ECONSTOR
Make Your Publications Visible.

A Service of

ZBW Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Hirsch, Boris; Konietzko, Thorsten

Working Paper

The effect of housework on wages in Germany: No impact at all

Diskussionspapiere, No. 74

Provided in Cooperation with:
Friedrich-Alexander-University Erlangen-Nuremberg, Chair of Labour and Regional Economics

Suggested Citation: Hirsch, Boris; Konietzko, Thorsten (2011) : The effect of housework on wages in Germany: No impact at all, Diskussionspapiere, No. 74, Friedrich-Alexander-Universität Erlangen-Nürnberg, Lehrstuhl für Arbeitsmarkt- und Regionalpolitik, Nürnberg

This Version is available at:
https://hdl.handle.net/10419/52386

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

WWW.ECONSTOR.EU

Mitglied der Leibniz-Gemeinschaft

FRIEDRICH-ALEXANDER-UNIVERSITÄT ERLANGEN-NÜRNBERG

Lehrstuhl für VWL, insbes. Arbeitsmarkt- und Regionalpolitik
Professor Dr. Claus Schnabel

Diskussionspapiere
Discussion Papers

NO. 74

The Effect of Housework on Wages in Germany: No Impact at All

BORIS HIRSCH AND THORSTEN KONIETZKO

NOVEMBER 2011

ISSN 1615-5831

Editor: Prof. Dr. Claus Schnabel, Friedrich-Alexander-Universität Erlangen-Nürnberg
© Boris Hirsch and Thorsten Konietzko

The Effect of Housework on Wages in Germany: No Impact at All*

Boris Hirsch and Thorsten Konietzko[a]

ABSTRACT: This paper presents evidence on the impact of hours spent on housework activities on individuals' wages for Germany using data from both the German Socio-Economic Panel and the German Time Use Survey. In contrast to most of the international literature, we find no negative effect of housework on wages. This holds for men and women, for married and single individuals, and for part-time and full-time workers both in West and East Germany. Our insights do not change when we distinguish different types of housework activities or address the endogeneity of housework in our wage regressions by using instrumental variables estimators.

ZUSAMMENFASSUNG: Auf Grundlage zweier deutscher Datensätze, des Sozio-oekonomischen Panels und der Zeitbudgeterhebung, untersucht dieser Beitrag den Einfluss der für Hausarbeit aufgewandten Zeit auf die Löhne. Im Gegensatz zum Gros der internationalen Forschungsliteratur findet sich kein negativer Effekt der Hausarbeit auf die Löhne. Dieses Ergebnis zeigt sich in West- wie Ostdeutschland sowohl für Frauen und Männer, für verheiratete Individuen und Singles als auch für Teilzeit- und Vollzeitbeschäftigte. Unsere Ergebnisse ändern sich zudem nicht, wenn wir verschiedene Formen von Hausarbeit unterscheiden oder die Endogenität der geleisteten Hausarbeit in den Lohnregressionen mithilfe von Instrumentvariablenschätzungen berücksichtigen.

Keywords: housework, time use, gender pay gap, Germany

New JEL-Classification: J16, J31, J22

* We would like to thank Claus Schnabel for very helpful suggestions. We also appreciate the comments received from participants of the 4th Ph.D. workshop of the Institute of Employment Research in October 2011.

[a] University of Erlangen–Nürnberg, Chair of Labour and Regional Economics, Lange Gasse 20, 90403 Nürnberg, Germany,
email: boris.hirsch@wiso.uni-erlangen.de; thorsten.konietzko@wiso.uni-erlangen.de

1 INTRODUCTION

It is well known that women are more engaged in housework activities than men (e.g., Burda *et al.*, 2008; Maani and Cruickshank, 2010) and that there is also a considerable gender pay gap with women earning significantly less than men (e.g., Altonji and Blank, 1999; Weichselbaumer and Winter-Ebmer, 2005). It is, however, less known how the amount of time spent on housework activities affects workers' wages. If housework has a negative impact on wages, the gender difference in time spent on housework activities may contribute to explaining the gender pay gap. There is a growing empirical literature documenting that hours spent on housework activities adversely affect workers' wages which also finds the effect to be more pronounced for women than for men and to differ according to marital status. More recent contributions also report a different impact of housework on wages for part-time and full-time workers and that the effect varies for different types of housework activities and is particularly strong for daily routine housework (for a recent survey of the literature, see Maani and Cruickshank, 2010).

While there has been considerable research on the impact of housework on wages using U.S. data, some studies have also looked at other Anglo-Saxon countries, such as the UK, Australia, and Canada. Yet, to our knowledge only two studies exist for continental European economies that differ much in their labour market institutions compared to Anglo-Saxon economies. Moreover, in continental European countries like Italy or Germany women show a much lower labour market attachment and thus the housework–wage relationship may differ here, too. The current paper is intended to fill this gap by systematically investigating the effect of time spent on housework on individuals' wages for Germany. What is more, the German case seems to be of particular interest given the persistent differences between the East and the West German labour markets: While labour market participation of East German women is found to be significantly higher than for West German women (e.g., Adler and Brayfield, 1997; Hanel and Riphahn, 2011), there is also ample evidence that the gender pay gap is lower in East Germany (e.g., Hunt, 2002; Maier, 2007).[1] Given these profound differences, investigating the effect of housework on wages separately for East and West Germany may also shed some light on the different gender pay gaps in both parts of Germany.

The remainder of this paper is organised as follows: Section 2 reviews the existing theoretical and empirical literature on the housework–wage nexus and derives our hypotheses. Section 3 presents our econometric specification. Our data are

[1] Related to these findings, there is also evidence that considerable prejudices against female (full) employment are still present in Germany and are more pronounced among West Germans (e.g., Lee *et al.*, 2007).

described in Section 4. Section 5 presents and discusses our results, and Section 6 concludes.

2 Literature Review and Hypotheses

There are at least two reasons why we should expect a negative relationship between wages and the time spent on housework activities. On the one hand, Becker (1985) argues that housework activities are more demanding than leisure and other non-market activities, so that individuals engaged in housework may spend less effort on market activities and thus earn lower wages. Furthermore, housework may interfere with market work and thus lower productivity because it may, for instance, limit individuals' possibilities to engage in network activities after work, to stay at work late to complete projects, or to attend training courses (e.g., Bonke *et al.*, 2005). On the other hand, individuals with more housework responsibilities may select themselves into jobs offering more flexible working arrangements (such as flexible working hours) that result in negative compensating wage differentials or into jobs or occupations that are less demanding and for this reason pay lower wages.

The existing empirical literature has investigated the impact of housework on wages predominantly using U.S. data (e.g., Coverman, 1983; Hersch, 1991*a*; 1991*b*; Hersch and Stratton, 1997; 2002; McLennan, 2000; Keith and Malone, 2005; Hersch, 2009) and generally finds a significantly negative effect of the hours spent on housework on wages, the only exception being the study by McLennan (2000). This even holds after controlling for sectors and occupations, thereby accounting for possible negative compensating differentials. Additional studies by McAllister (1990), Phipps *et al.* (2001), Bonke *et al.* (2005), and Bryan and Sevilla-Sanz (2010) use data from Australia, Canada, Denmark, and the UK, respectively, and arrive at similar conclusions as the U.S. studies.[2] The same holds for Anger and Kottwitz (2009) using survey data from the German Socio-Economic Panel.

The main empirical problem when investigating the impact of housework on wages is the potential endogeneity of hours spent on housework in the wage equation. Most evidently, reversed causality may be at work: Since individuals with higher wages have higher opportunity costs of housework activities, high-wage individuals may decide to reduce their time spent on housework, e.g., by substituting market purchases for home production (Hersch and Stratton, 1997).[3] Additonally,

---

[2] For a recent survey on the existing theoretical and empirical literature on the effect of housework on wages we refer to Maani and Cruickshank (2010).

[3] For empirical analyses finding a negative impact of wages on hours allocated to housework activities we exemplarily refer to Hersch and Stratton (1994) for the U.S. as well as Gwozdz and

endogeneity may stem from unobserved heterogeneity: For instance, individuals with higher innate abilities may be more likely to specialise in market work and thus less likely to engage in housework activities (Bryan and Sevilla-Sanz, 2010). Failing to account for any of these sources of endogeneity would yield a downward-biased coefficient of hours spent on housework in wage regressions and could therefore even result in a spurious negative effect of housework on wages. To address endogeneity problems, the literature has applied both fixed-effects (FE) and instrumental-variables (IV) estimators, where instruments used include the characteristics of other household members or information on the type and ownership of residence (cf. Maani and Cruickshank, 2010). While typically the significantly negative impact of housework on wages also shows up in FE wage regressions, studies using IV techniques usually find that time spent on housework is exogenous, so that instrumenting housework is not necessary at all (e.g., Hersch and Stratton, 1997; Bryan and Sevilla-Sanz, 2010). One notable exception is the study by McLennan (2000) who finds no effect of housework on wages once the endogeneity of time spent on housework activities is accounted for.

Most empirical studies also document heterogeneous effects of housework on wages depending on gender, marital status, and working hours. Usually, women suffer higher wage losses from housework activities than men, and some studies also report higher wage losses for married as opposed to single women (e.g., Hersch and Stratton, 2002; Bryan and Sevilla-Sanz, 2010). As Hersch and Stratton (2002) argue, the latter result may reflect more severe constraints on the division and timing of housework activities for married individuals that are more likely to interfere with labour market activities. Moreover, Bryan and Sevilla-Sanz (2010) argue that part-time work may be more compatible with housework activities, so that housework should have less an impact on wages of part-time workers. In line with this argument, they find that there is a negative impact of housework on married women's wages only if they work full-time hours.

Finally, some papers investigate whether the impact of housework is the same for different housework tasks. For instance, Hersch and Stratton (2002) group housework tasks into three categories of housework: "typically female" tasks include cooking, cleaning, laundry, and shopping, "typically male" tasks consist of outdoor, maintenance, and repair activities, and "neutral" tasks include doing bills and driving other household members. Including the hours spent on these different categories of housework activities in FE wage regressions they find that the negative effect of housework on women's wages is mainly driven by the more pronounced negative impact of "typically female" housework on wages. As an

---

Sousa-Poza (2010) for Germany. The latter paper also includes a comprehensive review of the empirical literature on this issue.

explanation of their finding, Hersch and Stratton argue that these housework tasks are more likely to interfere with market work as they are routine daily activities that usually cannot be postponed. In a similar vein, Hersch (2009) reports that only "daily housework", such as cleaning, laundry, and meal preparation, has a significantly negative effect on wages, whereas other categories of housework do not adversely affect wages.

Based on the existing theoretical and empirical literature on the impact of housework on wages our empirical analysis will test the following four hypotheses:

Hypothesis 1: We expect the time spent on housework activities to have a negative impact on wages because it constrains workers' effort dedicated to market activities and flexibility, but less an impact for part-time workers who should find it easier to juggle market work and housework activities.

Hypothesis 2: Following the empirical findings in the literature, we suspect the impact of housework on wages to differ for men and women, with women suffering higher wage losses due to housework activities than men. Furthermore, we expect the effect to differ according to marital status as married individuals may be less flexible in the division and timing of housework activities.

Hypothesis 3: Given the profound differences between women's labour market behaviour in East and West Germany with East German women being more attached to the labour market we expect an even stronger adverse impact of time spent on housework on wages for East German women compared to West German women.

Hypothesis 4: Since different housework tasks are likely to differ in their interference with on-the-job performance, we also suspect that routine tasks on a daily basis like cooking, shopping, and laundry have a stronger adverse effect on wages than other tasks.

3 Econometric Specification

To investigate the impact of housework on wages, we run standard wage regressions. Our standard specification is

$$\ln w_{it} = \mathbf{x}_{it}^{'}\boldsymbol{\beta} + \gamma_1 hw_{it} + \gamma_2 pt_{it} + \gamma_3 hw_{it} pt_{it} + v_i + u_{it}, \quad (1)$$

where $\ln w_{it}$ is the log hourly wage of individual i in period t, $\mathbf{x}_{it}$ a vector of control variables, hw_{it} the hours spent on housework per week (on weekdays), pt_{it} a

dummy for part-time work (i.e. less than 30 hours a week), $hw_{it}pt_{it}$ the interaction term of these, v_i a person fixed effect, and u_{it} the idiosyncratic error component.

Our *first hypothesis* concerns the marginal effect of housework on average wages. The effect for full-time workers γ_1 is expected to be negative, while the interaction effect with part-time work γ_3 should be positive if part-time workers are more flexible when engaging in housework activities. To test our *second hypothesis* of different effects of housework (and other covariates) by gender and marital status, we run separate regressions for men and women as well as for singles and married individuals. We expect the marginal effect of housework to be more pronounced for women and especially for married women as these may be less flexible. To test our *third hypothesis* of different housework effects for West German and East German women, we run all these regressions separately for West and East Germany. Eventually, we test our *fourth hypothesis* of different effects for different categories of housework activities in a way following Hersch and Stratton (2002) and Hersch (2009) by including more disaggregated measures of housework in the wage regressions. We distinguish categories of housework that are performed on a routine daily basis and other types of housework that are easier to be postponed.

The vector of control variables $\mathbf{x}_{it}$ includes standard measures of human capital endowments, i.e. years of schooling, labour market experience (linearly and squared), and job tenure (linearly and squared), the number of children in the household, the spouse's employment status (if present), a dummy for a temporary contract, and a set of dummies for the federal state the individual is living in.[4] Moreover, we include a set of dummies for firm size and (one-digit) industry. As we discussed in Section 2, individuals spending more time on housework may select themselves into less demanding jobs or jobs with more flexible working conditions and thus negative compensating wage differentials. To control for this sort of selection, we further include a dummy for flexible working hours and a set of dummies for the (one-digit) occupation.

To arrive at reliable effects of hours spent on housework on wages, it is crucial to control for time-invariant unobserved heterogeneity. Otherwise, the estimated marginal effect of housework is likely to be biased downwards due to innate ability differences of individuals – with more able individuals being more career-oriented and thus more likely to earn higher wages and less likely to spend many hours on housework. This is achieved by including the fixed effect v_i. As further discussed in Section 2, hours spent on housework may still be endogenous because of reversed

[4] We follow Bryan and Sevilla-Sanz (2010) in using actual rather than potential experience, i.e. total cumulated working experience from full-time and part-time work. Using potential experience instead does not change our results.

causality with high-wage individuals being less likely to engage in housework yielding a negative correlation between hw_{it} and the idiosyncratic error component u_{it}. To deal with these endogeneity concerns, we also run IV-FE regressions, where we follow the literature (e.g., Hersch and Stratton, 1997; Bryan and Sevilla-Sanz, 2010) and instrument the time spent on housework (and the interaction term with part-time work) by three variables: two dummy variables indicating whether the individual lives in a house (vis-à-vis a flat) and whether he or she owns the place, and information on the size of the place. This should provide us with exogenous variation in hours spent on housework unrelated to wages.

4 Data and Descriptive Evidence

For our empirical analysis we use data from two different sources: We utilise ten waves of the German Socio-Economic Panel (GSOEP) comprising the years 2000–2009 and data from the 2001/2002 German Time Use Survey. The GSOEP is a representative longitudinal survey administered by the German Institute for Economic Research (*DIW Berlin*) covering about 11,000 households and more than 20,000 individuals. It contains detailed yearly information on individuals' socio-demographic characteristics, labour market experience, gross wages, working hours, and household structure.[5] Furthermore, in every wave, household members were asked about the number of hours they spent on five different housework activities on a typical working day (i.e. Monday to Friday). The housework activities included are "errands (shopping, trips to government agencies, etc.)", "housework (washing, cooking, cleaning)", "childcare", "care and support for persons in need of care", and "repairs on and around the house, car repairs, garden work". Together with the wage data included we can use this information to analyse the impact of time spent on housework activities on hourly *gross* wages (deflated by the 2005 consumer price index).

Our second data set is the 2001/2002 German Time Use Survey (GTUS) provided by the German Federal Statistical Office. In addition to information on individuals' socio-demographic characteristics, net wages, and working hours, it contains detailed time diaries with precise information on individuals' time allocation (distinguishing 272 possible activities) over a typical working day in ten minutes intervals.[6] Thus, the main advantage of the GTUS over the GSOEP is the more precise and detailed information on individuals' time spent on different housework activities. That said, its main disadvantages compared to the GSOEP are two: Firstly, it is only a cross-sectional data set and thus does not allow us to run FE

[5] For details on the GSOEP we refer to Wagner *et al.* (2007).

[6] For details on the GTUS, see Federal Statistical Office (2005) or Ehling *et al.* (2001).

wage regressions and, secondly, monthly *net* wages included are interval-censored with intervals' width being €100, thereby adding noise to our dependent variable.

Our samples comprise individuals aged 16–60 years who are working full-time or part-time (i.e. 30 hours a week or less). We exclude apprentices, individuals on military or civilian national service, and self-employed workers. To eliminate potential outliers in the GSOEP data, we further exclude the top and bottom one per cent of observations with respect to hourly gross wages and the top five per cent of observations with respect to hours spent on housework.[7] After dropping observations with missing covariates our samples comprise 56,266 observations (31,383 for men and 24,883 for women) for the GSOEP data and 2,102 observations (1,122 for men and 980 for women) for the GTUS data.

Table 1 presents summary statistics for hours spent on housework activities and hourly log wages for men and women separately for East Germany and West Germany and separately by marital status using our GSOEP sample. Singles are defined as individuals without a partner, while married individuals comprise all individuals who live with a spouse or partner in the same household.[8] Regarding total hours spent on housework, we find that women dedicate much more time to housework activities than men. Married West German (East German) women spend about 22.3 (21.3) hours a week on housework, whereas married West German (East German) men allocate only 13.8 (15.3) hours per week to housework activities. On the other hand, single individuals devote considerably less time on housework. While there is also a clear gender difference in time spent on housework for singles, this difference is less pronounced compared to married individuals: West German (East German) single women spend 14.5 (16.5) hours a week on housework, whereas West German (East German) single men have 11.2 (13.4) hours of housework per week. Disaggregating total hours on housework into five categories, we find that women (both married women and singles) predominantly spend time on housework activities such as cooking, cleaning, and laundry, while married men spend more of their housework time on maintenance and repair activities. This is in line with Hersch and Stratton (2002) and Hersch (2009) who report considerable gendering of different housework tasks, with daily routine activities such as cooking, cleaning, and laundry being "typically female" activities as opposed to "typically male" activities such as maintenance and repair.

(Table 1 about here)

---

[7] In consequence, we drop individuals with hourly gross wages below €1.92 or above €43.15 as well as individuals who report to spend more than 60 hours a week on housework activities.

[8] Note that considering married individuals in a strict sense only, i.e. excluding cohabiting individuals from our analyses, does not change our conclusions.

Furthermore, Table 1 documents gender pay gaps for all groups that are considerably more pronounced in West Germany and for married individuals. In West Germany, married women's hourly *gross* wages are 29 log points lower than men's on average, while the difference in East Germany only amounts to 8 log points. For singles gender pay gaps both in East and West Germany are considerably lower: Single women's average hourly gross wages in West Germany are 10 log points lower than single men's, while the difference is just 3 log points in East Germany. Consequently, those women with highest hours spent on housework suffer the largest earning differentials relative to men. Related to this, we find a negative correlation between hours spent on housework and wages of –0.162 that is also more pronounced for the subsample of women than for the subsample of men. For additional descriptive information on our GSOEP sample, see Table A1 in the Appendix.

Table 2 presents the same descriptive statistics as in Table 1 for our GTUS sample. While the overall results of Table 1 are also found with the more precise time use data (i.e. women spent much more time on housework activities and in particular on routine activities than men, and there are considerable differences by marital status), gender differences in hours spent on housework activities are even a little more pronounced in this data set. Gender pay gaps in the GTUS sample differ considerably more between West and East Germany. In West Germany married women's hourly *net* wages are 38 log points lower than men's on average, while the difference in only 25 log points in East Germany. For single women we observe 7 log point lower average *net* wages than for men in both West and East Germany. Other than in the GSOEP sample, those women with highest hours spent on housework do not generally suffer the largest earning differentials relative to men. Interestingly, the correlation between hours spent on housework and wages is zero (0.008) and does not differ between the subsamples of women and men. For additional descriptive information on our GTUS sample, see Table A2 in the Appendix.

(Table 2 about here)

5 RESULTS

We now turn to our regression results. Table 3 reports FE wage regressions on our GSOEP sample separately by gender and marital status for West and East German observations including the total number of hours spent on housework activities and

the interaction term with part-time work as main regressors of interest.[9] For West Germany the effect of housework on full-time workers' wages is small and insignificant for all groups with the exception of married females for whom there is a small positive effect that is significant at the 10 per cent level. Moreover, the interaction effect of housework and part-time work is insignificant in all cases. We therefore find no support for our first hypothesis of a negative effect of housework activities on wages that is less pronounced for part-time workers. Furthermore, no clear differences according to gender and marital status show up, and thus there is no support for our second hypothesis.

(Table 3 about here)

For East Germany the results are a little more mixed. The effect of housework on full-time workers' wages is negative but insignificant in all cases with the exception of married women for whom the wage decreases by 0.12 per cent for every additional hour spent on housework (significant at the 5 per cent level). Since in East Germany full-time working married women spend 21.3 hours to housework activities on average (see Table 1), the total effect of housework would account to roughly 2.6 per cent lower wages in total and therefore is rather small from an economic point of view. Furthermore, the interaction effect of housework with part-time work is significantly positive at the 5 per cent level, so that part-time working married women experience no wage losses from housework. Nevertheless, overall differences in the effect of housework on wages between West and East Germany are only minor, and thus there is little evidence corroborating our third hypothesis.

Turning to our GTUS sample, we unfortunately cannot fit FE wage regressions as the data come from a single cross section only, but have to rely on simple OLS wage regressions, the results of which are reported in Table 4. Although one should expect the coefficient of hours spent on housework activities to be biased downwards due to either unobserved permanent heterogeneity or reversed causality (see our earlier discussion in Sections 2 and 3), our results find no significantly negative effect of housework on wages for both full-time and part-time men and women living in either East or West Germany, be they married or not. Thus, the GTUS data do not give any support to our first three hypotheses.

(Table 4 about here)

[9] Note that running separate regressions for full-time and part-time workers (instead of including just an interaction term of hours spent on housework with part-time work) does not change our insights.

Since hours spent on housework may be endogenous for the reasons discussed above in Sections 2 and 3, we also fit wage regressions instrumenting hours on housework with dummies for living in a house and residence ownership and the size of the place. The results in Table 5 show no big qualitative changes, though the negative effect for full-time working married women in East Germany in the GSOEP sample becomes insignificant. Generally, instruments are strong and Hansen-Sargan tests in the GSOEP sample or simple Sargan tests in the GTUS sample, respectively, show that they are valid in all cases but one. In line with the literature (e.g., Hersch and Stratton, 1997; Bryan and Sevilla-Sanz, 2010), Durbin-Wu-Hausman tests in the GSOEP sample and robust Hausman tests in the GTUS sample, respectively, fail to reject the exogeneity of hours spent on housework in most cases, so that endogeneity of housework does not seem to play a major role in this context. In the few cases where housework does seem to be endogenous, however, the results do not change compared to the standard FE or OLS wage regressions reported earlier.

(Table 5 about here)

To test our fourth hypothesis that daily routine housework activities have a stronger negative impact on wages as opposed to those activities that are more easily postponed, we distinguish two categories of housework. As hours spent on daily routine housework activities we define the sum of hours spent on “shopping”, “washing, cooking, and cleaning”, “childcare”, and “care and support for persons in need of care”, whereas the hours spent on repair and maintenance activities form the second category.[10] As can be seen from Table 6, no clear patterns show up. Starting with the GSOEP sample, only for full-time working married women in East Germany there is a significantly negative impact of “routine housework activities”. Although the effect of repair and maintenance activities is even more pronounced for this group, it is imprecisely estimated and thus statistically insignificant. Similar to overall hours spent on housework, these negative effects are absent for part-time working women in East Germany. On the other hand, for part-time working married men in East Germany both categories of housework have a significantly positive impact. In West Germany, full-time working married women even experience a positive and significant effect of “routine housework activities” on wages. Similar results show up for the GTUS sample, but again no single type of housework activities has a significantly negative impact on workers’ wages both in West and East Germany – independently of gender and marital status. That said, there seems to be no clear evidence in line with our fourth hypothesis that the effect of

[10] Note that our results do not change qualitatively when excluding hours spent on “childcare” and “care and support for persons in need of care” from the “routine housework” category and adding these as a third category of housework activities to the wage regressions.

"routine housework" on wages is more negative that the effect of other housework activities.

(Table 6 about here)

Overall, we conclude that there is (almost) no evidence for any of our four hypotheses. Apart from married women in our East German GSOEP sample, for whom we find negative effects of time spent on housework on wages when working full-time hours and no effect when working part-time hours, our results do not indicate any clear effect of housework on wages.

6 CONCLUSIONS

In this paper, we have investigated the impact of time spent on housework activities on individuals' wages for Germany using two different data sets, the German Socio-Economic Panel and the German Time Use Survey. Following the existing theoretical and empirical literature, we expected the effect to be negative as housework activities are likely to constrain workers' effort dedicated to market activities and flexibility. Furthermore, we tested whether the impact of housework on wages is different according to gender, marital status, different types of housework activities and whether it differs for West and East Germany.

Applying fixed-effects (where possible) and instrumental-variables techniques to address problems of reversed causality and unobserved heterogeneity in our wage regressions, we find no evidence that wages are adversely affected by hours spent on housework activities for both data sets. This holds both for men and women, for married and single individuals, as well as for part-time and full-time workers both in West and East Germany. By using two independent data sets for Germany, we follow Hamermesh (2000, p. 376) in arguing that "the credibility of a new finding that is based on carefully analyzing two data sets is far more than twice that of a result based only on one".

Our results are in contrast to a growing international empirical literature, recently reviewed by Maani and Cruickshank (2010), that documents a clear adverse effect of housework on wages and that points at the gendered nature of housework with women spending much more time on housework activities than men (especially when married) as one possible explanation of the gender pay gap. In particular, we arrive at different conclusions than the only other study using German data by Anger and Kottwitz (2009) who report large, adverse effects of housework on wages for both men and women, but who constrain their analysis to full-time working, married individuals and also pool East German and West German

observations in their GSOEP sample. In contrast, we make use of a second data set, the German Time Use Survey, to assess the robustness of our results and also apply instrumental-variables estimators to address endogeneity problems in the extent of housework activities. What is more, Anger and Kottwitz (2009) do not control for flexible working arrangements likely to be positively correlated with hours spent on housework activities and also likely to yield negative compensating wage differentials, thereby adding downward bias to their housework coefficient, whereas we control for flexible working hours arrangements.

Our results do not find any systematic heterogeneity in the effect of housework on wages for subgroups of workers documented in earlier studies. Interestingly, the absence of a negative impact of housework on wages is not driven by our attempts to address endogeneity concerns (such as in the study by McLennan, 2000, who does not find an impact of housework on wages once correcting for the endogeneity of time spent on housework), but also holds in standard OLS wage regressions, where there are good reasons to think the coefficient of housework to be biased downwards.

From this we conclude that housework does not (adversely) affect wages in Germany. As a consequence, gender differences in the time spent on housework activities cannot contribute to the explanation of the persistent empirical regularity of the gender pay gap. While the existing international literature documenting a negative impact of housework on wages almost exclusively relies on data from Anglo-Saxon economies, it would be interesting to know whether other continental European countries are similar to the German case or whether East and West German labour markets represent a mere outlier from an international perspective.

REFERENCES

Adler, M.A. and Brayfield, A. (1997), “Women’s work values in unified Germany: Regional differences as remnants of the past”, *Work and Occupations*, 24(2): 245–265

Anger, S. and Kottwitz, A. (2009), “Mehr Hausarbeit, weniger Verdienst”, DIW Wochenbericht, 2009(6): 102–109

Altonji, J.G. and Blank, R.M. (1999), “Race and gender in the labor market”, in O.C. Ashenfelter and D.E. Card (eds.), Handbook of Labor Economics, vol. 3C, pp. 3143–3259, Amsterdam: Elsevier

Becker, G.S. (1985), “Human capital, effort, and the sexual division of labor”, Journal of Labor Economics, 3(1): S33–S58

Bonke, J., Datta-Gupta, N., and Smith, N. (2005), Timing and flexibility of housework and men and women's wages, in D.S. Hamermesh and G.A. Pfann (eds.), Contributions to Economic Analysis, vol. 271, pp. 43–78, Amsterdam: Elsevier Press

Bryan, M.L. and Sevilla-Sanz, A. (2010), "Does housework lower wages? Evidence for Britain", Oxford Economic Papers, 63(1): 187–210

Burda, M.C., Hamermesh, D.S., and Weil, P. (2008), The distribution of total work in the EU and USA, in T. Boeri, M.C. Burda, and F. Kramarz (eds.), Working Hours and Job Sharing in the EU and USA: Are Europeans Lazy? Or Americans Crazy?, pp. 13–91, Oxford: Oxford University Press

Coverman, S. (1983), "Gender, domestic labor time, and wage inequality", American Sociological Review, 48(5): 623–637

Ehling, M., Holz, E., and Kahle, I. (2001), "Erhebungsdesign der Zeitbudgeterhebung 2001/2002", Wirtschaft und Statistik, 2001(4): 427–436

Federal Statistical Office (2005), Technical Quality Report: The 2001/2002 Time Budget Survey, Wiesbaden: Federal Statistical Office

Gwozdz, W. and Sousa-Poza, A. (2010), "Explaining gender differences in housework time in Germany", Journal of Consumer Policy, 33(2): 183–200

Hamermesh, D.S. (2000), "The craft of labormetrics", Industrial and Labor Relations Review, 53(3): 363–380

Hanel, B. and Riphahn, R.T. (2011), The Employment of Mothers: Recent Developments and Their Determinants in East and West Germany, IZA Discussion Paper No. 5752, Bonn

Hersch, J. (1991a), "The impact of non-market work on market wages", American Economic Review (Papers and Proceedings), 81(2): 157–160

Hersch, J. (1991b), "Male–female differences in hourly wages: The role of human capital, working conditions, and housework", Industrial and Labor Relations Review, 44(4): 746–759

Hersch, J, (2009), "Home production and wages: Evidence from the American Time Use Survey", Review of Economics of the Household, 7(2): 159–178

Hersch, J. and Stratton, L.S. (1994), "Housework, wages, and the division of housework time for employed spouses", American Economic Review (Papers and Proceedings), 84(2): 120–125

Hersch, J. and Stratton, L.S. (1997), “Housework, fixed effects, and wages of married workers”, Journal of Human Resources, 32(2): 285–307

Hersch, J. and Stratton, L.S. (2002), “Housework and wages”, Journal of Human Resources, 37(1): 217–229

Hunt, J. (2002), “The transition in East Germany: When is a ten-point fall in the gender wage gap bad news?” Journal of Labor Economics, 20(1): 148–169

Keith, K., and Malone, P. (2005), “Housework and the wages of young, middle-aged, and older workers”, Contemporary Economic Policy, 23(2): 224–241

Lee, K.S., Alwin, D.F., and Tufiş, P.A. (2007), “Beliefs about women’s labour in the reunified Germany, 1991–2004”, European Sociological Review, 23(4): 487–503

Maani, S.A. and Cruickshank, A.A. (2010), “What is the effect of housework on the market wage, and can it explain the gender wage gap?” Journal of Economic Surveys, 24(3): 402–427

Maier, F. (2007), The Persistence of the Gender Wage Gap in Germany, Harriet Taylor Mill–Institut für Ökonomie und Geschlechterforschung Discussion Paper No. 01-2007, Berlin

McAllister, I. (1990), “Gender and the household division of labor: Employment and earnings variations in Australia”, Work and Occupations, 17(1): 77–99

McLennan, M.C. (2000), “Does household labour impact market wages?”, Applied Economics, 32(12): 1541–1557

Phipps, S., Burton, P., and Lethbridge, L. (2001), “In and out of the labour market: Long-term income consequences of child-related interruptions to women’s paid work”, Canadian Journal of Economics, 34(2): 411–429

Wagner, G.G., Frick, J.R., and Schupp, J. (2007), “The German Socio-Economic Panel Study (SOEP) – scope, evolution and enhancements”, Schmollers Jahrbuch (Journal of Applied Social Science Studies), 127(1): 139–169

Weichselbaumer, D. and Winter-Ebmer, R. (2005), “A meta-analysis of the international gender wage gap”, Journal of Economic Surveys, 19(3): 479–511

Table 1: Wages and hours spent on housework activities per week (working days) in West Germany and East Germany by marital status, working hours, and gender (GSOEP sample)

	West Germany								East Germany							
	Singles				Married				Singles				Married			
	Women		Men		Women		Men		Women		Men		Women		Men	
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
All workers																
Log gross hourly wages	2.45	0.40	2.55	0.41	2.49	0.43	2.78	0.37	2.24	0.43	2.27	0.42	2.35	0.44	2.43	0.43
Housework	14.50	9.45	11.19	7.31	22.26	12.03	13.75	9.62	16.47	9.53	13.41	8.10	21.31	10.53	15.30	9.57
Cooking / Cleaning / Laundry	6.73	4.20	4.31	3.54	10.65	6.02	2.99	3.35	6.60	3.55	4.37	3.40	8.63	4.51	3.29	3.36
Shopping	4.67	2.79	4.04	2.96	5.28	2.97	3.07	3.14	5.54	2.67	4.68	2.82	5.58	2.79	4.11	3.20
Repairs	1.34	2.73	2.43	3.59	2.58	3.45	4.02	4.17	2.22	3.57	3.56	4.37	2.94	3.69	5.11	4.81
Childcare	1.49	5.18	0.30	2.17	3.37	7.16	3.53	5.73	1.85	5.53	0.52	2.90	3.65	6.96	2.59	4.97
Care and support for persons in need of care	0.30	2.22	0.13	1.28	0.44	2.14	0.16	1.30	0.30	1.65	0.33	2.11	0.60	2.36	0.25	1.45
Observations	4,762		5,254		12,935		18,185		1,461		1,782		5,725		6,162	
Full-time workers																
Log gross hourly wages	2.51	0.36	2.59	0.38	2.59	0.37	2.78	0.36	2.29	0.39	2.28	0.40	2.38	0.43	2.44	0.43
Housework	13.13	8.32	11.23	7.35	16.62	9.63	13.63	9.52	15.15	8.33	13.55	8.12	18.81	9.06	15.20	9.54
Cooking / Cleaning / Laundry	6.21	3.86	4.29	3.50	8.13	4.71	2.93	3.31	6.07	2.99	4.37	3.46	7.78	4.07	3.26	3.35
Shopping	4.53	2.78	4.02	2.98	4.74	3.04	3.03	3.14	5.42	2.50	4.66	2.84	5.33	2.70	4.09	3.21
Repairs	1.21	2.58	2.51	3.64	1.82	3.09	4.03	4.16	2.01	3.16	3.67	4.27	2.57	3.39	5.08	4.77
Childcare	0.94	4.00	0.30	2.19	1.64	4.93	3.51	5.63	1.45	4.92	0.57	3.04	2.75	5.72	2.56	4.91
Care and support for persons in need of care	0.27	2.20	0.13	1.30	0.32	1.84	0.16	1.30	0.23	1.57	0.31	1.95	0.46	1.89	0.25	1.46
Observations	3,690		4,823		6,257		17,700		1,066		1,617		3,935		5,995	
Part-time workers																
Log gross hourly wages	2.26	0.47	2.14	0.52	2.39	0.46	2.45	0.56	2.11	0.50	2.19	0.51	2.28	0.44	2.24	0.47
Housework	19.21	11.41	10.73	6.86	27.55	11.64	18.01	11.73	20.01	11.46	12.09	7.87	26.80	11.42	19.01	10.14
Cooking / Cleaning / Laundry	8.50	4.80	4.47	3.93	13.00	6.16	5.10	4.26	8.01	4.45	4.30	2.70	10.50	4.85	4.40	3.37
Shopping	5.17	2.75	4.29	2.73	5.79	2.80	4.45	2.85	5.87	3.07	4.85	2.56	6.14	2.91	4.85	2.54
Repairs	1.79	3.14	1.60	2.93	3.29	3.61	3.92	4.46	2.79	4.45	2.39	5.17	3.77	4.14	5.96	5.91
Childcare	3.38	7.72	0.24	1.90	4.99	8.44	4.34	8.45	2.92	6.81	0.03	0.39	5.61	8.79	3.62	6.58
Care and support for persons in need of care	0.44	2.29	0.14	0.98	0.55	2.38	0.22	1.33	0.47	1.85	0.57	3.28	0.89	3.13	0.20	1.29
Observations	1,072		431		6,778		485		395		165		1,790		167	

Notes: The data set used is the GSOEP, waves 2000–2009.

Table 2: Wages and hours spent on housework activities per week (working days) in West Germany and East Germany by marital status, working hours, and gender (GTUS sample)

	West Germany								East Germany							
	Singles				Married				Singles				Married			
	Women		Men		Women		Men		Women		Men		Women		Men	
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
All workers																
Log net hourly wage	1.96	0.63	2.03	0.38	2.14	0.45	2.52	0.32	1.76	0.64	1.83	0.25	1.91	0.44	2.16	0.61
Housework	12.08	9.38	6.99	7.14	24.13	10.99	12.70	10.36	13.39	8.83	9.89	8.79	18.87	10.76	12.94	9.00
Cooking	1.72	2.26	0.49	1.12	4.93	3.44	1.30	1.81	2.58	3.00	0.73	1.17	4.51	4.05	1.41	1.80
Cleaning	1.93	2.38	0.57	1.47	3.94	3.51	1.30	2.56	2.46	2.27	0.97	1.47	2.67	2.90	1.40	2.35
Laundry	0.89	1.79	0.08	0.50	2.34	2.91	0.12	0.50	1.03	1.38	0.16	0.51	1.64	1.87	0.07	0.35
Garden	0.81	2.17	0.32	1.75	1.19	2.48	1.31	3.14	0.76	1.73	1.40	2.53	0.97	2.31	2.03	3.39
Repairs	0.40	1.41	0.78	2.83	0.17	1.27	1.60	4.67	0.07	0.31	0.89	2.31	0.26	1.04	1.54	3.30
Shopping	2.66	3.50	1.17	1.97	3.41	3.32	1.93	4.17	3.22	3.12	3.01	4.12	3.19	2.69	1.92	3.08
Organization	0.26	0.67	0.23	1.17	0.61	1.80	0.42	1.62	0.50	0.91	0.01	0.07	0.29	0.72	0.33	0.98
Childcare	0.80	2.59	0.18	1.04	3.50	5.09	2.00	3.18	0.68	1.84	0.06	0.27	2.20	3.66	1.40	3.12
Care and support for persons in need of care	0.03	0.33	0.06	0.47	0.08	0.62	0.02	0.22	0.01	0.06	0.00	0.00	0.08	0.52	0.10	0.77
Observations	226		115		528		790		66		29		160		188	
Full-time workers																
Log net hourly wage	1.91	0.66	2.03	0.38	2.21	0.42	2.52	0.32	1.89	0.33	1.83	0.25	1.95	0.45	2.16	0.61
Housework	10.37	7.92	6.84	7.02	18.73	10.39	12.65	10.34	13.18	8.92	9.89	8.79	18.00	10.96	12.87	8.87
Cooking	1.28	1.74	0.50	1.13	3.99	3.36	1.29	1.81	2.49	2.90	0.73	1.17	4.20	3.67	1.40	1.80
Cleaning	1.73	2.29	0.55	1.42	2.89	3.09	1.29	2.56	2.42	2.28	0.97	1.47	2.38	2.86	1.40	2.35
Laundry	0.76	1.57	0.08	0.50	1.66	2.29	0.12	0.50	1.01	1.37	0.16	0.51	1.60	1.83	0.07	0.35
Garden	0.74	2.23	0.31	1.75	0.74	1.60	1.32	3.15	0.77	1.74	1.40	2.53	0.88	2.31	2.02	3.38
Repairs	0.34	1.31	0.72	2.67	0.05	0.30	1.60	4.67	0.07	0.31	0.89	2.31	0.21	0.70	1.51	3.21
Shopping	2.52	3.54	1.12	1.82	3.30	3.38	1.93	4.18	3.25	3.20	3.01	4.12	3.18	2.81	1.91	3.07
Organization	0.21	0.60	0.23	1.18	0.66	1.91	0.42	1.62	0.51	0.94	0.01	0.07	0.26	0.63	0.33	0.99
Childcare	0.41	1.42	0.18	1.05	2.56	5.82	1.99	3.16	0.70	1.88	0.06	0.27	2.09	3.61	1.39	3.08
Care and support for persons in need of care	0.03	0.35	0.06	0.47	0.06	0.42	0.03	0.30	0.01	0.07	0.00	0.00	0.09	0.57	0.10	0.78
Observations	141		107		108		768		58		29		105		186	
Part-time workers																

Log *net* hourly wage	2.25	0.33	2.04	0.47	2.10	0.46	2.41	0.37	1.07	1.29	0.00	0.00	1.82	0.41	2.12	0.47
Housework	22.63	10.76	14.85	9.63	27.43	10.02	19.92	12.15	16.18	7.52	0.00	0.00	22.69	8.98	42.76	13.75
Cooking	4.43	3.05	0.05	0.34	5.50	3.37	2.80	2.15	3.88	4.15	0.00	0.00	5.86	5.25	4.04	1.72
Cleaning	3.15	2.57	1.73	3.30	4.58	3.60	1.69	2.04	2.98	2.18	0.00	0.00	3.93	2.76	0.26	0.29
Laundry	1.69	2.70	0.01	0.07	2.75	3.17	0.25	0.47	1.34	1.56	0.00	0.00	1.84	2.02	0.00	0.00
Garden	1.19	1.74	0.89	1.89	1.47	2.86	0.96	2.34	0.59	1.71	0.00	0.00	1.37	2.31	5.84	3.72
Repairs	0.74	1.87	4.09	6.96	0.24	1.59	1.83	4.82	0.07	0.36	0.00	0.00	0.49	1.91	15.44	11.17
Shopping	3.53	3.14	3.64	5.59	3.49	3.29	1.83	1.96	2.93	1.90	0.00	0.00	3.24	2.13	6.04	4.87
Organization	0.56	0.92	0.02	0.14	0.59	1.74	0.87	2.23	0.43	0.44	0.00	0.00	0.41	1.02	0.00	0.00
Childcare	3.21	5.40	0.05	0.34	4.07	4.51	4.75	4.71	0.34	1.20	0.00	0.00	2.71	3.88	7.02	12.60
Care and support for persons in need of care	0.00	0.00	0.00	0.00	0.10	0.72	0.03	0.11	0.00	0.00	0.00	0.00	0.02	0.08	0.00	0.00
Observations	85		8		420		22		8		0		55		2	

Notes: The data set used is the GTUS 2001/2002.

Table 3: Fixed-Effects wage regressions for West and East Germany by marital status and gender (GSOEP sample)

	West Germany				East Germany			
	Single		Married		Single		Married	
	Women	Men	Women	Men	Women	Men	Women	Men
Housework (hrs per week)	0.0002	0.0002	0.0007	0.0003	-0.0015	-0.0004	-0.0012	-0.0003
	(0.0007)	(0.0005)	(0.0004)	(0.0002)	(0.0012)	(0.0010)	(0.0005)	(0.0004)
Housework * part time	0.0007	-0.0045	-0.0005	-0.0007	-0.0003	-0.0064	0.0018	0.0084
	(0.0016)	(0.0039)	(0.0006)	(0.0021)	(0.0037)	(0.0062)	(0.0008)	(0.0034)
Part time	-0.1011	-0.0196	-0.0078	-0.0686	-0.0132	0.0465	-0.0334	-0.2380
	(0.0344)	(0.0682)	(0.0191)	(0.0442)	(0.0828)	(0.1130)	(0.0268)	(0.0852)
Employment status partner			0.0012	-0.0037			-0.0032	-0.0010
			(0.6500)	(0.0530)			(0.0024)	(0.0027)
Number of children	0.0232	0.0103	-0.0002	0.0176	0.0473	-0.0125	0.0211	0.0145
	(0.0214)	(0.0256)	(0.0078)	(0.0040)	(0.0285)	(0.0474)	(0.0094)	(0.0073)
Years of education	0.0552	0.0631	0.0335	0.0326	0.0959	0.0993	0.0151	0.0554
	(0.0244)	(0.0207)	(0.0117)	(0.0132)	(0.0308)	(0.0413)	(0.0308)	(0.0238)
Experience	0.0475	0.0500	0.0469	0.0599	0.0538	0.0603	0.0774	0.0789
	(0.0171)	(0.0203)	(0.0104)	(0.0112)	(0.0267)	(0.0227)	(0.0143)	(0.0162)
Experience^2	-0.0006	-0.0006	-0.0004	-0.0004	-0.0007	-0.0004	-0.0006	-0.0003
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0001)	(0.0001)
Tenure	0.0092	0.0038	0.0049	0.0014	0.0064	0.0131	0.0027	0.0059
	(0.0043)	(0.0042)	(0.0028)	(0.0015)	(0.0074)	(0.0055)	(0.0027)	(0.0023)
Tenure^2	-0.0001	0.0000	0.0000	0.0001	0.0003	-0.0004	-0.0001	-0.0001
	(0.0001)	(0.0001)	(0.0001)	(0.0000)	(0.0002)	(0.0002)	(0.0001)	(0.0001)
Flexible working time	-0.0749	-0.0178	-0.0271	-0.0453	0.0818	0.0146	-0.0480	-0.0121
	(0.0359)	(0.0264)	(0.0174)	(0.0120)	(0.0592)	(0.0533)	(0.0319)	(0.0189)
Temporary contract	0.0197	0.0054	0.0174	0.0088	-0.0025	0.0101	0.0192	0.0206
	(0.0162)	(0.0158)	(0.0098)	(0.0088)	(0.0343)	(0.0309)	(0.0184)	(0.0141)
Observations	4,762	5,254	12,935	18,185	1,461	1,782	5,725	6,162
Individuals	1,479	1,603	3,231	4,256	473	545	1,269	1,400
R^2 (within)	0.1205	0.0836	0.0347	0.0719	0.1541	0.0781	0.0519	0.0695

Notes: The data set used is the GSOEP, waves 2000–2009. The dependent variable is the log *gross* hourly wage. Standard errors clustered at the individual level are given in parentheses. Further controls included are sets of dummy variables for establishment size, states of residence, years, one-digit industry, and one-digit occupation.

Table 4: OLS wage regressions for West and East Germany by marital status and gender (GTUS sample)

	West Germany				East Germany			
	Single		Married		Single		Married	
	Women	Men	Women	Men	Women	Men	Women	Men
Housework (hrs per week)	-0.0058	0.0149	0.0033	0.0012	0.0045	-0.0005	-0.0003	-0.0014
	(0.0056)	(0.0085)	(0.0029)	(0.0010)	(0.0070)	(0.0051)	(0.0043)	(0.0051)
Housework * part time	0.0028	-0.0210	-0.0034	-0.0068	0.0101	Omitted	-0.0011	0.0189
	(0.0060)	(0.0123)	(0.0033)	(0.0075)	(0.0166)		(0.0070)	(0.0114)
Part time	0.0183	0.3377	0.0040	-0.1128	-0.2538	Omitted	-0.0582	-1.0567
	(0.1297)	(0.1862)	(0.0905)	(0.1827)	(0.4169)		(0.1666)	(0.4489)
Employment status of partner			-0.0691	-0.0566			0.0214	-0.1021
			(0.0297)	(0.0175)			(0.0617)	(0.0868)
Years of schooling	0.0664	0.0699	0.0371	0.0374	0.0410	0.0144	0.0551	0.0302
	(0.0141)	(0.0197)	(0.0071)	(0.0048)	(0.0164)	(0.0340)	(0.0144)	(0.0136)
Experience	0.0634	0.0602	0.0165	0.0279	-0.0061	0.0182	0.0131	0.0491
	(0.0149)	(0.0177)	(0.0134)	(0.0069)	(0.0202)	(0.0259)	(0.0174)	(0.0315)
Experience²	-0.0011	-0.0012	-0.0002	-0.0004	0.0006	-0.0001	-0.0001	-0.0011
	(0.0003)	(0.0005)	(0.0003)	(0.0001)	(0.0006)	(0.0008)	(0.0004)	(0.0006)
Number of children	0.0742	0.0954	-0.0291	0.0285	0.0695	-0.0437	0.0160	-0.0727
	(0.0837)	(0.0505)	(0.0359)	(0.0146)	(0.0972)	(0.0953)	(0.0633)	(0.1014)
Flexible working time	0.0616	0.0755	0.1010	0.0679	0.1590	-0.0723	0.2373	-0.0176
	(0.0665)	(0.0714)	(0.0424)	(0.0229)	(0.1065)	(0.1119)	(0.0776)	(0.1078)
Individuals	226	115	528	790	66	29	160	188
R^2	0.3918	0.5886	0.1437	0.3406	0.5100	0.6211	0.3364	0.1802
Adjusted R^2	0.3291	0.4957	0.1064	0.3217	0.3223	0.2421	0.2354	0.0709

Notes: The data set used is the GTUS 2001/2002. The dependent variable is the log *net* hourly wage. Robust standard errors are given in parentheses. Further controls included are sets of dummy variables for one-digit industry and one-digit occupation. “Omitted” refers to cells with no observations.

Table 5: (Fixed-effects) instrumental-variables wage regressions for East and West Germany by marital status and gender

	West Germany				East Germany			
	Single		Married		Single		Married	
	Women	Men	Women	Men	Women	Men	Women	Men
GSOEP (FE IV)								
Housework (hrs per week)	0.0336	-0.0746	0.0586	0.0111	-0.0207	0.0509	-0.0013	-0.0065
	(0.0794)	(0.1612)	(0.0291)	(0.0060)	(0.0274)	(0.1080)	(0.0178)	(0.0092)
Housework * part time	0.1001	0.5080	-0.0561	0.0923	0.0120	-0.3611	-0.0249	-0.0157
	(0.0804)	(0.6828)	(0.0342)	(0.0626)	(0.0247)	(0.5760)	(0.0469)	(0.0581)
Sargan-Hansen test (*p* value)	0.7029	0.3830	0.9716	0.6374	0.4645	0.7695	0.7711	0.1093
Durban-Wu-Hausman test (*p* value)	< .0001	0.5771	0.0017	0.0109	1.0000	0.9730	1.0000	1.0000
Observations	4,679	5,140	12,766	17,889	1,448	1,754	5,638	6,060
Individuals	1,457	1,575	3,184	4,188	467	535	1,249	1,383
GTUS (IV)								
Housework (hrs per week)	-0.0280	0.0148	-0.0100	0.0439	-0.0167		0.0164	0.0224
	(0.2528)	(0.0555)	(0.0389)	(0.0290)	(0.0296)		(0.1690)	(0.2436)
Housework * part time	-0.1362	-0.0697	0.0018	-0.1980	-0.0553		0.0522	4.6834
	(0.2937)	(0.1349)	(0.0414)	(0.1288)	(0.1065)		(0.2325)	(39.3145)
Sargan test (*p* value)	0.6605	0.1180	0.0040	0.4068	0.7247		0.7815	0.8181
Robust Hausman test (*p* value)	1.0000	1.0000	0.9997	0.3712	1.0000		1.0000	1.0000
Individuals	222	114	520	782	66		159	187

Notes: The data sets used are the GSOEP, waves 2000–2009, and the GTUS 2001/2002. The dependent variable is the log *gross* hourly wage in the GSOEP samples and the log *net* hourly wage in the GTUS samples, respectively. Standard errors (clustered at the individual level in the GSOEP samples and robust in the GTUS samples) are given in parentheses. Further controls included are years of schooling, experience (linearly and squared), tenure (linearly and squared), number of children in the household, sets of dummy variables for flexible working time, temporary contract, establishment size, states of residence, years, one-digit industry, and one-digit occupation. Instruments for housework included in the first stage regressions are two dummy variables for living in a house (as opposed to a flat) and residence ownership as well as the size of the place.

Table 6: Fixed-effects and OLS wage regressions for East and West Germany by marital status and gender distinguishing different types of housework activities

	West Germany				East Germany			
	Single		Married		Single		Married	
	Women	Men	Women	Men	Women	Men	Women	Men
GSOEP (FE)								
Routine housework	-0.0001	0.0003	0.0010	0.0001	-0.0017	-0.0005	-0.0011	-0.0005
	(0.0008)	(0.0007)	(0.0004)	(0.0002)	(0.0013)	(0.0014)	(0.0006)	(0.0005)
Repair and maintenance activities	0.0020	-0.0002	-0.0006	0.0007	-0.0010	0.0001	-0.0017	0.0001
	(0.0017)	(0.0010)	(0.0010)	(0.0004)	(0.0028)	(0.0015)	(0.0012)	(0.0007)
Routine housework * part time	0.0013	-0.0049	-0.0009	-0.0002	0.0009	-0.0017	0.0019	0.0084
	(0.0018)	(0.0043)	(0.0006)	(0.0024)	(0.0036)	(0.0044)	(0.0009)	(0.0041)
Repair and maintenance activities * part time	-0.0036	-0.0033	0.0018	-0.0034	-0.0044	-0.0118	0.0007	0.0083
	(0.0045)	(0.0104)	(0.0015)	(0.0050)	(0.0065)	(0.0090)	(0.0020)	(0.0052)
Part time	-0.1034	-0.0185	-0.0058	-0.0658	-0.0202	0.0118	-0.0337	-0.2381
	(0.0347)	(0.0674)	(0.0192)	(0.0438)	(0.0821)	(0.1033)	(0.0269)	(0.0849)
Observations	4,762	5,254	12,935	18,185	1,461	1,782	5,725	6,162
Individuals	1,479	1,603	3,231	4,256	473	545	1,269	1,400
R^2 (within)	0.1207	0.0833	0.0348	0.0720	0.1541	0.0787	0.0519	0.0693
GTUS (OLS)								
Routine housework	-0.0081	0.0123	0.0039	0.0011	0.0043	-0.0005	-0.0012	-0.0014
	(0.0054)	(0.0064)	(0.0030)	(0.0014)	(0.0075)	(0.0058)	(0.0050)	(0.0053)
Repair and maintenance activities	0.0140	0.0430	-0.0535	-0.0007	-0.0817	-0.0041	-0.0208	0.0023
	(0.0375)	(0.0196)	(0.0336)	(0.0024)	(0.0730)	(0.0223)	(0.0665)	(0.0122)
Routine housework * part time	0.0043	-0.0080	-0.0037	-0.0058	0.0154	Omitted	0.0047	-0.0253
	(0.0058)	(0.0114)	(0.0034)	(0.0077)	(0.0194)		(0.0079)	(0.0092)
Repair and maintenance activities * part time	-0.0024	-0.0663	0.0328	0.0036	-0.0668	Omitted	-0.0381	0.0251
	(0.0393)	(0.0231)	(0.0363)	(0.0146)	(0.1508)		(0.0687)	(0.0230)
Part time	0.0059	0.3319	0.0065	-0.1622	-0.3307	Omitted	-0.1472	Omitted
	(0.1283)	(0.1690)	(0.0879)	(0.1632)	(0.4408)		(0.1769)	
Individuals	226	115	528	790	66	29	160	188
R^2	0.3958	0.6287	0.1468	0.3399	0.5181	0.6217	0.3498	0.1803
Adjusted R^2	0.3270	0.5348	0.1060	0.3192	0.3039	0.1853	0.2398	0.0653

Notes: The data sets used are the GSOEP, waves 2000–2009, and the GTUS 2001/2002. The dependent variable is the log *gross* hourly wage in the GSOEP samples and the log *net* hourly wage in the GTUS samples, respectively. Standard errors (clustered at the individual level in the GSOEP samples and robust in the GTUS samples) are given in parentheses. Further controls included are years of schooling, experience (linearly and squared), tenure (linearly and squared), number of children in the household, sets of dummy variables for flexible working time, temporary contract, establishment size, states of residence, years, one-digit industry, and one-digit occupation. "Omitted" refers to cells with no observations.

APPENDIX

Appendix Table 1: Descriptive statistics for West Germany and East Germany by marital status and gender (GSOEP sample)

	Singles				Married			
	Women		Men		Women		Men	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
West Germany								
Log *gross* hourly wages	2.45	0.40	2.55	0.41	2.49	0.43	2.78	0.37
Housework (hrs per week)	14.50	9.45	11.19	7.31	22.26	12.03	13.75	9.62
Routine housework activities	13.16	8.64	8.76	6.07	19.68	11.02	9.73	8.28
Part time	0.23	0.42	0.08	0.27	0.52	0.50	0.03	0.16
Years of schooling	12.60	2.59	12.28	2.57	12.28	2.69	12.43	2.78
Experience	14.18	10.78	12.89	10.28	18.73	9.69	20.82	9.76
Experience²	317.12	389.50	271.65	365.54	444.47	392.85	528.73	426.37
Tenure	8.13	8.46	8.57	8.84	11.32	9.66	13.46	10.54
Tenure²	137.63	256.44	151.44	275.47	221.40	323.10	292.28	375.48
Number of children	0.18	0.48	0.07	0.33	0.43	0.77	0.88	1.03
Flexible working time	0.08	0.27	0.08	0.28	0.07	0.26	0.07	0.26
Temporary contract	0.56	0.50	0.57	0.50	0.58	0.49	0.60	0.49
Observations	4,762		5,254		12,935		18,185	
East Germany								
Log *gross* hourly wages	2.24	0.43	2.27	0.42	2.35	0.44	2.43	0.43
Housework (hrs per week)	16.47	9.53	13.41	8.10	21.31	10.53	15.30	9.57
Routine housework activities	14.24	8.17	9.86	6.44	18.37	9.47	10.20	7.92
Part time	0.27	0.44	0.09	0.29	0.31	0.46	0.03	0.16
Years of schooling	13.14	2.31	12.66	2.40	13.17	2.41	12.97	2.57
Experience	16.05	11.75	12.91	10.18	20.98	9.61	21.81	9.54
Experience²	395.77	430.32	270.33	345.93	532.49	405.79	566.44	411.90
Tenure	9.37	9.93	7.07	7.48	11.34	9.13	10.45	9.17
Tenure²	186.31	342.09	105.88	215.84	211.97	301.05	193.29	313.09
Number of children	0.19	0.48	0.07	0.32	0.41	0.69	0.61	0.87
Flexible working time	0.07	0.25	0.08	0.28	0.03	0.16	0.07	0.26
Temporary contract	0.55	0.50	0.57	0.50	0.62	0.49	0.61	0.49
Observations	1,461		1,782		5,725		6,162	

Notes: The data set used is the GSOEP, waves 2000–2009

Appendix Table 2: Descriptive statistics for West Germany and East Germany by marital status and gender (GTUS sample)

	Singles				Married			
	Women		Men		Women		Men	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
West Germany								
Log *net* hourly wage	1.96	0.63	2.03	0.38	2.14	0.45	2.52	0.32
Housework (hrs per week)	12.08	9.38	6.99	7.14	24.13	10.99	12.69	10.36
Routine housework activities	2.20	2.13	0.71	1.13	4.62	2.61	2.14	2.05
Part time	0.14	0.35	0.02	0.13	0.63	0.48	0.01	0.08
Years of schooling	11.70	2.76	10.99	2.40	11.50	2.77	11.74	3.14
Experience	14.61	11.22	8.63	6.55	23.26	7.58	24.52	8.01
Experience²	338.81	430.74	116.95	218.56	598.44	361.36	665.06	415.53
Number of children	1.48	0.63	1.63	0.72	1.62	0.68	1.79	0.72
Flexible working time	0.48	0.50	0.54	0.50	0.57	0.50	0.61	0.49
Observations	226		115		528		790	
East Germany								
Log *net* hourly wage	1.76	0.64	1.83	0.25	1.91	0.44	2.16	0.61
Housework (hrs per week)	13.39	8.83	9.89	8.79	18.87	10.76	12.94	9.00
Routine housework activities	2.98	2.29	1.79	1.67	4.20	2.45	2.48	1.98
Part time	0.16	0.37	0.00	0.00	0.36	0.48	0.00	0.05
Years of schooling	11.75	3.27	11.17	2.34	12.18	2.90	12.25	3.25
Experience	15.83	10.15	8.73	7.39	21.12	6.61	23.49	7.17
Experience²	352.05	338.43	128.96	249.05	489.40	294.46	602.73	344.67
Number of children	1.26	0.51	1.39	0.66	1.62	0.62	1.64	0.61
Flexible working time	0.45	0.50	0.38	0.49	0.53	0.50	0.50	0.50
Observations	66		29		160		188	

Notes: The data set used is the GTUS, wave 2001/2002

In der Diskussionspapierreihe sind kürzlich erschienen:

Recently published Discussion Papers:

74	Hirsch, B., Konietzko, T.	The Effect of Housework on Wages in Germany: No Impact at All	11/2011
73	Hirsch, B., Schnabel, C.	Let's Take Bargaining Models Seriously: The Decline in Union Power in Germany, 1992 – 2009	07/2011
72	Hirsch, B., Mueller, S.	Firm Leadership and the Gender Pay Gap: Do Active Owners Discriminate more than Hired Managers?	12/2010
71	Hoffmann, S.	Schulabbrecher in Deutschland – eine bildungsstatistische Analyse mit aggregierten und Individualdaten	11/2010
70	Gartner, H., Schank, T., Schnabel, C.	Wage cyclicality under different regimes of industrial relations	10/2010
69	Hirsch, B., Schnabel, C.	Women Move Differently: Job Separations and Gender	08/2010
68	Hirsch, B., Mueller, S.	Temporary Agency Work and the User Firm's Productivity: First Evidence from German Panel Data	07/2010
67	List, J., Schnabel, C., Klaus, A.	Erfolg und Misserfolg bei der Ausbildungs-platzsuche: Eine empirische Untersuchung von Hauptschülern im Landkreis Nürnberger Land	05/2010
66	Mosthaf, A., Schnabel, C., Stephani, J.	Low-wage careers: Are there dead-end firms and dead-end jobs?	01/2010
65	Mosthaf, A., Schank, T., Schnabel, C.	Low-wage employment versus unemployment: Which one provides better prospects for women?	12/2009
64	Blien, U., Dauth, W., Schank, T., Schnabel, C.	The institutional context of an "empirical law": The wage curve under different regimes of collective bargaining	10/2009

Eine aktualisierte Liste der Diskussionspapiere findet sich auf der Homepage:
http://www.arbeitsmarkt.wiso.uni-erlangen.de/

An updated list of discussion papers can be found at the homepage:
http://www.arbeitsmarkt.wiso.uni-erlangen.de/