An Improved Valuation of Unpaid Work[1]

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Abstract: We propose an improved method to assess the economic value of unpaid housework and childcare. Existing literature has typically assigned the minimum wage, a generalist or specialist's wage, or the performer's opportunity cost to the number of hours spent in this work to come up with a macro-level value of the work done. In this paper, instead of imputing an average or minimum wage for housework and childcare, we use the actual local wage rate requested for these services from providers on online platforms to assign a value to the work. Applying this method to Austrian Time Use Survey data shows that the value of unpaid childcare and housework, had it been paid, would be equivalent to about 22% of GDP.

Keywords: unpaid work; valuation; domestic work
JEL codes: C81; J22; J13; G59

Introduction

No economy would function without adequate care for young children (who will grow to become economic agents) or the housework necessary to sustain people. Since care- and housework in one's own home is largely unpaid, it is unclear how to measure the economic value of this work. To understand the economics of the household, though, it is important to understand better the economic value of the work that it produces.

The literature quantifying the worth of house- and care work assigns a value to the number of hours spent in this work (most commonly calculated using time-use surveys) in one of three main ways: the two "input" methods, comprising the opportunity and market replacement cost approaches, and the "output" method. The first, the opportunity cost approach, assumes that time spent on unpaid work is at the expense of earning a market wage. Many calculations of opportunity costs simply use an average wage rate of employed people (Ahmad and Koh, 2011); other estimate a potential wage rate even for people outside the paid labor force (Gammage, 2010, Schmid et al. 1999). The second approach – the market

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replacement approach – imputes wages that reflect the market price of the respective tasks, using either the average wage rate of a general housekeeper (Ahmad and Koh, 2011; Varjonen 2014) or including multiple wage rates of specialists in matched occupations (Hamdad 2003; Landefeld et al. 2009). Sometimes, calculations with minimum wages for these tasks is included to provide lower-bound estimates (Landefeld et al. 2009). Some studies using the market replacement approach have also accounted for the intensity of care (e.g. physical and development care) and incorporated supervisory care (Suh and Folbre, 2016; Mullan, 2010). Finally, the "output" approach quantifies the value of the output of unpaid work, measuring the service price of, for example, a kilogram of washing or ironing (Holloway et al., 2002), or a child taken care of (Mullan 2010, Yoon 2014). In practice, many studies in the literature calculate a value of unpaid work using more than just one of these methods and a battery of potential wage rates in order to give a range of estimates for the value of domestic and care work. The fact that many studies report values calculated with several different approaches speaks to the lack of any "best" practice in this literature.

In considering how to better and consistently quantify the value of unpaid house- and care work, we introduce a new method, incorporating more precision into wage estimates in the specialist replacement cost method. In particular, we use the wages demanded for housework and childcare on actual online platforms, disaggregated by region at the NUTS-2 level, to get the market price of the work performed. We then apply these values to region-specific time-use statistics to compute the aggregate value of the work. The benefits of this calculation method are five-fold. First, our approach does not rely on hypothetical considerations about the value of the worker's time to measure an opportunity cost of doing the work, which differs widely based on education, professional experience, and socioeconomic background (Schmid 1999). Instead, the value of the work is taken to be the market value that the worker herself demands. Second, our approach uses relatively local wage rates (NUTS-2 level), meaning that the application of our method would produce the most accurate local estimates of the value of household and care work. Third, the approach avoids applying a minimum wage to a job that may be actually be paid more, making it more accurate. Fourth, it uses free and real-time data on wages paid, instead of relying on this information from labor force surveys that are costly in terms of time and money and whose publication typically has a long delay after data collection. Fifth, the wage data are reported per hour, unlike in labor force surveys, where hourly wage data are often imprecisely calculated because they are calculated using other variables.

In the next section, we apply our method to data collected from online platforms on which people can offer their services in housework and care work, and estimate an aggregate value of this typically unpaid work by applying these wage rates to time use data from the same region.

Application

We use data from Austria for our empirical application. Data on time-use come from the 2008-2009[4] time-use survey conducted by Statistik Austria (2020).[5] Table 1 shows the average number of minutes spent per day on childcare and household work for 15-64 year olds, calculated based on whether the activity was primary or secondary (the latter are activities that are done simultaneously with the primary activity, such as listening to music while cooking). Individuals in the survey spent about 34 minutes in childcare and 172 minutes in household work per day, on average. Disaggregating these figures into households with and without children under 10 reveals that – not surprisingly – those with children spend on average almost two hours more on childcare. Parents spend "only" two hours per day on childcare because the Austrian Time Use Survey does not include information on supervisory responsibilities that encompasses things like being present while a child sleeps. The survey thus cannot capture the element of childcare that relates to the worth of what care-work *prevents* a caregiver from doing, such as working for pay outside of the home.

		Primary activity only			Primary and Secondary		
Segment (N)	Activity	Total	Women	Men	Total	Women	Men
Total	Childcare	34.0	46.8	18.7	43.1	60.1	22.7
(6215)	Housework	172.6	224.6	110.3	182.0	238.2	114.5
w/ children	Childcare	117.0	156.3	66.1	148.0	200.4	80.0
(1542)	Housework	175.7	239.3	93.3	188.3	257.7	98.5
w/o children	Childcare	6.6	9.0	3.9	8.5	11.7	4.8
(4673)	Housework	171.6	219.5	115.6	179.9	231.4	119.5

Table 1: Time spent in childcare and housework (minutes/day), 15-64 year olds.

To calculate the monetary value of this work, we use two prominent online platforms to obtain the wages for housework and childcare, haushaltshilfe24.at ("household help 24")

[4] There is more recent time-use data for Austria from the Mobility-Activity-Expenditure Diary (MAED) survey conducted in 2015, but they comprise only 748 individuals and do not report childcare as a separate activity. Hössinger et al. (2019) shows that time-use patterns did not change significantly over the years between surveys.
[5] The following tasks are considered housework: cooking, cleaning, laundry, gardening, repairs, shopping for the household, household management, travel related to housework, and other housework activities. Childcare comprises primary care of the child, helping with the child with schoolwork, recreation with the child, accompanying the child to appointments, travel related to childcare, and other childcare activities.

and babysitter24.at, respectively. In June 2019 we collected data on the wages demanded from workers offering childcare and housework services. We filtered listings according to postal area, the worker's distance to that area (maximum of 2 kilometers), and worker gender. We took the wages demanded from around 15,000 observations from each online platform. Almost 90% of advertisements offering services come from women. We calculate the average net wage demanded for household work and childcare at the NUTS-2 level, for each of the nine regions of Austria.

Figure 1 shows the average wage rate demanded for household work and for babysitting services, broken down by gender and region. There is significant variation in the hourly wage of these services across regions, but overall, an hour of childcare costs about €11 and household work costs closer to €12. Interestingly, the average hourly wage for men on these platforms is higher than it is for women.

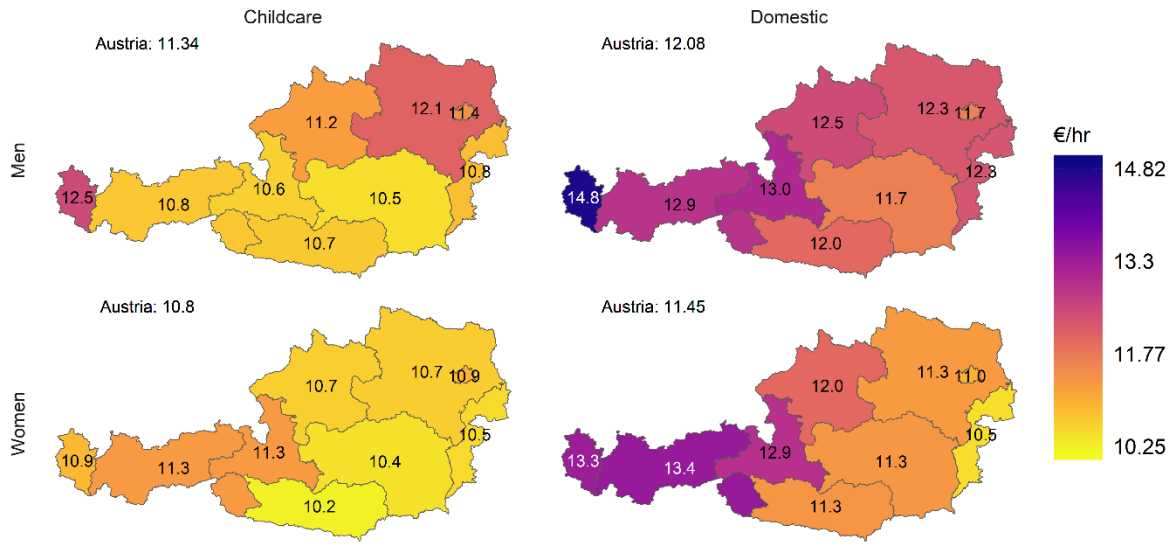

Figure 1: Average wage rates of domestic work, EUR/hr

A macro-level estimate for the value of unpaid work

We next apply the region-specific average net wage rates to the average time spent on household and childcare activities in each region. The goal of this exercise if to get the value of the work as a percentage of GDP, as is the standard measure of the value of unpaid work in the literature. To do this, we deflate net wage rates to 2018 values to match the year of the latest GDP data, which was about 386 billion in 2018. Table 2 gives the results.

Activities Included		Women	Men	Total
Primary activity only	Total	14.21	7.41	21.62
	Childcare	2.23	0.94	3.17
	Housework	11.98	6.47	18.45
Both, weighted	Total	9.06	4.62	13.68
	Childcare	1.58	0.64	2.22
	Housework	7.48	3.98	11.46
Primary and Secondary	Total	15.54	7.84	23.39
	Childcare	2.83	1.13	3.96
	Housework	12.72	6.71	19.42

Table 2: Average value of domestic work as percentage of GDP

When considering primary activities only, the value of housework and childcare amounts to about 22% of GDP; when using both primary and secondary activities, the value is near 23.5%. Ahmed and Koh (2011) have also calculated the value of labor for this work in Austria using the same time-use data, but with different valuation methods and wage data (in particular, OECD PPP wage data). Using average generalist wages for primary activities only, they estimate that labor costs for housework and childcare is equivalent to 24% of GDP. When using an opportunity cost approach, the estimate is 41% of GDP. Schappenwein (2018) has applied the generalist approach to the same Austrian time-use data but with data on net wages from European Union Survey on Income and Living Conditions, computing a labor value for housework and childcare equivalent to 27% of GDP. These comparisons show that the valuation of domestic work is sensitive to the methodological approach and, crucially, the wage data employed. We argue that our approach is superior to previous methods, primarily because it uses what is likely the closest true value of the market cost of an hour of this work.

Discussion

The main contribution of this paper has been to introduce a new approach to the valuation of domestic work. By using easily accessible and free information on actual wages, our method helps form a better understanding of the market value of household work and childcare. Calculating this worth sheds light on the economic value of such work. We find that this work would be worth about 22% of GDP if it were paid at going market prices. This estimate is close to the value created by the industry sector in Austria. The domestic work is thus economically valuable; by ignoring it, one underestimates the economic and social value created primarily by women in the household.

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