Research on the Relationship Between Gender Concept and Family Business Model Based on SPSS

Hao Zhang[1(✉)] and Luyi Liang[2]

[1] School of Economics and Management, Communication University of China, Beijing 100024, China
zhanghao19970427@163.com
[2] Beijing National Day School, Beijing 102199, China

Abstract. The application and promotion of big data technology in social science research has made it possible to explain the influence of gender concept on social activities in a deeper and more logical way. Based on the survey data of China General Social Survey (CGSS) in 2015, OLS regression model was used to empirically analyse the effect and mechanism of difference of gender concept on family business model. The results show that the more traditional the gender concept, the more inclined to maintain the traditional family management model, there is a trade-off between individual economic responsibility and family responsibility, and the gender concept of the impact on the family management model is different between rural and urban. The conclusion of this paper, to some extent, explains the changes of family management model caused by the change of gender concept, which has a certain reference value for related research.

Keywords: gender concept · family management model · traditional gender division of labor

1 Introduction

With the opening up of ideas, the development of technology and the adjustment of industrial structure in modern times, the role of women in society and family has changed dramatically. Women gradually get rid of the traditional family management mode of "men are in charge of the outside world, and women are in charge of their own affairs". They begin to show their elegant demeanor and occupy an increasingly important position in school and workplace. Although the roles played by women are different from those in the past, due to the differences in gender concepts among social individuals, this change has led to new contradictions in society and family. On the one hand, due to the existence of "gender role norms" in society, there is still unequal division of labor in parenting and housework between husband and wife in the family. On the other hand, the egalitarianism advocated by the government and the public opinion is increasingly sought after and supported by people [1, 3].

Generally speaking, the social economy is under the "modern patriarchal system". In this context, although the traditional and modern gender concepts and systems are mixed together, the traditional gender role norms in the family business model will not be completely invalid. The report of the 12th National Women's Congress shows that more than 70% of Chinese women have participated in the economic and social construction. At the family level, this is directly reflected in the fact that more and more women have taken up the responsibility of "supporting their families". According to the logic of the traditional family business model, there is an alternative relationship between economic expenditure and physical and time expenditure in the family. However, with the change of gender concept and gender role, is there a logical change in the family management model? Or, to what extent does this change lead to changes in the family management model? None of these questions have been answered.

2 Design Variables, Research Sources and Selection

2.1 Research Design

According to the above theoretical analysis, in order to analyze the impact of gender concept change on family management model and the degree of influence, this paper constructs the following regression model:

$$ecoresp_i/hosresp_i = \alpha_0 + \alpha_1 gender_i + \alpha_2 concept_i$$
$$+ \alpha_3 gender_i \times concept_i + \beta \sum X_i + \mu_i \tag{1}$$

$$ecoresp_i/hosresp_i = \alpha_0 + \alpha_1 gender_i + \alpha_2 concept_i + \alpha_3 gender_i \times concept_i$$
$$+ \alpha_4 hosresp_i/ecoresp_i + \beta \sum X_i + \mu_i \tag{2}$$

Among them, $ecoresp_i$ denotes economic responsibility of one of respondents in their families, $hosresp_i$ denotes family responsibility of one of respondents in their families, $gender_i$ denotes the gender of respondents, $concept_i$ denotes gender concept of respondents, X_i for other control variables, μ_i is random interference term, α_0, α_1, α_2, α_3, β is the regression coefficient.

On the basis of formula (1), this paper adds $hosresp_i$ the expression of family responsibility, and $ecoresp_i$ the expression of economic responsibility, to get formula (2). Through combination of formula (1), formula (2), we can test whether there is a mediating effect between family responsibility and economic responsibility. With the help of the above mediating effect models, we can understand more comprehensively the influence mechanism of gender concept on the change of family management model.

2.2 Variable Selection

2.2.1 Explained Variables

This paper uses economic dependence index suggested by Annette Sorensen and Sarah mclarnahan [5] to measure the financial responsibilities of the individual within

the family. Specifically, economic dependence index = (income oneself – income spouse)/(income oneself + income spouse), and the final value range of economic dependence is −1 to 1. When economic dependence index is −1, it means that the expenditure of the individual in the family is completely provided by the spouse, when the index is 1, it means that the individual provides all the family expenses, that is, the individual fully bears the economic responsibility in the family, when the index is 0, it indicates that the individual and his/her spouse share the family economic responsibility, and the proportion of the responsibility is equal.

Referring to the method of Theodore Greentstein [2], this paper uses the proportion of household labor distribution to measure the family responsibilities borne by individuals in the family. Specifically, personal weekly housework hours/(personal weekly housework hours + spouse's weekly housework hours). According to Greinster's design [2], the data of more than 100 h of housework per week was coded as 100. In addition, CGSS2015 questionnaire made statistics on the housework time on working days and rest days respectively. Based on the data provided by the questionnaire, this paper calculated the weekly housework time of the respondents.

2.2.2 Core Explanatory Variables

Refer to Zhang tingjun and Lin Fuxing [8] according to the questionnaire of "whether or not you fully agree with women" in 2015, it was divided into five grades: whether or not women fully agree with the concept of family.

There are significant differences between different genders in the degree of traditional gender concept, and gender concept is the only macro factor related to male participation in family work [6]. Therefore, this paper introduces gender as a virtual variable and forms a cross term with gender concept to measure the difference of gender concept between different genders.

2.2.3 Control Variables

This paper introduces the age, education background, political outlook and religious belief as control variables. Among them, at the age level, only samples aged between 20 and 55 are selected to ensure that the samples are within the working years.

In addition, there is no doubt that the number of children will have an impact on the total amount of housework, even on the distribution of housework between husband and wife [2]. There is a nonlinear relationship between the number of children and the distribution of housework [4]. Therefore, the number of children and its quadratic form are introduced into the model as control variables.

2.3 Data Sources

All the data in this paper are from the survey results of China General Social Survey (CGSS) in 2015. The survey covers 28 provinces, autonomous regions and cities, with a total of 10968 samples. After eliminating the samples of missing variables and meaningless answers, a total of 1041 samples are obtained.

3   Analysis of Empirical Results

3.1   Baseline Regression Results

OLS regression analysis was carried out on the model constructed in the previous paper, and the regression results are shown in Table 1.

Model 1 takes economic dependence as the explained variable and regresses the core explanatory variable. The results show that in the family business model, men tend to take more economic responsibility, but for both men and women, the more traditional the gender concept, the more dependent individuals are on their spouses, that is, the more likely they are to assume less economic responsibility in the family. Compared with the coefficient of gender and gender concept, the absolute value of gender corresponding coefficient is far greater than the absolute value of gender concept coefficient. It can be inferred that when men tend to take less economic responsibility, the social pressure from gender requirements is far greater than the benefits of escaping from economic responsibility, so they are forced to bear economic responsibility. This is also reflected in the interaction between gender and gender concept, and the coefficient of interaction is significantly positive, which indicates that the more traditional men are, the more likely they are to assume economic responsibility in the family.

Model 2 adds control variables on the basis of model 1. In the control variables, except age, the rest are not significant, while age is positively related to the economic responsibility of individuals in the family. This situation is consistent with the reality, that is, the older the age, the more conservative their ideas are, the less likely they are to

Table 1. The influence of gender concept on the economic and family responsibilities of individuals in the family

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Explained variable	ecoresp	ecoresp	hosresp	hosresp	ecoresp	hosresp
Gender	0.243**	0.227**	-1.196***	-1.191***	0.187*	-1.078***
	(0.104)	(0.104)	(0.398)	(0.402)	(0.104)	(0.400)
Gender concept	-0.035*	-0.032	0.146*	0.147*	-0.027	0.131*
	(0.020)	(0.020)	(0.075)	(0.077)	(0.020)	(0.077)
Gender * Gender concept	0.098***	0.097***	-0.493***	-0.498***	0.080***	-0.449***
	(0.029)	(0.029)	(0.110)	(0.111)	(0.029)	(0.110)
Age		0.004***		0.006	0.004***	0.008
		(0.001)		(0.005)	(0.001)	(0.005)
Education		0.028		-0.096	0.025	-0.082
		(0.026)		(0.101)	(0.026)	(0.100)
Political outlook		-0.005		0.027	-0.004	0.024
		(0.051)		(0.200)	(0.051)	(0.198)
Religious belief		-0.036		0.004	-0.036	-0.014
		(0.053)		(0.204)	(0.052)	(0.202)
Number of children		-0.035		-0.338*	-0.047	-0.355**
		(0.045)		(0.173)	(0.045)	(0.172)
Number of children^2		0.008		0.054*	0.010	0.058**
		(0.008)		(0.030)	(0.008)	(0.029)
hosresp/ecoresp					-0.034***	-0.501***
					(0.008)	(0.119)
Constant term	-0.090	-0.300**	4.715***	4.901***	-0.134	4.751***
	(0.071)	(0.119)	(0.271)	(0.459)	(0.125)	(0.457)
Adjusted R^2	0.243	0.249	0.353	0.353	0.261	0.363

Note: standard errors are shown in brackets, *, * *, and * * indicate that the regression coefficients are significant at 10%, 5% and 1% levels respectively.

change their gender concepts, and the more inclined they are to maintain the traditional family management model.

In model 3, the explanatory variable is replaced by the proportion of household responsibilities. Before adding the control variables, the core explanatory variables are regressed. The results show that men as a whole show a great rejection of family responsibilities in the family. Combined with the cross-term coefficient, it can be seen that the more traditional men are, the more strongly they reject family responsibilities. However, if the coefficient of gender concept is positive, the more traditional an individual is, the more profound his thought of "caring for his family" is, and the more likely he is to assume family responsibilities. However, for men, the impact of this motivation is far less than their sense of exclusion of family responsibilities due to gender, which is manifested in the fact that men will symbolically engage in some housework at home, but on the whole, the housework is still undertaken by women.

The regression results of model 4 constructed by model 3 after adding control variables show that the core explanatory variables of model 4 are similar to model 3 and are significant, while in the control variables, only the number of children will have an impact on the individual's family responsibility, and the rest have no effect. It shows that, except for gender and gender concept, regardless of the age of the husband and wife, the situation of the core explanatory variables of model 4 is similar to that of model 3, However, with the birth of children, whether for men or women, the economic pressure of parenting will make individuals tend to spend less time and energy in the family and go out to work. However, when the number of children is too large, individuals tend to spend less time and energy in the family and go out to work, the pressure brought by the family responsibility of raising children will make the individual leave the workplace and devote more time and energy to the family.

It is worth noting that model 1, model 2, model 3 and model 4 are divided into two groups, and each of the core explanatory variables shows a reverse relationship in the direction. This shows that the influence of gender and gender concept on the economic responsibility or family responsibility of individuals in the family presents the situation of ebb and flow.

In order to further test the influence mechanism of gender concept on family business model, this paper introduces the proportion of housework division and economic dependence as new variables on the basis of model 2 and model 4 respectively, and constructs the mediating effect model of the proportion of housework division in model 5 and the mediating effect model of economic dependence in model 6 based on model 2 and model 4.

In model 5, the coefficient of the proportion of housework division is significantly negative, but the coefficient size and significance of other control variables have not changed significantly compared with model 2. Therefore, it can be inferred that the increase of the proportion of household division of labor will reduce the economic dependence of individuals, but there is no mediating effect.

In model 6, the system of economic dependence is also significantly negative, and the significance of the influence of other control variables on the proportion of housework division is also changed. Therefore, the influence of individual economic dependence

on the proportion of housework division is similar to the influence of the latter on the former.

3.2 Robustness Test

See Table 2.

3.2.1 Reduce the Sample Size to Estimate

In the original sample, there is no limit on the age range, but considering the reality, most of the couples in the family only come from pension or pension after retirement. In this case, although the economic dependence of the husband and wife can reflect their economic responsibility in the family to a certain extent, the individuals hardly need to pay time and energy to obtain such benefits, as a result, it becomes more complex and difficult to measure the economic and family responsibilities in the family. Therefore, the sample age is limited to 20–60 years old, and 758 samples are finally obtained. On this basis, OLS regression analysis is conducted again according to model 2, model 4, model 5 and Model 6. The results show that, some variables significantly decreased after reducing the total sample size, the positive and negative directions of each coefficient did not change. Therefore, we can infer that the conclusion in the previous paper is robust.

3.2.2 Change the Assignment Method of Core Explanatory Variables

In order to reduce the inaccuracy and inaccuracy of the subjective evaluation of a421 "do you agree that men attach importance to career and women to family" in cgss2015 questionnaire. In this paper, five grades of the questionnaire from "totally disagree" to "fully agree" are re assigned. The specific adjustment method is as follows: assign "totally disagree" and "relatively disagree" as 0, and define them as non-traditional gender concept, and assign "indifferent consent or disagreement", "comparative agreement" and "full agreement" as 1, and define them as traditional gender concepts. Based on this, OLS regression analysis is conducted again according to model 2, model 4, model 5 and Model 6. After changing the method of assigning the core explanatory variables, the

Table 2. Robustness test regression results

Explained variable	After age restriction				After changing the core explanatory variable assignment method			
	ecoresp	hosresp	ecoresp	hosresp	ecoresp	hosresp	ecoresp	hosresp
Gender	0.148	-1.778***	0.065	-1.686***	0.400***	-2.218***	0.322***	-2.009***
	(0.122)	(0.444)	(0.121)	(0.438)	(0.063)	(0.243)	(0.065)	(0.246)
Gender concept	-0.043*	0.135	-0.036	0.109	-0.085***	0.372*	-0.072	0.328*
	(0.023)	(0.085)	(0.023)	(0.084)	(0.050)	(0.194)	(0.050)	(0.193)
Gender* Gender concept	0.133***	-0.404***	0.114***	-0.322***	0.233*	-0.954***	0.190***	-0.837***
	(0.034)	(0.123)	(0.034)	(0.123)	(0.073)	(0.282)	(0.073)	(0.280)
hosresp/ ecoresp			-0.047***	-0.618***			-0.035***	-0.523***
			(0.010)	(0.131)			(0.008)	(0.119)
Control variable	control	control	control	control	control	control	control	control
N	758	758	758	758	1041	1041	1041	1041
Adjust-R^2	0.268	0.410	0.288	0.426	0.247	0.346	0.260	0.357

Table 3. The influence of gender concept in urban and rural areas on the economic and family responsibilities of individuals in the family

	City		Countryside	
Explained variable	ecoresp	hosresp	ecoresp	hosresp
Gender	0.073	-1.318**	0.616***	-1.041
	(0.125)	(0.525)	(0.185)	(0.652)
Gender concept	-0.029	0.061	-0.009	0.260
	(0.026)	(0.108)	(0.033)	(0.116)
Gender* Gender concept	0.113***	-0.451***	0.028	-0.549***
	(0.036)	(0.151)	(0.048)	(0.170)
Control variable	control	control	control	control
N	586	586	455	455
Adjust-R^2	0.203	0.318	0.031	0.391

influence and significance of gender concept on the economic responsibility and family responsibility of individuals in the family have not changed, and the two responsibilities still show the trend of ebb and flow, which once again shows that the conclusion in the previous paper is robust.

4 Heterogeneity Analysis

After the overall analysis of the sample, this paper makes a Spearman correlation analysis on whether the sample is in urban or rural areas and gender concept. The results show that there are significant differences between urban and rural gender concept, and rural gender concept is more traditional than urban. Therefore, all the samples are divided into urban group and rural group. On this basis, the content of the previous analysis is simplified, and make OLS regression. The results are shown in Table 3.

The results show that men in rural areas will significantly assume more economic responsibility, while gender in urban areas has little impact on individual economic responsibility, and it is not significant. In terms of family responsibility, on the contrary, men living in the city will significantly bear less family responsibility, while in rural areas, the impact of gender on individual family responsibility is less than that in city, and it is not significant. In this paper, it is considered that the gender difference in family responsibility in rural areas is more than that in urban areas, Therefore, even in rural areas, men have higher motivation to reduce family responsibility, but women are forced to participate in housework because they are difficult to complete their housework unilaterally.

5 Conclusion

Based on the survey data of China General Social Survey (CGSS) in 2015, this paper uses OLS regression model to empirically analyze the effect and mechanism of gender differences on family management model. The results show that: (1) the more traditional the gender concept, the more likely the individual is to undertake the family responsibility represented by housework in the family. However, men are forced by the requirements

of the traditional gender division of labor and tend to take economic responsibility; (2) The more traditional the gender concept, the more exclusive the family responsibility represented by housework, while the more gender concept, the more willing women are to undertake the family responsibilities that men exclude; (3) When individuals take more economic responsibilities, they tend to take less family responsibilities, and vice versa; (4) The influence of gender concept on family management model is different between rural and urban areas.

As an important factor influencing family management model, gender concept has extremely important explanatory power for solving new family conflicts and even social problems, it is of great significance for building a harmonious family to fully understand its influence on the change of family management model. This paper analyzes the impact of gender concept on family management model. However, due to the defects of the sample, the imperfection of the model and the limitation of ideas, the conclusion and analysis of this paper can be further improved. Based on this, we should make a more comprehensive analysis of the social impact of such a problem, which is more in line with the actual situation.

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