ mother_1	-0.037** (0.016)	-0.040** (0.017)	-0.037** (0.015)	-0.041** (0.017)
educ mother_3	0.024 (0.045)	0.027 (0.045)	0.025 (0.044)	0.028 (0.045)
educ father_1	0.017 (0.024)	0.010 (0.024)	0.017 (0.023)	0.010 (0.024)
educ father_3	0.070** (0.030)	0.085*** (0.030)	0.071** (0.030)	0.086*** (0.031)
du_bik1	-0.032** (0.015)	-0.031** (0.016)	-0.031** (0.015)	-0.031** (0.015)
du_bik2	0.008 (0.016)	0.017 (0.011)	0.008 (0.016)	0.017 (0.011)
emplpt	-0.366*** (0.036)	-0.366*** (0.036)	-0.367*** (0.036)	-0.367*** (0.036)
emplelse	-0.846*** (0.034)	-0.846*** (0.034)	-0.845*** (0.035)	-0.844*** (0.034)
state_dummies	yes	yes	yes	yes
du_occKA	-0.038 (0.060)	-0.039 (0.059)	-0.039 (0.061)	-0.040 (0.061)
du_occ1	0.101*** (0.019)	0.101*** (0.018)	0.101*** (0.019)	0.101*** (0.018)
du_occ3	-0.041*** (0.015)	-0.041*** (0.016)	-0.041*** (0.015)	-0.041*** (0.015)
oefDGemn	0.020 (0.017)	0.021 (0.017)	0.022 (0.016)	0.023 (0.016)
isco dummies	yes	yes	yes	yes
du_wage_imp	-0.074*** (0.016)	-0.075*** (0.016)	-0.075*** (0.016)	-0.075*** (0.016)
IMR		1.603 (1.792)		1.637 (1.783)
Constant	4.607*** (0.116)	4.002*** (0.688)	4.796*** (0.110)	4.240*** (0.637)
Observations				

Standard errors in parentheses clustered at the state level

*** p<0.01, ** p<0.05, * p<0.1

TABLE 5: WAGE EQUATION, MIGRANTS. DEPENDENT VARIABLE: LOG WAGES.

	(1)	(2)	(3)	(4)
	Lit Spec	Lit Spec Heckman	Funct Spec	Funct Spec Heckman
Literacy Score	0.006 (0.004)	0.007 (0.006)		
functional illiterate			-0.148 (0.096)	-0.171 (0.135)
dyslexic			-0.069 (0.064)	-0.076 (0.072)
age	0.032** (0.013)	0.031 (0.021)	0.032** (0.013)	0.029 (0.023)
agesq	-0.000** (0.000)	-0.000 (0.000)	-0.000** (0.000)	-0.000 (0.000)
time_migr	-0.005 (0.011)	-0.004 (0.011)	-0.005 (0.011)	-0.003 (0.012)
time_migr2	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
language dummies	yes	yes	yes	yes
education_2	0.159*** (0.040)	0.166*** (0.038)	0.159*** (0.039)	0.171*** (0.040)
education_3	0.205** (0.095)	0.219* (0.113)	0.205** (0.092)	0.230** (0.113)
education_4	0.319** (0.148)	0.326** (0.135)	0.321** (0.145)	0.335** (0.131)
education_5	0.106 (0.164)	0.082 (0.235)	0.107 (0.169)	0.066 (0.244)
schoolabroad	-0.133** (0.060)	-0.139*** (0.044)	-0.136** (0.061)	-0.146*** (0.045)
firmtenure	0.013 (0.012)	0.013 (0.013)	0.013 (0.012)	0.013 (0.013)
firmtenure2	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
lgworkhrs	0.483*** (0.118)	0.484*** (0.118)	0.478*** (0.118)	0.479*** (0.118)
male	0.027 (0.062)	0.029 (0.064)	0.030 (0.062)	0.035 (0.063)
partner	0.170*** (0.056)	0.176** (0.071)	0.171*** (0.057)	0.181** (0.075)
bilingual	-0.092 (0.099)	-0.100 (0.135)	-0.094 (0.099)	-0.107 (0.137)
NdepEmpl	-0.134 (0.105)	-0.134 (0.105)	-0.136 (0.107)	-0.136 (0.107)
du_befr	-0.108* (0.057)	-0.108* (0.058)	-0.109* (0.058)	-0.109* (0.058)
du_mini	-0.457*** (0.123)	-0.456*** (0.125)	-0.462*** (0.121)	-0.459*** (0.123)
educ_mother_1	0.058 (0.085)	0.056 (0.089)	0.061 (0.082)	0.059 (0.086)
educ_mother_3	0.222 (0.145)	0.225 (0.140)	0.219 (0.141)	0.223 (0.136)
educ_father_1	-0.044 (0.042)	-0.047 (0.049)	-0.048 (0.042)	-0.052 (0.050)
educ_father_3	-0.126 (0.109)	-0.122 (0.118)	-0.123 (0.108)	-0.114 (0.119)
du_bik1	0.076 (0.057)	0.088 (0.091)	0.080 (0.059)	0.101 (0.100)
du_bik2	0.106** (0.047)	0.108* (0.055)	0.106** (0.049)	0.110* (0.058)
emplpt	-0.476*** (0.043)	-0.477*** (0.044)	-0.474*** (0.045)	-0.475*** (0.046)
emplese	-0.872*** (0.103)	-0.873*** (0.106)	-0.869*** (0.108)	-0.871*** (0.111)
state_dummies	yes	yes	yes	yes
du_occKA	0.080 (0.139)	0.080 (0.137)	0.080 (0.137)	0.080 (0.134)
du_occ1	0.083 (0.065)	0.082 (0.062)	0.086 (0.063)	0.084 (0.061)
du_occ3	-0.149 (0.095)	-0.148 (0.094)	-0.145 (0.092)	-0.144 (0.091)
oeffDGemn	0.094** (0.048)	0.094** (0.047)	0.095** (0.046)	0.095** (0.045)
isco dummies	yes	yes	yes	yes
du_wage_imp	-0.013 (0.062)	-0.012 (0.061)	-0.012 (0.063)	-0.011 (0.061)
IMR		0.351 (2.331)		0.611 (2.458)
Constant	4.816*** (0.559)	4.695*** (0.836)	5.172*** (0.539)	5.018*** (0.676)
Observations				

Standard errors in parentheses clustered at the state level

*** p<0.01, ** p<0.05, * p<0.1

TABLE 6: WAGE EQUATION, ALL RESPONDENTS. DEPENDENT VARIABLE: LOG WAGES.

	(1) No Lit/Edu	(2) No Lit	(3) Lit Spec	(4) Funct Spec	(5) No Lit/Edu Heckman	(6) No Lit Heckman	(7) Lit Spec Heckman	(8) Funct Spec Heckman
migrant	-0.007 (0.031)	0.043 (0.030)	0.061** (0.031)	0.061** (0.030)	-0.082** (0.037)	0.019 (0.028)	0.049 (0.030)	0.048* (0.029)
Literacy Score			0.003*** (0.001)				0.005*** (0.001)	
functional illiterate				-0.100*** (0.029)				-0.157*** (0.036)
dyslexic				-0.038** (0.019)				-0.054*** (0.020)
age	0.036*** (0.002)	0.033*** (0.002)	0.033*** (0.002)	0.033*** (0.002)	0.034*** (0.002)	0.031*** (0.002)	0.031*** (0.002)	0.031*** (0.002)
agesq	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
education_2		0.154*** (0.018)	0.140*** (0.018)	0.139*** (0.018)		0.232*** (0.046)	0.207*** (0.041)	0.204*** (0.040)
education_3		0.248*** (0.033)	0.232*** (0.033)	0.230*** (0.033)		0.354*** (0.071)	0.323*** (0.065)	0.319*** (0.064)
education_4		0.523*** (0.029)	0.498*** (0.030)	0.501*** (0.030)		0.609*** (0.055)	0.565*** (0.048)	0.568*** (0.049)
education_5		0.252** (0.104)	0.240** (0.101)	0.239** (0.101)		0.210** (0.104)	0.191* (0.102)	0.191* (0.101)
schoolabroad	-0.132** (0.052)	-0.165*** (0.061)	-0.152** (0.059)	-0.150*** (0.058)	-0.210*** (0.062)	-0.215*** (0.074)	-0.191*** (0.069)	-0.187*** (0.067)
firmtenure	0.013*** (0.002)	0.015*** (0.002)	0.015*** (0.002)	0.015*** (0.002)	0.013*** (0.002)	0.015*** (0.002)	0.015*** (0.002)	0.015*** (0.002)
firmtenure2	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
lgworkhrs	0.446*** (0.040)	0.485*** (0.035)	0.491*** (0.034)	0.490*** (0.034)	0.448*** (0.040)	0.486*** (0.035)	0.492*** (0.034)	0.491*** (0.034)
male	0.236*** (0.019)	0.184*** (0.025)	0.191*** (0.026)	0.190*** (0.026)	0.230*** (0.018)	0.178*** (0.025)	0.191*** (0.025)	0.188*** (0.026)
partner	0.085*** (0.017)	0.076*** (0.021)	0.074*** (0.021)	0.074*** (0.021)	0.180*** (0.043)	0.133*** (0.043)	0.128*** (0.041)	0.127*** (0.041)
bilingual	-0.096*** (0.032)	-0.076** (0.037)	-0.071* (0.038)	-0.073* (0.038)	-0.125*** (0.032)	-0.087** (0.035)	-0.079** (0.036)	-0.082** (0.036)
NdepEmpl	-0.082** (0.034)	-0.118*** (0.035)	-0.118*** (0.036)	-0.118*** (0.036)	-0.080** (0.034)	-0.116*** (0.035)	-0.116*** (0.036)	-0.117*** (0.036)
du_befr	-0.154*** (0.027)	-0.156*** (0.029)	-0.154*** (0.028)	-0.154*** (0.029)	-0.150*** (0.027)	-0.153*** (0.029)	-0.152*** (0.029)	-0.152*** (0.029)
du_mini	-0.613*** (0.052)	-0.576*** (0.054)	-0.572*** (0.055)	-0.572*** (0.054)	-0.608*** (0.052)	-0.572*** (0.054)	-0.568*** (0.055)	-0.569*** (0.055)
educ_mother_1		-0.032*** (0.011)	-0.027** (0.012)	-0.027** (0.012)		-0.041*** (0.013)	-0.033** (0.013)	-0.032** (0.013)
educ_mother_3		0.044 (0.047)	0.043 (0.047)	0.042 (0.047)		0.054 (0.046)	0.051 (0.047)	0.050 (0.046)
educ_father_1		0.009 (0.021)	0.013 (0.021)	0.014 (0.022)		-0.006 (0.020)	0.001 (0.021)	0.002 (0.021)
educ_father_3		0.054 (0.033)	0.052 (0.033)	0.053 (0.033)		0.079** (0.035)	0.075** (0.035)	0.076** (0.035)
du_bik1	-0.051*** (0.016)	-0.030** (0.014)	-0.027* (0.014)	-0.026* (0.014)	-0.050*** (0.016)	-0.025* (0.015)	-0.021 (0.015)	-0.020 (0.015)
du_bik2	-0.008 (0.019)	0.012 (0.017)	0.015 (0.017)	0.015 (0.017)	0.001 (0.018)	0.021 (0.015)	0.026* (0.015)	0.027* (0.015)
emplpt	-0.429*** (0.029)	-0.384*** (0.030)	-0.381*** (0.030)	-0.381*** (0.030)	-0.431*** (0.028)	-0.384*** (0.030)	-0.381*** (0.030)	-0.382*** (0.030)
emplelse	-0.882*** (0.034)	-0.851*** (0.031)	-0.847*** (0.030)	-0.845*** (0.030)	-0.884*** (0.034)	-0.852*** (0.031)	-0.848*** (0.030)	-0.846*** (0.030)
state_dummies	yes	yes	yes	yes	yes	yes	yes	yes
du_occKA	-0.021 (0.056)	-0.022 (0.053)	-0.021 (0.051)	-0.021 (0.052)	-0.021 (0.055)	-0.023 (0.053)	-0.022 (0.050)	-0.022 (0.051)
du_occ1	0.112*** (0.021)	0.103*** (0.021)	0.100*** (0.022)	0.099*** (0.022)	0.113*** (0.021)	0.103*** (0.022)	0.100*** (0.022)	0.100*** (0.022)
du_occ3	-0.097*** (0.022)	-0.056*** (0.022)	-0.055*** (0.021)	-0.055*** (0.021)	-0.097*** (0.022)	-0.056** (0.022)	-0.055** (0.022)	-0.056*** (0.021)
oefDGemn	0.112*** (0.016)	0.035** (0.016)	0.033** (0.016)	0.034** (0.016)	0.113*** (0.016)	0.036** (0.015)	0.034** (0.016)	0.035** (0.016)
isco dummies	yes	yes	yes	yes	yes	yes	yes	yes
du_wage_imp	-0.067*** (0.014)	-0.074*** (0.012)	-0.074*** (0.012)	-0.074*** (0.012)	-0.067*** (0.013)	-0.074*** (0.012)	-0.074*** (0.012)	-0.074*** (0.011)
IMR					3.670*** (1.166)	2.349** (1.082)	2.288** (1.036)	2.242** (1.065)
Constant	5.097*** (0.149)	4.785*** (0.145)	4.594*** (0.129)	4.791*** (0.144)	3.935*** (0.420)	4.006*** (0.422)	3.742*** (0.435)	4.064*** (0.419)
Observations								

Standard errors in parentheses clustered at the state level
 *** p<0.01, ** p<0.05, * p<0.1