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Working But Still Dependent: The Hourly Wage of Working Wives and that of their Husbands in Australia, Canada, Hungary, The Netherlands, Czechoslovakia, the Federal Republic of Germany Around 1980

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**Working But Still Dependent. The Hourly Wage of
Working Wives and That of Their Husbands in Australia,
Canada, Hungary, The Netherlands, Czechoslovakia,
The Federal Republic of Germany Around 1980**

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Nijmegen/Tilburg, June 1991

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**WORKING BUT STILL
ECONOMICALLY DEPENDENT?**

**Hourly Wage earned by Working Married Women
and by their Working Spouses in Australia, Canada,
Czechoslovakia, Hungary, the Netherlands,
the United States and West Germany around 1980**

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WORKING BUT STILL ECONOMICALLY DEPENDENT?¹

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This paper deals with the empirical relationships between the educational levels (educational homogamy) and the hourly wages (income homogamy) of two-earner couples. Although a paid job reduces a married woman's economic dependency on her husband, economic dependencies also occur if a married woman's hourly wage is less than her husband's, and if a married woman's hourly wage is more strongly influenced by her husband's educational level than her husband's is influenced by her's. The 'by-product' hypothesis explaining income homogamy from educational homogamy is tested. This hypothesis has to be rejected, even if 'cross-effects' (direct effects of the educational level of one spouse on the hourly wage of the other spouse) are included in the model. Educational homogamy can not explain income homogamy completely.

1 Introduction

The position of women in the Dutch system of stratification has prompted questions concerning their labour market position compared with that of men. Because the positions of both men and women in this system depend not only on the labour market, but also on the 'marriage market', this paper will investigate the hourly wage of working married women relative to that of their working spouses. It will describe this relationship for seven industrialized countries, including the Netherlands and two Eastern European countries.

Additionally this paper will test hypotheses that account for the association between the hourly wages of two-earner couples. These hypotheses basically state that although paid employment makes a married women less dependent on her spouse (a working woman will lose less ground economically in a divorce than a woman who is not gainfully employed), working married women are still dependent on their husbands in two other ways. Firstly, let us suppose that two married women earn the same hourly wage. The husband of the first woman earns a higher hourly wage than she does, and the husband of the second earns even more. Both women are economically dependent, and the second woman is more so than the first. Secondly, if a woman's hourly wage is more strongly influenced by her husband's educational attainment than a man's is influenced by his wife's, then this is another way in which working married women are economically dependent.

2 Background and stipulation of the problem

From the late 1960s to the early 1980s, a substantial number of sociologists, especially West European ones, answered questions concerning inequality from within an historical-materialistic framework. The prevailing neo-marxist line of thought contended that all inequalities in a society such as that of the post-war Netherlands could be reduced to a single fundamental factor. Such one-dimensional stratification models have nowadays been more or less abandoned (compare Parkin 1971 with Parkin 1979). The predominant trend has come to be set by a neo-Weberian, multidimensional stratification model which includes, for example, ethnicity and gender as separate dimensions of stratification alongside traditional characteristics such as education, labour market position, occupational prestige, hours worked and hourly wage (Ultee 1984).

Until now, inquiries made within a multidimensional stratification model regarding the position of women in the Netherlands, have yielded results by comparing women's and men's positions on one or more dimensions of stratification (other than gender). Findings reached in this way have given little support to the assumption that the position of women in the Netherlands is slowly becoming less unfavorable compared to that of men. Of course, the percentage of married² women engaged in paid employment in the Netherlands rose steadily, whereas the percentage of working married men fell slightly (Van der Wal & Oudijk 1985, pp. 41-42). However, the percentage of working married women in other industrialized countries also rose, so that women in the Dutch stratification system remain in an exceptionally low position compared to women elsewhere (Eurostat 1987, pp. 87).

In particular, questions about the position of women on multiple simultaneous dimensions of stratification reveal how untenable the assumption is that the position of women in the Netherlands is becoming increasingly more and more similar to that of men. In 1960 both men and women could expect greater occupational prestige as a result of more education. Between 1960 and 1979, the yield of education for men in terms of prestige declined. This decline was even sharper for women in the same period (Luijkx, Van Doorne-Huiskes and Ultee 1986).

Whatever interesting new hypotheses such findings bring forth to explain how women's positions on two dimensions of stratification relate compared with men's, questions solely on the degree of deviance between the two relationships are merely superficial. If we compare the average woman and the average man, as has been the case until now in multidimensional stratification models, then our units of analysis are individuals. Without reverting to the assumption, also held by the neo-marxists, that not the individual but the family is the basic unit of analysis when dealing with stratification and that the position of women in the class structure of a society can be read from that of their spouses (Parkin 1971, pp. 14), we believe that questions comparing the positions of married women and their husbands are in fact pertinent. This paper will pose such questions.

Inquiries into inequality are (in)famously vague: inequality between who and whom? Even a careful indication of the parties involved is not enough. A

specific comparison may be more or less informative. Apart from the type of studies carried out to date within a multidimensional stratification model on general differences between the sexes, one can also compare married women and their spouses. In this case, the comparison concerns a certain person and the most significant other person in his or her everyday life. Such a comparison, although less common within multidimensional stratification models up to now, easily commends itself.

The answers to questions as to differences between married women and their own husbands will not, incidentally, be the same as those concerning differences between men and women in general. 'Like with Like' does not always apply. For example, men with a certain educational attainment sometimes have wives with a different education: this is called educational heterogamy. Differences between men's and women's positions can decrease on one dimension of stratification (as could that between married men and married women in general), while at the same time the percentage of men who have a higher position than their wives on this dimension can increase. This has in fact occurred: data for the Netherlands from 1959, 1971, 1977 and 1985 have shown that a) the distribution across educational levels for married women more closely resembles that for married men, particularly in the sense that women are catching up on men; b) the percentage of married men who have more education than their wives has grown; c) independent of changes in educational distributions, there was an increase in the degree to which people chose partners whose educational level did not match their own; and d) the percentage of women with more education than their husbands has grown (Sixma and Ultee 1984; Dessens, Jansen and Ultee 1990). This paper will readdress questions comparing the education of married women and their spouses.

The focus of this paper, however, is on comparing the incomes of married women and their spouses. Sørensen and McLanahan (1987) argue that the position of women depends not only on the labour market but also on the marriage market. Comparisons between married women and their spouses can provide an answer here. If married women earn less per year than their husbands, then according to Sørensen & McLanahan they are economically dependent. Using data from the United States for 1940, 1950, 1960, 1970 and 1980, they show that such dependency decreased; in particular they detect a decline in the percentage of married women who were economically completely dependent on their spouses. Following on Sørensen & McLanahan, we will establish in this paper the association between the hourly wage of working married women and that of their working husbands in the Netherlands around the year 1980, the last year for which Sørensen and McLanahan had data. At the same time we will compare this association with those in a number of other industrialized countries in the same period. One of these countries is the United States.

This paper thus restricts its inquiry to the hourly wage of working married women compared with that of their working spouses. We have in fact divided Sørensen and McLanahan's question concerning the degree to which married women rely economically on their husbands into three sub-questions, and we will treat only one of these. We do not consider dependency that results from

women not being gainfully employed; nor do we consider dependency based on women working fewer hours. Our questions focus, instead, on the hourly incomes, or rather, hourly wages³, of two-earner couples. We have chosen this focus because, given the rising percentage of working married women and the expectation that they will work an increasing number of hours, the answers to such questions can provide the best indication of the long-term position of women in the Dutch system of stratification.

This paper will describe not only how the hourly wage of a working married woman relates to that of her husband in a number of industrialized countries; it will also account for the similarity between the hourly wages of two-earner couples. One question is to what extent this phenomenon can be traced to educational heterogamy. This question, as with earlier questions placed within a multidimensional stratification model, concerns two dimensions besides gender: hourly wage and educational attainment. The units to which these refer in this case are, however, not individuals, but couples.

We answer this explanatory question too with data gathered for the Netherlands and other industrialized countries around 1980. Besides Western countries (Australia, Canada, the United States and West Germany), we have also included data from Eastern European countries: Hungary and Czechoslovakia. In this way we are able to investigate to what degree the Netherlands, aside from the percentage of working married women, is exceptional with respect to another form of economic dependency experienced by married women. This paper does not focus on explaining differences between countries; the goal is rather to test a number of explanations for each country individually, and to trace possible differences between countries. The following section includes a detailed description of both the research questions and the hypotheses treated in this paper.

Following on Sørensen and McLanahan, in this paper we view the fact that a woman earns less than her husband as a form of economic dependency. The underlying assumption is that divorce would generally signify greater economic hardship for such a woman than for a woman who earns more than her husband. Sørensen and McLanahan emphasize that this is merely one indication of women's economic dependency. For example, they point out that a man who earns less than his wife may well cut a good figure with her money. However, it is generally plausible to assume that the more a woman's income exceeds her husband's, the more she has to say about how this income is used. We do not have the appropriate data to address this question in this paper, but it does merit further research.

Sørensen and McLanahan's argument concerning economic dependency is important in clarifying that economic dependency is possible even when couples 'share and share alike.' Such dependency can exist even if women work the same number of hours as their husbands, command the same wages as men with the same level of educational attainment, or when women in general show the same educational distribution as men in general. If hourly wages increase with educational attainment and married men have on average more education than their wives (and therefore women with high educational attainment are

less likely to be married than women with low educational attainment), then according to Sørensen and McLanahan the women can already be said to be economically dependent. They are also economically dependent if hourly wages increase with age and married women are on the average younger than their husbands.

3 Research questions and hypotheses

This paper will explore four research questions. Two are descriptive and two explanatory. The first question is descriptive and broadens the spectrum of questions concerning the openness of stratification systems (Ultee 1989). This openness can be measured not only on the basis of occupational mobility from father to son (Heath 1981), but also on the basis of heterogamy in a society. To date research has focused on occupational heterogamy (Hout 1983) and educational heterogamy (Sixma and Ultee 1984). As Sørensen and McLanahan recently made clear, questions concerning income heterogamy are also possible. The first question, thus, is:

1. What was the association between the hourly wage of a working married woman and that of her husband in Australia, Canada, Czechoslovakia, Hungary, the Netherlands, the United States and West Germany around 1980?

If a society turns out to have working married women who earn less per hour than their husbands do, then gainful employment and economic dependency go hand in hand for these women, even if working married women generally earn an hourly wage equal to that of working married men.

The second question is also descriptive and elaborates the question that has already been answered for all marriages in the Netherlands, namely: the degree of educational heterogamy. This question is formulated as follows:

2. What was the association between the educational levels of working married women and their working spouses for the same countries in the same period, and was this association different for couples where the partners did not both work?

The more educational heterogamy is observed, the greater the number of marriages in which educational attainment is unevenly distributed and in which the spouses are not each other's 'other half'.

The third question is explanatory. The point of departure for this question is constituted by the answers to the two descriptive questions. This question is formulated as follows:

3. To what extent can the association between the hourly wages of two-earner couples in the countries concerned be attributed to the association between their educational levels and the influence of educational attainment on hourly wage for each spouse individually?

One answer to this question may be provided by what is known as the by-product hypothesis. According to this hypothesis, the association between the hourly wages of two-earner couples is nothing more than a by-product of relationships that are already known. Obviously, the expected answer to the second question indicates that a well-educated woman will also have a well-educated husband. In addition, it is well known that more education leads to a higher hourly wage for both men and women. On the basis of these associations alone we would expect to find a relationship between the hourly wage of working married women and their working spouses. The issue is: how much weaker is the association predicted by the by-product hypothesis than that actually observed?

If the by-product hypothesis can account entirely for the association between the hourly wages of two-earner couples, then the economic dependency of working married women is not as extensive as it may at first seem. However, this should not be emphasized, because the by-product explanation naturally assumes a different type of dependency: that of women with a certain educational attainment on their more highly educated spouses.

In addition, a recent study (Ultee, Dessens and Jansen 1988) has demonstrated that the association between the labour market positions (employed, unemployed, or nonemployed) of marriage partners in Canada, the Netherlands and the United States in the 1980s can only be partly explained as a by-product. Suppose that similar findings emerge for the association between the hourly wages of two-earner couples. How does one then account for the rest of the association? One supplementary hypothesis says that a person's educational level not only influences their own hourly wage, but also that of their spouse. The question arises as to how significant such cross-effects are:

4. For the countries mentioned, was the hourly wage of an individual around 1980 higher, regardless of their own educational attainment, according to their spouse's educational level, and to what degree can this account for the association between the hourly wages of two-earner couples?

If cross-effects are observed, then gainful employment does make a woman less dependent in the sense that a woman who is not gainfully employed will suffer more economic hardship in a divorce than a working woman. In another sense, however, a new type of dependency emerges: because of their spouses, certain working married women earn more.

Although the hypothesis that educational cross-effects influence the hourly wage may not seem self-evident, a closer look reveals that it is worth testing. Economists in particular have viewed education as occupational skill or human capital (Becker 1964); if it is understood that someone with greater occupational skills is more productive, and that wages are based on work productivity, then a person with more education also earns higher wages. It is indeed difficult to predict the cross-effects of education on hourly wages with this hypothesis.

Sociologists, however, have indicated that education consists not only of occupational but also of general skills, and that these benefit not only the person

who possesses them, but also the others who are significant for him or her, the people that belong to his or her personal network (Bourdieu, Boltanski and De Saint Martin 1973; Granovetter 1974). According to this line of thought, a spouse with more education can be a form of social capital for an individual, a source of assistance leading to a higher hourly wage. A spouse with more education can be of greater assistance in looking for a better job, can help write an effective letter of application, is able to offer useful advice on work issues, can provide better arguments for requesting a raise, and so on. If we accept that men with a certain level of education in the industrialized countries of today still possess more of these skills than women at the same level, we can predict that a husband's education will have a greater effect on his wife's hourly wage than a wife's education will have on her husband's.

4 Data

In order to answer the research questions posed earlier we have used data collected in seven industrialized countries. Data for five of these countries come from the Luxembourg Income Study (Smeeding, Schmauss and Allegrazza 1985; Smeeding 1989; Smeeding and Schmauss 1990). These data were not collected by the Luxembourg Income Study itself, but in representative studies conducted by national statistics bureaus⁴. The following countries and surveys are involved:

Australia:	The Income and House Survey, 1981-1982 unweighted sample size: N = 17021
Canada:	The Survey of Consumer Finances, 1981 unweighted sample size: N = 15136
Netherlands:	The Survey of Income and Program Users, 1983 unweighted sample size: N = 4833
U.S.A.:	The March Current Population Survey, 1979 unweighted sample size: N = 15928
W. Germany:	The German Panel Survey: Wave 2, 1984 unweighted sample size: N = 5174

Additionally, we used data sets from both Hungary and Czechoslovakia. The Hungarian data were from the survey 'A Model of Stratification Survey Hungary 1982,' conducted by Tamas Kolosi of the Hungarian Informatics Society TARKI, Budapest. We used the 'married couples extract' put together by Péter Róbert. This data set contains information concerning 5463 couples. The Czechoslovak data set is a 1 in 3 sample taken from a 1984 sample of 18,829 people for the study 'Social and Class Structure of Czechoslovakia' (TSS-84), conducted by the Institute for Philosophy and Sociology of the Czechoslovak Academy of Sciences and the Central Statistical Office in Prague. The figures from the Luxembourg Income Study have been reweighted for certain distributions in the population, whereas those from the Eastern European studies have not.

Table 1

Percentages of married individuals and percentages of two-earner couples in Australia (AUS), Canada (CAN), Czechoslovakia (CSK), Hungary (HUN), the Netherlands (NLD), the United States (USA) and West Germany (FRG).

Country	Percentage married individuals	Percentage two-earner couples
AUS	60.2	39.1
CAN	62.1	49.0
CSK	66.6	64.0
FRG	58.9	35.5
HUN	69.7	47.6
NLD	70.6	23.5
USA	54.9	53.5

The number of observations in the data sets mentioned above refers to individuals. Information on these individuals concerns not only gender, education, hours worked and income from labour, but also marital status and, if the person is married, the education, hours worked and income from labour of the person's spouse. Couples were first constructed on the basis of these data, and from these couples a selection was made of couples where both partners were gainfully employed. They are referred to as two-earner couples. Table 1 reports the percentages remaining after this preparatory work and contains the percentage of married individuals among all respondents and the percentage of two-earner couples among all couples. Because the Hungarian data set mentioned above only includes couples, the percentage of married individuals for Hungary was obtained from another data set, also provided by TARKI and concerning the year 1986. Given what was reported earlier in this paper, it comes as no surprise that in table 1 the percentage of two-earner couples in the Netherlands is the lowest.

This paper will analyse the association between four variables from these data sets: husband's gross hourly wage, wife's gross hourly wage, husband's educational level and wife's educational level. The hourly wages are expressed in the monetary units of the country concerned. Exact (gross) hourly wages were known for the five countries participating in the Luxembourg Income Study. To analyse incomes in Czechoslovakia the hourly wage was approximated by selecting only two-earner couples in which both partners had a full-time job; part-time jobs are, in fact, uncommon in Czechoslovakia. A similar approach was used for Hungary. In this case only monthly wages were known. These were included because part-time work is also rare in that country. Information on monthly wages was based on the amounts reported by employers. To calculate hourly from monthly wages, we divided by 160. Educational attainment for Australia, Canada and the Netherlands is expressed as a combination of number of years and level. For the United States education is measured as number of years, and for Czechoslovakia, Hungary and West Germany as number of levels⁵.

5 Comparison of hourly wages of two-earner couples

To answer the first research question, we established the degree of similarity between the hourly wages of two-earner couples in two different ways. First

a simple description is given in percentages and averages, after which loglinear models are applied.

5.1 Percentages of heterogamy with respect to hourly wage

Table 2 indicates the distribution for two-earner couples in the seven countries according to the degree to which the hourly wage of the wife exceeds that of her husband. This table also shows per country the mean ratio between the hourly wage of the husband and that of his wife.

The percentages in table 2 show, firstly, that for all countries two-earner couples whose hourly wages are exceptionally disproportionate are less common than two-earner couples whose hourly wages are more proportionate. When men earn a higher hourly wage than their wives, the highest percentages fall in the category of those earning 1 to 2 times as much as their wives. When women earn a higher hourly wage than their husbands, they usually earn 1 to 2 times as much as their husbands. Heterogamy of hourly wage is limited.

Secondly, table 2 indicates that for all countries the percentage of working married women who earn more than their working husbands is significantly lower than the percentage of working married men who earn more than their working wives. There are differences between the countries, however. The percentage of two-earner couples where the wife earns more per hour than her husband is highest in West Germany (22.8), and lowest in Czechoslovakia (10.9). Second highest is the Netherlands (22.3) and next to lowest is Hungary (11.2).

Thirdly, table 2 also shows that the Netherlands has the lowest mean ratio between the working husband's and his working wife's hourly wage: married men earn on average 1.50 times as much per hour as their wives. In Hungary this ratio is next to lowest (1.64), in the United States second highest (2.44) and in Canada highest (2.98).

These findings lead to both a general and a specific conclusion. Earlier studies of income differences between men and women in general have shown that men working in industry around 1980 earned an hourly wage 50% higher than that of women in most industrialized countries (Chatab, Van Doorne-Huiskes and Ultee 1987, pp. 285-286). The averages in table 2 demonstrate something similar: in all countries investigated a working married woman on average earned a lower hourly income than her working spouse. The observed differences are, however, larger than expected on the basis of the relative hourly wages of men and women who work in industry.

The specific conclusion is that although, according to these findings, the Netherlands is an exceptional country, married women are less economically dependent on their working spouses than in other countries. Conversely, cross-national comparative research cited earlier indicates that the Netherlands is exceptional as regards the percentage of unemployed married women, because married women have an unusually low place in the Dutch stratification system in this respect.

Table 2

Percentages of two-earner couples where the husband earns 5 times as much or more than his wife, 4 to 5 times as much, 3 to 4 times, 2 to 3 times, and more than 1 to 2 times, and the wife earns 1 to 2 times as much as her husband, 2 to 3 times, 3 to 4 times, 4 to 5 times, and more than five times as much; and the mean of the ratio between the hourly wage of a working married man and that of his working wife; for Australia, Canada, Czechoslovakia, Hungary, the Netherlands, the United States and West Germany.

Land	AUS	CAN	CSK	FRG	HUN	NLD	USA
Man > Wife							
≥ 5 times	6.3	8.9	1.8	2.6	.6	1.6	6.0
4-5	1.8	4.7	1.0	2.0	.8	1.3	4.2
3-4	4.3	7.7	2.8	5.1	2.7	2.5	8.2
2-3	13.3	18.3	17.5	12.9	16.6	10.0	21.1
> 1-2	53.3	39.6	65.9	54.6	68.1	62.3	42.1
Total	79.0	79.2	89.0	77.2	88.8	77.7	81.6
Wife ≥ Man							
≥ 1-2	17.0	15.7	10.4	18.5	10.9	19.7	14.4
2-3	1.9	2.7	.3	2.2	.3	1.5	1.8
3-4	.7	1.0	.1	.8	.0	.4	.7
4-5	.6	.6	.1	.9	.0	.0	.4
≥ 5 times	.7	.8	.0	.4	.0	.7	1.2
Total	20.9	20.8	10.9	22.8	11.2	22.3	18.5
Mean	2.22	2.98	1.85	1.71	1.64	1.50	2.44

5.2 Relative heterogamy with respect to hourly wage

Studies concerning educational and occupational heterogamy (Sixma and Ultee 1984; Hout 1984) have called attention to the fact that the percentage of couples where the wife has less education or a less prestigious occupation than her spouse is not a good indication for the degree of openness in a society's system of stratification. It is already the case that when women generally have less education or a lower-status occupation than men and marital status is independent of education, that married women will generally have less education than their husbands. If the goal is to trace effects of the marriage market, this should be discounted. Doing so allows us to establish relative⁶ educational heterogamy.

The point of departure for this section is that percentages do not provide a good indication for economic dependency either. Sørensen and McLanahan (1987) did not take into account the effects of the lack of correspondence between the distribution of married women's yearly incomes and the distribution of married men's yearly incomes⁷. Such a consideration is advisable, however. The percentage of women who earn more or less than their husbands depends not only on the degree to which type marries type with respect to income, but also on the degree to which the income distribution of married women differs from that of men. The decision to pose questions about inequalities between married women and their spouses rather than questions about differences between men and women in general is, however, prompted by the conviction that women's place in the stratification system of a society is not only

a result of the labour market, but of the marriage market as well. Percentages do not provide a clear indication for the latter. The object is to eliminate the effects of divergent marginal distributions and establish relative income heterogamy. Loglinear models can be used to reach this objective. We have applied such models to data from the countries covered in this paper.

To apply these models, we have constructed tables for heterogamy according to hourly wage. In these tables, the rows show the quintiles of the distribution for men and the columns the quintiles of the distribution for women. For the purposes of comparison the total number of two-earner couples in a table has been set at 1000⁸. Table 3 shows heterogamy tables with respect to hourly wage for Australia, Canada, Czechoslovakia, Hungary, the Netherlands, the United States and West Germany.

Table 3

Income heterogamy tables (in quintiles, from the first, lowest, quintile up to and including the fifth, highest, quintile), based on the hourly wages of two-earner couples in Australia, Canada, Czechoslovakia, Hungary, the Netherlands, the United States and West Germany. The rows show the quintiles for men, the columns for women.

AUS	54	60	46	28	27	CAN	49	46	39	32	36
	35	53	48	38	22		39	41	47	41	32
	35	48	40	38	36		41	38	39	43	41
	41	39	31	42	41		35	36	38	45	42
	41	31	29	36	62		37	40	36	39	48
CSK	53	47	44	38	29	FRG	49	67	41	21	22
	53	45	38	31	25		43	52	55	36	15
	39	42	45	41	36		42	23	42	45	48
	29	39	41	45	43		40	37	31	53	42
	25	30	32	44	69		26	22	31	48	71
HUN	63	54	45	31	19	NLD	74	53	31	31	16
	49	46	38	38	22		37	51	59	25	25
	43	39	46	40	31		26	48	47	54	25
	30	39	39	47	43		35	26	35	53	51
	23	20	29	43	83		27	23	28	39	82
USA	61	52	41	26	21						
	42	41	48	42	28						
	43	39	43	43	42						
	33	29	41	40	45						
	33	30	37	37	62						

By adding frequencies in the rows and columns of the individual tables in table 3, we see that it has not always been possible to construct pure quintiles. Because people tend to round off amounts when answering survey questions concerning income, we were not always able to draw boundaries precisely at 20, 40, 60 and 80% of the respondents. This is unfortunate, but not objectionable; loglinear analysis is able to eliminate the effects of differences between marginal distributions.

If we look at these tables with the naked eye, we see that the frequency patterns in the countries under investigation are on the whole saddle-shaped. The more partners differ in quintile position, the less common are marriages between these partners. In addition, marriages within the upper quintiles are significantly more common than marriages within the remaining quintiles. The relative

heterogamy in the tables can be more easily described by means of loglinear models. Those reported in table 4 can be found in the list of loglinear models for the analysis of square tables in Dessens and Jansen (1987). The analyses are performed using GLIM (Payne 1985).

Table 4

Results of a loglinear analysis of heterogamy tables with respect to hourly wage for Australia, Canada, Czechoslovakia, Hungary, the Netherlands, the United States and West Germany, N = 7000.

MODEL	F ²	DF	BIC	DELTA
(1) (H + W)*T	561	112	-431	.1045
(2) (H + W)*T + Q	225	111	-758	.0681
(3) (H + W + Q)*T	178	105	-751	.0631
(4) (H + W)*T + L	212	111	-771	.0676
(5) (H + W + L)*T	165	105	-764	.0596
(6) (H + W)*T + Q + DIAG	187	106	-752	.0600
(7) (H + W)*T + L + DIAG	178	106	-761	.0592
(8) (H + W + Q)*T + DIAG	141	100	-745	.0519
(9) (H + W + L)*T + DIAG	130	100	-755	.0498
(2) - (6)	38	5	-6	.0081
(3) - (8)	37	5	-6	.0094
(4) - (7)	34	5	-6	.0157
(5) - (9)	35	5	-9	.0098
(4) - (5)	47	6	-7	.0080
(7) - (9)	48	6	-6	.0094

L²: Likelihood ratio (chi-square distributed). DF: Number of degrees of freedom. BIC: Bayesian Information Coefficient (Raftery 1986). DELTA: Percentage of missclassified marriages. H: Main effect husband. W: Main effect wife. T: Main effect table. Q: Quadratic distance parameter. L: Linear distance parameter. DIAG: Parameters for the main diagonal cells.

Model 1 in table 4 is the independence model; this model assumes that there is no association between the hourly wages of partners in the individual countries. Models 2, 3, 4 and 5 are distance models; they embody the hypothesis that the greater the degree of difference between the hourly wages of partners, the less the probability of a marriage. Models 2 and 3 assume that this decrease is quadratic; according to models 4 and 5 the decrease is linear. Models 2 and 4 assume that the association between partners' hourly wages is the same for all countries; models 3 and 5 assume that it differs between countries. Models 6 and 7 deviate slightly from models 2 and 4. They assume that there is an increased probability of marriage between a person in a particular quintile with a person of the opposite sex in the same quintile (in other words, separate densities have been attributed to the cells on the main diagonal of the tables), that this probability differs per quintile but is the same for all countries under investigation. Models 8 and 9 relate in the same way to models 3 and 5.

The measures L², BIC and DELTA in table 4 indicate how well a model fits the data (the fit is better with smaller values). These measures do not always

single out the same model; neither is one measure always better than another. The relevant literature, however, favors BIC (Raftery 1986; Hout 1989).

Table 4 shows, first of all, that model 1, the independence model, must be rejected; the hypothesis that there is no association between the hourly wages of two-earner couples does not hold. Secondly, linear distance models according to DELTA, BIC and L^2 fit better than models of quadratic distances. These two findings eliminate models 1, 2, 3, 6 and 8. This may be an indication that some, but not all, diagonal parameters differ significantly from one another.

Finally, a comparison between the BIC values for models 4 and 5 and those for models 7 and 9 show that the relationship between hourly wages does not differ significantly between countries. In terms of L^2 , however, the differences between models 4 and 5 and between models 7 and 9 are significant (for $df = 6$ and $\alpha = 0.05$ the critical value is 13). We cannot say that all countries differ significantly from each other, but some do. All this leads us to inspect the parameters of model 4 and model 9.

In model 4 the linear distance parameter for all countries is estimated at 0.82 (multiplicative value). We must bear in mind here that the more the value of this parameter drops below 1, the positive relationship between the hourly wages of two-earner couples grows. As we do not have a point of comparison, we cannot say whether the observed value is high or low. What we can do is establish that the probability of a two-earner marriage decreases as the quintile positions of the partners grow farther apart: for a difference of one position, the probability is 0.82 smaller than for no difference; for a difference of two positions, $0.82 \times 0.82 = 0.67$ smaller, etc.

Table 5

Quadratic distance parameters (Q-parameters), linear distance parameters (L-parameters) and parameters for the separate main diagonal cells (DIAG-parameters) of models 8 and 9 from table 4.

	Model 8	Model 9
Land	(Q-parameter)	(L-parameter)
NLD	.93	.72
AUS	.97 *	.86 *
CAN	.99 *	.92 *
CSK	.96 *	.82 *
FRG	.94	.79 *
HUN	.93	.76
USA	.96 *	.83 *
DIAG(1)	.97	.82
DIAG(2)	1.09	.90
DIAG(3)	1.03	.83
DIAG(4)	1.09	.90
DIAG(5)	1.56 **	1.33 **

* Parameter deviates significantly from that for the Netherlands

** Parameter deviates significantly from that for DIAG(1)

The parameters of model 9 in table 4 are given in table 5; to make firmer conclusions possible, we have also included those of model 8. Parameter

estimates for these two models show a great deal of similarity. The diagonal parameters (DIAG-parameters) indicate that there are significantly more marriages between people in the uppermost quintile than in the other quintiles. Both the linear (L-parameter) and the quadratic distance parameters (Q-parameter) are lowest for the Netherlands, meaning that the relationship between the hourly wages of two-earner couples is strongest there. The parameters for Hungary do not deviate significantly from these, nor does the Q-parameter for West Germany deviate significantly from that for the Netherlands. For all other countries the relationship between the hourly wages of two-earner couples is significantly weaker than that for the Netherlands.

The conclusion is that the Netherlands is exceptional with regard to the relative heterogamy of hourly wages. If we disregard economic dependency resulting from wage differences between married men and married women in general, then working women in this country are less economically dependent on their husbands than working women in the other industrialized countries included in this study.

6 The relationship between the educational attainments of two-earner couples

This section will address the second descriptive question of this paper, that concerning educational heterogamy. To determine the relationship between the educational attainments of two-earner couples, we have constructed educational heterogamy tables in which the husband's education is contrasted with that of his wife (see the appendix). Because these tables differ in number of categories and are difficult to reduce to a similar classification system, we did not find it useful to calculate percentages and apply loglinear models. Instead, we used measures proposed by Raftery (1985), calculated with the help of his computer program SOCMOB (1984)⁹. Although these models were initially meant to describe relative occupational mobility, they also serve to describe relative educational heterogamy.

In Raftery's procedure an estimate based on a given mobility or heterogamy table is made of the mean rank mobility or rank heterogamy. In the case of an educational heterogamy table, the rankings accorded to men and women in their respective educational distributions are the basis for estimating the mean absolute difference between these rankings. This mean rank heterogamy is expressed by the measure $M(r)$. It is insensitive to differences in the marginal distributions of educational heterogamy tables, has a value of 0 if there is no rank heterogamy and a value of 100 in the case of perfect rank heterogamy. Values greater than 0 and smaller than 100 show mean rank heterogamy as a percentage of perfect rank heterogamy.

An attractive side-effect of Raftery's procedure is that it also gives a clear image of the relationship between educational attainments. Using the SOCMOB program, mean probability densities can be estimated for combinations of 'rank strata' in different educational distributions, for example for combinations of educational quintiles; as the value increases for certain combinations,

such marriages become more common. Mean probability densities have a minimum value of 0 and a maximum value that is the reciprocal of the marginal proportion in the smallest of the two rank strata forming a combination; in the case of quintiles the maximum value is therefore $1/0.20 = 5$. Because rank strata in quintiles are all equally large, we can compare the probability densities of different combinations within the same table. In table 6 estimates are given for the various countries of mean rank heterogamy $M(r)$ and mean probability densities for combinations of the first, second, third, fourth and fifth quintiles from the educational distributions for married men (rows) and married women (columns) respectively.

Table 6

Estimated rank heterogamy $M(r)$ and mean probability densities¹⁰ for combinations of educational quintiles (running from the first to the fifth quintile), for Australia, Canada, Czechoslovakia, Hungary, the Netherlands, the United States and West Germany.

	AUS	CAN	CSK	FRG	HUN	NLD	USA	
$M(r)$	75.06	61.10	70.57	73.79	57.73	65.65	60.38	
AUS	1.74 .98 .85 .91 .52	.72 1.26 1.13 1.05 .84	.69 .90 1.14 1.10 1.17	1.33 1.14 .92 1.02 .59	.52 .72 .95 .93 1.89			
CAN	2.64 1.18 .62 .40 .17	.44 .97 1.76 .93 .78	1.09 .68 .92 1.75 1.22	.56 1.71 1.11 .68 .41	.28 .47 .59 1.24 2.42			
CSK	1.90 1.05 1.05 .70 .30	.78 1.32 1.32 1.00 .57	.52 .90 .90 1.27 1.40	1.45 1.16 1.16 .82 .41	.35 .56 .56 1.21 2.31			
FRG	1.27 1.27 1.27 .83 .37	1.27 .127 1.27 .83 .37	.82 .82 .82 1.32 1.21	1/27 1.27 1.27 .83 .37	.38 .38 .38 1.17 2.79			
HUN	2.42 1.16 .82 .46 .14	.78 1.27 1.45 1.03 .48	.25 .71 1.02 1.50 1.53	1.43 1.46 1.12 .72 .28	.14 .41 .60 1.30 2.58			
NLD	1.81 1.59 .71 .54 .35	.94 .68 1.24 1.36 .78	.87 .61 1.17 1.37 .98	1.01 1.77 1.27 .60 .35	.37 .35 .61 1.13 2.54			
USA	2.57 .96 .90 .39 .17	.90 1.42 1.37 .88 .44	.51 .82 .92 1.59 1.15	.90 1.42 1.37 .88 .44	.13 .37 .44 1.27 2.79			

Australia has the highest value for $M(r)$ and Hungary the lowest. Apparently the relationship between the educational attainments of two-earner couples is strongest in Hungary and weakest in Australia. The Netherlands is not exceptional with respect to relative educational heterogamy. The pattern of mean probability densities is saddle-shaped for all countries. In other words, the more partners differ in quintile position in their educational distributions, the less common two-earner marriages are. At the same time, homogameous marriage is more common in the uppermost and lowest quintiles than in the middle quintiles.

As the investigation above only considers two-earner couples and not all married individuals, we must not jump to the conclusion that Australia has the most open and Hungary the most closed stratification system in terms of educational heterogamy. This conclusion is only valid if the relationship between the educational attainments of two-earner couples does not deviate from that of non-double wage couples. For this reason we have tested the hypothesis that the association between the educational attainments of two-earner couples is equal to that of 'non two-earner' couples. We did this for each country by using GLIM to apply a loglinear model in which the patterns of association in tables for two-earner and 'non two-earner' couples equal one another for that country. For each table $N = 1000$ (the tables used in this model are included in the appendix). The results of this analysis are given in table 7.

As indicated by the results in table 7, the hypothesis of an equal association between the educational attainments of two-earner and of 'non two-earner' couples cannot be rejected for any one of the countries (for an alpha of 0.05 and the number of degrees of freedom given). The association between the educational attainments of two-earner couples does not deviate from the association between the educational attainments of 'non two-earner' couples. The conclusion is that of the seven countries investigated, Australia has the most open system of stratification and Hungary the most closed in terms of educational heterogamy. The position of the Netherlands lies in the middle¹¹. This answers the second descriptive question of this paper.

Table 7

Results of the equal association model for educational heterogamy tables for two-earner and for 'non two-earner' couples, N (per country) = 2000.

Land	MODEL	L^2	DF
AUS	$(H+W)*T+H.W$	18	49
CAN	$(H+W)*T+H.W$	17	49
CSK	$(H+W)*T+H.W$	11	9
FRG	$(H+W)*T+H.W$	13	9
HUN	$(H+W)*T+H.W$	25	36
NLD	$(H+W)*T+H.W$	39	25
USA	$(H+W)*T+H.W$	113	325

L^2 : Likelihood ratio (chi-square distributed). DF: Number of degrees of freedom. H: Main effect husband. W: Main effect wife. T: Main effect table. H.W: Interaction effect husband*wife.

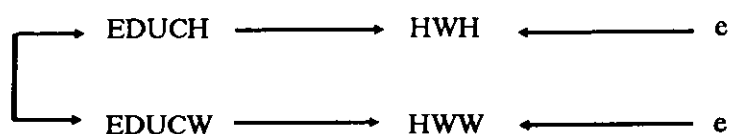
7 The association between the hourly wages of two-earner couples and the by-product hypothesis

Sørensen and McLanahan not only described the economic dependency of women in the United States over time, they also attempted to account for this dependency. As a measure of the economic dependency of married women on their husbands, they used a score obtained from two others (husband's income and wife's income). Employing such a score is, however, less preferable. With respect to explanatory questions about intergenerational occupational mobility, Blau and Duncan (1967, pp. 194-199) pointed out the dangers of using degree of mobility as the variable to be accounted for. They proposed dividing the intergenerational occupational mobility variable into the two separate variables that it comprises - son's occupation and father's occupation - and placing both of these original variables and other variables such as son's and father's educational attainment in a causal model for the socioeconomic life course. In this section we attempt to do something similar. We estimate models using husband's hourly wage, wife's hourly wage, husband's educational attainment and wife's educational attainment as separate variables.

The first explanatory question in this contribution is: to what extent is the association between the hourly wages of two-earner couples a by-product of the association between their educational attainments and the effect of education on hourly wage for each partner individually? We can seek an answer to this question by testing Model 1 for each country on the basis of LISREL VI (Jöreskog and Sörbom 1984). The assumption here is that all variables are measured on an interval level. The method of estimation is the maximum likelihood method. The correlations and standard deviations used are given in the appendix. In Model 1, EDUCH stands for husband's educational attainment, EDUCW for wife's educational attainment, HWH for husband's hourly wage and HWW for wife's hourly wage.

Model 1

Explanation of the association between the hourly wages of two-earner couples based on the association between their educational attainments and the effect of educational attainment on hourly wage for each partner individually.



Country	Chi-square	DF	P	residual correlation between wages	percentage explained correlation between wages
AUS	93	3	.000	.13	11
CAN	14	3	.003	.05	35
CSK	91	3	.000	.20	17
FRG	12	3	.007	.12	36
HUN	59	3	.000	.14	35
NLD	24	3	.000	.19	17
USA	32	3	.000	.08	27

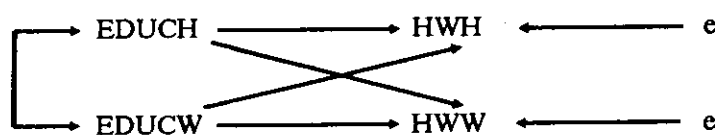
On the basis of the chi-square test, model 1 must be rejected for each country. More importantly, this model is only marginally helpful in accounting for the association between the hourly wages of two-earner couples. In the 'best' case, West Germany, the model accounts for 36% of the observed correlation between the hourly wages of two-earner couples. In the 'worst' case, Australia, the model accounts for 11%. The by-product hypothesis is insufficient. How can we explain the remaining observed correlation?

8 The association between the hourly wages of two-earner couples and the cross-effect hypothesis

The second explanatory question of this paper asked to what extent the association between the hourly wages of two-earner couples is due to the effects of one partner's educational attainment on the other partner's hourly wage. To answer this question we tested model 2. In contrast with model 1, it also includes cross-effects.

Model 2

Explanation of the association between the hourly wages of two-earner couples based on the association between their educational attainments, the effects of educational attainment on hourly wage for each partner individually, and the effects of one partner's educational attainment on the other partner's hourly wage.



Country	Chi-square	DF	P	residual correlation between wages	percentage explained correlation between wages
AUS	25	1	.000	.09	36
CAN	10	1	.002	.05	40
CSK	80	1	.000	.18	22
FRG	10	1	.000	.11	44
HUN	39	1	.000	.11	49
NLD	16	1	.000	.15	33
USA	19	1	.000	.07	38

Although the fit of model 2 is a significant improvement over model 1 for Australia, Czechoslovakia, Hungary, the Netherlands and the United States, it still does not fit well with the data for any of the countries. Although there is a better explanation for the association between hourly wages (in the 'best' case, Hungary, approximately 49% instead of 35%), a sizeable portion of the observed correlation between the hourly wages of two-earner couples remains unaccounted for. Table 8 gives the regression coefficients from model 2 for each country.

Table 8 firstly shows the existence of cross-effects: eight of the fourteen possible cross-effects are significant for an alpha of 0.05. Only for West

Germany is neither cross-effect significant. For Canada, Hungary and Czechoslovakia, the effect of wife's educational attainment on husband's hourly wage is clearly not significant. For the Netherlands the effect of husband's educational attainment on wife's hourly wage is not significant for an alpha of 0.05, but it is significant for an alpha of 0.10. In a number of cases, therefore, we can account for an individual's hourly wages not only on the basis of that person's own education, but also on the basis of his or her partner's education. Although these cross-effects are weak, we nonetheless consider it encouraging that they were observed for various countries. They have been found in other studies as well (Dessens, Jansen and Ultee 1990; De Graaf and Ultee 1991).

Table 8

Standardized (unstandardized) regression coefficients from model 2.

Country	educ-hwh		educw-hww		educ-hww		educw-hwh	
AUS	.22	(.39) *	.15	(.25) *	.06	(.09) *	.16	(.26) *
CAN	.21	(.49) *	.21	(.49) *	.04	(.08) *	-.01	(-.02)
CSK	.27	(2.10) *	.24	(1.25) *	.08	(.45) *	-.02	(-.11)
FRG	.36	(2.66) *	.27	(3.57) *	.02	(.17)	.06	(.51)
HUN	.40	(3.61) *	.19	(1.89) *	.11	(1.12) *	.02	(.21)
NLD	.29	(1.92) *	.20	(2.26) *	.09	(.87) **	.10	(.74) *
USA	.22	(.33) *	.15	(.32) *	.05	(.10) *	.05	(.09) *

* significant for alpha = 0.05

** significant for alpha = 0.10

As was to be expected, the standardized regression coefficients in table 8 show that an individual's own educational attainment effects his or her hourly wage to a greater degree than the educational attainment of his or her partner. More interesting is that, as shown in the unstandardized regression coefficients in table 8, for five of the seven countries under investigation the effect of a working husband's educational attainment on his working wife's hourly wage appears to be greater than that of a working wife on her working husband's hourly wage. When testing the differences of these effects those for Czechoslovakia and Hungary are found to be statistically significant¹². This result is not disappointing given the large differences required to establish significant differences with the numbers of observations in some of our surveys. Australia and West Germany are the exceptions. This indicates that working married women in industrialized countries are economically dependent on their working husbands in a very specific way. One of these countries is the Netherlands.

9 Conclusion

In this contribution we have studied the position of women in the Netherlands and six other industrialized countries by means of a multidimensional stratification model. We have investigated two dimensions: educational attainment and hourly wage. We did not establish the position of women in the Dutch system of stratification by comparing women's positions on these two dimensions with those of men. Because an individual's position in a stratification system depends not only on the labour market but also on the marriage market, we chose to compare the position of women with respect to education and hourly wage with that of their husbands. In the search for explanations we postulated the effects of one person's educational attainment on his or her partner's hourly

wage. Such cross-effects make differences within marriages smaller, and between marriages larger.

Working married women turned out to earn a lower hourly wage than their working husbands in all the countries investigated. Wage differences were larger than those expected based on commonly used data concerning the relationship between the hourly wages of women in general and of men in general (Chatab, Van Doorne-Huiskes and Ultee 1987). Even after we ruled out differences between working married women and working married men in general, a positive relationship remained for each country between the hourly wages of a wife and her husband and between the educational attainments of a wife and her husband. The main descriptive result was that the relationship between the hourly wage of working married women and that of their husbands is less adverse for women in the Netherlands than in the other countries in the study. This conclusion remained valid even after taking into account the differences in hourly wage between working married women and working married men in general. This finding emphasizes the utility of developing more sensitive indicators for the position of women in society than those used to date.

The finding that of all the countries in this study the association between the hourly wage of working married women and that of their working spouses is the least adverse for women in the Netherlands, is in sharp contrast to the frequent finding that this country is exceptional because of its unusually low percentage of working married women (Eurostat 1987). If a low percentage of working married women results from discrimination and if discrimination is a general phenomenon, then we would expect that the country with the lowest percentage of working married women would also be the country where the association between the hourly wage of working married women and that of their husbands was the most adverse for women. This does not appear to be the case, however. An explanation for this remarkable phenomenon might be as follows: along with education, work experience also influences hourly wage. Let us assume that in countries with a low percentage of working married women, the few women who do work have a great deal of work experience, and that a high percentage of gainfully employed married women in a country means a lower percentage of working married women within this group having a great deal of work experience. We can now deduce that it is precisely because the Netherlands has such a low percentage of working married women that the association between the hourly wages of women and their husbands is so favourable for women. This explanation is supported by an earlier finding, namely that the degree to which more education leads to greater occupational prestige in the Netherlands declined more sharply for women than for men between 1960 and 1979, when the labour market participation of married women rose (Luijkx, Van Doorne-Huiskes and Ultee 1986). It remains to be seen whether working married women in the Netherlands have continued and will continue to experience as little economic dependency compared with women in other industrialized countries as they did at the beginning of the 1980s. Decisive answers to this question are the province of future research.

The main result of the study's explanatory section was that the by-product and cross-effect hypotheses can only partly account for the association between the

hourly wages of two-earner couples. The similarity between the hourly wages of two-earner couples is partially explicable as a by-product of the similarity between their educational attainments and the association between a person's education and hourly wage. It is also partly determined by the fact that an individual's hourly wage depends not only on his or her own educational attainment, but also on that of his or her partner. Nonetheless, the greatest portion of the association between the hourly wages of two-earner couples remains unexplained. This conclusion applies for all countries included in the study.

The finding that educational cross-effects on hourly wage exist, but that these effects still do not explain completely the similarity between hourly wages of two-earner couples, indicates that processes take place between individuals which diminish inequalities inside a marriage but augment them between marriages. In this concluding section we will only be able to touch on these processes.

Firstly, this similarity in hourly wages between marriage partners may only develop gradually after the marriage takes place. In the course of time, the partner with less education is pulled along by the partner with more education. This may come about because of a greater amount of work experience, or because the marriage partners have come to share a work ethic. Secondly, this similarity may be the result of a certain process of selection that already takes place before marriage: partners are chosen not only on the basis of educational attainment, but also on the basis of income. If the contamination hypothesis applies and the selection hypothesis does not, then the hourly wages of two-earner couples will grow more similar in the course of the marriage, even though at the moment of marriage this similarity is no greater than that expected using the by-product hypothesis. If the selection hypothesis applies and the contamination hypothesis does not, then categorizing two-earner couples on the basis of length of marriage will not show an association between length of marriage and similarity between hourly wages. It is, of course, possible that both the contamination and the selection hypothesis hold a kernel of truth. More research is necessary, and to a certain extent possible using existing data sets.

Upon recognizing that educational heterogamy increases economic dependency, the question arises to what degree a rising number of divorces, by way of the expected probability of divorce and the tendency to minimize economic dependency, leads to less educational heterogamy and more 'Like with Like'. Such a question has not been treated to date in studies on educational heterogamy in a large number of countries (Ultee and Luijkx 1990). Questions that also merit attention concern the effects on educational heterogamy of a country's statutory provisions concerning financial arrangements in divorce.

Notes

1. This paper reports on activities carried out within the context of the graduate research assistant project 'Educational, occupational and income heterogamy' of the Faculty of Social Sciences at the University of Nijmegen. The directors of this project are Wout Ultee and Jan Lammers. Henk-Jan Dirven also worked on this project as a graduate research assistant and is now working at IVA, the Institute for Social Research at Tilburg University. Direct all correspondence to Henk-Jan Dirven, IVA Institute for Social Research, Tilburg University, P.O. Box 90153, 5000 LE Tilburg, The Netherlands; e-mail: I301DIRVEN@HTIKUB5.BITNET.
2. In this paper the terms 'married', 'marriage partner', 'husband' and 'wife' also refer to non-married persons who are cohabiting with a member of the opposite sex. It is not clear how the data sets used in our analysis dealt with unmarried, cohabiting couples.
3. Income other than income from labour is therefore not considered.
4. Code books and specific information concerning sampling procedures, representativity, weighting factors etc. can be obtained from the Luxembourg Income Study. The address is: LIS at CEPS/INSTEAD, Case postale 65, L-7201 Walferdange, Grand Duchy of Luxembourg. Telephone: (00352) 33 25 15. E-mail address is: SSLISBB@LUXCEP11.BITNET.
5. The categories are as follows (labels according to the code books): **Australia**: 0=no education, 1=left school age 13, 2=left school age 14/15, 3=left school age 16, 4=left school age 17, 5=left school age 18, 6=secondary school course, trade qualification, certificate/diploma, 7=bachelor's degree or similar. **Canada**: 0=no school or primary school, 1=less than 10 years, 2=11 years of education, 3=12 years of education, 4=13 years of education, 5=some post-secondary, 6=certificate/diploma, 7=university degree. **Czechoslovakia**: 0=elementary school only, 1=vocational training, no secondary school diploma, 2=secondary school diploma (high school degree), 3=college, university (degree). **Hungary**: 0=no school, 1=1-5 class, 2=6-7 class, 3=8 class, 4=vocational, 5=secondary, 6=post-secondary. **Netherlands**: 0=no education, 1=1-6 years of education, 2=7-9 years of education, 3=10-11 years of education, 4=12 years of education, 5=university level. **United States**: in years from 0=no education, 1=1 year of education, etc. up to 18=18 years or more. **West Germany**: 0=elementary school, 1=vocational school, 2=technical high school, 3=general high school.
6. Heterogamy not influenced by divergent marginal distributions is called relative heterogamy because a simple measure for this heterogamy can be obtained by dividing percentages. In a 2*2 heterogamy table, if a% of the cases are in cell (1,1), b% in (1,2), c% in (2,1) and d% in (2,2), then $(a/b)/(c/d)$ is a measure for the association in the table which is free from the influence of marginal distributions. The parameters of loglinear models can be interpreted in terms of these odds ratios.

7. Hobson (1990) didn't do either in her analysis of nine countries.
8. Large differences in total frequencies are a problem in this type of comparative analysis. When the original tables are used, the comparison is not so much between countries as between tables with high total frequencies and low total frequencies. This problem can be overcome by setting all tables at $N = 1000$ (compare Erikson and Goldthorpe, 1989: 62). This also eliminates the problem of having to include parameters in the models that may have statistical significance but no substantive relevance.
9. In the 1984 version of SOCMOB a small error appears to have been made in working out the formulas to determine rank mobility. This error was discovered and corrected by J. Lammers and T. van der Weegen of the Nijmegen University, after which the analyses were performed using the corrected version of SOCMOB. The second author listed at the beginning of this paper can provide more information.
10. If one or more quintiles falls completely within one category from the original heterogeneity table, then the mean probability densities for this quintile are equal. This turned out to be the case for the Czechoslovakian, American and West German tables.
11. The question arises as to the degree to which this sequence agrees with that found in Ultee & Luijkx (1990). West Germany in particular has a very different position. According to this paper educational heterogeneity in West Germany is particularly extensive, whereas according to Ultee and Luijkx it is minimal. The explanation can be sought in the inadequate system of educational classification for the West German data used in this paper.
12. LISREL models restricting these cross-effects to be equal showed a significantly worse fit for these countries compared with the results for model 2.

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APPENDIX

Educational heterogamy tables voor two-earners (education husband * education wife).

AUS

1	1	1	0	0	0	1	0
2	27	25	6	1	0	17	0
0	18	140	36	11	6	65	3
0	3	42	24	9	2	37	2
0	2	24	15	9	2	27	2
0	3	7	4	7	9	21	3
0	25	218	89	42	20	238	22
0	1	11	8	9	6	63	57

CAN

211	95	36	54	4	16	25	4
49	150	72	104	8	23	49	9
14	49	65	70	4	19	17	12
26	61	51	227	21	24	56	21
6	7	10	14	28	9	16	5
6	23	14	61	14	60	42	27
9	36	28	88	12	32	118	34
2	6	13	66	15	38	89	148

CSK

272	83	38	5
423	560	265	15
115	183	267	43
9	33	152	103

FRG

2509	568	25	18
427	358	44	78
69	87	34	28
112	215	52	284

HUN

1	1	0	1	0	0	0
2	16	34	15	3	0	0
0	12	85	79	8	4	0
1	18	62	319	73	38	4
1	12	59	367	290	214	16
0	2	5	95	98	297	42
0	0	1	15	21	159	131

NLD

24	3	5	40	6	1
2	102	55	52	17	2
4	23	56	32	10	0
9	24	32	140	42	2
3	13	10	59	66	9
2	2	5	14	30	24

USA																
26 0 0	1	0	4	0	0	10	0	0	0	0	0	0	0	2	0	0
0 0 0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
0 0 0	3	4	4	6	10	4	14	0	0	4	0	5	0	0	0	0
1 0 4	16	4	0	15	0	0	8	0	0	0	0	0	0	0	0	0
0 0 0	2	17	2	7	5	10	6	16	0	22	8	1	0	9	0	0
0 0 3	0	1	10	4	7	8	7	20	0	49	0	4	0	0	0	0
1 0 3	8	29	21	99	8	12	15	1	27	40	1	32	1	0	0	0
4 0 0	0	8	3	16	27	16	27	26	31	86	6	5	7	1	0	0
4 0 0	3	8	1	0	10	264	78	116	70	450	61	36	2	33	0	0
0 0 0	0	3	8	17	21	72	131	82	26	277	16	25	2	14	8	0
4 0 0	0	3	0	14	12	55	78	153	84	639	86	28	0	20	0	0
0 0 0	0	8	0	10	11	81	57	93	177	492	12	23	9	16	0	0
0 0 8	0	8	0	13	37	88	150	402	491	6281	605	445	212	355	90	116
0 0 0	0	0	0	0	6	6	32	32	77	986	256	93	61	136	49	9
0 0 0	0	0	0	0	10	6	11	24	52	1214	354	455	127	306	31	77
0 0 0	0	0	11	0	0	4	0	0	2	350	101	149	84	118	20	25
2 0 0	0	0	0	6	0	5	9	41	27	844	241	473	147	1103	226	138
0 0 0	0	0	0	0	0	0	4	0	0	227	27	114	67	162	117	38
0 0 0	0	0	0	0	0	0	1	1	8	303	94	293	157	534	239	599

Educational heterogamy tables for 'non two-earners'.

AUS

5	3	2	0	0	0	0	0
2	64	89	12	2	2	18	3
3	64	342	58	20	8	87	3
0	9	62	27	9	4	36	2
0	1	29	15	9	4	23	2
0	5	9	8	9	9	16	1
2	76	397	116	55	22	261	8
0	2	27	15	11	6	54	22

CAN

595	173	68	71	9	12	31	7
98	187	75	79	9	15	27	3
40	42	71	40	7	10	18	5
42	56	45	174	10	23	27	11
10	7	4	12	21	2	10	3
12	20	24	40	8	34	22	8
17	32	22	67	10	15	65	10
7	16	17	38	24	18	65	92

CSK

451	36	13	0
371	204	54	3
67	75	79	7
10	16	37	22

FRG

5161	591	22	72
851	349	37	75
192	250	10	47
344	443	47	330

HUN

7	9	8	1	0	0	0
14	150	128	29	5	1	0
6	90	490	88	19	2	0
1	30	119	247	35	14	0
1	63	307	252	210	88	7
0	4	30	96	66	86	12
0	0	5	26	26	62	28

NLD

107	59	53	53	10	0
40	789	133	125	16	0
15	125	206	79	9	1
30	137	120	279	42	0
13	39	47	111	74	4
4	8	12	64	57	10

USA																	
61	12	2	21	1	23	9	18	32	7	5	0	23	0	0	0	0	0
0	14	0	3	6	0	5	10	17	3	8	0	4	0	0	0	0	0
5	0	5	25	4	7	14	4	12	4	3	0	0	0	0	0	0	0
4	0	3	60	14	8	39	24	75	15	13	3	18	10	0	0	0	0
4	6	3	0	35	2	18	40	72	32	21	0	13	0	0	4	0	0
10	7	0	0	0	47	58	63	85	21	15	11	24	0	0	0	0	0
11	0	0	26	9	42	64	34	99	34	96	21	141	0	7	0	0	1
10	0	0	0	8	14	18	82	100	69	38	20	163	5	23	0	8	2
14	0	7	12	22	30	43	122	725	238	313	157	667	102	44	8	31	1
0	0	0	5	12	0	33	47	152	203	93	78	259	37	10	1	11	13
0	0	1	0	16	4	6	28	180	125	270	148	545	27	25	4	7	0
0	0	0	4	0	4	3	7	109	89	112	195	346	26	22	0	14	0
0	0	0	10	4	16	76	43	366	206	469	443	4345	272	313	77	184	32
11	0	0	0	3	0	4	6	22	6	40	49	607	158	87	24	36	13
0	0	0	0	0	0	0	0	54	22	116	29	793	154	155	55	103	43
0	0	0	0	0	0	0	0	0	1	15	9	188	73	95	24	47	27
0	0	0	0	0	0	0	0	12	6	23	39	810	157	308	124	448	60
0	0	0	0	0	0	0	0	0	7	0	0	233	32	22	27	216	73
0	0	0	0	0	0	7	0	10	0	27	2	333	81	182	119	456	117

Correlations and standard deviations for the hourly wages and educational levels of two-earners.

Australia	N=2639				
HWH					
HWW	.142				
EDUCH	.275	.109			
EDUCW	.228	.174	.336		
Stddev	3.406	3.206	1.946	1.986	
Canada	N=3966				
HWH					
HWW	.078				
EDUCH	.205	.156			
EDUCW	.109	.235	.551		
Stddev	5.719	5.040	2.419	2.214	
Czechoslovakia	N=2018				
HWH					
HWW	.234				
EDUCH	.264	.205			
EDUCW	.128	.278	.529		
Stddev	6.436	4.950	.872	.934	
Hungary	N=2559				
HWH					
HWW	.210				
EDUCH	.417	.238			
EDUCW	.291	.265	.665		
Stddev	10.872	12.110	1.207	1.223	
Netherlands	N=566				
HWH					
HWW	.228				
EDUCH	.335	.183			
EDUCW	.234	.240	.477		
Stddev	9.556	14.164	1.442	1.241	
United States	N=3938				
HWH					
HWW	.107				
EDUCH	.256	.144			
EDUCW	.193	.178	.635		
Stddev	4.278	5.394	2.922	2.487	
West-Germany	N=692				
HWH					
HWW	.188				
EDUCH	.401	.178			
EDUCW	.286	.274	.618		
Stddev	7.470	12.064	1.021	.898	