ETHNIC AND GENDER WAGE DIFFERENTIALS

AN EXPLORATION OF LOONWIJZERS 2001/2002

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Dr. Aslan Zorlu

AMSTERDAMS INSTITUUT VOOR ARBEIDSSTUDIES

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1 INTRODUCTION

Analyses of wage differentials between ethnic groups and gender categories presented in this report are based on *Loonwijzers 2*001/2002 (wage indication survey). This micro survey was initially designed only for women in 2000 and extended to men in the early 2001. Since May 2001, also questions have been included to identify ethnic background of respondents. The data used here are collected from May 2001 until July 2002. Data are collected by two web sites www.loonwijzer.nl and www.vrouwenloonwijzer.nl. As a consequence of late including of the ethnicity variable, the number of ethnic minorities is quite small in the survey. This imposes serious restrictions on our analyses to distinguish ethnic minority groups by the country of origin and gender simultaneously and to obtain significant and more reliable results. Considering the number of observations for each ethnic group identified in the questionnaire, we have distinguished ethnic minorities into four groups:

1. People from Western Europe
2. People from Caribbean (Surinamese, Antilleans and Arubans)
3. People from Turkey, Morocco and Eastern European countries, assigned TMO
4. Other people

Indeed, breaking down ethnic minority groups into these four groups is the result of our experimentation on many possible combinations of gender and ethnic groups. Distinguishing of ethnic groups are motivated by both existing knowledge on the labour market position of ethnic minority groups in literature and sample characteristics of each group in *Loonwijzers 2*001/2002.

Earlier research indicates that ethnic minorities have a disadvantaged position in the Netherlands concerning their participation and unemployment rates as well as their earnings. However, this does not hold for all ethnic minority groups. Immigrants from industrialised countries, so-called Western countries, have a similar labour market position as Native Dutch people.

This report aims to analyse gender wage differentials for Dutch workers and wage differentials between native Dutch workers and ethnic minorities. The next section gives a brief overview of main labour market outcomes of ethnic minority groups in the Netherlands based on data of Statistics Netherlands (CBS). Section 3 highlights firstly survey characteristics, which have consequences for the interpretation of results, and discusses sub-sampling of ethnic minorities into four groups. Additionally, it presents non-monetary characteristics of workers by sub-samples distinguished. Section 4 focuses on wage differentials and its determinants.

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2 EMPLOYMENT LEVEL OF ETHNIC GROUPS

A BRIEF OVERVIEW

Figures 1 and 2 show the participation, employment and unemployment rates of ethnic groups for women and men respectively. The participation rate of men is in general higher than that of men within each ethnic group. However, the gender gap in participation is relatively higher for Turks and Moroccans.

Figure 1. Labour market participation by ethnicity, women, 2001

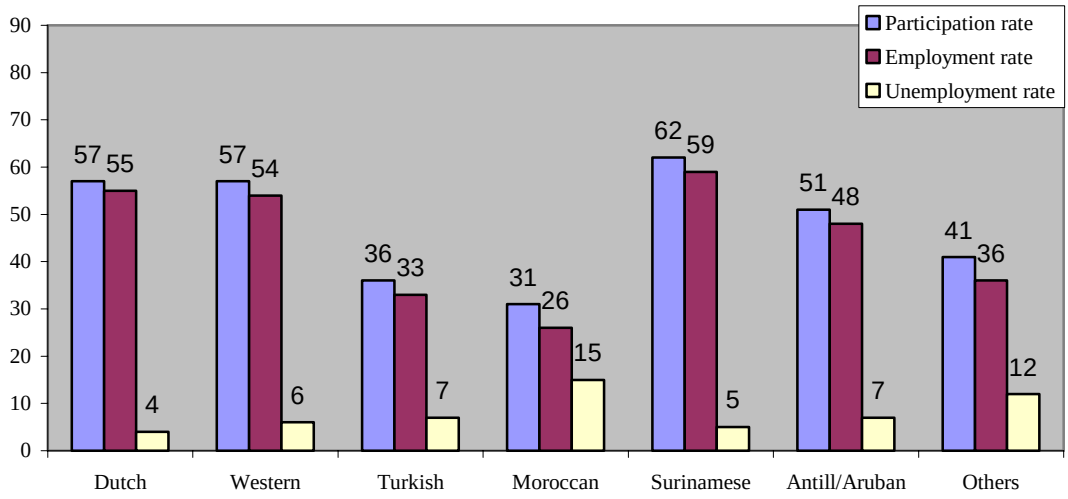
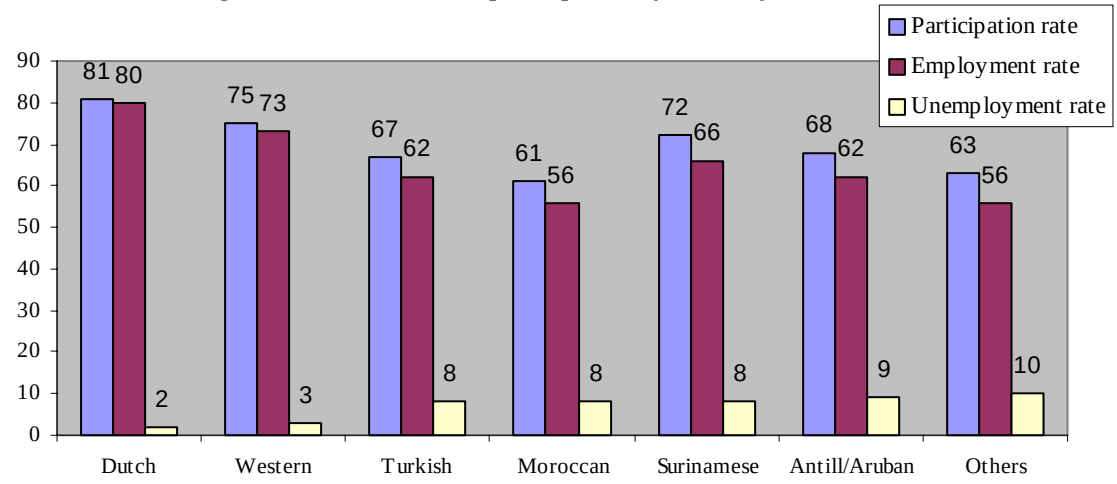


Figure 2. Labour market participation by ethnicity, men, 2001



Source: CBS statline, August 2002.

Dutch men posses the most favourable position with the highest participation and employment rates and the lowest unemployment rate. Dutch men are followed by Western men. Compared to other ethnic groups, Surinamese and Antillean men have a higher participation and employment rates but they suffer a high unemployment level. Turkish, Moroccan and Others men have a comparable participation and employment rates.

Among women, Surinamese women have the highest participation and employment rates. Again the employment and participation rates of Dutch and Western women are similar. Women from Others, especially Moroccan and Turkish women have the lowest participation and employment rates and the highest unemployment rate. In general, ethnic minority groups suffer from relatively higher unemployment rates. Especially the unemployment rate for Others and Moroccan women is substantially high despite a very favourable economic climate in 2001.

These differences in non-monetary labour market outcomes across ethnic groups lead likely to differences in wages and household income. Based also on earlier studies, we may assume that disadvantages in (un)employment outcomes are highly correlated with wage level of these ethnic groups which is main subject of this study.

3 LOONWIJZERS 2001/2002 SURVEY

Ethnic minority groups from Western Europe are distinguished into one category in data and this category has enough observations for a statistical analysis (410). The labour market position of disadvantaged groups also varies across ethnic minority groups within this group, related to their immigration history. Ethnic minorities from Turkey and Morocco posses the worst labour market position. Ethnic minorities from (former) Dutch colonies (Caribbeans) have relatively better labour market position than Turks and Moroccans. Caribbeans are treated as a separate sub-sample because this group shares a common history with Dutch people and people from this group speak Dutch often as mother tongue. Additionally, women from this group have an exceptional labour market performance, even better than Dutch women. As a third sub-sample, Turks, Moroccans and Eastern Europeans are pooled into a single sub-sample despite not negligible differences since there are a limited number of observations for these groups. Although the immigration history and human capital endowments of Turks and Moroccans are similar, employers' attitude with respect to these groups seems to be different (Zorlu 2002). On the other hand, Eastern Europeans are possibly composed by people with different migration history and relevant labour market characteristics. These differences across the groups may have, no doubt, consequences for measuring wage differentials for this pooled group. The last ethnic minority group, called 'others', cover the rest of ethnic minorities who are not selected for the other sub-samples. This category is taken directly from the questionnaire since it has enough observations (569).

In addition to restrictions imposed by the limited number of observations, results of this study should be evaluated in the light of nature of data collection. *Loonwijzers* 2001/2002 survey is less likely to be a representative sample of Dutch labour force since the questionnaire is designed only in Dutch, filling the questionnaire is a voluntary action and respondents are attracted by a limited number of agents/channels (women's magazines and FNV, trade union). This means that the survey may have an a-select population, both for Dutch and for ethnic minorities. The selectivity problem may be more relevant for ethnic minority groups since only respondents with an advanced command of Dutch language are included in the data. Because we know that a large portion of ethnic minority groups has a very low level of Dutch language proficiency. In short, our results are to apply only to a selective population of ethnic minorities: those who speak Dutch very well, given the selectivity problem that may occur due to other reasons affecting all sub-samples randomly. This is a very serious limitation in data, which is inherent to the way of data collection since especially immigrants with a poor Dutch proficiency are expected to face more labour market discrimination.

To eliminate the sample selectivity problem, a weight is constructed on the basis of gender and age composition of CBS data (see further details about data Tijdens et al. 2002). Consequently, this weight is applied to all statistical treatments and estimations in this rapport unless the other way around is reported.

3.1 ETHNIC MINORITIES IN LOONWIJZERS 2001/2002

Table 1 shows the birth-places of respondents and their mother. More than half of respondents from WestEurope and Others are born in the Netherlands while 37 and 44% of Caribbeans and TMO are born in the Netherlands.

Table 1. Country of birth of respondent self and mother

Country of birth mother	Country of birth self					
	Netherlands	WestEur.	Caribbean	TMO	Others	Total
Netherlands	16,641	90	17	1	123	16,872
WestEurope	235	170	1	0	6	412
Caribbean	90	3	150	0	0	243
TMO	90	6	1	107	0	204
Others	377	16	10	1	168	572
Total	17,433	285	179	109	297	18,303

Un-weighted data

Table 2 shows the reasons to come to the Netherlands for foreign-born persons. Since the number of immigrants is small in our survey, figures should be interpreted carefully. Consequently, we prefer to present absolute numbers rather than percentages to avoid any statement, which cannot be justified by basic properties of a statistical analysis. Among foreign-born immigrants, most of workers came to the Netherlands for family reasons and other reason. Immigrants from WestEurope are composed by those who came to the Netherlands for family reasons and work. As expected, there is no refugee among them. Refugees are mainly concentrated within the groups Others and TMO. Most of refugees have minimum a secondary school degree, presented in parentheses. Especially refugees from TMO and Caribbean are highly educated. The relative percentage of highly educated persons is small among WestEuropean and Others who came to the Netherlands for family reasons and other reasons. It is notable that only 45-47 percent of foreign-born persons from WestEurope and Others are higher educated while these percentages are 60 and 79 for Caribbean and TMO.

Table 2 Reasons to come to the Netherlands, N (number of people with secondary school and higher education)

	WestEurope	Caribbean	TMO	Others	Total
Family reasons	127 (54)	66 (38)	57 (48)	83 (33)	333 (251)
For work	32 (21)	7 (3)	10 (6)	14 (6)	63 (36)
Refugee	0	2 (2)	15 (13)	35 (26)	52 (41)
Other reason	105 (50)	95 (60)	20 (14)	157 (67)	377 (191)
Total	264 (125)	171 (103)	102 (81)	289 (132)	30625 (519)

Un-weighted data

These outcomes imply that our data may not be a representative survey of true labour force of ethnic minorities. Here we deal with an a-select sample. The relative high education level of foreign-born immigrants together with a possible sample selectivity problem eliminates differences between foreign-born immigrants and their Dutch-born descendents. Hence, we did not find significant differences between two samples distinguished by the country of birth of respondent self and the country of birth of respondents' mother. Therefore, we use the country of birth of respondents' mother to define ethnic minority groups because in this case, we have bigger number of observations for ethnic minority groups.

3.2 DEMOGRAPHY

The sample size of ethnic minorities, in particular Caribbean and TMO, is small, as mentioned. Note that the sample sizes reported for each group in Table 3 are to apply all descriptive statistics henceforth. The survey is composed by 58.65% males and 41.35% females. However, more than half of Caribbeans is female which confirms de exceptional position of these women reported by other studies. Notable is the relatively higher percentage of female in the TMO sample, i.e. 44.35% versus around 30% for Turkish and Moroccan sample (Zorlu 2002, p.206). The percentage of female from Eastern Europe is about half of the sample but the number of Eastern European people is very small in our survey to change the outcome substantially.

The age structure of Dutch, Others and West European shows strong similarities, with an exception that Western European men are the oldest among men from the other groups. Women are concentrated in the younger age categories, especially in the category of 25-34: 57.61% of Caribbean women and 47.19% of TMO-women belong to this age category. The percentage of Caribbean and TMO above 44 year, both men and women, is quite small, even there is no respondent above 54 year. The relatively young age structure of Caribbean and TMO groups has, no doubt, consequences for their wage level.

Table 3 The demography of sample

	Dutch	WestEurop	Caribbean	TMO	Others	Total
Sample size (N)	16797	410	242	203	569	18221
Gender (N=100)						In %'s
Female	41.01	39.55	51.83	44.35	48.73	41.35
Male	58.99	60.45	48.17	55.65	51.27	58.65
Age categories, Male (N=100)						
16- 24	11.82	7.43	22.85	24.47	9.39	11.84
25-34	27.93	20.73	39.76	43.66	31.22	28.06
35-44	28.32	21.02	23.67	21.29	34.50	28.19
45-54	24.14	26.75	13.72	10.58	18.53	23.85
>=55	7.81	24.07	0.00	0.00	6.35	8.05
Age categories, Female (N=100)						
16- 24	14.97	12.84	18.18	21.96	14.18	15.00
25-34	32.11	33.35	57.61	47.19	30.10	32.54
35-44	27.80	26.63	21.22	19.21	28.55	27.63
45-54	20.17	19.12	2.98	11.64	24.97	20.01
>=55	4.95	8.07	0.00	0.00	2.20	4.82

3.3 EDUCATION

Table 4 shows that also the education levels of Dutch, Western Europe and Others are comparable. The ethnic minority groups, Western Europe and Others are even slightly higher educated than Dutch, especially women from these groups are clearly higher educated. More interesting is the educational distribution of Caribbean and TMO. The percentage of men from these groups is in the category of high education level (HBO plus University) 5-7 percentage point lower than Dutch. Remarkably, the percentage of Caribbean men with a HBO degree is about 14 percentage point lower than the average while the percentage of Caribbean men with an university degree is two times higher than Dutch men, and the average. On the other hand, the percentage of Caribbean women with a University degree is considerable low while the percentage with HBO degree is 5-percentage point higher than the average.

Generally, the education levels of ethnic minority groups in the survey do not differ from those of Dutch. It is again unlikely to believe that TMO sample is a representative sample of their true population since all studies conducted up to now indicate that especially Turkish and Moroccan workers have a considerable low level of educational attainment (see the survey in Zorlu 2002).

Table 4 Education level by gender and ethnicity

	Dutch	WestEurop	Caribbean	TMO	Others	Total
MALE (N=100)						In %s
Primary	3.37	7.12	6.58	3.64	4.62	3.52
Ext. Vocational primary	14.55	11.13	8.43	8.42	12.67	14.31
Extended primary	11.74	11.20	15.94	16.92	13.58	11.85
Secondary	39.55	39.01	45.19	45.23	39.56	39.63
High Vocational (HBO)	24.38	21.76	9.97	19.75	24.76	24.16
University	6.41	9.78	13.88	6.05	4.82	6.52
FEMALE (N=100)						In %s
Primary	2.51	3.19	0.00	2.05	2.58	2.49
Ext. Vocational primary	10.35	8.27	2.25	12.40	7.16	10.11
Extended primary	18.96	14.98	27.01	14.10	18.44	18.90
Secondary	41.69	44.73	42.81	40.46	38.54	41.65
High Vocational (HBO)	20.47	21.37	25.68	21.46	24.48	20.71
University	6.02	7.46	2.25	9.54	8.81	6.13

3.4 EXPERIENCE, TENURE AND WORKING HOURS

Table 5 shows the means of actual experience, tenure and working hours in years by ethnicity and gender. One of human capital variables that affect wage rates directly is experience. We have information about when a respondent has her/his first paid job and about the duration of breaks due to several reasons (education, child, household etc.) in data. This information allows us to calculate actual experience as the year of first paid job minus the duration of entire carrier break. This is, no doubt, a better measurement than potential experience used by most studies for a simple reason: a lack of information about breaks and first paid job. Tenure indicates the number of years that an employee has worked for her/his last employer.

Years of experience for women are on average 4 years less than for men, i.e. 13.46 versus 17.38. This difference is the largest for the group Western Europe and it is negligible for TMO. The gender gap in tenure is about 3 years. This is smallest (about one year) for the youngest groups, Caribbean and TMO, and the largest (more than 7 years) for the oldest group, Western Europeans. This relationship is the other way around when real working hours are considered, both real and contract hours. Every group spends clearly more hour to work than hours defined by their employment contract. Employees from TMO and Caribbean work 1-3 hours more than the average. Especially the real working hours of TMO (both male and female) are relatively high compared to the averages for the same sex.

Table 5 Experience, tenure and working hours in years

	Dutch	WestEuro	Caribbean	TMO	Others	Total
Experience in years (actual)						
Female	13.58	13.60	8.49	9.21	13.15	13.46
Std. Deviation	*9.59*	*10.34*	*6.22*	*7.30*	*9.08*	*9.56*
Male	17.44	21.88	11.16	9.75	15.42	17.38
Std. Deviation	*11.75*	*12.80*	*8.95*	*8.67*	*10.63*	*11.76*
Total	15.86	18.60	9.77	9.51	14.31	15.76
Std. Deviation	*11.08*	*12.54*	*7.74*	*8.07*	*9.96*	*11.07*
Tenure in years						
Female	5.38	5.02	3.22	3.44	5.32	5.32
Std. Deviation	*6.73*	*6.14*	*4.42*	*5.21*	*7.03*	*6.69*
Male	8.84	12.37	4.31	4.23	7.28	8.81
Std. Deviation	*9.57*	*12.42*	*7.04*	*5.11*	*9.19*	*9.64*
Total	7.42	9.46	3.74	3.88	6.33	7.37
Std. Deviation	*8.69*	*10.99*	*5.83*	*5.16*	*8.26*	*8.71*
Working hours per week (real)						
Female	34.34	35.77	35.14	37.01	36.47	34.49
Std. Deviation	*9.86*	*9.09*	*11.37*	*9.34*	*9.25*	*9.85*
Male	40.61	39.32	41.83	42.53	38.15	40.54
Std. Deviation	*8.72*	*11.3*	*10.13*	*7.23*	*11.54*	*8.89*
Total	38.04	37.91	38.36	40.08	37.33	38.04
Std. Deviation	*9.71*	*10.61*	*11.27*	*8.66*	*10.51*	*9.76*
Working hours per week (contract)						
Female	31.59	32.68	32.34	33.98	33.25	31.71
Std. Deviation	*9.02*	*8.19*	*9.5*	*8.86*	*8.62*	*9.00*
Male	36.73	34.58	37.11	37.92	34.2	36.62
Std. Deviation	*6.75*	*10.37*	*5.89*	*5.94*	*9.74*	*6.96*
Total	34.62	33.83	34.64	36.17	33.74	34.59
Std. Deviation	*8.16*	*9.6*	*8.31*	*7.62*	*9.21*	*8.23*

3.5 HOUSEHOLD COMPOSITION AND INCOME

The household composition of ethnic groups differs for gender categories, as shown by Table 6. Working women live less often with a partner and child, compared to working men. They are more often with a partner but childless or just single. Differences in the household composition are more striking among ethnic groups within gender categories. Among women, the percentage of women living as a couple with children is relatively lower for women from WestEurope, Caribbean and TMO. The percentage of single mothers among Caribbean women is almost two times higher than average. The distribution of Dutch and Others over household types is very close to each other while the distribution of WestEuropeans differs from these two groups for women but it is comparable for men. Men from Caribbean and TMO differ not only from the other categories but also from each other. Caribbean men are less often in a household type of Couple with Children and more often in a household type of Couple without Children while for men from TMO, it is the other way around. On the other hand, men from either groups are more often single or live with their parents, compared to other ethnic groups and women from all categories.

On average, about 44% of men have children living at home and about 16% of men have children left home. These percentages for women are 35% and 15% respectively. This confirms the existing pattern that the labour market participation of women with children is relatively low. The percentage of workers from Caribbean and TMO having children left home is remarkably low. However, this may be explained by the young age distribution of these groups.

Considering household income, the higher percentage of Caribbean and TMO in the lowest income category is remarkable as well as the low percentage of Caribbean women and TMO-men in the highest income category. Caribbean men and TMO-women are represented in the highest income category close to the sample average. Women from Others and Western European men are the most frequently represented in the highest income category.

Table 6 Household composition by ethnicity and gender

	Dutch	WestEur	Caribbean	TMO	Others	Total
Household composition, female (N=100)						
Couple with children	31.60	26.31	28.27	28.14	32.38	31.42
Couple without children	38.91	42.71	30.20	40.19	38.36	38.88
Single with children	4.43	2.70	9.48	5.34	3.79	4.44
Single without children	16.73	21.48	21.10	17.43	17.28	16.93
Living with parents	7.22	5.40	7.57	5.95	7.26	7.17
Other	1.11	1.39	3.37	2.95	0.93	1.16
Household composition, male (N=100)						
Couple with children	43.70	41.45	27.21	34.53	45.50	43.48
Couple without children	30.77	30.05	34.66	20.20	29.61	30.67
Single with children	0.53	2.23	1.01	0.00	0.00	0.56
Single without children	15.44	19.70	23.01	28.83	12.86	15.66
Living with parents	8.72	6.25	14.12	15.16	10.39	8.80
Other	0.83	0.32	0.00	1.29	1.64	0.84
Household income, female (N=100)						
€ <1250 per month	15.80	23.93	34.54	28.48	13.21	16.27
€ 1250-2000 per month	22.19	17.57	16.72	17.23	18.72	21.84
€ 2000-3000 per month	35.70	29.04	32.54	28.65	33.99	35.37
€ >3000 per month	26.31	29.46	16.20	25.65	34.08	26.53
Household income, male (N=100)						
€ <1250 per month	14.93	14.93	27.39	32.87	19.48	15.28
€ 1250-2000 per month	27.56	20.24	26.21	39.86	26.63	27.43
€ 2000-3000 per month	35.97	32.91	25.28	22.15	37.22	35.74
€ >3000 per month	21.54	31.92	21.11	5.12	16.67	21.55
Child living at home *****						
Female	37.56	31.06	39.77	34.49	40.12	37.49
Male	43.86	42.46	27.7	35.32	45.05	43.65
Child out home *****						
Female	15.51	22.22	3.87	5.93	10.81	15.26
Male	16.11	26.46	10.74	7.7	17.32	16.29

****** These figures indicate the percentage of workers who gave a positive answer to this question. The percentage of workers gave an negative answer is (100 – the percentage of positive answer)*

3.6 FIRM CHARACTERISTICS

It seems that most women prefer larger firms to smaller firms (see Table 7). The percentage of women in small sized firms (employing less than 20 employees) is on average 5-percentage point lower than men. Controversially, Caribbean women are more concentrated in small firms. Caribbean men are more often employed in large sized firms as well as men from Others. The distribution of employees over the three firm sizes does not differ strongly across the ethnic groups. However, the gender segregation is more visible across firms types differentiated by the percentage of women in the firm. Almost half of men are employed in firms employing less than 20% women. Remarkably, men and women from TMO are more concentrated in firms where male employees dominate. Furthermore, about half of the workers experienced a reorganisation their firms in the last year.

Table 7 Firm Characteristics by ethnicity and gender

	Dutch	WestEur.	Caribbean	TMO	Others	Total
Female (N=100)						
Firm size <20	24.09	24.56	34.93	25.74	22.89	24.17
Firm size 20-100	30.50	34.39	28.15	30.69	30.77	30.59
Firm size >100	45.42	41.06	36.91	43.58	46.34	45.24
Male (N=100)						
Firm size <20	29.88	34.06	23.46	28.94	24.56	29.70
Firm size 20-100	29.33	27.76	27.02	34.46	25.79	29.19
Firm size <100	40.80	38.16	49.52	36.60	49.64	41.12
% female employees in firm, female (N=100)						
0 - 20	23.02	22.99	17.66	34.25	23.36	23.07
20 – 40	21.11	25.56	28.78	26.33	21.98	21.4
40 - 60	26.02	22.61	33.14	17.15	29.24	26.06
60 – 80	15.59	17.74	13.96	13.96	10.98	15.44
80 – 100	14.27	11.1	6.46	8.32	14.44	14.04
% female employees in firm, male (N=100)						
0 - 20	49.84	42.8	45.22	58.37	41.97	49.49
20 – 40	25.5	31.01	26.37	24.15	33.39	25.85
40 - 60	17.52	19.24	26.56	16.58	13.98	17.54
60 – 80	5.39	6.13	0.92	0.89	8.57	5.41
80 – 100	1.74	0.82	0.92	0	2.1	1.71
Reorganisation in the last year *						
Female	50.87	49.33	61.41	48.28	58.47	51.21
Male	51.47	58.52	57.50	52.63	59.46	51.92

** These figures indicate the percentage of workers who gave a positive answer to this question. The percentage of workers gave an negative answer is (100 – the percentage of positive answer).*

3.7 DISTRIBUTION OF WORKERS OVER INDUSTRIES

Table 8 shows the distribution of workers across the industries. We observe a high concentration of workers in commercial services. The degree of concentration in commercial services varies a little across ethnic groups: more men from Western Europe and Others and more women from Caribbean and TMO are employed in commercial services. Slightly more ethnic minority women are concentrated in the public sector and the temp agencies. On the other hand, a lower percentage of ethnic minority men is employed in Metal/Machine.

The impression is that the distribution of workers across industries is closely related to way of data collection: workers from sectors where Internet access is possible and easier and where relatively higher educated workers are concentrated are likely over-represented. Moreover, the small number of observations for ethnic minority groups in relation to many industry categories hinders further statements about distribution of workers in certain industries.

Table 8 Allocation of workers across industries by ethnicity and gender

	Dutch	WestEur.	Caribbean	TMO	Others	Total
Female (N=100)						
agriculture, horticulture & fisheries	1.39	1.09	0.00	0.85	1.81	1.38
food, textiles, paper manufacturing	4.26	4.02	2.54	6.45	5.36	4.29
publishing, printing	2.99	2.57	4.41	0.70	2.48	2.96
chemical industry, rubber	0.78	2.41	1.61	0.00	0.00	0.80
steel, machine, apparates industry	4.34	3.71	0.00	5.97	1.98	4.21
metal industry	2.23	2.16	1.61	4.57	2.54	2.26
utilities (electricity and water)	0.39	0.29	0.54	0.70	1.43	0.43
construction	2.92	1.57	3.73	5.37	2.00	2.89
car trading, repairs, petrol stations	0.34	0.00	0.65	0.00	0.00	0.32
wholesale & trade information	2.82	2.29	4.15	2.25	2.58	2.81
shops, stores, supermarkets	6.76	7.56	4.61	4.72	4.84	6.66
hotel, restaurant and catering	2.44	1.34	2.38	2.40	3.00	2.43
transport, telecommunication, mail	4.95	6.52	6.83	6.31	5.31	5.04
banking insurance, financial instit.	6.49	7.81	8.38	7.27	6.90	6.56
commercial & IT services	18.41	22.52	18.30	17.23	23.15	18.66
cleaning companies	1.03	0.57	0.00	2.06	1.67	1.04
temp agencies	3.68	2.57	6.48	6.06	5.57	3.78
public administrat, local authorities	5.96	9.41	7.61	9.49	5.49	6.08
justice, police, fire department	1.47	0.29	1.73	4.06	1.40	1.47
education	6.02	5.26	7.16	5.22	4.34	5.95

hospitals, home care services	5.87	5.26	3.19	1.21	5.82	5.77
nursing and retirement homes	5.10	2.70	4.65	3.61	5.03	5.02
welfare, social services, day-care	4.80	3.46	4.65	0.70	4.37	4.71
culture, sports, recreation	3.59	4.61	3.33	2.10	1.83	3.54
missing - not identified	0.95	0.00	1.46	0.70	1.12	0.94
Men (N=100)						
agriculture, horticulture & fisheries	1.66	2.01	0.00	1.52	2.11	1.67
food, textiles, paper manufacturing	7.12	7.15	0.00	4.43	5.88	7.01
publishing, printing	3.65	4.12	0.00	3.93	4.33	3.65
chemical industry, rubber	1.24	0.51	0.00	2.64	0.81	1.21
steel, machine, apparates industry	12.04	5.62	5.35	6.64	9.70	11.71
metal industry	6.30	13.13	4.01	8.66	7.64	6.51
utilities (electricity and water)	0.81	0.89	0.00	0.00	1.40	0.82
construction	7.00	2.82	6.55	5.12	2.95	6.77
car trading, repairs, petrol stations	0.47	0.51	1.27	0.89	0.41	0.48
wholesale & trade information	3.58	2.31	5.04	3.64	0.30	3.47
shops, stores, supermarkets	4.30	5.97	3.77	3.67	2.76	4.29
hotel, restaurant and catering	2.16	1.84	5.31	2.11	3.22	2.20
transport, telecommunication, mail	7.29	5.96	8.02	5.12	7.23	7.24
banking insurance, financial instit.	4.64	6.44	8.78	6.61	6.93	4.80
commercial & IT services	18.44	21.67	27.69	28.73	21.49	18.77
cleaning companies	0.49	1.03	0.00	2.41	0.00	0.50
temp agencies	1.19	0.60	2.50	2.11	2.35	1.23
public administrat, local authorities	5.69	3.10	6.93	2.67	4.60	5.58
justice, police, fire department	1.40	1.91	0.00	0.00	1.49	1.39
education	3.30	5.29	4.32	3.04	5.77	3.42
hospitals, home care services	2.28	2.42	6.41	1.52	1.82	2.30
nursing and retirement homes	1.32	0.30	0.00	0.00	2.76	1.31
welfare, social services, day-care	1.15	0.51	0.92	1.52	1.91	1.15
culture, sports, recreation	2.03	3.90	1.85	0.89	1.41	2.05
missing - not identified	0.44	0.00	1.27	2.11	0.71	0.46

3.8 JOB CHARACTERISTICS

Disadvantaged groups, e.g. women and ethnic minorities, report more often that their job is below their education level, especially Caribbean and TMO (see Table 9). The same pattern holds for job training and job promotion: a relatively low percentage of TMO and Caribbean indicates that they acquired a job training and job promotion. Interestingly, a large percentage of women (66%) and three-quarter of the men have attended job training. Additionally, 40% of the women and 50% of the men have enjoyed a job promotion.

Surprisingly, dispersion in wage increase disappears largely despite the variation in job promotion and training across the groups. Women have received more frequently a wage-rise in the last year, compared to men. This is expressed in their opinion about "satisfied with wages". Notably, Caribbean and TMO are less often satisfied with their wages.

It is well known that a large share of female labour force is part-time employed in the Netherlands. Table 10 shows that a non-negligible portion of women switches from full-time to part-time employment (33%) and 14% of women have moved to the opposite direction. A relatively large percentage of Caribbean and TMO women are, on the other hand, full-time employed and a lower percentage of them have switched from part-time to full-time employment. Interesting is that relatively large percentages of Caribbean and TMO men start with a part-time job and switches to full-time job.

Table 9 shows job levels ranked from 1 to 5. The lowest job level is one and the highest is five. Ethnic minority groups and Dutch are quite comparable considering their distribution over job levels. Women belonging to Others are more concentrated in the highest job level while Caribbean men are more likely at lower job levels compared to the other groups.

Table 9 Job level by gender and ethnicity

	Dutch	WestEur.	Caribbean	TMO	Others	Total
Female (N=100)						
Job level 1	2.09	1.72	0.64	3.51	2.30	2.09
Job level 2	23.07	20.17	24.84	22.81	22.41	23.01
Job level 3	45.84	45.49	42.04	41.23	40.52	45.53
Job level 4	19.86	21.89	25.48	23.68	20.11	20.05
Job level 5	9.13	10.73	7.01	8.77	14.66	9.33
Male (N=100)						
Job level 1	2.67	1.17	8.64	4.55	3.79	2.75
Job level 2	13.79	14.04	18.52	21.59	16.11	13.99
Job level 3	44.20	46.78	41.98	43.18	36.49	44.02
Job level 4	23.45	22.81	19.75	18.18	31.75	23.56
Job level 5	15.89	15.20	11.11	12.50	11.85	15.68

Table 10 Job characteristics by ethnicity and gender

	Dutch	WestEur.	Caribbean	TMO	Others	Total
Job below education level *						
Female	25.92	28.98	30.64	38.85	26.34	26.18
Male	21.86	29.00	38.57	34.56	32.37	22.54
Job training *						
Female	66.74	61.63	62.01	53.92	65.26	66.38
Male	75.34	72.4	66	62.98	74.99	75.09
Job promotion *						
Female	40.07	44.58	32.04	32.3	38.42	39.94
Male	50.44	52.13	41.55	47.99	43.22	50.2
Job satisfaction *						
Female	82.83	76.83	78.58	80.32	80.71	82.53
Male	85.08	75.58	77.79	77.99	80.97	84.61
Received a raise the last year *						
Female	66.71	67.04	63.24	64.81	64.83	66.6
Male	63.94	58.23	57.8	72.3	61.84	63.76
Satisfied with wages *						
Female	51.17	45.89	40.63	32.43	51.34	50.77
Male	49.12	49.17	33.81	28.93	40.84	48.64
Female (N=100)						
Full-timer, always been	42.25	39.89	52.36	62.48	49.91	42.79
Full-timer, before part-time	13.92	20.95	13.23	9.76	17.77	14.17
Part-timer, always been	9.96	10.73	10.27	10.15	11.69	10.05
Part-timer, before full-time	33.87	28.43	24.14	17.61	20.63	32.99
Male (N=100)						
Full-timer, always been	86.08	80.13	80.45	84.2	76.09	85.6
Full-timer, before part-time	6.22	8.82	16.09	12.46	10.7	6.54
Part-timer, always been	2.65	3.26	2.19	2.11	4.71	2.72
Part-timer, before full-time	5.05	7.79	1.27	1.22	8.5	5.15

***** *These figures indicate the percentage of workers who gave a positive answer to this question. The percentage of workers gave an negative answer is (100 – the percentage of positive answer).*

3.9 WORKERS' PREFERENCES AND JOB DYNAMICS

On average, a larger share of women wishes to work more hours compared to men, i.e. 8.6% versus 6.82% (see Table 11). Especially Caribbean and TMO women are tended to work more hours. The relatively low percentage of men wishes to work more hours, possibly due to their already high working hours. However, it remains unexplained why a higher percentage of TMO men like to work more hours while they have the highest mean working hours (see Table 5). On the other hand, more men wish to work fewer hours compared to women. Less Caribbean and TMO men and more Caribbean and TMO women seem to prefer working fewer hours compared to their gender counterparts. These ethnic groups differ in their preferences with respect to a possible exchange between more pleasant atmosphere and higher wages: More Caribbean and TMO prefer higher wages to a more pleasant atmosphere at work, compared the preference of an average employee. In general, more women prefer pleasant atmosphere to higher wages, compared to men.

When we ask how easy a respondent can find another job, their opinion is very optimistic confirming the tight labour market in last years in the Netherlands. About three-quarter of employees think that they can find easily another job. It is notable that especially more disadvantaged groups, i.e. women, Caribbean and TMO, are more optimistic.

Around 50% (56%) of women (men) are happy with their jobs and they will not give up it. Almost 30% of respondents would accept another job although they have not looked for a job in the last month. It seems that among job seekers, proportional more women found a new job compared to men, i.e. 33% of women versus 25% of men. Ethnic minority men have a relatively lower chance to find a new job, especially TMO men.

Table 11 Worker preferences and job search by ethnicity and gender

	Dutch	WestEur.	Caribbean	TMO	Others	Total
Like to work more hours *						
Female	8.82	8.75	13.02	11.18	8.22	8.88
Male	6.56	7.38	9.35	15.48	12.7	6.82
Like to work fewer hours *						
Female	37.15	43.3	46.44	49.14	43.78	37.75
Male	41.18	45.2	38.06	33.38	42.63	41.24
Pleasant atmosphere *						
Female	88.39	81.61	77.99	75.36	87.49	87.97
Male	83.05	78.42	73.72	73.47	75.79	82.61
Can easily find another job *						
Female	78.13	75.92	82.45	83.86	81.17	78.30
Male	76.39	57.18	81.68	89.43	73.64	75.97
Looking for job, female (N=100)						
No, I do not want another	50.63	43.15	43.09	51.74	45.98	50.21
No but I will accept	29.61	32.75	31.93	29.04	28.46	29.67
Yes but I have not found	15.04	17.80	18.41	13.84	19.66	15.30
Yes and I have found	4.72	6.30	6.57	5.38	5.90	4.83
Looking for job, male (N=100)						
No, I do not want another	56.51	61.09	42.88	46.52	57.32	56.46
No but I will accept	29.02	21.76	32.63	29.37	24.58	28.75
Yes but I have not found	11.82	14.95	14.72	21.21	15.31	12.09
Yes and I have found	2.65	2.19	9.78	2.91	2.80	2.70

***** *These figures indicate the percentage of workers who gave a positive answer to this question. The percentage of workers gave an negative answer is (100 – the percentage of positive answer).*

3.10 JOB SECURITY

Diversity in job security is also clearly observable in Table 12. Females seem to have less likely a permanent employment contract, compared to males: 76% versus 86%. The percentage of women from TMO having a permanent employment contract is the lowest (60%), followed by Caribbean women with almost 68%. Also Caribbean and TMO men have less often a permanent contact compared to the average. It is well striking that a higher percentage of TMO and Caribbean, both men and women, have an employment position with a prospect on permanent contract. This suggests that employers are reserved to offer a permanent employment contract immediately to the members of these ethnic minority groups and they prefer to offer first a trial period. Moreover, a relatively low percentage of female employees are covered by CAO (collective wage agreement), in particular TMO and Caribbean women. Accordingly, these two groups are more often insecure about their job.

Table 12 Employment contract and job security by ethnicity and gender

	Dutch	WestEur.	Caribbean	TMO	Others	Total
Female (N=100)						
Permanent contract	76.83	73.29	67.75	60.03	74.27	76.38
Prospect on permanent contract	13.62	15.50	20.53	26.82	15.83	13.96
No permanent contract	9.55	11.21	11.71	13.15	9.90	9.66
Male (N=100)						
Permanent contract	86.65	85.25	69.07	74.25	80.21	86.19
Prospect on permanent contract	7.86	8.32	18.14	14.87	11.93	8.12
No permanent contract	5.49	6.43	12.79	10.88	7.86	5.69
CAO cover *						
Female	77.49	68.28	73.44	66.46	74.07	77.01
Male	78.39	80.85	72.08	78.02	79.25	78.42
Sufficient job security *						
Female	82.83	76.83	78.58	80.32	80.71	82.53
Male	85.08	75.58	77.79	77.99	80.97	84.61

** These figures indicate the percentage of workers who gave a positive answer to this question. The percentage of workers gave an negative answer is (100 – the percentage of positive answer).*

4 WAGES

Table 13 gives mean gross hourly wages in Euro by ethnicity and gender. These wages are crude wages, thus they are not corrected for any characteristic of workers. The lowest hourly wage is for TMO, both for men and women from this group. On average, women have almost 15% lower wages than men, i.e. € 13.42 versus € 15.74, but the wage differential between men and women from the groups Caribbean and TMO is negligible. The gender wage gap is the largest for workers from Western Europe, followed by Dutch workers. Women belonging to the three ethnic minority groups earn more hourly wages than Dutch women. Only women from TMO earn about 7% less (=one Euro) than Dutch women. Considering men, only Western European men have higher wages than Dutch men (=€ 1.03). Caribbean men and TMO-men have considerably lower wages than Dutch men (€ 1.19 and €3.08 less).

Table 13 Hourly wages in euro by ethnicity and gender

	Dutch	WestEurop	Caribbean	TMO	Others	Total
Gross hourly wages, female	13.36	13.85	14.10	12.36	14.57	13.42
Std. Dev.	*5.57*	*5.72*	*8.12*	*6.21*	*7.04*	*5.68*
Gross hourly wages, male	15.76	16.79	14.57	12.68	15.42	15.74
Std. Dev.	*7.08*	*8.36*	*11.32*	*4.97*	*6.76*	*7.14*
Total	14.78	15.63	14.33	12.54	15.01	14.78
Std. Dev.	*6.61*	*7.56*	*9.78*	*5.54*	*6.9*	*6.68*

4.1 ESTIMATING WAGES

To obtain more insights about determinants of wage levels, we estimate determinants of wage rates using following wage functions:

$$\log W_{ij} = X_{ij}\beta_j + \varepsilon_{ij}$$

W is the wage rate of individual i from group j, X is a vector of factors that are thought to explain individual wage levels and ε is the randomly distributed error term. After numerous experimentations, we included the following explanatory variables in the regression equations:

Variable definitions

Education	: Years of education
Experience (actual)	: Defined as (survey year - year first job-duration of carrier break)
Working hours (real)	: Number of usual working hours in a week
Tenure	: Number of years that an individual works for the last employer
Permanent contract	: =1 if individual has a permanent contract; =0 otherwise
Female	: =1 if respondent female; =0 otherwise
Child at home	: =1 if individual has child(ren) living at home; =0 otherwise
Firm size (<20)	: =1 if firm has less than 20 workers; =0 otherwise
Firm size (20-100)	: =1 if firm has 20 to 100 workers; =0 otherwise
Cao-covered	: =1 if individual is covered by collective wage agreement; =0 otherwise
Male-dominated job	: =1 if most colleagues in similar positions are men; =0 otherwise
Job below education	: =1 if job is below education level; =0 otherwise
Metal/machine	: =1 if individual works in Metal/Machine sector; =0 otherwise
Shops/warehs/superm	: =1 if individual works in Shops/Warehouse/Supermarket; =0 otherwise
Bank/insurance	: =1 if individual works in bank/insurance company; =0 otherwise
business services/ICT	: =1 if individual works in business services/ICT; =0 otherwise
North Holland	: =1 if individual lives in North Holland; =0 otherwise
South Holland	: =1 if individual lives in South Holland; =0 otherwise
WestEurope	: =1 if the country of birth of respondent's mother is Western Europe; =0 otherwise
Caribbeans	: =1 if the country of birth of respondent's mother is Surinam, Antilles or Aruba; =0 otherwise
TMO	: =1 if the country of birth of respondent's mother is Turkey, Morocco or Eastern Europe; =0 otherwise
Others	: =1 if the country of birth of respondent's mother is an other country; =0 otherwise
Family reason	: =1 if a foreign-born person came to the Netherlands for family reasons; =0 otherwise
For work	: =1 if a foreign-born person came to the Netherlands for work; =0 otherwise
Refugee	: =1 if a foreign-born person came to the Netherlands as a refugee; =0 otherwise
Other reasons	: =1 if a foreign-born person came to the Netherlands for other reasons; =0 otherwise

Wage functions are estimated for Dutch male and female separately. Estimation of wage functions for ethnic minority groups by gender will not provide significant estimates since the number of observations is small for ethnic minority groups, as mentioned. Consequently, wage functions are estimated for the four ethnic minority groups separately. To be able to compare the ethnic group with Dutch workers, a pooled sample of Dutch male and female workers (called Dutch all) is estimated using similar explanatory variables to those used in the wage equations of the ethnic minority groups. The estimated coefficients and corresponding t-statistics are presented in Table 14. The standard errors of coefficients in all wage equations are robust. Including working hours in regression equations does not lead any big change in other coefficients, which suggest working hours are not endogenous to wages.

One more year of education leads to 7.1% higher wages for Dutch workers and the returns to education are slightly lower for Dutch males compared to Dutch females. Ethnic minority groups obtain a considerable lower return to one more year education: the lowest return is for TMO (.060) and the highest return is for Others (.069).

Every extra year of experience leads to around 3% more wages at a decreasing rate. Return to experience is the highest for Dutch male (0.034) and the lowest for Caribbean (.005). An increase in working hours has a modest positive effect on the wages of Dutch (.002) but it has no significant effect on the wages of ethnic minority groups. Longer working for an employer (tenure) has the largest effect on the wages of Caribbean (.023) and it is positive but negligible small for Dutch and WestEurope. Dutch workers having a permanent contract have a 7.8% higher wages than those who do not have a permanent contract. Especially Dutch men benefit from having a permanent contract compared to Dutch women, i.e. 9.4% versus 6.5%. Having a permanent contract provides even a larger wage premium for workers from the group Others (11.3%). For other ethnic minority groups, a permanent contract may have a large positive impact on wages but the coefficients are not statistically significant. Females earn relatively low wages within almost every group except Caribbeans and TMO. No gender wage gap seems to present for Caribbeans and TMO. The gender wage gap is 5.6% for Dutch, 7.2% for WestEurope and 6.1% for Others.

Dutch workers who have child(ren) living at home have a 2.4% higher wage with respect to those without children living at home. The gender specific estimations show that this child premium is meant for Dutch men rather than Dutch women. Workers from TMO have a significant child premium (9.8%) while the coefficients for other groups are not significant. Workers employed in the small sized firms (employing less than 20 workers) earn substantially lower wages with respect to workers employed in the large firms (employing more than 100 workers). Also medium sized firms (employing 20-100 workers) offer 6-11.6% lower wages compared to the large firms. Workers from Others earns 21.5% lower wages in the small firms and 11.6% lower wages in medium sized firms compared to those who are employed in the large firms. Dutch workers in small and medium firms earn about 13% and 6% lower wages than workers from the same group in large firms. Caribbean workers in small firms have 18.4% lower wages with respect to large firms.

Dutch male workers who are covered by collective wage agreements (CAO) earn 3.4% lower wages compared to those who are not covered by CAO. This percentage is even larger for workers from WestEurope (11%). This can be a selectivity problem: workers with an advantaged position prefer to take a job that is not covered by CAO. However, We are not able to test this hypothesis in this study. The coefficient for CAO is not significant for other groups. Dutch workers, in particular Dutch females have a 3.2% to 7.8% higher wages if they have a function dominated by male workers. Having a job below education level has a substantial wage penalty: 7.8% for Dutch men, 5.4% for Dutch women, 9.3% for WestEurope and 9.4% for Others. The coefficient of this variable for Caribbeans is also negative but it is smaller and statistically not significant. Workers employed in Metal/Machine and Shops/Warehouses/supermarkets have, in general, relatively lower wages while workers in Banks/Insurance companies and Business services/ICT have higher wages with respect to other sectors that are not included in the regression equations. Furthermore, living in the provinces North and South Holland provides 2.5 to 5.7% higher wages although the coefficients are not significant for ethnic minority groups except North Holland for Others (10%).

4.2 WAGE-AGE PROFILE

The age of respondents is highly collinear to experience and also to other explanatory variables, which leads to big changes in other estimated coefficients. Therefore, we have not included age in wage equations presented in Table 12 from which wage differentials are calculated. Including age in wage equations has no large effect on results of wage differentials presented in next section.

Here we re-estimate wage functions including non-linear age variable and present the results in Table A2 in appendix. We are interested in the coefficients of age and age-squared and do not focus on the other coefficients and their reaction on including age in wage functions. Using the estimated coefficients of age and age-squared as well as the model constants, we construct age-wage profile and present in Figure 1.

Figure 3 shows that the increase in wages of Dutch women and Caribbeans with their age is the lowest among the other groups and their age-wage profile is very similar. They start with a relative low wage rate and the growth in their wage ends around 40s. The growth pattern of the wages of TMO is comparable with Dutch women and Caribbeans but TMO starts with a higher wage rate. It is notable that the wages of these three groups start to decrease sharply in very early ages, after the beginning of 40s. The age-wage profile of Others and WestEurope are quite comparable: they start with a relative high wage and their wage rates increases until the end of 40s. The growth rate of wages of WestEurope is slightly lower in the middle of working life but at the end of working carrier it almost catches up the wage rate of Others. Dutch men start with a wage rate lower than Others, WestEurope and TMO but their wages grows sharply until 54 and then smoothes down. They end up with the highest wage rate.

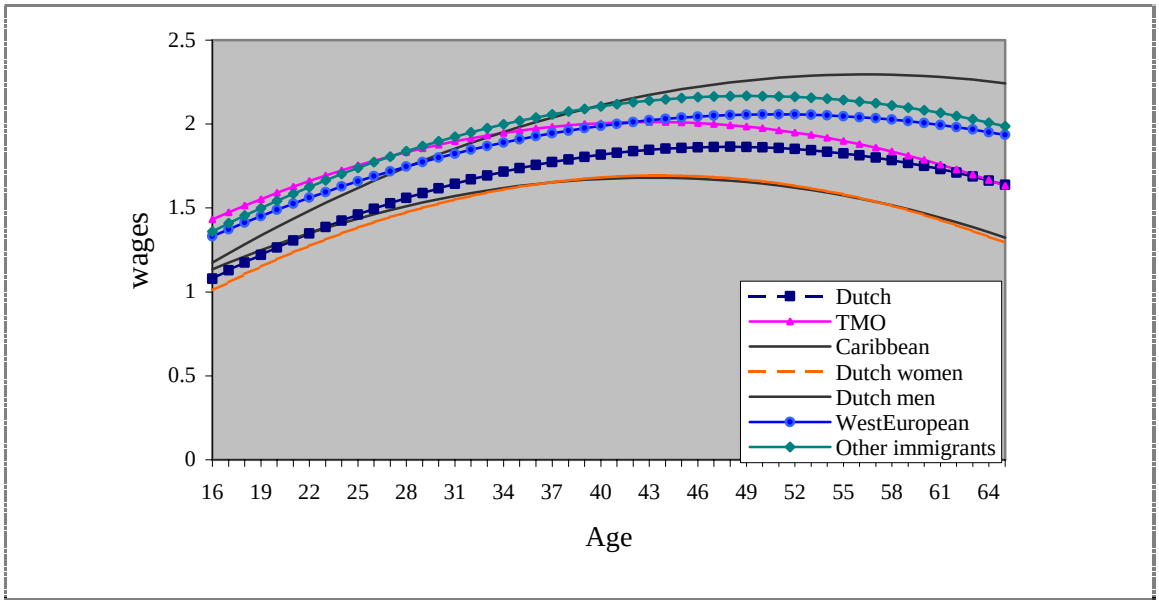

2.5
2
1.5
1
0.5
0
wages
16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64
Age
Dutch
TMO
Caribbean
Dutch women
Dutch men
WestEuropean
Other immigrants

Table 14 OLS estimations of wage equations for ethnic minority groups and Dutch, with robust standard errors

	DUTCH				Dutch-all		WestEurope		Caribbean		TMO		Others	
	Male		Female											
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Education	0.068	37.34	0.070	44.61	0.071	54.21	0.061	7.88	0.068	5.53	0.060	5.78	0.069	8.49
Experience (actual)	0.034	24.63	0.032	24.50	0.033	32.61	0.026	3.47	0.005	0.44	0.020	1.65	0.029	3.32
Experience Squared	-0.001	-15.10	-0.001	-15.07	-0.001	-18.63	0.000	-2.22	0.000	0.06	0.000	-1.04	-0.001	-2.03
Working hours (real)	0.001	1.84	0.003	5.81	0.002	5.71	0.004	1.84	0.002	0.50	-0.002	-0.65	-0.003	-1.10
Tenure	0.001	1.44	0.004	5.47	0.002	3.57	0.005	2.10	0.025	3.34	0.006	1.16	0.001	0.37
Permanent contract	0.094	7.50	0.065	7.74	0.078	9.95	0.068	1.47	0.101	1.69	0.085	1.39	0.113	2.88
Female					-0.056	-8.97	-0.072	-2.06	0.019	0.31	-0.016	-0.30	-0.061	-1.93
Child at home	0.039	4.39	0.004	0.45	0.024	3.87	-0.011	-0.28	0.008	0.12	0.098	1.99	0.030	0.69
Firm size (<20)	-0.136	-13.40	-0.118	-14.75	-0.127	-18.28	-0.091	-1.84	-0.184	-2.93	-0.112	-1.77	-0.215	-5.73
Firm size (20-100)	-0.072	-8.20	-0.053	-6.83	-0.061	-9.95	-0.086	-1.91	-0.088	-1.25	-0.095	-1.85	-0.116	-2.04
Cao-covered	-0.034	-3.37	0.012	1.58	-0.010	-1.41	-0.110	-2.40	0.079	1.44	0.006	0.10	-0.061	-1.53
Male-dominated job	-0.012	-1.32	0.078	11.28	0.032	5.28	-0.060	-1.73	-0.029	-0.46	-0.013	-0.22	0.034	0.96
Job below education	-0.078	-8.49	-0.054	-6.94	-0.067	-10.44	-0.093	-2.16	-0.023	-0.41	0.014	0.31	-0.094	-2.67
Metal/machine	-0.092	-8.43	-0.095	-6.04	-0.098	-10.54	0.019	0.23	-0.032	-0.29	-0.066	-1.20	-0.074	-0.97
Shops/warehs/superm.	-0.170	-9.97	-0.159	-11.99	-0.161	-14.57	-0.234	-3.37	-0.124	-0.90	-0.100	-0.93	-0.265	-3.70
Bank\insurance	0.088	5.27	0.013	0.99	0.061	5.28	-0.037	-0.58	-0.123	-1.69	0.104	0.87	-0.065	-1.22
Business services/ICT	0.010	0.91	0.018	2.08	0.012	1.59	0.026	0.49	0.088	1.26	0.168	2.42	-0.048	-1.13
North Holland	0.035	3.50	0.057	7.25	0.043	6.14	0.031	0.70	0.069	1.11	0.001	0.02	0.101	2.83
South Holland	0.026	2.58	0.024	3.13	0.025	3.73	0.020	0.35	0.031	0.49	0.046	0.94	-0.008	-0.15

Constant	1.411	37.00	1.239	43.52	1.301	49.97	1.595	10.89	1.406	6.41	1.579	6.34	1.672	9.54
N	7994		9944		16530		405		237		199		562	
R^2	0.46		0.45		0.48		0.46		0.40		0.38		0.41	

4.3 WAGE DIFFERENTIALS

As a first step to analyse wage differentials, we estimate wage regressions for all workers as well as for the separate gender categories including dummies for four ethnic minority groups, and gender dummy when estimations cover the entire sample (Table 15). Since we have already discussed the coefficients for most of explanatory variables, our focus here will be on the estimated coefficients of explanatory variables that are not included in previous wage regressions (in Table 14), namely dummy variables for gender, ethnicity and the reasons that foreign-born immigrants came to the Netherlands.

The estimation of wage regressions for the entire sample shows that the hourly wage of women is 5.5 percent lower than that of men, given the other observable characteristics included in the regressions (first two columns on the left-hand side in Table 15). Ethnic minorities from the group TMO earn 5.9% lower wages compared Dutch workers. The estimated coefficients for the other ethnic minority groups are positive suggesting relative higher wages but they are statistically not significant.

As the wage regressions of men and women are estimated separately, we observe two striking outcomes: Firstly, Caribbean women earn 6.8 percent higher hourly wages than Dutch women, for given observable characteristics while the coefficient for Caribbean men is negative and not significant. Secondly, male workers from TMO have a 7.5% lower hourly wages than Dutch males while the coefficient for TMO-women is negative but not significant. The estimated coefficients for WestEurope and Others remain positive and insignificant for both males and females.

In order to look at differences between ethnic minority groups closely and to see the effect of each reason to come to the Netherlands, we estimate the wage regressions for all ethnic minorities (the right-hand side of Table 15). The results indicate that workers from TMO have 9.4 percent lower hourly wages than workers from WestEurope while no wage differentials between WestEurope and other ethnic minority groups are observed. We find also no difference between the wages of foreign-born immigrants who came to the Netherlands for family reasons, work, other reasons and as refugee, and their descendants born in the Netherlands, indeed given the explanatory variables included in the regression equation.

Table 15 OLS estimations of wage equations for all workers by gender and for ethnic minorities.

	Entire sample (Dutch + ethnic minorities)						All ethnic minorities	
	All		Female		Male			
	Coef.	t-stat.	Coef.	t-stat.	Coef.	t-stat.	Coef.	t-stat.
Education	0.070	55.47	0.070	44.66	0.068	37.14	0.065	13.17
Experience (actual)	0.032	32.57	0.032	24.58	0.034	24.47	0.023	5.20
Experience Squared	-0.001	-18.61	-0.001	-15.10	-0.001	-14.97	0.000	-3.12
Working hours (real)	0.002	5.58	0.003	5.80	0.001	1.89	0.001	0.40
Tenure	0.002	4.20	0.004	5.49	0.001	1.43	0.006	3.07
Permanent contract	0.080	10.63	0.065	7.74	0.093	7.48	0.085	3.39
Female	-0.055	-9.33					-0.048	-2.36
Child at home	0.026	4.26	0.003	0.36	0.039	4.43	0.045	1.84
Firm size (<20)	-0.130	-19.30	-0.118	-14.79	-0.136	-13.33	-0.150	-5.88
Firm size (20-100)	-0.064	-10.52	-0.052	-6.76	-0.072	-8.19	-0.102	-3.69
Cao-covered	-0.013	-1.93	0.012	1.56	-0.034	-3.35	-0.040	-1.63
Male-dominated position	0.029	4.99	0.078	11.25	-0.012	-1.29	-0.007	-0.33
Job below education	-0.067	-10.90	-0.054	-6.93	-0.078	-8.45	-0.067	-3.01
Metal/ machine	-0.096	-10.52	-0.094	-5.97	-0.092	-8.43	-0.061	-1.45
Shops/warehous/superm.	-0.165	-15.29	-0.159	-12.01	-0.170	-9.97	-0.213	-4.65
Bank/insurance company	0.051	4.68	0.013	0.96	0.088	5.26	-0.042	-1.18
Business services/ICT	0.013	1.72	0.017	1.98	0.010	0.92	0.025	0.89
North Holland	0.044	6.62	0.056	7.07	0.036	3.52	0.056	2.38
South Holland	0.024	3.58	0.024	3.01	0.026	2.63	0.010	0.32
WestEurope	0.025	1.32	0.030	1.27	0.014	0.53		
Caribbeans	0.027	0.97	0.068	2.08	-0.016	-0.33	-0.009	-0.26
TMO	-0.059	-2.42	-0.035	-1.17	-0.075	-2.05	-0.094	-2.85
Others	0.017	0.91	0.024	1.36	0.007	0.20	-0.013	-0.45
Family reason							-0.012	-0.45
For work							-0.041	-0.75
Refugee							-0.029	-0.61
Other reasons							-0.011	-0.32
Constant	1.325	52.47	1.237	43.58	1.411	36.66	1.599	15.58
N	17,933		9,942		7,991		1,380	
R^2	0.47		0.45		0.46		0.40	

Ethnic and gender wage differentials that we have estimated and presented in Table 15 are due to factors that we cannot observe, i.e. given the explanatory variables in Table 15. To calculate total wage differentials and decompose these differentials into explainable and unexplainable components, we extend our analysis applying the standard Oaxaca-Blinder decomposition technique (Oaxaca 1973, Blinder 1973). In this way, we can also identify the contribution of every explanatory variable used to the wage differential.

After estimating conventional earnings functions in the form of

$$\ln W_{ij} = X_{ij}\beta_j + \varepsilon_{ij}$$

We can decompose observed wage differentials between groups distinguished. Wage differentials between Dutch men and women as well as between Dutch and ethnic minority groups are decomposed into two components: productivity differentials and wage discrimination, given as

Gender wage differential for Dutch workers: high group (Dutch men) - low group (Dutch women)

$$\overline{\ln W}_m - l\overline{nW}_f = \hat{\beta}_m\left(\bar{X}_m - \bar{X}_f\right) + \bar{X}_f\left(\hat{\beta}_m - \hat{\beta}_f\right)$$

Ethnic wage differentials: high group (Dutch) - low group (ethnic minority groups)

$$\overline{\ln W}_D - l\overline{nW}_I = \hat{\beta}_D\left(\bar{X}_D - \bar{X}_I\right) + \bar{X}_I\left(\hat{\beta}_D - \hat{\beta}_I\right)$$

where $\hat{\beta}$ is the vector of the estimated coefficients in wage equations, $\bar{X}$'s are the mean of explanatory variables, and subscripts *m* and *f* denote males and females.

The first term in the decomposition equations, $\hat{\beta}_D\left(\bar{X}_D - \bar{X}_I\right)$, indicates the wage differential which is attributable to endowments (or observable characteristics). The second term, $\bar{X}_I\left(\hat{\beta}_D - \hat{\beta}_I\right)$, shows differentials due to coefficients. This second term composes together with the shift coefficient (or model constant) the so-called discrimination component. In other words, the discrimination component measures the wage differentials after controlling for the characteristics of workers that are included in wage functions as explanatory variables, presented above.

4.4 RESULTS

The components of the log wage differentials are calculated using Table 14 and the corresponding mean values of the coefficients. The results are presented in Table 16. Dutch women earn 12.5 percent lower wages than Dutch men. 48 percent of this differential (6 percent) can be explained by differences in endowments or observable differences in the characteristics of workers reported in Table 14. The rest of the difference (52 percent) cannot be explained by endowments and is attributed to wage discrimination.

Workers from ethnic minority groups WestEurope and Others have more than 3 percent higher wages than Dutch workers, 3.6 and 3.1 percent respectively. A small part of these differences is due to better observable characteristics, i.e. 0.4 and 0.1 percents. The largest part of positive wage surplus is due to positive wage discrimination (3.2 and 3 percent). Caribbean workers have a 2.6 percent higher wages than Dutch workers although they have less favourable endowments (6.6 percent). Also the differences in coefficients are not in favour of them. Their wages are higher due to the shift coefficient (the model constant) caused by factors that we cannot observe. Workers from TMO earn 10.2 percent lower wages than Dutch workers, and 42 percent of this difference, i.e. 4.3 percent difference in mean log wages, is due to wage discrimination. The rest of the difference is explained by less favourable observable characteristics.

Table 16 Components of wage differentials, percentage points

	Dutch women	WestEuro	Caribbean	TMO	Others
Amount attributable:	-4.7	25.9	13.1	37.9	34.0
due to endowments (E)	6.0	-0.4	6.6	5.9	-0.1
due to coefficients (C)	-10.7	26.3	6.5	32.0	34.0
Shift coefficient (U)	17.2	-29.4	-10.5	-27.8	-37.1
Raw differential (R) {E+C+U}	12.5	-3.6	2.6	10.2	-3.1
Wage discrimination (D) {C+U}	6.5	-3.2	-4.0	4.3	-3.0
Endowments as % total (E/R)	48.0	11.1	249.7	58	2.7
Discrimination as % total (D/R)	52.0	88.9	-149.7	42	97.3

U = unexplained portion of differential (difference between model constants)

D = portion due to discrimination (C+U)

+ sign indicates advantage to high group

- sign indicates advantage to low group

The first component of wage differentials is presented in details in Table 17 to see the origin of favourable/unfavourable characteristics. Dutch men have slightly higher education level and experience. For Dutch women, return to education is higher than Dutch men, as indicated by the difference in the coefficients. Also more working hours and longer tenure are beneficial for Dutch women. Dutch men, on the other hand, have a higher return to experience and are better off when they have a permanent contract. Dutch women are better off when they have a male-dominated position in their workplace, and when their job is covered by CAO (collective wage agreements).

Workers from WestEurope have a higher level of education and experience and tenure compared to Dutch workers, and they make similar number of hours as Dutch workers but they are underpaid for their education and experience, and overpaid for working hours and tenure. They are also underpaid when they have a job covered by CAO or a male-dominated position.

Caribbeans are heavily underpaid for their experience and, to less extent, for their education, working hours and male-dominated position. On the other hand, they are overpaid for tenure and CAO-coverage. Caribbean women earn more than Dutch women for an hour work, given observable characteristics.

Workers from TMO are also heavily underpaid for their education, experience and working hours as well as when they have a male-dominated position. They are better off when they are employed in business services/ICT, and when they have a job below their education level or children living at home.

Workers from Others receive lower return to their education, experience and especially working hours. They are better off when they have a permanent contract or a job covered by CAO but worst off when they are employed in small sized firms.

Table 17 Decomposition results for variables (as %s)

	Dutch women		WestEurope		Caribbean		TMO		Others	
	Endow.	Coeff.	Endow.	Coeff.	Endow.	Coeff.	Endow.	Coeff.	Endow.	Coeff.
Education	1.0	-2.8	-0.3	12.2	0.5	3.0	-0.7	13.9	-0.5	2.2
Experience (actual)	8.4	2.0	-2.6	8.4	11.9	22.9	12.5	10.5	2.4	4.7
Experience Squared	-4.9	1.1	2.2	-3.0	-6.1	-5.9	-6.0	-1.1	-1.5	0.4
Working hours (real)	0.6	-5.2	0.0	-4.4	0.1	2.0	-0.5	19.2	0.0	19.2
Tenure	0.2	-1.2	-0.1	-1.9	0.5	-6.8	0.4	-1.4	0.1	0.4
Permanent contract	0.9	2.1	0.2	0.8	0.9	-1.5	0.9	-0.4	0.4	-2.6
Female			0.2	1.0	0.6	-5.0	0.1	-2.2	0.3	0.3
Child at home	0.2	1.1	0.0	1.2	0.1	0.5	0.1	-2.2	0.0	-0.2
Firm size (<20)	0.6	-0.5	0.1	-1.1	0.0	1.6	-0.1	-0.4	-0.4	2.2
Firm size (20-100)	-0.2	-0.6	0.1	0.8	-0.2	0.7	0.1	1.1	-0.1	1.5
Cao-covered	0.0	-3.2	-0.1	6.3	-0.1	-5.2	-0.1	-0.9	0.0	3.4
Male-dominated position	-0.5	-2.9	0.0	4.8	0.1	3.0	-0.1	2.5	0.1	-0.1
Job below education	0.3	-0.6	0.4	0.7	0.4	-1.3	0.5	-2.4	0.2	0.7
Metal, machine and apparat	-0.7	0.0	-0.3	-0.6	-0.6	-0.1	-0.2	-0.2	-0.2	-0.1
Shops/warehouse/supermarket	0.4	-0.1	0.1	0.4	-0.3	-0.1	-0.4	-0.2	-0.2	0.4
Bank, insurence company	-0.1	0.5	0.0	0.6	-0.2	1.6	-0.1	-0.3	-0.1	0.9
Business services/ICT	0.0	-0.2	-0.1	-0.3	0.0	-1.8	0.0	-3.8	-0.1	1.5
North Holland	-0.1	-0.5	-0.3	0.3	-0.6	-0.8	-0.3	1.0	-0.3	-1.5
South Holland	0.0	0.0	0.1	0.1	-0.4	-0.2	-0.1	-0.5	-0.1	0.8
Sub-total	6.0	-10.7	-0.4	26.3	6.6	6.5	5.9	32.0	-0.1	34.0

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APPENDIX 1: SAMPLE CHARACTERISTICS

Table A1. Descriptive statistics: Sample characteristics per ethnic group, male and female samples are pooled for the ethnic minority groups

	Dutch			W-Eur.	Caribb.	TMO	Others
	Female	Male	Total				
Hourly wage	13.36	15.76	14.78	15.63	14.33	12.54	15.01
Std. Dev.	5.57	7.08	6.61	7.56	9.78	5.54	6.90
Working hours (real)	34.34	40.61	38.04	37.91	38.36	40.08	37.33
Std. Dev.	9.86	8.72	9.71	10.61	11.27	8.66	10.51
Working hours (contract)	31.59	36.73	34.62	33.83	34.64	36.17	33.74
Std. Dev.	9.02	6.75	8.16	9.60	8.31	7.62	9.21
Years of experience (actual)	13.58	17.44	15.86	18.60	9.77	9.51	14.31
Std. Dev.	9.59	11.75	11.08	12.54	7.74	8.07	9.96
Years of Tenure	5.38	8.84	7.42	9.46	3.74	3.88	6.33
Std. Dev.	6.73	9.57	8.69	10.99	5.83	5.16	8.26
Age categories							
< 24 jr	14.97	11.82	13.11	9.57	20.43	23.36	11.73
25-34	32.11	27.93	29.64	25.72	49.01	45.23	30.67
35-44	27.80	28.32	28.10	23.24	22.40	20.36	31.60
45-54	20.17	24.14	22.51	23.74	8.16	11.05	21.67
>=55	4.95	7.81	6.64	17.74	0.00	0.00	4.33
Education							
Primary	2.51	3.37	3.01	5.57	3.17	2.93	3.62
Extended Vocational primary	10.35	14.55	12.83	10.00	5.23	10.19	9.98
Extended primary	18.96	11.74	14.70	12.69	21.68	15.67	15.94
Secundary	41.69	39.55	40.43	41.27	43.96	43.11	39.06
High Vocational	20.47	24.38	22.78	21.60	18.11	20.50	24.62
University	6.02	6.41	6.25	8.86	7.85	7.59	6.76
Household composition							
couple with children	31.60	43.70	38.63	35.38	27.78	31.70	38.86
couple without children	38.91	30.77	34.18	35.13	32.27	29.04	34.03
single with children	4.43	0.53	2.16	2.42	5.55	2.36	1.92
single without children	16.73	15.44	15.98	20.41	21.98	23.78	15.10
living with parents	7.22	8.72	8.09	5.91	10.61	11.08	8.81
Other	1.11	0.83	0.95	0.75	1.81	2.03	1.28

	Dutch			W-Eur.	Caribb.	TMO	Others
	Female	Male	Total				
Household income							
€ <1250 per month	15.80	14.93	15.29	18.70	31.25	30.68	16.38
€ 1250-2000 per month	22.19	27.56	25.30	19.12	21.09	28.59	22.72
€ 2000-3000 per month	35.70	35.97	35.86	31.29	29.20	25.39	35.63
€ >3000 per month	26.31	21.54	23.55	30.89	18.46	15.34	25.26
Firm size							
< 10	16.84	12.74	14.42	14.47	15.55	16.27	12.52
10-20	13.04	11.35	12.04	13.87	13.44	10.88	11.18
20-49	15.42	16.26	15.92	14.16	11.82	19.13	13.26
50-100	13.91	14.24	14.1	17.6	15.75	13.24	15.08
100-200	11.32	13.42	12.56	10.02	11.33	13.89	12.92
200-500	11.23	12.55	12.01	9.98	12.15	10.93	11.96
500-1000	5.82	5.89	5.86	6.39	8.42	6.33	6.35
1000-2000	5.36	4.84	5.05	5.57	5.08	2.61	6.9
2000-5000	3.45	3.72	3.61	2.84	3.25	1.98	5.6
> 5000	3.62	5.00	4.43	5.11	3.21	4.73	4.22
Percentage of female employees in firm							
0 – 20	23.02	49.84	38.84	34.95	30.94	47.67	32.90
20 - 40	21.11	25.50	23.70	28.85	27.62	25.12	27.83
40 - 60	26.02	17.52	21.01	20.58	29.97	16.83	21.42
60 - 80	15.59	5.39	9.57	10.73	7.68	6.69	9.74
80 - 100	14.27	1.74	6.88	4.89	3.79	3.69	8.11
Hours history							
full-timer, always been	42.25	86.08	68.10	64.18	65.89	74.57	63.33
full-timer, before part-time	13.92	6.22	9.38	13.63	14.61	11.26	14.14
part-timer, always been	9.96	2.65	5.65	6.22	6.38	5.68	8.11
part-timer, before full-time	33.87	5.05	16.88	15.97	13.12	8.49	14.41
Commuting distance in km (one way)							
1- 5	33.42	25.75	30.01	34.10	31.39	36.96	31.30
5 - 10	16.27	13.95	15.24	15.38	16.14	15.22	16.30
10 - 15	13.22	11.54	12.47	8.21	13.00	11.96	12.22
15 - 20	8.68	7.67	8.24	6.41	10.31	6.52	8.15
20 - 25	8.04	8.30	8.16	6.67	8.52	5.98	6.11
25 and over	20.37	32.78	25.88	29.23	20.63	23.37	25.93

	Dutch			W-Eur.	Caribb.	TMO	Others
	Female	Male	Total				
Seeking job							
no I do not want another job	50.63	56.51	54.08	53.90	42.99	48.93	51.76
no but I will accept a new job	29.61	29.02	29.26	26.16	32.26	29.21	26.48
yes but I have not found a job	15.04	11.82	13.15	16.10	16.69	17.81	17.44
yes and I have found a job	4.72	2.65	3.51	3.84	8.06	4.05	4.32
Break (not worked more than year)							
no	69.59	89.64	81.42	79.49	82.82	79.71	76.02
yes, taking care for children	21.46	0.37	9.02	8.41	4.53	4.31	9.28
yes, due to illness	2.18	2.17	2.17	2.11	2.02	1.83	1.07
yes, due to unemployment	2.30	3.92	3.25	4.17	3.33	2.33	6.07
yes, due to education	2.86	2.35	2.56	2.87	5.15	3.82	4.72
yes, due to other reason	1.60	1.56	1.58	2.95	2.15	8.01	2.84
Child living at home	15.51	16.11	41.28	37.95	33.96	34.96	42.65
Child out home	37.56	43.86	15.87	24.78	7.18	6.91	14.15
CAO-cover	77.49	78.39	78.02	75.86	72.78	73.12	76.75
Permanent contract	76.83	86.65	82.62	80.51	68.39	67.94	77.32
Prospect on permanent contract	13.62	7.86	10.22	11.17	19.38	20.17	13.83
No permanent contract	9.55	5.49	7.16	8.32	12.23	11.89	8.85
Attended training course	66.74	75.34	71.74	68.11	63.72	58.95	70.15
Has been promoted in current firm	40.07	50.44	46.21	49.23	36.53	41.39	40.90
Sufficient job security	82.83	85.08	84.13	76.08	78.23	79.06	80.84
Can easily find another job	78.13	76.39	77.14	64.75	82.11	86.89	77.59
Like to work fewer hours	37.15	41.18	39.45	44.43	43.03	40.78	43.23
Like to work more hours	8.82	6.56	7.53	7.94	11.48	13.46	10.35
Reorganisations in organisation in past year	50.87	51.47	51.22	54.87	59.66	50.77	58.96
Received a raise last year	66.71	63.94	65.11	61.80	60.92	68.87	63.36
Satisfied with wages	51.17	49.12	49.99	47.87	37.67	30.52	46.16
Job below education level	25.92	21.86	23.57	28.99	34.18	36.47	29.27
Pleasant atmosphere more important than high wages	88.39	83.05	85.35	79.66	76.21	74.41	81.72

	Dutch			W-Eur.	Caribb.	TMO	Others
	Female	Male	Total				
Occupation level							
1	2.09	2.67	2.38	1.48	3.36	3.96	2.86
2	23.07	13.79	18.89	17.53	22.69	22.28	20.04
3	45.84	44.20	45.09	46.17	42.02	42.08	39.00
4	19.86	23.45	21.47	22.22	23.53	21.29	24.51
5	9.13	15.89	12.17	12.59	8.40	10.40	13.60

Table A2. OLS estimations of wage equations with age variable for ethnic minority groups and Dutch, with robust standard errors,

	DUTCH				Dutch-all		WestEurope		Caribbean		TMO		Others	
	male		Female											
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Education	0.067	41.80	0.059	31.75	0.066	50.79	0.059	7.72	0.069	5.42	0.053	5.33	0.068	8.16
Age	0.078	25.25	0.078	21.13	0.074	28.61	0.061	3.51	0.064	2.13	0.068	2.45	0.072	4.58
Age Squared	-0.001	-21.37	-0.001	-14.03	-0.001	-22.25	-0.001	-2.86	-0.001	-1.74	-0.001	-1.98	-0.001	-3.47
Experience (actual)	0.003	3.92	-0.006	-4.71	0.001	1.61	-0.001	-0.17	-0.003	-0.49	-0.002	-0.30	-0.002	-0.55
Working hours (real)	0.002	5.30	0.001	1.67	0.002	5.99	0.003	1.66	0.002	0.49	-0.002	-0.53	-0.002	-0.96
Tenure	0.004	6.38	0.000	0.48	0.002	3.83	0.005	2.11	0.027	3.69	0.007	1.16	0.000	0.04
Permanent contract	0.051	5.99	0.071	5.77	0.062	8.26	0.079	1.77	0.056	0.93	0.070	1.20	0.097	2.62
Female					-0.067	-11.11	-0.085	-2.47	0.013	0.22	-0.035	-0.70	-0.070	-2.19
Child at home	-0.068	-7.95	0.018	2.02	-0.021	-3.24	-0.046	-1.01	-0.062	-0.87	0.032	0.59	-0.036	-0.86
Firm size (<20)	-0.104	-12.70	-0.103	-10.21	-0.110	-16.30	-0.094	-2.01	-0.158	-2.53	-0.104	-1.80	-0.191	-5.25
Firm size (20-100)	-0.044	-5.60	-0.049	-5.81	-0.051	-8.45	-0.087	-1.92	-0.067	-0.95	-0.097	-1.88	-0.093	-1.67
Cao-covered	0.012	1.55	-0.025	-2.48	-0.008	-1.22	-0.096	-2.27	0.080	1.50	0.003	0.05	-0.065	-1.70
Male-dominated job	0.069	9.81	0.013	1.51	0.036	6.06	-0.053	-1.56	-0.031	-0.51	-0.032	-0.55	0.028	0.81
Job below education	-0.054	-6.82	-0.083	-9.09	-0.069	-11.22	-0.086	-2.09	-0.030	-0.58	0.001	0.02	-0.097	-2.91
Metal/machine	-0.092	-5.96	-0.078	-7.42	-0.088	-9.95	0.024	0.26	-0.075	-0.69	-0.066	-1.07	-0.088	-1.27
Shops/warehs/superm.	-0.128	-9.74	-0.119	-7.85	-0.125	-11.98	-0.178	-2.76	-0.064	-0.47	-0.107	-1.03	-0.196	-2.87
Bank\insurance	0.024	1.72	0.090	5.55	0.061	5.46	-0.016	-0.26	-0.105	-1.61	0.087	0.80	-0.057	-1.23
Business services/ICT	0.013	1.48	-0.006	-0.50	0.004	0.53	0.050	0.99	0.078	1.13	0.150	2.07	-0.056	-1.36

North Holland	0.053	6.53	0.030	3.00	0.038	5.62	0.018	0.39	0.057	0.96	0.018	0.29	0.096	2.83
South Holland	0.028	3.58	0.039	4.12	0.031	4.70	0.026	0.49	0.030	0.48	0.037	0.84	0.008	0.16
Constant	-0.007	-0.11	0.108	1.46	0.093	1.84	0.506	1.48	0.298	0.58	0.540	1.08	0.395	1.46
N	7436		9094		16530		405		237		199		562	
R2	0.53		0.50		0.52		0.50		0.43		0.43		0.46	