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Who Does the Shopping? – German Time-use Evidence, 1996–2009

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Abstract

The labor force participation rate of women and men is converging in industrialized countries, but disparities nevertheless remain with respect to unpaid activities. Shopping for household maintenance, in particular, is a time-consuming, out-of-home activity that continues to be undertaken primarily by women, irrespective of their employment status. The present study employs panel methods to analyze, descriptively and econometrically, gender disparities in shopping behavior among couples using data from the German Mobility Panel (MOP) for 1996 to 2009. While women still shop more than men, we find evidence that the differential has narrowed in recent years, particularly among couples with children. Several individual and household characteristics are found to be significant determinants of shopping behavior, whereby employment status and children emerge as the most important single factors. In addition, the possession of a driver's license coupled with unrestricted car availability increase each partner's time in shopping.

JEL Classification: D13, J16

Keywords: Shopping; Time-use; gender differences

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1. INTRODUCTION

Significant changes in the labor force participation rate of men and women in recent years have raised questions about how couples share household obligations and how this affects, and is affected by, related socioeconomic outcomes like child bearing. New evidence for gender parity in total work, encompassing paid and unpaid work, has been found in most rich countries in the first decade of the 21st century (*1*). A closer look reveals that gender disparities remain for the time allocation across sub-activities of household production. For example, in dual-earner households with children, women's unpaid work share amounts to 62% of their total workload whereas men spend only 32% of their time on household-related activities (*2*). Despite being a central and frequent household activity, few studies have analyzed the activity time use behavior in the case of maintenance-related shopping.

Drawing on household panel data from Germany, the aim of the present paper is to examine whether the traditional gender inequality in shopping has declined and what are the individual and household circumstances that might explain shifts in how much each partner shops. Examining shopping activity in the German context is of particular interest for at least two reasons. First, it is a significant source of time spent outside home. On average, our data indicates that Germans spend 14% of their out-of-home time shopping and 31% of all trips are for shopping purposes. Second, it is also an important indicator of other social changes occurring in Germany, particularly as regards gender roles and employment. The labor force participation rate of women in Germany increased from 55.1% to 69.8% between 1995 and 2009 (*3*), a trend that may be expected to decrease the amount of time that women spend shopping. On the other hand, the total number of hours worked decreased for women between 2001 and 2006, a result of decreases in full-time employment coupled with increases in part-time and low-wage jobs. Moreover, women tend to reduce their labor supply after marriage, and this effect is reinforced with each additional child (*4*).

Understanding the determinants of these countervailing forces is of keen interest to policy-makers because of their implications for demographic trends. Like in many other countries of Europe, major socio-demographic changes are currently underway in Germany that could dramatically affect future mobility patterns. Between 2000 and 2005, for example, the birth rate decreased some 9.3%, from 9.18 to 8.33 births/1,000 population, having already decreased 19.5% over the preceding decade. By 2050, Germany's population is projected to shrink by roughly 16% (*5*), a trend that will be paralleled by an increasingly older age structure of the German population and an increase in the number of single person households. Consequently, family issues have been high up the political agenda in recent years given Germany's low birthrate and the enormous societal and economic challenges associated with it. Since 2006, an increasing number of family-related laws have been enacted, ranging from family benefits and child welfare payments to parental wage compensation. One of the most prominent laws introduced was the taxpayer-funded parental leave (Elterngeld) that is granted for 14 months, out of which two months are reserved for fathers. Consequently, a stronger engagement of men in family affairs has become an explicit objective of government policy.

The combined effect of such interventions coupled with autonomous changes in gender roles has increased the complexity of travel decisions and with it the need to develop better

behavioral frameworks. This, in turn, has led to a generation of travel model systems called activity-based models (e.g. *6, 7*), the basic premise of which is that the demand for travel is derived from the demand for activities. We focus here on shopping activity, which we define as the time spent traveling for grocery- and maintenance-related shopping, thereby excluding recreational and leisure shopping trips. Due to a significant day-to-day variability in travel behavior, researchers have continuously stressed the importance of using multi-day time-use surveys (*6, 8*), especially for monitoring individual patterns in grocery shopping that can vary over the course of the week. Hence, the activity-based approach in this work is based on a weekly model for travel decisions.

Panel data allows estimating decision-making models of peoples' activity and travel schedules that incorporate intra-household temporal variation. Hirsh et. al (*9*) is one of the first and few to estimate a dynamic model of individual weekly shopping behavior. According to their framework, people plan their activities on a weekly basis with additional information being used to continuously update the actual activity behavior. In contrast, the study of Yun and O'Kelly (*10*) focuses on the day-to-day variability in patterns of home-based shopping trips. They find small behavioral differences among weekdays and larger distinctions between weekday and weekend models. Steiner (*11*) finds that women are responsible for a higher percentage of the food shopping than men. Other studies have found that women do more house-supporting and child-related trips (e.g. *12, 13*). Moreover, commuting patterns of employed mothers have been found to depend significantly on their education, occupation and the number of children (*14*). The present study contributes to this body of research by examining, both descriptively and econometrically, the relative time and the relative number of trips that women and men spend shopping in households containing at least one adult female and one adult male. We are particularly interested in analyzing the influence of employment status and the presence of children, as both these factors shed light on how gender roles are adjusting to changing demographic- and socioeconomic circumstances in Germany.

The remainder of the paper is organized as follows. The next section describes the time use and mobility data, including a descriptive analysis of the gender specific shopping behavior in Germany. Section three describes the model specification and catalogues the coefficient estimates, and section four concludes.

2. THE DATA

2.1. The survey

The data used in this research is drawn from the German Mobility Panel (MOP), a multiyear travel and activity survey commissioned by the Federal Ministry for Transport, Building and Urban Affairs (*15*). Participating households are surveyed for a period of one week over three consecutive years. Households exiting the panel are replaced by new cohorts of households who are in turn surveyed for three years. The data used in this paper spans 14 years of the panel from 1996 to 2009 and is limited to households with at least one adult woman and one adult man. An indicator for whether this pair is married is not included in the data, so that we cannot completely rule out the possibility that some of the observed pairs are not couples. To minimize this possibility, we removed pairs whose age difference is greater than 19 years

(less than 2% of the sample), as these are potentially individuals living with a parent or child. In total, the data contains 4,175 observations. To correct for the non-independence of repeat observations over multiple time points in the data, the regression disturbance terms are clustered at the level of the household, and the presented measures of statistical significance are robust to this survey design feature.

Individuals that participate in the survey are requested to fill out a questionnaire eliciting general household information and person-related characteristics, including age, education, and employment status. In addition, participants fill out a travel diary over the course of a week that includes the departure and arrival time for each trip, its purpose, distance, duration, and the travel mode. Using this information, the dependent variable modeled in this analysis is constructed as the natural log of the ratio of female shopping to male shopping, ln(female shopping/male shopping), where shopping includes any store visits conducted for household maintenance. Two variants of this dependent variable are constructed capturing the time span in minutes (not including travel time) and the number of shopping trips, both over the course of a six-day week from Monday to Saturday. Sundays are excluded as stores in Germany are typically closed. The set of explanatory variables selected for the model estimation measure the individual and household characteristics that are hypothesized to influence shopping behavior, the definitions and descriptive statistics for which are presented in Table 1. A year trend is included to capture temporal changes that affect the sample as a whole. Finally, a

TABLE 1 Variable definitions and descriptive statistics

	Definition	Mean	SD
Individual characteristics			
Male full-time	1 if male is working full-time and female is not working, 0 otherwise	0.197	-
Female full-time	1 if female is working full-time and male is not working, 0 otherwise	0.082	-
Male full-time female part-time	1 if male works full-time and female works part-time, 0 otherwise	0.245	-
Both full-time	1 if both partners work full-time, 0 otherwise	0.154	-
Male commute	distance to work for males (in km), one-way	16.780	26.083
Female commute	distance to work for females (in km), one-way	9.757	14.337
Male Abitur	1 if only male has an Abitur (high school degree), 0 otherwise	0.196	-
Female Abitur	1 if only female has an Abitur (high school degree), 0 otherwise	0.077	-
Both Abitur	1 if both partners have an Abitur (high school degree), 0 otherwise	0.204	-
Male license	1 if only male has a driving license, 0 otherwise	0.136	-
Female license	1 if only female has a driving license, 0 otherwise	0.013	-
Both license	1 if both partners have a driving license, 0 otherwise	0.821	-
Age	ln (age female / age male)	-0.088	0.127
Household characteristics			
Monthly income	household income (in thousand Euros)	2.553	0.717
City	1 if residence is located in an urban area, 0 otherwise	0.398	-
East	1 if residence is located in Eastern Germany	0.170	-
Kid 1	1 if one child (under 18) is in the household, 0 otherwise	0.158	-
Kids 2	1 if two children are in the household, 0 otherwise	0.165	-
Kids 3+	1 if three or more children are in the household, 0 otherwise	0.049	-
Other adults	1 if other adults (e.g. childen above 18) are in the household	0.222	-
Car availability	1 if number of cars in household is ≥ number of drivers, 0 otherwise	0.455	-
Others			
Year	year of survey	2,001.81	3.89
Post 2006	1 if year of survey is 2006 or later	0.162	-
_n_		4,175	

dummy is included for the post-2006 period to capture possible discontinuities resulting from the changed legal framework as of 2007, which facilitates stay-home time from work for parents.

Referencing the above table, it is seen that in 15.4% of all households both partners work full-time. Men are the sole breadwinner in around every fifth household. In the most frequent case (24.5%) the man works full-time and the woman part-time. Confirming a pattern observed in most industrialized countries, we see that among employed persons, men have a substantially longer commute than women – 17 versus 10 kilometers. With regard to education, in 19.6% of all families only the man has completed a college preparatory degree (Abitur). Similarly, in 20.4% of the households both partners have an Abitur, while households where only the mother has an Abitur are fairly seldom (7.7%). Another socio-demographic trend in Germany is an increase in the participation rate of women in the labor force as well as the pool of drivers. The latter is reflected in the sample with a share of 82.1% of all households in which both partners have a driver's license. Moreover, in 45.5% of the households, drivers have access to a car i.e. there are at least as many cars as licenses available in the family.

The average income of households in the sample is 2,553 Euros per month, although both low- and high-income families are included as indicated by the standard deviation of 717 Euros. Only about a third of the families have one or two children. This reflects a steadily declining birth rate in Germany, with around 1.4 children per woman since 1990 (*16*).

2.2. Time use and mobility data in Germany

One of the first representative time use surveys in Germany was conducted in 1991/92 by the Statistisches Bundesamt (Federal Statistical Office) and complemented with a second wave in 2001/02 (*17*). The survey was focused on unpaid work like housework and childcare. One of the main findings in both survey waves is that around 60% of all work-related activities are unpaid. Moreover, women are still over-proportionally engaged in unpaid housework activities. As depicted in Table 2, the time that men and women spend shopping for groceries is similar across *all households* in the age group of 18-29 years. The discrepancy between spouses is most pronounced for *couples with kids*, where women spend around 31 to 33 minutes on daily shopping compared to 17 to 18 minutes for men. Overall, after retirement, represented by the age group above 65, shopping shares seem to converge again for both spouses.

The German time use surveys are mostly applied in cross-sectional analysis. Several changes in the survey design, however, hamper the comparability of both waves, which in turn restricts their usability for panel data estimations. The longitudinal set up of the MOP, by contrast, allows detecting temporal shifts in spousal time allocation and travel behavior.

Figures 1 and 2 present the means of shopping time and trip counts by gender and year for different groupings of households, as calculated from the MOP survey. The 95% confidence intervals for each mean in the figures are constructed from bootstrapped standard errors using 1,000 repetitions, allowing us to test for statistically significant differences between women and men for each year. The weekly shopping time is depicted in Figure 1. With reference to

TABLE 2 Daily shopping time for groceries in 2001/02 (in minutes)

	All households		Couples with kids		Couples without kids	
	Men	Women	Men	Women	Men	Women
overall	19	26	17	31	25	28
18-29 years	18	20	n.a.	28	n.a.	22
30-44 years	18	29	17	31	21	27
45-64 years	22	30	18	33	24	29
above 65 years	28	26	24	n.a.	30	27

Source: Time use survey 2001/02 of the Statistisches Bundesamt ("Zeitbudgeterhebung 2001/02"). "All households" includes single and multi-person households.

the entire sample in the top panel, women spend more time on shopping over the entire course of the survey, but the gap narrows from around 75 minutes in 1996 to 40 minutes in 2009, when the gender difference is statistically insignificant. In families with kids, there is somewhat more pronounced evidence of a convergence in shopping times between men and women over time. The differential amounts to approximately 140 minutes in 1996, dropping to less than 40 minutes per week in 2009. Finally, in families without kids, statistically significant differences between female and male shopping cannot be discerned, as evidenced by the overlap of the 95% confidence interval for each year in the series. Overall couples without children spend more time on shopping and they also undertake more shopping trips than families with children. The latter might be more efficient in shopping given other children-related activities that need to be organized.

Interestingly, the total amount of time families spend on shopping has decreased over time, e.g. for families with kids from 350 to 310 minutes between 1996 and 2009. Potential explanations could be the tendency to one-stop shopping trips at larger shopping centres and technological advances like barcode reading cash registers as well as internet shopping, with the latter being less time consuming than physical shopping trips. Thus, for a further understanding of the shopping trip behaviour, Figure 2 shows the number of shopping counts per week. For the entire family sample, women undertake approximately 5 shopping trips per week compared to 4 trips for men. This pattern remains fairly stable over time. There is neither a reduction in the number of trips discernible nor a significant conversion in the gender trip differential. The pattern, however, differs tremendously for families with kids. In the mid 1990s women undertook 6 shopping trips per week compared to 3.5 trips by men. Since then the gender gap has narrowed substantially and by 2009 both partners have been engaged in around 4 shopping trips. The situation is completely different for childless couples. Both spouses have around the same number of trips across the entire time span. Neither a significant time trend nor a gender gap are evident. These findings are consistent with those of Steiner (*11*) in California.

In sum, women tend to have decreased while men have increased their share in shopping activities, although not proportionally. In addition, children seem to be an important factor in explaining the general shopping patterns of families.

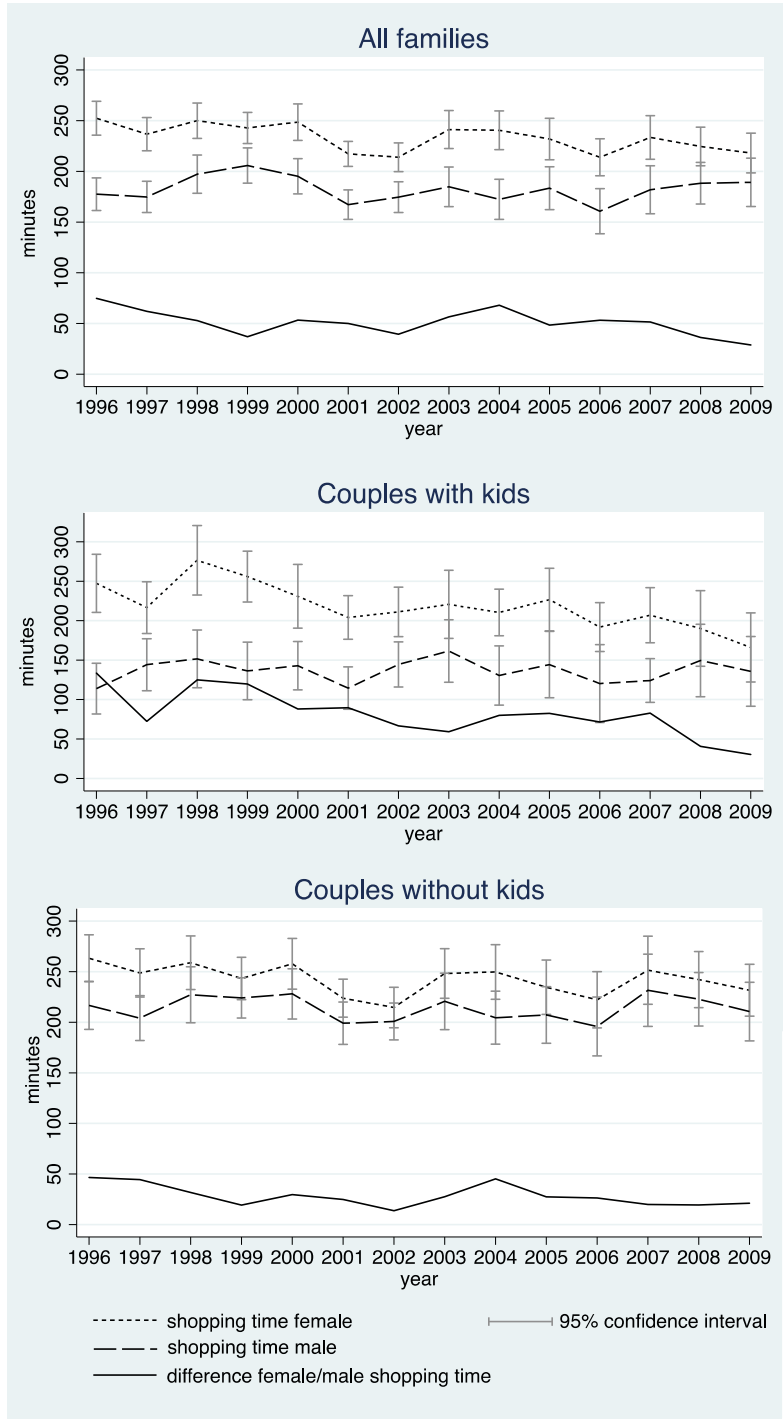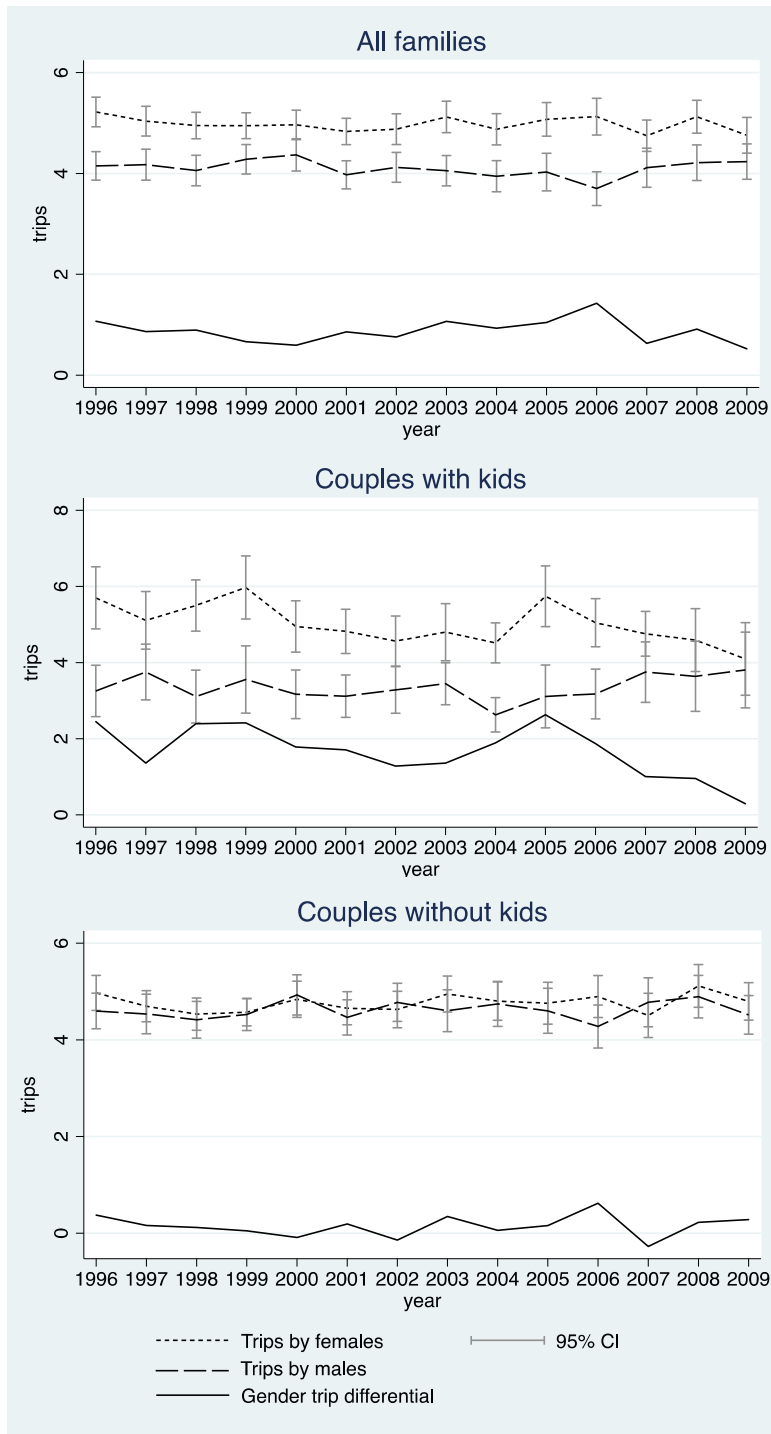**FIGURE 1 Weekly shopping time for household maintenance**

FIGURE 2 Number of shopping trips per week for household maintenance

3. MODELING APPROACH AND ESTIMATES

3.1. The Model

To explore the pattern presented in Figure 1 and 2 more rigorously, the empirical methodology proceeds by specifying panel models that relate individual and household characteristics to shopping activities. Following a specification similar to that of Kiker and Ng (*18*), the regression model reads as:

$$\ln\left(\frac{shop_{female}}{shop_{male}}\right)_{it} = \alpha + \beta'x_{it} + \theta'z_t + \phi_i + e_{it}$$

where the dependent variable measures the logged ratio of either minutes spent shopping or trip counts of women to men, x_{it} is a vector of explanatory variables, z_t is a vector of unit-invariant year fixed effects, and the error term is comprised of ϕ_i, which measures unobserved time-invariant individual effects and e_{it}, which is the individual-specific error term. The coefficients α, β, and θ are a set of parameters and parameter vectors to be estimated, with robust standard errors obtained by clustering on the household.

The availability of panel data affords two principle approaches for the econometric modeling of shopping activity: the fixed- and random-effects estimators. The key advantage of using the fixed-effects estimator is that it treats the ϕ_i as fixed and so captures the influence of time-invariant, unobservable factors that are potentially correlated with the explanatory variables, thereby producing consistent estimates. In contrast, random-effects treats the ϕ_i as part of the disturbances, thereby assuming that their correlation with the regressors is zero. If this assumption is met, the random-effects estimator is a viable alternative, as it confers the advantage of greater efficiency over the fixed-effects estimator. Another advantage of random-effects methods is to allow for the estimation of coefficients of time-invariant variables, which is precluded by the fixed-effects estimator. Violation of the assumption of zero-correlation with the error term, however, implies biased estimates, and thus the superiority of the fixed-effects estimator.

To guide the selection between these two models, we performed a classical Hausman test. The null hypothesis of the test is equivalence of the set of fixed- and random-effects coefficients, which, if not rejected, would suggest the use of the random-effects variant owing to its higher efficiency. Performing this test for both the model of shopping time and shopping trip counts yielded p-values of 0.56 and 0.12, respectively. Having failed to reject the null hypothesis for both cases, the random-effects estimator was deemed the preferred alternative.

Moreover, we performed the Breusch-Pagan (*19*) test to examine the superiority of the random-effects model over an OLS estimation using pooled data. The test statistic chi-squared(1) = 45.1 of this Lagrange multiplier test clearly rejects the null hypothesis of no heterogeneity among households, H_0: $Var(x_i) = 0$, which is also confirmed by the test statistics that result if the normality assumption underlying the Breusch-Pagan test is dropped.

3.2. Coefficient estimates

The coefficient estimates and standard errors from two random-effects models are reported in Table 3. Column one presents results from the model of the relative time spent shopping while column three presents the model of relative shopping trip counts. We interpret the results as elasticities. Given the logged form of the dependent variable, this requires transforming the β-coefficients on the dummy variables as $(\exp(\beta)-1)*100$.

3.2.1. Individual characteristics

Among the variables that are statistically significant, most have a similar influence on the individual shopping behaviour across the two models. The models confirm that shopping time and counts are inversely related to the *employment status*. In traditional families, where the man is the sole breadwinner, women's shopping in terms of trip time increases by 89 percentage points relative to the base case in which neither partner works, with a similar coefficient seen for trip counts. These effects are considerably weaker in magnitude when the woman is the sole breadwinner. In this case, shopping for women decreases by only 19 percentage points. Thus, the magnitude of the effect across the genders is not symmetric. In addition, if both partners have a full-time employment, the number of shopping trips women undertake still increases by 13 percentage points, though the effect on time is insignificant. In sum, employment status reduces the relative shopping of women, but all else equal, they are always more engaged in maintenance shopping than men in a comparable employment situation.

Notwithstanding the relevance of employment status, the commute distance appears to have little bearing on shopping outcomes. Only in the model of shopping counts does the coefficient on *female commute* suggest a moderate effect in reducing shopping counts for women. Otherwise, the coefficients on the commute variables are statistically insignificant.

Education is also not found to have a significant effect on the extent of shopping. More important is the possession of a *driver's license.* If only the male has a driver's license, then the woman's time spent on shopping and the corresponding trips decrease by 22 and 15 percentage points relative to the base case in which neither has a license, indicating the importance of automobile usage for shopping-related activities in Germany. As 83% of the women in the sample have a driver's license, it is the access and *availability of a car* for each license holder, which in turn has a positive effect on the amount of shopping undertaken by women. These results are in line with other studies stressing the central role of cars for shopping purposes (e.g. *20, 21, 22*).

The relative *age* gap between both partners increases the shopping time and counts of women. While partners within different age groups might face different socio-economic constraints, we refrain from over interpreting this control variable.

3.2.2. Household and other characteristics

The models confirm the importance of *children* as determinant of the shopping allocation. Interestingly, the existence of a single child does not seem to alter the shopping allocation within the family. It bears noting, however, that in 69% of the families with one child, the woman is either working part-time or not working at all, so that the employment status

TABLE 3 Random effects regression results

	Time	(s.e.)	Trips	(s.e.)
Individual characteristics				
Male full-time	0.634**	(0.064)	0.575***	(0.048)
Female full-time	-0.208***	(0.073)	-0.176***	(0.057)
Male full-time & female part-time	0.453***	(0.065)	0.435***	(0.050)
Both full-time	0.087	(0.071)	0.122**	(0.054)
Male commute	-0.000	(0.001)	0.001	(0.001)
Female commute	-0.003	(0.002)	-0.003*	(0.002)
Male Abitur	-0.072	(0.050)	-0.059	(0.038)
Female Abitur	0.061	(0.086)	0.091	(0.055)
Both Abitur	0.082	(0.055)	0.017	(0.042)
Male license	-0.245**	(0.115)	-0.164**	(0.085)
Female license	-0.025	(0.157)	0.119	(0.124)
Both license	-0.014	(0.107)	-0.003	(0.077)
Age	0.432***	(0.169)	0.259**	(0.117)
Household characteristics				
Income	0.021	(0.034)	0.026	(0.024)
City	-0.008	(0.041)	-0.016	(0.032)
East	-0.016	(0.056)	-0.004	(0.043)
Kid 1	0.051	(0.059)	0.038	(0.044)
Kids 2	0.083	(0.064)	0.141***	(0.046)
Kids 3+	0.257**	(0.101)	0.161**	(0.076)
Other adults	0.000	(0.045)	0.009	(0.030)
Car availability	0.081*	(0.044)	0.079**	(0.032)
Others				
Year	-0.005	(0.007)	0.008	(0.005)
Post 2006	-0.058	(0.069)	-0.086*	(0.048)
Constant	9.190	(13.767)	-15.685	(9.758)
_n	4,175		4,175	
R-squared	0.091		0.143	

Reported are coefficients, standard errors are in parentheses with ***=$p<0.01$, **=$p<0.05$, *=$p<0.1$

variables are partly picking up this gender specific gap in shopping shares. Often women enter part-time employment to accommodate the demands of children, while the partnered man works full-time. Significant differences by gender become more evident for households with more than one child. For example, in families with two children, women undertake 15 percentage points more shopping trips relative to the base case when no children are in the house. With respect to the remaining household level attributes, neither income nor regional and urban residency have a discriminating effect on shopping, notwithstanding evidence from

other studies that these variables have an effect on the joint consumption and shopping pattern of a family (e.g. 23).

Finally, the model of trip counts reveals some tentative evidence for an effect of the laws promulgated in 2006 that encourage stay-home parenting, particularly for fathers. Specifically, the negative effect for the post 2006 time dummy may partly reflect the greater share of men in family-related activities like shopping.

4. CONCLUSION

This paper has examined the weekly activity pattern with respect to shopping between women and men. As in many industrialised countries women have significantly increased their labor participation rate in Germany since reunification in 1990. This raises the question of whether the higher engagement in (paid) market work is financed by a reduction in (unpaid) housework activities. Data from the German Mobility Panel was used to analyse the relative amount of maintenance shopping undertaken by women and men between 1996 and 2009. The empirical methodology employed used descriptive analysis and econometric modelling to relate individual and household characteristics to the relative amount of shopping undertaken by the partners. Among the most notable descriptive findings is that in families with children, women – who traditionally did most of the shopping – have significantly reduced their shopping share

while men at the same time have increased their time share in shopping. A true parity in shopping, however, exists only for couples without children.

For the econometric modelling a random-effects estimator was applied. A key factor in explaining gender differences in maintenance shopping is the partner's employment status. As expected, the relative time spent on shopping decreases for the primary breadwinner. However, in families where the man is the sole breadwinner his shopping decreases far more than in comparable families where only the woman has a full-time employment. Moreover, if both partners have a full-time position, women are more often doing the shopping. Hence, gender equality in labor does not necessarily translate into equal shopping allocations. In addition, an increasing number of dependent children results in relatively more and longer shopping trips for women than for men. Finally, the exclusively male possession of a driver's license reduces the shopping of the female, while the unconditional access to a car increases her shopping. Taken together, these results suggest that mobility constraints have a bearing on the household's allocation of shopping responsibility.

Activity-based theories have proposed various models for analysing activity- and travel-related choices. Hence, in future research the focus could be on integrated trip- or tour-based models of shopping to examine in greater detail travel and mode choices. For example, with an increasing number of dual-income households more shopping stops might be integrated within a journey to or from the workplace. Although only being an auxiliary stop, shopping becomes part of more complex trip-chaining decisions.

While not possible to analyze with the data used in the present study, another important question concerns the influence of the Internet, which offers consumers numerous shopping opportunities that allow them to shop from home instead of physically visiting a store.

Individuals have steadily increased their e-commerce expenditures, but whether this extends to repetitive shopping obligations is questionable. For example, only 9% and 13% of the male and female e-shoppers in Germany have used the Internet for grocery purchases in 2008 (*24*). Moreover, results from recent studies suggest that e-shopping and in-store shopping may complement rather than substitute for one another. Nowadays, consumers might just gather more information before making the trip. The ongoing centralization of shopping facilities in suburbs could even lead to a longer trip length in shopping (*25*). Finally, e-shopping and out-of-home shopping are found to be positively correlated, suggesting a reinforcing effect across different shopping modes (*26, 27*). Related research has started to explore the value of time (in monetary terms) for physical store shopping and e-shopping (*28*). Hence, future work should take e-shopping into account given the accelerating pace at which the Internet changes individual shopping and travel behavior.

Finally, a new strand of literature has started to examine the effects of the 2007 financial crisis on individuals' time allocation between paid and unpaid work (*29, 30*). Focusing on the time use of married couples in the US, Berik and Kongar (*31*) find a convergence in market work for women and men because of an increase in mothers' paid work coupled with a decrease in paid work among fathers. However, the gender difference in unpaid work narrowed only temporarily. Recession-related effects mostly disappeared with the jobless recovery after June 2009. With few exceptions (*1*) comparative and comprehensive European studies on the time use behavior within families during the financial crisis are still missing.

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