



Why Do Women Work Harder than Men? Testing the Patrilocality Hypothesis

Irina Kovaleva¹, Leon Taylor^{2*}

¹Department of Economics, KIMEP University, Almaty, Kazakhstan

²Department of Economics, KIMEP University, Almaty, Kazakhstan

ABSTRACT

This article examines the idea that a woman living with her husband's family is compelled by it to do more housework than he does. The key question in this "patrilocality" hypothesis is whether such a woman must do more housework than other women. We find direct evidence for this hypothesis in Kyrgyzstan by regressing the number of hours that the wife works outside of the house on a dummy variable indicating that she moved in with her husband's family. An alternative to the patrilocality hypothesis states that the husband, rather than his family, compels his wife to do more of the housework. We find that the opposite is true: The wife works more hours outside of the home when her husband decides for the household than when he does not. This may be because he can share his wife's income.

Keywords: Patrilocality hypothesis; Household work allocation; Kyrgyzstan; Econometric analysis; Female labor supply

INTRODUCTION

Anthropologists note that in developing countries women often work harder than men, often because the wife lives with her husband's family, which compels her to work in his stead. This note contributes the first direct econometric test of the patrilocality hypothesis and of an alternative hypothesis for the division of household work in Kyrgyzstan.

Literature Review

Around the world, after marriage, the wife is more likely to move in with her husband's family than the other way around. Patrilocality is also more likely than an arrangement in which husband and wife live apart from both families. In a study of 561 persons in 6 ethnic cultures of rural Tibetan China, Chen et al. find that in patrilocal arrangements, the woman averages 12,000 steps in labor per day (for example, when gathering mushrooms and milking cows) while the man averages 9,000. Women worked harder than men in this arrangement even with adjustments for age and household size [1].

Landmann et al. tried to find out exactly how marriage practices could influence female labor supply in Kyrgyzstan [2]. Patrilocality societies expect women to move in with their husbands' parents, take on household responsibilities, and care for aged in-laws. They found that co-residence has a negative but statistically insignificant effect on female labor force participation in Kyrgyzstan. Studies of less patrilocal settings found a positive effect. Kovaleva I et al. concluded that co-residing women allocate more time to elder care than do other women but parents do not support their housework. Evidently, co-residing women sacrifice leisure. The literature suggests that women may be compelled to work harder than men, but researchers have rarely tested the idea with econometrics. Thus our note [3].

METHODS

Kovaleva and Taylor provide the theoretical mathematical model [2]. It views the husband as deciding how much housework that his wife will do, to maximize his utility from the convenience of avoiding housework himself and the offsetting factors of the loss of outside income that his wife could have

Received:	30-August-2023	Manuscript No:	IPQPC-23-17574
Editor assigned:	01-September-2023	PreQC No:	IPQPC-23-17574 (PQ)
Reviewed:	15-September-2023	QC No:	IPQPC-23-17574
Revised:	20-September-2023	Manuscript No:	IPQPC-23-17574 (R)
Published:	27-September-2023	DOI:	10.36648/1479-1064.23.31.31

Corresponding author Leon Taylor, Department of Economics, KIMEP University, Almaty, Kazakhstan, E-mail: tayloralmaty@tuta.io

Citation Kovaleva I, Taylor L (2023) Why Do Women Work Harder Than Men? Testing the Patrilocality Hypothesis. *Qual Prim Care*. 31:31.

Copyright © 2023 Kovaleva I, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

worked as well as his loss of her affection. The current note tests reduced regression models based on that model.

Variables

Move is a dummy variable equal to 1 when the woman reports that she moved due to marriage, probably to live with her husband’s family. Schooling is the number of years of education that the woman attains. Hours total is the number of hours that the woman works on the job per week. East represents Issyk-Kul, Naryn, Chuy, and Bishkek city. Decision is a dummy variable equal to 1 when the husband makes decisions for the household.

Table 1: Correlation matrix

	Hours total	Move	Decision	Schooling	East
Hours total	1				
Move	-0.0618	1			
Decision	-0.0019	-0.0443	1		
Schooling	0.1817	0.0151	-0.0674	1	
East	0.1506	0.0609	-0.2253	0.1253	1

Table 2 presents descriptive statistics. The typical wife works more than 14 hours per week outside of the home, has nearly 11 years of education, and is unlikely to have moved in with her husband’s family. Men decide for the family in only a 5th of the households surveyed. A third of the households are in

Table 2: Descriptive statistics

Variable	Observations	Mean	Standard deviation	Min	Max
Hours total	3,055	14.285	20.514	0	70
Move (=1)	3,055	0.013	0.112	0	1
Decision (=1)	2,785	0.198	0.399	0	1
Schooling	2,916	10.602	2.115	0	15
East (=1)	3,055	0.327	0.469	0	1

Note: Schooling identifies how many years an individual was attending an education institution, where illiterate=0 year, primary=4, basic=8, secondary general and primary technical=10, secondary technical/special=11, university (bachelor, diploma, master), and Ph.D.=15 years

RESULTS AND DISCUSSION

The key question is whether a woman living with her husband’s family does more of the housework than other wives do. To answer this question, we observe that a wife who moves to a new location is probably moving in with her husband’s family. In Kyrgyzstan, couples rarely live apart from all their parents. We want to know whether this relocating affects her load of housework. For the year observed, we lack data on her housework load. But we do have data on the number of hours that she works outside of the home, which relates inversely to her housework load: The more that she works at the office, the less time that she has to work at home. Thus to test the patrilocality hypothesis, we look for a negative relationship between

Table 3: Influence of relocation on working hours

Source	SS	Df	OLS regression MS	Number of obs (2,916)
Model	69886.79	3	23295.6	F(3, 3939)=57.66
Residual	1176434	2,912	403.9953	R-squared=0.0561

Data

The dataset consists of 11,913 observations from the Life in Kyrgyzstan panel surveys for 2019. Virtually all observations used are for married women (3,063 observations).

Table 1 presents simple correlations of the variables. The low correlations indicate that multicollinearity is not a problem. The highest correlation in absolute value, for Decision and East, raises the possibility that cultural attitudes-in this case, that the husband should make household decisions-vary with the region. The statistic indicates that men are more likely to decide for the household in the rural west of Kyrgyzstan.

eastern Kyrgyzstan, which includes the largest city, Bishkek. For most variables, the standard deviation exceeds the mean. Even when it doesn’t, there is enough variation in the variable to yield potentially precise estimates of the coefficients.

the number of hours worked outside the home and the wife’s residence with her husband’s family.

Table 3 regresses the number of outside hours worked (Hours total) on a dummy variable for whether she likely lived with her husband’s family (Move), on her number of years of education (Schooling), and on a dummy variable for her area of residence (East-the eastern and relatively urban part of Kyrgyzstan, distant from border conflicts). The coefficient on Move is negative and highly significant in a statistical sense. Judging from the Tobit models, discussed below, moving in with the husband’s family effectively eliminates the wife’s work outside of the house. Remarkably, this impact is more than double that of locating in the urban east. It also roughly equals the total impact of a complete secondary education.

		Total	1246321	2,915	427.5545	Adj R-squared=0.0551 Root MSE=20.1	
Hours total	Coef.	Std. Err.	t	P> t 	[95% Conf. Interval]		
Move	-12.0889	3.246809	-3.72	0	-18.4552	-5.72266	
Schooling	1.524468	0.177483	8.59	0	1.176462	1.872473	
East	6.608667	0.797421	8.29	0	5.045101	8.172233	
Constant	-3.45911	1.902616	-1.82	0.069	-7.18972	0.271499	
Tobit regression							
Log likelihood=-6438.6228				Number of Obs=2,916 LR chi²(3) =163.48 Prob>chi²=0.0000 Pseudo R²=0.0125			
Hours total	Coef.	Std. Err.	t	P> t 	[95% Conf. Interval]	East (=1)	
Move	-47.9659	12.49339	-3.84	0	-72.4627	-23.4691	
Schooling	4.112884	0.499746	8.23	0	3.132993	5.092775	
East	17.54746	2.216079	7.92	0	13.20222	21.89271	
Constant	-63.6647	5.693009	-11.18	0	-74.8274	-52.502	
/sigma	47.75138	1.260665			45.2795	50.22327	
Tobit normal regression							
Log likelihood=-6438.6228				Number of Obs=2,916 LR chi²(1)=12894.09 Prob>chi²=0.0000			
Hours total	Coef.	Std. Err.	z	P> z 	[95% Conf. Interval]		
Move	-47.9659	12.4934	-3.84	0	-72.4525	-23.4793	
Schooling	4.112884	0.499746	8.23	0	3.1334	5.092368	
East	17.54746	2.21608	7.92	0	13.20403	21.8909	
Constant	-63.6647	5.693011	-11.18	0	-74.8228	-52.5066	
/Sigma	-47.7514	1.260665	-37.88	0	-50.2223	-45.2805	
Note: 1,896 left-censored observations at hours total ≤ 0 1,020 uncensored observations 0 right-censored observations							

We add Tobit regressions because almost two-thirds of the observations have a value of zero for Hours total. In theory, a variable like Move could produce negative outside work. Since a negative value for hours is impossible in a practical sense, we observe zero instead; but this understates the “true” impact of Move on work. Tobit accounts for this practical difficulty by assuming that the normal distribution of the error term would produce negative values of Hours total were they possible, and adjusting the coefficient estimates accordingly. It thus gives a more accurate picture of the impact of the independent variables on work than OLS does. Tests indicated that the Tobit models were homoscedastic.

Another way to test the patrilocality hypothesis is to see whether the husband’s power to decide for the household decreases her number of outside work hours. In this version of the hypothesis, the woman is dominated by her husband, not by his family. The model in Table 4 regresses Hours total on a dummy variable for the husband’s power to decide (Decision) as well as on education and area of residence. Education and area again are positive and highly significant. But the husband’s power to decide increases, by almost two hours, her outside work per month. And it is highly significant. Evidently, patrilocality is exercised by the husband’s family but not by him, perhaps because he would enjoy more of her outside income when he decides how much she can work rather than his parents deciding.

Table 4: Influence of husband decision on working hours

		OLS regression			Number of obs=2,738	
Source	SS	df	MS	F(3, 3939)=49.14		
Model	61650.39	3	20550.13	R-squared=0.0512		
Residual	1143437	2,734	418.2285	Adj R-squared=0.0501		
Total	1205087	2,737	440.2949	Root MSE=20.451		
Hours total	Coef.	Std. Err.	t	P> t 	[95% Conf. Interval]	
Decision	2.136838	1.006875	2.12	0.034	0.162526	4.111151
Schooling	1.659314	0.186736	8.89	0	1.293156	2.025471
East	6.111632	0.847365	7.21	0	4.450091	7.773172
Constant	-4.44592	2.03177	-2.19	0.029	-8.42988	-0.46196

Tobit regression

Log likelihood=-6362.3855

Number of obs=2,738

LR chi²(3)=136.83

Prob>chi²=0.0000

Pseudo R²=0.0106

Hours total	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Move	6.259086	2.682242	2.33	0.02	0.999661	11.51851
Schooling	4.19591	0.494021	8.49	0	3.227218	5.164601
East	15.65214	2.231104	7.02	0	11.27732	20.02696
Constant	-62.1568	5.696641	-10.91	0	-73.327	-50.9867
/sigma	46.39076	1.219037			44.00043	48.78109

Tobit normal regression

Log likelihood=-6362.3855

Number of obs=2,738

LR chi²(1)=11567.98

Prob>chi²=0.0000

Hourstotal	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	/Sigma
Move	6.259088	2.682396	2.33	0.02	1.001688	11.51649
Schooling	4.195911	0.494048	8.49	0	3.227595	5.164226
East	15.65214	2.231229	7.02	0	11.27902	20.02527
Constant	-62.1569	5.696954	-10.91	0	-73.3227	-50.991
/Sig	-46.3908	1.219192	-38.05	0	-48.7804	-44.0012

Note: 1,718 left-censored observations at hours total ≤ 0; 1,020 uncensored observations; 0 right-censored observations

CONCLUSION

We find that patrilocality curtails the wife’s labor outside of the home with statistical and practical significance. It does help explain why women work harder than men in developing economies. But it is not the dominant explanation. Even allowing for education and area of residence, the model accounts for only about 13% of the variation in the number of female hours worked across households. A more powerful theory might need to account for additional social and cultural influences. Kovaleva and Taylor take a step in this direction.

ACKNOWLEDGEMENT

None.

CONFLICT OF INTEREST

The co-authors declare that they have no conflicts of interest in writing this paper.

REFERENCES

1. Chen Y, Mace R (2023) Women work harder than men-our anthropological study reveals why.
2. Landmann A, Seitz H, Steiner S (2018) Patrilocal residence and female labor supply: Evidence from Kyrgyzstan. Demogr 55(6): 2181-2203.
3. Kovaleva I, Taylor L (2023) A model of why women work harder than men. Res Sq.