Women's Wealth and Intimate Partner Violence: Insights from Ecuador and Ghana

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ABSTRACT

Intimate partner violence (IPV) by men against their partners is one of the most glaring indicators of women's lack of empowerment. Drawing upon the 2010 Ecuador Household Asset Survey (EAFF) and the 2010 Ghana Household Asset Survey (GHAS), nationally representative surveys for Ecuador and Ghana, respectively, this study investigates the relationship between women's ownership of assets and physical and emotional abuse by spouses against currently partnered women over the previous twelve months. It uses the value of a woman's total assets compared to those of her partner as the main proxy for a woman's bargaining power. Differentiating between physical and emotional violence in both countries, the study finds that women's share of couple wealth is significantly associated with lower odds of physical violence in Ecuador and emotional violence in Ghana. Moreover, the association between women's share of couple wealth and IPV is contingent on the household's position in the wealth distribution.

KEYWORDS

Spousal violence, intrahousehold bargaining, Africa, Latin America

JEL Codes: D31, J12, O15

INTRODUCTION

Intimate partner violence (IPV) – specifically, physical, sexual, and emotional abuse by men against their partners or former partners – is one of the most glaring indicators of women's lack of empowerment. Given its prevalence worldwide (Claudia García-Moreno, Henrica A. F. M. Jansen, Mary Ellsberg, Lori Heise, and Charlotte H. Watts 2006; Michelle J. Hindin, Sunita Kishor, and Donna L. Ansara 2008), it is not surprising that researchers have turned their attention to the factors that might increase women's bargaining power within households and serve as a deterrent to abuse. Among the new lines of inquiry is the role of women's asset ownership in reducing the likelihood of IPV.

The role that women's asset ownership might play as a deterrent to IPV has not been sufficiently explored, primarily due to the lack of data on individual asset ownership within households, even in developed countries (Shannon Collier-Tenison 2003). In a pioneering study, Pradeep Panda and Bina Agarwal (2005) show that in Kerala, India, women's ownership of a dwelling or of a house and agricultural land is a deterrent to both physical and psychological abuse, whether the incidence of violence is measured as over the lifetime or during the previous twelve months. The potential protective role of homeownership for women is also confirmed in recent studies in the Indian states of Uttar Pradesh for lifetime physical violence (Manasi Bhattacharyya, Arjun S. Bedi, and Amrita Chhachhi 2011) and West Bengal for past-year physical and emotional violence (International Center for Research on Women [ICRW] 2006), and in the United States for past-year IPV (Stella M. Resko 2010).

There are a number of reasons why women's homeownership might be a deterrent to IPV. As a homeowner, a woman has much greater security in the case of marital discord than if she were to be dependent upon a spouse for housing. One of the reasons that abused women often stay in an oppressive relationship is because of economic vulnerability – fear of losing access to shelter and being deprived of other basic needs (ICRW 2006). Home ownership strengthens a woman's fallback position, that is, the resources she can access should the relationship fail (Panda and Agarwal 2005; Bhattacharyya, Bedi, and Chhachhi 2011). Being the sole owner of the principal residence may strengthen a woman's resolve to dissolve an abusive relationship by being able to throw her partner out of the home; owning a dwelling other than the current residence provides a potential exit option. Even joint ownership of a residence may deter spousal violence by reducing a woman's tolerance of violence and raising the cost to men of potential household dissolution.

One would expect that rural women's ownership of land in developing countries would strengthen their fallback position in a similar fashion (Bina Agarwal 1994, 1997). Owning agricultural land offers women a potential means of livelihood, either by farming the parcel themselves or by renting it. Depending on settlement patterns, land ownership may also provide women with a potential locale to build a dwelling should a relationship become too abusive. Nonetheless, evidence of such a relationship between land ownership and the risk of IPV is, thus far, mixed.

In a small sample study in Nicaragua, Shelley Grabe (2010) finds that women who obtained land ownership through a development intervention report a significantly lower incidence of current physical and sexual violence than non-landowning women in neighboring communities. Employing econometric analysis, Panda and Agarwal (2005) find that a woman's ownership of a land parcel is negatively associated with long-term physical and psychological abuse; however, this result was not significant

in terms of past-year physical abuse. Bhattacharyya, Bedi, and Chhachhi (2011) report that women's land ownership is highly correlated to their ownership of a dwelling such that the land ownership coefficient is not statistically significant when both variables are included in a multivariate regression analysis. Similarly, in an analysis of survey data from West Bengal, when both land and the dwelling are examined separately, land ownership itself has no significant effect despite women's overall property ownership significantly lowering the odds of physical and emotional abuse (ICRW 2006). In Sri Lanka, where the incidence of lifetime IPV was lower than in the other South Asian ICRW study sites, no association was found between land or property ownership by women and violence (ICRW 2006). Moreover, Alex C. Ezeh and Anastasia J. Gage (2000) report that in Uganda, where women's ownership of land goes strongly against traditional norms, women's land ownership is positively related to lifetime physical abuse.

While evidence of a relationship between women's ownership of assets and IPV is not yet abundant or conclusive, these studies do suggest several fruitful avenues for further inquiry. The literature thus far has only examined women's ownership of assets and not women's ownership of assets relative to their partners. The rather extensive literature on the role of couple status differences – whether in education, employment or income – in explaining IPV suggests the potential importance of considering intrahousehold gender inequalities in asset ownership (Ross Macmillan and Rosemary Gartner 1999; Dallan F. Flake and Renata Forste 2006).

In this paper we investigate the relationship between women's share of wealth and physical and emotional abuse by spouses or partners in the previous twelve months for currently partnered women.[1] A focus on women's share of couple wealth allows us to improve on previous studies in four ways. First, wealth, defined as the value of physical and financial assets, provides a more rigorous measure of household socioeconomic status than the use of an index of selected assets or amenities or flow variables such as income or expenditure. The latter can fluctuate considerably in any given period, whereas assets represent a stock that is accumulated over a person's lifetime. As we explain below, our household asset surveys are the first nationally representative surveys in developing countries that attempt to measure individual and household wealth in a rigorous fashion. Second, a focus on women's share of couple wealth takes into account that different assets may be of greater or lesser importance to women's fallback position in different contexts. Third, this measure captures women's total asset wealth and places emphasis on the relative value of the assets they own compared to their partners as a measure of their bargaining power. Fourth, focusing on women's share of couple wealth, controlling for household wealth, allows us to consider whether the preventive impact of women's share of wealth varies along the wealth distribution.

Context obviously matters greatly, motivating this comparative study of Ecuador and Ghana. They provide an interesting contrast for the study of IPV since the gender wealth gap differs considerably between the two countries. In Ecuador, married women and those in consensual unions own 44 percent of gross couple wealth, whereas in Ghana they own only 19 percent (Carmen Diana Deere, Abena D. Oduro, Hema Swaminathan, and Cheryl Doss [2013]). Moreover, the two countries are governed by different marital and inheritance regimes, with partial community property the default regime in Ecuador and separation of property the norm in Ghana.[2] While in Ecuador children of all genders are legally entitled to an equal share of the estate of either of their parents, Ghana has no such norm; therefore, in practice, inheritance is much more gender equitable in Ecuador (Deere, Oduro, Swaminathan, and Doss [2013]). Finally, while both countries have legal frameworks in place intended to prevent violence against women, Ecuador's framework is much more comprehensive and was instituted a decade earlier than Ghana's.[3]

WOMEN'S ECONOMIC EMPOWERMENT AND IPV

Most studies concerned with the relationship between women's economic empowerment and IPV in developing countries focus on women's education, employment, and earnings. In their systematic review of the evidence on long-term and past-year physical or sexual violence among currently or ever-partnered women from some forty-one study sites, Seema Vyas and Charlotte Watts ([2009]) find that women's higher education is associated with a lower risk of IPV. The evidence for the association between women's employment and earnings and physical violence, however, is mixed. This might be expected given the different methodologies employed in these studies, including the reference period (lifetime or past year), the group analyzed (currently or ever-partnered women), and the different control variables. Nonetheless, Tanya Abramsky, Charlotte H. Watts, Claudia García-Moreno, Karen Devries, Ligia Kiss, Mary Ellsberg, Henrica A. F. M. Jansen, and Lori Heise ([2011]), who analyze relatively comparable data regarding past-year physical violence among ever-partnered women – based on the WHO Multi-Country Study on Health and Domestic Violence in ten countries – report similar results. There is a protective effect when women have, or especially when both partners have, completed secondary education, whereas whether women are economically active and the relative employment status of their partner is not associated with any consistent pattern with regard to the incidence of IPV.[4]

The differing results regarding the role of women's economic activity mirror the debates in the theoretical framing of this relationship. The standard economic and sociological models predict that women's access to

resources should be a deterrent to IPV. Most household economic models, for example, predict that since women's greater education, labor force participation, and earnings enhance their bargaining power, these factors should be protective and associated with a lower incidence of abuse (Helen V. Tauchen, Ann Dryden Witte, and Sharon K. Long 1991; Amy Farmer and Jill Tiefenthaler 1997). The classic marital dependency thesis predicts that IPV is most likely to occur among couples where women are most dependent on their husbands for economic support, primarily because such dependence might increase women's tolerance of abuse (Debra S. Kalmuss and Murray A. Straus 1990). Moreover, in the traditional male-breadwinner model, women's responsibility for children also limits their opportunities for education and employment, and these factors reinforce the conditions for women to tolerate abusive behavior and violence. Hence, an increase in any of these resources by the wife should be associated with the outcome predicted by household economic models – women's greater bargaining power and lower risk of IPV.

Feminist economists have questioned whether education, employment, and income are sufficient to economically empower women. While access to these resources potentially strengthens their fallback position, whether this is translated into increased household bargaining power is conditioned by noneconomic factors, such as gender ideology and social norms (Elizabeth Katz 1991; Agarwal 1994, 1997). Moreover, women's access to employment or income might not strengthen their fallback position in as powerful a way as might their ownership of assets. Assets potentially do more than simply being employed, since they can provide the basis for income-generating activities, serve as collateral, and may be pawned or sold to meet emergencies (Carmen Diana Deere and Cheryl Doss 2006). Moreover, much depends on the quality of employment. In relation to IPV, Panda and Agarwal (2005) argue that assets have a greater protective effect than being employed since women's work may be sporadic or seasonal, or, if they are unpaid family workers, they may not have an independent source of income. Ownership of an asset thus provides more security than employment because it is more permanent. Job opportunities may disappear when there is an economic downturn, but assets are usually pawned or sold only as a last resort (Cheryl Doss, Abena D. Oduro, Carmen Diana Deere, Hema Swaminathan, William Baah-Boateng and Suchitra J.Y. 2014). Moreover, immovable assets such as a dwelling or land may provide women with a concrete exit option, a place to move when faced with IPV, whereas income from employment may be insufficient to rent an alternative abode. In addition, for women who own immovable or financial assets, the threat of exiting a relationship may be sufficient to deter IPV.

Nonetheless, theoretical concerns have been raised regarding whether increasing women's access to resources will always be a deterrent to IPV. Sociologists emphasize that the outcome likely depends on couple

status differences – women's access to resources in comparison to their partners'.[5] They also warn that status reversals between husband and wife – such as when she has more education, is employed and he is not, or earns more than him – might lead to or be associated with a higher incidence of IPV. For instance, feminist sociologists argue that access to resources is of symbolic importance for gender roles and identity, particularly the construction of masculinity. Thus, under conditions of status incompatibility, male violence may itself be a resource that husbands draw upon to control their wives, such as when she is employed and he is not (Macmillan and Gartner 1999).

Similarly, while Bhattacharyya, Bedi, and Chhachhi (2011) acknowledge the general protective effect of asset ownership against spousal violence, they posit that an increase in the assets owned by a woman could instigate spousal violence if it leads the husband to feel that he must exert greater control over his wife. In other words, it might not require a status reversal to provoke IPV, but rather, any movement toward gender equality might generate a backlash effect if the husband finds his power diminished.

These considerations suggest that it is important to distinguish between short-term changes in relative statuses of the couple – such as when a man who was previously employed becomes unemployed and his partner enters the labor force – and the long-term association between IPV and the relative statuses of the partners (Kalmuss and Straus 1990). For example, increasing a wife's asset ownership or income-earning potential may provoke an immediate backlash effect, yet be associated with less risk of IPV over the long run as the husband adjusts to changing gender roles, either as these become the social norm or lead to increases in a household's standard of living. A shortcoming of cross-sectional analysis is that it is difficult to establish what point in time is being observed. However, cross-sectional analysis could reveal if the relationship between women's economic empowerment and IPV is nonlinear, with women's access to resources being both negatively and positively associated with IPV at different points in the distribution – a proposition that we will test for women's share of couple wealth.

We therefore posit that the protective effect of a woman's ownership of assets cannot be assumed *a priori* and is an empirical question that needs to be examined. Among the contextual factors that would seem to be important is how common it is for women to own assets and whether women's asset ownership challenges gender norms. How common asset ownership is among women is in turn related to the prevailing marital and inheritance regimes in a country. For instance, one may expect an increase in women's ownership of assets would be less likely to produce a backlash effect in contexts where both men and women have inheritance rights when compared to contexts where inheritance is especially male

biased. Also, the timing of when women acquire the ownership of assets may make a difference – before, during, or after the marriage – as well as the form of ownership of the asset, for example, whether these are owned individually by one spouse or jointly by the couple. Another consideration is the relative socioeconomic status of the household and the manner in which gender norms might vary by social class. One might also expect variation depending on who actually controls the assets that belong to a woman and on the importance of the asset in the household's livelihood strategy, as suggested by the ICRW (2006) studies in South Asia. Analyzing the protective role of immovable property ownership in these studies, the authors conclude that it probably is not only whether a woman owns assets that might be a deterrent to IPV, but rather the interplay of multiple factors in given situations (ICRW 2006; Lori L. Heise 2011). These considerations point to the importance of carrying out comparative research, which explores the relationship between women's share of wealth and IPV using similar methods in different contexts.

DATA

This analysis utilizes data from the 2010 Ecuador Household Asset Survey (EAFF) and the 2010 Ghana Household Asset Survey (GHAS), nationally representative household assets surveys carried out as part of the Gender Asset Gap project.[6] The overall objective of the project was to demonstrate that it is possible to measure the intrahousehold distribution of assets and wealth (Cheryl Doss, Carmen Diana Deere, Abena D. Oduro, Hema Swaminathan, Suchitra J.Y., Rahul Lahoti, William Baah-Boateng, Louis Boakye-Yiadom, Jackeline Contreras, Jennifer Twyman, Zachary Catanzarite, Caren Grown, and Marya Hillesland 2011). The surveys utilized a two-stage sampling technique. The Ecuador sample of 2,892 households is representative of rural and urban areas and the country's two most populated geographic regions, the highlands and the coast. In Ghana, a total of 2,170 households were surveyed in the ten administrative regions of the country. Standard informed consent procedures were followed in both countries, and respondents were guaranteed anonymity.

The primary objective of the research was to collect information on the intrahousehold distribution of asset ownership and wealth. Therefore, particular attention was given to the protocols to gather this information.[7] The surveys employed two instruments, a household and an individual questionnaire, administered to the person(s) who had the most knowledge about the household's assets. The household questionnaire consisted of a household registry with the basic socioeconomic information on each household member, an assets inventory (including detailed information on individual-level ownership and valuation), and several other modules. The individual questionnaire solicited information on

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the respondent's financial assets and debts as well as experience with domestic violence, among other topics. The principal couple could answer the household questionnaire together. In contrast, the individual questionnaire was administered to each person separately and in a setting that guaranteed privacy. Enumerators and respondents were paired by gender in Ghana, whereas, due to time and cost constraints, they were not in Ecuador.[8]

The asset surveys contained three questions regarding domestic violence. The first – the gateway question – asked the respondents about how common domestic violence was in their community or neighborhood. They were then asked whether they themselves had been verbally, psychologically, or physically abused in their home during the past year, allowing for multiple responses. Finally, they were asked to identify the perpetrator(s) of each form of abuse.

The definitions of each form of violence and training of enumerators followed previous national-level studies of IPV in each country – the 2004 Demographic, Maternal and Infant Health Survey (ENDEMAIN; Centro de Estudios de Población y Desarrollo Social [CEPAR] 2004) in Ecuador and the 2008 Demographic and Health Survey (DHS) in Ghana. Physical violence was defined as having been beaten or battered (including being hit, pushed, shoved, assaulted with a weapon); psychological violence as having been subject to insults or threats, or being treated with a lack of respect; and verbal violence as being frequently yelled at by another. However, due to the length of the instrument, we did not ask whether respondents experienced particular acts of violence, as utilized in the Conflict Tactics Scale (Murray A. Strauss 1990) or variants thereof. This may have contributed to underreporting, as we discuss below.

Given our interest in intrapartner violence and couple relational variables, we focus only on the reports by *currently* partnered women (married or in a consensual union) of abuse by their spouses. We exclude women who are separated, divorced, and widowed, since the household surveys did not collect information on the individual characteristics of their former partners. The subsamples analyzed thus include only those women 18 years of age or older who are part of a couple where both spouses reside in the household: 1,938 women in Ecuador and 887 women in Ghana.[9]

Compared to Ghana, a much greater share of the women in Ecuador consider domestic violence to occur sometimes or frequently in their communities (19.3 and 39.3 percent, respectively). The response rate to the questions on whether the respondent experienced some form of violence during the previous year and the perpetrator of such violence was quite high, 100 percent in Ecuador and 96 percent in Ghana. When asked whether they themselves experienced any form of physical, verbal,

Table 1 Comparison of incidence of physical and emotional violence during the previous twelve months among currently partnered women

	Ecuador		*Ghana*	
	EAFF 2010 (age 18+)	*Gender Violence Survey 2011 (age 18+)*	*GHAS 2010 (ages 18–49)*	*DHS 2008 (ages 18–49)*
Physical	3.7	7.2	1.9	17.1
Emotional	15.6	11.9	10.7	30.0
Any violence	16.1	13.8	11.7	34.2

Note: Any violence includes physical and emotional violence.
Sources: Ecuador – EAFF (2010); data derived from Instituto Nacional de Estadística y Censos (INEC; 2011); Ghana – derived from the Ghana DHS (2008); GHAS (2010).

or psychological violence (the latter two are henceforth referred to as emotional abuse) during the previous twelve months, a higher share of women in Ecuador than in Ghana report such abuse at the hands of their live-in partner – 16.1 versus 11.7 percent, respectively. As expected, emotional abuse is more widely reported than physical violence in both countries (see Table 1).

A comparison of the incidence of physical violence in our surveys with other estimates of past-year violence suggests that our surveys may be underreporting its prevalence.[10] This is likely because our survey instruments did not inquire about specific acts of physical violence, a factor that is known to lead to underreporting (García-Moreno et al. 2006). In addition, the prevalence of IPV reported in household surveys carried out primarily for another purpose usually tend to be lower than those carried out in surveys specifically designed for the purpose of measuring IPV (Mary Ellsberg, Lori Heise, Rodolfo Pena, Sonia Agurto, and Anna Winkvist 2001), a problem confirmed by our study.

Another limitation of our study is that we did not collect information on all the variables that have shown to be important predictors of IPV, such as male alcohol consumption or each partner's family history of abuse (Abramsky et al. 2011; Heise 2011). Thus, in the subsequent empirical work we do not pretend to offer a complete model of the determinants of IPV; rather, our aim is more modest: to explore its relationship to the intrahousehold distribution of wealth.

A comparative study of Ecuador and Ghana is worthwhile since identical questions regarding IPV were asked in both countries, and these are the first surveys to rigorously measure individual and household wealth, thereby allowing consideration of whether women's share of couple wealth is associated with IPV.

METHODS

We use multinomial logistic regression models to identify the risk factors associated with past-year IPV among currently partnered women, 18 years of age or older. Following Catherine Kaukinen (2004) and Greta Friedemann-Sánchez and Rodrigo Lovatón (2012), this procedure allows us to take into account that emotional violence may be related to physical violence, and moreover, that different factors may be associated with physical and emotional violence (Efraín Gonzales de Olarte and Pilar Gavilano Llosa 1999; Roberto Castro and Irene Casique 2009). We thus test simultaneously for experiencing physical violence – including here those who report both physical *and* emotional abuse – against no violence; *only* emotional abuse against no violence; and physical against *only* emotional abuse. Therefore, our dependent variable is a three-level categorical variable describing the form of violence. Physical violence is defined to include cases when both physical violence and emotional abuse are reported because the former almost invariably involves the latter.

Our primary interest is in women's asset ownership relative to their spouses. We measure this as a woman's share of the gross value of the couple's financial and physical wealth.[11] This is a continuous variable with a value that ranges from 0 to 1. Previous studies have not valued the assets that women own or taken into account the intracouple distribution of wealth. We control for the characteristics of the woman and the couple, couple status differences, and household contexts. The woman's age in years is mean centered such that the sample average age is subtracted from the woman's age. In this way the intercept of the equations refer to average-aged women in the analytic sample. The main couple characteristic included is the type of union, with being in a consensual union (or polygamous marriage, in the case of Ghana), compared to being in a formal marriage. A number of studies in Latin America, where consensual unions are common, have found that women in such relationships are more likely to experience IPV than those in formal marriages (Gonzales de Olarte and Gavilano Llosa 1999; Flake and Forste 2006; Friedemann-Sánchez and Lovatón 2012).

Couple status differences are measured by differences in age, education, relative employment status, and relative earnings, similar to the approach in the WHO multicountry study (Abramsky et al. 2011). The age variable refers to the absolute value of the difference between the woman and the man's age. For education, categorical variables are utilized to distinguish couples where only the man completed primary (for Ghana) or secondary (for Ecuador) schooling, where only the woman completed that level, and where neither completed it, with both having completed the appropriate level being the reference. We use different threshold levels for the two countries since the mean years of completed education is much higher in Ecuador than in Ghana, and particularly so for women.

In the conceptual framework we emphasized the relevance of comparing the employment status of the couple and not simply focusing on whether she is employed.[12] This is done by way of categorical variables for whether the man works and she does not, the woman works and he does not, and neither works, with both working as the reference variable. A similar approach is adopted for the relative earnings of the couple. Three categorical variables are developed based on the woman's report. These are whether the man earns more or the woman earns more in comparison to whether they both earn about the same.[13]

The household context is described by whether the household resides in an urban or rural locale and the relative socioeconomic status of the household, measured using the gross value of household physical and financial wealth. It is calculated based on the total, nationally representative sample with households ranked into three wealth categories, differentiating between low, medium, and high with categorical variables.

EMPIRICAL ANALYSIS

The descriptive statistics for the samples of currently partnered women in Ecuador and Ghana are presented in Table 2. Partnered women in Ecuador are slightly older than those in Ghana, though the absolute spousal age gap is much greater in Ghana, 8.3 years as compared to 4.1 years in Ecuador. With respect to marital status, consensual unions are much more common in Ecuador than in Ghana. Marriages in Ghana also include polygamous unions, which constitute 11 percent of the sample.

In Ecuador, both spouses have completed secondary education in almost a quarter of the couples, and it is only slightly more common for only the husband to have completed this level than the wife. In Ghana, 44 percent of the couples have completed primary education, and it is much more frequent that only the husband has completed this than the wife. A much greater share of women in Ghana are economically active compared to women in Ecuador. As a result, both partners are employed among the majority of couples in Ghana, 86 percent compared with 58 percent in Ecuador. The majority of women report that their spouses earn more than they do, although women report earning more than partners more frequently in Ghana than in Ecuador. Despite this, more couples in Ecuador are in relatively egalitarian earning situations.

In terms of household characteristics, the couples' sample in Ecuador is much more urban. A greater proportion of couples are among the upper third in household wealth in Ghana (47 percent) than in Ecuador (33 percent). Women's average share of couple wealth in the analytic sample is much greater in Ecuador (47 percent) than in Ghana (23 percent).

Table 2 Descriptive statistics for currently partnered women

Variable (units)	Ecuador n= 1,938		Ghana n= 887	
	Mean	Std. Dev	Mean	Std. Dev
Individual and couple characteristics				
Woman's age	41.27	14.13	39.25	12.19
Spousal age (absolute) difference	4.09	6.36	8.25	6.58
Consensual union (percent)	35.4		13.4	
Polygamous union (percent)	NA		11.2	
Married (monogamous; percent)	64.6		75.4	
Education[a] (percent):				
Only man completed secondary school	10.6		20.6	
Only woman completed secondary school	8.4		6.5	
Neither completed secondary school	42.5		28.9	
Both completed secondary school	23.5		43.9	
Employment (percent):				
Only man employed	35.0		8.5	
Only woman employed	3.4		4.7	
Neither employed	3.5		1.2	
Both employed	58.2		85.6	
Earnings (percent):				
Man earns more	70.1		76.6	
Woman earns more	12.0		16.2	
Both earn about the same	18.0		3.9	
Woman does not know	NA		3.3	
Household characteristics				
Household wealth category				
1	34.3		17.4	
2	32.6		35.9	
3	33.1		46.8	
Urban (percent)	65.8		30.9	
Asset variables				
Woman's share of couple wealth (percent)	46.81	24.98	23.2	24.00
Dependent variables				
Physical violence (percent)	3.7		1.5	
Emotional abuse only (percent)	12.4		8.9	

Note: [a]Education variables for Ghana relate to completion of primary school.
Sources: EAFF (2010); GHAS (2010).

RESULTS: MULTIVARIATE ANALYSIS

We construct several multinomial logistic regression models to analyze the factors associated with physical violence (alone or in combination with emotional abuse) and emotional abuse alone. Our baseline models exclude our asset variables of interest and are not presented in the tables due to space considerations. We build upon this nested model in Model I by adding the woman's share of couple wealth and its square; and Model II by examining the interaction between the woman's share of couple wealth and household socioeconomic status. Model IIa considers the odds of experiencing physical violence versus no violence, and Model IIb, the odds of experiencing physical violence versus emotional abuse.[14] Tables 3a and 3b present the results for physical violence for Ecuador and Ghana, respectively; the tables for emotional abuse are in the Supplemental Appendix, available online on the publisher's website.

Ecuador

A comparison of those who report any physical violence to no violence in the baseline model for Ecuador indicates a significant effect for when only the husband is employed such that this condition has about half the odds of resulting in physical abuse when compared to both being employed. There is also a significant and positive effect for when the woman earns more than her partner such that this status difference presents over twice the odds of resulting in physical violence as compared to both earning the same. As Table 3a shows, once woman's share of couple wealth is added in Model I – for physical violence compared to no violence – the results of the baseline model hold, and this variable shows significant effects. The linear component for woman's share of couple wealth reaches significance ($p < 0.10$), and the nonlinear square of woman's share of couple wealth approaches significance ($p = 0.11$).

Figure 1 presents the net effect of the woman's share of couple wealth, including the squared term. The odds of reporting physical abuse compared to no abuse drop as the woman's share of wealth increases from zero to 58 percent where the odds of physical abuse are half that of women with zero share of couple wealth. The odds rise after the 58 percent threshold such that women with 100 percent of couple wealth are expected to have approximately 70 percent the odds of physical violence compared to women with zero share of couple wealth. In general, this supports the hypothesis that a woman's higher share of couple wealth may act as a deterrent to physical violence, with the caveat that having a much greater share than her partner may provide less of a deterrent than a more egalitarian arrangement.

Table 3a Ecuador multinomial logistic regression results with physical violence

| Variable	Model I (No abuse as reference) β (S.E.)	Odds	Model IIa (No abuse as reference) β (S.E.)	Odds	Model IIb (Emotional abuse as reference) β (S.E.)	Odds
Intercept	−2.646***		−2.548***		0.858	
	(0.623)		(0.638)		(0.740)	
Individual and couple characteristics						
Woman's age	0.001		0.002		0.016	
(average	(0.011)	1.001	(0.011)	1.002	(0.012)	1.106
centered)						
Spousal age	−0.027		−0.026		−0.018	
difference	(0.026)	0.973	(0.026)	0.974	(0.028)	0.982
Consensual	0.081		0.165		0.146	
union	(0.277)	1.084	(0.272)	1.180	(0.305)	1.157
Marriage	ref	ref	ref	ref	ref	ref
Education						
Only man	−0.363		−0.417		−5.890	
completed	(0.525)	0.696	(0.525)	0.659	(0.569)	0.555
secondary						
Only woman	−0.178		−0.233		−0.853	
completed	(0.528)	0.837	(0.529)	0.793	(0.565)	0.426
secondary						
Neither	0.103		0.092		−0.058	
completed	(0.329)	1.109	(0.328)	1.097	(0.367)	0.943
secondary						
Both completed	ref	ref	ref	ref	ref	ref
secondary						
Employment						
Only man	−0.737**		−0.734**		−0.487	
employed	(0.302)	0.479	(0.303)	0.480	(0.334)	0.615
Only woman	−0.732		−0.708		0.086	
employed	(0.773)	0.481	(0.775)	0.493	(0.895)	1.089
Neither	−1.131		−1.217		−0.618	
employed	(1.052)	0.323	(1.053)	0.296	(1.169)	0.597
Both employed	ref	ref	ref	ref	ref	ref
Earnings						
Man earns more	0.277		0.326		0.020	
	(0.359)	1.319	(0.359)	1.385	(0.406)	1.020
Woman earns	0.789*		0.833*		0.103	
more	(0.432)	2.200	(0.432)	2.300	(0.485)	1.108

(continued.)

Table 3a Continued.

Variable	Model I (No abuse as reference)		Model IIa (No abuse as reference)		Model IIb (Emotional abuse as reference)	
	β (S.E.)	Odds	β (S.E.)	Odds	β (S.E.)	Odds
Both earn about the same	ref	ref	ref	ref	ref	ref
Household characteristics						
Household wealth category:						
1	ref	ref	ref	ref	ref	ref
2	0.014		−0.483		−1.153*	
	(0.305)	1.014	(0.575)	0.617	(0.676)	0.316
3	−0.116		−1.258*		−2.185***	
	(0.344)	0.890	(0.701)	0.284	(0.793)	0.112
Urban	0.246		0.289		−0.108	
	(0.274)	1.279	(0.274)	1.335	(0.309)	0.898
Asset variables						
Woman's share of couple wealth	−2.558* (1.364)	0.077	−1.716* (0.912)	0.180	−3.070** (1.022)	0.046
Woman's of couple wealth squared	2.238 (1.379)	9.375	NA	NA	NA	NA
Woman's share of couple wealth × wealth cat. 2 (interaction)	NA	NA	1.273 (1.166)	3.571	2.250* (1.310)	9.483
Woman's share of couple wealth × wealth cat. 3 (interaction)	NA	NA	2.568** (1.328)	13.034	3.620** (1.464)	37.323
Number of cases (*N*)	1,938		1,938		1,938	
Likelihood ratio Chi-Square	62.171 (32)***		65.451 (34)***		66.505 (34)***	

Note: *, **, and *** denote statistical significance at the 10, 5, and, 1 percent levels, respectively.

Model IIa examines the interaction between woman's share of couple wealth and household socioeconomic status, as measured by the household wealth rank. The status differences of only the husband being employed and the woman earning more than her husband, retain the same significant effect. There is a significant main effect for both woman's share of couple wealth ($p < 0.10$) and location in the upper third of household socioeconomic rank ($p < 0.10$). We also see a significant interactive effect
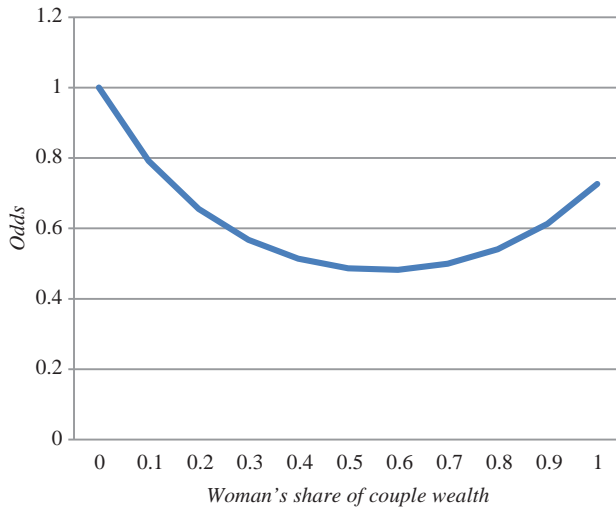
Figure 1 Ecuador: Net effect of woman's share of couple wealth on odds of physical versus no abuse

between woman's share of couple wealth and position in the upper third of the wealth distribution ($p < 0.05$). Figure 2 presents the net effect of this interaction on the odds of reporting physical as opposed to no abuse. Women in the poorest third of households are predicted to have both the highest and lowest probability of reporting physical as opposed to no abuse depending upon their share of couple wealth. They have the highest odds of reporting physical violence when they own no share of couple wealth. For women in the middle third of the wealth distribution, however, the potential difference in odds of physical violence only drops by about 30 percent when we compare women with zero share of couple wealth to those with greater than a 90 percent share. Interestingly, the opposite relationship occurs for women in the upper third of the wealth distribution where increasing from zero to over 90 percent of the share of couple wealth is associated with over a 90 percent increase in the odds of reporting physical as opposed to no violence.

In Model IIb, we examine the factors that distinguish physical violence from only emotional abuse. There are significant main effects for woman's share of couple wealth ($p < 0.05$) and location in either the middle third or upper third of household wealth. We also have significant interaction effects for woman's share of wealth and location in the middle third ($p < 0.10$) and upper third ($p < 0.05$) of the wealth distribution.
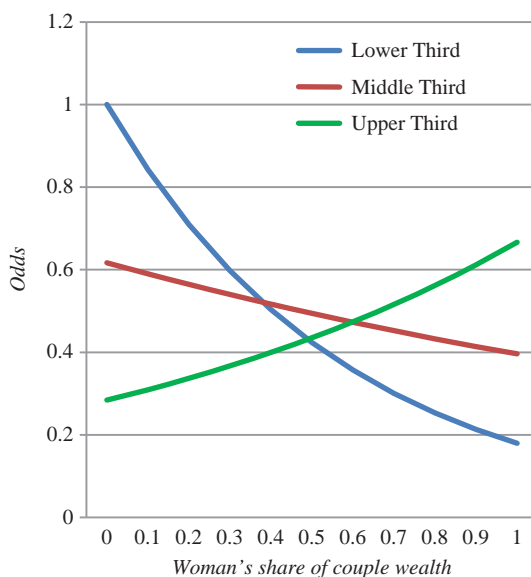
Figure 2 Ecuador: Woman's share of couple wealth interaction with wealth categories on odds of physical versus no abuse

The overall result of this interaction effect is similar to our previous findings. Again, the effect is most dramatic for women in the poorest third of households such that they are predicted to have both the highest and lowest probability of reporting physical as opposed to only emotional violence, depending on the share of wealth. Here, however, the amount is far more substantial, with the odds of physical violence predicted to be 80 percent lower for women with a 50 percent share of the couple wealth compared to those with zero. Overall, the odds of women in the middle and upper third reporting physical compared to only emotional abuse are relatively low. Still, we see that odds of physical abuse, as opposed to only emotional, increase for women in the wealthiest third of households as share of wealth increases, which is opposite the effect of women in the poorest third.

These results support the hypothesis that women in households that are relatively higher in socioeconomic status are generally less likely to suffer physical violence compared to no violence and substantially less likely to suffer physical violence compared to only emotional abuse. In other words, overall, women in relatively wealthier households tend to be less likely to report physical abuse than those in poorer households. They also support the general hypothesis that as women's share of couple wealth increases, the likelihood of physical violence decreases. These relationships need to

be qualified, however, because the predicted association between woman's share of couple wealth and physical violence depends upon the household's position in the wealth distribution.

Ghana

The baseline model reveals that age, education, and marital status are significant predictors of physical violence as opposed to no violence. The odds are highest and significant in the case where the husband and not the wife has completed primary education compared to where both have completed this level. There is also evidence that urban women, and those in consensual unions as opposed to marriages, are more likely to suffer physical violence compared to no violence.

As Table 3b shows, Model I retains most of the significant effects from the baseline, although woman's share of couple wealth fails to achieve significance here or in Model IIa. Comparing physical and emotional violence (Model IIb), only the interactive effect between woman's share of wealth and location in the middle third of the wealth distribution actually achieves significance ($p < 0.10$). Figure 3 presents the net effect of this interaction on the odds of physical violence as opposed to only emotional abuse and shows a somewhat similar trend to that found in Ecuador. Women in the poorest third of households have lower odds of physical violence as opposed to emotional abuse only, the greater the share of couple wealth they own. For women in households with higher socioeconomic status, however, this situation reverses and greater shares of couple wealth are associated with greater odds of physical as compared to only emotional abuse.

Overall, in Ghana, there is less support for the hypothesis that women's share of couple wealth is significantly related to physical violence. The results for Ghana on physical violence are likely attributable to its low reported incidence in the survey. Still, despite these shortcomings, it is worth noting that the results from Ghana are similar to those found in Ecuador where potential underreporting of physical violence is less of a problem.

Emotional abuse versus no abuse

We ran similar regressions to those for physical violence for women who report only emotional abuse, and the results may be found in Tables 4a and 4b in the Supplemental Appendix, available online on the publisher's website. The most important findings with respect to the relationship between the wealth variables and emotional abuse are for Ghana. Women's share of couple wealth significantly decreases the odds of emotional abuse

Table 3b Ghana multinomial logistic regression results with physical violence

Variable	Model I (No abuse as reference) β (S.E.)	Odds	Model IIa (No abuse as reference) β (S.E.)	Odds	Model IIb (Emotional abuse as reference) β (S.E.)	Odds
Intercept	−6.036*** (1.539)		−5.471*** (1.552)		−4.027** (1.636)	
Individual and couple characteristics						
Woman's age (average centered)	−0.098** (0.04)	0.907	0.002** (0.011)	1.002	−0.094** (0.043)	0.91
Spousal age difference	0.05 (0.043)	1.052	−0.106 (0.042)	0.9	0.033 (0.047)	1.034
Consensual union	1.132 (0.753)	3.103	1.075 (0.778)	2.93	0.796 (0.827)	2.218
Polygamous marriage	0.192 (0.935)	1.211	0.399 (0.938)	1.491	1.925 (1.191)	6.855
Monogamous marriage	ref	ref	ref	ref	ref	ref
Education						
Only man completed primary	1.598* (0.924)	4.943	1.601* (0.937)	4.956	1.319 (0.972)	3.741
Only woman completed primary	1.036 (1.283)	2.818	1.117 (1.305)	3.055	1.46 (1.383)	4.307
Neither completed primary	1.388 (0.995)	4.007	1.537 (1.014)	4.651	2.485** (1.067)	12.006
Both completed primary	ref	ref	ref	ref	ref	ref
Employment						
Only man employed	−0.376 (0.888)	0.687	−0.377 (0.906)	0.686	−0.023 (1.001)	0.978
Only woman employed, neither or both employed	ref	ref	ref	ref	ref	ref
Earnings						
Man earns more	−0.201 (0.839)	0.818	−0.285 (0.846)	0.752	−0.036 (0.885)	0.965
Woman earns more, both earn about the same	ref	ref	ref	ref	ref	ref

(*continued.*)

Table 3b Continued.

Variable	Model I (No abuse as reference)		Model IIa (No abuse as reference)		Model IIb (Emotional abuse as reference)	
	β (S.E.)	Odds	β (S.E.)	Odds	β (S.E.)	Odds
Household characteristics						
Household wealth category:						
1	ref	ref	ref	ref	ref	ref
2	−0.008 (0.769)	0.992	−1.097 (1.013)	0.334	−1.685 (1.103)	0.186
3	−0.119 (0.876)	0.888	−1.25 (1.048)	0.286	−0.817 (1.143)	0.442
Urban	0.741 (0.652)	2.098	0.65 (0.66)	1.915	1.434** (0.725)	4.196
Asset variables						
Woman's share of couple wealth	−4.863 (4.173)	0.008	−8.685 (6.64)	0	−8.106 (6.718)	0
Woman's share of couple wealth squared	6.021 (5.156)	412.139	NA	NA	NA	NA
Woman's share of couple wealth × wealth cat. 2 (interaction)	NA	NA	8.902 (7.007)	7348.54	12.618* (7.199)	302002.33
Woman's share of couple wealth × wealth cat. 3 (interaction)	NA	NA	10.262 (6.955)	28626.553	10.259 (7.074)	28531.385
Number of cases (N)	887		887		887	
Likelihood ratio Chi-Square	61.52 (28)***		70.07 (30)***		70.07 (30)***	

Note: *, **, and *** denote statistical significance at the 10, 5, and, 1 percent levels respectively.

in a linear fashion (Model I). The interactive effect of woman's share of couple wealth and household wealth rank (Model II) is illustrated in Figure 4.

The general effect is such that a woman's greater share of couple wealth is associated with lower odds of emotional violence versus no violence. The interaction suggests the drop in the odds of emotional abuse is significantly more precipitous among women located in the middle third of the household wealth distribution. Women in this category with approximately 50 percent of the couple wealth are expected to have almost 90 percent lower odds of emotional abuse compared to women in this category with
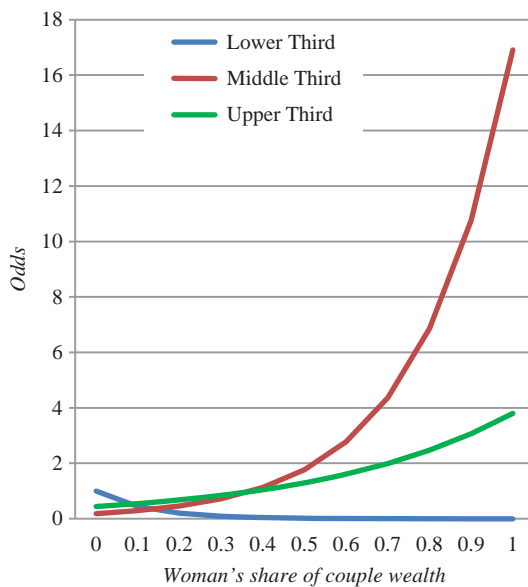
Figure 3 Ghana: Woman's share of couple wealth interaction with wealth categories on odds of physical versus emotional abuse
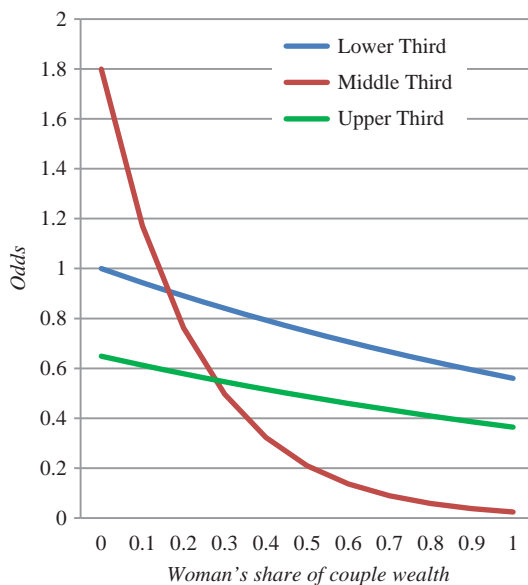

Figure 4 Ghana: Woman's share of couple wealth interaction with wealth categories on odds of emotional versus no abuse

nearly no share of the couple wealth. Women in the lower and upper third of household wealth with 50 percent of the couple wealth are only expected to have about 25 percent lower odds of emotional abuse than no abuse when compared to counterparts with nearly zero share of the couple wealth.

For Ecuador, women's share of couple wealth is not significantly associated with emotional abuse (Model I). Only in Model II is there a significant main effect of woman's share of couple wealth. The interaction effect, though relatively weak, suggests that this effect is strongest for women within the lowest third of household wealth. The results lend some support to the general hypothesis that women in asset-poor households have overall lower probabilities of experiencing only emotional abuse, with the possible exception of women who own the vast majority of the couple's wealth.

DISCUSSION AND CONCLUDING THOUGHTS

Our investigation finds that the association between IPV and women's share of couple wealth is not consistently significant across the two countries and behaves differently for physical violence as opposed to emotional abuse. However, women's share of couple wealth does assist in differentiating between physical and only emotional abuse. We have taken the analysis of IPV an additional step forward by considering the value of a woman's total asset holdings with respect to those of her partner and contend that this is potentially a more satisfactory proxy for a woman's bargaining power, since it captures the total resources that a woman would command should she decide to leave an abusive relationship. For Ecuador, a woman having a greater share of couple wealth is associated with lesser odds of physical violence compared to no violence. This effect appears to be nonlinear, stabilizing, or even reversing when the woman owns greater than 58 percent of the couple wealth. In contrast, in Ghana, a woman's share of couple wealth does not appear to distinguish between physical violence and no violence. However, it does distinguish between emotional abuse and no abuse such that the wife's greater share of the couple wealth is associated with lesser odds of emotional abuse, a result that we did not find for Ecuador. Nonetheless, in both countries, the interaction between a woman's share of couple wealth and household wealth can help distinguish factors that differentiate between physical violence and emotional abuse, an important insight that should be investigated in other contexts.

It is important to consider these results in the context of the differing marital regimes that prevail in Ecuador and Ghana. Compared to the partial community property marital regime in Ecuador, couples married under the separate marital property regime in Ghana are relatively less

likely to experience asset loss due to marriage breakdown, since each partner maintains ownership of their own assets. The deterrent effect of women's ownership of assets on the likelihood of spousal abuse in the Ghanaian context would therefore be comparatively lower, unless men have control over or benefit from income generated from their partners' assets. We find that women's share of couple's wealth reduces the likelihood of emotional abuse and distinguishes between physical and emotional abuse in Ghana, suggesting that the separation of marital property regime does not dilute the protective effect of women's wealth against spousal abuse.

Overall, our findings show that the socioeconomic status of the household is a significant factor in the association between women's share of couple wealth and IPV. The interaction effect suggests that the class status of the household and social norms may influence the impact that women's asset ownership may have on women's economic empowerment, lending evidence to previous insights from feminist economics (Agarwal 1994, 1997). Indeed, the results from Ecuador indicate that the women least likely to be at risk for any type of abuse are those in the middle third of the wealth distribution who own around 50 percent of the couple wealth.

Turning to the effect of the other variables of interest in the study of women's empowerment, we find some evidence of other forms of couple status inconsistency being associated with physical and emotional violence. In Ghana, women in couples where only the man has a primary education appear to be at a greater risk of physical abuse, whether compared to no abuse or emotional abuse. Overall, in both countries relative equality in education levels tends to be protective, as found in a number of other studies (Vyas and Watts 2009; Abramsky et al. 2011).

In Ecuador, women who earn more than their partners tend to show greater odds of physical and emotional violence compared to no violence. When only the man is employed, this tends to lessen the odds of physical violence, whether compared to no violence or only emotional abuse, thus going against marital dependency theory and confirming what has been found in some of the WHO multicountry studies (Abramsky et al. 2011).

Also worth highlighting is that the Ecuador case differs from most findings for Latin America with respect to the role played by marital status insofar as women in consensual unions do not have greater odds of physical violence or emotional abuse than those in formal marriages. In Ghana, being in a polygamous union as opposed to a monogamous marriage decreases the odds of emotional abuse, although there is also some indication that it may increase the odds of physical violence as opposed to emotional abuse. In other words, if violence does occur it tends to have a physical component.

This two-country study supports the proposition that the correlates of physical and emotional violence are often different both within and between countries, and it is useful to distinguish between physical and emotional abuse. Still, this study also has a number of limitations. We recognize that the incidence of physical violence is probably underestimated in our studies, particularly in Ghana. It is clear that it is preferable to measure IPV with some form of the Conflict Tactics Scale irrespective of how cumbersome it is to do so in surveys designed for multiple purposes. Since we did not collect data on whether women had experienced physical violence or emotional abuse at some point in the relationship prior to the previous year, our "no abuse" reference category for the dependent variable does not distinguish as sharply as one would want. Future studies should attempt to capture lifetime as well as previous year IPV in order to better control for previous occurrences of violence in analyses of past-year violence. Finally, since this has been a two-country comparative study, space precludes us from exploring some of the potentially interesting intracountry variations in IPV, such as regional variables or, in the case of Ghana, between matrilineal and patrilineal communities.

The contribution of this study is that we have demonstrated the relevance of utilizing the woman's share of couple wealth as a proxy for bargaining power within the household and have shown that its impact on IPV may be contingent on a household's location within the wealth distribution. This analysis thus suggests that a focus on intrahousehold bargaining power can greatly enhance the study of IPV, but that women's share of couple wealth is not "a magic bullet" to deterring it for again, context matters.

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NOTES

[1] Herein we use "spouse" to refer to both married and unmarried partners, and for the purposes of this study, we only consider partnership between a man and a woman.

[2] In partial community property regimes, all assets purchased during marriage belong equally to each partner. Assets acquired prior to marriage and inherited assets (whether before or after marriage) are treated as separate property. In separation of property regimes, all assets irrespective of how and when they are acquired are regarded as individual property unless explicit arrangements are made for these to be

joint marital property. See Deere, Oduro, Swaminathan, and Doss (2013) for a detailed analysis.

[3] Ecuador's 1995 Law Against Violence Toward Women and the Family recognizes physical, psychological, and sexual violence not covered by the country's criminal code (República de Ecuador 1995). The implementation of the law was fairly haphazard until the government of Rafael Correa took office in 2007. Ghana passed its first Domestic Violence Act (Act 732) in 2007, criminalizing physical, sexual, emotional, and economic abuse.

[4] The different results regarding the relationship between employment and IPV, however, could be due to potential endogeneity, as Andrés Villarreal (2007) and Bhattacharyya, Bedi, and Chhachhi (2011) argue.

[5] See Macmillan and Gartner (1999), Catherine Kaukinen (2004), Resko (2010), and Lori L. Heise (2011), among others.

[6] This comparative project, which also includes the state of Karnataka in India, was funded by the MDG3 Fund of the Dutch Foreign Ministry. The Karnataka survey did not include a module on IPV and thus is not included in this analysis.

[7] Respondents were asked to value their assets in three ways: by their potential market value (what they might be sold for today); their replacement cost (that is, to construct the dwelling today); and, for the main dwelling and land, their potential rental value. Our estimates of gross wealth in this study are based on their potential sales value and include, besides for immovable property, agricultural tools, equipment and installations, livestock, businesses, all consumer durables, and all forms of financial assets, both formal and informal.

[8] We are cognizant that in the study of IPV it is standard practice to pair respondents and enumerators by gender and not doing so may result in the underreporting of IPV. While the Ecuador survey intended to follow this practice, during the pilot survey it became evident that this would increase the costs of the survey beyond our budget. We tested whether our practice introduced a bias in the Ecuador results and found that the probability of reporting physical and emotional abuse is independent of the gender of the enumerator (Wald Chi Square test, $p = 0.540$ for physical violence and $p = 0.776$ for emotional abuse).

[9] Household residency was defined as not being away for more than six months during the previous year. We exclude the partnered women in the sample whose spouses have been away for longer than this threshold, since information on their individual characteristics was not gathered in the household inventory.

[10] Our survey results cannot be precisely compared to these other national surveys since they used different sampling procedures and the latter include partnered women irrespective of whether their spouses currently reside in the household. Our IRB protocol did not allow us to interview women under 18 years of age; we include women age 50 and over in our analysis to maximize the number of observations. Since the Ghana 2008 DHS survey was limited to women 18–49 years of age, comparable data for the GHAS are presented in Table 1; the Ecuador Gender Violence Survey 2011 interviewed women age 50 and over, hence that comparison is presented. The estimates presented are unweighted. We acknowledge that underreporting is a serious issue, particularly for Ghana. However, we do obtain interesting and comparable results regarding the factors differentiating physical violence from emotional abuse that could provide the basis for further research in the future.

[11] We explored the potential endogeneity between women's share of wealth and IPV using parents' ownership of immovable property and whether they were literate as instrumental variables. Unfortunately, there were too many missing observations on these variables, which would have greatly reduced the sample size. We then ran a one-way ANOVA test for each country, which revealed no significant difference

between physical and no violence and for Ecuador finds women who report emotional violence to have greater shares of couple wealth. This would appear contrary to the notion that couple share of wealth suffers from problems of endogeneity, as we either find no evidence of a direct causal relationship or find evidence opposite to what we would expect.

[12] Ideally, one would be able to control for the quality of employment as well, an exercise not undertaken for this paper.

[13] Due to empty cells in certain subpopulations, we also fit models with education and education difference as continuous variables and collapsed employment and earnings categories into "equality" and "non-equality." The results were comparable and thus we present our detailed models so as to gain specificity in our conclusions. There are two categories for employment and earnings instead of three in the model for Ghana because of missing observations in some categories.

[14] These regression models are unweighted and do not take into account survey design effects.

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