

# WOMEN'S LABOUR FORCE ATTACHMENT IN EUROPE: AN ANALYTICAL FRAMEWORK AND EMPIRICAL EVIDENCE FOR THE HOUSEHOLD

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**Abstract:** This paper has two major aims. First, it argues that for employment issues, economics and sociology do not carry out substitutional but complementary research. Interdisciplinary research on labour markets is strongly needed to fully understand the mechanism of labour markets. Second, it theoretically discusses the influence of the household on women's labour market behaviour and shows some evidence from the European Community Household Panel (ECHP). The increased labour market participation of women in Europe has led to an intensive interdisciplinary research. The economic view of supply (construction of preferences) and demand (firm's rationales) shows that institutional systems, which are considered as exogenous, influence the labour market behaviour of individuals and households. These institutional systems which are the 'black boxes' in the economic view, constitute the main focus of the sociological approach to work. This paper shows that a theoretical connection of labour economics and sociology within an institutional approach, coupled with a gender order perspective, provides a useful framework of analysis. Within this framework, I distinguish between the individual actors of a labour market - namely households, firms and the state - and analyse the interdependencies between them. Political measures influence not only households (e. g. education, care activities) but also firms (e. g. organisation of production). The interaction of these three spheres determines the quantity and quality of the labour market participation of women. The empirical part of this paper tests some of the determinants of the labour market behaviour of women with the help of the data of the European Community Household Panel. It is argued that the determinants of women's labour market behaviour are interrelated with a whole set of social and economic institutions which form a specific employment system.

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## 1. Introduction: Towards an Integrated Economic and Sociological Approach

This paper has two major aims. First, it argues that economics and sociology do not carry out substitutional but complementary research. Interdisciplinary research on labour markets is strongly needed to fully understand the mechanism of labour markets. Second, it theoretically discusses the influence of the household, the firm and the state on women's labour market behaviour and shows some evidence from the European Community Household Panel (ECHP).

Labour economics is to some degree interdisciplinary because the labour market differs considerably from a product market. The most important distinction is that the labour market deals not with goods but with social relations. Economists, however, put these underlying social relations and processes in a 'black box' (i.e. the construction or explanation of tastes and preferences) and investigate the labour market with the focus of economic rationales and constraints. These black boxes have excited considerable interest amongst sociologists. Thus the differences in subject matter shows that sociology and economics follow a different approach in order to explain the same phenomenon. In contrast, labour sociologists put economic optimality considerations in a black box and focus their research on social territory. To put it another way, economists and sociologists carry out complementary and not substitutional research. The following shows that there is a wide room for the interdisciplinary research of labour markets and that interdisciplinarity is indeed necessary to fully understand labour markets. Consequently, on this view Craig's et al. (1985: 105) point of view can be fully supported:

*'If the will for a more integrated approach is present among the academic community it is our belief that the benefits are potentially very large and the policy proposals derivative from such research would be far more appropriate for dealing with labour market problems'.*

Both disciplines have shown that European labour markets differ not only in their performance but also in terms of quantity and quality of women's labour market integration. A huge amount of research has shown that gender matters. I argue that traditional social roles within the households are strongly reflected within firms. This is not only true for the nature of working tasks but also for power relations. The direct outcome of this fact is gender segregation in both dimensions horizontally and vertically.

This is not to say that there has not been any change. The social and economic life of Europeans has changed dramatically during the past three decades (Crouch 1999). Nevertheless, I argue that inequalities within the private sphere has been transferred to the public sphere. One important reason for this is the different socialisation of daughters and sons in their very beginning stages of life, which leads to distinct interests and education and results in gender segregation within society. Since daughters and sons are encouraged to develop different skills and personality traits, sex-role socialisation influences the later economic behaviour of men and women. And indeed, there is evidence from both disciplines

that pre-labour market sex-role socialisation is important in explaining the gender difference in labour market performance (Corcoran and Courant 1987; England and McCreary 1986).

Moreover, recent economic research on the gender wage gap has shown that although much of the gender wage gap can be explained by the segregation of women into certain occupations, establishments and job-cells, there still remains a gender wage differential. These results suggest that a substantial part of the gender wage gap is associated with pure gender reasons. Thus being female results in a substantial negative impact on wages (Gupta and Rothstein 1999; Lissenburgh 2000; Meurs and Ponthieux 2000). Moreover, for some countries, Waldfogel (1997; 1998) finds pure discrimination even *within* the group of women, namely between mothers and non-mothers, even after controlling for actual labour market experience.<sup>2</sup> Thus we can conclude that gender and family matters. Building on this result, this paper focuses only at the labour market behaviour of *women*. It theoretically discusses the impact of family, firms and the state on the creation of a specific institutional surrounding and empirically tests the importance of women's characteristics in explaining their labour market behaviour.

The paper proceeds as follows. Section 2 presents some stylized facts on women's labour market behaviour and brings up the research questions. Section 3 discusses economic approaches and Section 4 introduces an analytical framework to explain the driving factors behind women's labour market participation. The empirical part in Section 5 tests some of the determinants of the labour market behaviour of women with the help of the data of the European Community Household Panel. The final section concludes.

## **2. Women between Part-time, Full-time and Care Work: Some Stylized Facts**

Women's labour market performance differs from men's in three major dimensions. First, as already mentioned above, women, on average, get less paid just for being female (pure discrimination). This gender pay gap is well investigated especially by economists. The second dimension refers to labour force mobility. Using national data for Britain, Hakim (1996) found substantial sex differentials in labour turnover and job tenure. Women are much more likely than men to enter and exit the labour force in a specific period. She shows that discontinuous employment has been replacing continuous employment and permanent housework. Thus policies to increase labour flexibility seems to have a stronger influence on women's employment history than on men's. The third dimension describes the structure of employment in terms of time and place. We know that women are much more likely to work part-time (O'Reilly and Fagan 1998). Furthermore, we know that European labour markets are highly

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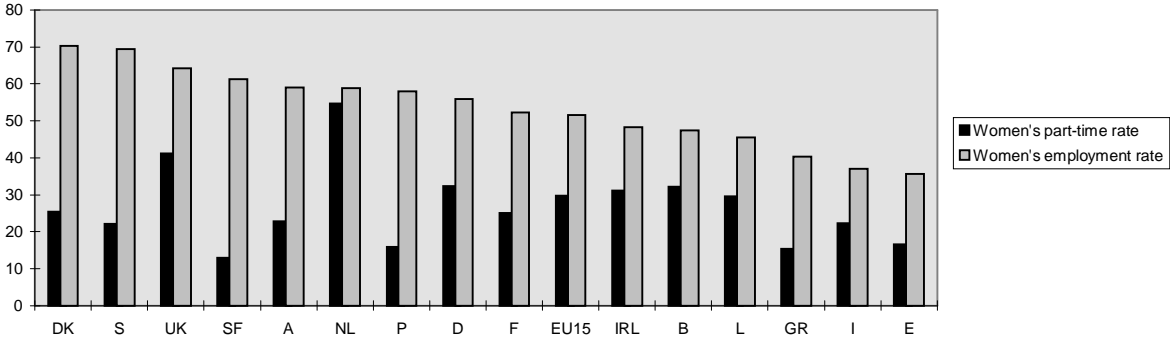
<sup>2</sup> Using the Luxembourg Income Study, Waldfogel (1998) finds no notable gap between the pay of mothers and non-mothers in Belgium, Australia, Sweden, Finland and Canada. She finds, however, a gap in the UK, Germany and the US.

gender segregated with reference to occupations, industries and sectors (Rubery, Smith and Fagan 1999).

Part-time work is in itself a tricky issue. Both labour sociologists and labour economists have intensively worked on part-time work and its consequences (e.g. O’Reilly and Fagan 1998; Blossfeld and Hakim 1997; Tilly 1996; Rosenfeld and Birkelund 1995; Rubery, Smith and Fagan 1999; Bardasi and Gornick 2000). Without reproducing the whole debate on part-time employment,<sup>3</sup> we summarize that part-time employment is deeply gendered and that it is, furthermore, associated with several costs. Examples for these costs are lower median hourly earnings, lower job tenure, less job-related training and reduced access to occupational benefits and public social welfare benefits (OECD 1999; Bardasi and Gornick 2000).

Figure 1 shows women’s employment rates and women’s part-time employment rates in Europe for 1998, whereby the countries are ordered by the level of employment rates. This figure shows that the level of employment rates are not associated with the level of part-time employment. The two countries with the highest level of employment rates (Denmark and Sweden) have similar levels of part-time employment than the two countries with the lowest level of women’s employment rates.

Figure 1: **Women’s Employment Rates and Women’s Part-time Rates 1998**

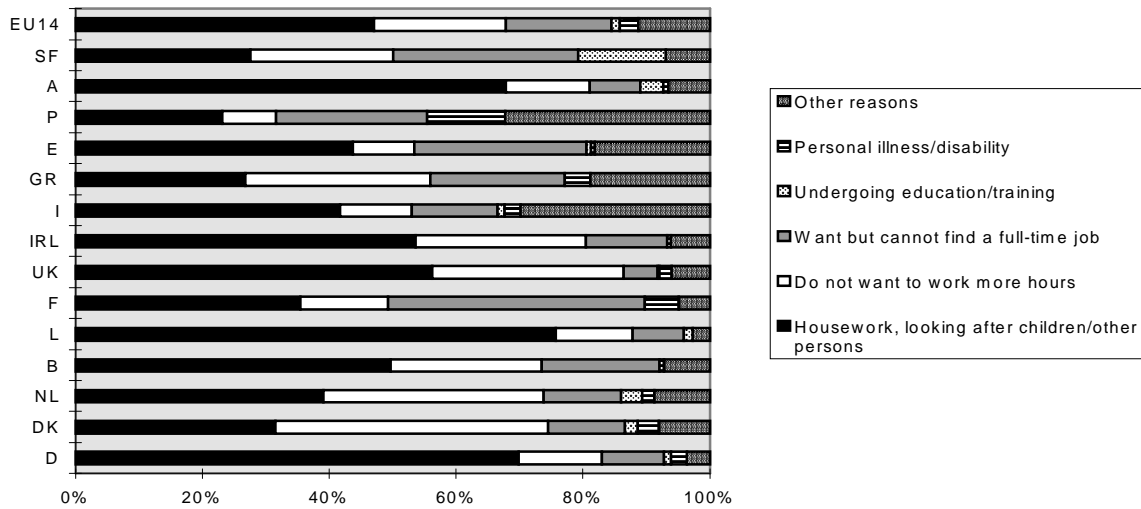


Source: OECD (2000)

As Figure 2 shows, women’s reasons for working less than full time in the main job vary across countries although housework and care responsibilities is the most important one in most countries.

<sup>3</sup> For a summary, see, for instance, Bardasi and Gornick (2000).

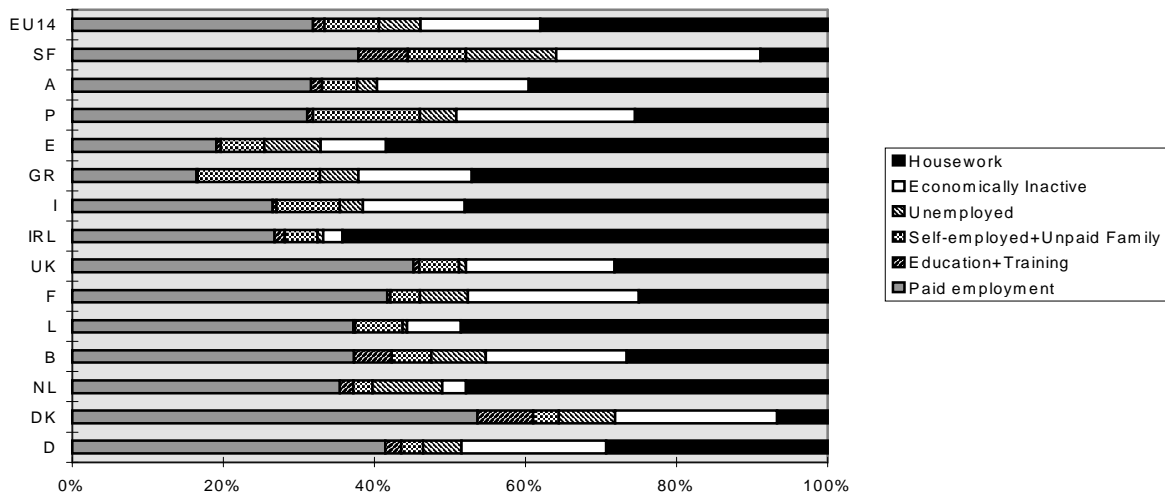
**Figure 2: Reasons of European Women for Working Less Than Full Time in the Main Job**  
(cumulative percentages)



Source: ECHP (1996)

Micro-data from the European Community Household Panel from 1996 show the decomposition of the main activity status of Women in Europe (Figure 3). We see that the percentage of women working in the household varies considerably across Europe. While Greece, Spain, Italy, Ireland have the highest percentage of women working in the household, Finland and Denmark show the lowest rates. Although these figures have to be interpreted carefully due to self-declaration problems,<sup>4</sup> we can conclude that women seem to have different social and economic roles across Europe.

**Figure 3: Main Activity Status of Women in Europe**  
(self-defined, cumulative percentages)

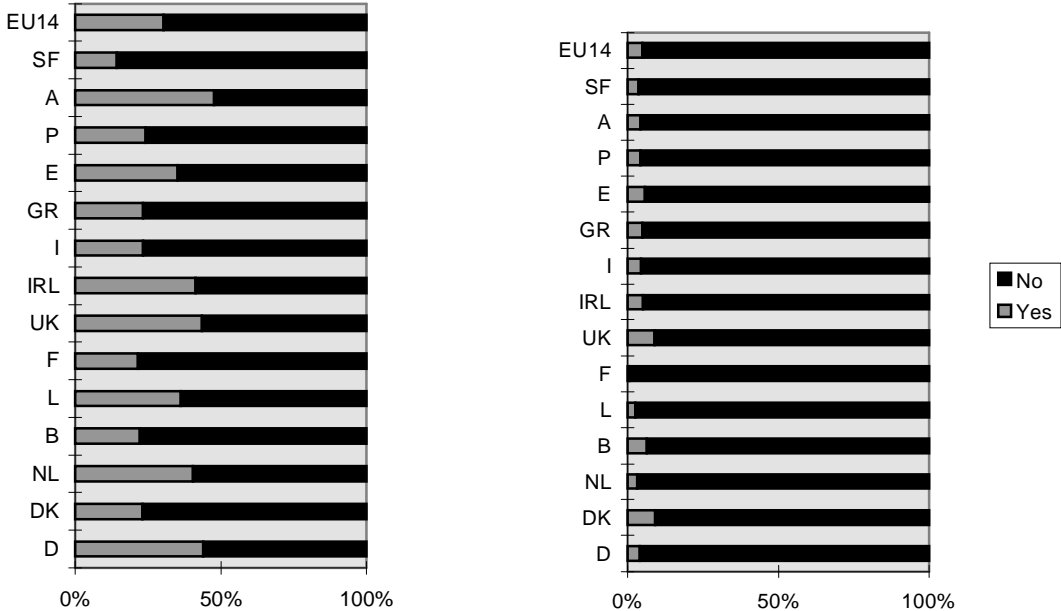


Source: ECHP (1996)

<sup>4</sup> There is a blurred boundary between unemployment and housework. Rubery, Smith and Fagagn (1999) assume that a large amount of women's unemployment is hidden.

Figure 4 reveals that there is a clear gender difference in the effect of care responsibilities on labour market behaviour. While care responsibilities have almost no effect on men’s labour supply, it rather strongly effects women’s labour supply.

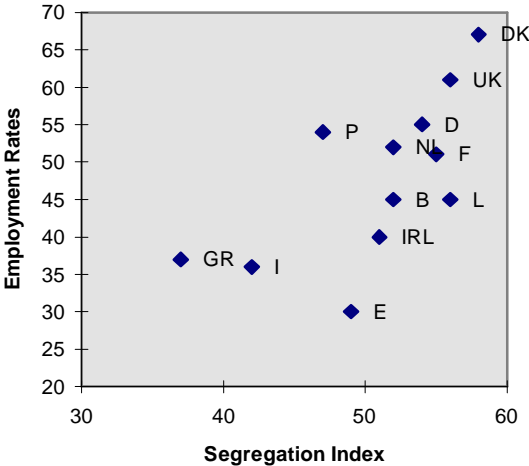
Figure 4: **Looking after children or person(s) (other than children) prevents the person from undertaking the amount or kind of paid work he/she would otherwise do**  
 (Women on the left, men on the right, cumulative)



Source: ECHP (1996)

Figure 5 plots an index of gender segregation against women’s employment rates. We see that higher segregated labour market are tentatively associated with higher employment rates of women. Although there seems to be a connection between these two labour market characteristics, it is not clear, however, whether pull of push factors create this result.

Figure 5: **Indices of Segregation and Women’s Employment Rates**



Source: Rubery, Smith and Fagan (1999) for the segregation indices and OECD (2000) for the employment rates. Both datasets refer to the year 1994

### 3. What does Economics offer?

Basic neoclassical theory assumes that individuals<sup>5</sup> supply labour as long as the (marginal) utility of an additional unit of labour<sup>6</sup> exceeds the (marginal) disutility of work<sup>7</sup>. According to this theoretical approach, the individual decision to work (whether to supply labour or not, and/or how much) is determined not only by the wage rate and the non-labour income (e.g. social benefits) or tax systems but also by individual characteristics such as age or sex. Moreover, the supply decision is influenced by individual 'preferences' such as motivation or even 'abilities' for child-rearing or housework<sup>8</sup> (Franz 1994: 35-36). This shows us the above-mentioned interdependence of economics and sociology. As we can see, economists put existing social structures (which they call 'preferences') into a black box and use them to explain the remaining differences which cannot be explained by observable variables. Sociology opens up these black boxes and deals with the construction of these 'preferences'.

The following discusses the human capital theory, which is extensively used by economists to explain woman's labour market behaviour. The human capital theory (Becker 1964; Schultz 1961; Mincer 1962) delivers a supply-side explanation of job and earnings differentials from a rational-choice perspective. Like the basic neoclassical theory, it assumes full information and rationality due to utility maximization. Its key assumption is that people's choice of jobs is determined by preceding human capital investment. As a result, human capital theory justifies earnings and job differentials on the basis of different productivity resulting from differences in human capital investment. Thereby the notion 'human capital' refers to skills, qualifications and expertise acquired through education and training. These factors are seen as contributions to people's productivity and thus human capital investment enhances the 'value' of a worker to an employer. According to Becker (1964), rational individuals compare the costs and benefits associated with the acquisition of human capital. Under the assumption of perfect information, people will only invest in their human capital when the (marginal) benefits of an investment (i.e. additional earnings which people receive over their working life) exceed the (marginal) costs of that investment. Becker extended physical capital theory to human agents and thus created the modern concept of human capital theory<sup>9</sup>.

Recognizing the family rather than the individual as the basic decision-making entity in society, Becker opened up the - until then - 'black box' of the family and studied the sexual division of labour in households and the resulting labour supply of the household members in his seminal paper 'A Theory of the Allocation of Time' (1965), and later in his book 'A Treatise on the Family' (1981). In brief, this

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<sup>5</sup> Neoclassical theory assumes an 'idealised' microeconomic individual who seeks rationally to maximise his or her utility.

<sup>6</sup> Neoclassical theory builds on choices made along a continuous spectra rather than discrete (e.g. full-time or part-time work) choices.

<sup>7</sup> Work is assumed to confer a certain amount of disutility.

<sup>8</sup> For instance, Becker (1981) refers to the biological differences of the two sexes as a reason for the caring abilities of women.

<sup>9</sup> Earlier human capital theories go back to Adam Smith.

adaptation of human capital theory to the household<sup>10</sup> argues that women, anticipating breaks in their labour market participation for child-rearing, invest less in their human capital than men and thus they earn less due to the differences in education and training. Moreover, it is argued that a division of labour within households is efficient even if both possess the same amount of human capital, because it raises both the productivity of the partner who specialises in household work and of the one who specialises in external employment. Thus Becker's (1981) arguments are based on a joint utility function (or household utility function), assuming that the partners in a household have a collective set of preferences and thus behave as a single unit. In other words, the individual's utility depends on the other family member's utility, meaning that the family becomes the unit of analysis instead of the single individual. More specifically, if the two partners living in one household can both work either on the external labour market or inside the home, their labour supply decisions are interdependent. In essence, the distribution of market working and household working time between the household members is based on the comparison between their productivity in market work and at home. As a result, if a family decides that one partner stays at home to do the housework, its joint utility is maximized if the partner with the smaller net benefits from market does the household work. If the family decides, however, that neither of the two partners stay at home full-time, then the amount of hours worked at the market depends on the marginal utility of an extra hour of market work. As long as the utility of an extra hour of market work by both partners exceeds the value of the goods which can be bought from the earned money (e.g. cleaning personal), both partners enhance family resources if they work for pay that extra hour.

In sum, human capital theory suggests that a woman's decision to supply labour depends on wages (the wage the women can expect and the wage of the household partner), the evaluation of domestic activity, the division of labour within the household, and the existence of children and their ages (Smith 1994: 18). Under the (realistic) assumption that women's wage rates are lower than those of men and that there is an unequal division of labour within the household, the model predicts a lower labour force participation or a lower supply of labour in terms of hours for women than for men. Consequently, the decision of women to work at all or to work part- or full-time depends on economic (e.g. wages) and social (e.g. division of labour within the household, evaluation of domestic activity) structures. Human capital theory does not deal with the examination of social structures but takes them as given (i.e. exogenous).

Moreover, Becker (1985) argues that women look for less demanding jobs in order to meet the domestic responsibilities. This leads, first, to occupational segregation and, second, to a high demand for part-time jobs. Becker does not deny that there is discrimination in the labour market, but he

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<sup>10</sup> This approach is known as 'New Household Economics'.



explains it with the concept of 'taste'. In this neoclassical employer taste model (Becker 1957), 'employers have a taste for discrimination in the sense that their utility is adversely affected by employment of, and wages paid to, the group being discriminated against, in this case females' (Smith 1994: 97). Consequently, 'taste' is seen as exogenous and its sources are not explained.

Economists use human capital theory - among other applications - to explain women's labour supply as well as occupational segregation (e.g. Polachek 1981). However, this approach has been heavily criticised by feminist economists and sociologists (e.g. Hatt 1997; Fagan and Rubery 1996; Walby 1990), which have stressed, first, the role of non-rational factors and, second, the importance of institutional arrangements in determining women's labour market behaviour.

As we can see, the human capital theory is very much a theory of the industrialist era. Post-industrialist society, however, has changed in many ways, as impressively illustrated by Crouch (1999). Two examples of these fundamental changes are the rise in labour market flexibility, which is accompanied by a fall in labour market security, and the change of the family structure (i.e. increasing divorce rates, declining fertility, rise of the nuclear family, increasing age of marriage) (Standing 1999; Crouch 1999). Consequently, it has become risky for a household and for individuals within the household to specialize in housework. Families which are riddled by unemployment, low pay, divorce or separation are better off when they share the risk, i.e. when both partners participate in the labour market. Moreover, women's labour market behaviour is not only driven by household's characteristics but furthermore by cultural and societal surroundings and institutions in which they are embedded. We will elaborate this argument in more detail in Chapter 4.

Most critical discussions about human capital theory address its implication on gender segregation. It is argued that the human capital investment of women has changed considerably since the 1970s<sup>11</sup> but that these changes have 'not resulted in a more even distribution of male and female workers throughout the economy. Horizontal segregation persists even though women now have higher educational qualifications than before' (Hatt 1997: 75). Walby (1990: 31-32) criticises the assumption of human capital theorists that employers pay their workers according to their worth. She stresses that the skill of a worker has not only a technical side but also a social one. Walby (1990: 32) argues that 'women may be skilled in a technical sense of the work requiring a lengthy period of training, but not in the social sense of getting this recognized in terms of grading and pay. Women's skill, or human capital, is more likely than men's to go unrecognized; thus there is not a direct relationship between human capital and pay, because of the different amounts of power of men and women workers.

As a final critical point, human capital theory uses the existing sexual division of household and child-rearing responsibilities in order to explain gender differences in labour market outcomes (e. g.

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<sup>11</sup> In Britain, for instance, nearly half of undergraduates are women (Hatt 1997: 74).

differences of occupation or earnings). If we put it the other way around, it can be argued that these labour market outcomes cement the unequal sexual division of work within households (Fagan and Rubery 1996). Fagan and Rubery (1990) specify, moreover, that the ‘breadwinner family’ system - which is seen within the human capital theory as being rational and efficient - is actually inefficient not only for households and employers but also for the whole economy.<sup>12</sup>

#### **4. A Framework for Analysing Women’s Labour Market Behaviour**

As we have seen in Chapter 2, women’s labour market behaviour differs considerably across Europe. These differences cannot only be explained by different labour market structures and politics. To explain these differences, we have furthermore to analyse the structure of the social reproduction system and its social and political construction. This chapter discusses recent literature that aims at explaining differences in employment systems. On the basis of this research, we develop an analytical framework to explain women’s labour market behaviour.

Basically, we can divide between two different groups of research. First, the societal systems approach (Maurice et al. 1986) and its subsequent research (Rubery and Fagan 1994; O’Reilly and Fagan 1998; O’Reilly and Spee 1998; Connell 1987; Pfau-Effinger 1993, 1996) and second, the research on comparative welfare states (Esping-Andersen 1990; Orloff 1993; Sainsbury 1996). The seminal work of Maurice, Sellier and Silvestre (1986) provides an institutional approach to the examination of different employment systems. They show that nation-specific societal factors structure the whole system of economic and social organisation. Consequently, they emphasise that one aspect (e.g. skill formation) of a given system cannot be examined, detached from the specific societal context. Moreover, they stress the interdependence of the organisation of work within an enterprise and the macrostructure of national institutions. Their work focuses on the differences in the social construction of managerial hierarchies in France and in Germany, whereby they distinguish between the educational system, the business organisation and the industrial relations system. Thus a ‘societal effect’ framework allows us to investigate national specifics in work relations on the basis of a combined micro and macro level view. This institutional approach, however, has been criticised for its static nature (Rose 1985) as well as for ignoring gender relations (O’Reilly 1996, 2000).

Rubery and Fagan (1994) offer an institutional framework for the analysis of labour market flexibility which includes both a dynamic element and a gender perspective. They differentiate between four sets of economic and social institutions, namely the labour market regulation, the social reproduction, the industrial system and the labour market system. The interrelationship between these institutional systems is viewed as a dynamic process in order to investigate social change. They argue

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<sup>12</sup> For a further elaboration of this argument see Fagan and Rubery (1996: 349-353).

that ‘the interaction of the four categories of institutions affects the extent and type of labour market flexibility which evolves’ (p. 144). Their research examines the interaction between the increased feminisation of European labour markets and the reshaping of employment systems. Applying the above introduced institutional framework to this research focus, they conclude, first, that the integration of women into the labour market is closely associated with the emergence of new forms of employment, second, that the societal system shapes the form of women’s’ integration into the labour market and third, that policy measures (e.g. wage, family or education policy) have a significant impact on the extent and form of gender inequality. In addition to the institutional approach of Rubery and Fagan, O’Reilly and Fagan (1998) and O’Reilly and Spee (1998) put forward the holistic concept of gendered employment systems. In brief, this concept focuses on the interrelationship between economic production, social reproduction and the regulative level. While the paper of O’Reilly and Spee bridges industrial relations and social policy research, O’Reilly and Fagan connect the societal employment systems approach with a gender systems approach. Both papers have in common the examination of changing employment structures (i.e. labour market flexibility or, in the case of O’Reilly and Fagan, the emergence of part-time work) within an institutional approach, which is characterised by a differentiation between the sphere of economic production, the sphere of social reproduction and the sphere of regulation and industrial relations.

Research on comparative welfare systems (Esping-Andersen 1990; Orloff 1993; Sainsbury 1996) rejects the thesis of the liberal theory of industrialism, which sees differences in welfare systems as a reflection of economic development. Scholars of the research on comparative welfare systems, on the contrary, argue that welfare systems are a reflection of the political development of states, which, in turn, determine, on the one hand, the labour market development and, on the other hand, the industrial structure of a system. In his much quoted book, Esping-Andersen (1990) distinguish three welfare systems: First, a liberal (USA, Canada and Australia), second, a corporatistic (Austria, Germany and Italy) and, third, a social-democratic (Sweden and Denmark) welfare regime. In brief, the liberal welfare state is constructed as a wide-meshed safety net. The corporatistic welfare state is distinguished, on the one side, by a wide spread of income transfers and, on the other side, by a reduced public care infrastructure. The social-democratic welfare state is based on the principle of labour market participation and provides the necessary care infrastructure.

The ignorance of gender specific differences of the welfare systems was strongly criticized by feminist sociologists (Orloff 1993; Sainsbury 1996). Esping-Anderson’s classification, it is argued, implicitly postulates three different types of gender behaviour without analysing its construction. Orloff (1993: 303), for instance, discusses the gender structures created by the organization of welfare states: *„State social provision affects women’s material situations, shapes gender relationships, structures political conflict and participation, and contributes to the formation and mobilization of identities*

and interests“. Basically, she distinguishes between three different dimensions which form gender relations. First, the dimension of state-market-family relations, which investigates the distribution of caring responsibilities between state, market and families. Second, the stratification dimension looks at the treatment of paid and unpaid labour and third, the social citizenship rights and decommodification dimension, which analysis the effects of public social benefits on gender relations.<sup>13</sup>

The following analytical framework tries a conjunction of the above described research traditions and economic approaches. The main aim is to deepen the understanding of women’s labour market behaviour. From the economic approach discussed in Chapter 3 we have learned that not only economic factors such as wages and taxes, but also exogenous social structures and preferences determine the labour market behaviour. The societal systems approach emphasizes the important influence of historically embedded institutions on the organization of labour within a system. From the comparative welfare states research we learn that the organization of welfare systems determine the labour market behaviour of different groups of individuals. The following analytical framework argues, that the system of macro-governance (the state and semi-state actors) influence, on the one side, social structures and preferences of households and individuals and, on the other hand, the organisation of economic production.

One way of understanding the connections and interactions within a socio-economic order is through an analytical separation of the groups of actors. Consequently, the differentiation of the economic production (firms), the social reproduction (households) and the regulation level (state and industrial relations actors) is applied to the analysis of women’s labour market behaviour. It is argued that it is important *not* to separate the market from the family in labour market research. The following discusses the different institutional sets relevant to the analysis of women’s labour market behaviour, which are summarized in Figure 6.

The social reproduction system includes the characteristics of the household members (like age, family status and education), the division of labour within households (division of housework and division of care responsibilities) and the family and household structure (age and number of children, employment status of the household members and contribution to the household budget of the different members).<sup>14</sup> The outcoming ‘social roles’, however, are influenced by the formation of the welfare state, which defines social entitlements and responsibilities. Institutions such as the public childcare infrastructure, the structure of the education system (e.g. age of entry, private costs, average school

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<sup>13</sup> Orloff (1993) investigates two more dimensions to capture the effects of state social provision on gender relations, namely *access to paid work* and *capacity to form and maintain an autonomous household*.

<sup>14</sup> Using aggregate-level data from nin advanced industrialized countries, Rosenfeld and Birkelund (1995), for instance, found a moderate association between male unemployment rates and part-time employment level. For the US, Netz and Haveman (1999) show that variables such as the number and age of children, the employment status of the spouse and whether the woman is the primary or secondary earner are very important to explain women’s labour force attachment. For example, they illustrate that married women are more likely to remain in the labour force if their spouse works and that if the woman is the primary earner, she is more likely to stay in the labour force than secondary earners.

hours), the public infrastructure of long-term care facilities for elderly persons, the distribution of non-labour income within social and family policy systems (e.g. maternity leave benefit, unemployment benefit, child subsidies) and the tax system (e.g. whether there is a household or an individual tax system) have a significant effect on the labour market behaviour of the various family members.<sup>15</sup> Besides this interaction with the system of governance, the social reproduction system interacts strongly with the production system. First, households are also consumers and second, they provide the human capital factor ('labour') for the production system either directly (paid employment) or indirectly (unpaid housework). Given the existing formation of the family model in European societies, women have moreover to distribute their time between these two systems, whereby the distributional factor is influenced by all three systems. Consequently, women with children tend to withdraw from the labour market for some time in order to take over care responsibilities. The length of this period depends strongly on the organisation of social and family policy as well as on the above-mentioned public childcare infrastructure. As we know from data surveys, women tend to re-enter the labour market on a part-time basis in order to balance family responsibilities and wage work.<sup>16</sup> The underlying social attitudes to labour force participation and the domestic division of labour is influenced partly by gender culture and partly by policy measures, which are, however, again set within specific cultural frameworks. Pfau-Effinger (1993), for example, provides an explanation for the sources of the formation of social reproduction systems. She views the sources of the distribution of social roles in the national specificity's during the process of modernisation when transforming from an agrarian to an industrial society and thus provides a socio-historical explanation.

The system of economic production, which shows the demand-side picture to the pattern of women's employment, includes the organization and structure of the industrial system (distribution of sectors, industry and firm sizes), the production and organization structures within firms (e. g. degree of flexibilization and segregation) as well as the system of industrial and labour relations (i.e. the bargaining system, the degree of corporatism, the coverage rate of collective agreements and the organizational power of women within labour market associations).<sup>17</sup> Within the industrial system, factors such as the sectoral and industrial composition influence women's possibilities to integrate into the labour market. We know that the increase in women's labour market participation is closely linked to the rise of the service sector.<sup>18</sup> Since many occupations within the service sector are strongly

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<sup>15</sup> Empirical research has shown high effect of decommodification and family transfers and a low, but existing effect, of the marginal tax rate on women's part-time work (Rosenfeld and Birkelund 1995).

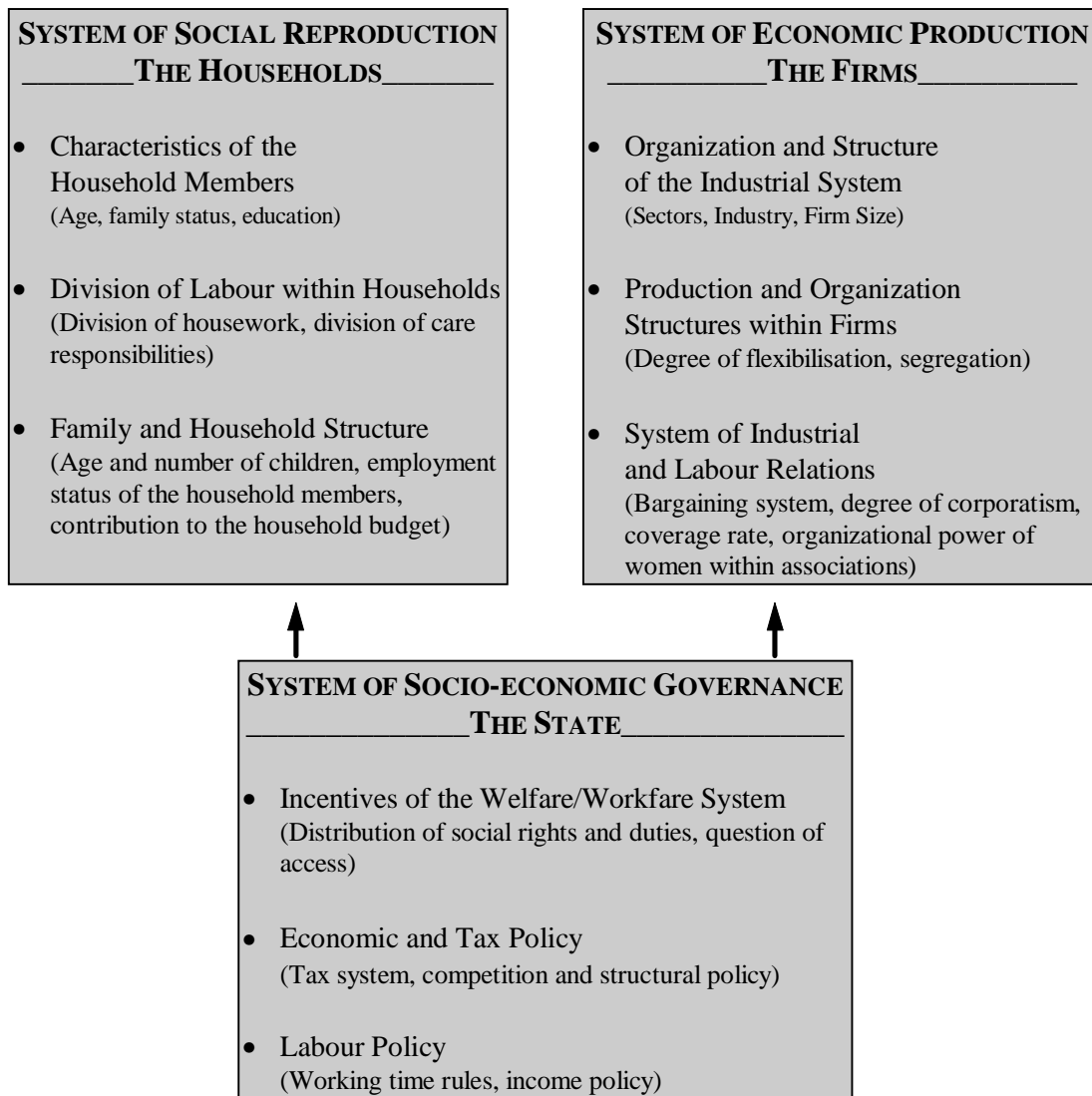
<sup>16</sup> For a critical discussion on this issue see Mühlberger (2000a: 42-44)

<sup>17</sup> Rosenfeld and Birkelund (1995) found, first, a strong association between women's part-time employment and state-sector employment, industrial and occupational segregation and, second, that a higher degree of corporatism and more leftist countries have a positive effect on part-time employment.

<sup>18</sup> Smith, Fagan and Rubery (1998) show that sectoral shifts in Europe accounted for about one-third of the rise in part-time work between 1983 and 1992.

household-related, existing social roles are transferred from the private to the public sphere. This is true for cleaning, caring, educational and partly also for the secretarial occupations. In other words, the existing occupational gender segregation in European labour markets determine the employment possibilities for women. The distribution of firm sizes is an explanatory variable since bigger firms tend to incorporate different models of flexible personnel management (e. g. different models of flexible part-time work). The degree of flexibility of a labour market on a micro-level affect the possible deviation from the standard working-time and thus the possibilities of women to participate in the labour market. Due to a higher concentration in low wage occupations, women are stronger affected by the organization of industrial relations. Collective agreements and minimum wage regulations have a direct effect on these low wage occupations. The strength of the influence of women's interests within the system of industrial relations, however, depends on the institutional embodiment of women within this system. The outcome of the system of economic production, namely the competitive strategies adopted by employers, is a result of a negotiation process with trade unions. The economic production system is closely linked to the system of governance because it sets the framework in which employers – and also trade unions – are able to act.

**Figure 6: A Framework for Analysing Women's Labour Market Behaviour**



The system of governance covers different policy spheres whose formation shape the structure of the other two systems. It includes the statutory and voluntary regulation of the welfare state (e. g. social policy, family policy and education policy), the economic and tax policies (e.g. tax system, competition and structural policy) and the labour policy (e. g. working time rules and income policy). The degree of involvement of the industrial actors in this system depends on the formation of the industrial relations system. Corporatist economies, for instance, are characterised by a strong involvement of collective bargaining institutions in the political process. In these countries, the border between the statutory and the voluntary level becomes fuzzy because the industrial actors are engaged at both levels. The regulation system shapes the constraints and possibilities for firms, trade unions and households within the labour market and thus determines labour market participation of women. The political arrangement of living and working spheres form, on the one side, a ‘gender culture’ and, on the other side, a ‘organization culture’. Measures of social, family, education or fiscal policy create incentives and thus influence the labour market behaviour of women. Examples of these influential

measures are fiscal incentives for families, gender-specific educational institutions or care infrastructure for children or elderly persons. In the long run, the formation of the welfare system generate social roles, which are partly reflected in the labour market. On the other hand, measures of fiscal, labour, industry and structural policy shape the organization of labour markets and thus the possibility of labour market integration of women.

In sum, the interaction of the social reproduction system, the economic reproduction system and the system of governance determine the level and structure of women's labour market participation. Due to the different employment positions of men and women, gender relations have to be examined not only in the social reproduction system, but also in the two other systems. Analysing women's labour market behaviour in this holistic analytical framework allows us to identify the interrelation between institutional arrangements and gender orders within a society. Both institutional arrangements and gender orders have to be seen as the determining factors of women's position in labour market.

## **5. The Household's Impact on Women's Labour Market Behaviour: Data, Methods and Empirical Results**

Data from the European Community Household Panel (ECHP) are used for the empirical analysis in this paper. The ECHP is a longitudinal micro-dataset, which contains standardized household- and the individual-level social indicators such as income, social transfers, employment, poverty, health and social exclusion. It has been carried out since 1994 and collects data from a nationally representative probability sample. This section shows the results of a cross-section analysis, using the data of the year 1996 (i.e. the 3rd wave). With the exception of Sweden, all member states of the EU are included in this wave.<sup>19</sup>

The aim of this empirical part is to analyse the supply-side determinants of women's labour market behaviour across Europe. The theoretical part of the paper has discussed both sides of the labour market system, namely the households and the firms. This empirical part is restricted to the analysis of households since we cannot test demand-side variables for women in unpaid housework. We divide between three groups of labour market behaviour which represent the dependent variable: women in unpaid housework, women in paid part-time work and women in paid full-time work.<sup>20</sup>

In the analytical framework in Chapter 4 we distinguish between three influential groups: first, the characteristics of the household members, second, the division of labour within households and third, the family and household structure. The variables of the ECHP reduce our possibilities of

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<sup>19</sup> For a detailed description of the methodology and questionnaires of the ECHP see Eurostat (1996a und b).

<sup>20</sup> The distinction between part- and full-time work was self-defined by the interviewees. Since national definitions vary across Europe, we cannot adopt a uniform threshold. Although the self-definition can be problematic, it offers the advantage to use the country-specific definition of part-time employment. For a discussion of the problems see, for example, Mühlberger (2000a: 80).



research, however. Consequently, we work with the following independent variables: Age, caring responsibilities, marriage or consensual union and education.

Facing this data restriction, our main research questions for the empirical analysis are the following: How do the individual's and the household's characteristics affect women's labour market attachment? Assuming a social and political construction of 'preferences' and 'decisions', we ask how these characteristics affect women's full- and part-time work pursuit. Moreover, we ask which factors have a uniform effect across Europe and which vary cross-nationally?

'Age' is a continuous variable, although the ECHP only includes individuals over the age of 15 years. In the analysis of the determinants of women in unpaid housework, we did not restrict age further. In contrast, in the analysis of the determinants of women in part-time or full-time work we only included women between 26 and 55 in order to exclude both women in education and retired women.

The variable '*Caring Responsibilities*' is self-constructed and thus not directly collected. Unfortunately, the ECHP does not contain a helpful distinction of children's age since it only differentiates between children under 12 year and children between 12 and 15 years. Although we know from other studies that the age of the children is a very important variable (e.g. Netz and Haveman 1999), we cannot test the influence of children of different ages using the ECHP. On the other side, the ECHP contains questions about unpaid care-taking of other individuals of the household (except of dependent children). Since the number of women with these caring responsibilities is too small in some countries to give significant results, we have created a dummy variable 'Daily activities include, without pay, looking after children or other persons'. Thus this dummy variable does not distinguish whether a women looks after children or other persons who need help because of old age, disability or illness. Not reported tests on the variable 'Daily activities include, without pay, looking after children', however, showed the same results.

The ECHP does not provide information about the division of labour within households. From other surveys we know, however, that women do the major part of domestic work even when they have a paid job (Shelton and John 1996). Kalleberg and Rosenfeld (1990), for instance, find a negative effect of the relative involvement in domestic labour on hours employed for women in Norway and Sweden (contrary to the USA).

The variable '*Marriage or Consensual Union*' is a self constructed variable. It includes women who either live in a consensual union or are married.<sup>21</sup> From a theoretical point of view, it does not matter whether a couple is married or not. The important information is that they live in one household. Indeed, we would even incur a sample selection bias since different social attitudes (e.g. religion) may lead to a specific behaviour.

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<sup>21</sup> In the following the term 'partnership' refers to the variable 'Marriage or Consensual Union'.

The variable 'Education' distinguish between three levels, namely a low (i.e. less than second stage of secondary education, ISCED 0-2), a secondary (i.e. second stage of secondary level education, ISCED 3) and a third level education (ISCED 5-7).<sup>22</sup>

Table 2 and 3 show the result of a logistic regression analysis<sup>23</sup> of the above described variables for all EU member states (except Sweden) and aggregated over all countries (EU14). Due to the estimation method, the results have to be interpreted carefully. As the logit estimation is nonlinear, we can only compute scenarios. Thus we cannot make generalised statements on the impact of an independent variable on the probability of being in unpaid housework or in paid employment. The following demonstrates the interpretation of the results using the aggregated data (EU14) of Table 2. First, we compute the loglikelihood of a scenario according to

$$L = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n,$$

where the  $\beta$ 's are the coefficient presented in Table 2 and 3, and the X's present the value of the independent variable for a particular scenario. Given the loglikelihood of a scenario, we can compute the probability of being a woman in unpaid housework according to

$$P = 1/(1 + e^{-L})$$

where  $e^{-L}$  represents the odds-ratio. In our case the odds-ratio shows the odds for being a woman in unpaid housework relative to being a woman in paid employment. The intercept shows the loglikelihood of a 26-years-old single person with a third level education and without care responsibilities (i.e. the person of comparison for the following analysis) being in unpaid housework. As we can see in Table 2 the loglikelihood (L) of this scenario is -4.363. Consequently, the odds-ratio ( $e^{-L}$ ) is 1: 78 and the probability ( $P = 1/(1 + e^{-L})$ ) of being a woman in unpaid housework with those characteristics (i.e. 26 years old, without care responsibilities, not married or in consensual union and third level education) is 0.013. Note that predicted probabilities approach, but never reach or exceed, the boundaries of 0 and 1. Moreover, as L goes to minus infinity, the probability goes to zero, as L goes to plus infinity, the probability goes to unity, and with L equal to zero, the probability equals one half. The result of this baseline scenario means, not surprisingly, that women with such characteristics are with a high probability in paid employment rather than unpaid housework.

To compute the predicted probabilities for other scenarios, add the coefficient of the independent variables to the coefficients of the constants. The following table shows the calculations for various scenarios to clarify the procedure.

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<sup>22</sup> For a detailed description of country-specific definitions see Eurostat 1996a und b.

<sup>23</sup> A logistic regression analysis is used in cases of binary dependent variables. For technical details see for example Powers/Xie (2000).

**Table 1: Predicted probabilities of being a women in unpaid housework rather than in paid employment for various scenarios (On the basis of the coefficients of EU(14) in Table 2)**

	<b>Baseline Scenario</b> Age: 26 ( $X_1=0$ ) Care responsibility: No ( $X_2=0$ ) Married/union: No ( $X_3=0$ ) Educ.: Third level ( $X_4=X_5=0$ )	<b>Scenario 1</b> Age: 35 ( $X_1=35-26=9$ ) Care responsibility: Yes ( $X_2=1$ ) Married/union: Yes ( $X_3=1$ ) Educ.: Low level ( $X_4=1, X_5=0$ )	<b>Scenario 2</b> Age: 45 ( $X_1=45-26=19$ ) Care responsibility: No ( $X_2=0$ ) Married/union: Yes ( $X_3=1$ ) Educ.: Sec. level ( $X_4=0, X_5=1$ )
<i>Loglikelihood (L)</i>	-4.363	0.566	-0.788
<i>Odds-Ratio (<math>e^L</math>)</i>	1 : 78.49	1 : 0.57	1 : 2.20
<i>Probability</i> ( $P = 1/(1 + e^{-L})$ )	0.013	0.638	0.313

According to these calculations, the predicted probability that a married (or living in union with a partner) women at the age of 35 with care responsibilities and with less than second stage of secondary education is in unpaid housework equals 0.638. The second scenario computes the predicted probability of a 45-years-old married (or in stable union) woman with a secondary level education, which equals 0.313.

We can conclude the following interpretation of women's labour market participation from table 2. The probability that a women is in paid employment decreases with an increasing age, ceteris paribus. This is true for the aggregate data and for all countries with the exception of Finland.<sup>24</sup> The two following characteristics reveal the impact of family on the labour market participation of women. Both care responsibilities in the family and marriage or consensual unions have a strong negative effect on women's labour market participation. While these effects are particularly strong in Germany and the UK, they are weaker in Denmark, Italy and Greece. These results have to be explained with the organization of public and private caring infrastructure. Whereas care work is achieved through strong family ties within the extended family in Italy and in Greece, it is transferred to the public sphere in Denmark. In Germany, on the other hand, care work has to be provided by individuals (mostly by women) due to a lack of public caring infrastructure. This reduces women's chances to integrate in the labour market. The liberal reforms in the UK have strongly increased the costs of public caring infrastructure, which increases in turn the opportunity costs to participate in the labour market.

While both factors - care responsibilities and marriage/consensual union - are approximately equally important in some countries, we can identify some exceptions. In France, the UK, Ireland, Portugal, Austria and Finland is the caring-effect significantly higher than the partnership-effect. In the UK we make the observation that the caring-effect is so strong that partnership has no longer statistical significance on the labour market participation of women. In Italy, Greece and Spain, on the contrary,

<sup>24</sup> This can be explained with the labour market development in recent years in Finland. After the breakdown of the USSR, Finland faced a deep economic recession, which led to a high youth unemployment (Unemployment rates of Finnish 15- to 24-years old women: 1990: 8.3 %, 1996: 26 %, OECD 2000). Whereas older women were already integrated in the labour market, younger women had difficulties to find employment.

the existence of a partnership has a stronger effect than care responsibilities in the family on women's retreat from the labour market. These examples show clear differences in the gender order. The mediterranean countries still show a patriarchal structure of labour market behaviour. This specific gender order is the result of a missing political process to integrate women in the labour market.

The following two variables illustrate the impact of education. We see, not surprisingly, that higher education increases women's probability to participate in the labour market.<sup>25</sup> This can be intuitively explained by the fact that education increases the social emancipation of women and in turn the impulse to participate in the public sphere of society. The effect of education on women's labour market participation is especially strong in Portugal, Italy, Spain, Greece, Ireland, Austria and Belgium. Women had for long a more difficult access to the education system in these countries, which led to a reduced labour supply of high educated women and thus to an increased education premium.

The values of the Pseudo R<sup>2</sup> demonstrate that we can explain between 15 and 40 per cent of women's labour market participation with this regression analysis. In progressive countries such as Finland and Denmark (and partly the UK) we can, however, hardly explain the labour market behaviour of women through traditional family roles.

The regression analysis in Table 3 illustrates the effects of the same independent variables on the likelihood of being in paid part-time rather than in paid full-time work. Age plays a significantly lesser role within this analysis. We have demonstrated above that women tend to retreat from the labour market with increasing age. In the case of part-time work, we see that women (can) take this option to a lesser extent. To prevent the exclusion of older women from the labour market, a greater flexibility between part-time and full-time employment (in both directions) has to be created (Mühlberger 2000a).

The care-taking of family members has a positive effect on part-time employment. This leads to the conclusion that care responsibilities push women, on the one hand, into unpaid housework, and on the other hand, into part-time employment. Interestingly, this effect is not significant in Finland, Denmark and Greece, whereby different socio-economic systems lie behind this fact. In the case of Finland and Denmark, this can be explained by the public infrastructure within the Scandinavian welfare state, whereas the case of Greece reflects the importance of strong social ties within the extended family.

The effect of the existence of a partnership shows either negative or not significant results. With the exception of the UK<sup>26</sup>, the effect of a partnership on leaving part-time employment and leaving the

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<sup>25</sup> Two exceptions, however, have to be mentioned. While there is so difference in the effect between secondary and third level education in Denmark, Finnish data does not show a significantly different effect of secondary and low level education.

<sup>26</sup> In the UK we are confronted with the interesting result that women in a partnership participate even stronger in full-time employment. One important explanation might be the British housing policy. The creation of a family often leads to the purchase of a house or a flat. The strong fluctuation of mortgage loans can lead to the financial necessity that women work full-time.

labour market at all is proportional or weaker, which means that partnership pushes women out of full-time employment and – to a weaker extent – also out of part-time employment.

The results of the impact of education produce three different groups of countries across Europe. The first group contains Belgium, Luxembourg, Greece, Portugal and Austria. Education exhibits no effect on part-time work in any of these countries. This means that part-time employment is distributed equally across all educational levels. In the second group of countries, which consists of France, Ireland and Spain, the level of education decreases the probability of being in part-time work. In the third group (Germany, Denmark, the UK and the Netherlands), the probability to be in part-time work is reduced only at the third level of education. While a third level education clearly increases the probability of labour market participation, this effect cannot be identified properly for a secondary level education compared to a low level education. A special case within this analysis is Italy. In this country, the probability of working part-time increases at a third level education. Due to the specific industrial structure in Italy (i.e. mainly small-sized enterprises), there is only a small demand for university graduates in the Italian labour market. Italians with a university degree only find work after a waiting period and then often only in part-time work.

## **6. Conclusions: Uniformity and Diversity in Europe**

This paper has focused on the determinants of women's labour market participation and their social construction. The theoretical part has tried to combine economic and sociological insights within an analytical framework. The economic mainstream argues that both economic factors, such as wages and taxes, and sociological factors shape women's labour market participation. These social structures, however, which are treated as exogenous within the economic literature, are socially constructed and embedded in a social and political system. Recognizing this fact, the societal systems approach investigates the impact of historically embedded institutions on the organization of labour systems. The research in the field of comparative welfare states analyzes the influence of the organization of a welfare system on the labour market behaviour of different groups in society.

The analytical framework in Section 4 has shown that macro-governance shapes, on the one side, social structures and preferences of households, and determine, on the other side, the organization of the economic production system. Within this framework we have distinguished between the system of economic production (the firms), the system of social reproduction (the households) and the system of governance (the state). Political measures influence both the system of social reproduction and the system of economic production. The interaction of these three system determine not only the quantity but also the quality of women's labour market participation.

We conclude that the political arrangement of life and work spheres shapes, on the one side, a gender culture and, on the other side, an organization culture. Political measures in the area of social, family, education or fiscal policy generate incentives and thus influence women's labour market behaviour. Moreover, political measures in the area of labour, structural and industry policy structures the organization of labour markets and, consequently, women's chance to participate in the labour market.

The empirical part of this paper has tested some determinants of women's labour market integration using microdata from the European Community Household Panel (ECHP). The main aim of this section was to analyze supply-side variables in order to show the reasons for differences in labour market participation across Europe. Indeed, we have found evidence for differences in gender cultures.

The empirical analysis has revealed that women leave the labour market with increasing age or – however to a lesser extent – change to part-time work. This has led us to the conclusion that a greater flexibility between part-time and full-time employment is necessary to prevent women from leaving the labour market. Moreover, we have argued that both partnership and care responsibilities have a strong negative impact on women's labour market participation in all countries. Care responsibilities have, on the other hand, a positive effect on part-time employment. Finally we have shown that education significantly increases the chance of women's labour market participation although the effect of education on part-time employment differs across Europe. In sum, factors such as partnership, care responsibilities and low education have a negative impact on women's labour market participation. Behind these common trends, however, there is heterogeneity across the different countries. Thus we find clear differences of gender orders across Europe. Women's labour market participation can be quite well explained by traditional gender roles in some countries (like Spain, Italy, Ireland, Belgium, the Netherlands, Luxembourg and Austria), but not in others (like Finland, Denmark and the UK). Nevertheless we have seen that distinct political systems can indeed generate similar results due to differences in family structures (e.g. nuclear family versus strong kinship ties) and in the organization of care institutions (public versus private). Therefore, a promotion of women's labour market participation, which should certainly be a goal of equal opportunity policies, requires distinct political measures. Thus equal opportunity policy cannot be delegated exclusively to European Institutions.

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**Appendix:**

**Table 2:**  
**Logistic Regression of the Likelihood of Being a Woman in Unpaid Housework.**  
(Woman in unpaid housework = 1; Woman in paid work = 0)

<i>Independent Variables:</i>	Standardized Regression Coefficients (Standard Errors in Brackets)														
	<b>D</b>	<b>DK</b>	<b>NL</b>	<b>B</b>	<b>L</b>	<b>F</b>	<b>UK</b>	<b>IRL</b>	<b>I</b>	<b>GR</b>	<b>E</b>	<b>P</b>	<b>A</b>	<b>SF</b>	<b>EU (14)</b>
<i>Age</i>	0.078 (0.005)*	0.088 (0.014)*	0.119 (0.004)*	0.121 (0.008)*	0.128 (0.012)*	0.078 (0.004)*	0.062 (0.004)*	0.108 (0.005)*	0.056 (0.003)*	0.067 (0.004)*	0.085 (0.004)*	0.080 (0.004)*	0.119 (0.006)*	-0.054 (0.010)*	0.080 (0.001)*
<i>Care Responsibilities</i>	1.539 (0.116)*	0.610 (0.286)*	1.116 (0.112)*	1.000 (0.159)*	1.681 (0.253)*	1.114 (0.095)*	1.639 (0.122)*	1.427 (0.128)*	0.478 (0.077)*	0.359 (0.109)*	1.050 (0.093)*	1.441 (0.105)*	1.430 (0.136)*	1.426 (0.177)*	1.162 (0.029)*
<i>Married or in Consensual Union</i>	1.395 (0.1146)*	1.074 (0.357)*	1.065 (0.117)*	1.356 (0.205)*	1.793 (0.286)*	0.604 (0.095)*	-0.040 (0.111)	0.281 (0.134)*	1.000 (0.089)*	1.095 (0.121)*	1.650 (0.106)*	0.513 (0.116)*	1.034 (0.137)*	0.719 (0.202)*	0.812 (0.031)*
<i>Education:</i>															
<i>Primary Education</i>	1.459 (0.170)*	1.476 (0.330)*	1.902 (0.154)*	2.078 (0.187)*	1.621 (0.364)*	1.659 (0.125)*	1.154 (0.144)*	2.468 (0.169)*	2.933 (0.183)*	2.413 (0.132)*	2.598 (0.123)*	4.071 (0.716)*	2.247 (0.268)*	0.862 (0.235)*	2.235 (0.042)*
<i>Secondary Education</i>	1.047 (0.163)*	0.663 (0.350)	1.280 (0.140)*	1.362 (0.195)*	1.314 (0.388)*	0.659 (0.130)*	0.775 (0.151)*	1.327 (0.166)*	1.414 (0.186)*	1.631 (0.137)*	1.424 (0.148)*	2.688 (0.744)*	1.307 (0.260)*	0.928 (0.180)*	1.243 (0.043)*
<i>Intercept</i>	-5.057 (0.343)*	-6.297 (0.825)*	-4.980 (0.297)*	-5.811 (0.478)*	-5.722 (0.776)*	-3.994 (0.236)*	-3.347 (0.274)*	-3.969 (0.308)*	-3.996 (0.233)*	-3.047 (0.231)*	4.570 (0.235)*	6.717 (0.751)*	5.407 (0.435)*	-3.356 (0.401)*	-4.363 (0.750)*
<i>Pseudo R<sup>2</sup></i>	0.2059	0.1830	0.3858	0.3997	0.3560	0.2361	0.1595	0.3905	0.2576	0.3138	0.4023	0.2594	0.3777	0.1402	0.2905
<i>N</i>	2728	1303	3470	1599	704	3691	2189	2838	5045	3292	4804	2881	2381	1969	38894
<i>Log Likelihood</i>	-1404.07	-234.41	-1476.27	-613.89	-313.93	-1799.73	-1199.27	-1139.52	-2563.40	-1391.52	-1830.45	-1426.45	-1020.81	-556.21	-19076.95
<i>LR chi<sup>2</sup></i>	728.28	105.02	1854.65	817.35	347.13	1112.57	455.11	1460.07	1778.60	1272.86	2463.92	998.99	1238.97	181.33	15623.53

\* = Parameters are significant at a p < 0.05.

Source: European Community Household Panel (ECHP) 1996

Table 3:  
**Logistic Regression of the Probability of Being a Woman in Paid Part-time Work**  
(Woman in paid part-time work = 1; Woman in paid full-time work = 0); Aged 26 to 55

<i>Independent Variables:</i>	Standardized Regression Coefficients (Standard Errors in Brackets)														
	<b>D</b>	<b>DK</b>	<b>NL</b>	<b>B</b>	<b>L</b>	<b>F</b>	<b>UK</b>	<b>IRL</b>	<b>I</b>	<b>GR</b>	<b>E</b>	<b>P</b>	<b>A</b>	<b>SF</b>	<b>EU (14)</b>
<i>Age</i>	0.043 (0.009)*	0.053 (0.012)*	0.071 (0.009)*	0.013 (0.012)	0.021 (0.019)	-0.001 (0.009)	0.030 (0.009)*	0.030 (0.012)*	-0.006 (0.008)	-0.010 (0.012)	-0.009 (0.009)	0.058 (0.012)*	0.031 (0.011)*	-0.007 (0.016)	0.026 (0.003)*
<i>Care Responsibilities</i>	1.281 (0.144)*	0.378 (0.204)	1.457 (0.155)*	0.955 (0.180)*	1.596 (0.305)*	0.481 (0.141)*	1.220 (0.146)*	1.424 (0.210)*	0.688 (0.147)*	0.274 (0.212)	0.432 (0.167)*	0.466 (0.200)*	0.749 (0.180)*	-0.014 (0.245)	0.779 (0.0427)*
<i>Married or in Consensual Union</i>	-1.230 (0.202)*	-0.589 (0.271)*	-1.114 (0.194)*	-0.878 (0.268)*	-1.047 (0.423)*	-0.813 (0.192)*	-0.668 (0.185)*	-0.756 (0.260)*	-0.470 (0.180)*	0.150 (0.252)	-0.084 (0.182)	0.302 (0.220)	-1.036 (0.234)*	-0.364 (0.370)	-0.548 (0.057)*
<i>Education:</i>															
<i>Primary Education</i>	1.649 (0.241)*	0.717 (0.256)*	0.931 (0.238)*	0.344 (0.234)	0.713 (0.389)	1.239 (0.187)*	0.948 (0.178)*	1.426 (0.283)*	-0.650 (0.178)*	0.286 (0.235)	0.885 (0.189)*	-0.102 (0.302)	0.031 (0.320)	0.795 (0.334)*	0.499 (0.057)*
<i>Secondary Education</i>	1.324 (0.221)*	0.715 (0.215)*	0.720 (0.197)*	0.343 (0.200)	-0.090 (0.438)	0.662 (0.178)*	0.702 (0.175)*	0.887 (0.263)*	-0.811 (0.177)*	-0.034 (0.258)	0.232 (0.234)	-0.842 (0.461)	0.221 (0.282)	0.615 (0.263)*	0.608 (0.055)*
<i>Intercept</i>	-3.178 (0.449)*	-3.074 (0.591)*	-2.410 (0.389)*	-1.878 (0.482)*	-2.250 (0.824)*	-2.406 (0.370)*	-2.271 (0.404)*	-3.015 (0.563)*	-1.255 (0.371)*	-2.416 (0.518)*	-2.397 (0.404)*	-3.283 (0.576)*	-1.658 (0.502)*	-2.743 (0.656)*	-2.497 (0.116)*
<i>Pseudo R<sup>2</sup></i>	0.1388	0.0456	0.2149	0.0615	0.1520	0.0528	0.0984	0.1577	0.0393	0.0048	0.0304	0.0415	0.0656	0.0161	0.0491
<i>N</i>	1312	992	1067	802	303	1925	1143	759	1965	1278	1446	1545	795	1058	16390
<i>Log Likelihood</i>	-671.29	-388.77	-544.05	-405.39	-149.19	-774.41	-651.47	-360.65	-840.43	-405.10	-552.73	-436.72	-441.69	-281.36	-7540.54
<i>LR chi<sup>2</sup></i>	216.42	37.16	297.90	53.10	53.46	86.39	142.25	135.06	68.76	3.89	34.64	37.83	62.06	9.21	778.42

\* = Parameters are significant at a  $p < 0.05$ .

Source: European Community Household Panel (ECHP) 1996