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Working Paper, September 2007:5

September 2007
J.nr.: 2507

Wage Assimilation of 1984-1993 First Generation Male Immigrants in Denmark

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August 28, 2007

Abstract. This paper compares the evolution of the hourly wage for western and non-western male non-refugee immigrants arrived in Denmark during 1984-1993. The paper finds evidence of assimilation effect at non-western immigrants' wage but not at the wages of western immigrants. A second major difference between the wages of non-western and western immigrants is their different sensitivity to macroeconomic conditions. Initial and current local unemployment have a negative effect only on the wages of western immigrants.

Keywords: Immigration, wages, panel data, sample selection

JEL classification: J40, C23, F22

[♣] I am grateful to Michael Rosholm, Helena Skyt Nielsen, Eskil Heinesen, Leif Husted, Søren Leth-Pedersen, Hans Hummelgaard, Martin Browning, and the participants of the CIM-AKF Workshop 2007, for helpful comments and suggestions. Financial support from the Danish Social Science Research Council and the Academy for Migration Studies in Denmark is acknowledged.

1. Introduction

The purpose of this paper is to compare the economic adjustment in terms of hourly wages of non-refugee male immigrants from western non-western countries arrived in Denmark during the decade 1984-1993 in the framework of the assimilation model (Chiswick, 1978; Borjas, 1994). To do so, the paper will estimate the dependency of hourly wages for these two groups on years of residence in Denmark (YSM). The assimilation profile is an important indicator of the long-term economic integration of immigrants.

The analysis of assimilation was pioneered by Chiswick (1978) and Carliner (1980). These studies use the human capital model (see Mincer 1974) to determine whether immigrants' earnings converge on average with growing years of experience in the US labour market to the earnings of comparable natives. Chiswick (1978) and Carliner (1980) predict a positive assimilation effect for economic migration due to its positive selection in terms of ability and motivation.

In the case of non-western migration to Denmark, mostly contributed by family reunification migration, other types of selection mechanisms might operate. Borjas (1987, 1990) argues that countries with egalitarian income distributions act as welfare magnets for individuals with low earnings capacities from less developed countries with greater income inequality and predicts a poor assimilation of this type of migration. Chiswick and Miller (1996) and Duleep and Regets (1997) suggest that immigrants from less developed countries are not negatively selected in terms of ability. Immigrants from non-western countries have more difficulties to move their skills than western immigrants. However, the better opportunities in high-developed countries make it worthwhile for non-western immigrants to move to high-developed countries even when they require substantial host-country skills investment. The host-country skills investment is negatively related with the degree of skills transferability, and therefore this theory predicts that non-western immigrants will experience more important assimilation effect than western immigrants.

There is not that much evidence on the economic integration of immigrants to Denmark in terms of wages. The Ministry of Economics (1997) finds cross-section evidence on earnings assimilation for immigrants. However, this study does not control for changing cohort ability over time or for self-selection. Husted et al. (2001) use panel data to analyze wage assimilation of immigrants. This study controls for self-selection into employment and finds a

partial assimilation of immigrants to Danes, with very important differences between refugees and non-refugees.

This paper aims to contribute to the empirical evidence on labour-market integration of foreign-born in Denmark (see Husted et al. (2001) and other related studies like Rosholm et al. (2000) or Nielsen et al. (2004) mainly by using a different sample design and allowing for endogenous re-migration.

The existing evidence is based on samples of individuals who migrate to Denmark at very different periods. As discussed in (Beenstock et al. 2005), the assimilation profiles are likely to change over time due to changes at the returns to skills and immigrants' investment rates. This paper, in order to avoid as much as possible, changing assimilation profiles, uses a sample of immigrants arrive in Denmark during the decade 1984-93, and follows them the first 11 years.

In addition, the paper deals not only with potential endogeneity of self-selection into employment, but also with the potential endogeneity of re-migration. This feature is especially important when comparing groups of individuals with different re-migration patterns. In the case least successful western immigrants migrate in a major proportion than least successful non-western individuals, the gap in terms of wages between these two groups might narrow, not because non-western foreign-born acquire specific skills in a higher degree than western individuals, but because of the different re-migration propensities of these two groups.

The consistent estimation of the wage equations requires dealing with two additional sources of endogeneity, due to the inclusion of pre-determined work experience in the covariate set, and the likely correlation between observable heterogeneity and unobservable heterogeneity which given our sample design includes ability, motivation and source-country transferred skills. To do so, we use a two-step panel sample selection estimator proposed by Semykina and Wooldridge (2005). This method is consistent under very mild assumptions on the outcome and selection equations.

The remainder of this paper is organized as follows. Section 2 describes the data set used in the application, drawn from administrative and Danish tax registers. Section 3 outlines the econometric approach used to estimate wage assimilation profiles. Section 4 presents the

estimated assimilation profiles and compares the marginal effects of living and working in Denmark for western and non-western foreign-born. Section 5 concludes. The appendix contains all the tables of the paper.

2. Data

This paper uses two unbalanced panel data sets covering the period 1984-2003 drawn from the first 11 waves of administrative tax and labour market records for male first generation immigrants from western and non-western countries arrived in Denmark during the decade 1984-93. The samples are restricted to long-term immigrants, which are individuals who stayed in Denmark at least the first two years, but who might re-migrate permanently afterwards. The samples are further restricted by excluding individuals who at the migration year were younger than 18 or older than 45, or re-enter Denmark after re-migration, or information is missing for some of the variables used in the application. This makes a sample of 12,908 western individuals and 5,075 non-western individuals.

Table 1 reports summary statistics for samples at the migration year (YSM=0), at 5 years since the migration (YSM=5), and at 10 years since the migration year (YSM=10). The arrival of immigrants is relatively more concentrated around the third quarter, with 48% of western migrants and 39.1% of non-western immigrants arriving between July and October.

The re-migration propensity of these groups is relatively high. 5 years after migration 46.2% of the individuals arrived from western countries and 51.7% of the non-western migrants remain in Denmark, and the last year we observe them, that is at YSM=10, only 32.2% of western and 47.4% of non-western migrants still live in Denmark.

Most of the immigrants (about 70% for both groups) start living in one of the biggest cities, while as time passes, the frequency of individuals from western countries with urban residence falls slowly, while for the non-western individuals who stay the frequency of people residing in big cities remains quite stable. The average ethnic concentration upon arrival is relatively similar for both groups, and it falls slowly with time spent in Denmark.

Initial local unemployment rate and the contemporary local unemployment rates are quite similar for both groups. However, the frequency of wage employed upon arrival for western

individuals is twice as high (39%) as for non-western migrants (17%), a figure that indicates quite different economic entry conditions for both groups. These figures grow fast with time in Denmark, such that at YSM=5, the wage employment rates are 63.4% and 51.7% for western and non-western individuals, and at YSM=10, they are 73.5% and 62.1%.

The civil status of foreign-born individuals is relatively similar over the studied period in terms of frequency of immigrants with partner. However, there is a significant difference regarding the proportion of Danish partners among the two groups of immigrants. Upon arrival, 57% of partners of western immigrants are Danes, and this proportion increases with time spent in the host-country. In the case of non-western immigrants, the initial proportion of Danish partners is relatively close to the figures of western immigrants, but the proportion of Danish partners is drastically reduced after 10 years in the country. Upon arrival, non-western individuals have more children and are younger, than western individuals, and the number of children seems to increase faster for non-western immigrants.

Finally, there is a higher proportion of theoretically educated western migrants than non-western migrants. Regarding the country mix of the different groups Nordic immigrants who account for 25% of the initial migration flow to Denmark tend to re-migrate more often than other western foreign-born, being the individuals from Central Europe and East Europe those with higher survivorship in the host-country. Non-western immigrants from the different sub-groups of countries present more similar survivorship.

3. Methodology

We use a panel data model to represent immigrants' wages:

$$y_{it}^{*} = d_t + c_i'q + x_{it}'b + a_i^{*} + u_{it}^{*}, \qquad (1)$$

where y_{it}^{*} denotes hourly wage (in natural logs) of individual *i* at year *t*, d_t denotes a period effect, c_i is a vector of cohort dummies, x_{it} is a vector of explanatory variables including among other covariates YSM (and its square), and working experience in Denmark (and its square), a_i^{*} is a zero mean unobserved effect, and u_{it}^{*} is a zero mean idiosyncratic error with arbitrary heteroskedasticity and arbitrary serial correlation. The unobserved effect which can

contain ability or source-country transferable skills can be arbitrarily correlated with the explanatory variables.

We consider individuals, who stay in Denmark at least the first two years. The re-migration decision might be endogenous to the wage equation. In addition we only observe wages for individuals with wage employment, a second potential source of endogenous selection. Thus, wages are observable only for those immigrants with wage employment in Denmark at period *t*. This double selection mechanism is treated as a sequential decision process, where the individual decides whether to stay in Denmark or to re-migrate permanently, and given the individual stays, then he can be wage employed or not.

We specify (for YSM≥2) the following selection equation for the permanent re-migration decision:

$$s_{1,it} = \begin{cases} 1\left\{c_{1,it}'\gamma_{1t} + z_{it-1}'\pi_{11,t} + z_{it-2}'\pi_{12,t} + V_{1,it} + e_{1,it} > 0\right\} & \text{if } s_{1,it-1} = 1 \\ 0 & \text{if } s_{1,it-1} = 0 \end{cases} \quad (2)$$

where $s_{1,it}$ is an indicator variable which is equal to one if individual *i* stays in Denmark, and zero otherwise, $c_{1,it}$ is a vector of cohort dummies, z_{it} is a vector of instruments including x_{it} and covariates determining participation, but not directly wages, $V_{1,it}$ is an unobserved effect, and $e_{1,it}$ is a normally distributed idiosyncratic error with arbitrary serial correlation and heteroskedasticity.

We specify a second selection model for wage employment propensity:

$$s_{2,it} = \begin{cases} 1\{c_{2,it}'\gamma_{2t} + z_{it}'\pi_{2,t} + V_{2,it} + e_{2,it} > 0\} & \text{if } s_{1,it} = 1 \\ \bullet & \text{if } s_{1,it} = 0 \end{cases} \quad (3)$$

where $s_{2,it}$ is a dummy variable indicating wage employment ($s_{2,it}$ = 1), which is obviously only observed for individuals who stay ($s_{1,it}$ = 1), $c_{2,it}$ is a vector of cohort dummies, $V_{2,it}$ is an unobserved individual effect, and $e_{2,it}$ is a normally distributed error with arbitrary serial correlation and heteroskedasticity. For the immigrants staying in Denmark it is assumed that $e_{1,it}$ and $e_{2,it}$ are mutually uncorrelated.

Under the exogeneity of all covariates x_{it}, endogenous sample selection can be tested with the method proposed by Wooldridge (1995). To do so, the probit equations (2) and (3) are estimated year-by-year to produce the inverse Mill's ratios $l_{1,it}$ and $l_{2,it}$.[1] These generated variables enter the wage equation for selected sample:

$$y_{it} = d_t + c_i' q + x_{it}' b + a_i + g_1 l_{1,it} + g_2 l_{2,it} + u_{it}, \quad (4)$$

where y_{it} denotes log hourly wages of foreign-born individuals with wage employment in Denmark at period t. The significance of $l_{1,it}$ and $l_{2,it}$ determines the presence of endogenous attrition and endogenous self-selection, respectively, and can be tested with standard t-test at (4) estimated with Fixed Effects (FE).[2]

Under endogenous selection, the FE estimator is not consistent. In order to obtain a consistent estimator of the structural parameters under unobserved selection effects, Wooldridge (1995) proposes to include the time average of z_{it}, denoted $\bar{z}_i$ as an additional set of regressors of the probit equations and the wage equations, in order to control for correlated unobserved effects:[3]

$$y_{it} = m + d_t + c_i' q + \bar{z}_i x + x_{it}' b + g_1 l_{1,it} + g_2 l_{2,it} + u_{it}, \quad (5)$$

Under strictly exogeneity of x_{it}, the Pooled OLS estimator of (5) is consistent (see Wooldridge, 1995). However, this assumption is unrealistic in our application because working experience and its square, included in the wage equation, are weighted sums of past wage employment indicators ($s_{2,it}$). In the case of endogenous selection, experience and its square cannot be treated as strictly exogenous, but as predetermined variables.

Semykina and Wooldridge (2005) extend Wooldridge's (1995) method to the case of non-strictly exogenous covariates. Testing for contemporaneous selection can be done in a similar

[1] The year-by-year estimation of the selection equation allows time-varying parameters and time-varying unobserved effects at the selection equations, a feature that enhances the robustness of the generated selectivity bias correction terms (see Semykina and Wooldridge, 2005). The number of cohort dummies changes with t since we only follow each cohort the first 11 years in Denmark.

[2] The within transformation eliminates the unobserved effect possibly correlated with the selection indicators $s_{1,it}$ and $s_{2,it}$, and therefore permits to test for the presence of correlation between selection errors and wage shocks.

[3] Due to the presence of attrition in an absorbing state we use $\bar{z}_i = T_i^{-1} \sum_{r=1}^{T} s_{1,it} z_{it}$.

way than the exogenous case, by estimating (4) with FE-2SLS and testing the significance of the inverse Mill's ratios. In this case, experience and square of experience cannot be included in the selection equations because these variables are not strictly exogenous. The probit selection equations are estimated year by year to generate inverse Mill's ratios which are included in (5). The expanded wage equation can be consistently estimated with Pooled 2SLS.

4. Empirical Results

The empirical analysis is conducted separately for western and non-western migrants in order to compare their assimilation profiles and Danish experience returns. The covariate set of the wage equation includes YSM, the square of YSM, wage employment experience in Denmark (and its square), migration age, educational dummies, sending region dummies,[4] partner dummy, urban residence dummy,[5] cohort dummies,[6] and period effects.

In addition, we include the local unemployment rate upon arrival and the current local unemployment rate,[7] in order to capture different wage curve effects for western and non-western immigrants (see Åslund and Rooth, 2003; Barth et al., 2006).

We use standard instruments for work experience like lagged partner's income, lagged number of children at different age intervals as instruments for experience, and the squared versions of these variables as instruments for squared experience (see Dustmann and Rochina-Barrachina, 2007). We also use instruments for experience variables typically used in dynamic panel estimation that is differenced experience and differenced squared experience (see Arellano and Bover, 1995). Finally, we use the arrival month dummies which instrumentalize experience cumulated at the first year in the country.

As instruments for the selection equation we use all strictly exogenous explanatory variables of the wage equation, plus dummies for month of the year of arrival, local ethnic concentration, dummy for Danish partner, partner's income, number of children of age 0-2,

[4] See table 6 in the appendix.
[5] Urban residence dummy takes value one at period *t* if the individual lives in Copenhagen and Frederiksberg Municipalities, Copenhagen County, Funen County, Aarhus County or Aalborg County and is zero otherwise.
[6] We do not consider the cohort arrived in Denmark in 1991 due to lack of reliable information on hourly wages for this group in the arrival year.
[7] The local unemployment rate for individual *i* at year *t* is defined as the unemployment rate at period *t* of the county of residence of individual *i*.

number of children of age 3-6, number of children of age 7-9, number of children of age 10-14, and number of children of age 15-17.

Tables 3 and 4 report the coefficient estimates from three different estimation methods. Pooled OLS estimation of equation (1), assumes that all explanatory variables are strictly exogenous, uncorrelated with the unobserved effects, and sample selection due to re-migration and participation is not endogenous. Pooled OLS estimation of equation (5) controls for selectivity bias and unobserved effect under the assumption of exogeneity of all covariates. Pooled 2SLS estimation of (5) accounts for endogenous sample selection, unobserved effects and the correlation of experience and its square with past idiosyncratic errors of the wage equation.

As can be seen in the first column of tables 3 and 4, the Pooled OLS estimates of (1) find a significant positive effect of YSM on the log hourly wages only for non-western immigrants. The signs of the coefficients suggest the presence of an assimilation profile for this group of immigrants, because the effect of staying in Denmark, given everything else, is higher for immigrants who had been less time in Denmark. The returns to Danish work experience for non-western migrants are surprisingly higher than the same returns for western migrants.

When we look at the t-test for endogenous selection due to attrition and self-selection, derived under the assumption of exogeneity of all covariates, we find significant endogenous selection of these two sources for both groups.

The second estimator reported in tables 3 to 4 controls for endogenous selection and unobserved effects. In this case the assimilation pattern is very similar than the one obtained without selectivity bias and unobserved effects correction, while the returns to experience increase for western migrants, and decrease for non-western migrants. A possible explanation is that in the case of these estimates, the upward bias in Pooled OLS estimates (because uncontrolled unobserved effects) compensates in the case of western migrants the downward bias (due to endogenous selection), while in the case of non-western migrants the correction for selection dominates.

The significance of the inverse Mill's ratios indicates the no exogeneity of experience as well. Thus, we perform the selection tests under the assumption of predetermined experience.

The results, reported at the last columns of table 2, confirm the presence of the two sources of sample selection for both groups of migrants.

The Pooled 2SLS estimates of the assimilation profile and experience returns do not alter the results concerning the effects of YSM for western migrants which remain insignificant, but increase the YSM returns to non-western migrants. These estimates imply a bigger return to experience for western migrants, and lower experience returns for individuals born in non-western countries.

It is interesting to note that local unemployment rate upon entry has a permanent negative effect on the wages of western migrants, and current local unemployment rate has a negative effect as well only on the wages of western foreign-born migrants. This suggests that a situation of increasing unemployment affects non-western migrants through a lower employment propensity.

Table 5 reports the marginal effects of living in Denmark and working in Denmark for the wages of western and non-western immigrants. Living in Denmark has only a positive effect on the wages for non-western migrants. As can be seen in the table, an additional year in Denmark increases the wages by 5.80%, 4.26%, and 2.72% for non-western migrants with YSM=1, YSM=3 and YSM=5.

Returns to experience are roughly twice as high for western migrants as for non-western migrants when evaluated at different values of experience. For example, while for a western immigrant with one year of Danish experience one additional year of experience increases wages by 9.56%, this additional year only implies on average an increase of 5.81% of the hourly wage of a non-western immigrant.

However, due to the significant effect of years of residence in Denmark only for non-western immigrants, one additional year in Denmark as full-time employed has a bigger effect on the wages of non-western immigrants than on the wages of western immigrants. For example, for those immigrants who spent their first year in Denmark as full-time employed, one additional year in Denmark with experience increases on average the wages of non-western immigrant in 11.61%, while the wages of western immigrant increases on average 9.56%.

This assimilation pattern seems to provide evidence supporting the skills transferability model of Chiswick and Miller (1996). Non-western migrants have more difficulties in moving their country-of-origin education and experience to Denmark than western migrants, and this is reflected in terms of lower participation rates and lower wages upon arrival, everything else being equal, than western migrants. In spite of their worse entry conditions, their host-country skills investment is reflected in terms of a higher wage growth with years spent in Denmark than western immigrants.

A second relevant difference between western and non-western immigrants is the effect of local business conditions. It is found that initial and current local unemployment has no effect on the wages of non-western migrants. However, the local unemployment rate upon arrival and at the current period have a negative and similar effect on the wages of western migrants. This result suggests that in a situation of high unemployment, non-western migrants adjust in terms of employment participation in a major extent than western immigrants do.

5. Conclusion

Contrarily to most panel data studies on assimilation (see Hu, 2000; Beenstock et al. 2005; or Hum and Simpson, 2000, 2004) this paper finds evidence on assimilation effect for non-western immigrants in Denmark, after controlling for endogenous re-migration and employment propensity, period effects and non observable heterogeneity. Compared to existing Danish evidence the paper finds no evidence on assimilation effect at the wages of western immigrants. The empirical results of the paper support the skills transferability hypothesis (see Chiswick and Miller, 1996; and Duleep and Regets, 1997), because non-western immigrants, who have more difficulties than western immigrants to move their skills to Denmark, experiment the fastest wage growth.

A second major difference between the wages of western and non-western migration is their sensitivity to macroeconomic conditions. The paper finds significant effect of initial local unemployment and current unemployment for western immigrants only, a result suggesting that non-western immigrants mainly adjust in terms of worked hours and employment during periods with high unemployment. This result implies that the non-western immigrant wage narrows during economic downturns but employment gap widens, and it is very likely that

minimum wage, which is intended to improve the financial independence of low-skilled workers, has an especially important side effect in the case of non-western migrants.

This study has shown that, given everything else, non-western immigrants progress with years of residence in Denmark in terms of wages, but are more exposed to economic downturns than western immigrants. The much lower re-migration rate of non-western immigrants than western immigrants might partly reflect that non-western immigrants investment in Denmark specific skills like language to a major extent that western immigrants do.

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Appendix

Table 1. Descriptive statistics of Migrants by Year Since Migration and Sending Country Group

	YSM=0		YSM=5		YSM=10	
	W	**NW**	**W**	**NW**	**W**	**NW**
Number of Observations	12908	5075	5968	3274	4155	2405
Survival Rate	1.000	1.000	0.462	0.645	0.322	0.474
Participation Rate	0.390	0.170	0.634	0.517	0.735	0.621
Experience			2.119	1.220	5.644	3.795
			(1.852)	(1.504)	(3.595)	(3.314)
January Arrival	0.077	0.074	0.077	0.076	0.079	0.077
February Arrival	0.057	0.065	0.068	0.063	0.069	0.064
March Arrival	0.068	0.060	0.083	0.064	0.086	0.064
April Arrival	0.061	0.064	0.067	0.063	0.072	0.064
May Arrival	0.062	0.088	0.069	0.089	0.070	0.086
June Arrival	0.072	0.080	0.084	0.085	0.091	0.081
July Arrival	0.093	0.086	0.083	0.085	0.085	0.088
August Arrival	0.164	0.109	0.139	0.104	0.120	0.104
September Arrival	0.127	0.088	0.116	0.084	0.110	0.078
October Arrival	0.100	0.108	0.091	0.102	0.089	0.104
November Arrival	0.068	0.094	0.068	0.093	0.070	0.091
December Arrival	0.052	0.086	0.055	0.092	0.057	0.098
Local Unemployment Rate	9.205	9.097	9.849	10.015	7.014	6.890
	(3.442)	(3.569)	(3.724)	(3.650)	(3.280)	(3.116)
Urban Residence	0.702	0.711	0.678	0.713	0.620	0.699
Ethnic Enclave	0.159	0.168	0.153	0.148	0.135	0.139
	(0.120)	(0.166)	(0.110)	(0.139)	(0.101)	(0.125)
Age	28.770	28.363	34.285	32.881	39.395	37.587
	(6.883)	(6.814)	(6.789)	(6.688)	(6.617)	(6.589)
Partner	0.491	0.473	0.662	0.602	0.737	0.723
Danish Partner	0.569	0.494	0.656	0.261	0.672	0.197
Children 0-2	0.118	0.100	0.258	0.279	0.209	0.295
	(0.355)	(0.331)	(0.497)	(0.513)	(0.451)	(0.519)
Children 3-6	0.111	0.097	0.242	0.295	0.347	0.365
	(0.365)	(0.361)	(0.507)	(0.543)	(0.587)	(0.597)
Children 7-9	0.058	0.060	0.101	0.126	0.245	0.277
	(0.256)	(0.272)	(0.331)	(0.383)	(0.487)	(0.542)
Children 10-14	0.064	0.072	0.129	0.184	0.205	0.228
	(0.299)	(0.332)	(0.411)	(0.548)	(0.491)	(0.547)
Children 15-17	0.021	0.023	0.055	0.068	0.088	0.115
	(0.155)	(0.169)	(0.250)	(0.295)	(0.311)	(0.384)
No education information	0.797	0.771	0.526	0.628	0.396	0.526
Primary Education	0.045	0.182	0.079	0.270	0.086	0.285
Secondary Education	0.037	0.061	0.079	0.090	0.087	0.100
Vocational Education	0.137	0.118	0.293	0.189	0.362	0.247
Theoretical 1 Education	0.027	0.034	0.064	0.051	0.078	0.058
Theoretical 2 Education	0.045	0.041	0.104	0.064	0.142	0.081
Theoretical 3 Education	0.050	0.034	0.120	0.056	0.162	0.071
Sending Region 1	0.253	0.127	0.198	0.146	0.172	0.151
Sending Region 2	0.170	0.097	0.218	0.095	0.244	0.100
Sending Region 3	0.137	0.112	0.119	0.115	0.103	0.123
Sending Region 4	0.131	0.155	0.194	0.132	0.217	0.127
Sending Region 5	0.160	0.207	0.118	0.222	0.110	0.198
Sending Region 6	0.149	0.221	0.153	0.226	0.155	0.238
Sending Region 7		0.081		0.063		0.063

Notes: [a] **W**: Western Migrants; **NW**: Non-Western Migrants. [b] Standard deviations in parentheses. [c] **Sending Region 1**: Nordic Countries(W), Turkey(NW). **Sending Region 2**: Central Europe(W), Central Asia(NW). **Sending Region 3**: South Europe(W). Maghreb(NW) **Sending Region 4**: East Europe(W), Sub-Sahara(NW). **Sending Region 5**: Others (W), South Asia(NW). **Sending Region 6**: Britain & Ireland(W), East Asia(NW); **Sending Region 7**: Latin America(NW).

Table 2. Sample Selection Analysis

	Exogenous Experience[(d)]		Predetermined Experience[(e)]	
	W	**NW**	**W**	**NW**
t-test of significance of $\lambda_{1,it}$	-29.100*	-8.220*	-33.550*	-11.310*
	(0.000)	(0.000)	(0.000)	(0.000)
t-test of significance of $\lambda_{2,it}$	-5.000*	-9.590*	-5.360*	-11.660*
	(0.000)	(0.000)	(0.000)	(0.000)

Notes: [(a)] **W**: Western Migrants; **NW**: Non-Western Migrants. [(b)] The numbers in parentheses below the t-statistics are *p*-values. [(c)]* Significant at 5%. [(d)] Wage equation estimated with FE. [(e)] Wage equation estimated with FE-2SLS.

Table 3. Estimates for the wage equation (Western Migrants)

Variable	Pooled OLS[(a)]	Pooled OLS[(b)]	Pooled 2SLS[(c)]
Years Since Migration	-0.011	-0.012	-0.009
	(0.006)	(0.006)	(0.007)
Years Since Migration^2	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)
Experience	0.071*	0.074*	0.113*
	(0.007)	(0.007)	(0.008)
Experience^2	-0.003*	-0.003*	-0.009*
	(0.001)	(0.001)	(0.001)
Migration Age	0.321*	0.319*	0.315*
	(0.002)	(0.002)	(0.001)
Migration Age^2	-0.005*	-0.005*	-0.005*
	(0.000)	(0.000)	(0.000)
Partner	0.087*	0.095*	0.105*
	(0.012)	(0.011)	(0.004)
Urban Residence	0.090*	0.090*	0.086*
	(0.014)	(0.013)	(0.005)
Initial Local Unemployment	-0.007*	-0.007*	-0.006*
	(0.002)	(0.002)	(0.001)
Current Local Unemployment	-0.011*	-0.008*	-0.008*
	(0.002)	(0.002)	(0.001)
Primary Education	-0.087*	-0.081*	-0.063*
	(0.027)	(0.027)	(0.007)
Secondary Education	-0.021	-0.017	-0.004
	(0.027)	(0.027)	(0.007)
Vocational Education	-0.088*	-0.081*	-0.064*
	(0.017)	(0.017)	(0.005)
Theoretical 1 Education	-0.072*	-0.064*	-0.051*
	(0.029)	(0.029)	(0.007)
Theoretical 2 Education	-0.093*	-0.085*	-0.068*
	(0.023)	(0.023)	(0.006)
Theoretical 3 Education	0.031	0.038	0.059*
	(0.023)	(0.023)	(0.006)
Central Europe	-0.038*	-0.040*	-0.052*
	(0.019)	(0.019)	(0.005)
East Europe	-0.016	-0.024	-0.040*
	(0.019)	(0.019)	(0.006)
South Europe	-0.194*	-0.184*	-0.204*
	(0.027)	(0.026)	(0.006)
Others	-0.002	0.003	-0.016*
	(0.021)	(0.021)	(0.006)
Britain and Ireland	0.011	0.012	0.003
	(0.018)	(0.018)	(0.005)
Cohort 1984	-0.023*	-0.041*	-0.037*
	(0.007)	(0.008)	(0.006)
Cohort 1985	-0.027*	-0.042*	-0.038*
	(0.006)	(0.007)	(0.005)
Cohort 1986	-0.018*	-0.030*	-0.028*
	(0.007)	(0.007)	(0.005)
Cohort 1987	-0.007	-0.016*	-0.014*
	(0.007)	(0.008)	(0.005)
Cohort 1988	-0.019*	-0.025*	-0.026*
	(0.008)	(0.008)	(0.005)
Cohort 1989	-0.001	-0.007	-0.006
	(0.008)	(0.008)	(0.004)
Cohort 1990	-0.004	-0.006	-0.007
	(0.008)	(0.008)	(0.004)
Cohort 1992	0.001	0.007	0.010*
	(0.007)	(0.007)	(0.004)

Notes: [(a)] Pooled OLS Estimates of (1). Robust standard errors in parentheses. [(b)] Pooled OLS Estimates of (5). Standard. errors computed with Wooldridge (1995). [(c)] Pooled 2SLS Estimates of (5). Standard. errors computed with Semykina and Wooldridge (2005).

Table 4. Estimates for the wage equation (Non-western Migrants)

Variable	Pooled OLS[(a)]	Pooled OLS[(b)]	Pooled 2SLS[(c)]
Years Since Migration	0.028*	0.027*	0.066*
	(0.008)	(0.008)	(0.015)
Years Since Migration^2	-0.003*	-0.003*	-0.004*
	(0.001)	(0.001)	(0.002)
Experience	0.082*	0.077*	0.070*
	(0.008)	(0.008)	(0.011)
Experience^2	-0.005*	-0.004*	-0.006*
	(0.001)	(0.001)	(0.001)
Migration Age	0.315*	0.312*	0.305*
	(0.003)	(0.003)	(0.003)
Migration Age^2	-0.005*	-0.005*	-0.005*
	(0.000)	(0.000)	(0.000)
Partner	-0.038*	-0.019	-0.006*
	(0.014)	(0.013)	(0.013)
Urban Residence	0.039	0.049*	0.044*
	(0.021)	(0.020)	(0.020)
Initial Local Unemployment	0.000	0.001	0.000
	(0.003)	(0.003)	(0.003)
Current Local Unemployment	-0.002	0.000	0.002
	(0.002)	(0.002)	(0.002)
Primary Education	0.090*	0.089*	0.101*
	(0.023)	(0.023)	(0.023)
Secondary Education	0.068*	0.068*	0.076*
	(0.031)	(0.030)	(0.030)
Vocational Education	0.091*	0.091*	0.105*
	(0.024)	(0.024)	(0.024)
Theoretical 1 Education	-0.010	-0.007	0.005
	(0.034)	(0.034)	(0.034)
Theoretical 2 Education	0.028	0.030	0.043
	(0.036)	(0.035)	(0.036)
Theoretical 3 Education	0.238*	0.237*	0.246*
	(0.049)	(0.048)	(0.048)
Turkey	0.246*	0.258*	0.249*
	(0.030)	(0.030)	(0.029)
Central Asia	0.126*	0.129*	0.140*
	(0.037)	(0.037)	(0.038)
Sub-Sahara	-0.010	-0.009	-0.009
	(0.031)	(0.031)	(0.031)
Maghreb	0.018	0.019	0.029
	(0.030)	(0.030)	(0.030)
South Asia	0.121*	0.121*	0.118*
	(0.028)	(0.028)	(0.027)
Latin America	0.118*	0.118*	0.105*
	(0.041)	(0.041)	(0.040)
Cohort 1984	-0.032*	-0.028*	-0.044*
	(0.011)	(0.012)	(0.012)
Cohort 1985	-0.009	-0.009	-0.027*
	(0.011)	(0.011)	(0.012)
Cohort 1986	-0.015	-0.017*	-0.031*
	(0.008)	(0.009)	(0.009)
Cohort 1987	0.001	0.006	-0.002
	(0.011)	(0.011)	(0.011)
Cohort 1988	-0.004	0.002	-0.001
	(0.011)	(0.011)	(0.011)
Cohort 1989	0.002	0.008	0.007
	(0.010)	(0.010)	(0.011)
Cohort 1990	-0.007	-0.004	-0.005
	(0.010)	(0.010)	(0.010)
Cohort 1992	0.005	0.003	-0.002
	(0.010)	(0.010)	(0.010)

Notes: See Table 3.

Table 5. Marginal YSM and experience effects, wage equation

[c]	**W**[a][b]	**NW**[b]
¶Hourly Wage/¶YSM (YSM = 1)	-0.88%	5.80%
	(0.77%)	(1.85%)
¶Hourly Wage/¶YSM (YSM = 3)	-0.74%	4.26%
	(0.99%)	(2.55%)
¶Hourly Wage/¶YSM (YSM = 5)	-0.60%	2.72%
	(1.21%)	(3.24%)
¶Hourly Wage/¶Experience (Experience = 1)	9.56%	5.81%
	(0.99%)	(1.27%)
¶Hourly Wage/¶Experience (Experience = 3)	6.06%	3.51%
	(1.33%)	(1.62%)
¶Hourly Wage/¶Experience(Experience = 5)	2.57%	1.21%
	(1.68%)	(1.97%)

Notes: [a] **W**: Western Migrants; **NW**: Non-western Migrants. [b] Pooled 2SLS Estimates of (5). Stan. errors computed with Semykina and Wooldridge (2005). [c] Marginal Effects are evaluated at the variable value in parentheses.

Table 6: Sending Countries Groups and Sub-groups

Western Sending Countries		Non-western Countries		
Nordic Countries	**South Europe**	**Latin America**	**Sub-Sahara**	**Turkey**
Finland	Monaco	Aruba	Angola	**Maghreb**
Iceland	Andorra	Argentina	Botswana	Algeria
Norway	Belgium	Bahamas I.	Burundi	Libya
Sweden	France	Bolivia	Ethiopia	Morocco
Faeroe Islands	Greece	Barbados	Comoros	Tunisia
	Italia	Brazil	Eritrea	Egypt
Central Europe	Malta	Guyana	Gambia	**East Asia**
Liechtenstein	Portugal	St. Vincent	Ghana	Cambodia
Luxembourg	San Marino	Chile	Equatorial Guinea	Hong Kong
Holland	Spain	Colombia	Guinea-Bissau	Indonesia
Switzerland	Cyprus	Costa Rica	Guinea	China
Germany		Cuba	Cape Verde	Laos
Austria	**Britain & Ireland**	Dominican R.	Kenya	Malaysia
	North Ireland	Ecuador	Lesotho	North Korea
East Europe	Ireland	Guatemala	Liberia	Philippines
Albania	England	Grenada	Mozambique	Singapore
Bulgaria	Wales	Haiti	Madagascar	South Korea
Czech Republic	Scotland	Surinam	Mali	Brunei
Serbia		Dominica	Mauritius	Thailand
Poland	**Others**	S. Lucia	Nigeria	Salomon I.
Romania	Bermuda	Honduras	Namibia	Taiwan
Russia	Canada	Jamaica	Sierra Leone	
Hungary	USA	Martinique	Sudan	**South Asia**
Estonia	Israel	Mexico	Swaziland	Myanmar
Latvia	Japan	Nicaragua	South-Africa	India
Lithuania	Australia	Panama	Tanzania	Maldives
Ukraine	New Zealand	Paraguay	Uganda	Nepal
Belarus		Peru	Central Africa R	Tonga
Armenia		El Salvador	Seychelles	Fiji
Croatia		Trinidad and Tobago	Zaire	Papua New Guinea
Slovenia		Uruguay	Congo	Bhutan
Slovakia		Venezuela	Benin	Bangladesh
Bosnia-Herzegovina		West-Indian	Myanmar	
Macedonia		Belize	Gabon	
Montenegro		Puerto Rico	Afghanistan	**Central Asia**
		Guadeloupe	Niger	Moldova
			Reunion	Uzbekistan
			Rwanda	Kazakhstan
			Senegal	Kyrgyzstan
			Chad	Tadzhikstan
			Togo	Georgia
			Burkina Faso	Mongolia
			Zimbabwe	Pakistan
			Zambia	Azerbajdzhan
			Malawi	