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THE FAMILY PAY GAP
AN ANALYSIS OF THE DUTCH WEB-BASED WAGE INDICATOR DATABASE

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1. THE WOMEN'S WAGE INDICATOR WEBSITE

INITIATORS (SEPT 1999)

- **a journalist/webmanager of www.fnv.nl of FNV trade union confederation**
- **a manager of the frequently visited www.vrouwonline.nl, related to the three largest women's magazines**
- **the research officer at AIAS, University of Amsterdam**

AIMING AT ….

- **FNV: information to their membership about wages beyond grading**
- **women's website/magazines: a web tool + information to readership**
- **the University: data on women's wages and occupations**

QUESTIONNAIRE MEASURING WAGES (SEPT 2000)

- **enclosed for the subscribers to the three women's magazines**
- **enclosed in a few trade union newsletters and magazines**
- **available at the two websites**
- **more than 15,000 completed questionnaires (Sep 00 – Apr 01)**

THE LAUNCH OF THE WAGE INDICATOR WEBSITE (MAY 2001)

- **extensive publicity in the media about research results on women in management, gender wage gap, part-time jobs, work and family life**
- **quickly rising numbers of web visitors**
- **the questionnaire at the website now addresses women and men**

SINCE THEN ….

- **Monsterboard, the world's largest career-site, has taken a licence in the Wage Indicator website (Oct 02)**
- **FNV, Monsterboard and University of Amsterdam establish the Wage Indicator Foundation to run the website as a non-profit making enterprise, the webmanager is the director (Aug 03)**
- **the website has 200,000 visitors a month (Aug 03)**
- **approx 54,000 completed questionnaires (Aug 03)**

2. THE WEBSITE

THE SALARY CHECK ……...

- **… asks the visitor to tick an occupation and seven characteristics: years of service, education, supervisory position, career break, etc.**
- **… presents the average gross hourly and monthly wage in Euro, excluding bonuses and other fringe benefits**
- **… calculates this wage using the coefficients of the wage equations, based on the Wage Indicator dataset**
- **… provides information for 50 women's occupations (May 01 – Feb 02)**
  for 100 women's and men's occupations (Feb 02 – Feb 03)
  for 130 women's and men's occupations (Feb 03– to date)

THE WAGE INDICATOR QUESTIONNAIRE - WIQ

- **the questionnaire is continuously available at the website**
- **web visitors are asked to complete the questionnaire**
- **in doing so, they can win a price (a travel package)**

THE WAGE INDICATOR FAMILY …….

- **the Women's Website (www.vrouwenloonwijzer.nl)**
- **the Men's Wage Indicator (www.mannenloonwijzer.nl)**
- **the Youth Wage Indicator (www.jeugdloonwijzer.nl)**
- **the 40plus Wage Indicator (www.40plusloonwijzer.nl)**
- **an English section (http://euroloonwijzer.cms.fnv.nl)**
- **plans for a Chinese and a Russian Wage Indicator**
- **plans for an Indian IT Wage Indicator**
- **proposal for a European Wage Indicator**

SIMILAR WEBSITES WORLDWIDE

- **the median wages are drawn from a database for any spec. category**
- **visitors are requested to leave information, that is immediately inserted into the wage database (might be unreliable)**
- **salary checks are not only used to check one's own wage,**
  but to check 'what would I have earned if I was better educated' etc.
- **sites with commercial purposes: selling reports about wages**

3. THE INTERNET AND ITS OPPORTUNITIES FOR SURVEYS

THE INTERNET ….

- **information at a scale, a speed, and a price not met earlier**
- **total number of worldwide Internet users is more than 500 million and is becoming representative to the target population at large**
- **in the years to come, Internet access rates may increase fast in most European countries**
- **in the Netherlands, the percentages regular users in the population grew from 30 % in 1998 to 55 % in 2002**
- **groups that traditionally were not reached by written information may use the Internet, because icons representing concepts visually eases understanding**

… AND THE VOLUNTEER INTERNET SURVEYS

- **solicitation is generally an inherent part of standard survey modes, drawn from a known sampling frame**
- **yet, Internet surveys may be solicited or voluntarily**
- **respondents for volunteer Internet surveys are exposed to the invitation banners, thus …**
  - **no response rates can be given**
  - **sampling errors are unknown and may be large**
- **yet, weighing can be applied, if the characteristics of the target population are known**

… AND ITS GREAT ADVANTAGE

- **the target population is potentially larger and more international than in any other survey mode, because of**
  - **the worldwide access to the Internet**
  - **the easy design of multilingual websites**

4. WEB-BASED SELF-ADMINISTERED QUESTIONNAIRES

ADVANTAGES DUE TO THE USE OF ….

- **direct data-entry, thus avoiding data-entry errors**
- **obligatory questions f.e. for wages, years, sex, education**
- **immediate checks on the reliability of the data, for example**
  - **hourly wages are calculated instantly and accepted within boundaries**
  - **year of birth first child is only accepted when yyolchld > yybirth + 13**
- **routing through questionnaire, thus questions for special groups**
- **ALERTS for unreliable answers**
- **ALERTS for some answers:**
  when self-employed ALERT "this questionnaire is not for you"
- **a content management system for automatic upload of files,**
  offering the option to delete, add, or change questions

STRICT DEFINITIONS OF RESPONSE FIELDS

- **radio-buttons allowing for only one answer per question**
- **a list of radio-buttons in case of more responses to one question**
- **fields accepting only numbers, for example wages or postal code**
- **in the near future, we expect to use visual elements or graphical data**

5. TARGET POPULATION, SAMPLE AND QUESTIONNAIRE

THE WAGE INDICATOR QUESTIONNAIRE IS ADDRESSING …

- **individuals in wage employment**
- **including persons in non-standard work such as babysitters or partly retired librarians**
- **excluding freelancers, employers, unemployed persons, and housewives, youngsters, pensioners, disabled persons without a job**
- **with unemployment rising, the questionnaire is adapted recently, asking jobless individuals to complete the questionnaire for last job**

WAGE INDICATOR SAMPLE SIZES

nr	from	name	mode	F	M	Tot
1a	09/00-12/00	Women's Wage Indic.	paper	6,710	6	
1b	10/00-05/01	Women's Wage Indic.	web	8,766	21	
2a	05/01-01/02	Wage Indicator	web	7,429	6,223	
2b	01/02-02/03	Wage Indicator	web	8,024	4,717	
3a	02/03-09/03	Wage Indicator	web	-	-	11,629
	09/00-09/03	Total		30,929	10,967	53,525

PANEL DATA

- **since Apr 02, respondents are asked whether they want to complete the questionnaire next year (anonymity is guaranteed)**
- **approx half of the respondents is willing to do so**
- **they give email address and birthday + month for identification**
- **from Sep 03, emails to remind the respondents of their promise**

60 QUESTIONS ORGANISED INTO SIX SECTIONS

- **occupation, industry, collective bargaining coverage**
- **workplace and firm characteristics**
- **employment record, years of experience, career break, job search**
- **working hours, overtime, timing of work, working time preferences**
- **contract, wages, fringe benefits, bonuses, wage perceptions**
- **individual characteristics, age, gender, household composition, ethnicity, education, marital status, children in/out home, children's age**

6. THE KEY CONCEPTS

	WWIQ		
ng wages	**00/01**	**01/02**	**02/03**
• gross and net wages, excl allowances or overtime bonus	x	x	x
• pay period	x	x	x
• 24 allowances and bonuses (yes/no, if yes, amount)	x	x	x
• overtime bonus: to identify salaried and hrly paid worker	x	x	x
ng working hours			
• usual working hours	x	x	x
• contractual working hours	x	x	x
• weekly hours pay is based on		x	x
• standard working week in the firm	x	x	x
ng occupation and industry			
• occupations coded at level	2-dgt	3-dgt	4-dgt
• branches of industry coded at level	2-dgt	3-dgt	4-dgt
• collective agreement covered by	x	x	x
• first job and employer different from current one	x	x	x
ng education, training and job level			
• level of education attained	x	x	x
• job level based on the occupation code from Stat Neth			x
• time needed to settle in job (8 categories 1 day - 1 year)		x	x
• opinion: job is below educational level (yes/no/n.a.)	x	x	x
• attended job specific training courses (yes/no/n.a.))		x	x
• currently participating in training scheme (yes if applic.)			x
ng work and family history			
• year of birth	x	x	x
• year entering first job	x	x	x
• year starting to work with current employer	x	x	x
• year starting to work in current job	x	x	x
• if break > 1 yr: years withdrawing + re-entering	x	x	x
• if children: year of birth oldest and youngest child	x	x	x
• if not born in the Netherlands: year entering country		x	x

7. IS THE SAMPLE REPRESENTATIVE?

DISTRIBUTION ACROSS AGE AND WORKING HOURS FOR WOMEN 2001 FROM LFS STATISTICS NETHERLANDS AND WIQ

	12-19 hrs pw	20-34 hrs pw	>= 35 hrs pw	tot
LFS				**x 1,000**
< 24 yrs	2.4%	4.6%	7.0%	400
25-34 yrs	3.6%	11.8%	14.4%	850
35-44 yrs	6.1%	14.7%	7.6%	808
45-54 yrs	4.4%	11.4%	6.4%	632
>=55 yrs	1.3%	2.8%	1.6%	164
tot x 1,000	507	1292	1055	2854 (100%)
WIQ				**n**
< 24 yrs	0.5%	3.2%	12.0%	1272
25-34 yrs	1.8%	13.1%	33.6%	3918
35-44 yrs	2.1%	11.7%	10.1%	1922
45-54 yrs	0.8%	5.0%	4.8%	856
>=55 yrs	0.1%	0.7%	0.5%	107
n	435	2716	4924	8075 (100%)
diff in % points (WIQ - StatNeth)				
< 24 yrs	-1.8%	-1.4%	4.9%	
25-34 yrs	-1.8%	1.3%	19.2%	
35-44 yrs	-4.0%	-3.0%	2.5%	
45-54 yrs	-3.5%	-6.4%	-1.6%	
>=55 yrs	-1.2%	-2.1%	-1.1%	

Source: Statistics Netherlands and WIQ 2001, women only (8,075)

THE TABLE SUGGESTS …

- **in nearly all cells the difference between LFS and WIQ is <5%**
- **full-time prime age women are heavily overrepresented in WIQ**
- **part-time women aged 45-54 are underrepresented in WIQ**
- **Note: the LFS includes self-employed women, the WIQ does not**

Hourly wages in euro for age and working hours, women 2001 from Statistics Netherlands and WIQ

	12-19 hrs	20-24 hrs	25-29 hrs	30-34 hrs	>= 35 hrs
StatNeth					
< 24 yrs	**7.68**	**8.97**	**9.07**	**9.01**	**9.27**
25-34 yrs	**13.86**	**14.05**	**13.99**	**14.32**	**14.45**
35-44 yrs	**14.71**	**15.58**	**16.12**	**16.51**	**16.47**
45-54 yrs	**14.61**	**15.27**	**16.15**	**16.59**	**17.21**
>=55 yrs	**14.82**	**15.68**	**16.85**	**16.8**	**18.05**
WIQ					
< 24 yrs	**9.07**	**10.47**	**9.64**	**8.29**	**9.00**
25-34 yrs	**11.84**	**12.56**	**12.54**	**13.23**	**13.13**
35-44 yrs	**11.77**	**13.35**	**14.34**	**15.23**	**15.77**
45-54 yrs	**12.86**	**12.48**	**13.49**	**14.19**	**16.61**
>=55 yrs	**11.56**	**13.79**	**13.93**	**16.27**	**14.97**
diff in % (StatNeth / WIQ)					
< 24 yrs	**118%**	**117%**	**106%**	**92%**	**97%**
25-34 yrs	**85%**	**89%**	**90%**	**92%**	**91%**
35-44 yrs	**80%**	**86%**	**89%**	**92%**	**96%**
45-54 yrs	**88%**	**82%**	**84%**	**86%**	**97%**
>=55 yrs	**78%**	**88%**	**83%**	**97%**	**83%**

Source: ***Statistics Netherlands and WIQ 2001, women only (8,075)***

Compared to Stat Neth women, the WIQ women …

- **aged < 24 yrs earn higher average wages**
- **aged 25 yrs earn lower average wages**
- **working 12-19 hrs earn much lower average wages**
- **working >=35 hrs earn nearly as much as the Stat Neth women**
- **Note: StatNeth uses data from personnel files from firms and no survey data for calculating wages**

Gender wage gap according to WIQ …

- **men earn euro 15.03 gross per hour at wage level 2002**
- **women earn euro 13.50 gross per hour at wage level 2002**

8. SAMPLE MEANS

WOMEN'S GROSS HOURLY WAGES IN EURO AT LEVEL 2002

	Age < 30		Age 30-39		Age 40-49		Age >=50	
	Mean	N	Mean	N	Mean	N	Mean	N
no motherh. break	11.29	9226	14.86	8759	16.06	3526	16.21	1042
break > 1 yr	10.71	109	11.78	1086	12.81	2744	14.00	1468
		N						
< 25 hrs	11.20	1046	13.76	2960	13.77	2381	13.87	916
25-34 hrs	11.22	1501	14.76	2237	14.69	1784	15.01	703
>=35 hrs	11.32	6788	14.89	4648	15.57	2105	15.91	891
		N						
no child	11.22	8485	14.75	4960	16.25	1300	17.06	364
child	12.00	850	14.28	4885	14.21	4970	14.55	2146
		N						
no partner	10.41	3491	14.32	2270	14.84	1284	15.16	673
partner	11.81	5844	14.58	7575	14.58	4986	14.82	1837
edu age <=15	8.73	468	10.69	674	11.01	727	11.42	269
edu age 16-18	10.33	5649	13.27	5559	13.56	3630	13.76	1478
edu age >=19	13.33	3218	17.14	3612	18.05	1913	18.39	763
exp <5 yrs	10.91	4643	13.15	490	10.17	92	11.26	19
exp 5-9 yrs	11.56	3699	15.27	2318	11.62	303	11.36	56
exp >=10 yrs	12.04	993	14.36	7037	14.86	5875	15.02	2435
Total	11.29	9335	14.52	9845	14.64	6270	14.91	2510

Source: ***WIQ 2000/01/02, women only (27,960)***

THE TABLE SUGGESTS …

- **preventing a career break is very profitable**
- **working hours do affect wages from age > 30**
- **having a child or a partner is not profitable, except age < 30**
- **higher levels of education are very profitable**
- **more years of experience is very profitable**

MEN'S GROSS HOURLY WAGES IN EURO AT LEVEL 2002

	Age < 30		Age 30-39		Age 40-49		Age >=50	
	Mean	N	Mean	N	Mean	N	Mean	N
< 25 hrs	10.34	193	15.82	43	16.42	31	17.22	21
25-34 hrs	10.95	188	16.62	219	17.86	169	19.07	63
>=35 hrs	11.58	3108	15.94	3611	17.90	1812	18.53	799
no child	11.38	3206	15.63	1968	17.32	399	18.51	120
child	12.64	283	16.34	1905	18.01	1613	18.54	763
no partner	10.45	1924	14.95	842	16.62	255	17.03	86
partner	12.75	1565	16.26	3031	18.05	1757	18.70	797
edu age <=15	8.81	428	12.05	521	13.62	425	13.94	215
edu age 16-18	10.75	2019	14.62	2015	16.90	995	17.48	425
edu age >=19	14.00	1042	19.56	1337	22.56	592	24.45	243
exp <5 yrs	11.05	1883	15.53	195	13.76	5	16.11	2
exp 5-9 yrs	11.94	1246	16.91	1001	13.03	17	13.65	4
exp >=10 yrs	12.12	360	15.66	2677	17.92	1990	18.56	877
Total	11.48	3489	15.98	3873	17.87	2012	18.53	883

Dataset: WIQ 2000/01/02, men only (10,257)

THE TABLE SUGGESTS …

- **working hours do not affect wages to a large extent**
- **having a child or a partner is profitable**
- **higher levels of education are very profitable**
- **more years of experience is profitable**

9. THE EFFECTS OF WORKING HOURS, CHILDREN, CAREER BREAK, AND BREAK DURATION

Earnings equations	ALL WOMEN		ALL MEN		MOTHERS		FATHERS		MOTHERS + BREAK	
	Coef.	t-val.	Coef.	t-val.	Coef.	t-val.	Coef.	t-val.	Coef.	t-val.
(Constant)	1.177	88.44	0.988	33.19	1.445	71.99	1.395	24.27	1.540	47.42
working hours a week	0.002	8.44	0.004	6.66	0.002	7.22	-0.000	-0.88	0.001	2.21
experience in yrs	0.033	49.05	0.036	33.54	0.021	18.27	0.023	12.70	0.016	7.74
experience squ	-0.001	-31.35	-0.001	-21.98	-0.000	-12.00	-0.000	-8.27	-0.000	-3.15
education yrs after age 6	0.074	94.20	0.085	66.20	0.067	57.64	0.083	46.19	0.059	31.20
partner [0,1]	0.059	14.73	0.115	15.21	0.030	4.12	0.104	5.28	0.007	0.72
children [0,1]	-0.000	-0.11	0.033	4.17						
break due to mothrh [0,1]					-0.093	-17.93				
break duration in yrs									-0.002	-3.13
Adj. R Sq.	0.331		0.448		0.289		0.340		0.232	
n	27978		10293		12855		4581		5041	
F	2305.532		1392.086		871.278		472.932		254.468	
Mean log hourly wage	2.49		2.61		2.54		2.75		2.46	

Dataset: WIQ 2000/01/02 (37,790)

THE TABLE SUGGESTS …

- **… for all groups, working hours show a small positive effect, except for fathers**
- **… for men, a positive effect of children, for women no effect**
- **… for mothers, a career break due to motherhood shows a large negative effect**
- **… for career breakers (women), each break year has a negative effect**