Partnered women's contribution to household labor income: persistent inequalities among couples and their determinants

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Abstract

This paper explores earnings inequalities within dual-earner couples in East and West Germany drawing on household-level panel data from 1992-2016. It has three aims: (1) to analyze how the partner pay gap (the pay gap between partners within one household) has developed over time, given institutional change, and whether the extent of inequality and temporal development vary between East and West Germany; (2) to explore variation in the partner pay gap by male partners' absolute earnings; and (3) to investigate the micro-level determinants of earnings inequalities within couples and determine whether their relevance varies between East and West Germany as well as by male partners' absolute earnings. We find women earn substantially less than their partners, and our regression results find no indication of a declining partner pay gap. Besides substantial variation between East and West Germany, our results also reveal important group-specific variation in the extent of the partner pay gap as well as in its determinants.

Key words: partner pay gap, gender inequality, employment, institutional change, time trends

1 Introduction

Income inequality has risen substantially since the 1980s (OECD 2015), as has inequality in households' access to work (Gregg et al. 2002). One of the mechanisms behind these rising inequalities at the household level is said to be the shift towards marital homogamy (Blossfeld and Buchholz 2009; Schwartz and Mare 2005). Marital homogamy, coupled with increased female labor market participation, is held to reinforce both earnings and employment inequalities across households. According to this argument couples with weak human capital are often at the bottom of the earnings distribution, because they are unable to access stable and well paid jobs, while those with considerable human capital resources, on the other hand,

are mostly concentrated at the top of the distribution with both partners in stable employment with high earnings. Crucial to this literature is a measure of homogamous marriage/unions based on each male or female partners' economic rankings *relative to those of their own sex* (e.g. Hyslop 2001; Schwartz 2010), *w*ith many researchers identifying an increasing tendency for high earning men to be married with high earning women (e.g. Sweeney and Cancian 2004). While such a strategy correctly identifies the relative rankings of partners in an economy's hierarchy and their similarity in terms of this relative positioning on the sex-specific income distribution, it fails to offer a clear measure of earnings inequalities *between partners.* Moreover, research on the partner pay gap, the differences in relative contributions to household labor income within couples, suggests that there is a troubling maintenance of gender inequalities in relationships: men in the majority of instances continue to substantially out-earn their female partners (Stier and Mandel 2009). These gaps in earned income have also been found to have adverse effects on women's labor market outcomes. Women in households with large partner pay gaps are more likely to decrease their working-time or to leave paid employment altogether (Dieckhoff et al. 2016; Shafer 2011), which in turn expose women and children to poverty risk in instances of relationship dissolution (Gadalla 2008; Holden 1991). While there is a considerable literature on the sources and consequences of income and employment inequalities across households, the literature which examines inequality dynamics *within households* – especially in dual-earner households – is still comparatively scant. Our contribution therefore seeks to direct attention to the economic inequalities in dual-earning heterosexual[i] couples. This paper examines the partner pay gap, its development over time and its determinants. Crucially, it also adopts an intersectional perspective extending current knowledge in its examination of variation in the partner pay gap by socio-economic position (defined by the male partner's position in the earnings distribution)[ii]. Finally, our paper takes a comparative stance in its examination of the partner pay gap in East and West Germany. Both contexts still differ in terms of their gender culture and also in terms of their economic situation. Our focus on dual-earners means that we can examine the temporal development of within couple inequalities net of women's increased labor force participation and explore the relevance of both spouses' labor market resources, behavior and situation on earnings' inequalities within couples. Our study draws on the German Socio-Economic Panel (SOEP) offering micro-level panel data collected at the household level, and for both partners, for a period covering 25 years.

2 Background: economic inequalities at the household level

2.1 Previous empirical work

Feminist researchers have been advocates of women's economic independence in relationships since the 1980s (Sørensen and McLanahan 1987; Pahl 1983), with attempts to 'deconstruct' the conceptualization of the family as a 'unit of shared interests' (Hobson 1990). Empirical analyses of women's economic position within marriage have been very consistent over time: marriages tend to be characterized by women's economic dependence on their husbands. Several papers, using the Luxembourg Income Study (LIS), presented evidence suggesting that women tend to contribute less to household labor income than their male partners. Most of these papers, however, did not focus on dual-earning couples: Hobson (1990) found only 3-12 percent of couples to be equally contributing to household labor income, with the remainder characterized by strong inequalities to the female partner's disadvantage. Similarly, Bianchi et al. (1999) found women to contribute substantially less in all countries examined, though wives' economic dependence was found to be lowest in social-democratic countries and greatest in conservative welfare states. Huber et al. (2009) arrive at similar conclusions and show in their analyses that the most central macro-level determinants of partnered women's contribution to household earnings are whether and how much women work (measured by rates of female labour force participation and part-time employment). Stier and Mandel (2009) reveal that women in dual-earner couples contribute 28-39 percent on average. Institutional context shapes her contributions however: women's relative contribution (within dual-earner couples) was lower in countries with a high share of female part-time employment and long maternity leave, while childcare coverage for small children increased it (ibid.). Evidence based on more recent data from the mid to late 2000s, and using a broader definition of household income, continues to find that women contribute substantially less to household income (Dotti Sani 2015). It is notable that all studies examining within-couple inequalities in household income contributions, even with the considerable passage of time, conclude that women's earnings within households remain secondary. The persistence of women's sizably lower contributions, even in countries with policy support for working-women and working-motherhood, suggests mechanisms for gendered allocation of paid and unpaid work within the home that are deeply entrenched.

We review the theories that offer accounts of the possible mechanisms fostering these gendered inequalities below.

2.2 Theoretical Accounts

Becker's (1991) household specialisation model theorises that *he* specialises in paid work and *she* specialises in unpaid house- and care-work. Specialisation is presented as a utility maximizing strategy, which is equally beneficial for both partners. Households are held to profit from men's stronger market-specific human capital on the one hand and from women's 'biological commitment' for care work in the home on the other. Gender specialization is therefore used to explain partnered women's economic inactivity or their part-time employment. Some scholars have extended Becker's specialization model (Becker and Moen 1999; Killewald and Gough 2013, p. 479) arguing that specialization can also be understood to be in operation within dual full-time working couples with one partner having a "career" and the other "holding a job". This would also constitute specialization as his career is prioritized while she is responsible for managing family and home reflected in: her holding a job offering more flexibility, fewer career opportunities and effectively fewer annual working hours.

Game theoretic and household bargaining models (Breen and Cooke 2005; Manser and Brown 1980), by contrast, conceptualize within household dynamics as conflictual, with couples described as bargaining over responsibility for unpaid work within the home. Here each partner uses their resources - be they economic, social or cultural - to avoid (or reduce the amount of) unpaid work within the home. From this perspective the weaker partner will have lower earning power as a direct result of their disproportionate responsibility for house and care work.

Finally, gender norm theory proposes that gender norms determine households' distribution of paid and unpaid labor. Here all action is regarded to be gendered, with gendered norms of behavior dictating the allocation of paid and unpaid care and housework couples engage in (West and Zimmerman 1987; Shelton and John 1996). Indeed, recent evidence for the US suggests that gender identity norms prescribe a strong preference for men to out-earn their female partners (Bertrand et al. 2015).

The theories reviewed here would predict women's economic positioning to be inferior to that of their partner even within dual-earner households. This is due to women's disproportionate investment in (or allocated responsibility for) housework and childcare having important short-term and long-term implications for their labor market advancement and returns. One reason behind earnings' inequalities within dual-earner couples is that women (especially mothers) often work part-time. However, even when working full-time, partnered women can be expected to contribute less to household labor income as the family dynamics outlined above bear direct implications for their labor market behavior, for how they are perceived by employers and thence their labor market outcomes.

2.3 Variability by socio-economic position

Research into the intersectionalities of women's labor market outcomes by socio-economic group (Budig and Hodges 2010; Mandel 2012; Cooke 2014) underscores the importance of analyses beyond the mean. We can expect that their spouse's earnings position has implications for partnered women's labor supply (e.g. the likelihood to work part-time or to leave the labor market) as well as the types of jobs women hold which in turn influences their relative contributions to household income. High spousal earnings can decrease female supply as it facilitates both specialization in housework as well as female retreat into traditional gender roles, should this reflect the couple's preference. Women married to low earners, by contrast, likely face financial pressures to work longer hours. More importantly even, high earning partners' may impose important constraints on their wives' labor market participation and career pursuit due to the job characteristics of highly paid jobs (over-time; job-related travel etc.) – constraints which women married to low-earners are less likely to experience. Women married to high earners may thus face unique pressures to leave the labor market when small children are around, reduce their working hours or – if working full-time – choose jobs which are still flexible enough to "take a backseat to the needs of the household and the spouse's career" (Killewald and Gough 2013, p. 479). Qualitative evidence by Stone (2007) provides strong support for the "constraint argument". She interviewed high achieving professional women (e.g. doctors, lawyers, bankers) who left their careers and exited the labor market because of the demands and privileging of his career, and specifically his absence from the home due to work commitments. At the same time, though, his higher earnings could make it economically possible to outsource housework and childcare enabling

her to work long hours – if this is a couple's preference. However, especially in West-Germany, most parents believe that it is not good for children (especially those of pre-school age) to spend excessive hours in non-parental care (Fagnani 2002). Overall, there are thus strong grounds to expect women partnered with high earners to contribute lower shares to household labor income than women partnered with low earners. In a world in which partners were randomly matched, of course, we would arrive at the same prediction even if women's labor market behavior was completely unresponsive to their husbands' earnings and labor market situation. But we know that partners are not randomly matched: unions tend to be educationally homogenous (this is also true for our sample, where the share of educational homogeneity is >65 percent, cf. Table A1). Men with high earnings potential tend to be matched to women with similar earnings potential. The implications of assortative mating for women's career decisions are unclear. (see discussion in Shafer 2011, p. 252). Those women who are most likely to be confronted with the constraints of their partner's high-paying job as well as to be provided with the economic freedom to follow traditional gender norms and reduce their working time tend to be women who would have the highest opportunity costs if they reduce working hours or opt for non-career jobs. By contrast, while women married to lower earners likely have lower absolute earnings given their (on average) lower education and hence lower individual opportunity costs to not working or to working reduced hours, these women's earnings are more central to the economic security of lower income households. Researchers have tried to examine the relative importance of individual economic opportunity and household context for female economic outcome over the years (see for example Harkness et al. 1997). What is becoming clearer now is the comparative stability in women's minority earner status within households (Moen and Sweet 2003; Van Berkel and De Graaf 1998) and empirical evidence appears to suggest that women's relative earnings within a relationship are more powerful in shaping women's employment than previously thought (Shafer 2011).

An empirical assessment of variability in women's relative contributions by their partner's socio-economic position regarding (1) the extent of within couple earnings inequality as well as (2) the determinants of these inequalities is therefore important to further explore the role of household context and opportunity costs.

2.4 Institutions and the variance in cultural context

We expect both institutional and gender normative contexts to shape earnings' inequalities among partners as well as the socio-economic group differences therein. Social policies, employment regulation and gender cultures are expected to shape earnings inequalities within dual-earner couples via their effect on type and extent of labor market participation and attainment. The institutional and macro-economic context of Germany has changed substantially during our 25 year observation period. These institutional and macro-economic changes are anticipated to inform the trends in the partner pay gap. We expect women's labor income to be both *directly* shaped via the shifting employment opportunities available to women, and *indirectly* shaped via the shifting employment opportunities women's partners face. Here, our distinction between direct and indirect effects seeks to underscore the *twin concerns* women in dual-earning households face, with women's relative labor income a function of both her and her partner's success in obtaining labor income.

2.4.1 Gender Culture

Cultural norms are central to women's labor force participation and labor market outcomes (Pfau-Effinger 1998; Pfau-Effinger and Smidt 2011; 1998; Boeckman et al. 2015); Dieckhoff et al. 2016; Evertsson and Grunow 2016). While East and West Germany have the same institutional framework, the cultural legacy of the socialist German Democratic Republic has imparted a gender culture committed to working motherhood and a gender-equal division of paid work in East Germany while in West Germany more traditional views regarding the gender division of labor prevail (Trappe et al. 2015). Even though some convergence in female labor supply between East and West Germany has been observed (Simonson et al. 2011), research continues to show that distinct cultural norms in East and West Germany lead to different employment behavior in both areas (e.g. Pfau-Effinger and Smidt 2011). Cultural norms relating to gender roles and working motherhood in East and West Germany continue to differ and remain important in structuring inequality dynamics within couples (e.g. Evertsson and Grunow 2016, Rosenfeld et al. 2004; Bauernschuster and Rainer 2012). We therefore conduct separate analyses of East and West Germany.

2.4.2 Institutions and institutional change

Family policies – especially maternity or parental leave arrangements[iii] and childcare provision – are central in shaping women's labor supply and attainment and hence for understanding their relative economic standing within the family. Maternity and parental leave function as a form of employment protection (see e.g. discussion in Mandel 2012) providing women/carers with the right to return to their position after a period of leave. While paid maternity and parental leave can thus serve to maintain mother's employment and occupational status, the effect of leave arrangements has been shown to hinge on its duration (see e.g. Stier and Mandel 2009; Boeckmann et al. 2015). No or very short leaves as well as very long leaves are deemed detrimental, while leaves of moderate duration are considered best suited for maintaining labor market attachment and encouraging positive career outcomes (e.g. Stier and Mandel 2009; Boeckmann et al. 2015). The total duration of paid leave in Germany has traditionally been long: in 1992 the first year of our observation period parental leave had just been extended from 18 to 36 months (though the lump sum benefit was just paid up to 24 months for parents below a certain household income threshold). However, parental reforms in 2007 entailed a substantial decrease in paid leave duration to 12 months (or 14 months if the other parent also takes up at least 2 months of leave), while at the same time moving from income-tested benefit to generous income replacement (e.g. Spiess and Wrohlich 2008).

The availability and affordability of childcare are known to exert positive effects on women's labor market outcomes. Germany is regularly accused of providing insufficient childcare coverage – especially for small children below three years of age –negatively affecting women's labor market attachment and opportunities (Gash 2009, Hank and Kreyenfeld 2003; see also Dieckhoff et al. 2016, p. 132 for an overview). More generally, insufficient availability makes it difficult for young mothers to work full-time. Childcare provision for children under three has started to experience notable growth from the 2000s onwards: from 17 percent in 2006 to 27 percent in 2010, to 37 percent by 2015 (OECD 2018). Relevant for our comparative perspective: in East Germany childcare coverage for very small children has traditionally been and continues to be markedly higher than in West Germany (Trappe et al. 2015).

Another policy dimension relevant to women's labor market attachment and attainment concerns the availability of part-time employment. While part-time work facilitates labor force participation, it has been argued to be detrimental for women's labor

market attainment. It has also been shown empirically, that part-time arrangements have negative implications for women's relative earnings within partnerships (Stier and Mandel, 2009). The rate of female part-time employment in Germany has increased substantially during the period we are observing from 26 to 37 percent – the nature of this change has been continuous (OECD 2019). Female part-time employment is notably lower in East Germany compared to West Germany, and there is no indication that rates of female part-time employment rates will converge (WSI 2018).

As argued earlier, partnered women's relative contribution to household labor income, or: the partner pay gap, is a function of both partner's labor market decisions, behavior, position and outcomes. High levels of employment, unemployment and wage protection make it less risky for households to prioritize one, typically male, breadwinner's earnings. The German labor market has undergone substantial deregulation during our observation period, which can be expected to have changed household level decision making regarding partnered women's employment and career decisions, because gender specialization has become increasingly economically risky (cf. Oppenheimer 1997). While the level of protection for permanent jobs has not changed notably during the time period we observe here, the deregulation of temporary employment had its' onset already in the mid-1980s and further continued over the time period analyzed with the most notable changes occurring in 1997/98 and 2003/04 (OECD 2013). Collective bargaining coverage has declined substantially; the most dramatic drop occurred in the first half of the 1990s, but the decline has continued steadily since (Visser 2013). Finally, labor market reforms (the Hartz reforms) introduced in the early and mid-2000s have substantially changed benefit entitlement rights: unemployment benefit duration was reduced, the means-tested but earnings-related unemployment assistance was replaced by basic income support, and conditionality was increased.

3 Hypotheses and Analytical Aims

Our analytical aim is, broadly, threefold. *First*, adopting a macro perspective, we explore whether, given institutional change, earnings' inequalities within couples have changed over time and also, whether the extent of inequality and their over-time development vary between East and West Germany. *Second*, again taking a macro-level perspective, we explore variation in the couple-level earnings inequalities by male partner's socio-economic position.

Third, we want to investigate the micro-level determinants which increase or decrease partnered women's contribution to household labor income and whether their importance varies between East and West Germany as well as by their partners' positioning in the earnings distribution.

3.1 Hypotheses pertaining to variability in the partner pay gap

In line with the theoretical accounts outlined above and previous empirical studies, we expect women to contribute less to household earnings than men. Concerning time trends, we expect a development towards more equal contributions to household labor income among dual-earner couples (*Hypothesis 1*). This is anticipated because the trend towards increased childcare and reduced maternity leave should improve women's labor market outcomes and attainment (with these positive effects believed to outweigh the negative ones of increasing part-time employment), and also because the ongoing trend of employment deregulation should increase female labor supply by making household specialization more risky. We further expect cultural and economic context to affect the extent of the partner pay gap and therefore hypothesize the partner pay gap to be less pronounced in East Germany compared to West Germany *(Hypothesis 2)*. This is anticipated because more egalitarian gender norms are conducive to equal dual-working and earning arrangements in partnerships in Eastern Germany; and also because childcare coverage continues to be higher than in the West. Moreover, overall income inequality is lower in East than in West Germany and the level of overall income inequality has been shown to have implications for the gender wage gap (Blau and Kahn 1992). Additionally, East German men earn much less than West German men. Both of these economic factors should also lead to lower levels of inequality in contributions to household labor income in Eastern Germany. We further anticipate important differences in the partner-pay gap by male partner's position in the earnings' distribution: and expect that women's relative contribution to household labor income will be lower if partnered with a high earning man and higher if partnered with a low earning man (*Hypothesis 3a*) despite the high share of educational homogamy in our sample. This prediction assumes that the couple context – with its constraints, economic needs, and economic possibilities – is more central for shaping women's decisions and outcomes than women's individual opportunity costs. In addition to our theoretical reasons for expecting a larger pay gap in couples where he is a

high earner, the structure of the earnings distribution also plays a role: male wages in the upper bound of the income distribution are generally more spread out than female ones.

3.2 Hypotheses pertaining to determinants of the partner pay gap

There exist a number of micro-level variables, which we expect – in line with previous empirical evidence and theory – to affect her relative contributions to household labor income. We predict that these vary between East and West Germany as well as by partners' earnings levels. We expect variability in these central micro-level predictors in East and West Germany (*Hypothesis 4*), anticipating that children (*Hypothesis 4.1*), her education (*Hypothesis 4.2*), and his labor market insecurity (*Hypothesis 4.3*) are less predictive of the partner pay gap in East Germany compared to West. This is hypothesized to be partly a function of differences in the prevalent gender culture: the general preference for equal dual-earning and against specialization in East Germany means that her education, the presence of children and his labor market insecurity should be less relevant in predicting her contribution compared to West Germany. Better childcare coverage in East Germany should further decrease the effect of children as a predictor in East Germany compared to West Germany. We furthermore predict the relevance of these micro-level determinants to vary substantially across the male partner's position on the earnings' distribution (*Hypothesis 5*): we anticipate children to be less predictive of her contributions when partnered with a low earner (*Hypothesis 5.1*) as economic necessity makes it harder to specialize; we predict her education to be more central when he is a low-earner (*Hypothesis 5.2*) as opportunity costs are not counterbalanced by constraints and the disincentive effects of a high earning partner; and finally we predict insecurities in his employment to be less relevant for her contributions when he is high earning (*Hypothesis 5.3*) as the risk of unemployment and, more importantly, unemployment entrapment, is lower among high earning (and highly educated) men.

4 Data and Analytical Strategy

We use the German Socio-Economic Panel (SOEP), a representative longitudinal household panel study that has been running since 1984 (Goebel et al. 2018). East Germany was included in the SOEP, as early as 1990, the year of German re-unification. Apart from this extension to

cover all German federal states in one study, the SOEP is not constrained to the original sample, but includes also households and individuals that enter the survey in later years. New entries happen through 1.) households splitting and individuals forming new households; 2.) individuals entering existing SOEP households (by moving in, birth etc.); and finally 3.) through regular refreshment samples (1998, 2000, 2006, 2011, 2012) (Kroh et al. 2018). Information is collected via different modes with face-to-face interviews being the default. Considerable effort and research are devoted to maximise cooperation and response rates (see Goebel et al. 2018; Schröder et al. 2013). The aforementioned regular refreshment samples ensure representativeness for all German federal states and sensible sample size despite attrition (for detailed information on fieldwork, survey modes and data quality management please see Goebel et al. 2018; for information on initial response rates and attrition please see Kroh et al.2018).

For our study we use data from 1992-2016. Given our research questions, we select dual-earning cohabiting heterosexual couples and those of "prime working age", excluding those below 25 and above 54 years. Before the age of 25 many individuals are still on their pathway into (stable) employment, while after the age of 54 some have begun to exit employment for retirement or begun their pathway to retirement (e.g. reduce their working time as part of a phased or partial retirement strategy)(e.g. Eurostat 2014; OECD 2019; Wanger 2010). This age selection also corresponds to the period when individuals are more likely to be in stable unions with shared earning and working strategies. Aside from these selections, we exclude all cases with missing information on key covariates[iv] resulting in a sample size of 11,554 for East Germany and 31,629 for West Germany. For our regression analyses the sample is further constrained to those with valid information for contract type, employee status and sector (please refer to Table A1 in the appendix for key sample statistics): resulting in a sample size of 9,280 for East Germany and 26, 234 for West Germany. Our dependent variable, the partner pay gap, is defined as her gross monthly labor income over the combined gross monthly labor income of the dual-earning couple. Our dependent variable reflects her *relative* contributions to total earned household income.

Our descriptive analyses aim to investigate how the partner pay gap varies across the two cultural and economic contexts under study, how it has evolved over time and how it varies by socio-economic position. All descriptive estimations are cross-sectionally weighted to ensure representativeness to the national population. The aim of our regression analysis is

to examine the individual-level and household-level determinants of the partner pay gap and whether these vary in East- and West-Germany as well as by socio-economic position. We examine variance in the partner pay gap by tertiles of the male partner's position in the annual earned income distribution. For this purpose we calculated tertile position separately for each survey year.

Our regression estimations treat the 25 years of panel data as repeat cross-sections. We fit Ordinary Least Square (OLS) regression models with robust standard errors that control for clustering within person years. Our models are corrected for selectivity into employment (Heckman 1979). Our Heckman selection models include age, nationality, education, the presence of a newborn in the preceding time period, children dummies, 24 year dummies and a constant:

$$D_i = \gamma' \mathbf{z}_i + u_i$$

with D a dichotomous variable identifying whether the woman is employed or not and **z** our vector of covariates. Year dummies are included to control for the increasing labor market participation and therefore lower selectivity of women across our time window, spanning more than two decades.

Our regressions examine the impact of individual-level and household-level variables on partnered women's relative contribution to household earnings. We include theoretically relevant *individual-level variables*: We differentiate between the presence of small children (4 years and younger), pre-school and young school children (between 5 and 11 years) and older children (aged 12 and older). We measure differences in educational level using two dichotomous variables distinguishing those in receipt of vocational qualifications as well as those in receipt of a tertiary degree. Variables pertinent to the *respondents' work situation and to that of their male partner include:* her and his working-time status (with part-time defined as working 30 hours or less in the main job), her and his fixed-term and temporary employment, her and his self-employment as well as her and his public sector employment. To examine how the level of women's contribution to household income has changed over time, we introduce a series of grouped time dummies into our model, providing a more detailed measurement of possible fluctuations over time than a continuous measure would.[v]

Finally, our models also include the following controls: age as a categorical variable, an indicator of whether she has a higher level of education than him or not, an indicator of whether a woman is substantially younger than her partner (age gap >3 years), and marital status.

5 Results

5.1 Time trends in the partner pay

We precede our analysis on the partner pay gap among dual-earner cohabiting couples with a brief exploration of time trends in dual-earning in West and East Germany. Figure 1 shows that over the observation period, West Germany exhibits an increase in dual-earning from 51 percent in 1992 to around 79 percent in 2016, which is a more substantial change than the one we observe for East Germany where the increase was from 63 to over 78 percent. While at the outset of our observation period, the share of dual-earner couples was 12 percentage points higher in East Germany, by the end of it East and West German rates have converged. Importantly, the graph also shows a strong upsurge in dual-earning from 2005 onwards, in both East and West Germany. This coincides with the introduction of the Hartz reforms, which entailed substantial labor market deregulation, as well as parental leave reforms, and the growth in childcare provision for small children.

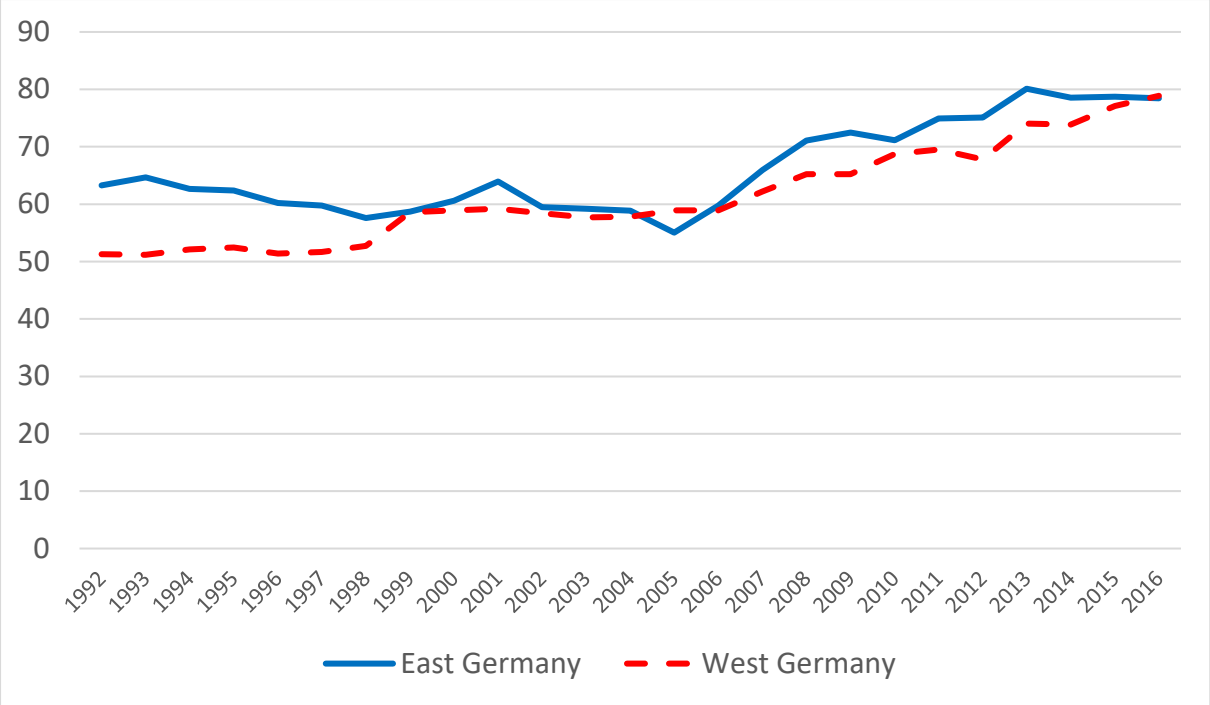

FIGURE 1: Trends in the Share of Dual Earning Households in %

Notes: Own calculations using SOEP 1992-2016. Only women aged 25-54years with working partners.

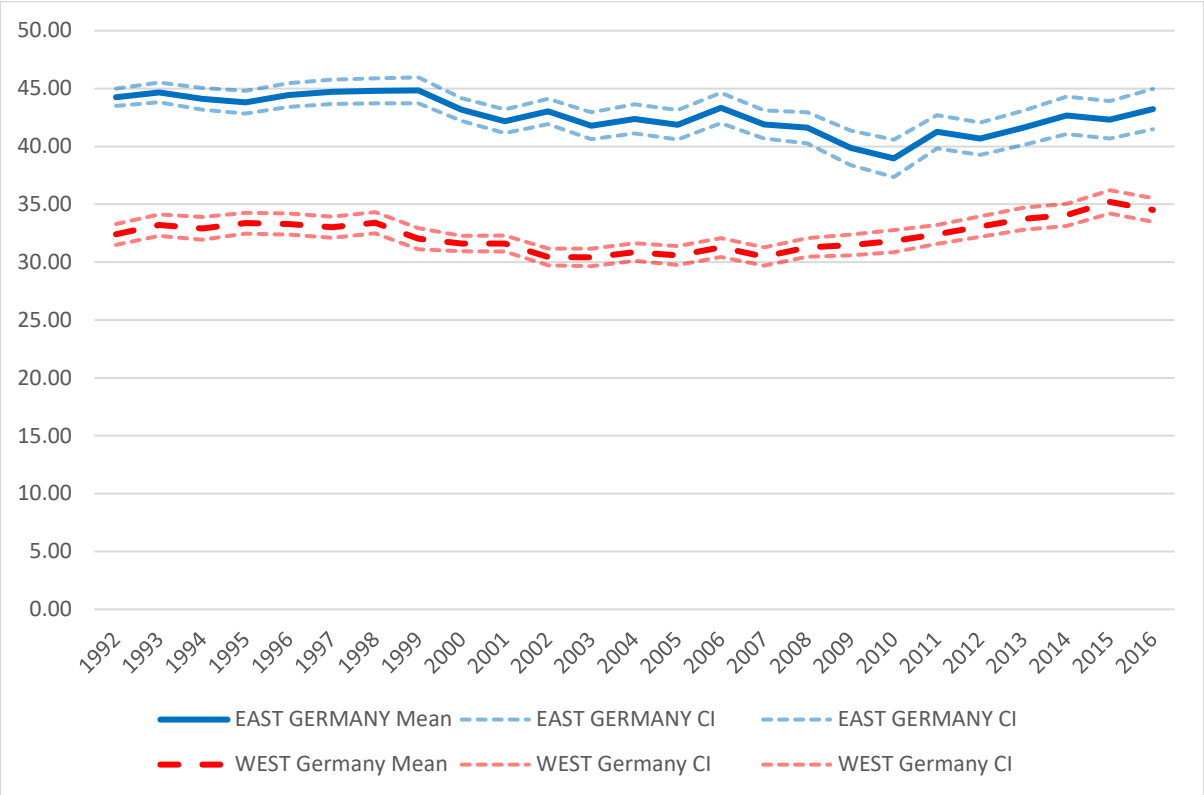

FIGURE 2 – Female Contribution to Household Labor Income in %

Notes: Own calculations using SOEP 1992-2016. Only dual earners, women aged 25-54years with working partners.

Figure 2 reveals the partner pay gap in dual-earner couples during our observation period. The partner pay gap measures her proportional contribution to household income. We observe very clear evidence of a partner pay gap, with women contributing substantially less than men. This graph demonstrates that the rise in dual-earning during our observation period, as shown in Figure 1, is not accompanied by a clear rise in equal-earning. The earnings gap within couples appears to be fairly resistant to the macro-level changes we had anticipated to trigger a decline in the partner pay gap. However, West German women show a small increase in their proportional contributions: these have increased by three percentage points over the whole observation period. Notably there was a growth of 5 percentage points between the mid 2000s and the end of our observation window, which can – in the same way as the growth in dual-earning – arguably be attributed to the aforementioned reforms and developments in Germany. Notably, however, East German women actually exhibit a decline over the observation period (by 2 percentage points). Overall, then, our descriptive evidence provides some but not very strong support for *hypothesis 1*.

There are interesting differences in her relative contributions by context as was predicted by *hypothesis 2*: East German women contribute higher proportions, between 40 and 45 percent, in West Germany her economic contribution is much lower, ranging from 30 to 34 percent. As outlined earlier, these East-West differences in the partner-pay gap may on the one hand be attributable to cultural differences and on the other due to economic differences, such as the lower level of overall income inequality in the East as well as the low earnings of East German men. Figures A1.1. and A1.2 (based on working individuals aged 25-54, but without selection on partnered individuals) in the annex demonstrate that the low absolute earnings of East German men are indeed also very central drivers of the East-West differences in the partner pay gap: East German men earn substantially less than their West German counterparts – both monthly and hourly – while East-West differences in women's earnings are much less pronounced. Notably, though, West German women's hourly earnings are higher, while East German women have slightly higher monthly earnings (their higher hourly labor market participation thus more than compensates the lower remuneration).

Figure 3 identifies variation in the partner pay gap by socio-economic position. We observe that the partner pay gap is least pronounced in partnerships where his earnings fall into the lowest tertile and most pronounced in partnerships where his earnings fall into the highest tertile confirming *hypothesis 3*. Given that partnerships tend to be homogenous in

terms of education (and hence earnings potential), our evidence does suggest partner's income, as well as the associated constraints of his high income position, trump the effect of opportunity costs for women in the highest tertile. We also find that economic necessity appears to encourage higher contributions of women, despite their lower opportunity costs, in the lowest income tertile. Additional analyses restricted to educationally homogamous couples confirm this pattern further supporting this interpretation (see annex Figure A2). But, as noted previously, aside from these explanations, differences between male and female wage structures at the top of the earnings distribution may also be a likely explanatory factor. There are some interesting differences across the analytic cases: first, East German women partnered with low earners reach earning parity, while in West Germany this group only contributes 40 percent of household labor income. East German women married to high earners contribute between 30-40 percent of total household labor income, while their contribution is again substantially lower in West Germany (between 22-28 percent in West Germany). Can we observe any tertile-specific trends in the data? We find some evidence that the small increase in her contributions over time which we saw in the pooled data for West Germany (especially from the mid 2000s onwards), is mainly driven by couples in the top und middle tertile. In East Germany the pooled analysis hid interesting differences by tertile: while women married to men at the top tertile of earnings experienced a decline in contributions of 8 percentage points over the observation period, women partnered with men in the middle or bottom of the distribution experience small increases in their contributions over the observation period (between 2-3 percentage points).

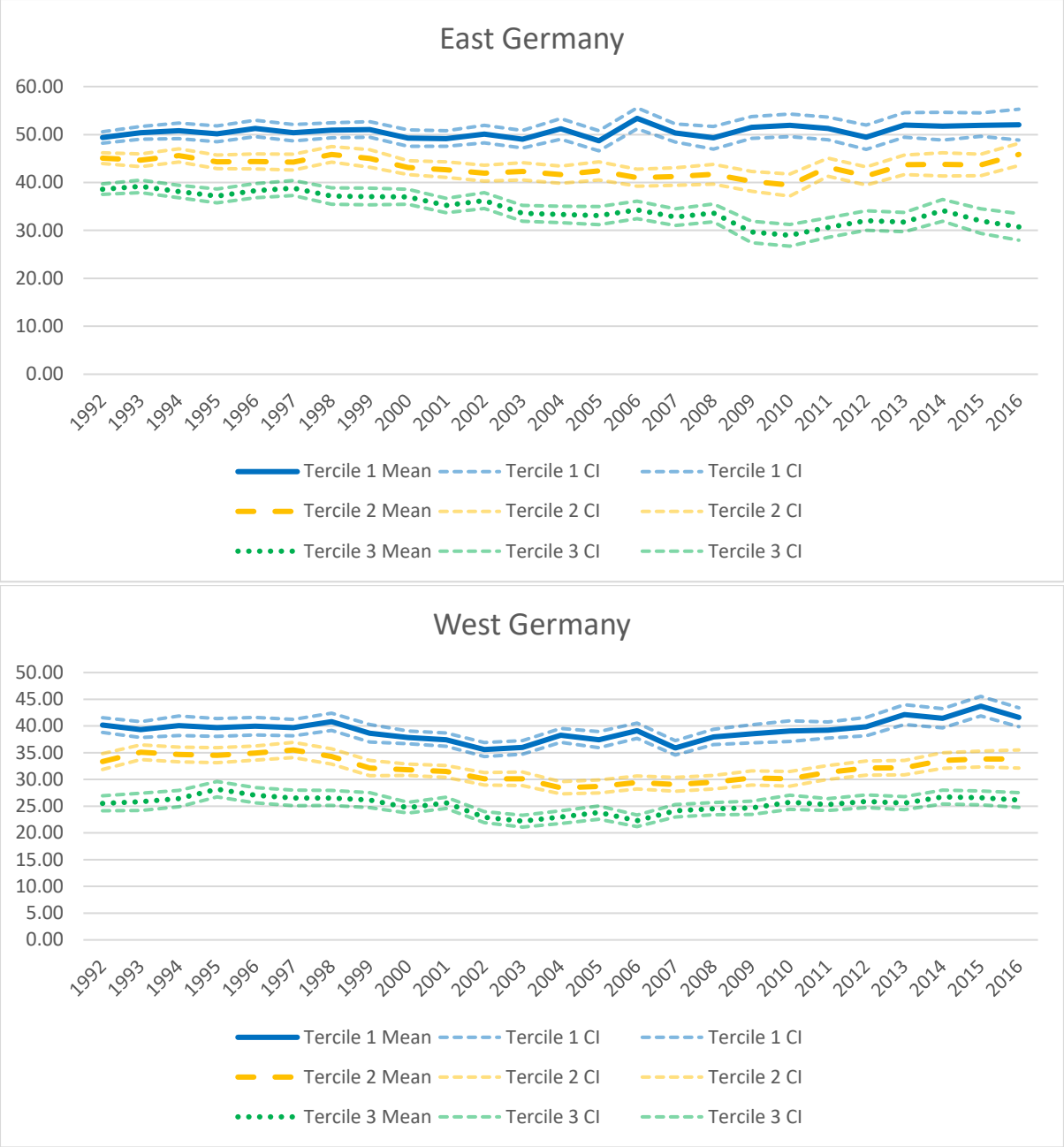

FIGURE 3 –Female Contribution to Household Labor Income in %, by Tertile

Notes: Own calculations using SOEP 1992-2016. Only dual earners, women aged 25-54years with working partners.

5.2 Determinants of the Partner Pay Gap

In Table 1 we try to uncover the variables which affect her relative economic contributions to household labor income in more detail controlling for labor market participation using a Heckman correction. We control for individual-level demographic variables that relate to her individual earning capacity, as well as variables pertaining to her working status and that of

her partner. Crucial to our analysis, we also measure trends and variation in her labor income share over time. We begin with a series of nested models that investigate *her mean contribution* without differentiating by socio-economic position. Model 1 controls for time period, standard socio-demographic variables as well as within couple differences therein, while Model 2 additionally includes variables that capture variance in both partners' labor market position. We show our regression analyses separately for East and West Germany. Note, though, that statements about significant differences between coefficients for East and West Germany are based on significance tests explicitly focusing on differences between the two samples. [vi]

Model 1 suggests that children in the home significantly decrease her economic contributions (by between 1.7 and 5.6 percentage points depending on the age of the child). Children are significantly less predictive of her earnings contributions in East Germany than in West Germany. This was hypothesized (*hypothesis 4.1*) given the greater gender egalitarianism in East Germany and its better childcare coverage. As one would expect, we find the size of the penalty for mothers declines substantially in Model 2 which controls for labor market characteristics, underscoring the central role of labor market choices and constraints. Notably, once we control for labor market characteristics, the differential effect of children in East and West Germany is no longer statistically significant. Contrary to Beckerian, as well as game-theoretic predictions, we find that women with vocational education contribute less household labor income than unskilled women in West Germany, while there is no significant difference between unskilled and skilled women in East Germany in Model 1. We do find, however, that women with university education contribute substantially and significantly more than unskilled women in West Germany, in East Germany the effect of a university degree is not significant.

TABLE 1 – Her relative contribution in % of household labor income as a function of socio-demographic, job characteristics, and time trends (Heckman corrected model)

	West Germany			East Germany		
	Model 1		Model 2	Model 1		Model 2
Age 35-44yrs	-0.796	*	0.603	* 0.350		0.238
Age 45-54yrs	-2.903	***	0.010	-0.105		-0.203
Vocational training	-2.049	**	-0.827	0.241		0.711
Tertiary education	1.925	*	0.213	2.534		0.214
Children 0 to 4	-3.360	***	1.201	* -2.071	*	-0.880

Children 5 to 10	-5.795	***	-0.913	**	-2.404	***	-0.953	**
Children 11+	-5.733	***	-1.729	***	-1.799	**	-1.089	**
Married	-6.211	***	-2.742	***	-0.304		0.410	
Woman younger	-0.609		-0.736	*	0.138		-0.135	
Woman higher education	3.009	***	2.980	***	6.285	***	5.750	***
Woman PT (<=30 hours)			-17.878	***			-12.303	***
Man PT (<=30 hours)			12.346	***			12.893	***
Woman fixed			-2.717	***			-4.087	***
Man fixed			4.097	***			3.909	***
Woman self empl.			-2.489	***			-2.726	**
Man self empl.			-1.283	*			0.331	
Woman public sector			4.260	***			6.762	***
Man public sector			0.099				2.918	***
Period 1997-2001	-2.189	***	-0.869	**	-0.088		0.414	
Period 2002-2006	-3.593	***	-1.160	**	-1.013		0.238	
Period 2007-2011	-4.084	***	-1.580	***	-3.117	***	-0.489	
Period 2012-2016	-3.518	***	-1.537	***	-2.200	**	0.165	
Inverse Mills Ratio	-6.072	***	-3.713	***	-3.801		-0.542	
Intercept	49.540	***	46.802	***	46.158	***	36.964	***
N of obs (R^2)	26,234 (R^2=0.18)		26,234 (R^2=0.49)		9,280 (R^2=0.08)		9,280(R^2=0.33)	

Notes: Own calculations using SOEP 1992-2016. Only dual earners, women aged 25-54years with working partners.
*p<.05 **p<.01, ***p<.001 (two-sided tests). Robust standard errors accounting for clustering within person years.

The differential impact of her tertiary education in East and West Germany is not statistically significant, however, and *hypothesis 4.2* can therefore not be confirmed. Once the effect of (his and her) labor market participation and allocation is accounted for in Model 2, tertiary education is no longer a relevant predictor in West Germany. Interestingly, we find a sizable marital penalty in West Germany but not East Germany.

Our results confirm the negative impact that part-time employment has on women's economic status within households. We find that women contribute between 12-18 percentage points less to household income if they work part-time, and similarly, that women's contributions are much greater, 13 percentage points higher if their partner works part-time. Likewise, also her fixed-term employment is found to reduce her contributions (by 3 to 4 percentage points), while the opposite is the case for her partner's fixed-term employment – this increases her contributions by 4 percentage points. We find negative effects of her self-employment in both East and West Germany. His self-employment decreases her contributions significantly in West-Germany, but not in East Germany (and this difference between East and West is statistically significant). The variation between his self-

employment in East and West is not statistically significant, however. Finally, our results show that women's contributions are higher if based in the public sector in both East and West Germany. His public sector employment significantly increases her contribution in East Germany, but not in West Germany. Aside from his public sector employment, we find no evidence that his labor market characteristics are more important predictors of her relative contributions in West Germany compared to East Germany. Specifically, we had predicted that his labor market insecurity – measured by fixed-term employment – would be a stronger predictor of her contributions in West Germany compared to East (*hypothesis 4.3*). The rationale was that her supply and contributions would be more responsive to economic insecurity in a setting with a more traditional gender regime than in a more egalitarian setting with a stronger preference for equal dual-earning irrespective of economic considerations. Fixed-term employment is, however, not only associated with labor market insecurity but also with lower earnings. Therefore, his employment on a fixed-term contract is likely to increase women's contribution to household income by lowering his income – even if her labor market behavior was completely unresponsive to his labor market insecurity. To test the impact of his employment insecurity net of the lower income associated with fixed-term employment, in additional tests we also included his earnings. The results (available upon request) show that his fixed-term employment is no longer a significant predictor in East Germany, while in West Germany the coefficient is reduced, but his fixed-term employment continues to have a shaping effect on her earnings. The difference between East and West is not statistically significant, however.

A central aim of our analyses was to examine time trends in her economic contributions to household labor income over time. In these regressions we can examine change over time controlling for compositional change in terms of demographic as well as labor market variables. We measure trends in her economic contributions over time and provide tests of fluctuations across time periods through the inclusion of a series of dummy variables broken down into 5-year time periods. In Model 1 we establish a statistically significant decline in her financial contributions over time in East and West Germany. Model 1 suggests her contributions dropped by 3.5 percentage points between the early 1990s (our reference time period) and the period 2012-16 in West Germany, and by 2 percentage points in East Germany. Notably, much of the change in both East and West Germany happened until 2011: this is striking as policy developments during these years led us to believe that her

contributions would grow. The tendencies are found in our Model 1 which controls for socio-demographic characteristics and within couple inequalities and which also controls for selection into paid employment. We thus have evidence of increasing inequalities among dual-earning couples in Germany over time. The trend of a small increase in her relative contributions in West Germany which our descriptive analysis suggested (see Figure 2) is hence reversed once compositional change over time pertaining to demographic characteristics are accounted for, the finding of a small decline in her contributions in East Germany confirmed. However, in Model 2, which controls for the forms and conditions of employment for dual-earning couples, the time trend changes in important ways. First, the negative time trend in West Germany is reduced. This suggests that the tendency for increased inequality found in Model 1 is in part due to the changing working-conditions of dual-earning couples, which have affected her earnings more negatively than his over time. Second, in East Germany the time trend loses all significance in Model 2, again underscoring the negative impact that changes in working-conditions have had on households' capacity for equal dual earning. So while the descriptive analysis gave some weak support for our hypothesis of decreasing inequality over time, the evidence of our regression analyses clearly rejects it (i.e. *hypothesis 1*).

Our next series of analyses (Table 2A for East Germany; 2B for West Germany) examine variation in the effects of these predictors by socio-economic group (defined by the male partner's position in the earnings distribution). We formulated the general expectation that the relevance of micro-level determinants would vary by socio-economic group (*hypothesis 5*). The analyses are presented separately by tertile. In the following, whenever we make statements about significant differences between tertiles, this is based on formal tests of statistical difference.[vii]

TABLE 2A – Her relative contribution in % of household labor income by tertiles: East Germany (Heckman corrected model)

	Tertile 1 (Low earning partner)				Tertile 2				Tertile 3 (High earning partner)			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
Age 35-44	0.871		0.789		0.765		0.669		0.631		0.186	
Age 45-54	0.579		0.608		1.610		1.206		0.802		0.115	
Vocational training	2.234		2.110		2.912		2.981		-6.133	**	-2.065	
Tertiary education	11.492	***	7.390	**	8.020	**	6.860	**	-0.366		2.101	
Children 0 to 4	-1.500		-0.981		-1.114		0.549		-2.734	*	-1.895	

Children 5 to 10	-2.462	**	-1.318	*	-0.549		0.429		-2.160	**	-1.025	
Children 11+	-2.027	*	-0.674		-1.153		-0.467		-1.177		-1.328	*
Married	0.418		0.662		-0.103		0.437		-2.418	**	-1.310	
Woman younger	-0.705		-0.695		-0.906		-0.595		0.348		-0.081	
Woman higher educ.	-1.494		-0.938		1.092		1.001		-0.019		0.364	
Woman PT (<=30 hours)			-10.988	***			-11.703	***			-10.524	***
Man PT (<=30 hours)			12.668	***			0.952				3.593	**
Woman fixed			-4.266	***			-5.461	***			-4.062	***
Man fixed			1.787				0.548				0.056	
Woman self empl.			-3.822	*			-2.449				-1.670	
Man self empl.			3.279	*			-0.729				-0.954	
Woman public sector			7.662	**			6.804	***			5.927	***
Man public sector			1.260	***			0.170				-1.165	
Period 1997-2001	0.597		0.919		0.364		0.635		-0.870		-0.413	
Period 2002-2006	1.213		1.973	**	-1.052		0.733		-2.579	**	-1.751	**
Period 2007-2011	1.234		2.875	**	-3.640	***	-0.759		-5.869	***	-3.315	***
Period 2012-2016	1.483		3.208	**	-3.273	**	-1.148		-4.829	***	-2.461	**
Inverse Mills Ratio	-1.762		0.416		-5.481		-3.001		-3.247		0.636	
Intercept	47.308	***	0.000	***	42.476	***	39.530	***	45.629	***	41.638	***
N of obs (R^2)	3,131 (R^2=0.12)		3,131 (R^2=0.38)		3,071 (R^2=0.14)		3,071 (R^2=0.42)		3,009 (R^2=0.15)		3,009 (R^2=0.40)	

Notes: Own calculations using SOEP 1992-2016. Only dual earners, women aged 25-54 years with working partners. *p<.05 **p<.01, ***p<.001 (two-sided tests). Robust standard errors accounting for clustering within person years.

We show in Model 1 (Table 2A & 2B) that children decrease women's contribution irrespective of her partners' position in the earnings distribution, although this effect varies somewhat across tertiles with insignificant effects of children in the middle income group in East Germany. The size of the effect of children on her contributions is notably reduced in Model 2 once the extent and type of her and his labor market participation is controlled for. The similarity of the impact of children across groups is striking and against our expectation of group-specific differences (*Hypothesis 5.1*). It is also worth noting that, after controlling for her labor market participation, we find that women with very young children in tertiles one and three in West Germany have higher contributions than their counterparts without children in the household.

TABLE 2B – Her relative contribution in % of household labor income by tertiles: West Germany (Heckman corrected model)

	Tertile 1 (Low earning partner)	Tertile 2	Tertile 3 (High earning partner)

	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
Age 35-44	0.929		1.793	***	0.828		1.358	***	0.093		1.342	**
Age 45-54	-0.505		1.726	**	-0.216		1.372	**	-1.013		1.163	*
Vocational training	1.643		1.186		0.169		1.505	**	-2.122	*	-0.408	
Tertiary Education	10.500	***	5.969	***	8.795	***	6.435	***	3.839	***	3.036	***
Children 0 to 4	-2.783	*	1.843	*	-4.134	***	-0.154		-1.421		2.226	**
Children 5 to 10	-5.014	***	-0.259		-6.483	***	-1.645	***	-4.365	***	-0.718	
Children 11+	-4.799	***	-1.132	*	-6.039	***	-2.151	***	-5.281	***	-1.964	***
Married	-5.753	***	-2.949	***	-5.769	***	-2.122	***	-5.388	***	-2.626	***
Woman younger	0.240		-0.060		-0.536		-0.625		-0.683		-1.098	**
Woman higher education	-1.339		-0.622		-0.069		0.261		-0.147		0.711	
Woman PT (<=30 hours)			-18.743	***			-17.041	***			-14.797	***
Man PT (<=30 hours)			10.296	***			5.450	***			3.264	**
Woman fixed			-1.936	***			-3.662	***			-3.669	***
Man fixed			2.656	***			-0.479				0.288	
Woman self empl.			-3.786	**			-1.333				-1.538	
Man self empl.			5.580	***			-1.890	*			-3.034	***
Woman public sector			5.174	***			4.501	***			3.520	***
Man public sector			0.905				-0.323				-1.558	**
Period 1997-2001	-2.951	***	-1.199	*	-2.167	***	-0.819	*	-2.589	***	-1.852	***
Period 2002-2006	-4.022	***	-1.089		-4.620	***	-1.853	***	-4.346	***	-2.919	***
Period 2007-2011	-4.175	***	-1.274	*	-5.894	***	-2.558	***	-5.272	***	-3.815	***
Period 2012-2016	-4.143	***	-1.429	*	-5.744	***	-2.751	***	-4.915	***	-3.937	***
Inverse Mills Ratio	-5.737	**	-4.380	***	-5.180	***	-1.830		-8.393	***	-5.571	***
Intercept	50.866	***	48.025	***	46.035	***	43.559	***	42.470	***	44.174	***
N of obs (R^2)	8,813 (R^2=0.16)		8,813 (R^2=0.52)		8,661 (R^2=0.26)		8,661 (R^2=0.56)		8,432 (R^2=0.24)		8,432 (R^2=0.51)	

Notes: Own calculations using SOEP 1992-2014. Only dual earners, women aged 25-54 years with working partners. *p<.05 **p<.01, ***p<.001 (two-sided tests). Robust standard errors accounting for clustering within person years.

We find variation in the association between women's level of education and their contribution to household labor income by socio-economic group consistent with our *hypothesis* 5.2. Model 1 confirms that her relative contribution to household labor income is higher if she has been educated to tertiary level, and also that the effect is substantially and significantly more pronounced within the first compared to the third tertile (in fact in Eastern Germany tertiary level education is not even associated with her contributions in the third tertile). The differentials by socio-economic group could be an indication that opportunity costs may interact with economic effects: women with higher levels of education contribute significantly more to household income in lower socio-economic groups. In the context of the theories outlined earlier, the weaker education effects for women partnered with high earners could indicate that for this group "constraints" and possibly also "income" effects

trump opportunity cost considerations. In line with this, we observe that controlling for work and employment characteristics (Model 2), substantially reduces the amount of variation between the first and the third tertile. Nevertheless, the variation in the importance of tertiary level education for her contribution to household labor income remains significant. It has to be noted, however, that with our analytical strategy we cannot separate the effect of her behavior and her adjustments from the direct effect of his earnings: even if all partnered women with tertiary level education behaved identically, those married with low earners would contribute more to household labor income. We tried to address this by controlling for educational homogamy, but this is will not fully solve the issue. We believe that the differential effect of her tertiary education by tertile is probably driven by both dynamics.

Turning to the role of employment characteristics, we find that working part-time or being in fixed-term employment reduce her contributions for all tertiles. While in East Germany there is no indication of differences in the size of the penalty between tertiles, in West Germany the extent of the penalty varies significantly. However, the effect of his type of employment on the partner pay gap varies much more notably across tertiles. Here we find male part-time work to be a much stronger determinant of her economic contributions to household labor income for women partnered with low earners than for women partnered with higher earners: a low-earning male part-timer increases his female partner's contributions by between 10 to 13 percentage points, while a high-earning male part-timer only increases it by 3-4 percentage points. We also note a similar dynamic for other forms of non-standard contract employment: men in fixed-term contracts tend to reduce the partner pay gap amongst the lowest socio-economic groups only (group-specific variation is statistically significant only in West Germany however). We also find substantial and significant variation for partner's self-employment: his self-employment reduces the partner pay gap in the lowest tertile (in both East and West Germany), while they have no effect for the middle and upper tertile in East Germany and even increase the partner-pay gap for middle and upper tertile couples in West Germany.

Our statistical models also allow us to examine whether the trends in the partner-pay gap by income group (as evinced in our descriptive analyses cf. Figure 3) remain once compositional changes within these groups are controlled for. In West Germany we find her economic contributions to have declined over time in each group (in both Model 1 and 2). In

East Germany the evidence is more mixed. Here Model 1 suggests no time trend for the bottom tertile while there is evidence of a decline in her contributions among high and middle income households. However, once we also control for form and type of employment (Model 2), East German women are found to have increasing contributions over time if partnered to low earners, no clear trend for those partnered with medium earners and a negative trend amongst the richer households.

6 Summary and conclusions

Women are not equal contributors to household labor income. In dual-earner couples their current contribution to household income lies between 35 and 45 percent. We find substantial differences by cultural and economic context: the partner pay gap is more pronounced in West Germany than in the East German context. We established statistically significant declines in her financial contributions over time among dual-earning couples in East and West Germany. Importantly, however, we found the tendency for increased within couple inequality to vanish in East Germany, and to weaken in West Germany, once employment characteristics are taken into account. Increases in the partner pay gap in Germany are thus driven by the changing employment conditions of dual-earning households, which appear to have affected her earnings more negatively than his over time. In our analyses which split the sample into tertiles we found that her relative contributions are substantially higher amongst women partnered with low earners than amongst those who have high earning partners even though the majority of couples in our sample are educationally homogamous. We found a trend of increasing inequality across all tertiles in West Germany, but revealed strong differences in this trend by income group in East Germany. In East Germany increases in within-couple inequality were specific to the highest earning tertile. For the lowest tertile we saw a tendency of reduced inequality over time, an effect which was stronger once employment characteristics were controlled for.

Our analyses investigating the micro-level determinants of the partner pay gap showed that children decrease women's financial contributions to household labor income and that higher levels of education raise her contributions. Again, we found context mattered, with children having substantially smaller effects in East Germany (which is culturally and institutionally more supportive of working motherhood and equal dual-earning). We further

showed that his atypical employment increases her contributions, though this was not the case for self-employment. Our results exposed important differences by partner's earnings position: tertiary level education is a much stronger predictor of her relative contributions for women coupled with low earners than for women coupled with high earners – even when controlling for educational homogamy in partnerships. The impact of children, by contrast, was strikingly similar across the different tertiles. His fixed-term or self-employment employment only increases her contributions (or reduces the partner pay gap) in the low tertiles.

Overall, our analyses suggest strong and persistent earnings inequalities amongst dual-earner couples, which appear strikingly robust to institutional change. Policies and institutional change may have been successful in increasing dual earning, but we have found little impact on the economic inequality, which exists within dual-earner couples. Our contribution identifies the role of socio-economic context to household specialization and within couple earnings inequalities. Our interpretation of the results is that the partner pay is driven – to a substantial extent – by 'income effects' with his high income suppressing female earnings in combination with the constraints that high earning men's jobs impose on their female partners' pursuit of a career (e.g. Stone 2007). The evidence of a tendency for the large and increasing partner pay gap amongst the higher earning tertiles is not solely driven by couples' normative preferences and specialization decisions but will also be influenced by structural constraints in the pursuit of dual-earning, including occupational segregation and discrimination. A more general complication of our analysis is that a study on within couple earnings inequalities, using a dependent variable measuring the share of her contributions to household income, has to deal with the challenge that the inequalities we are observing and their determinants are a function of both, her and his labor market decisions, behavior and outcomes. In some instances we were unable to disentangle theoretical mechanisms. This is necessarily the case when using a dependent variable which is a ratio of two people's earnings: her contributions can rise from both her economic achievements as well as his economic losses. In many ways then our study is purely descriptive and explorative. Nevertheless, we believe that our findings support our interpretation that the constraints, needs and opportunities inherent in the couple context and the resulting joint decisions and labor market behaviour are central drivers of the partner pay gaps observed. The persisting and marked economic inequalities within dual earner

couples are important findings in and of themselves, but are especially relevant given that we know that these inequalities increase women's likelihood to (further) reduce their working hours and/or to exit the labor market altogether.

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ANNEX

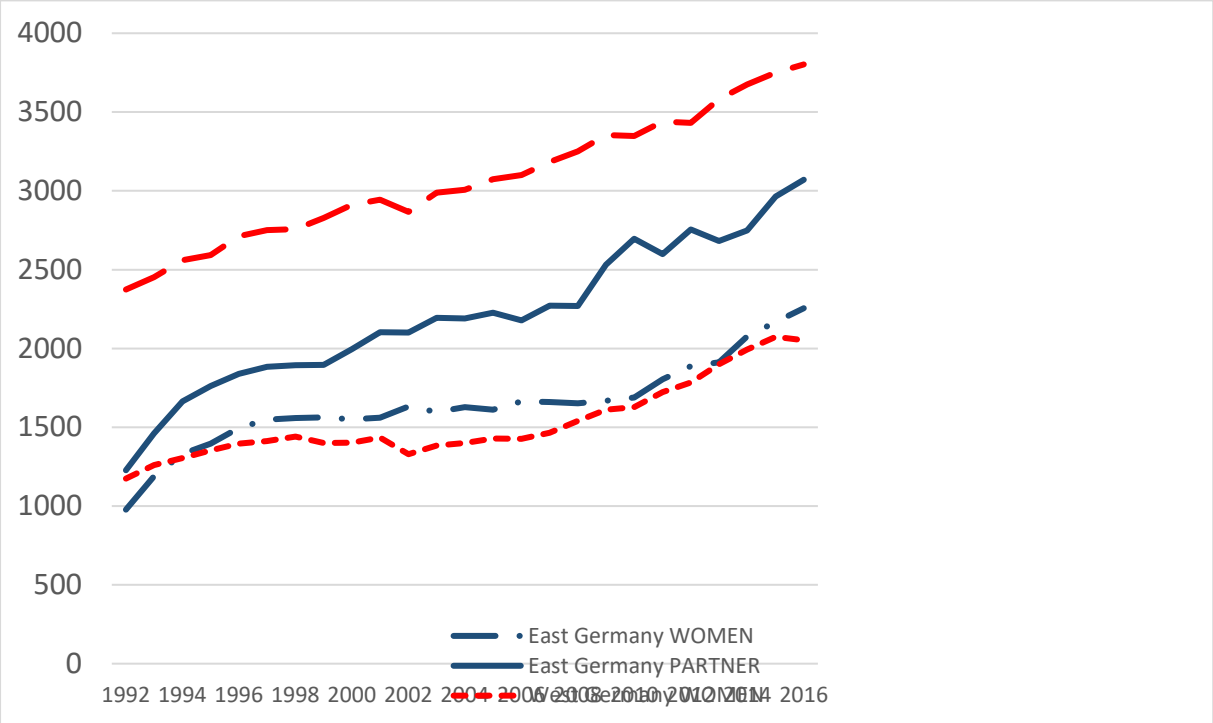

FIGURE A1.1 – Trends in Monthly Earnings at the Mean (in Euros)

Notes: Own calculations using SOEP 1992-2016. Only dual earners, women aged 25-54years with working partners.

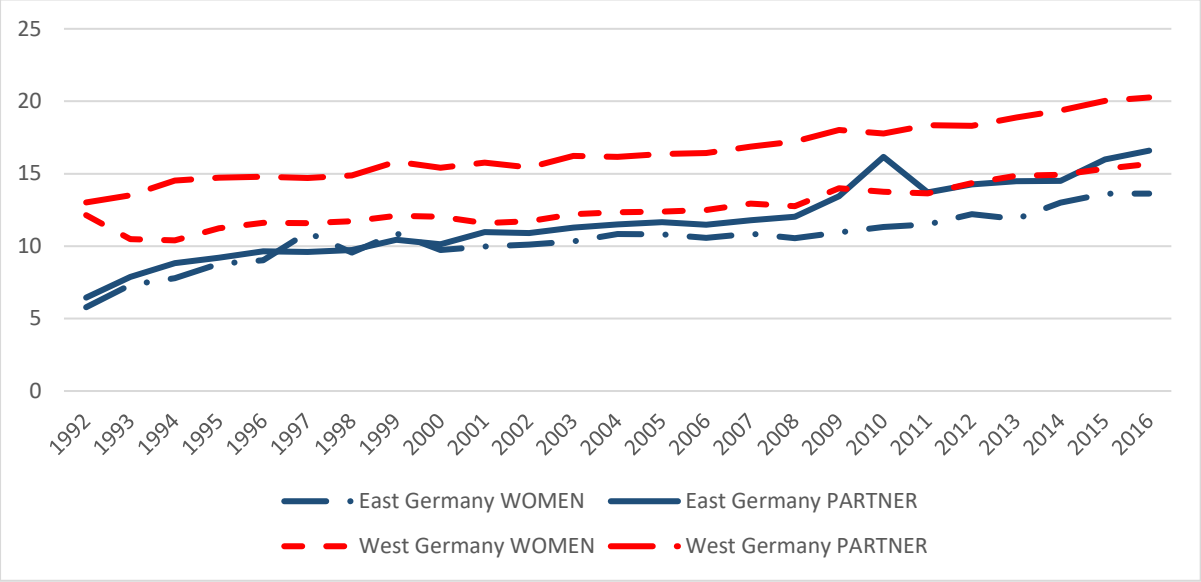

FIGURE A1.2 – Trends in Hourly Earnings at the Mean – Dual Earners

Notes: Own calculations using SOEP 1992-2016. Only dual earners, women aged 25-54years with working partners.

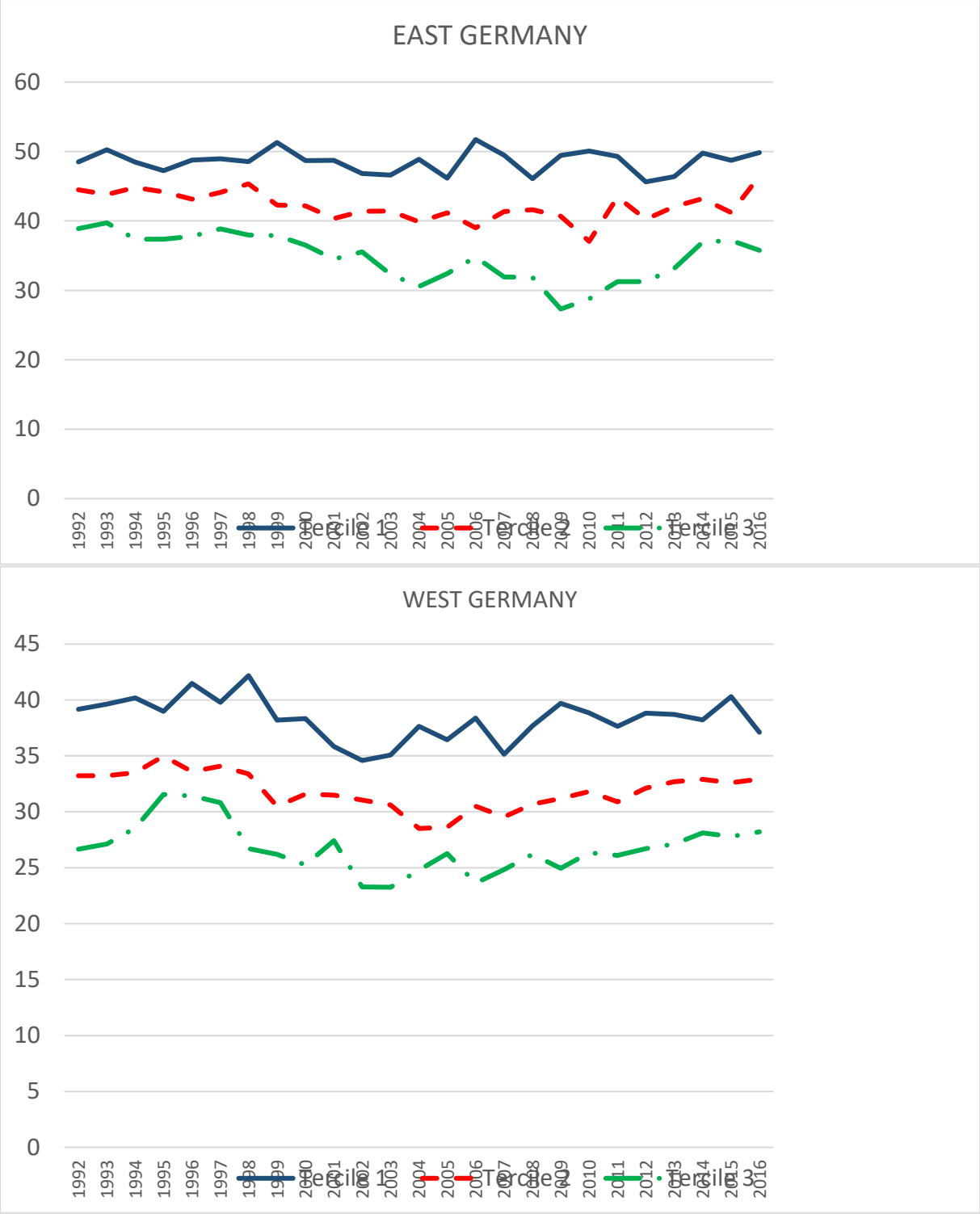

FIGURE A2 – Female Contribution to Household Labor Income in %
for Couples with Same Level of Education

Notes: Own calculations using SOEP 1992-2016. Only dual earners, women aged 25-54years with working partners.

Table A1 Key Sample Statistics (at the mean and by income tertiles)

	East Germany				West Germany			
	Mean	Tercile 1	Tercile 2	Tercile 3	Mean	Tercile 1	Tercile 2	Tercile 3
Children								
0-4yrs	9.2	9.1	9.0	9.0	11.2	11.4	10.7	11.0
5-10yrs	23.4	22.2	23.1	24.6	27.2	26.6	26.9	28.0
11+yrs	40.5	39.6	40.7	41.7	38.8	36.0	38.6	42.2
Education								
Woman tertiary ed.	36.3	29.4	31.4	49.3	16.9	10.8	12.3	25.9
Partner educationally homogenous	66.5	65.8	65.6	67.5	66.3	66.6	68.6	62.9
Job characteristics								
Woman working part-time	23.1	18.8	22.4	27.8	57.1	50.6	58.0	63.1
Male partner working part-time.	2.2	3.7	1.1	1.5	2.2	3.9	1.2	1.1
Woman public sector	37.8	35.2	36.7	42.8	30.2	26.5	30.9	33.0
Man public sector	19.3	8.8	19.8	29.3	21.4	17.3	26.1	20.4

Notes: Own calculations using SOEP 1992-2016. Only dual earners, women aged 25-54years with working partners.

Endnotes

[i] The paper limits its analytic focus to heterosexual couples. Whenever we refer to couples hereafter we mean heterosexual couples.

[ii] This operationalization allows us to examine how her labor market participation and her relative economic contributions to households' labor income vary with her partner's position in the income hierarchy, while it also enables us to circumvent the endogeneity problems inherent when using the combined measure of his and her household labor income.

[iii] Maternity leaves normally refer to the short-term leave around childbirth exclusively available to women and often compulsory; parental leave refers to employment-protected leave of absence for parents (see OECD 2017 for definitions). Given that – in practice – most parental leave is taken up by women, most studies focus on the combined length of maternity and parental leave to examine the impact of leave length on female employment outcomes.

[iv] We exclude those with missing information on; age, labor market status, educational attainment, presence of children in the household, hours worked and labor income share.

[v] Tests with continuous measures of time produced similar results (available upon request).

[vi] These tests are available from the authors upon request

[vii] These tests are available from the authors upon request.