Additional Robustness Checks

Gender and Social Contacts:
Labour Market Entry Among Refugee and Family Reunion Migrants

I have conducted a number of additional checks to assess whether my results are robust to different modelling strategies and sample restrictions. Given that the survey data were collected using a stratified sampling technique, I provide weighted descriptive statistics below. I also provide weighted results from piecewise constant exponential models on years to first job in Sweden and estimates based on models, which rely on reduced samples, to gain insight into the robustness of the results presented in the study.

Descriptive Results

First, I present weighted descriptive statistics in **Table R1**. The proportions are weighted using weights provided in the survey dataset (vikt2). In line with the results presented in the main text, women tend to take longer to enter their first job in Sweden and the proportion of women who have entered a job within 5 years is lower than among men. However, after 10 years, gender differences are relatively small.

The leading independent variable is contacts at arrival. Family contacts are the most common among men and women. More than half of women have family in Sweden, and somewhat fewer men have family contacts. Nearly a fifth of men and women have friends in Sweden, while having both family and friends is relatively uncommon (5%). Arriving without contacts is more common for men, among whom one in three has no contacts in Sweden.

When comparing Table R1 to Table 1 (provided in the study), we find that the stratified sampling technique led to an overrepresentation of migrants from South and East Asia and the Pacific, sub-Saharan Africa and Latin America when compared to the national average in 2010.

Table R1. Weighted descriptive statistics of migrant characteristics by gender and pre-migration contacts (using vikt2).

	Male	Female		Total
Outcomes				
Mean years to first job	3.64	4.39	**	4.09
Entered a job within 5 years of arrival	0.66	0.59	**	0.62
Entered a job within 10 years of arrival	0.72	0.69		0.70
Contacts at arrival				
Family	0.46	0.57	***	0.53
Friends	0.18	0.14	+	0.16
Both family and friends	0.06	0.05		0.05
No contacts	0.30	0.24	*	0.26
Demographic characteristics				
Mean age at arrival	27.79	28.34		28.12
Region of origin				
Europe, Central Asia and North America	0.49	0.55	*	0.53
Middle East and North Africa	0.29	0.24	+	0.26
South and East Asia & Pacific	0.06	0.10	***	0.08
sub-Saharan Africa	0.08	0.05	**	0.06
Latin America	0.08	0.06		0.07

Continued

Table R1. Continued.

	Male	Female		Total
Residence permit				
Family reunification	0.40	0.65	***	0.55
Refugee	0.60	0.35	***	0.45
Family situation				
Married before arrival	0.23	0.28	*	0.26
Parent before arrival	0.09	0.12	+	0.11
Married within 10 years of arrival	0.30	0.45	***	0.40
Parent within 10 years of arrival	0.13	0.24	***	0.20
Educational attainment				
Low education at arrival	0.22	0.21		0.21
Intermediate education at arrival	0.33	0.27	***	0.29
High education at arrival	0.29	0.33	+	0.31
Missing education at arrival	0.16	0.20	*	0.18
Low education within 10 years of arrival	0.21	0.23	+	0.22
Intermediate education within 10 years of arrival	0.31	0.26	***	0.28
High education within 10 years of arrival	0.32	0.29	*	0.30
Missing education within 10 years of arrival	0.16	0.21	***	0.19
Observations	821	1,104		1,925

Notes. Weighted proportion within each group reported. $+ \ p < 0.1$; $* \ p < 0.05$; $** \ p < 0.01$; $*** \ p < 0.001$ (two-tailed)

Gender Differences in Time to First Job Among Refugee and Family Reunion Migrants

I also provide hazard ratios from piecewise exponential models across a number of different model specifications and sample restrictions to gain insight into the robustness of the presented results.

The baseline model provides the estimates reported in the study. Thereafter, I provide a set of weighted results from models using inverse probability weights, and three sets of weights provided in the survey data (vikt1, vikt2, vikt3). The last set of estimates provides results from samples with reduced sample sizes, which were obtained by relying on a different set of variables in the sample restrictions. First, individuals with missing information on one of the available variables capturing the reason for migration were excluded. This leads to a reduced sample of 1,567 individuals. Second, a different variable was used to capture age when making the age restrictions to obtain the analytical sample. Excluding individuals above age 60 using this variable leads to a reduced sample of 1,403 individuals.

Among men, we observe a tendency that family and friends are associated with a shorter time to first job when compared to no contacts (see **Figure R1**). Across model specifications, the estimates point in the same direction and fluctuate around 1.2 and 1.3, but confidence intervals are large due to small sample sizes. Estimates are based on a sample of 821 men in the main analysis, and yet fewer in the last two specifications (673 and 591 men, respectively). This implies that the estimates are not always significant. In model 2, weighted estimates using the

sample weights provide somewhat smaller estimates. Note however that all models control for the characteristics used to obtain the sampling frame (age and region of origin). Confidence intervals are particularly large for having both family and friends in Sweden, as this is relatively uncommon. Among women, pre-migration contacts are not associated with time to first job across all model specifications. That is, hazard ratios lie close to or below one.

Figure R2 shows that men with low educational attainment and missing information on education tend to benefit from their social contacts. In contrast, contacts are not related to labour market entry among men with higher education. The hazard ratios for men with low education fluctuate around 1.4 and 1.5, and are to be compared to the hazard ratios around 1.1 observed for men with higher education. Note that we observe a tendency towards contacts being related to a shorter time to first job among men with higher education in the reduced sample relying on another variable when making the age restrictions (indicated by the light blue triangle). Among women, we observe no difference in the returns to social contacts by educational attainment. Namely, all hazard ratios lie close to the reference line at one.

Figure R3 indicates that men from Sub-Saharan Africa and Latin America tend to benefit from their social contacts. We further find that men from South and East Asia and the Pacific gain from having pre-migration contacts in Sweden in models estimated using the survey weights (92 men). As noted in the conclusion of the study, these results should be interpreted with care as they are based on smaller sub-samples. Among women, contacts are related to a shorter job search among Sub-Saharan African migrants. In contrast, female migrants from the Middle East and North Africa and Latin America tend to have a longer job search when they have contacts in Sweden. Findings for women from Sub-Saharan Africa and Latin America are surprisingly robust across model specifications, considering that they are based on small sub-samples (125 and 183 women, respectively). Estimates for female migrants from the Middle East and North Africa reveal no association when estimated using the survey weights.

These results provide some further insight into the robustness of the estimates provided in the study. Due to small sample sizes coefficients are not significant across all model specifications, but the overall tendencies presented and the conclusions provided in the study hold up to further scrutiny, namely that men with pre-migration contacts tend to have a shorter time to first job than those without contacts, whereas pre-migration contacts are not related to a shorter time to first job among women. Analyses by educational attainment further indicate that the positive association among men is mainly the result of a smoother labour market entry experienced among low-educated men with social contacts. In contrast, we do not find that social contacts play a different role across educational attainment for women. Finally, analyses by region of origin indicate contrasting results for men and women as well as considerable differences in the returns to social contacts for women across regions of origin.
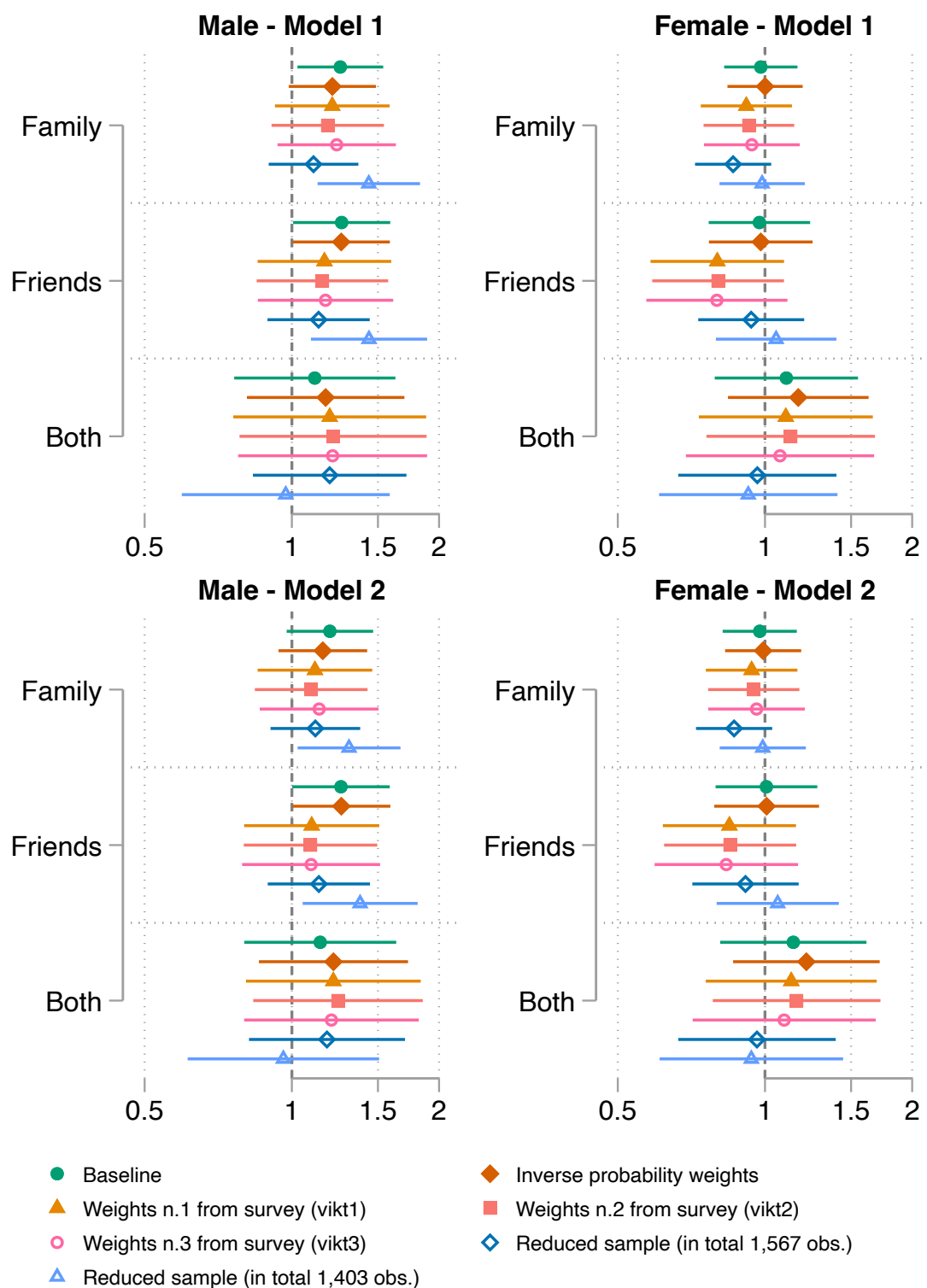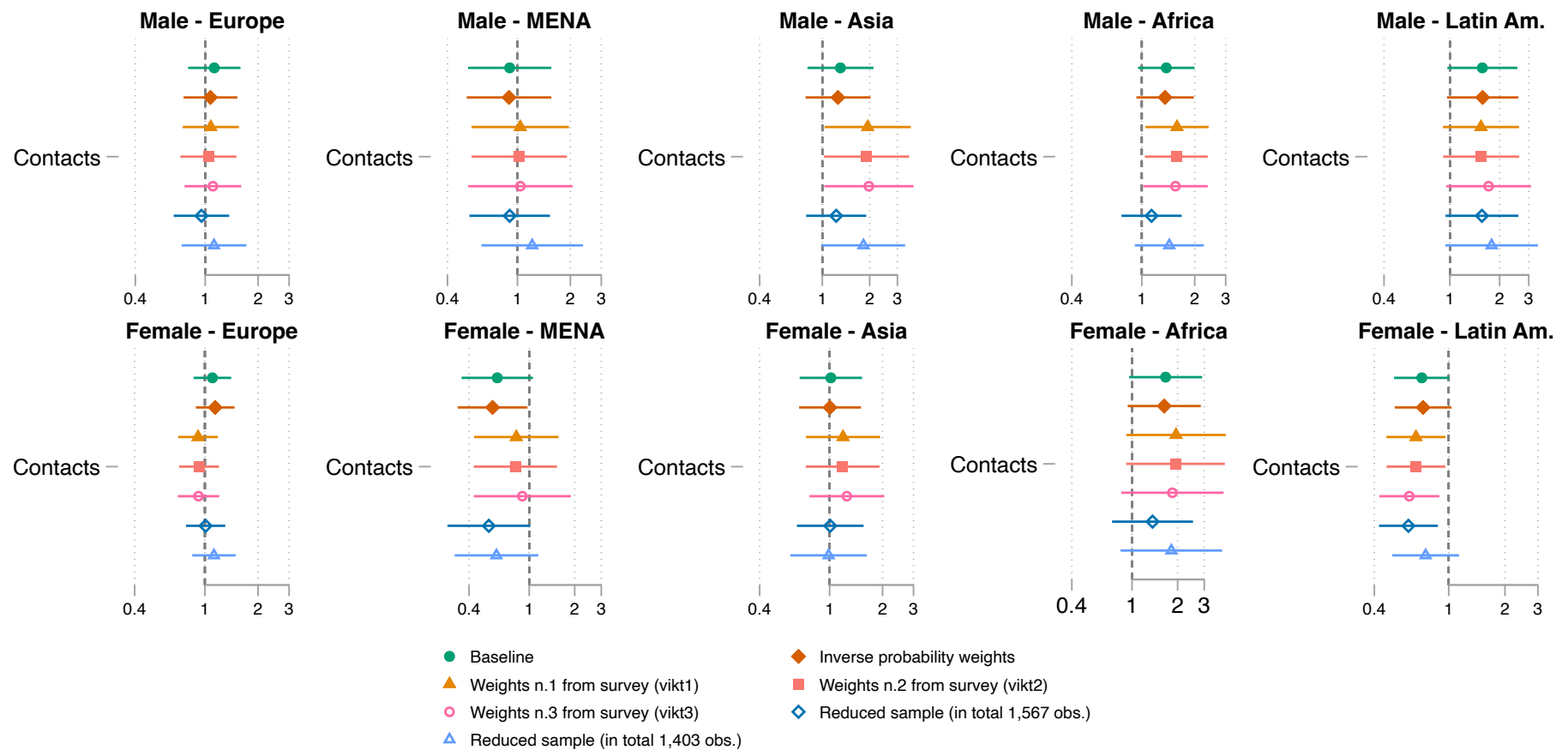
Figure R1. Hazard ratios from piecewise constant exponential models on years to first job in Sweden.

Notes. Clustered standard errors at the individual level in parentheses. The x-axis provides hazard ratios on the logarithmic scale. Models control for the same set of control variables as in Table 2, i.e. Model 1 controls for age at immigration, age at immigration squared, region of origin, residence permit and year of arrival in quintiles. Model 2 additionally controls for marital status, parenthood and educational attainment as time-varying variables.
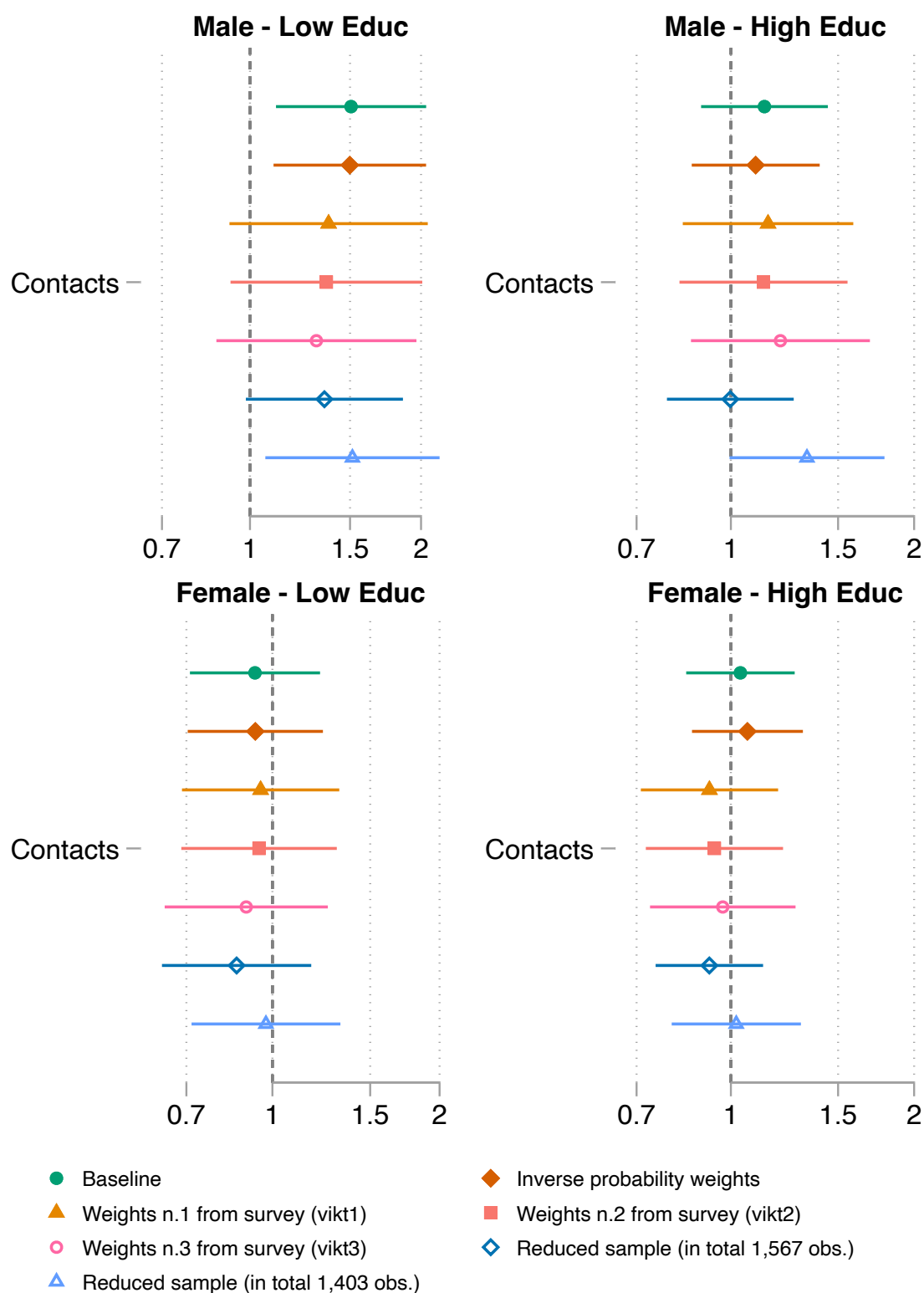
Figure R2. Hazard ratios from piecewise constant exponential models on years to first job in Sweden from stratified analyses by educational attainment at arrival.

Notes. Models control for age at immigration, age at immigration squared, region of origin, residence permit and year of arrival in quintiles (as in Table 3). The x-axis provides hazard ratios on the logarithmic scale. Low Educ = Missing or Low Education; High Educ = Intermediate or High Education.

Figure R3. Hazard ratios from piecewise constant exponential models on years to first job in Sweden from stratified analyses by region of origin.

Notes. Models control for age at immigration, age at immigration squared, residence permit and year of arrival in quintiles (as in Table 3). The x-axis provides hazard ratios on the logarithmic scale. Europe = Europe, Central Asia and North America; MENA = Middle East and North Africa; Asia = South and East Asia and Pacific; Africa = Sub-Saharan Africa; Latin Am. = Latin America.