

Back to basics

– Literacy proficiency, immigration and labour market outcomes in Sweden

Immigrants to Sweden are less likely to be employed than natives with comparable education and backgrounds, and they are more likely to work in positions of lower status than justified by their formal qualifications. To which extent do these gaps reflect immigrants' lower skills, as measured by the literacy score of the OECD Survey of Adult Skills (PIAAC), and how can education and training help alleviate these gaps? This Policy brief is a summary of an article by Margherita Bussi and Jon Pareliussen (2017), "Back to basics" – Literacy proficiency, immigration and labour market outcomes in Sweden", *Social Policy & Administration* (51:4), expanding on previous work presented in the 2015 OECD Economic Survey of Sweden.

The Swedish labour market structure poses a challenge to integration

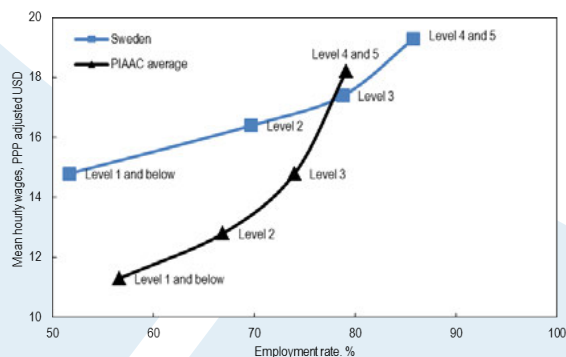
The chances of being employed increases with human capital. This is particularly true in Sweden, where a compressed wage distribution with high entry-level wages may pose hurdles to employment for the low-qualified and low-skilled, as illustrated in Figure 1. Skills and qualifications are generally high among natives, but substantial humanitarian and family reunion migration increases

the incidence of low skills and qualifications in the overall population.

The present analysis explores the following questions: i) To which extent is education and foreign background reflected in literacy proficiency?; ii) To which extent is education, literacy and foreign background reflected in employment and job quality, measured as over-qualification mismatch, given the Swedish compressed wage structure?; iii) To which extent, and through which channels can education and training improve employment prospects and job quality for immigrants?

Figure 1. Relation between wage compression and employment for the low-skilled

Pay and employment by PIAAC literacy level



Source: Bussi and Pareliussen (2017).

How to read this figure: Sweden shows high employment rates for middle- and high-skilled individuals (level 4 and 5), but low employment for the low-skilled (level 1 and below). At the same time wages are high for those low-skilled individuals who are employed and wages increase less with skills than for the PIAAC average, indicating that high minimum wages may reduce employment prospects for the low-skilled in Sweden.

Multiple possible reasons for migrants' inferior labour market outcomes

The empirical approach is based on a model of human capital accounting for how education, basic (literacy) skills and migrant background affect labour market outcomes in the presence of taxes and benefits. A person's productivity depends on his or her human capital. Human capital is a function of education, basic skills and the extent to which the human capital an immigrant has ob-

tained in his or her country of origin is also useful in the host country. The model highlights that there are multiple plausible reasons why immigrants would have lower productivity for the same level of education, and hence be less attractive to (non-discriminating) host country employers.

First, an immigrant with a degree from his or her home country may not have a functional knowledge of the Swedish language at the level demanded by the job. Second, a professional qualification obtained abroad may not be easily translated into a similar Swedish qualification. For example: a medical degree from a quality foreign university could likely be translated into a Swedish accreditation, but this might be less obvious for a law degree if the two countries have different legal traditions. Furthermore, a similar degree in a different country can also potentially be taught at a lower (or higher) standard. Other, more subtle differences in culture, a lack of knowledge of how the host country labour market works and a lack of relevant networks can also be of disadvantage to the immigrant.

If the labour market disadvantage facing immigrants is mainly a result of weaker Swedish language skills and other objectively lower skills compared to natives for a given education level, the disadvantage should be well-explained by literacy proficiency, as measured in the OECD Survey of Adult Skills (PIAAC). Literacy scores measure both language skills and processing skills, as participants in the survey have to read and understand texts of varying complexity before answering to corresponding assignments, all in the native language of the country where the test was taken.

On the other hand, if the labour market disadvantage originates in a different system of professional qualifications, inferior networks or knowledge of the host country

labour market, differences in culture or outright discrimination, the labour market disadvantage should rather be explained directly by the country of origin.

Education and training obtained in Sweden after immigrating should reduce labour market disadvantage through several mechanisms. If an immigrant has obtained his or her highest qualification in Sweden, this would directly remove any bias caused by the system of professional qualifications, it should be expected to improve the mastering and understanding of Swedish language, culture and labour markets, and it should help build relevant networks. To the extent that Swedish education is superior in quality it would also lead to higher basic skills. Education and training not leading to formal qualifications would have many of the same effects, but weaker to the extent that such programmes are less extensive, and without the direct effects from obtaining formal qualifications.

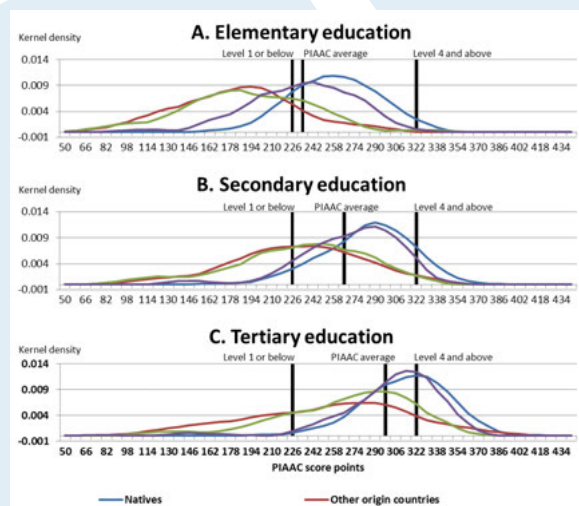
Empirical results

Migrants have relatively lower literacy proficiency and higher variation in literacy than natives

Literacy proficiency is correlated with the level of education, but varies widely within each level, as shown in Figure 2. The population is split into four origin groups roughly reflecting geographical distance, economic development, language and cultural proximity; natives; migrants born in North America and Western Europe; migrants from Central and Eastern Europe and migrants from other countries of origin. The latter group includes migrants born in the Middle East, Africa, Asia and South America. It is not possible to break down PIAAC data by migration channel, but most humanitarian migrants are

likely to be found in this group. Immigrants have lower literacy proficiency than native-born for each education level, and variation is high within each immigrant group. Literacy also varies considerably with region of birth, with North American and Western European immigrants scoring almost at par with natives and the two other groups scoring substantially lower.

Figure 2. The foreign-born have lower literacy scores for each education level (Literacy scores by education level and origin)



Note: The Kernel density is estimated using the Epanechnikov function.

Source: Bussi and Pareliussen (2017)

Regression 1 in table 1 looks more formally at the determinants of literacy proficiency. The PIAAC literacy score is on average a half standard deviation higher for a person with tertiary education than for a person with secondary education, when controlling for migrant background and

other personal characteristics, such as parents' education and age. Participation in adult education and training (AET), defined as any type of organized learning activity the 12 months preceding the PIAAC survey, is also associated with higher literacy.

Foreign-born adults have lower literacy scores than the native-born, but the difference between origin groups is considerable. Migrants born in North America and Western Europe score only slightly below natives, and the difference is not statistically significant. The other two groups score approximately one standard deviation below natives. This corresponds to approximately one level below on the 6-level PIAAC literacy scale applied in Figure 1, which implies considerably weaker functional literacy skills. Foreign-born with their highest qualifications obtained in Sweden achieve almost half a standard deviation higher literacy scores on average.

Migrants' lower employment reflects lower literacy proficiency

Most empirical studies are confined to use the education level as the main measure of human capital. Given the systematically lower average literacy proficiency of immigrants for each education level and the strong correlation between literacy and employment illustrated in Figure 1, such studies will systematically show an unexplained gap in labour market outcomes of migrants relative to natives. This employment gap is shown in regression 2 in Table 1, which is a regression of the odds of being employed with a number of controls, including education, but not controlling for literacy proficiency.

However, this employment gap loses significance and all but disappears when literacy is controlled for in regression 3. In other words, migrants' objectively lower literacy skills for a given education level is closely related to why

migrants from Central and Eastern Europe, the Middle East, Africa, Asia and South America are less likely to be employed than natives with similar education. These results are based on a limited sample and a limited number of control variables, and cannot rule out that other factors, including discrimination, play a role.

Table 1. Literacy proficiency, immigrant background and labour market outcomes

* $p < 0.05$; ** $p < 0.01$

	Literacy (OLS)		Employment (log odds)		Overqualified (log odds)	
	1	2	3 Literacy included	4	5 AET / host country qualifications included	
Literacy proficiency	-	-	0.61**	-0.06	-0.02	
North America and Western Europe	-0.21	-0.13	0.15	0.30	0.79*	
Central and Eastern Europe	-0.95**	-0.85**	-0.03	0.78*	1.22**	
Other origin countries	-1.20**	-1.08**	-0.15	1.03**	1.74**	
Tertiary education	0.53**	0.67**	0.36**	0.02	0.01	
Less than upper secondary education	-0.38**	-0.80**	-0.57**	-	-	
Highest qualification from host country	0.41**	0.16	-0.11	-	-0.95**	
Adult education and training	0.19**	-	-	-	-0.37*	

Note: The table shows the impact of immigrant dummies on literacy proficiency as measured by the literacy module of the OECD Survey of Adult Skills (2012) (1), employment (2) and (3), only controlling for literacy proficiency in (3), and the incidence of being over-qualified (4) and (5), con-

trolling for having obtained the highest qualification in Sweden and having participated in adult education and training in (5). The reference group is a native-born man with upper secondary education. Literacy scores are scaled by the standard deviation for ease of interpretation. Results are obtained controlling for education, demographic and socio-economic characteristics (see Bussi and Pareliussen, 2017 for details).

Source: Bussi and Pareliussen (2017).

Migrants' lower job quality is not reflecting lower literacy proficiency

Even though the employment gap loses significance when controlling for literacy proficiency, migrants may achieve inferior labour outcomes along other dimensions, such as pay, job security and mismatch. Regressions 4 and 5 in Table 1 show that foreign-born individuals in employment are considerably more likely than natives to work in positions that are of lower status than justified by their formal qualifications.

Literacy proficiency does not reduce the native-migrant gap in incidence of being over-qualified, pointing to the system of professional qualifications, inferior networks, inferior knowledge of the host country labour market, differences in culture or outright discrimination as more likely explanations than measurable literacy skills.

Finally, regression 5 also shows that incidence of migrants' over-qualification is highly sensitive to whether their formal qualifications have been achieved in Sweden or in another country. Participation in adult education and training in Sweden is also associated with lower odds of over-qualification, indicating that the gains from participation in education and training activities in Sweden likely do not only stem from formal qualifications recognized and/or preferred by Swedish employers, but also a considerable premium from accumulating other Sweden-specific human capital.

The triple dividends of education and training

To draw some final conclusions, foreign-born in Sweden have lower human capital than natives on average. These gaps, and hence the need for up-skilling varies considerably by origin. Investment in formal education seems to pay triple dividends in reducing gaps in labour market outcomes between migrants and natives. First, formal qualifications are associated with higher literacy proficiency, notably when attained in Sweden. Second, both education and the resulting literacy skills are associated with better employment prospects. This calls for a focus not only on providing foreign-born with a degree, but also on improving their learning outcomes. Third, immigrants with qualifications attained in Sweden have significantly lower odds of being over-qualified for their jobs. Participation in adult education and training, which does not necessarily lead to formal qualifications, has similar positive, but weaker, qualities.

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