

**Persistent inequalities in time use between men and women: a detailed look
at the influence of economic circumstances, policies and culture**

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Abstract

The aim of this contribution is to refine explanations for inequalities in the amount of time men and women spend in paid work and housework by breaking down institutional conditions into economic circumstances, policy conditions, and cultural influences. We indicate our expectations for these macro indicators as well as for their interaction with micro level indicators. We expect, for example, that the negative effect on paid work for married women becomes stronger in more masculine countries. Using the Multinational Time Use Archive, we analyzed 17 countries in the 1965-1998 period. Multilevel analyses show the importance of institutional conditions for paid work: men and women in highly developed economies and in countries with high rates of child care facilities do more paid work, although they spend less time on paid work after having children. With respect to the influence of culture, it appears that highly educated and married women in masculine cultures do less paid work, and that married women also do more housework, than their counterparts in more feminine cultures.

Introduction

Institutional factors influence the amount of time that men and women spend on paid work and housework, a point widely demonstrated in international comparative research. Even though individual resources (for example educational level and profession) are obviously important when people are considering how to spend their time, the welfare system under which they live also plays a role (Stier and Lewin-Epstein, 2001; Fuwa, 2004; Uunk, Kalmijn and Muffels, 2005; Geist, 2005; Blossfeld and Hofmeister, 2006; Blossfeld, Mills and Bernardi, 2006).

Previous international comparative research in this area has primarily examined women's time use, particularly their duties outside the home. Many studies have compared the labour participation rate of women in different countries, or the number of hours they work (Gornick, 1994; Rosefeld and Birkelund, 1995; Blossfeld and Hakim, 1997; Van der Lippe, 2001; Stier and Lewin-Epstein, 2001; Gornick and Meyers, 2003; Uunk, 2004).

Institutional factors examined in this line of research include economic indicators (Van der Lippe, 2001), culture (Uunk *et al.*, 2005), and policy indicators (OECD, 2004; Moreno and Crespo, 2005). There have been fewer studies focusing on the contribution of men and women to housework (Fuwa, 2004; Davis and Greenstein, 2004; Geist, 2005).

Despite the number of studies investigating the relationship between welfare regimes and women's paid labour, the exact influence of various institutional indicators on the time men and women spend on paid work and housework is still not well understood. There are several reasons for this. For a long time, there were no international comparable data available, nor had any theories been put forward to explain the influence of macro conditions on individual actions. Although various researchers have investigated explanations at the individual level, such as the relative resources theory (Blood and Wolfe, 1960; Kamo, 1988),

gender ideology (Presser, 1994; Greenstein, 2000) and time availability (Bianchi, 2000), this has been less the case for explanations at the macro level. That is the aim of this contribution.

Men and women's behaviour in this area differs notably from one country to the next. The Netherlands is the only country in which the one-and-a-half earner model prevails, even among higher educated women (SCP, 2006). The part-time work culture is not as prevalent in other countries. In southern Europe, women are much more likely to work full time, although it is common for them to stop doing so once they have children. Scandinavian countries have a culture in which both men and women are responsible for childcare, and there we see that both men and women continue to work part time for more than 30 hours a week. Such differences show that the context in which people grow up and live their lives obviously matters when they are deciding how to use their time. Moreover, changes in gender cultures and economic trends have also affected the amount of time men and women spend on paid work and housework. Nevertheless, the respective countries still appear to have different housekeeping and employment cultures (Lewis, 2002; Lewis and Giullari, 2005).

This article examines the paid work time and housework time of women and men. We refine existing explanations of unequal time use by breaking down macro conditions into economic circumstances, policy constraints and cultural influences. In this way, we arrive at more integrated explanations of unequal time use, showing the influence of individual resources, and conditions at the macro level. We also study whether the effects of individual resources on time use differ between contexts. Our research questions are: 1. How can we explain differences in men's and women's paid work time and housework time by considering individual resources and restrictions and institutional conditions? 2. To what extent do macro level conditions strengthen or weaken the effect of individual level conditions on men's and women's time use?

We start by discussing our expectations regarding the influence of individual, economic, policy and cultural influences on men's and women's time use. Our descriptions and tests are based on a comprehensive dataset with data collected over time in 17 countries, allowing multilevel analyses of the influence of macro and micro variables.

The influence of economic circumstances, policies and culture: a theoretical exercise

How can the difference in time use between countries be explained? A day has only 24 hours for everyone. This means that individuals have to make choices about the way in which they use their time. We assume that these choices are affected by individuals' own opportunities and restrictions. In this study, we are especially interested in the influence of the policy context within which individuals make choices as well as the role of economic circumstances and cultural influences. We start with the influence of individual factors such as human capital, the presence of a partner and eventually children. This discussion is brief, given that the topic has been extensively described elsewhere (Bianchi, Milkie, Sayer and Robinson, 2000; Evertsson and Neramo, 2004). However, when testing our expectations we do consider these individual factors. What is more, in the theoretical elaboration we will formulate interaction expectations that also consider the individual level. All expectations are summarized in Table 1.

Before we elaborate on the individual and contextual effects, a remark on the concept of 'equality in time use' is useful. Gender equity is a complex notion that comprises a plurality

of distinct characteristics (Fraser, 1994). One might discuss whether equality in the relation is achieved when men's and women's time in paid work and housework is equivalent or when women's and men's total time are the same (Bittman and Folbre, 2004). According to the latter point of view, equality in time use between men and women existed also in earlier times. Historical research shows that women worked about the same hours per week providing goods and services for family members as paid workers did in their formal jobs (Folbre and Nelson, 2000). In this paper we are interested in explaining the time spent in paid and housework, and not so much in the total time spent on both paid and housework, since inequalities between men and women in the time spent on paid and housework (and not the total time spent on both activities) might have effects such as hindering the economic independence of women. Therefore, we analyse these time categories separately and we will speak of gender inequality in case men and women differ in the amount of time spent on both housework and paid work.

Individual characteristics

Both from an economic and sociological point of view, children are expected to have a negative impact on the number of hours women work for pay. Having children means that more time has to be spent on housework. However, children cost money and this can be earned by doing (more) paid work. According to the new home economics (Becker, 1981), in the average case, that is, of two parents, the parent with the highest earning potential will specialize in paid work and the other in housework. Since women, even higher educated women, usually earn less than their spouses, they are often the ones who will take care of the children, and will spend less time on paid employment. Moreover, mothers are still seen as the primary caregivers and social norms encourage women, rather than men, to spend less

time on paid employment when they become mothers. For these reasons, we expect that the presence of children is associated with fewer hours of paid employment by women, and more hours of paid employment by men. Women will spend more time on housework.

With respect to marital status we expect the following. A single person has domestic responsibilities for him-/herself alone. When he or she gets married, a two-person household comes into being. Due to economies of scale, a two-person household entails, *ceteris paribus*, less housework than two single-person households. However, in line with the arguments given in the previous paragraph, one can expect that specialization will occur and that the female partner is likely to take most of the housework. The effects of economies of scale and specialization work in opposite direction. In this paper we use the common assumption that the incentives for specialization are stronger than economies of scale-effects. This implies that a married woman will spend more time on housework than a woman who is single, and that for married and single men the expectation is vice versa. The greater share of the burden of housework is taken by women, at the expense of paid employment, whereas married men will perform more paid work and will have fewer domestic responsibilities.

Human capital constitutes all knowledge and skills that increase an individual's productivity in the labor market (Becker, 1975). Women try to use their human capital stock as profitable as they can. Education is often considered the most important form of human capital. For more highly educated men and women it is appealing to devote relatively more time to paid employment, as the benefits in terms of money and status can be high. Thus we expect that more highly educated men and women will be more active in the labour market and will spend less time on household chores.

Welfare regimes

Theory on the influence of the institutional context on individual choices tends to use a typology of welfare regimes, the behaviour of individuals being influenced by different types of welfare states with difference features and characteristics that more or less exclude one another. The most familiar and common typology is undoubtedly that of Esping-Andersen (1990, 1998), according to which countries can be classified into degree of de-commodification and the way in which solidarity takes shape. Other typologies base their classification of different institutional contexts on degree of gender equality in paid and unpaid labour (Lewis, 1992; Orloff, 1993) or on the basis of culture (Hakim, 2003).

In this study, we use the typology of Esping-Andersen, albeit somewhat adjusted. Research indicates that this typology is a reasonable predictor of a multitude of behaviours of men and women in the labour market (e.g. Van der Lippe and Van Dijk, 2002; Den Dulk, 2001) and at home (Geist, 2005). According to the Esping-Andersen typology, the Scandinavian countries belong to the social-democratic cluster, which is characterised by widespread government services, equal rights for men and women, and major livelihood support. The large size of the service sector enables households to outsource domestic duties so that there are few limitations for women to spend a lot of time in the labour market. The conservative cluster contains a group of Western European countries, like Belgium, the Netherlands and Germany. In this type of welfare state, the breadwinner ideology is central, there are tax incentives aimed at stimulating a male breadwinner and female homemaker model, the costs for women to participate in paid labour are usually high, and outsourcing options are limited compared to the social-democratic regime. The third type of welfare state is liberal, like England: the duties of men and women are the same, but the government is passive when it comes to facilitating women's paid labour. We added another two clusters (Blossfeld and Drobnic, 2001; Ecorys, 2005): a Mediterranean cluster that is strongly family-

oriented and where there is little government intervention, and the former communist cluster, where full-time work for men and women used to be central – and still is.

Given these characteristics of the various types of welfare states, we expect women in social-democratic regimes to spend more time on paid activities and less on household work than their peers in liberal, conservative, and Mediterranean regimes. We expect that the time use of men and women in social-democratic regimes is more equal. In conservative and even more so in Mediterranean countries, men spend less time on household activities compared to the other regimes, and women less time on paid labour. In previously communist countries both men and women spend more time on paid work than in the other regimes.

Even though expectations on time use of men and women can indeed be formulated using such a typology, it is a fairly rough classification of countries that does less justice to various underlying dimensions of the typology. For example: is it mainly cultural differences between the countries which influence men's and women's cost-benefit considerations regarding their amount of household work, or do such considerations take place under the influence of the (often insufficient) childcare facilities or outsourcing options (that are, of course, also influenced by national culture)? For this reason, we will take things a step further and try to gain more insight into distinct macro factors that are relevant to the time use of higher educated men and women. We will be distinguishing three types of influences: economic circumstances, social policy and cultural influences. Since these types of influences are related to each other, more attention is finally paid to their interdependence and to changes over time.

Economic circumstances

With regard to the influence of economic circumstances, the following effect is expected. In general, in countries with highly developed economies, men and women are more stimulated to spend time on paid labour because this also pays out in terms of status and career. In other words, these countries have incentives for women to become economically independent. In relation to the individual level, different effects can be expected, given the economic development. On the one hand we can expect that the positive effect of a highly developed economy on hours of paid work will hold less true for women with children than for women without children. The emancipating effect from a highly developed economy would apply mainly to women without children and to a lesser degree to women with children. On the other hand, more income is needed when there are children in the household, and precisely that can cause women to work more hours. If women work more hours, they might also want to outsource part of their domestic tasks. Conversely, for men the expectation would be that men with or without children in countries with good economic situations work many hours, given that in many countries (to a greater or lesser degree) men are still the main breadwinners in the household. Also, whether men and women are married or cohabiting might be important in this respect. We expect that in countries with a high economic development, it is less necessary for women to earn an income too – after all, the economic circumstances are such that there is little need for extra income at a household level. So the negative effect on paid work for married women becomes stronger in countries with a high economic development, and since there is less income to outsource domestic tasks, women are expected to perform more housework duties. Given their human capital, it is more advantageous for men and women with a high educational level to spend more time on paid work and less time on domestic duties. Negotiation processes between spouses will be playing a role here as well, as Breen and Cook (2005) show in their game theoretical analysis of the persistent gender division of labour.

Social policy

Our focus with respect to general policy conditions is on a crucial feature of social policy: the attention given to social expenditures on childcare in a country. This type of social policy facilitates conditions for women, in terms of their time use in the labour market. Child care programs that increase women's time in paid work might also decrease housework time, because more income is available to outsource certain domestic tasks. We are referring specifically to public childcare facilities. Whatever arrangements are made outside government facilities, these are after all a more individual strategy in reaction to minimal government support. We expect that in countries where public expenditures on childcare are large, women will generally perform more paid labour, and that the time use of men and women (concerning both paid and housework) will consequently be more in balance. This applies of course mainly to women with children, and concerns an interaction effect. In other words, the expectation is that the negative effect of having children on hours of paid labour (at a macro level) will be more reduced for women in countries with this type of policy measures.

Cultural influences

A more equal division of paid and household tasks between men and women is more encouraged in some countries than in others. In Denmark, for example, it is unusual for a woman not to work outside the home, while in Spain it is odd for a man to be involved with the housework. In this sense there might be distinct housekeeping cultures next to cultures of motherhood and fatherhood. Uunk *et al.* (2005) find that egalitarian gender role values play a mixed role. They influence labour participation of women positively, but do not affect the

influence of childcare on how much mothers work. Fuwa (2004), too, shows that women who live in less egalitarian countries have a more traditional division of tasks.

The typology of Hofstede (2001) concerning national cultures helps to categorise a country in terms of the valuing of roles that should be assigned to men and women. The ‘masculinity-femininity’ dimension can be described as the degree to which gender roles are clearly present in a society: masculinity denotes men are required to be assertive, tough, and geared towards material success, while women should rather be modest, friendly, and oriented towards quality of life. At the other extreme, male and female roles overlap fully and society is more feminine (Hofstede, 1998). The expectation is that the higher the ‘score’ of a country on this index (that is, the more masculine a country is), the more unequal the time use of men and women and the less time women will spend on paid labour and men on household tasks.

According to the ‘gender production’ theory, household and paid labour are a means to ‘produce, ‘display,’ and ‘confirm’ gender identities (Berk, 1985; Coltrane, 2000; Poortman and Van der Lippe, 2009). The doing gender perspective assumes that certain behaviour is believed to be typically male or female (Ferree, 1991; Brines, 1994). The influence of the culture in a country on the time use of men and women depends on normative expectations (Berk, 1985). The large inequality in the use of time in paid and household work in ‘masculine’ countries will therefore apply mainly to men and women who are in long-term cohabiting relationships with a partner. Single persons do paid work and take care on their own of tasks such as cleaning and laundry, or outsource them (De Ruijter, Treas and Cohen, 2005). For men and women who are married, live together and/or have children, other expectations apply, depending on the masculinity or femininity or the culture. The expectation is that the difference in hours of paid work between single and married/cohabiting men and women will be greater in strongly, masculine countries. This fits, after all, with the norms and values that predominate in this type of culture. The positive effect of being married or

cohabiting on hours spent on housework is also expected to be greater for women in such countries. With respect to education, we expect that especially higher educated men are stimulated to work more paid hours in more masculine countries. The expected positive effect of education on female's paid working time will be weakened in a masculine context.

Interdependence among culture, gender and policy elements

In this contribution, we try to disentangle the effect of policy and culture by using separate measures in the analysis. We do want to stress though that policy is clearly interdependent with culture. Whether child care facilities are available is partly dependent on the family friendly culture in a country (Van der Lippe and Van Dijk, 2002). Moreover, gender culture might become more egalitarian over time due to the existence of child care facilities. The interdependence between institutional structures, culture, and gender has not been focus of much research, which is nicely illustrated by Lewis (2002) and Korpi (1999). Lewis argues that family and caring work has never become an organizing concept for the analysis of social policies, although they are clearly included in real policies. And Connell (2005) adds that although new patterns of gender relations in society affect men as profoundly as women, this fact has been less discussed. Although these overlapping dynamics cannot be controlled for in our analysis, we do have longitudinal data so that we are able to show at least the influence of culture and policy over time.

Table 1 summarizes our expectations, including predictions on interaction effects.

< Table 1 about here >

Data

The data we use are from the Multinational Time Use Archive (MTUS, Version 5.5, Gershuny, 2000; Gauthier, Gershuny and Fisher, 2006). We have a totality of data from 17 European countries for the 1965-1998 period at our disposal. Since the MTUS is based on a time diary, no result is published which has a cell size smaller than 30 days, as recommended by the Centre for Time Use Research. In general, response rates are between 50% and 60%, but in the Netherlands response rates are lower, with 20% in 1995, and in the UK it was 93% in 1995. For some countries, such as the UK and the NL, we have three to five surveys at our disposal, but for other ones, such as Hungary, only one survey is available. This implies that we have to be careful in the interpretation of the empirical findings. Still, the dataset is unique in that time use is being reported in many countries and over a longer period of time. We focus on men and women between the ages of 16 and 75 who were economically active at the time of the data collection. We have 111176 cases available. In Table 2, the exact years of the surveys per countries are provided as well as samples sizes.

<Table 2 about here>

Operationalisation

Hours of paid work include time spent on paid work, on paid work at home, on paid work from a second job, and time travelling to and from work. The number of hours spent on housework is measured in the MTUS using detailed categories of time spent cooking and doing laundry and time spent doing housework. We focus on core housework activities, since different expectations would need to be formulated for child care related activities.

The variables at the individual level that are expected to influence time use are measured in the following way. With respect to children, a distinction is made between children younger than 5, those between ages 5 and 15, and children older than 15 or having no children. For marital status, a dummy variable is used that scores 1 for cohabiting or married couples and 0 for singles. Using the international classification of education (ISCED), education has three categories, namely uncompleted secondary or less (low), completed secondary (middle), and above secondary education (high). With the available data it is not possible to make further distinctions in the educational level. Age, as a control, has been included in the analysis as a continuous variable. A year category is added to the analysis to control for the fact that surveys from different years are included. In this way, we are also able to report on historical changes. The period 1965-1998 is divided into three classes: (1) 1965-1979, (2) 1980-1989 and (3) 1990-1998. Table 2 provides the descriptive statistics of these variables per country and survey period.

The welfare regime can be broken down into five groups. The social democratic regime is represented by Denmark and Norway. The liberal regime is found in England, Canada and the United States, the conservative regime in France, the Netherlands, Germany, Belgium, and Austria. The Mediterranean regime comprises Italy, and the post-communist regime Hungary, Poland, East Germany, and the Czech Republic. For the economic indicator at the macro level we are able to include different measures such as average tax rate, minimum wages related to average wage, and GNP. However, since most valid measures over the years exist for GNP, we included GNP per inhabitant per year. We thereby divided GNP by 1000. Social policy with regard to childcare is measured by public expenditures on childcare, expressed in percentage of the GNP per survey year. Culture is measured with the masculinity index of Hofstede: the higher the score, the more value is attached to typically masculine work standards and less attention to a good work-life balance. The scale range is

between 0 and 100. The means of these macro indicators are given per welfare regime in Table 3.

< Table 3 about here >

Analyses

Because of the multilevel nature of our data (individuals i nested within institutional context j), we estimate a series of hierarchical linear models (see Bryk and Raudenbush, 1992; Snijders and Bosker, 1999). Common analytic strategies (such as appending institutional characteristics to individual-level records and treating these as independent observations) obscure the fact that individuals are nested within an institutional context. Ignoring the multilevel nature of data and applying conventional regression models to the dataset could introduce bias into the analyses in several ways. One major advantage of multilevel models is that they recognise the existence of variation in time use at both the individual and the institutional level. The assumptions of this model are discussed extensively by Bryk and Raudenbush (1992) and Snijders and Bosker (1999). The effects of individual-level variables can be interpreted as effects on time use of individuals across institutional contexts ('overall' effects), while the effects of variables at the institutional context level can be interpreted as effects on the basic amount of time spent on paid work and housework in an institutional context by individuals who are equal in terms of the individual-level variables that are included in the model as controls.

Since the institutional indicators vary over time and between countries, a combination of country and year is the j level in the multilevel analyses. If we would not allow the score of countries on these institutional indicators to vary, this would result in a severe loss of information regarding the institutional indicators, since these are measured at country-year

intervals. Therefore, each country-year combination is a unit of observation at the second level. In total, individual-level data are available for 35 country/year combinations.

First, we estimated some 'basic' multilevel models, modelling the variation in time use for men and women and including only individual-level characteristics such as marital status and young children to explain variation in time use. Second, a model is tested with the regime variable. Third, a model is tested with the three macro level indicators instead of the regime variable, to understand the importance of each macro indicator. Finally, the hypothesized interaction effects are added one by one.

Economy, social policy, and culture

Table 4 shows the models where the individual variables are controlled for and macro indicators are included. Participation in all activities appears to be determined mainly by individual circumstances. Only 8.5% of the time spent on paid work by women is determined by the country people live in and for men this percentage is 5%. As expected, being married has a negative effect on women's participation in paid labour, whereas with men it leads to a larger contribution. For women, the presence of children leads to less time spent on paid work and a higher educational level significantly increases her time spent on paid work. With respect to housework, 6% of the time spent on housework by women is determined by the country people live in and for men this percentage is only 3%. Unexpectedly, both married men and women spend more time on housework duties than single men and women. Also, more time is spent on housework by both men and women with young children. The time period is partly significant, and especially for women. More time is spent on paid and housework activities by women in the period of 1965-1979 than in 1990-1998. This might be

mainly due to the fact that most communist countries in the analyses stem from the 1965-1979 period.

< Table 4 about here >

Upon control for the individual circumstances, the type of welfare regime they live and work in appears to be only partially influential to time use of men and women. In post-communist and liberal regimes, women spend more time on paid work than in conservative regimes. Men in post-communist countries spend more time on paid work as well. In southern European countries, the division of housework is more unequal: men spend less time on core domestic activities and women more than their counterparts in conservative countries. In liberal countries, women spend less time on domestic tasks.

When unfolding macro conditions into economic circumstances, policy features and cultural influences, all three indicators appear to be important when explaining time use in paid work. Unexpectedly, a highly developed economy, expressed in a high GNP, is accompanied by less paid labour of women. High childcare expenses lead to more paid work of both men and women. A masculine culture increases time use on paid work not only for men but also for women. A higher economic development or more child care expenses do not imply, though, that men and women outsource domestic work, since housework is not influenced in a direct way by macro indicators at all. Controlling for these macro indicators, there does not seem to be a clear trend over time for paid and household work of men and women.

<Table 5 about here>

Finally, we tested the expectations on interaction effects. These expectations specify how macro variables such as economic growth, social policy (stimulating childcare), and cultural characteristics interact with individual circumstances: is it true, for example, that a woman with small children can participate more in the labour market when there are sufficient childcare facilities? The results are shown in Table 5.

First of all, it becomes clear that macro indicators interact in a more significant way with micro indicators for the explanation of paid work than for the explanation of housework. In countries with a relatively high GNP, women with children spend less time on paid labour. A tentative conclusion could be that, economically speaking, these women can afford it. This also means that in countries with a relatively low GNP, women with small children spend more time on paid labour. The obvious argument is that their extra income is needed in the household; this may be more important than the economic independency effect. With respect to the interaction between GNP and being married, the results show that it is especially married women who spend less time on paid work when living in a highly developed economy. Hence, the influence of the economic climate on the time use of women seems to depend on the family phase these women are in. For men the family phase seems to be important, too. Men with small children spend less time on paid work, when living in a highly developed economy. It might be the case that they need to spend more time on housework when children are young. Indeed, men with young children spend more time on housework compared to men without children, when the GNP is higher. Higher educated women do spend more time on paid work, and this is even more so when living in a highly developed economy.

The expectation with regard to childcare was that precisely women with (small) children would benefit if they lived in an policy context that involves a relatively large contribution to childcare – in other words, they would spend more time on paid labour and

less time on housework tasks. A favourable climate in terms of childcare seems indeed to lead to an increase of time spent on paid work for women with children and somewhat less time for domestic work.

The expectation on cultural influences is that the more masculine the context, the less time women in a 'traditional' family structure spend on paid work and the more time on care tasks. The expectation is confirmed for both paid work and housework: married women in more masculine contexts spend more time on housework. The differences between married and unmarried women are larger in more masculine cultures. Unexpectedly, men also spend less time on paid work. With respect to the level of education, the results show that the positive effect of education on paid work becomes smaller in masculine countries. More than the human capital effect of education, the normative effect might be important. Higher educated might need to conform themselves to the general opinion more in masculine countries and work less paid hours.

Conclusion and discussion

In this article, we investigated which institutional conditions help explain men's and women's time use. The welfare regime in which they live clearly affects the time men and women spend on paid work and domestic duties. The division of housework between men and women is more unequal in communist and southern European regimes than in the liberal, conservative and social democratic regimes. It is most equal in liberal regimes, where women spend significantly more time on paid work and less time on household chores. It is possible that the housekeeping and employment culture in liberal regimes differs from that in other regimes. For example, more household tasks might be outsourced in the former (De Ruijter, 2005; Bianchi, Robinson and Milkie, 2006).

If we consider the separate macro indicators in more detail, our results seem to indicate that a country's stage of economic development is important in explaining the time spent on paid work. However, one should bear in mind that economy, culture, and policy are closely related. At this stage, we are not able to provide a conclusive answer to the question of the relative importance of the various macro conditions we have studied. More research is needed in this respect, although other studies appear to support our findings (Hook, 2006).

Our analysis shows that in countries with highly developed economies, higher educated women do more paid work – it appears to be rewarding for them in terms of money and status to spend more time in the labour market. The family phase of the life cycle is important as well in these economies: women with children generally spend less time working, whereas men will only work less when they have young children. Married women spend less time on paid labour, and – unexpectedly – this is also true for married men. Is this an emancipation effect of highly developed economies? More research is needed to investigate the relationship between highly developed economies and men's and women's part-time work.

Social policies are also important, especially for paid work. More spending on child care implies more time spent on paid work by women, an effect that is stronger when children are young. Child care policies do affect time spent on housework of women, but to a somewhat lesser extent. This implies that the interdependence between policy structures and gender culture is most visible in relation to paid work. Household chores take place within the private sphere of family life, and policies are less able to influence this. As a result, housekeeping cultures might continue to exist in certain regimes.

Cultural differences also play a role here: although women generally do spend more time on paid work in more masculine countries, this depends largely on individual characteristics such as marital status. Being married implies more time spent on housework

and less time on paid work, and this is even more the case in masculine countries. This again illustrates the importance of studying the influence of individual characteristics in relation to various macro indicators.

Our results reveal that institutional indicators are important in understanding men and women's time use patterns when it comes to housework. This suggests that we should look more specifically at household work in various contexts, in addition to the numerous studies on paid work. In our study, we concentrated on housework. Would the results be the same for time spent on child care? So far, studies on individual countries show clear differences between housework and child care activities. We therefore recommend a multi-country comparison into the care activities of men and women with children that would investigate the importance of macro factors.

Subsequent studies will have to show whether stage of economic development and culture exert a lasting influence. Similar to studies that elaborate on explanations at the individual level by focusing on the influence of individual factors, we have shown that this is also possible at the contextual level. However, even though we have a splendid dataset at our disposal, which makes it possible to unravel institutional effects, the number of units at the contextual level is still relatively limited. It is vital that existing datasets from different countries should be made comparable.

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Table 1 Expected effects of individual and institutional indicators on time use on paid work and housework of higher educated men and women

	Paid work		Housework	
	women	men	women	men
<i>Individual level</i>				
Presence of children	-	+	+	0
Married/cohabiting	-	+	+	-
Education	+	+	-	-
<i>Institutional level</i>				
Welfare regime (reference conservative)				
Liberal	+	-	-	+
Social democratic	+	-	-	+
Mediterranean	-	+	+	-
Communist	+	+	+	-
Economic development	+	+	-	-
Social policy: childcare	+	0	-	0
Masculine culture	-	+	+	-
<i>Cross level interactions</i>				
Children * economic development	?	0	?	0
Married * economic development	-	0	+	0
Education * economic development	+	+	-	-
Children * childcare	+	0	-	0
Married * masculine culture	-	+	+	-
Education * masculine culture	-	+	+	-

+ = positive effect; - = negative effect; 0= no effect; ? = no prediction

Table 2 Means of all individual level variables per country, survey period and sample size

	Year	Time spent on paid work per day, in hours	Time spent on housework per day, in hours	Female	Child<5 years	Child between 4-15	Married/ cohabiting	Middle level education	High level education	Age	N
Austria	1992	6.96	1.72	.42	.00	.34	.65	.24	.06	37.93	11411
Belgium	1965	7.30	1.26	.33	.13	.44	.82	.48	.15	40.59	1358
Canada	1981		3.53	.44	.21	.24	.66	.41	.21	35.13	1478
	1986	6.22	1.40	.43	.18	.20	.63	.20	.48	36.02	5072
	1992	6.45	1.56	.44	.16	.20	.64	.25	.58	37.19	4483
	1998	6.43	1.66	.46	.13	.26	.62	.22	.64	39.36	5272
Czechoslovakia	1965	6.55	2.54	.48	.20	.55	.86	.34	.10	39.69	1418
Denmark	1987	5.25	1.67	.48	.23	.24	.69	.27	.16	37.67	2025
East Germany	1965	6.30	2.72	.52	.34	.43	.87	.15	.00	35.25	1293
France	1965	7.36	1.57	.33	.22	.38	.77	.30	.12	39.25	2114
	1974	5.43	1.83	.42	.23	.31	.78	.40	.13	37.11	3534
Germany	1992	5.80	2.31	.46	.22	.35	.78	.28	.20	40.37	14983
Hungary	1965	8.24	2.06	.46	.14	.53	.79	.40	.24	37.82	1593
	1977	6.40	2.09	.42	.20	.23	.79	.76	.00	39.24	3402
Italy	1980	6.32	1.32	.32	.22	.27		.24	.14	39.20	1389
	1989	4.11	1.72	.36	.31	.31	.74	.25	.09	38.55	14912
Netherlands	1975	5.31	1.12	.29	.28	.24	.77	.33	.11	30.79	449
	1980	5.14	1.28	.36	.31	.33	.75	.34	.12	30.28	1004
	1985	4.59	1.66	.39	.21	.25	.71	.28	.25	35.28	1435
	1990	4.86	1.72	.47	.20	.37	.78	.36	.25	35.91	1400
	1995	5.15	1.71	.47	.19	.35	.76	.37	.34	36.89	1750
Norway	1971		2.02	.36	.17	.48	.82			39.86	3092
	1981		2.00	.46	.25	.41	.75	.26	.19	38.64	2717
	1990	5.11	2.05	.49	.21	.22	.75	.59	.27	39.87	3996
Poland	1965	7.38	2.08	.49	.19	.53	.78	.39	.13	38.11	2335
United Kingdom	1975	5.86	1.49	.39	.19	.34	.81	.32	.00	37.96	1392
	1985	4.80	1.95	.49	.18	.34	.79	.19	.11	37.79	1419

	1995	5.25	1.55	.47	.14	.23	.69	.71	.24	40.22	984
United States	1965	6.78	1.45	.37	.27	.34	.77	.39	.29	38.77	1260
	1975	6.05	1.50	.40	.22	.34	.80	.16	.19	37.21	1287
	1985	5.98	1.91	.49	.14	.31	.65	.18	.25	37.10	1673
	1992	5.88	1.42	.49	.08	.15		.32	.62	39.06	4353
	1998	5.72	1.71	.54	.23	.26	.56	.31	.66	38.59	803
West-Germany	1965	6.30	1.56	.36	.19	.34	.75	.36	.00	38.43	1393
Yugoslavia	1965	7.30	2.48	.47	.21	.51	.80	.44	.10	37.40	1696
Total		5.86	1.83	.43	.17	.33	.73	.31	.22	38.30	111176

Source: MTUS 1965-1998

Table 3 Economic, policy and cultural indicators per welfare regime (means)

Welfare regime	GNP/1000 (in Euros)	Child care expenses (in % of GNP)	Masculinity (0-100)
Conservative	19.84	.60	58.36
Liberal	16.70	.54	55.67
Social Democratic	20.91	1.10	9.37
Meditarranean	15.87	.60	70.00
(post-)Communist	0.29	.90	45.09

Source: MTUS 1965-1998

Table 4 Results of multilevel analyses to explain the number of hours spent on paid and housework in different institutional contexts, including both individual- and institutional-level variables (standard errors in brackets) (n=111176)

	Women						Men					
	Paid work			Housework			Paid work			Housework		
Constant β_0	6.00** (0.33)	5.72** (0.32)	6.72** (1.12)	0.34* (0.14)	0.46** (0.12)	0.62 (0.58)	6.36** (0.26)	6.35** (0.26)	6.83** (1.01)	0.84** (0.16)	0.72** (0.16)	1.31+ (0.75)
Individual-level variables												
Dummy variable for child < age 5	-1.34** (0.07)	-1.33** (0.07)	-1.38** (0.07)	0.69** (0.03)	0.69** (0.03)	0.71** (0.03)	0.05 (0.06)	0.05 (0.06)	0.08 (0.06)	0.10** (0.02)	0.10** (0.02)	0.09** (0.02)
Dummy variable for child aged 5–15	-0.51** (0.05)	-0.51** (0.05)	-0.57** (0.05)	0.63** (0.02)	0.63** (0.02)	0.62** (0.02)	0.03 (0.05)	0.03 (0.05)	0.04 (0.05)	0.06** (0.02)	0.06** (0.02)	0.06** (0.02)
Married/cohabiting	-0.47** (0.05)	-0.47** (0.05)	-0.46* (0.05)	0.97** (0.02)	0.97** (0.02)	0.96** (0.02)	0.38** (0.06)	0.38* (0.06)	0.36** (0.06)	0.07** (0.02)	0.06** (0.02)	0.06** (0.02)
Middle level education	0.16** (0.05)	0.16** (0.05)	0.19** (0.05)	-0.39** (0.02)	-0.40** (0.02)	-0.39** (0.02)	-0.08+ (0.05)	-0.08+ (0.05)	-0.00 (0.06)	-0.03+ (0.02)	-0.03+ (0.02)	-0.04* (0.02)
High level education	0.25** (0.06)	0.25** (0.06)	0.27** (0.06)	-0.59** (0.03)	-0.59** (0.03)	-0.58** (0.03)	-0.12* (0.06)	-0.12* (0.06)	-0.05 (0.06)	-0.07** (0.02)	-0.07** (0.02)	-0.08** (0.02)
Age in years	-0.02** (0.00)	-0.02** (0.00)	-0.02** (0.00)	0.04** (.00)	0.04** (0.00)	0.04** (0.00)	-0.01 (0.00)	-0.01 (0.00)	-0.00 (0.00)	0.01** (0.00)	0.01** (0.00)	0.01** (0.00)
Period1:1965-1979	1.03* (0.41)	0.50 (0.38)	-1.49 (0.95)	0.49** (0.17)	0.27 (0.13)	-0.21 (0.49)	0.61+ (0.32)	0.24 (0.31)	-0.73* (0.85)	-0.32 (0.20)	-0.45* (0.19)	-0.77 (0.62)
Period2: 1980-1989	-0.55 (0.47)	-0.52 (0.40)	-1.63* (0.56)	0.14 (0.19)	0.27 (0.14)	-0.10 (0.28)	-0.77* (0.37)	-0.55 (0.33)	1.31* (0.50)	0.09 (0.22)	0.11 (0.20)	-0.08 (0.36)
Period3: 1990-1998 (<i>ref</i>)												
Institutional-level variables												
Conserv. welfare state (<i>Ref. category</i>)												
Liberal	0.68+ (0.34)					-0.26* (0.12)				0.15 (0.28)		0.28 (0.18)
Social democratic	0.24 (0.59)					-0.12 (0.16)				-0.36 (0.48)		0.17 (0.23)
Southern European	-0.50 (0.82)					0.79* (0.29)				-1.55* (0.66)		-0.59 (0.43)
(post-)Communist	1.55* (0.42)					0.49** (0.15)				0.80* (0.34)		0.47* (0.22)
Gross national product /1000			-0.11* (0.05)				-0.03 (0.02)		-0.06 (0.04)			
Childcare expenses			1.38*				0.20		0.48*			

Masculinity			(0.57)			(0.30)			(0.51)			(0.38)
			0.02**			0.01			0.01+			0.00
			(0.01)			(0.00)			(0.01)			(0.01)
Variance components												
Institutional level	0.82**	0.52*	0.49**	0.15**	0.07**	0.13**	0.50**	0.34**	0.40**	0.20**	0.15**	0.23**
Individual level	15.86**	15.86**	15.80**	3.94**	3.94**	3.82**	19.15**	19.15**	19.12**	2.43**	2.44**	2.40**

** $p < 0.01$, * $p < 0.05$, + $p < 0.10$

Source: MTUS 1965-1998

Table 5 Results of multilevel analyses to explain the number of hours spent on paid and housework in different institutional contexts, including both individual- and institutional-level variables as well as cross-level interactions (standard errors in brackets) (n=111176)

	Women						Men									
	Paid work			housework			Paid work			housework						
Constant β_0	6.46** (1.11)	6.24** (1.13)	6.85** (1.12)	6.93** (1.12)	6.61** (1.12)	6.36** (1.12)	0.57** (0.58)	0.56 (0.58)	1.06+ (0.58)	6.73** (1.01)	6.58** (1.02)	6.93** (1.02)	6.61** (1.02)	6.45** (1.02)	1.34+ (0.75)	1.38+ (0.75)
Individual-level																
Dummy variable for child < age 5	-0.84** (0.16)	-1.38** (0.07)	-1.77** (0.16)	-1.39** (0.07)	-1.37** (0.07)	-1.38** (0.07)	0.84** (0.08)	0.71** (0.03)	0.71** (0.03)	0.33* (0.13)	0.07 (0.06)	0.08 (0.06)	0.08 (0.06)	0.08 (0.06)	-0.02 (0.05)	0.10** (0.02)
Dummy variable for child aged 5–15	-0.20** (0.12)	-0.58** (0.05)	-0.80** (0.13)	-0.58** (0.05)	-0.57** (0.05)	-0.57** (0.05)	0.73** (0.06)	0.62** (0.02)	0.62** (0.02)	0.12 (0.11)	0.04 (0.05)	0.04 (0.05)	0.04 (0.05)	0.04 (0.05)	0.04 (0.04)	0.06** (0.02)
Married/cohabiting	-0.47** (0.05)	0.21+ (0.11)	-0.47** (0.05)	-0.46** (0.05)	-0.46** (0.05)	-0.55** (0.13)	0.95** (0.02)	0.96** (0.02)	0.32** (0.06)	0.37** (0.06)	0.65** (0.14)	0.36** (0.06)	0.36** (0.06)	0.80** (0.15)	0.06** (0.02)	-0.03 (0.05)
Middle level education	0.19** (0.05)	0.19** (0.05)	0.19** (0.05)	-0.11 (0.12)	0.31* (0.14)	0.19** (0.05)	-0.39** (0.02)	-0.25** (0.06)	-0.39** (0.02)	-0.00 (0.05)	0.00 (0.05)	-0.21+ (0.11)	0.43** (0.14)	-0.00 (0.05)	-0.04* (0.02)	-0.04* (0.02)
High level education	0.28** (0.06)	0.28** (0.06)	0.28** (0.06)	-0.64** (0.16)	0.68** (0.17)	0.28** (0.06)	-0.59** (0.03)	-0.51** (0.08)	-0.59** (0.03)	-0.05 (0.06)	-0.04 (0.06)	0.24* (0.14)	0.37* (0.16)	-0.05 (0.06)	-0.08** (0.02)	-0.07** (0.02)
Age in years	-0.02** (0.00)	-0.02** (0.00)	-0.02** (0.00)	-0.02** (0.00)	-0.02** (0.00)	-0.02** (0.00)	0.04** (0.04)	0.04** (0.00)	0.04** (0.00)	-0.01 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.01** (0.00)	0.01** (0.00)
Period1:1965-1979	-1.45 (0.93)	-1.50 (0.95)	-1.48 (0.94)	-1.48 (0.95)	-1.49 (0.95)	-1.49 (0.95)	-0.22 (0.49)	-0.22 (0.49)	-0.22 (0.49)	-0.73 (0.85)	-0.72 (0.85)	-0.72 (0.86)	-0.73 (0.85)	-0.72 (0.85)	-0.77 (0.62)	-0.77 (0.62)
Period2:1980-1989	-1.59** (0.55)	-1.63** (0.56)	-1.62** (0.55)	-1.59** (0.56)	-1.61** (0.56)	-1.62** (0.56)	0.10 (0.28)	-0.10 (0.28)	-0.11 (0.28)	-1.30* (0.50)	-1.29* (0.50)	-1.29* (0.51)	-1.29* (0.50)	1.30* (0.50)	-0.07 (0.36)	-0.08* (0.36)
Period3:1990-1998(ref)																
Institutional-level																
Gross national product/1000	-0.09* (0.05)	-0.08+ (0.05)	-0.11* (0.05)	-0.12* (0.05)	-0.11* (0.05)	-0.11* (0.05)	-0.03 (0.02)	-0.03 (0.02)	-0.03 (0.02)	-0.05 (0.04)	-0.05 (0.04)	-0.06 (0.04)	-0.06 (0.04)	-0.06 (0.04)	-0.02 (0.03)	-0.02 (0.03)
Childcare expenses	1.37* (0.56)	1.39** (0.57)	1.15+ (0.58)	1.37* (0.57)	1.37* (0.58)	1.37* (0.58)	0.29 (0.30)	0.20 (0.30)	0.22 (0.30)	0.48* (0.51)	0.47 (0.51)	0.47 (0.52)	0.47 (0.52)	0.49 (0.51)	-0.06 (0.38)	-0.06 (0.38)
Masculinity	0.02** (0.01)	0.02** (0.01)	0.02** (0.01)	0.02** (0.01)	0.02** (0.01)	0.03** (0.01)	0.04 (0.00)	0.01 (0.01)	-0.00 (0.00)	0.01+ (0.01)	0.01+ (0.01)	0.01+ (0.01)	0.02* (0.01)	0.02** (0.01)	0.00 (0.00)	0.00 (0.00)
Cross-level interactions																
Child < age 5 *GNP	-0.03** (0.01)									-0.02* (0.01)					0.01** (0.00)	
Child 5-15 * GNP	-0.02** (0.01)									0.00 (0.01)					0.00 (0.00)	
Married *GNP		-0.04** (0.01)									-0.02* (0.01)					0.00* (0.00)
Middle education *GNP				0.02** (0.01)								0.01* (0.01)				
High education *GNP				0.05** (0.01)								0.01 (0.01)				

Child < age 5 * childcare expenses		0.60**															
		(0.21)															
Child aged 5–15 * childcare expenses		0.36+															
		(0.19)															
Married * masculinity																	
Middle level education*masculinity																	
High level education* masculinity																	
Variance components																	
Institutional level	0.47**	.48**	0.48**	.49**	.49**	.49**	0.13*	0.06*	0.14**	.40	.39**	0.40**	0.40**	0.40**	0.23**	.23**	
Individual level	15.79**	15.78**	15.79**	15.79**	15.79**	15.79**	3.82**	2.01**	3.81**	19.12**	19.12**	19.12**	19.11**	19.12**	2.40**	2.40**	

** $p < 0.01$, * $p < 0.05$, + $p < 0.10$

Source: MTUS 1965-1998