Women's Bargaining Power and Educational Expenditures: Implications for Subsidy Policy

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Abstract: This study tackles the question of whether the distribution of power in a family might affect the level of expenditure on each child's education. We constructed a direct measure of the bargaining power of a wife and husband within a household. Our analysis showed that a household spends more money on children's education when the wife has a larger voice. We also found that the marginal effects of a wife's income lessened when the relative power of the wife and husband was controlled. Our analysis may imply the effect of a household's income will be multiplicative if women's control of household resources empowers women. However, if all that matters is the power itself, then giving money to women without changing their bargaining power will not work toward our expectations.

Keywords: women, bargaining power, children, educational expenditures, subsidy policy

INTRODUCTION

In the extensive literature on women's bargaining power, it has been assumed that higher women's bargaining power leads to greater participation in household decision making (Becker, 1996). When women's bargaining power increases, children's welfare improves due to the fact that woman know better what children need. Therefore, in

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households where the woman has a higher bargaining power, the expenditure share of items that are positively correlated with children's welfare, such as health and education, would be higher than in households where women have less bargaining power.

It is important to understand the process through which women's bargaining power influences the education of children. Sociocultural norms dictate that men and women have distinct roles within a household. Women are responsible for food production and child care (Caldwell & Caldwell, 1993). Also, men and women have different preferences and allocate household resources differently. Women are more likely to spend resources on education and health (Haddad, Hoddinott, & Adelman, 1997; Von Braun, 1988; Thomas, 1990).

We may agree that investment in education is needed to enhance its quantity and the quality, but it is also important to decide how to allocate the educational investment. In this context, we tackle the question of whether the distribution of power in a family might affect the level of expenditure on each child's education. This question is important since the appropriate policy depends on the answer. For example, if expenditure on schooling is larger when mothers have more power in decision making, then we need to try to make sure that financial subsidies or aid flow into the mothers' hands; and if it is not, we may have to allocate resources to increasing the power of women. In order to determine the relationship between women's bargaining power and family educational expenditures, all variables other than women's bargaining power that determine educational expenditures should be specified in the model.

In recent years, many theoretical and empirical studies have showed that members of a given household do not share identical preferences, and one key member does not determine resource allocations based on his or her preference, as Becker's "unitary model" assumes. Critics have argued that the unitary model not only has unrealistic assumptions but also has limitations in drawing policy implications. One of the most important limitations is the failure to address the possibility that the effect of public transfers or policy initiatives may differ depending on the identity of the recipient (Haddad, Hoddinott, & Alderman 1997).

An alternative to the unitary model is the collective model, in which individuals with different preferences are treated as basic elements of the analysis, and household allocation is considered as the outcome of a bargaining process that achieves efficient allocation among household members. Collective models can be differentiated by the solution concepts they adopt—either cooperative (Manser & Brown, 1980; McElroy & Horney, 1981) or noncooperative (Lundberg & Pollak, 1993) Nash equilibrium. However, both concepts share the common feature of each household member having his or her own preference, and in contrast to the unitary model, a single household welfare index is not required.

Growing evidence has supported the view that different household members, especially wives and husbands, have different preferences. It showed the effect of the mother's income on the investment in children or food- and health-related expenditures is larger than that of the father's income. Empirical studies have argued that this evidence refutes the unitary model because the source of the family's income does not play a role within it. Some studies have argued further that the evidence indicates that bargaining power determines the share of resources allocated to an individual household member. This argument is intuitively appealing, because a person who earns more is likely to have more power and a greater voice in household decision making.

Despite its importance, the notion of power is elusive and difficult to measure. Several measures of power have been suggested, but few are satisfactory. Many are based upon the outcome of the bargaining process, which produces the endogeneity problem if the exogenous measurement of bargaining power is not considered. In a model of intra-household allocation, labor supply is determined through bargaining between household members. Non-labor income (Thomas, 1990; Schultz, 1990) can be thought of as exogenous to labor supply, but since much of non-labor income is from pensions, earnings from accumulated assets, or unemployment benefits, it is also the outcome of past labor and retirement decisions. Similar criticism may be applied to current asset holdings (Doss, 1996).

This study addresses this problem by using a direct measure of power—voice in household decision making, as constructed from data from the Indonesian Family Life Survey, which is unique in that it has a section dedicated to the process of household decision making. Taking advantage of the ability to use a direct measure of power, we examined determinants of power that have almost never been investigated before. We also attempted to determine whether there exists an effect of power on children's education.

The paper is organized as follows: the next section offers an overview of children's education and women's social status in Indonesia. This is followed by a description of the data and the main variables, including the measure of power. The next section discusses the estimation results. Finally, policy implications are presented.

CHILDREN'S EDUCATION AND WOMEN'S SOCIAL STATUS IN INDONESIA

The social activities and participation of Indonesian women have increased significantly in recent decades. The female enrollment rate for secondary school, which was

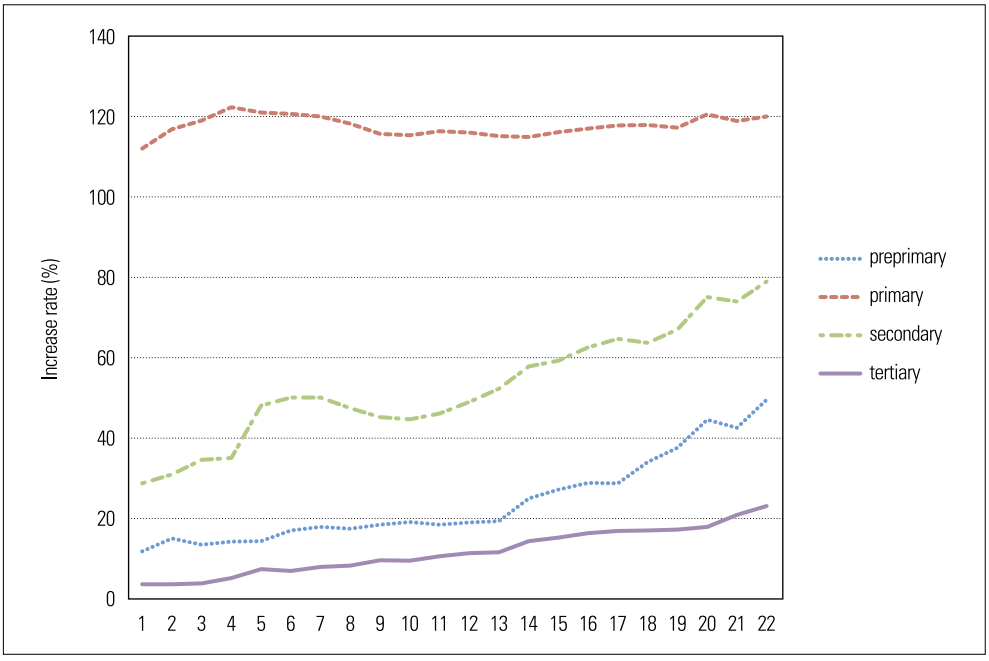
only 23.7 percent in 1981, was 79.1 percent in 2009 (World Bank, 2011). The number of seats occupied by women in the national parliament (lower and single house) was 40 (8 percent) for 2001-2003 and increased to 101 (18 percent) in the 2009 election (Inter-parliamentary Union, 2011). The labor force participation rate of women and girls 15 years or older has risen from 44 percent in 1980 to 52 percent in 2009 (World Bank, 2011).

These numbers indicate a higher economic and social status for women than in the past. However, it is still believed that women suffer disproportionately from illiteracy, poor health, domestic violence, and inadequate nutrition. For example, the illiteracy rate of women is 17 percent, compared to 10 percent among men (Online Women in Politics, 2011).

The Indonesian government began promoting elementary education in the late 1960s. Since 1990, six years of elementary school and three years of junior secondary school are compulsory and free in Indonesia. An additional three years of upper secondary school are optional (Embassy of the Republic of Indonesia, 2011). Although the enrollment rate for secondary school is high (79.5 percent), the rate for tertiary school was only 23.5 percent in 2009 (see Figure 1).

This is due to rising costs for higher education. According to the World Bank

Figure 1. School Enrollment Rates in Indonesia, 1981-2009



(2011), expenditures per student for primary, secondary, and tertiary education are 11.0 percent, 12.5 percent, and 16.2 percent of GDP per capita respectively. The economic crisis in the late 1990s provided another reason for slower growth of education levels in Indonesia. Public expenditure for education has increased along with expenditure for non-formal private education.

DATA AND VARIABLES

The data for this research came from the Indonesian Family Life Survey 2007, which is a national representative sample of 13,535 households and 44,103 individuals from 13 Indonesian provinces. The survey is the fourth round of a panel survey. Therefore, all the household members interviewed in the first round and their spinoffs were revisited and interviewed.

Table 1. Definition of Variables

Variable	Definition
Edu_exp	Educational expenditure for children (million Rp.)
Power	Wife's power / husband's power
W_nli	Wife's non-labor income (million Rp.)
H_nli	Husband's non-labor income (million Rp.)
W_wages	Wife's wages (million Rp.)
H_wages	Husband's wages (million Rp.)
W_work	Dummy variable; 1 if wife is working
H_work	Dummy variable; 1 if husband is working
W_edu	Wife's educational level (years)
H_edu	Husband's educational level (years)
W_age	Wife's age (years)
H_age	Husband's age (years)
Quartile1	Dummy variable; 1 if total household expenditure is in the highest group
Quartile2	Dummy variable; 1 if total household expenditure is in the second highest group
Quartile3	Dummy variable; 1 if total household expenditure is in the third highest group
Quartile4	Dummy variable; 1 if total household expenditure is in the lowest group
Size	Household size (number of people)
Size_51	Number of me or women aged over 50 years
Anyprivate	Dummy variable; 1 if at least one child is enrolled in a private school
Urban	Dummy variable; 1 if household is in an urban area

Table 2. Descriptive Statistics

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Edu_exp	4,876	1.301	1.529	0	26.07
Power	8,851	1.565	1.074	0	33
W_nli	10,906	7.537	97.685	0	3,000
H_nli	9,772	9.629	169.237	0	13,006
W_wages	4,789	8.141	16.486	-274	401.5
H_wages	8,534	15.825	238.783	-46.4	21,600
W_edu	9,595	8.016	4.128	0	20
H_edu	9,130	8.524	4.218	0	21
W_age	12,183	41.049	14.469	12	94
H_age	10,971	43.486	14.589	11	107
Quartile1	12,910	0.251	0.433	0	1
Quartile2	12,910	0.250	0.433	0	1
Quartile3	12,910	0.250	0.433	0	1
Size	13,469	5.387	2.981	1	39
Urban	13,469	0.547	0.498	0	1
Anyprivate	13,469	0.093	0.291	0	1

Since we want to construct a measure of power within the family, our sample contained only those households with both a husband and a wife. This reduced the sample to 8,851 households. Those households consisted mostly of parents and their married child(ren) living in the same household. Each individual answered questions about decision making. The definitions and summary statistics for all variables used in this study are presented in tables 1 and 2.

Our measure of wives' negotiation power consisted of an index of a wife's power in comparison to her husband's. The survey asked interviewees who makes decisions about different types of expenditures and use of time in the family (see the appendix). Respondents were allowed to list all those participating in each decision. We constructed an individual measure of power for each respondent and the power the respondent assigned to his or her spouse. The weights are the inverse of the number of people making decisions. For example, if a respondent answered that his wife, male child, and he jointly made a decision about the children's clothes, then the husband's power was weighted at 1/3.

Consequently, for each family member we could calculate $power_{hh}$ (the power that the husband perceives he has in the household), $power_{hw}$ (the power that the husband perceives his wife has in the household), $power_{wh}$ (the power that the wife perceives

the husband has in the household), and $power_{ww}$ (the power that the wife perceives she has in the household). Afterwards, for each family, we considered that a valid measure of power for husband/wife pairs would be as follows:

$$\text{Husband's power: } H_{power} = power_{hh} + power_{wh} \quad (1)$$
$$\text{Wife's power: } W_{power} = power_{hw} + power_{ww} \quad (2)$$

Finally, we defined the index of power distribution as the ratio of the husband's power to the wife's power. (If the denominator is zero, then we treated it as one to avoid dividing by zero.)

$$\text{Power} = W_{power}/H_{power} \quad (3)$$

If a conventional division of roles in the household exists, this index may measure power incorrectly. For example, if cooking, housekeeping, and raising children are perceived as a women's job, even if a man has power he can let his spouse decide on expenditures in these areas. In that case, our power index may overstate the power of the wife. Concerned with this issue, we constructed a similar index of power for decisions regarding children and financial decisions. However, the results using an alternative index did not show any significant differences from those using the power variable.

Another problem with the above measure of power might be that in some cases the answers are inconsistent (the wife says she decides something while the husband says the opposite), due to subjectivity. This is one reason for considering power as the sum of the power a person believes he or she has and the power that person's spouse believes he or she has. Another way of avoiding subjectivity is to measure a person's power using only the answers on which the husband and wife agreed.

In theory, there are two kinds of model specification for household educational expenditures. Becker (1991) suggested that household educational expenditures are determined by a utility maximization framework. Much empirical research considers children, household, and neighborhood characteristics. Children's characteristics include age and gender. Among household characteristics, income or socioeconomic status is a major determinant of household investment in children's education. A demographic factor that affects the household's decisions is the presence of other school-age children in the household. Finally, religion can also influence household decisions about education (Shafiq, 2011).

The second approach is estimating the Engel curve, which relates the budget share to total household expenditure and household size. The comprehensive Engel curve includes variables for residential area, education and age of the household head, and

homeownership. Household composition is entered through linear indicators of the number of household members in each of several gender-specific demographic categories (Handa, 1996). For example, Aslam and Kingdon (2008) estimated an Engel curve linking the budget share of educational expenditure with total household expenditure. They considered explanatory variables such as household head's education, gender, and occupation, and regional dummy variables.

We combined these two approaches in constructing an empirical model. Two types of income were used in this study: wife and husband's earnings and non-labor income received in the past 12 months. Wages are the sum of salary and bonuses earned from primary and sideline jobs. For the self-employed, business profits are treated as wages. Non-labor income is defined as the sum of pensions, insurance, arisan (rotating savings clubs), transfers, bonuses, earnings, and other sources of income. Some previous literature, including Thomas (1990), used this variable to show the different effects of men's and women's bargaining power. Also, in order to control the effect of household wealth, we considered quartile variables in the model.

We considered educational expenditures for children aged 4 to 17 years as the measure of educational expenditures. The reported education expenditures were school fees (including for registration and exams), school supplies (books, writing supplies, uniforms, and sports equipment), transportation, pocket money (for transportation, housing and food, and special courses), and other expenses. Educational expenditure was reported for each child by the children or their parents and then averaged for each household; thus it represents expenditure per child. Educational expenditure per child is expected to be smaller when there are more children in the household.

Generally, the older generation has a more conservative view about the roles of wife and husband, and this may have a negative effect on the bargaining power of wives. To take into account these matters, the household size (number of household members) and proportion of household members aged over 51 years were included as household characteristics. Since the unit of analysis is not an individual but a family, we considered age and educational levels of both the husbands and wives. When a wife is much younger and less educated than her husband, she is likely to have a smaller voice in decision making. Parents' educational level can also directly affect spending for children.

Finally, an additional variable that may influence household educational expenditures is the school type: private or public. Parents are likely to spend more money on children enrolled in a private school than on children enrolled in a public school. We also consider whether the household is in an urban area, which may provide a more women-friendly environment but require more money for raising children.

ANALYSIS

This section focuses on two models. First, we are interested in the determinants of our power index. Before investigating the effect of women's power on children's education, we need to examine what factors determine the relative power of the wife within a household. In equation 4, a vector of explanatory variables (Xj) includes various household characteristics: income, parents' education, husband's and wife's ages, and working status. Income, which is believed to be the most important factor, was measured by non-labor income or wages.

$$(\text{Power})_j = \alpha X_j + \varepsilon_j \qquad (4)$$

The estimation results of equation 4 are presented in table 3. The first two columns of table 3 are the results of running ordinary least squares (OLS) regression for the total sample (both consistent and inconsistent answers). We consider both non-labor income (Model I) and wages (Model II) as determinants of power.

Table 3. Determinants of the Wife's Power

	All respondents		Consistent respondents only	
	Model I	Model II	Model I	Model II
W_nli	0.00026 (2.16)**		0.00078 (3.53)***	
H_nli	-0.00003 (0.59)		0.00000 (0.07)	
W_wages		0.00048 (0.34)		-0.003 (1.21)
W_work	0.133 (5.94)***	0.687 (0.61)	0.161 (3.86)***	0.794 (0.40)
H_work	-0.280 (5.86)***	-0.543 (6.34)***	-0.191 (2.08)**	-0.269 (1.64)
W_edu	0.003 (0.76)	0.008 (1.08)	-0.006 (0.90)	-0.007 (0.53)
H_edu	-0.023 (6.35)***	-0.038 (5.59)***	-0.031 (4.57)***	-0.044 (3.48)***
W_age	0.003 (1.35)	0.009 (2.05)**	-0.000 (0.03)	0.009 (1.01)
H_age	0.002 (0.75)	0.001 (0.24)	0.007 (1.75)*	0.005 (0.61)
Quartile1	0.083 (2.27)**	0.225 (3.05)***	0.184 (2.71)***	0.510 (3.72)***
Quartile2	-0.012 (0.36)	0.074 (1.06)	0.086 (1.36)	0.286 (2.21)**
Quartile3	-0.006 (0.17)	0.057 (0.80)	0.049 (0.77)	0.250 (1.90)*
Size	0.013 (3.01)***	0.029 (3.45)***	0.013 (1.52)	0.025 (1.58)
Size_51	-0.051 (2.58)***	-0.095 (2.65)***	-0.053 (1.44)	-0.089 (1.34)
Urban	0.094 (4.01)***	0.085 (1.94)*	0.167 (3.81)***	0.194 (2.40)**
Constant	1.576 (18.49)***	1.050 (0.93)	1.611 (10.02)***	0.772 (0.38)
Observations	7,513	3,066	7,029	2,878
R-squared	0.03	0.05	0.02	0.02

Notes: The dependent variable is power. Absolute values of the t-statistics are in parentheses.
*** significant at the 1 percent level; ** significant at the 5 percent level; * significant at the 10 percent level

The results are consistent with our expectations: estimates of the wife's non-labor income are positive and statistically significant for both samples, although the size of the estimates is quite small. In contrast, a wife's wages have no impact on her power. Wages are a more stable financial resource than non-labor income, and are thus likely to be used for basic necessities.

However, the effect of non-labor income on bargaining power would be larger than that of wages. Rather than the size of wages, the working status of the wife and husband has a significant effect on women's negotiation power. For example, if the wife works, then her relative power increases by 0.13, which is 8.5 percent of the average power of women. Meanwhile, the wife's voice decreases as the husband's income increases, though the estimates are statistically insignificant.

We found three more interesting results in this study. First, in all models, the educational level of the husband has a negative effect on the wife's power. Second, women have more power in richer families as measured by expenditure level. Third, the proportion of males to females aged over 50 has a negative effect on women's power. Many households are composed of more than two generations. These estimates imply that older family members suppress the wife's voice within a household by forcing her to follow the male-favored tradition and by requiring her to work more in the household.

The second theme that we are interested in is whether more resources are invested in children by families that endow women with more power. The first result that we expect from the data is that the estimates of the wife's income and educational level would be larger than that of the husband as the previous studies showed.

We also expect to find a significant effect of the power variable itself. That is, we expect to find that families in which women have a stronger voice spend more money on their children's education. If the power variable has a significantly positive effect on educational expenditures, the effect of the wife's other characteristics would become weaker in our model.

We specify a model to capture the effect of a wife's power on the children's education. The model is formalized as follows:

$$(\text{Educational expenditures})_j = \alpha_1(\text{power}_j) + \varepsilon_2(\text{power}_j)^2 + \beta X_j + \varepsilon_j \qquad (5)$$

X_j includes the same explanatory variables as equation 4 except for the working status and age of the wife and husband. These are excluded due to concern about multicollinearity with income variables. Parents' age is believed to have no relationship to children's education. In fact, the estimates of coefficients on age turned out to be insignificant.

Table 4. Determinants of Educational Expenditures for Children

	Model I	Model II	Model III
Power	–	0.074 (1.71)*	0.077 (1.70)*
Power squared	–	-0.005 (1.23)	-0.005 (1.15)
W_nli	0.000469 (2.07)**	0.000465 (2.05)**	0.000474 (1.98)**
H_nli	0.000211 (1.02)	0.000204 (0.98)	0.000216 (0.99)
W_edu	0.034 (4.55)***	0.034 (4.51)***	0.036 (4.47)***
H_edu	0.025 (3.55)***	0.026 (3.66)***	0.028 (3.65)***
Quartile 1	1.022 (13.32)***	1.020 (13.28)***	1.056 (12.96)***
Quartile 2	0.352 (4.89)***	0.354 (4.90)***	0.378 (4.92)***
Quartile 3	0.117 (1.62)	0.120 (1.65)*	0.125 (1.62)
Size	-0.010 (1.13)	-0.010 (1.19)	-0.006 (0.66)
Urban	0.436 (9.35)***	0.434 (9.26)***	0.446 (9.00)***
Anyprivate	0.744 (14.75)***	0.742 (14.71)***	0.776 (14.57)***
Constant	0.035 (0.40)	-0.066 (0.62)	-0.214 (1.90)*
Observations	3,748	3,743	3,743
R-squared	0.24	0.24	0.07 (pseudo R2)

*** significant at the 1 percent level; ** significant at the 5 percent level; * significant at the 10 percent level

The Model I and Model II columns in table 4 are the estimation results from OLS regression. The estimate of the wife's non-labor income was found to be positive, while that of the husband's non-labor income has no statistically meaningful effect on children's education. This implies that money in the mother's hand has a bigger impact on a child's welfare than money in the father's hand. This result is consistent with what existing studies have shown.

Our main interest is the influence of the mother's power. The estimation result in the Model II column shows a positive coefficient of the power variable, which implies that more is invested in children's education when the wife is more involved in decisions about resource distribution within a household.

The estimate of the wife's non-labor income also becomes smaller if the power variable is considered as an explanatory variable in the model. Together with the previous results in table 3, this implies that parents' income affects educational expenditures through two paths: direct and indirect effect (by changing the bargaining power within the family). The power variable captured the second effect.

The estimated coefficients of the wife's education level are 0.03 and 0.036, while those of the husband's education are 0.025 and 0.028. These estimates were all significant at the 1 percent significance level. Therefore, we can conclude that more educated parents spend more on educating their children and the mother's education has a larger marginal impact. The estimates of the variables also coincide with our expectations. When a household is in an urban area and the children are enrolled in a private school,

educational expenditures become higher. Also, wealthy families are more likely to spend more money on their children's education.

The power variable is found to be significant only at the 10 percent level. One possible problem is that a significant number of households (8,936 out of 13,535) either did not report educational expenditure or reported zero expenditure. Concerned with the truncation of the dependent variable, we also estimated the Tobit model; these results are presented as Model III in table 4. Even though the sizes of the estimates become slightly larger, the qualitative implications of the results are maintained.

CONCLUDING REMARKS

In this study we constructed a direct measure of the bargaining power of the wife and husband within a household and investigated whether it affected the children's education. Our analysis showed that a household spends more money on children's education when the wife has greater bargaining power. We also found that the marginal effects of a wife's income became lower when the relative power of the wife and husband was controlled. These results imply that the effects of an increase in a wife's income will be limited if her relative power is weak.

Examining the determinants and effects of power has some important policy implications. The evidence for a larger impact of a mother's income on children implies that when a policy that increases household income is implemented, it is more effective to make it accrue to women than to men. Our analysis may further imply that the effect of a household's income will be multiplicative if women's control of household resources empowers women. If power affects outcome mainly through an increase in total household income, it may be more important to increase income than to shift power toward women. However, if all that matters is the underlying power, then giving money to women without changing their bargaining power will not meet our expectations.

The data used here, although collected in Indonesia, are appropriate for our research concern since they provide many responses to questions regarding the decision-making processes on various expenditures from food and clothes to durable goods. This unique feature of the data enables us to directly measure power distribution within a household, and thus to shed light on the best policy options for providing subsidies to low-income families by showing how the bargaining power of wives affects the subsidy.

The study has important policy implications. If women's bargaining power has a specific impact on educational expenditures for children, policy reforms and interven-

tions can take this into account in order to influence intrahousehold decision making and educational expenditures. The amount of money injected by the government into households can have very different implications for children's education. Higher children's welfare occurs in households in which the woman has a higher bargaining power. In other words, subsidies such as direct money transfers or access to educational institutions can have varying impacts on the welfare of children depending on the gender of the main decision-maker. In any case, a rise in the bargaining power of women is likely to conflict with traditional social norms regarding gender roles. Thus, careful consideration is required for policies that increase the bargaining power of women.

Our empirical results verify that women are empowered by work opportunities and by having their own income. Many studies and experiences have found that distributional effects are larger when women are recipients of a subsidy. Our study shows that programs for the development of women's rights will multiply the effects of aid programs. We believe that these results, although based on Indonesian data, have meaningful implications for income-subsidy policies in Korea.

Our analysis is limited in several aspects, among them the fact that the relationship between decision making and power has still not been investigated. Given the high possibility of separate spheres or roles within a household, the power variable based on the concept of influence in decision making can be misleading. We believe our measurements were better than previous studies in that ours directly measured women's voice in decision making, while others used indirect measures such as non-labor income.

Another possible limitation of our study is that Indonesian survey data were used. A difference in social customs governing wife-husband-children relationships and resource allocation within households may exist between Indonesia and Korea. Our research presents only some of the evidence on the effect of women's rights on social welfare. To get a more complete picture, future studies with more accurate data and a different approach are required.

APPENDIX: THE QUESTIONNAIRE ON DECISION MAKING

Expenditures of time and money	In your household, who makes decisions about each of these expenditures? (Circle all that apply.)																
	Respondent	Spouse	Male child	Female child	Mother	Father	Mother-in-law	Father-in-law	Brother	Sister	Brother-in-law	Sister-in-law	Grandparent	Other (specify)	Son/daughter-in-law	Grandchild	X/W/Y/V *	Can't answe
A. Food eaten at home	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		Z
B. Routine household purchases such as cleaning supplies	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		Z
C. Your clothes	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		Z
D. Your spouse's clothes	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		Z
E. Your children's clothes	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	Z
F. Your children's education	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	Z
G. Your children's health	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	Z
H. Large expensive purchases for the household (e.g., refrigerator or TV)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		Z
I. Giving money to your parents/family	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	X	Z
J. Giving money to your spouse's parents/family	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	X	Z
K. Gifts for parties/weddings	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		Z
L. Money for monthly arisan (savings lottery)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	X	Z
M. Money for monthly savings	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	X	Z
N. Time the husband spends socializing	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		Z
O. Time the wife spends socializing	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		Z
P. Do you/your spouse work?	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	V	Z
Q. Do you and your spouse use contraception?	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Y	Z

* V = don't work; W = no children; X = never used money for that purpose; Y = never used contraception.

REFERENCES

Becker, S. 1996. Couples and reproductive health: A review of couple studies. *Studies in Family Planning*, 27(6): 291-306.

Caldwell, J. C., & Caldwell, P. 1993. *Roles of women, families and communities in preventing illness and providing health services in developing countries.*

Doss, C. 1996. *Women's bargaining power in household economic decisions: Evidence from Ghana* (Staff Paper Series No. P96-11). Minneapolis: Department of Applied Economics, College of Agricultural, Food, and Environmental Sciences, University of Minnesota.

Embassy of the Republic of Indonesia. 2011. *Education*. http://www.indonesiaseoul.org/aboutindonesia/education.htm.

Haddad, L., Hoddinott, J., & Alderman, H. (eds.). 1997. *Intrahousehold resource allocation in developing countries: Methods, models, and policy*. Baltimore: Johns Hopkins University Press for the International Food Policy Research Institute.

Handa, S. 1996. Expenditure behavior and children's welfare: An analysis of female headed households in Jamaica. *Journal of Development Economics*, 50: 165-187.

Inter-parliamentary Union. 2011. *Women in national parliaments*. Geneva: Author. http://www.ipu.org/wmn-e/classif-arc.htm.

Lundberg, S. J., Pollak, R. A., & Wales, T. J. 1997. Do husbands and wives pool their resources? Evidence from the United Kingdom Child Benefit. *Journal of Human Resources* 32(3): 463-480.

Manser, M., & Brown, M. 1980. Marriage and household decision making: A bargaining analysis. *International Economic Review* 21(1): 31-44.

McElroy, M. B., & Horney, M. J. 1981. Nash-bargained household decisions: Toward a generalization of the theory of demand. *International Economic Review* 22(2): 333-349.

Online Women in Politics. 2011. *Country features: Indonesia*. Paranaque City, Philippines: Author. http://www.onlinewomeninpolitics.org/indon/indomain.htm.

Schultz, T. P. 1990. Testing the neoclassical model of family labor supply and fertility. *Journal of Human Resources* 25(4): 599-634.

Shafiq, M. N. 2011. What criteria should policy-makers use for assisting households with educational expenditure? The case of urban Bangladesh. *South Asia Economic Journal* 12(1): 25-37.

Thomas, D. 1990. Intrahousehold resource allocation: An inferential approach. *Journal of Human Resources* 25(4): 635-664.

World Bank. 2011. *World development indicators*. Washington, DC: Author. http://databank.worldbank.org.