

DISCUSSION PAPER SERIES

IZA DP No. 12594

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2010 Reform of the Introduction Program**

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## ABSTRACT

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# Does Integration Policy Integrate? The Employment Effects of Sweden's 2010 Reform of the Introduction Program

Sweden, like many other European countries, has seen a surge in refugee immigrants over recent years, which raises a concern about the labour market integration of these newcomers. This paper investigates whether integration policy may improve refugees' labour market performance. Specifically, we examine the employment effects of the 2010 reform of the introduction program (known as IP), and how the effects vary depending on refugees' educational attainment. Given that the eligibility for the new IP was exogenously determined by whether the refugee status was granted before or after December 1, 2010, we identify the employment effects by comparing those who participated in the new IP (treatment group), with those who participated in the old IP (control group). Using a triple difference method, we find positive employment effects of the new IP that exacerbate over time. The effects are significant and identical for male refugees, regardless of educational attainment; in contrast, the effects of program participation for refugee women vary by education level, and are greater for high-educated women than that for the low-educated counterparts.

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**Keywords:** labour market policy, employment, refugees

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## Introduction

The recent increase in the number of newly arrived refugees<sup>1</sup> has fuelled a concern in Sweden – how well will these newcomers integrate? This concern is, at least partly, because the labour market integration of previously arrived refugees was not satisfactory. Refugees tend to perform noticeably worse in the Swedish labour market, compared to other type of immigrants - e.g. labour migrants (Irastorza & Bevelander, 2017). Such an unsatisfactory outcome calls into a comprehensive understanding of what undermined refugees' integration process.

Sweden has implemented integration programs for newly arrived immigrants since the 1970s, including resources for language training, social information and support for immigrant organizations (Södergran, 2000). Later, with the surge of humanitarian migration in the 1980s, the government initiated introduction programs (IP) for refugees (Prop. 1983/84: 125). Integration policy was institutionalized in late 1990s by the Bill 1997/98:16 *From immigration policy to integration policy*. However, the policy was not very successful: labour market integration of refugees was slow, few of them completed language course, and significant drawbacks were identified in the introduction programs (Emilsson, 2014). These disappointing results triggered a reform in 2010, leading to a new introduction program for refugees.

The 2010 reform in the introduction program (IP) introduced several salient changes in administration and organization. The new IP centralized the responsibility and coordination of the program from municipality to the state level, standardized the quality of the services, and improved access to labour market preparatory activities. The duration of the program was compressed from up to three years to a maximum of two years. The new IP also provides incentives to participate in the program, while also encouraging employment concurrent with the program. For example, the benefits attached to the IP participation are not affected by the household income or by additional labour income earned during the two-year-program (Emilsson, 2014). The benefit rule in the new IP also encourages parallel learning activities (e.g. language training, adult education, and labour market training), which was not the case in the previous IP, as benefits were attached to each specific activity that could not be mixed if one participated in different activities simultaneously. Finally, independent employment advisors or guides are hired to help refugees and their families find paid work. Migrants can choose their own guides from a list of organizations and the compensation to the guides is partly based on their success in helping refugees finding jobs. These changes in the IP are important, however very little is known about their effect in improving refugees' labour market performance in Sweden.

Integration policies (such as language training, civil orientation, etc.) are adopted in many countries, whereby refugees constitute a significant share of total immigration (Goodman & Wright, 2015). However, the effectiveness of such policies is largely under-researched. Moreover, there is little consensus about how well integration programs may “integrate” refugees. While some countries have seen an improvement in refugees' labor market outcomes (Neureiter, 2018; Auer, 2017; Sarvimäki & Hämäläinen, 2011; Andersen, et al., 2019), others found insignificant or negative impact (Goodman & Wright, 2015; Clausen, et al., 2009).

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<sup>1</sup> In this paper the terms “refugees,” “humanitarian migrants” and “asylum migrants” will be used interchangeably. The reunited family members of refugees will also be included among them and referred to as “refugees,” “humanitarian migrants” or “asylum migrants.”

The 2010 IP reform is still relatively new, and as a result only two studies have examined its impact on labour market outcomes for refugees. One found no effect at all, largely because the study period ended by 2013, when most participants are still in the introduction program (Andersson Joonas, et al., 2015). The other study used the data up to 2014, which showed positive and significant effects of the reform (Andersson Joonas, et al., 2017). The results of this latter study may suggest that the policy effects might take time to exert. However, both studies suffer from the identification strategy: the pre-reform refugee cohort (2010) are compared with the post-reform cohort (2011), which is a misleading comparison because the eligibility for the new IP was determined by whether the refugee status was granted before or after December 1, 2010, but not by the year of arrival. Moreover, some members of the 2010 cohort who received refugee status after December 1 are effectively eligible for the new IP and thus should be in the treatment group, rather than the control group.

This paper makes several contributions to the scarce literature on the effectiveness of integration policy in Sweden, and more generally. First, we evaluate whether the new Swedish introduction program (IP) has improved refugee's labour market integration (namely employment). A second contribution is analytic in the use of a triple difference design, which allows us to examine how the employment effects vary depending on refugee's skill levels. Third, in contrast to using arrival cohort to identify policy treatment (Andersson Joonas, et al., 2015; Andersson Joonas, et al., 2017), our data allows us to observe whether refugees participated in the introduction program or not, and whether they are in the old or the new program. This is essential for us to identify the specific effects of the integration policy reform on employment of the refugee population. Finally, with the most updated Swedish registry data (up to 2016), we will follow each IP participants for five years since they were granted refugee status. This provides a valuable window of time to detect when the policy effect started to exert, if any.

The next section of this article reviews the literature on immigrants' participation in host labour markets. We then present evaluations of refugee integration policies from other European countries as points of comparison for our study. This is followed by a brief description of Swedish integration policies, including the 2010 reform of the introduction program as well as previous evaluations of the reform. In the next two sections we present our data, methods and main findings. The last section concludes.

### **Labour market integration of refugees**

Human capital, such as education, work experience, and skills acquired through on-the-job training, are important determinants of labour market outcomes (Becker, 1992; Becker, 2009). For immigrants, however, education and skills acquired in home country may not be transferable to the countries of destination upon arrival (Bevelander, 2000; Chiswick, et al., 2005). This lack of skill transferability may suppress immigrants' initial earnings. But the Economic Assimilation Theory predicts that with reinvestment in human capital and acquisition of skills that are specific to the host country, immigrants' earnings tend to converge with the native-born population over time (Chiswick, 1978). Nevertheless, empirical evidence suggest that immigrants in Sweden tend to have lower level of earnings and employment. This gap persists within education and skill groups (Eriksson, 2010), it is also noticeable between immigrants and natives who obtained the same level of education in Sweden (Bevelander, 2000; Dahlstedt, 2010).

Some researchers argue that the native-immigrant gaps might be associated with migrant selectivity. Non-economic migrants like humanitarian and family-reunion migrants base their migration decision, in part, on a different set of intentions and are therefore less-positively selected in ability to integrate (Borjas, 1994; Chiswick, 1999). Moreover, there are many unobservable factors not measured in available data that make up the quality and relevance of immigrants' human capital and may result in skill transferability problems or a mismatch between demand and supply (Aydemir, 2009). This may result in different levels of labour market integration depending on the level of education and the type of immigrants. For example, family migrants often have access to kinship networks in the host country which can facilitate their access to crucial information regarding the labour market and may initiate investments in human capital prior to arrival that are valued in the host-country labour market (Bevelander, 2011). These types of networks may also help family migrants overcome barriers in the labour market through job contacts or a better knowledge of processes leading to the recognition of credentials.

Furthermore, labour market discrimination, social capital, as well as migration routes might also be important factors for the labour market integration of immigrants (Arai & Skogman Thoursie, 2009; Behtoui, 2007; Bevelander, 2000; Bevelander, 2011; Bevelander & Emilsson, 2016; Carlsson & Rooth, 2007; Lemaître, 2007; Rooth, 2002). Some showed that two-thirds of jobs in the Swedish labour market are filled through informal recruitment methods (Lemaître, 2007). He concludes that, even in the absence of discrimination, this kind of recruitment channel favours individuals with a network of local connections, which immigrants could develop over time but perhaps not to the same extent as the native-born. Similarly, immigrants are less likely than natives to be able to find jobs through informal methods; furthermore, he found that jobs obtained through informal methods do not pay as well for immigrants as they do for natives (Behtoui, 2008). This result is identical to immigrants with different educational levels.

Sweden, like many developed countries, strive to attract high-skilled labour migrants through its migration policy (Cerna, 2009; Emilsson, 2014; Ostling, 2013)<sup>2</sup>. However, much less attention is given to high-skilled refugees. A small number of studies on refugees' employment in Sweden generally show that high-educated refugees tend to have higher employment rate than the low-educated refugees (Irastorza & Bevelander, 2017; Irastorza & Bevelander, 2017). And refugees from Bosnia-Herzegovina, Iran and Ethiopia tend to have higher employment, compared to those from other countries, partly because they are on average more educated. However, the employment rate of high-educated refugees is still lower than that of low-educated native-born Swedes, even after ten years living in Sweden. This finding casts doubt on the explanatory power of the Economic Assimilation Theory for the labour market integration of refugees.

### **Integration Policies in Europe**

A low level of labour market integration among humanitarian migrants has resulted in a search for policy solutions, particularly in many European countries, whereby refugees constitute a substantial part of the immigrant population. One common solution is to implement integration

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<sup>2</sup> Some qualitative study analyzed the employment experiences of highly skilled labour migrants in Japan and Sweden, and concluded that there is a gap in each country's intention to attract highly skilled migrants which they explain by self-reported difficulties experienced by the interviewees in both Sweden and Japan, including the slow or stagnant career mobility, language barriers, prejudice and difficulties in social integration (Törnigren & Holbrow, 2016).

policy (Goodman & Wright, 2015). However, evidence on the integration effects of such policies remains limited.

One cross-country comparison of 15 countries using the European Social Survey (2002–2015) found that mandatory integration requirements do have a strong and positive effect on immigrants' economic integration (Neureiter, 2018). A prior study using similar indicators and survey data also find some positive effects of civic integration policies but concludes that large confidence intervals yield inconclusive results (Goodman & Wright, 2015). A disadvantage of each of these two studies is that the study population includes all immigrants, while integration programs are primarily tailored for refugees. Another study in Switzerland showed strong positive labour market effects of language training programs for asylum seekers without prior native language skills (Auer, 2017).

Denmark has institutionalized introduction programs. Started in 1999, the Danish nation-wide introduction program consists of language training and several elements of active labour-market programs. A study evaluating such program found significant negative effects of the labour market programs on the likelihood of finding regular employment for newly arrived immigrants (Clausen, et al., 2009). In contrast to Denmark, the mandatory introduction program implemented in Finland since 2009 was found to have strong positive effects on the employment and earnings of refugees, which also reduced their reliance on social welfare benefits (Sarvimäki & Hämäläinen, 2011). The program consists of an individualized sequence of training and subsidized employment where non-compliance is sanctioned by reductions in welfare benefits.

Not only Finland, but also Denmark and Sweden have experimented with economic incentives to improve refugees' integration outcomes. In 2002 Denmark increased the financial incentives to find employment by reducing the welfare payment (up to 40 per cent). One study of such reform found an increase in refugees' employment rates by 3 to 8 percentage points 16 months after residence was granted (Huynh, et al., 2007). Another study on the same reform confirmed that lower income transfers had a positive effect on employment (Rosholm & Vejlin, 2010). They also showed that those with the poorest labour market prospects were the least responsive to such economic incentives. A more recent follow-up study looked at long-term effects of this reform, and found that the reform increased both refugees' employment and labour income (Andersen, et al., 2019). However, the authors also emphasize certain negative consequences: a strong female labor force withdrawal; a large and persistent drop in disposable income for most households; a sharp increase in property crime and other crime rates; and negative effects on their children's educational achievements.

In Sweden, the governments have preferred a more 'carrots over sticks' approach in integration policy. For example, incentives were provided for language training, a "bonus" of 10,000 SEK (approx. €1,100) were paid to those who completed the "Swedish for Immigrants" (SFI) language course early. The bonus did not improve student achievement on average; however, some positive impacts were found for certain groups, including those living in metropolitan areas, the highly skilled, and students coming from the EEA area (Åslund & Engdahl, 2018). As discussed below, the 2010 reform of the introduction program in Sweden also included several economic incentives of a positive kind.

## **Integration policies in Sweden**

Since the early 1970s, Sweden has implemented an active labour market policy with an explicit aim to increase employment levels for all residents of the country, and specially, those of traditionally more disadvantaged groups including women and immigrants. This policy included an emphasis on equal rights, obligations and opportunities within welfare state arrangements, and the provision of labour market services.

Already at the end of the 1960s and during the 1970s, the first organized initiatives for newly arrived immigrants were established in the form of language training, social information and support for immigrant organizations (Södergran, 2000). When the composition of immigration shifted from labour migration to more humanitarian migration in the 1980s, subnational municipalities were given the overall responsibility for introduction programs (Prop. 1983/84: 125), while the costs were covered by the state. The Bill 1997/98:16 *From immigration policy to integration policy*, confirmed the previous ideas and laid the foundation for the integration policy that remains in place to date. The most important measure was the inclusion of municipal introduction programs that lasted between two and three years, and aimed at providing refugees with the tools to become both self-sufficient and socially integrated. A review of several evaluations of municipal introduction programs concludes that the programs were not very successful in achieving these goals: slow labour market integration occurred; few participants completed the language courses; and significant shortcomings were identified in the contents of the programs (Emilsson, 2014). Subsequent smaller reforms in the programs over the years continued to yield disappointing results. Major overhaul of the system occurred 2010 in response.

### *The 2010 reform of the introduction program*

The old and the new introduction programs (IP) present both similarities and differences. The goal of both programs was to strengthen the focus on refugees' labour market integration. The main elements in the program also remained the same as before — language training, civic orientation and labour market activities — as well as the target groups, namely, refugees and their reunited families. The reform did not redefine the policy goals or the content but instead sought to strengthen the efforts to realize the long-standing ambitions of the previous program. Importantly the basic content and scope of the program were for the first time established in the language of the law.

A significant change introduced in the 2010 reform was in the organization and administration of the program. The responsibility and coordination of the program was transferred from local municipalities to the state, via the Public Employment Service. The goal of these reforms is to standardize the quality of the services offered across different municipalities and at improving access to labour market preparatory activities, something that was seen as problematic in the old IP. However, the municipalities still retain large parts of the implementation of the program such as language training and the newly introduced civic orientation courses.

In addition, several instruments were explicitly designed or modified to increase the incentives for participation in the program and ultimately refugees' integration into the labour market. First, the duration of the program was changed from two to three years to a maximum of two years. A fixed maximum period would, according to the bill, stimulate a faster pace of learning. Second, while participation in the program was not made mandatory, those who choose not to participate would now lose the right to receive any economic support from the state.

Third, payment to migrants participating in the program shifted from local municipalities to the centralized state level. Benefits provide incentives for program participation as well employment concurrent with participation. Specifically, the level of benefits – which is slightly higher than welfare assistance – is not affected by the income of other household members, or by additional job income earned by the participants during the two years program (Emilsson, 2014). Previously, the compensation was typically based on total household income. If a family member found a job, this effectively lowered payments for other family members. The old system thus created a disincentive for both members of a couple to participate in an introduction program, while in the new system the household income is doubled if they both participate. Furthermore, if participants find employment, they are now allowed to continue receiving parts of the introduction benefit, *on top of their job income*, for two years. Another advantage of the new benefit rule is that parallel learning activities are accommodated. In the old introduction program, it was difficult to combine language training, adult education, and labour market activities because the benefits were paid for each activity participated. And if individual participate in several activities simultaneously, they cannot combine benefits from different activities, rather receive a benefit from the main activity that requires full-time participation.

Finally, the so-called “introduction guides” were introduced in the new IP. These guides are independent actors hired to help refugees and their families find employment. Refugees can choose their own guides from a list of organizations and the compensation to the guides is partly based on their success in finding employment for refugees and family members.

#### *Previous evaluations of the 2010 reform*

As far as we know, there has been two previous evaluations of the 2010 introduction program reform (Andersson Joona, et al., 2015; Andersson Joona, et al., 2017). The 2015 study looks at the effects of the reform on employment, income and transition to regular education for those who arrived in 2011 (the treatment group), compared to those who arrived before the reform in 2010 (the control group). The authors conclude that there is no difference between these two groups in terms of the probability of being employed, income level or participation in regular education after one to two years in the program. They argue that start-up problems of the reform and the short time passed after the implementation of the reform may explain these results. The 2017 study extended the study period by one year. That is, they compare the outcomes during 2011-2014 for the treatment group with that during 2010-2013 for the control group. They find positive and significant effects of the reform: in the second and third years after the program started, the treatment group had about 5.7 and 7.5 per cent higher probability of employment, respectively, and 20 and 22 percent higher earnings than the control group. Estimates for women are not significantly different from those for men.

To sum up, the short-term perspective seems to indicate that the reform was partially successful in implementing a stronger labour market effect. Accessibility to labour market introduction activities organized by the Employment Service for refugees seems to have improved (Liljeberg & Sibbmark, 2011). In this present study, we investigate if the reform has also improved the labour market outcomes of participants in the program over a more extended period of time.

## Data

### *Study Population*

The analyses in this study rely on the “Migrant Trajectory” collection of the Swedish registry data organized by the Stockholm University Demography Unit. The data cover the entire population residing in Sweden during the period 1990-2016. We select a subsample of the total population for our analyses, specifically, those who came to Sweden as asylum seekers at the ages 20-55, and received their refugee residence permit during 2010-2011. Since only those who received refugee status after December 1, 2010 would be eligible for the new IP (but not the earlier recipients), this sample selection therefore allows us to identify the treatment and control group based on the date of receiving refugee status. The study sample contains 6,925 men and 6,199 women. Each individual is then observed for five years after he/she received refugee status. In other words, the 2010 and 2011 refugee cohorts are followed up to 2015 and 2016, respectively.

Table 1 summarizes the introduction program (IP) participation rates for refugee men and women by the year when they received refugee status. It is evident that, between the 2010 and 2011 refugee cohort, the participation to the new IP increased from about 20% to 94% for refugee men and women, while participation to the old IP dropped from 76% to 3% for men, and from 73% to 4% for women. This participation difference clearly reflects the aftermath of the 2010 reform that was implemented on December 1, 2010. It is also noteworthy that, because the eligibility for the new IP is determined by the date that the Swedish Migration Agency granted refugee status (but not the date of arriving in Sweden), the treatment is therefore exogenous to individuals. This element of the research design is essential to identify the employment effects of the new IP.

Table 1: Participation by Year Received Refugee Status

	Men			Women		
	2010	2011	Total	2010	2011	Total
No	179	100	279	182	63	245
<i>Percentage share</i>	<i>0.050</i>	<i>0.030</i>	<i>0.040</i>	<i>0.055</i>	<i>0.022</i>	<i>0.040</i>
OLD IP	2723	92	2815	2437	108	2545
<i>Percentage share</i>	<i>0.760</i>	<i>0.028</i>	<i>0.406</i>	<i>0.734</i>	<i>0.038</i>	<i>0.411</i>
NEW IP	681	3150	3831	703	2706	3409
<i>Percentage share</i>	<i>0.19</i>	<i>0.94</i>	<i>0.55</i>	<i>0.21</i>	<i>0.94</i>	<i>0.55</i>
<b>Obs. Ind.</b>	<b>3583</b>	<b>3342</b>	<b>6925</b>	<b>3322</b>	<b>2877</b>	<b>6199</b>

### *Key Variables*

The outcome variable of interest is the employment status of refugees. We define an individual being employed if his or her labor income exceeds three Basic Amount (BA) in a given year. This figure is a yearly amount calculated by Statistics Sweden for estimating social benefits. By applying this criterion, we make the treatment and control groups more comparable over

time as we adjust to changes in price levels and exclude individuals who did not have steady employment. For 2016, the equivalent amount to three BA is 133,500 Swedish Krona, which is approximately 13,000 Euro or 14,000 USD.

The key covariates of our interest are refugees' participation in introduction program (IP) and their educational level. The former is measured by whether the refugee participated in the old or the new IP; while the latter is measured by their highest attained education. We also include a large set of covariates to adjust for unobserved heterogeneity. These are: age at which they received refugee status, marital status, number of children under age 15, country of birth, and region of residence.

Table 2 presents the characteristics of the study population. The means and standard errors are disaggregated by three groups: (1) no participation in IP; (2) participated in the old IP; or (3) participated in the new IP. Male refugees who did not participate tend to have higher employment rates (18 per cent) upon settlement, compared to those who participated in either old or new IP. They are also slightly older (by about one year) than the other two groups of male migrants. These differences are smaller among women. It is important to note that, despite the fact that eligibility for participation in the new IP was driven, exogenously, by the reform of integration policy, there are still noticeable differences in sample characteristics across the treatment and control group. We adjust these differences in our empirical analyses below.

Table 2: Characteristics of Refugees Received Residence Permit during 2010-2011

Variables	Men				Women			
	No	OLD	NEW	Total	No	OLD	NEW	Total
Employment	0.179 (0.384)	0.0202 (0.141)	0.0104 (0.102)	0.0212 (0.144)	0.0939 (0.292)	0.00982 (0.0986)	0.00440 (0.0662)	0.0102 (0.100)
Age at resid. permit	33.17 (8.927)	31.75 (8.744)	31.53 (8.609)	31.68 (8.682)	32.38 (9.742)	30.98 (8.876)	32.08 (9.049)	31.64 (9.023)
Education								
Missing	0.115 (0.319)	0.0284 (0.166)	0.000522 (0.0228)	0.0165 (0.127)	0.245 (0.431)	0.104 (0.305)	0.000293 (0.0171)	0.0524 (0.223)
No Uni	0.548 (0.499)	0.727 (0.445)	0.732 (0.443)	0.722 (0.448)	0.580 (0.495)	0.730 (0.444)	0.809 (0.393)	0.768 (0.422)
Bachelor	0.158 (0.365)	0.130 (0.337)	0.141 (0.349)	0.138 (0.345)	0.0816 (0.274)	0.0853 (0.279)	0.0986 (0.298)	0.0924 (0.290)
Master/PhD	0.179 (0.384)	0.114 (0.318)	0.126 (0.332)	0.123 (0.329)	0.0939 (0.292)	0.0806 (0.272)	0.0921 (0.289)	0.0874 (0.282)
Marital status								
Married	0.513 (0.501)	0.724 (0.447)	0.555 (0.497)	0.622 (0.485)	0.608 (0.489)	0.732 (0.443)	0.613 (0.487)	0.661 (0.473)
Unmarried	0.405 (0.492)	0.253 (0.435)	0.425 (0.494)	0.354 (0.478)	0.196 (0.398)	0.187 (0.390)	0.289 (0.453)	0.244 (0.429)
Separated	0.0717 (0.258)	0.0163 (0.127)	0.00914 (0.0952)	0.0146 (0.120)	0.151 (0.359)	0.0306 (0.172)	0.0285 (0.166)	0.0342 (0.182)
Widow	0.0108 (0.103)	0.00746 (0.0861)	0.0104 (0.102)	0.00924 (0.0957)	0.0449 (0.208)	0.0507 (0.219)	0.0695 (0.254)	0.0608 (0.239)
Children under age 15	0.384 (0.917)	0.352 (0.909)	0.473 (1.050)	0.420 (0.991)	0.747 (1.079)	0.705 (1.145)	0.876 (1.247)	0.800 (1.202)
<b>Obs. Ind.</b>		<b>6,925</b>				<b>6,199</b>		

Note: standard errors in parentheses.

Table 3 shows the number of individuals and the percentage share of the study population who participated in IP by educational attainment. The percentage shares are comparable across all levels of educational attainment, except for those who have missing educational information; the majority of them were enrolled in the old IP or did not participate at all.

Table 3: Participation by Highest Attained Education

<u>Men</u>					
	<u>Missing</u>	<u>No Uni</u>	<u>Bachelor</u>	<u>Master/PhD</u>	<u>Total</u>
<b>No</b>	32 (0.281)	153 (0.0306)	44 (0.0462)	50 (0.0585)	279 (0.0403)
<b>OLD</b>	80 (0.702)	2047 (0.409)	367 (0.385)	321 (0.375)	2815 (0.406)
<b>NEW</b>	2 (0.0175)	2803 (0.560)	542 (0.569)	484 (0.566)	3831 (0.553)
<b>Obs. Ind.</b>	<b>6,925</b>				
<u>Women</u>					
	<u>Missing</u>	<u>No Uni</u>	<u>Bachelor</u>	<u>Master/PhD</u>	<u>Total</u>
<b>No</b>	60 (0.185)	142 (0.0298)	20 (0.0349)	23 (0.0424)	245 (0.0395)
<b>OLD</b>	264 (0.812)	1859 (0.391)	217 (0.379)	205 (0.378)	2545 (0.411)
<b>NEW</b>	1 (0.00308)	2758 (0.580)	336 (0.586)	314 (0.579)	3409 (0.550)
<b>Obs. Ind.</b>	<b>6,199</b>				

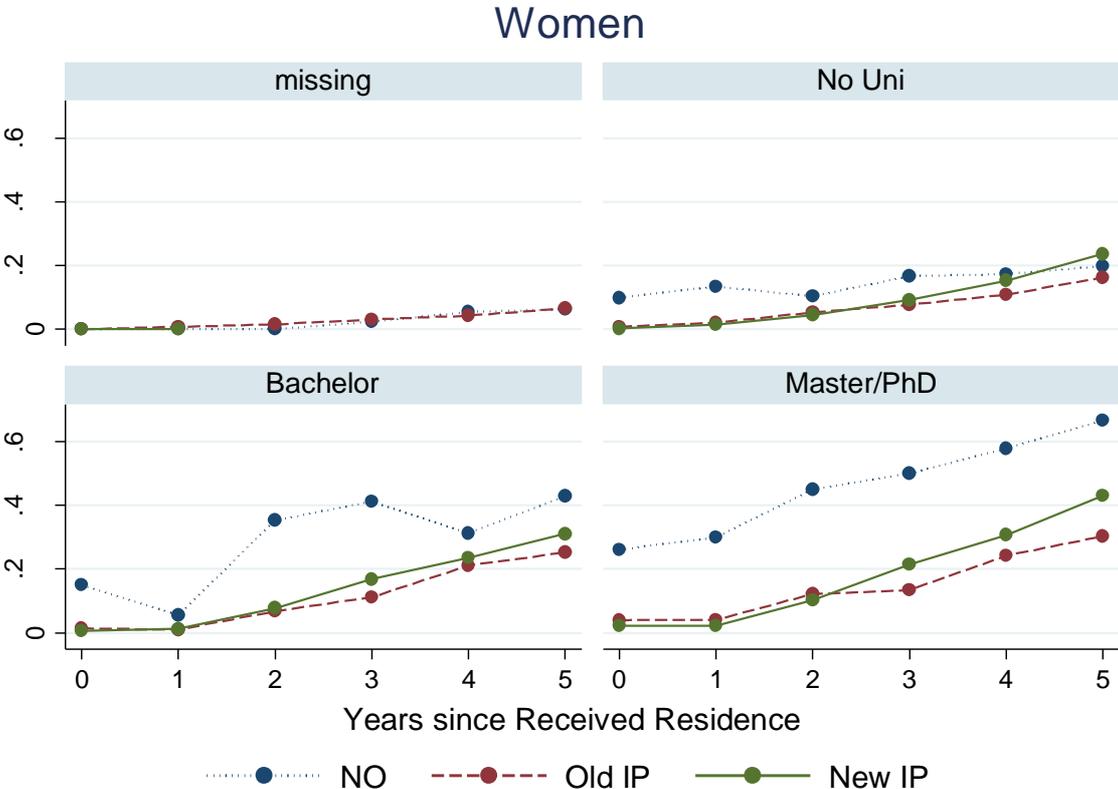
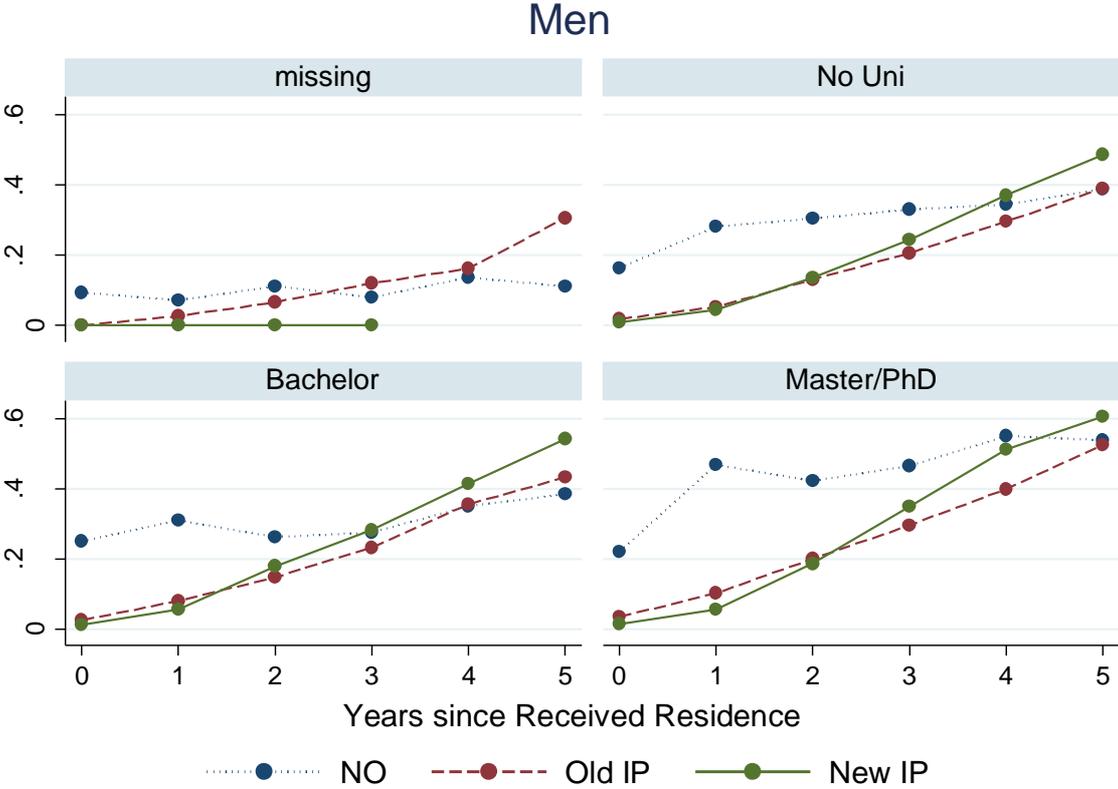
Note: percentage share in parentheses.

*Employment Trajectories*

Figure 1 illustrates the employment trajectories for refugee men and women for each level of highest attained education, disaggregated by (1) no participation in IP; (2) participated in old IP; (3) participated in new IP. The descriptive results suggest that those who participated in both old and new IP had a lower initial employment level, compared to those who did not participate at all. However, the growth trajectories over the years since received refugee status exhibit a salient gender difference. For refugee men, IP seems to facilitate a steep employment increase for all educational groups (except for the group with missing education information), which gradually converges/exceeds the employment of the no participation group over time. For refugee women, the convergence can only be seen for the lowest education group (no university), but not for those who attained bachelor or higher degree.

While the employment differences between no participation and participated in IP are substantial, they are likely to be confounded by unobserved heterogeneity, particularly self-selection. A more meaningful comparison would be between the old and the new IP, as both groups chose to participate in the introduction program. Very importantly, the eligibility for the old versus the new IP were purely driven by the 2010 reform, which was exogenous to individuals depending on whether they received residence permit before or after December 1, 2010. The employment differences between the two groups suggest that the new IP did accelerate the level of participants' employment overtime, as the trajectories started to diverge after the first two years of receiving refugee status. This divergent pattern is observable for men and women across all educational groups. However, the magnitude of the divergence is more profound for men than it is for women.

Figure 1: Observed Employment Trajectories by Highest Attained Education, Men and Women Received Refugee Status in 2010-2011



## Method

### *The Model of Refugee's Employment*

Let  $Y_i$  be a binary outcome variable with value one if employed, and zero otherwise. We assume that the state of employed ( $Y_i^1$ ) and unemployed ( $Y_i^0$ ) are a function of observed and unobserved individual characteristics, which may be written as,

$$\begin{aligned} Y_i^1 &= \mathbf{X}_i \boldsymbol{\Theta}^1 + U_i^1 \\ Y_i^0 &= \mathbf{X}_i \boldsymbol{\Theta}^0 + U_i^0 \end{aligned}$$

where  $\mathbf{X}_i$  is a set of observed individual characteristics, and  $U_i^1$  and  $U_i^0$  are the unobserved individual characteristics for employed and unemployed, respectively.

With the assumption that  $U_i^1$  and  $U_i^0$  are identically and independently distributed Type-I extreme values, the difference between the two error terms follows the logistic distribution. Therefore, the probability of being employed may be written as,

$$\Pr(Y_i^1) = \frac{\exp(\mathbf{X}_i \boldsymbol{\Theta}^1 - \mathbf{X}_i \boldsymbol{\Theta}^0)}{1 + \exp(\mathbf{X}_i \boldsymbol{\Theta}^1 - \mathbf{X}_i \boldsymbol{\Theta}^0)} = \frac{\exp[\mathbf{X}_i(\boldsymbol{\Theta}^1 - \boldsymbol{\Theta}^0)]}{1 + \exp[\mathbf{X}_i(\boldsymbol{\Theta}^1 - \boldsymbol{\Theta}^0)]}$$

We use the logistic regression to estimate the set of parameters  $\boldsymbol{\Theta}^1$  with all parameters in the reference category equal to zero (i.e. all coefficients in  $\boldsymbol{\Theta}^0$  equal to zero), hence the probability of being employed may be re-written as,

$$\Pr(Y_i^1) = \frac{\exp(\mathbf{X}_i \boldsymbol{\Theta}^1)}{1 + \exp(\mathbf{X}_i \boldsymbol{\Theta}^1)}$$

And the probability of being unemployed is,

$$\Pr(Y_i^0) = 1 - \frac{\exp(\mathbf{X}_i \boldsymbol{\Theta}^1)}{1 + \exp(\mathbf{X}_i \boldsymbol{\Theta}^1)}$$

### *Model Specification*

The empirical model is specified as a function of program participation, years since settlement, highest attained education, and the interactions among the three variables. This is essentially a triple difference model allowing for variation in the constants and the growth curves of employment across individuals depending on their participation in the IP and educational attainment. In addition, we also include a large set of fixed effects. Specifically, the model may be written as,

$$\begin{aligned} \mathbf{X}_i \boldsymbol{\Theta}^1 &= \alpha + \beta_1 P_i + \beta_2 YS_i + \beta_3 EDU_i + \gamma_1 (P_i \cdot YS_i) + \gamma_2 (P_i \cdot EDU_i) + \gamma_3 (YS_i \cdot EDU_i) \\ &\quad + \gamma_4 (P_i \cdot YS_i \cdot EDU_i) + \mathbf{Z}_i \boldsymbol{\delta} \end{aligned}$$

Where  $P$  is participation with three categories: (1) no participation; (2) old IP; (3) new IP.  $YS$  is years since received residence permit for refugees.  $EDU$  is the highest attained education.  $\mathbf{Z}_i$  is a set of controls: age at received refugee status, marital status (married, unmarried, separated, and widowed), number of children under the age of 15, country of birth, and region of residence.

### *Identification of the Employment Effects of EPA*

Since the empirical model contains several non-linear interaction terms, we therefore examine the employment effects by taking the difference in potential employment outcomes predicted by the model above. Also, as mentioned earlier, the employment differences between no participation and participated in either old or new IP are likely to be confounded by unobserved heterogeneity, namely self-selection. Hence, we will only rely on the employment difference between the new and the old IP to identify the employment effects of the 2010 integration policy reform, given that the eligibility for the new IP is exogenously determined by whether he or she received the refugee status from the Migration Agency before or after December 1, 2010. However, as noted above, and demonstrated in Table 2, there are noticeable differences in sample characteristics across the treatment and control group. We therefore adjust for these differences in predicting the potential employment outcomes by holding the controls constant at their mean values (i.e.  $\bar{\mathbf{Z}}_i$ ). Specifically, the effects of participating in the new IP vs the old IP on employment may be calculated by,

$$\frac{d\Pr(\widehat{Y}_i^1)}{dP} = \Pr(\widehat{Y}_i^1 | P = NEW, \bar{\mathbf{Z}}_i) - \Pr(\widehat{Y}_i^1 | P = OLD, \bar{\mathbf{Z}}_i)$$

### **Results**

Table 4 presents the coefficient estimates for the model specified in the previous section. With respect to the Pseudo R-square, the model explained approximately 21 percent of the total variation in the employment of refugee men and women. Since our empirical model contains several non-linear interaction terms (two-way and three-way interactions among human capital acquisition, years since settlement, and highest educational level), the estimated parameters are not directly interpretable. We therefore calibrate these parameter estimates to compute the predicted employment probabilities, and the marginal effects of the employment probabilities with respect to participation. The results are shown in Figure 2.

Table 4: Parameter Estimates for the Employment Model by Logistic Regression (Odds Ratios)

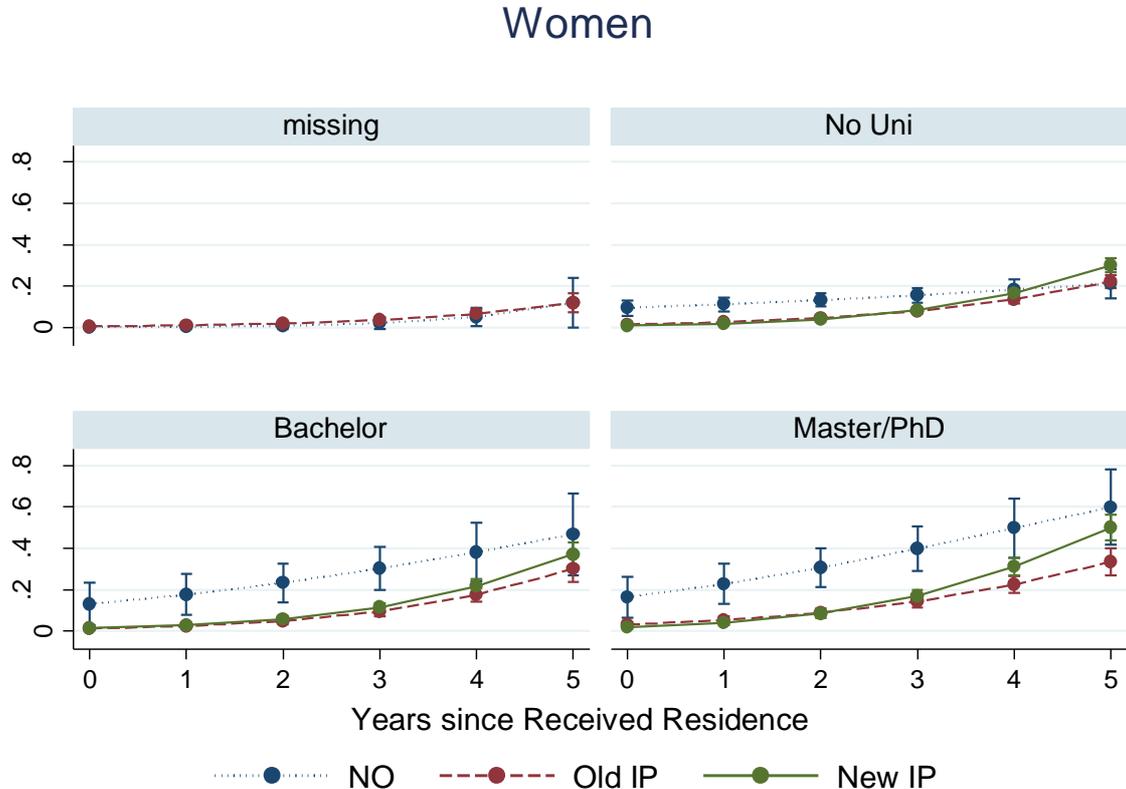
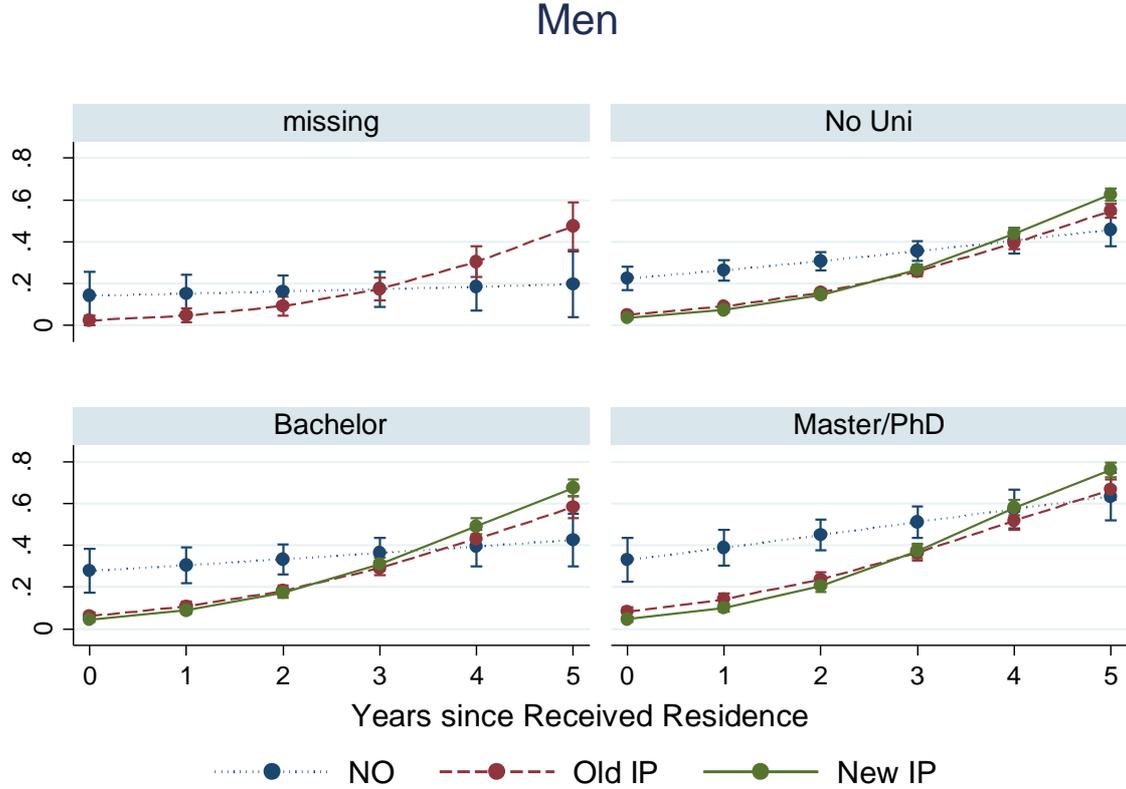
<i>VARIABLES</i>	<b>Men</b>	<b>Women</b>
No Participation		REF
Old IP	0.135*** (0.0924)	4.412 (8.145)
New IP	0.0908*** (0.0243)	0.106*** (0.0438)
Year since settlement (YS)	1.082 (0.176)	2.514** (1.041)
EDU Missing		REF
No Uni	1.749 (0.874)	77.72** (139.5)
Bachelor	2.326 (1.266)	111.5** (205.2)
Master/PhD	2.985** (1.586)	145.5*** (264.8)
Age at residence permit	0.956*** (0.00186)	0.989*** (0.00243)
Married		REF
Unmarried	0.854*** (0.0316)	0.883** (0.0481)
Separated	1.127** (0.0581)	0.965 (0.0546)
Widowed	1.151 (0.171)	0.684*** (0.0704)
Children under age 15	0.997 (0.0111)	0.704*** (0.0132)
Participation × YS	Yes	Yes
Participation × EDU	Yes	Yes
YS × EDU	Yes	Yes
Participation × YS × EDU	Yes	Yes
Country of birth Fixed Effect	Yes	Yes
Region of Residence	Yes	Yes
Constant	3.018 (2.072)	0.0274** (0.0498)
<b>Obs. Person-Years</b>	<b>40,317</b>	<b>36,054</b>
<b>Pseudo-R2</b>	<b>0.214</b>	<b>0.212</b>
<b>Log-likelihood</b>	<b>-16377</b>	<b>-8683</b>

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

### *Model Prediction*

Figure 2 illustrates the employment probabilities predicted based on the model estimates shown in Table 4 (and holding the continuous covariates at mean value and categorical covariates as balanced). The patterns over the years since refugees' settlement closely resemble the observed employment trajectories shown in Figure 1. The results indicate that participation in IP lowered the initial employment level but facilitated a steep growth trajectory over the years since settlement. However, the growth trajectory is noticeably steeper for refugee men, compared to refugee women. As a result, among refugee men, the employment levels of those who participated in IP converged/exceeded that for those who did not participate, whereas, among refugee women, the convergence can only be seen for the lowest education groups (below university level), but not for those who attained a bachelor degree or higher.

Figure 2: Predicted Employment Probabilities, Men and Women Received Refugee Status in 2010-2011

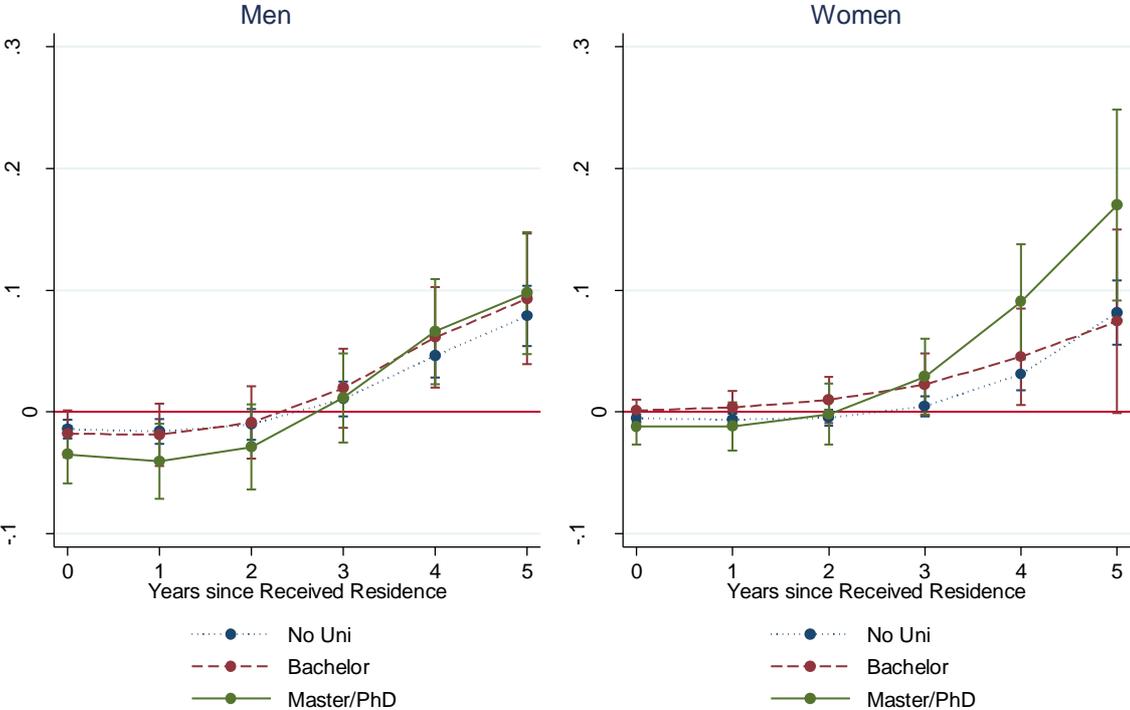


*The Employment Effects of 2010 Introduction Program Reform*

While the differences between no participation and participation in IP are substantial, both for initial employment and growth patterns, results are likely to be confounded by unobserved heterogeneity between the groups, specifically self-selection into introduction programs. Hence, it is difficult to establish any causality between investment in Sweden-specific human capital and employment. With certainty, however, employment differences between those who participated in the old versus the new IP do reflect the effects of the 2010 integration policy reform. This is because the two groups are homogenous in terms of their intention to invest in host country specific human capital, critically important, the eligibility for the old or the new IP was purely driven by the policy reform which was exogenous to individuals. It is this dimension of research design that makes possible a robust interpretation of integration policy reform.

Figure 3 illustrates the employment differences between those who participated in the old and the new IP within each educational group. For all groups, the gap is initially negligible. However, differences increase after two years of settlement (at the time when new IP participants completed the program). Employment effects become statistically significant after three years since received refugee status. Widening divergence suggests that the reform exerted a positive effect on employment. This effect is nearly identical for men regardless of their educational attainment. However, for women, the effect is much larger for those who attained Master/PhD, compared to those with a lower level of education.

Figure 3: Employment Effects of the New Introduction Program by Education, Men and Women



## Conclusions

Does Integration Policy Integrate refugees in Sweden? Our results are a qualified, yes. Refugees who participated in an introduction program (IP) generally have a better employment outcome in the long-run, compared to those who did not participate in the program. Although our findings indicate that IP lowered the employment level of high-educated refugee women over the first five years after settlement, there is an observable tendency for the employment trajectories of those participated in IP gradually converge towards that of non-participants. However, as we stressed, we do not attempt to establish any causal link between IP participation and employment, as the participation decision may be confounded by heterogeneity that we cannot observe and measure. Instead, we aim to evaluate whether and how the improvements in the introduction programme (driven by unsatisfactory integration outcomes of the old system) might exert an impact on refugee's employment trajectories.

While the 2010 reform did not redefine the goals of the integration policy, it did seek to improve the introduction program by making the integration process more effective, more quickly. Measures, such as standardized service quality, improved access to labour market preparatory activities, compressed program duration, encouragement of work alongside the program, and facilitation of parallel learning activities, all served this purpose. Our key finding suggests that the changes in the organization and administration of the IP did lead to better integration outcomes: the employment of those who participated in the new IP was higher than those who participated in the old IP, right after the completion of the program. Moreover, the gap in employment has widened overtime, with no signs of diminishing. Such a tendency implies that there could be a longer-term employment effect of the 2010 integration policy reform.

With a triple difference design, we also examined how integration policy reform may affect refugees of different skill levels. We find that the employment effects are significant and identical for all refugee men regardless of their educational attainment. However, a surprising finding is that the effects are particularly profound for high-educated women. It is unlikely that this difference is driven by self-selection effects (such that the more able high-educated women tend to prefer the new IP over the old one), because the eligibility for the new IP is exogenous to individuals. One speculative explanation may be that some features of the new program (such as parallel learning activities, improved access to labour market preparatory activities, and worked alongside the program) better meet the needs of the high-educated women, dimensions of program organization that were not well implemented in the previous program. A more definite explanation however requires investigating the specific activities and orientations of high-educated women within the new IP. Such an investigation may hold implications for tailoring components of introduction programs for specific groups of migrants. We leave this next important question for our future research.

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