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Vibeke Jakobsen
Peder J. Pedersen

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Vibeke Jakobsen

SFI – The Danish National Centre for Social Research

Peder J. Pedersen

*Aarhus University
and IZA*

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IZA

P.O. Box 7240
53072 Bonn
Germany

Phone: +49-228-3894-0
Fax: +49-228-3894-180
E-mail: iza@iza.org

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ABSTRACT

Poverty Risk among Older Immigrants in a Scandinavian Welfare State¹

Focus in the paper is on poverty among immigrants and refugees 50 years and older coming to Denmark from countries outside the OECD, with main emphasis on immigrants coming as guest workers before 1974, as refugees and as family members and marriage partners – tied movers – relative to individuals coming as guest workers and as refugees. A major share of people in this group were fairly young at arrival to Denmark. Those arriving back in the 1970s and 1980s are now either close to or above the age of 60, with conditional eligibility to a labor market related early retirement program or the age 65 where you become eligible for State pension. Poverty rates by national background are described using alternative household concepts. Next, a number of background factors of relevance for poverty are summarized. We focus on age, gender, marital status, occupational status at age 55 and duration of residence. We find major differences between migrant groups and between migrants and natives regarding how income is composed at different ages on market income, pensions and benefits. Next, we present a number of regressions aiming at explaining differences in the poverty risk with differences in a number of background factors.

JEL Classification: F22, H55, I32, J14

Keywords: immigrants, old age poverty, family structure

Corresponding author:

Peder J. Pedersen
Department of Economics and Business
Aarhus University
Fuglesangs Allé 4
8210 Aarhus V
Denmark
E-mail: ppedersen@econ.au.dk

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1. Introduction and motivation

In the Nordic countries ambitious welfare programs go several decades back. One remarkable consequence has been that old age no longer is associated with a high risk of poverty. This is a result of creating a first pillar of the pension system with nearly universal eligibility which effectively keeps people 65 years and older above the poverty line. The main question raised in the present study is whether people arriving in recent decades as immigrants or refugees from low income countries are in risk of poverty as they become older, more precisely, when they become 60-74 years old. We analyze this question in two stages. First, a descriptive approach looking into the actual poverty shares among specific immigrant groups. Next, we analyze how the poverty risk among older immigrants correlates with a number of background factors. A further approach relative to our main question is a comparison of poverty rates, using the conventional family or household definition, to poverty rates in a setting where we use an extended family concept. This last concept is defined as a number of people sharing the same dwelling.

Immigrants and refugees from low income countries have arrived to Denmark in different waves having different backgrounds. One group arrived before the guest worker stop in 1973. They were followed by waves of family re-unions in the subsequent years. Other major arriving groups are people coming as refugees with countries and regions of origin shifting with the outbreak of conflicts in different places. The number of immigrants arriving to Denmark increased significantly in the 1980s, but Denmark also received refugees before the 1980s (e.g. from Vietnam in the 1970s). Her too, initial groups arriving as refugees have been followed by tied movers as families became re-united.

Many immigrants and refugees from low income countries were fairly young when arriving to Denmark. As a consequence of this, the age distribution in this group differs significantly from the distribution for the native population. Rather few are older than 60 but in the coming years and decades the number of immigrants from low income countries 60 and older will increase steeply in both absolute and relative terms. The focus below is on income and poverty for this group in 2011 compared with the native population. Until now, a fairly big fraction of married women in this population group have been housewives with no or little market income over the life cycle. The predominantly low incomes from work in this group is the result of both differences in traditions and attitudes relative to the native population, along with barriers for entering jobs, especially in

occupations with higher wages. At the same time, until now the average retirement age has been much lower for this group of immigrants than among natives. As a consequence, market income over the life cycle is significantly lower for this group than for natives of whom many have lived in dual earner families. Further, home ownership and accumulation of private assets are assumed to be significantly lower than among natives.

We thus expect retirement from a broad range of social security programs to be more important in relative terms for older immigrants than for same age natives. In relation to retirement programs in Denmark, immigrants are eligible for the different programs on the same conditions as the native population. The main current programs are disability insurance (Førtidspension) with eligibility on medical and mixed social and medical criteria between age 18 and 64. Next, a labor market related early retirement program, PEW (Efterløn), is an option for individuals 60-64 years old, without any medical eligibility criteria but being conditional on a fairly long tenure in unemployment insurance. Finally, everybody are in principle eligible to State pension (Folkepension) from age 65.

Eligibility for the PEW program is conditional on a stipulated amount of labor market experience and membership of an unemployment insurance fund. Full eligibility for the State pension is in principal conditional on a minimum of 40 years of residence in Denmark between ages 15 and 64. Pensioners with less than 40 years of residence receive a fraction of the pension. Thus 31 years of Danish residency gives the pensioner access to $31/40^{\text{ths}}$ of a full State pension. Full eligibility for disability insurance is also conditional on years of residence. Recipients of disability insurance, who has lived in Denmark less than $4/5$ of the time between age 15 and the retirement date receives only a fraction of the full disability pension. Refugees are exempted from the requirements regarding the years of residence in Denmark, which imply that their old age or disability pension is not reduced even if they have stayed only a few years in Denmark. Thus, concerning the PEW program, old age pension and disability insurance there is a possibility that immigrants may not have a sufficiently long labor market experience to qualify for PEW or have a duration of residence shorter than the disability insurance and State pension criterion. A consequence of this, especially for people 60 and older, is a higher expected poverty risk for immigrants and refugees than for natives.

Besides the programs mentioned above income after retirement is also affected by the ATP program – a fairly small, lifelong, contribution to income after retirement – dependent on labor market

experience. Further, also dependent on labor market experience, occupation and sector, retired immigrants may receive income from labor market pensions.

Summing up, groups of individuals coming to the country as immigrants or as refugees are expected to be at a higher poverty risk in old age due to less than full tenure in the labor market and/or a too short duration of residence to obtain the full amount of disability or state pension. This poverty risk is the main topic in the analyses below.

In the analyses we include native Danes and immigrants from four countries: Turkey, Iran, Pakistan and Vietnam. The countries of origin have been selected partly to assure a sufficient number of individuals for the analyses below and partly to represent typical immigrant groups by time of arrival and background. Immigrants from Turkey and Pakistan are chosen as representing the typical pre 1973 guest worker countries. Immigrants from Iran and Vietnam are chosen as representing refugee countries with people arriving at different times. Refugees from Vietnam have a significantly longer duration of residence than those coming from Iran. About 30 per cent of the 60-74 years old non-Western immigrants² are from one of these four countries.

To get an idea of the magnitude of the upcoming challenge in the area, Table 1 summarizes the current distribution on 5 relevant age intervals of people coming from Turkey, Iran, Pakistan and Vietnam and from all non-Western countries. It is obvious from Table 1 that the challenge is increasing in this area as the age gradient for this group is much steeper than for the native population.

² We apply Statistics Denmark's classification to define non-Western countries (Statistics Denmark 2015). Western countries are defined as all EU-countries, Norway, Iceland, USA, Canada, Australia, New Zealand, Andorra, Liechtenstein, Monaco, San Marino, Switzerland and the Vatican State. Non-Western countries are defined as all other countries

Table 1. Number of native Danes and immigrants from non-Western countries by age group, 1st January 2016.

	50-54	55-59	60-64	65-69	70-74
Native Danes	363,957	327,525	313,198	325,534	278,653
Immigrants:					
Turkey	4,044	2,514	1,661	1,238	901
Iran	2,176	2,016	848	372	262
Pakistan	1,003	858	877	807	503
Vietnam	1,107	917	547	291	157
Non-Western countries (total)	28,042	20,092	13,019	8,875	5,523
Percentage of immigrants from Non-Western countries originating in Turkey, Iran, Pakistan or Vietnam	29.7	31.4	30.2	30.5	33.0

Source: Statistics Denmark (2016)

In Section 2 we present a brief survey of the fairly few studies in the area. Section 3 describes the data, the procedures for calculating alternative poverty rates and the approach in our analysis. Next, Section 4 describes individual background factors expected to be of relevance for the level of poverty rates. Section 5 describe the poverty rates by age and ethnic group and looks into the major differences in the composition of income by age and ethnic group. Section 6 presents the results from a number of estimations on the factors contributing to explain the level of individual poverty risks while Section 7 concludes the paper.

2. Earlier studies

In spite of the fact that the number of immigrants and refugees from outside the OECD area will be increasing steeply in the coming years, very few current studies of the income and pension perspectives in this challenge are available. Comparative general poverty studies can be found in e.g. Blume et al. (2007), Deding et al. (2010), Pedersen (2011) and Galloway et al. (2015). The general finding in these studies with data from Scandinavian welfare states is high general poverty rates for immigrants coming from outside the OECD area. The emphasis in those studies is however either on the whole group of immigrants or on immigrant children, but not on older immigrants and refugees.

In Sweden, as in Denmark and Norway, the amount of social security old age pension depends on the number of years spent in the country between 16 and 64. Years of residence 40 or more qualifies for full social security old age pension. If the number of years of residence is below 40 the result is – in principle – a corresponding reduction in social security old age pension. The eventual

remaining income in retirement depends on the labor market tenure for the immigrants. For Sweden this factor depends very much on the year of arrival to the country. Ekberg and Lindh (2010) and Ekberg (2015) present relative incomes from social security old age pension for immigrants arriving before 1970. This was predominantly a work related immigration resulting for this group of early arriving migrants in about the same labor market career as for comparable natives. As a consequence, the two groups are found to have about the same social security old age pension. In Flood and Mitrut (2010) and Flood (2014) focus is on the relative income in retirement for immigrants to Sweden from countries outside the OECD area. The income ratios relative to natives depend very much on birth cohorts and on whether the income concept is social security old age pension alone or all income in retirement. For instance, for immigrant men from the 1940-44 cohorts at age 70, Flood and Mitrut (2010) finds a relative income ratio of 0,31 looking only at social security old age pension while the ratio is 0,58 when all pension incomes are included.

Statistics Sweden (2012) presents summary ratios for the year 2010 between net monthly incomes for men and women, born abroad and born in Sweden. For the age group 68-70 years old the ratio is 0,79 for men and 0,89 for women. More detailed evidence relating relative income and poverty to immigrant status including country of origin and years since migration is however not available in Statistics Sweden (2012). For Norway, income ratios and poverty shares are available by country of origin and separately for those coming as immigrants and as refugees. Using the EU poverty line criterion of 60 percent of the equivalence scale adjusted income, Epland (2013) reports for 2011 a poverty share of 31 percent for all immigrants and descendants. For immigrants with origin in Eastern Europe, Asia, Africa, and Latin America the poverty share is 35 percent. Finally, Epland (2013) reports a poverty share of 43 percent in 2011 for those coming as refugees to Norway. Data by age are not published. However, Epland (2013) reports long-term poverty shares by the EU criterion by national background for immigrants and refugees separately after the number of years of residence in Norway. For those having spent 10 or more years in Norway, there are still very big differences, i.e. from 9,1 percent for immigrants from the Philipines to 55,9 percent for immigrants from Somalia, with an average of 22,9 percent for the non-OECD group of countries of origin.

We emphasize regarding the findings with Danish data reported below that we have, so far, been unable to find benchmark information for other countries, including age as well as years of residence and country of origin.

3. Data and method

Data

In the description and analysis in the sections below, we use longitudinal administrative register data from Statistics Denmark. The data include information on the total population of individuals, who in 2011 were 50 years old or older, for the period 1980-2011. For these individuals, we have information about their, spouses, live-in partners, children and the persons who are living in the same household. The data set is constructed by merging information from several databases maintained by Statistics Denmark. From the data set we have detailed information on a large number of individual characteristics such as age, gender, year of immigration, year of emigration country of origin, citizenship, marital status, income and labor market status. Furthermore, the data set makes it possible to identify individuals' children, and eventual partners. We are therefore able to combine the information on a given individual with information on members of his or her family (if they are living in Denmark).

In the analyses for 2011 we include native Danes and immigrants from four countries: Turkey, Iran, Pakistan and Vietnam (see table A.1 in the appendix). We base the definition of immigrants and native Danes on Statistics Denmark's classification of the population into three groups: immigrants, descendants of immigrants and native Danes (Poulsen and Lange 1998). Immigrants are defined as foreign-born individuals with foreign-born parents or parents with foreign citizenship. Descendants of immigrants are defined as individuals born in Denmark to foreign-born parents or parents with foreign citizenship. Native Danes are defined as individuals born in Denmark and having at least one parent who is not only a Danish citizen but was also born in Denmark.

Calculation of poverty rates

Based on the register data a poverty line is defined here as 50 per cent of the median in the distribution of equivalence scale adjusted disposable income. We use the OECD-modified equivalence scale to adjust household incomes to an individual specific level assigning the weight 1 to the first adult in the household, 0.5 to a second adult and to each child older than 14, and 0,3 to each child, who are 14 years old or younger (Atkinson et al., 1995). Many recent studies prefer use of 60 per cent of the median which of course would push the poverty rates reported below upwards. We have chosen 50 per cent to be in accordance with recommendations from a recent Danish expert

commission (2013) arguing that the distribution of disposable incomes in Denmark is so relatively compressed that use of a 60 per cent cut off point would result in moving many people below the poverty line who would not be considered as poor in a usual understanding of the word.

While few native Danes are living in an extended family, this type of family structure is more widespread in some immigrant groups (see e.g. Liversage and Jakobsen (2016)). Sharing expenses in extended families may increase the family members spending power and reduce the risk of experience poverty. Therefore, we use two definitions of families in the calculation of poverty rates; a conventional family concept (a nuclear family) and a household concept (an extended family). To define a nuclear family, we use the Statistics Denmark family concept (Statistics Denmark, 2013). Here, adult individuals are categorized as belonging to one of two main types of families: (1) singles or (2) couples (either married or cohabitating). Children younger than 25 years living at home are included in statistical terms in their parent's family if these adult children are not married, cohabiting, and have children of their own. If an elderly couple are living together with their 25-years-or older son, the couple is defined as a family of their own and the son is defined as a family of his own, regardless of being able to share expenses in the same manner as a couple living together with their 20 years old son. An extended family or a household is defined as the people sharing the same dwelling. Here we assume that families sharing a dwelling also are sharing expenses. The analyses will show us to what extent immigrants families are reducing the risk of poverty (intended or unintended) by living in extended families.

Probit analyses

In the last part of the paper, we analyze how the poverty risk among older immigrants correlates with a number of background factors using probit estimations. The background factors are gender, age, family status, duration of residence and labor market status at age 55. The three last background factors are described in section 4. The distribution on age and gender appears from Table A.1 in the Appendix. We estimate two probit models: one where the calculation of the poverty rate is based on the nuclear family and one where the calculation of the poverty rate is based on the extended family concept.

4. Background factors

This section contains a brief description of background factor expected to be of relevance for the level of poverty: family type, duration of residence in Denmark and labor market history in Denmark.

Figures 1a and 1b show the distribution on type of nuclear family for the two age groups: 60-64 and 65-74. The figures show whether the immigrants and natives Danes are living in a couple or as single (with or without children younger than 25 living at home). The Iranian immigrants stand out from the other groups by having a higher percentage that is single. Furthermore, women have a higher percentage who are single than men - especially among the 65-74 years old.

Figure 1a. Distribution on type of nuclear family. Age group: 60-64

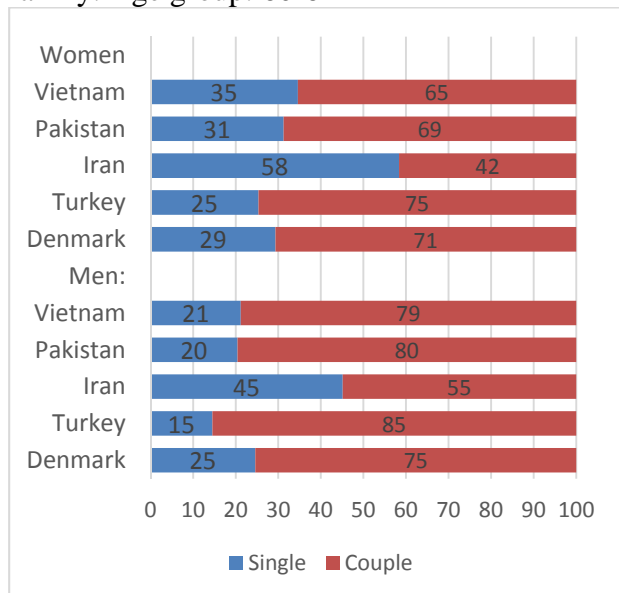


Figure 1b. Distribution on type of nuclear family. Age group: 65-74.

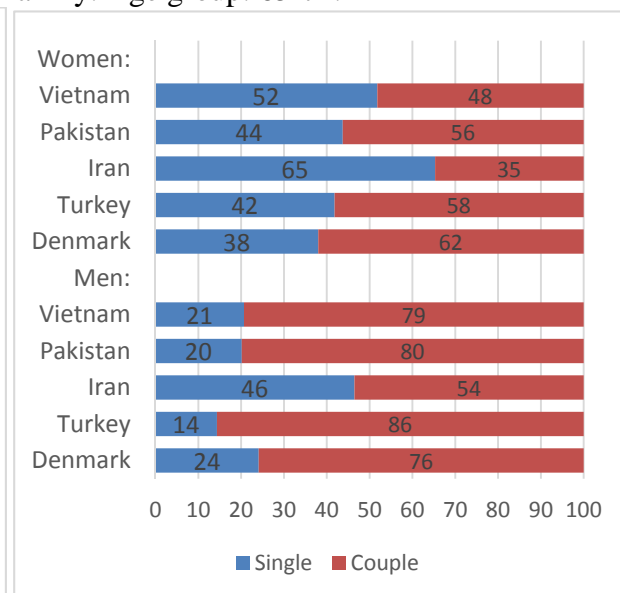
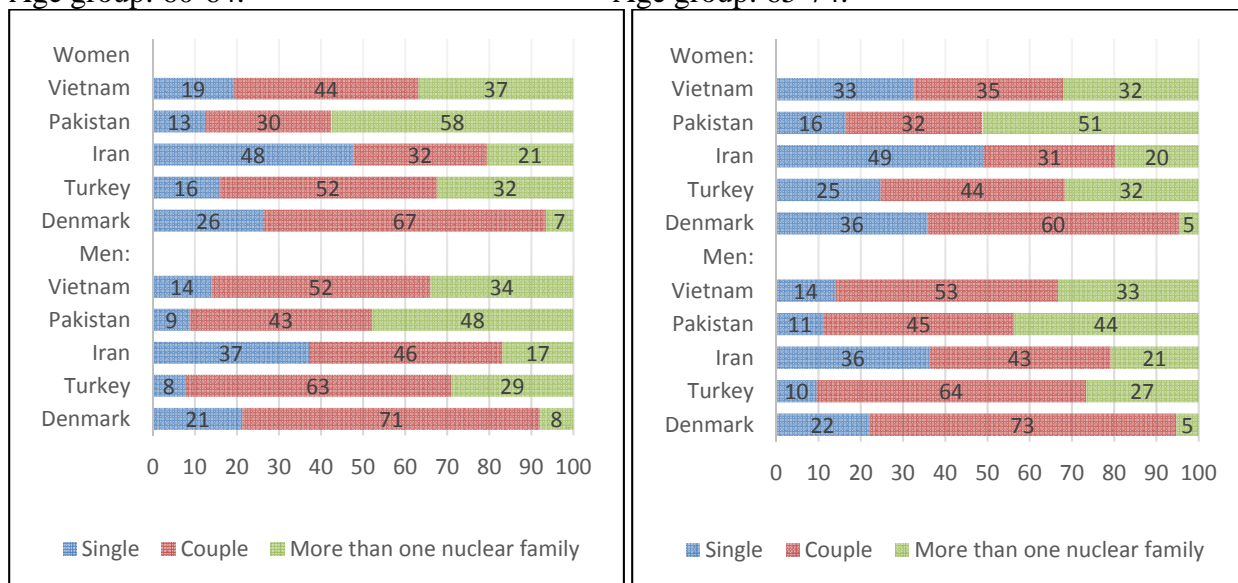


Figure 2a. Distribution on type of household. Age group: 60-64. Figure 2b. Distribution on type of household. Age group: 65-74.



To what extent the old immigrants are living in extended families is shown in Figure 2a and 2b. An extended family is defined as a household consisting of at least two nuclear families. Each of the four immigrant groups has a substantially higher share living in extended families than the native Danes. The share living in extended family ranges from 20 to 50 per cent among the 65-74 years-old immigrants – lowest among the Iranian immigrants and highest among the Pakistani immigrants. The corresponding number for native Danes is 5 per cent.

A prior expectation is that integration into the labor market regarding jobs and earnings increases with the number of years since entry to the host country. Years of residence in Denmark is expected to be a predictor of poverty in old age as income after reaching pension age depends on former earnings and as the number of years since entry to the country affect the amount paid in social security pension (for others than refugees).

Figures 3a and 3b shows the distribution on years of residence in Denmark for 60-64 and 65-74 years old immigrants. Unfortunately information on the year of entry is unknown for a number of immigrants who arrived before 1980 and it is therefore not possible to divide those who in 2011 have stayed in Denmark for more than 30 years into subgroups. The figures show that a very high share, 74-90 percent, of the immigrants from Turkey and Pakistan have stayed in Denmark for 30 years or more. The corresponding numbers are 6-12 per cent for immigrants from Iran and 34-44

per cent for immigrants from Vietnam. Finally, it is seen that 20-30 per cent of the immigrants from Iran and Vietnam have stayed less than 20 years in Denmark. In general, women have stayed fewer years in Denmark than men (not shown in Figures 3a and 3b).

Figure 3a. Distribution on years since migration. Age group: 60-64

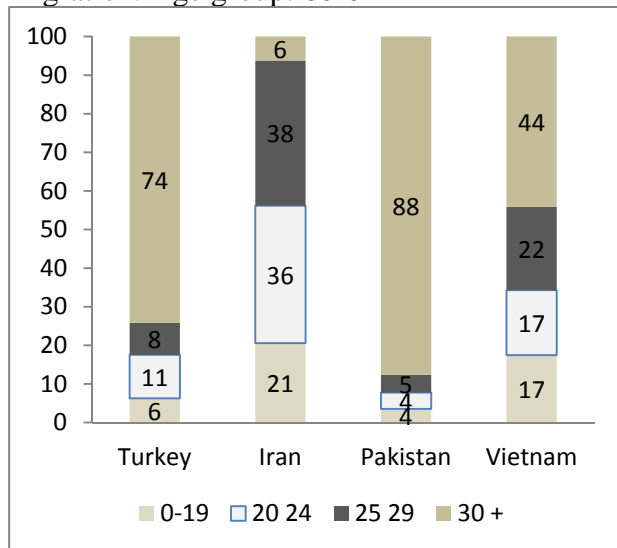
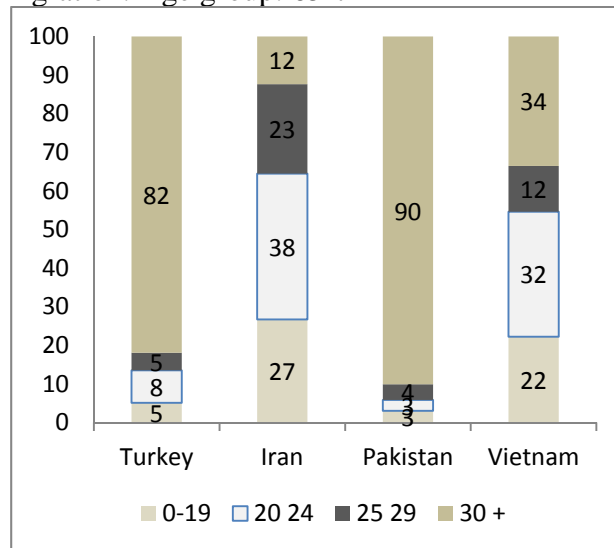


Figure 3b. Distribution on years since migration. Age group: 65-74



Another interesting predictor for poverty or not in older ages is the individual position relative to the labor market at age 55, i.e. 5 years before potential eligibility for PEW and 10 years before eligibility for State pension from age 65. Figure 4 contains a summary picture of the state relative to the labor market for those 60-64 years old in 2011 when they were 55 years old in the period 2002-2006. Figure 5 contains a summary picture of the state relative to the labor market for those 65-74 years old in 2011 when they were 55 years old in the period 1992-2001.

“Early retirement” includes people receiving disability insurance or “transitional benefits”.

“Transitional benefits” was an early retirement program for older, long-term unemployed individuals, who were members of an unemployment insurance fund. The program covered the participants until age 60 when they were transferred to the PEW program. It was introduced in 1992 –when Danish unemployment was very high – and entry to the program was abolished in 1996. Initially it was aimed at the 55–59-year-olds, but in 1994 the “transitional benefits” was expanded to include long-term unemployed also in the 50–54 age group. Thus, those who were 60-64 years old in 2011 could not have received “transitional benefits” when they were 55, and the higher percentage in the “early retirement” group in Figure 5 than in Figure 4 can (at least partly) be

explained by the existence of the “transitional benefits” program in the 1990s. The category “Others” includes unemployed, recipients of social assistance, others out of labour force (including housewives) and people not living in Denmark at age 55.³

As shown in Figure 4, among those who were 60-64 years old in 2011, there is a very big difference between the 82 per cent of natives and less than 50 per cent the people from the 4 immigrant countries who were in employment at age 55. There are, however, also differences between the immigrant groups: 45 per cent of the immigrants from Pakistan and 28 per cent of immigrants from Turkey are employed at age 55. Looking at the share in an early retirement program (mainly disability insurance) at age 55, the level is around 20-30 per cent for the four immigrant groups. Furthermore, around 35 per cent is in the group “other” (that is unemployed, recipients of social assistance, or out of the labour force) at age 55.

Figure 5 shows that employment rates at age 55 are lower for those who were 65-74 years old in 2011 than for those who were 60-64 years old in 2011, especially for the immigrants. Among those who were 65-74 years old in 2011 77 per cent of the natives and 16-33 per cent of the immigrants were employed at age 55. The share in an early retirement program (disability insurance or the “transitional benefits” program) at age 55 were 47 per cent for the immigrants from Turkey, 32 per cent for the immigrants from Pakistan and Vietnam and 23 per cent for the immigrants from Iran. On the other hand, more than 50 per cent of the immigrants from Iran and Vietnam are in the group “others” at age 55 (Figure 5).⁴

For the four immigrant group and for the native Danes the employment rates at age 55 are lower for women than for men (not shown in figures). Gender differences are, however, much larger for immigrants than for native Danes. For those immigrants who are 65-74 years old in 2011, the employment rates at age 55 are 7-10 per cent for the female immigrants and 25-46 per cent for the male immigrants.

³ The percentages who did not live in Denmark at age 55 are with one exception lower than 5 per cent. The exception is the immigrants from Iran, who are 65-74 years old in 2011. Here 19 per cent was not living in Denmark at age 55.

⁴ For the immigrants from Iran, the high percentage in the category Others is affected by the relative high numbers not living in Denmark at age 55.

Figure 4. Distribution by labor market states at age 55 for 60–64-year-olds

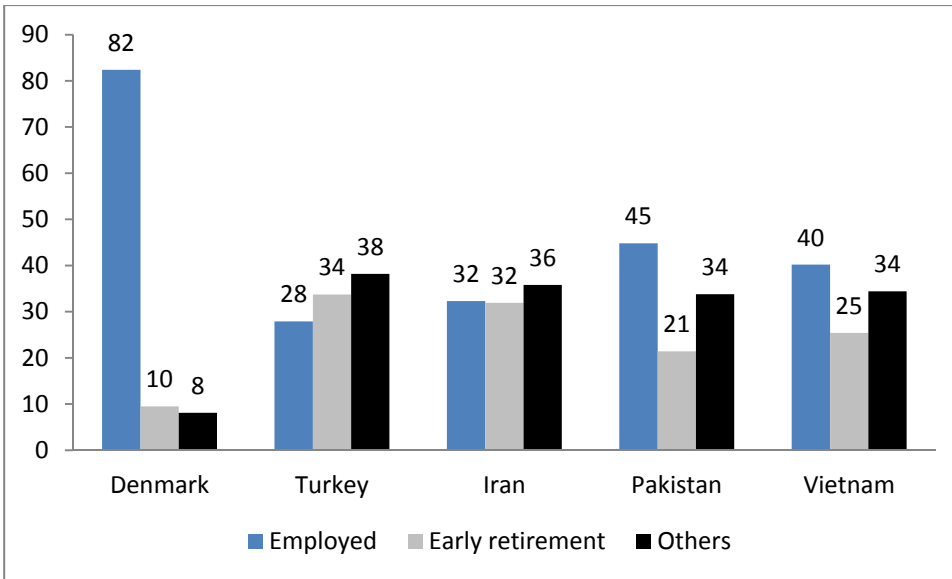
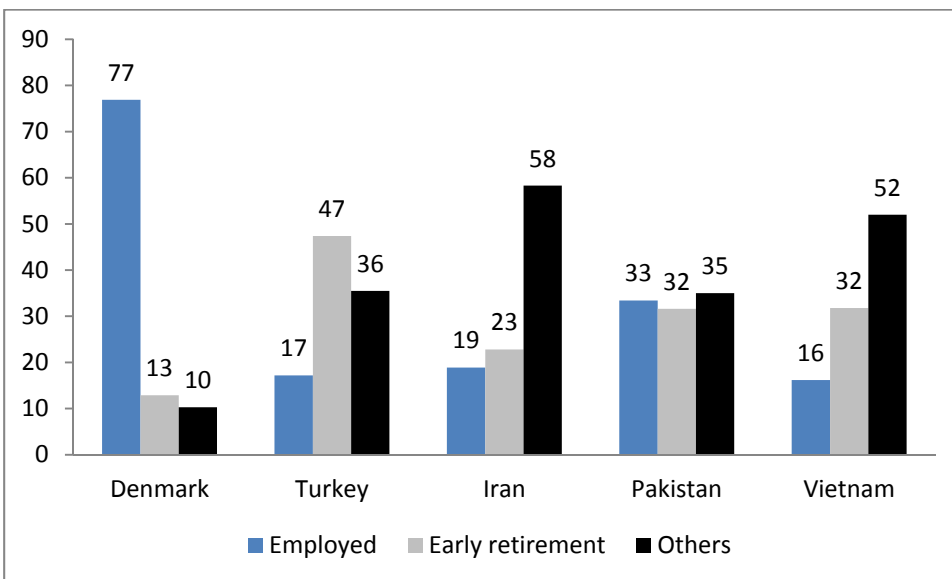


Figure 5. Distribution by labor market states at age 55 for 65-74-year-olds



The labor force indicator at age 55 clearly points to the fact that many immigrants from low income countries will not be eligible for PEW during the first half of their 60s and that saving to ATP and labor market pension is much lower than for natives.

After this brief survey of a number of factors having a potential impact on the risk of poverty in older ages we proceed in the next section to report the poverty rates and in the following section to

report the results from estimations of the poverty risk for 60-74-year-old natives and immigrants using the two family concepts described above.

5. Poverty rates

Figures 6a and 6b summarize the poverty rates based on the nuclear family definition. The poverty rates are shown by age and country of origin for people from the 4 selected immigrant countries and for natives. We see a very big gap between poverty rates for natives and for immigrants from the 4 countries, and for the immigrants a steep gradient in poverty rates relative to age. Further, we see some differences across the countries, in particular for the oldest age group. For the 65-74 years, immigrants from Pakistan and Turkey have the highest poverty rates and immigrants from Vietnam the lowest.

The corresponding poverty rates using the extended family definition are shown in Figures 7a and 7b. Especially for the 65-74 years old immigrants, the poverty rates are much lower (11-13 percentage points) when the calculation of the poverty rate is based on the extended family concept compared with the calculation based on the nuclear family. For example, for the 65-74 years old immigrants from Turkey the poverty rate is 29 percent when the calculation is based on the nuclear family and only 16 per cent when the calculation is based on the extended family. For the native Danes the poverty rate is about 1 per cent irrespective of which family concept we use. Thus it seems like the oldest immigrants overcome some of the poverty problems by living in extended families.

Looking into poverty rates separately by gender we find some big differences. It is evident from Figures 6b and 7b that big differences exist by gender in the age group 65-74. We find the largest gender gap for immigrants from Turkey where Figure 6b show a poverty rate of 45 per cent for women and 17 per cent for men. For natives the poverty rate is around 1 per cent for both women and men.

Figure 6a. Poverty rates - nuclear family
Age group: 60-64.

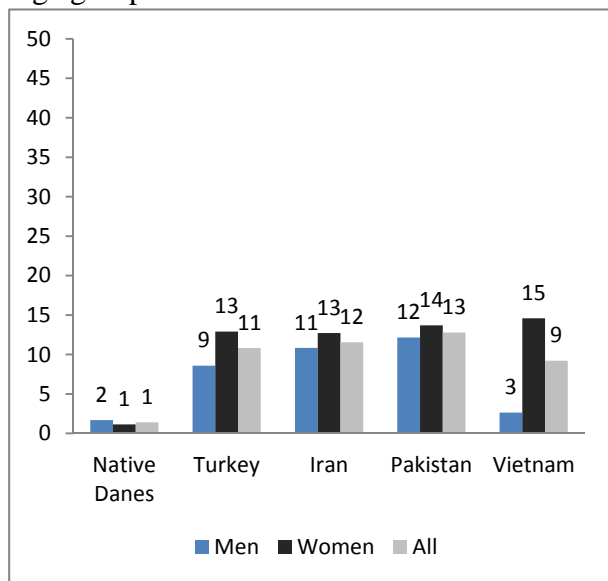


Figure 6b. Poverty rates - nuclear family
Age group: 65-74.

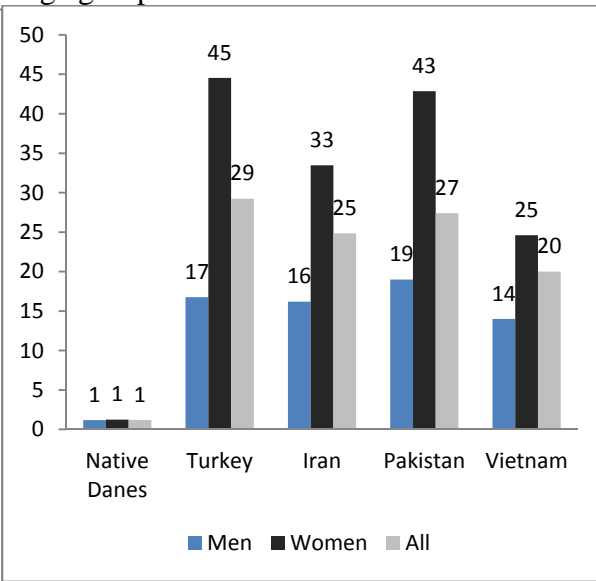


Figure 7a. Poverty rates – extended family
Age group: 60-64.

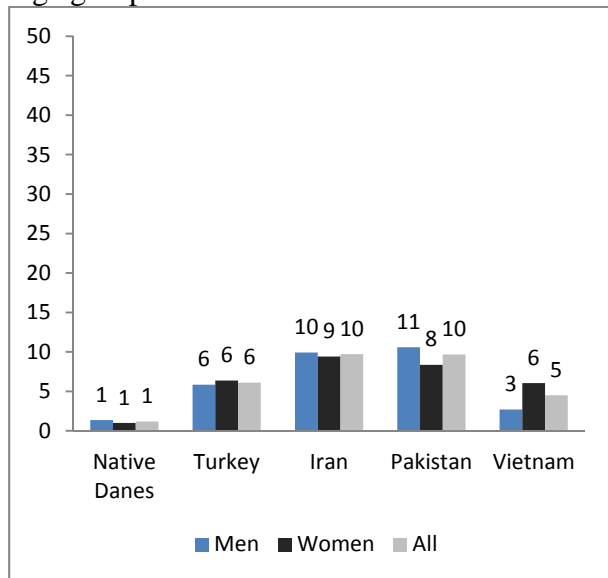
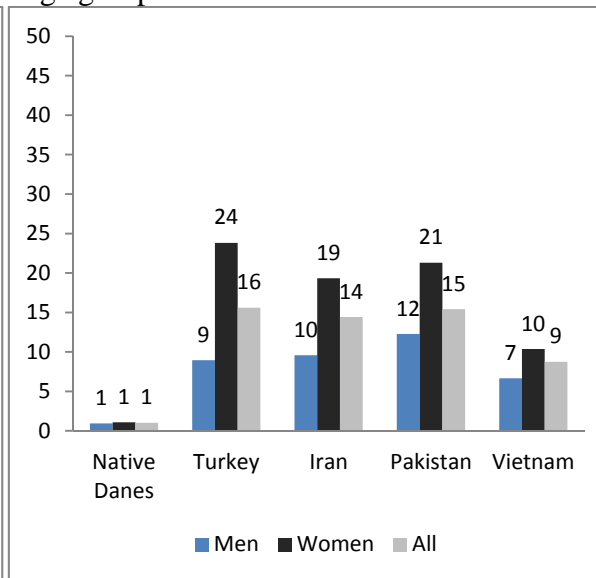


Figure 7b. Poverty rates – extended family
Age group: 65-74.



The very big differences in poverty shares by gender for the 65-74 years old probably reflect equally big differences in the share of people living as singles, differences in the duration of residence and a weaker attachment to the labor market during their time in Denmark cf. Section 4. We look more into how these factors affect the poverty risk in the next section.⁵ However, first we

⁵ Studies based on survey data have shown that the educational level typically is lower in non-Western immigrant groups than among native Danes (see Mogensen and Matthiessen 2000), and education is another factor that may affect

look into the financial situation of the older immigrants in greater detail. Tables 2 and 3 show both the annual average income and what this income consists of for the four groups of immigrants and the native Danes. The relative importance of the different sources of income will give some indications of why the poverty rates are lower for immigrants. For instance, the very big differences in labor market status in the mid-50s, we saw in Figures 4 and 5, are clearly reflected in the distribution on income sources shown in Tables 2 and 3.

For the 60-64-years old, we distinguish between 5 sources of income: market income, disability pensions, other pensions, PEW, and welfare benefits, see Table 2. For the 65-74-years old, we distinguish between four sources of income: market income, social security pensions, other pensions, and welfare benefits, see Table 3.

Table 2. Share of income from market income, disability pensions, other pensions, PEW, and welfare benefits, 60 – 64 years old, 2011. (Per cent and DKK)

	Market income	Disability insurance	Other pensions	PEW	Welfare benefits	Total	Average income
60-64							
Native Danes	66.1	7.7	8.1	14.7	3.5	100.0	327,120
Turkey	17.6	39.1	1.5	26.7	15.1	100.0	160,705
Iran	35.1	44.2	0.7	2.5	17.4	100.0	200,879
Pakistan	43.9	23.3	1.3	18.1	13.3	100.0	202,843
Vietnam	34.7	36.2	1.3	13.4	14.4	100.0	189,648

Table 3. Share of income from market, social security pensions, other pensions, and welfare benefits, 65 – 74 years old, 2011. (Per cent and DKK)

	Market	State pension	Other pensions	Welfare benefits	Total	Average income
65-74						
Native Danes	25.8	39.3	32.1	2.8	100.0	238,771
Turkey	4.0	73.3	10.5	12.2	100.0	116,719
Iran	16.3	60.4	6.4	16.8	100.0	152,705
Pakistan	19.5	59.2	12.8	8.5	100.0	139,225
Vietnam	2.1	80.0	5.1	12.8	100.0	129,227

The average annual income is significantly lower for immigrants than for native Danes. The tables also illustrate that the share of income from the market and other pensions is markedly lower for

the risk of poverty. Unfortunately, for the most of the old immigrants, the register data do not include information on their education. However, we have calculated the poverty rate for 65-74 years old low-skilled Danes, who at the most have 7 years of schooling, and the poverty shares are only slightly higher for this group than for the total population of native Danes in the age group.

immigrants than for native Danes. Thus, for the 65-74 years old less than 5 per cent of the income of immigrants from Turkey and Vietnam is market income, while the corresponding share for native Danes is 26 per cent. As a reflection of this, the immigrants in both age groups are more dependent on welfare benefits, disability insurance or State pension than the native Danes. Actually, the share of income from State pension is 60-80 per cent for 65-74 years old immigrants and only 40 per cent for 65-74 years old native Danes, cf. Tables 2 and 3. Even though the 65-74 years old immigrants from Turkey and Pakistan are more dependent on State pension in relative terms than native Danes in the same age group, they do on average receive a lower absolute amount in pension (for those who receive state pension at all), i.e. on average, immigrants from Turkey and Pakistan receive 87.000 DKK and native Danes 97.000 DKK in State pension in 2011.⁶

6. Analyses

In Tables 4 and 5 below we present the results from two probit analyses including a number of potential determinants for being below the 50 per cent poverty line in 2011. Only immigrants from the four selected countries and native Danes who lived in Denmark at age 55 are included in the estimations.

Table 4 shows the estimation results for the model where the calculation of the poverty rate is based on the nuclear family. Looking at the importance of gender, positive significance is found for women from Turkey and Iran and negative significance for native Danish women, when we are controlling for other relevant background factors as family status and previous labor market status. Regarding age, we find mostly a positive significance with the marginal effects increasing with age in contrast to natives where the poverty risk is lower in the age intervals above 60-64 years. Being single in general increases the risk of poverty. The duration of residence is found important with a negative sign as expected for immigrants from the two guest worker countries Turkey and Pakistan along with Vietnam. For immigrants from Iran - arriving on average later - we find no significant impact from duration of residence. The eventual impact from occupation at age 55 is measured against being occupied as a wage earner. For immigrants from Turkey, Pakistan and Vietnam as well as for natives, being self-employed implies a higher poverty risk, possibly reflecting less financial opportunities for retirement saving than among wage earners with mandatory labor market

⁶ The immigrants from Iran and Vietnam on average receive around 107.000 DKK in State pension reflecting the different set of pension eligibility rules for immigrants arriving as refugees.

pension funds. Being unemployed, a recipient of disability insurance, a recipient of transitional benefits or in the “Other” category at age 55 in general increases the poverty risk at older ages – however it differs for the groups which of these states that are found to be statistically significant. We can conclude, however, that previous labor market status is important for the poverty risk at old age.

Table 5 shows the estimation results for the model where the calculation of the poverty rate is based on the extended family. The results are in general very similar to the results in Table 4 but the number of significant coefficients is smaller as expected. The results in Table 5 confirm the descriptive findings, i.e. living in a household consisting of more than one nuclear family reduces the risk of poverty.

Tabel 4. Probit analyses of the incidence of poverty – nuclear family (marginal effects)¹⁾. Immigrants from four countries of origin and native Danes. 60-74 years old. 2011.

	Turkey		Iran		Pakistan		Vietnam		Denmark	
Gender										
Men	ref		ref		ref		ref		ref	
Women	0.0530	***	0.0483	*	0.0386		0.0220		-0.0027	***
	(0.0148)		(0.0238)		(0.0197)		(0.0243)		(0.0002)	
Age										
60-64 years old	-0.1499	***	-0.0178		-0.0779	***	-0.0499		0.0027	***
	(0.0163)		(0.0265)		(0.0208)		(0.0267)		(0.0003)	
65-69 years old	ref		ref		ref		ref		ref	
70-74 years old	0.1104	***	0.0171		0.1619	***	0.0121		-0.0012	***
	(0.0164)		(0.0324)		(0.0217)		(0.0286)		(0.0003)	
Duration of residence										
0-19 years in Denmark	0.1896	***	0.0711		0.1225	*	0.2167	***		
	(0.0308)		(0.0540)		(0.0554)		(0.0292)			
20-29 years in Denmark	0.1314	***	0.0665		0.0953	**	0.0116			
	(0.0176)		(0.0470)		(0.0292)		(0.0288)			
30+ years in Denmark	ref		ref		ref		ref		ref	
Family status										
Couple	ref		ref		ref		ref		ref	
Single	0.1521	***	0.1067	***	0.1237	***	0.0992	***	0.0209	***
	(0.0141)		(0.0240)		(0.0183)		(0.0223)		(0.0003)	
Labour market status at age 55										
Wage earners	ref		ref		ref		ref		ref	
Self-employed	0.0899	*	0.1674	**	0.0382		0.1129	*	0.0199	***
	(0.0416)		(0.0501)		(0.0328)		(0.0453)		(0.0003)	
Unemployed	0.1135	***	0.1372	**	0.0688	*	0.0572		0.0081	***
	(0.0270)		(0.0526)		(0.0324)		(0.0444)		(0.0005)	
Transitional benefits	0.0763	**	0.1725		0.0584		0.1285	*	0.0109	***
	(0.0267)		(0.1330)		(0.0341)		(0.0596)		(0.0006)	
Disability insurance	0.1212	***	0.0023		0.0833	**	-0.0717		-0.0006	
	(0.0237)		(0.0438)		(0.0289)		(0.0448)		(0.0004)	
Others	0.1503	***	0.1648	***	0.1434	***	0.0468		0.0209	***
	(0.0243)		(0.0402)		(0.0272)		(0.0357)		(0.0004)	
N	2,971		826		1,716		659		859,653	
Pseudo-R2	0.1885		0.1256		0.1534		0.3229		0.1267	

***0.1%. **1%. *5%

1) The marginal effects are estimated using the margins command in Stata

Tabel 5. Probit analyses of the incidence of poverty – extended family (marginal effects)¹⁾. Immigrants from four countries of origin and native Danes. 60-74 years old. 2011.

	Turkey	Iran	Pakistan	Vietnam	Denmark	
Gender						
Men	ref	ref	ref	ref	ref	
Women	0.0380 **	0.0290	-0.0009	-0.0090	-0.0012 ***	
	0.0127	0.0225	0.0186	0.0178	0.0002	
Age						
60-64 years old	-0.0825 ***	-0.0055	-0.0155	-0.0033	0.0024 ***	
	0.0140	0.0250	0.0187	0.0209	0.0003	
65-69 years old	ref	ref	ref	ref	ref	
70-74 years old	0.0533 ***	0.0014	0.1017 ***	0.0434 *	-0.0009 **	
	0.0138	0.0311	0.0203	0.0212	0.0003	
Duration of residence						
0-19 years in Denmark	0.1173 ***	-0.0195	0.0682	0.1107 ***		
	0.0244	0.0582	0.0463	0.0245		
20-29 years in Denmark	0.0101	-0.0212	-0.0177	0.0092		
	0.0124	0.0529	0.0169	0.0227		
30+ years in Denmark	ref	ref	ref	ref		
Family status						
Couple	ref	ref	ref	ref	ref	
Single	0.0837 ***	0.0801 **	0.0251	0.0442 *	0.0162 ***	
	0.0142	0.0244	0.0238	0.0177	0.0003	
More than one family	-0.0458 **	0.0111	-0.0395 *	-0.1047 **	0.0091 ***	
	0.0140	0.0345	0.0170	0.0310	0.0004	
Labour market status at age 55						
Wage earners						
Self-employed	0.0215	0.1107 *	0.0570 *	0.0842	0.0169 ***	
	0.0372	0.0482	0.0279	0.0440	0.0003	
Unemployed	0.0490 *	0.1298 **	0.0567 *	0.0688	0.0066 ***	
	0.0225	0.0486	0.0287	0.0401	0.0005	
Transitional benefits	-0.0015	0.1174	0.0192	0.0848	0.0086 ***	
	0.0227	0.1206	0.0324	0.0542	0.0006	
Disability insurance	0.0663 **	0.0122	0.0530 *	-0.0005	-0.0015 ***	
	0.0193	0.0404	0.0260	0.0406	0.0004	
Others	0.0780 ***	0.1479 ***	0.1108 ***	0.0708 *	0.0170 ***	
	0.0201	0.0375	0.0244	0.0360	0.0004	
N	2,924	809	1,662	650	847.746	
Pseudo-R2	0.1197	0.0981	0.067	0.3407	0.1065	

***0.1%. **1%. *5%

1) The marginal effects are estimated using the margins command in Stata

7. Conclusions

Many immigrants from low income countries arrived to Denmark in young ages either as guest workers before 1973, as refugees or as tied movers in relation to family re-unification. However, in the near future many individuals in these groups move into their 60s and 70s. In relative terms the increase in the group 60 years and older is higher than for natives. Focus in the analyses has been on the risk of poverty in relative terms for this group of immigrants compared with the situation for natives. The challenge in the area of ageing among immigrants and refugees coming from low income countries is the fact that the very comprehensive set of retirement programs in Denmark is designed mainly to cover people with a background in dual earner families, typically with long tenure in the labor force and with fairly few having spent major shares of their active years in long-term sickness or disability spells.

Further, immigrants and refugees have in many cases not a sufficient long duration of residence to be covered fully by social security programs in old age. At the same time imperfect integration into the labor force has meant much lower employment rates than among natives, however with big differences regarding employment rates also between the immigrant groups by country of origin. As a consequence, we find very high current relative poverty rates for older immigrants in a setting where old age is no longer a poverty risk among natives.

In estimations of the determinants for poverty risk in 2011 among older people, immigrants and natives, who were in Denmark at age 55, we found that less than 20 years of residence in Denmark increases the poverty risk. Increasing age imply higher poverty risk for immigrants, in contrast to the situation for natives. Being single, much more pronounced among women, implies a higher poverty risk, and living in an extended family implies lower poverty risk. Finally, we can conclude that previous labor market status is important for the poverty risk at old age. We find a higher poverty risk for those in self-employment or who are participating in an early retirement program at age 55 than for those who were wage earners.

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Appendix

Table A.1. The number of native Danes and Immigrants by age groups, 2011.

	50-54	55-59	60-64	65-74	75+
All:					
Native Danes	336,093	326,606	330,502	543,835	382,739
Immigrants:					
Turkey	2,747	2,055	1,272	1,801	598
Iran	2,223	1,025	452	487	321
Pakistan	835	943	850	959	210
Vietnam	973	625	338	346	367
Men:					
Native Danes	168,303	163,039	163,524	263,102	153,740
Immigrants:					
Turkey	1,484	1,135	614	995	314
Iran	1,623	659	279	245	152
Pakistan	433	382	506	623	138
Vietnam	539	296	152	151	158
Women:					
Native Danes	167,790	163,567	166,978	280,733	228,999
Immigrants:					
Turkey	1,263	920	658	806	284
Iran	600	366	173	242	169
Pakistan	402	561	344	336	72
Vietnam	434	329	186	195	209