

AUTHOR ACCEPTED MANUSCRIPT

FINAL PUBLICATION INFORMATION

Exploring Women's Agency and Empowerment in Developing Countries
Where Do We Stand?

The definitive version of the text was subsequently published in

Feminist Economics, 22(1), 2015-10-27

Published by Taylor and Francis and found at <http://dx.doi.org/10.1080/13545701.2015.1091087>

**THE FINAL PUBLISHED VERSION OF THIS MANUSCRIPT
IS AVAILABLE ON THE PUBLISHER'S PLATFORM**

This Author Accepted Manuscript is copyrighted by World Bank and published by Taylor and Francis. It is posted here by agreement between them. Changes resulting from the publishing process—such as editing, corrections, structural formatting, and other quality control mechanisms—may not be reflected in this version of the text.

You may download, copy, and distribute this Author Accepted Manuscript for noncommercial purposes. Your license is limited by the following restrictions:

- (1) You may use this Author Accepted Manuscript for noncommercial purposes only under a CC BY-NC-ND 3.0 IGO license <http://creativecommons.org/licenses/by-nc-nd/3.0/igo>.
- (2) The integrity of the work and identification of the author, copyright owner, and publisher must be preserved in any copy.
- (3) You must attribute this Author Accepted Manuscript in the following format: This is an Author Accepted Manuscript by Hanmer, Lucia; Klugman, Jeni *Exploring Women's Agency and Empowerment in Developing Countries* © World Bank, published in the Feminist Economics 22(1) 2015-10-27 CC BY-NC-ND 3.0 IGO <http://creativecommons.org/licenses/by-nc-nd/3.0/igo> <http://dx.doi.org/10.1080/13545701.2015.1091087>

EXPLORING WOMEN'S AGENCY AND EMPOWERMENT IN DEVELOPING COUNTRIES: WHERE DO WE STAND?

Lucia Hanmer and Jeni Klugman

ABSTRACT

While central notions around agency are well established in the academic literature, progress on the empirical front has faced major challenges around developing tractable measures and data availability. This has limited our understanding about patterns of agency and empowerment of women across countries. Measuring key dimensions of women's agency and empowerment is complex, but feasible and important. This paper systematically explores what can be learnt from Demographic and Health Survey (DHS) data for 58 countries, representing almost 80 percent of the female population of developing countries. It is the first such empirical investigation.

Our findings quantify some important correlations. Completing secondary education and beyond has consistently large positive associations, underlining the importance of going beyond primary schooling. There appear to be positive links with poverty reduction and economic growth, but clearly this alone is not enough. Context specificity and multi-dimensionality mean that interpretation of results is not always straightforward.

KEYWORDS: Agency, development, gender inequality, empowerment

RUNNING HEADER: EXPLORING WOMEN'S AGENCY AND EMPOWERMENT

INTRODUCTION

Thirty years ago, Amartya Sen (1985: 205) defined agency as what a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important. Agency invokes an ability to overcome barriers, to question, or confront situations of oppression and deprivation and, as individuals or together with others, to have influence and be heard in society. Agency has intrinsic value; it is important in its own right regardless of whether its exercise leads to increased well-being. As articulated by Naila Kabeer (2008), women's agency leads to empowerment when its exercise questions, challenges, or changes regressive norms and institutions that perpetuate the subordination of women.

To what extent has women's agency and empowerment been realized in practice? Agency is inherently difficult to measure, since we typically only observe the outcomes of what people do, not what they were free to choose to do. Women can exercise agency in many different ways: as individuals and collectively, within the family, and through their participation in markets, politics, and other formal and informal institutions. It is thus both an absolute concept (are women able to work outside the home, for example) and a relative concept, compared to men. Women's own sense of agency can increase, through for example acquiring more knowledge (an absolute increase) but this may or may not increase her influence within the family (a relative increase).

In the spirit of Amartya Sen and in the light of the major international commitments on gender equality,¹ a rich body of academic research has sought to define and measure agency as a means to women's empowerment in ways that usefully allow comparisons among individuals and across countries (Solava Ibrahim and Sabina Alkire 2007; Sabina Alkire 2008; Emma Samman and Maria Emma Santos 2009; Naila Kabeer, Simeen Mahmud, and Sakiba Tasneem 2011; Naila Kabeer 2011a; Naila Kabeer, 2013; Sabina Alkire, Ruth Meinzen-Dick, Amber Peterman, Agnes Quisumbing, Greg Seymour, and Ana Vaz 2013). Empirical work has explored agency in terms of self-reported attitudes and observed behaviors in specific areas of life. Alkire (2008) usefully refers to these areas as "domains" and notes that agency can be measured with respect to domains of capability. The domains selected to measure women's agency include choice surrounding sexuality, marriage, childbearing, and the exercise of reproductive rights; making decisions in the family; participation in labor, land, and financial markets; and, engagement with collective action and politics. This body of work has both illuminated conceptual aspects, and pointed to key dimensions of agency.

This study builds on and contributes to the emerging literature in three important ways. First, we review the major strands of work conceptualizing and measuring women's agency and empowerment, highlighting the commonalities as well as important nuances, and providing a framework for our empirical investigation. Second, we undertake analysis of the extent, patterns and correlates of empowerment for a much larger set of countries than has ever been done using micro-data. We utilize the Demographic and Health Surveys (DHS) for up to 58 developing countries to investigate different domains of women's lives. We examine various measures, and explore patterns across countries and correlations with key observables at the individual and household level, like education, residence, and household wealth. Among the practical

advantages of this approach is the relatively wide availability and frequency of the DHS data, although there are also some drawbacks, as discussed below.

Third, we use econometric analysis to identify factors associated with empowerment based on observed characteristics. The salience of factors differ across domains but as we show, education of women, and often their husbands and partners, has consistently the largest association. Economic opportunities and earned income have positive associations in some domains but is negatively associated with others, and country context is important, especially fragility and conflict.

THE MEASUREMENT CHALLENGE OF AGENCY: A BRIEF REVIEW OF THE LITERATURE

A recent body of work has sought to define and measure women's agency in ways that allow empirical measurement and comparisons among individuals and across countries. The focus of the development literature has been on objective aspects – like women's decision-making within the household and mobility outside the home -- while recognizing the importance of both context, and individual consciousness and aspirations (Keera Allendorf 2007, 2012; Dev Acharya, Jacqueline Bell, Padam Simkhada, Edwin van Teijlingen, and Pramod Regmi 2010).

Concepts and Measurement

Our review focuses on two major strands of the agency literature: first, the Pathways of Women's Empowerment Research and second, work on multidimensional measures by the Oxford Poverty and Human Development Institute (OPHI).²

These two strands have much in common, alongside some notable differences. Both take as their starting point a definition of agency derived from Amartya Sen, the premise that agency is exercised in many spheres of life, and that ability to exercise agency in one sphere does not necessarily spill over into having agency in other spheres, so multi-dimensional measurement is needed. The importance of cognitive changes, such as increased confidence, greater autonomy, feeling more valued and respected, and motivation are emphasized in both strands of work. And both agree that direct measures of agency are needed and use purpose-specific surveys to glean understanding about agency and its relationship to empowerment.

Turning now to detail the more distinctive aspects, the Pathway's work draws on Kabeer's work (1999; 2001a; 2001b; 2008; 2011a; 2013). Kabeer starts with the concept of choice, defining power as the ability to make choices.

“Agency operationalizes the concept of choice. It refers to the capacity to define one's goals and act on them. It goes beyond the observable behavior to encompass the meaning, motivations, skills and purpose that people bring to their action, ‘their sense of agency’” (2008: 20).

Her approach is founded in feminist theory and links individual agency to the institutionalized power relations of gender or ‘gender structures of constraint’ (Nancy Folbre 1994). It highlights the interlocking roles of ideological and material factors in constituting these structures, and the importance of rules, norms and practices associated with kinship and the family. The capacity for choice has three dimensions – agency, resources and achievements – which are “so interrelated as to be indivisible; their mutual interactions shape the possibilities for changes in the lives of disempowered group.”(2008:20). Agency in all its forms is critical for women's empowerment.

The OPHI research builds on recent work by Sabina Alkire and others (Alkire 2007; Ibrahim and Alkire 2007; Alkire 2008), operationalizing the capabilities approach. The focus is on individual agency as something that is “intrinsically valuable, instrumentally effective in reducing poverty and of central importance” (2008:2).³ This work includes exploration of how gender roles, norms and behaviors impact women’s and men’s ability to exercise agency differently and how women’s agency is often restricted compared to men’s.

Measurement of agency often focuses on assets – physical, financial and human assets, as well as social capital- that are seen as pre-requisites of agency, or proxy indicators (Alkire 2008). Samman and Santos’ (2009) useful review of the literature documented a growing body of research that uses such indicators as education, land ownership, literacy, and frequency of TV/radio listening. At the same time, it is important to recognize that changes in access to assets⁴ (like land and finance, employment and education, and social capital) should not be conflated with changes in agency (Kabeer 1999; Alkire 2008). Increased access to assets may not translate into agency in the same way for different individuals, given different structures of constraints. For example, the asset of a woman’s tertiary qualifications in Qatar may not be equivalent, in agency terms, to acquiring the same qualifications in Australia, and so it is essential to understand the processes through which assets translate into agency. Alkire (2008) also points out that agency expansions may or may not trigger changes in assets. Women’s decision-making power at home may increase as a result of joining a women’s group, for example, or to social or media exposure affecting her and/or her husband’s attitudes, and:

“[T]he same expansion of agency could be related to changes in diverse assets in a myriad of ways. It may for that reason be desirable to measure agency and its

expansion more directly, rather than extrapolate agency changes from assets”
(2008:10)

The indivisibility of agency, resources and achievements implies that it is difficult to interpret indicators of agency *per se*. There are context-specific dimensions to, and constraints on, choice - including poverty and access to services - that shape the options that are open to people. Moreover an individual's position in society and culturally specific rules and norms shape conceptions about what is possible or desirable in one's life. These points have been evidenced in the evaluation literature – for example, whether and how women are able to benefit from business training can depend on their caste and income group (Erica Field, Seema Jayachandran, and Rohini Pande 2010).

While recognizing the importance of context in determining the exercise of agency and how it should be measured, OPHI has sought to identify internationally comparable indicators and developed multidimensional indices (Ibrahim and Alkire 2007; Alkire 2008; Samman and Santos 2009; and Alkire et al 2013). Alkire (2008) thoughtfully extends the discussion of internationally comparable direct measures of agency by identifying characteristics that are relatively unexplored by existing empirical measures. Understanding motivation, people's attitudes toward their exercise of agency, their aspirations to do so and how these change helps to inform how increased agency can lead to empowerment (Ibrahim and Alkire 2007; Alkire: 2008; Ana Vaz, Pierre Prately, and Sabina Alkire 2014). Ibrahim and Alkire (2007) propose indicators to capture agency around control, choice, change and communal belonging -- including questions on autonomy drawn from Self Determination Theory. Several, including for example, “how much control do you feel you have in making personal decisions that affect your everyday activities” and “would you like to change anything in your life?” are subjective measures, since

the indicator captures what Sen calls the ‘positionally objective’ perception of the respondent (1993). This has been explored using the new indices outlined below, for Bangladesh (Sabina Alkire, Agnes Quisumbing, Esha Sraboni, and Ana Vaz 2013) and the Republic of Chad (Vaz, Prately, and Alkire 2014).

Empirical Findings

Empirical research in Bangladesh, Ghana, and Egypt under the Pathways project examined the empowerment potential of paid work (Kabeer 2013).⁵ The methodology explores the key structures of women’s subordination and the major changes in the wider environment to identify how women’s agency evolved over time. Informed by this analysis, quantitative data on agency across different domains – “economic agency” (like making spending decisions), being able to leave the home, participation in public life (like voting) and attitudes about women’s work and son preference, for example -- were collected using purposive surveys. The indicators seek to measure women’s empowerment as individuals, in relation to their families and to their community (Table A1). Some indicators are common across the three countries and others are adapted to context. In each country qualitative surveys probed the quantitative results and explored causality.

Kabeer (2013) found that formal employment had the most consistently empowering implications in all three countries. In general paid work outside the home or farm was likely to be more empowering than either paid or unpaid work at home. However women working outside the home in Bangladesh and Egypt were also more likely to feel stressed than women working within the home, and women working outside the home in Bangladesh and Ghana were more likely to face spousal abuse. Moreover there was no evidence that paid work had led to collective

action (Kabeer 2013:77-78). Education – particularly secondary and above – was an important pathway in all three countries. The importance of other factors varied across countries.

Ownership and control over land and housing had strong impacts in Bangladesh and Ghana but not in Egypt; membership of an association had a more positive impact in Bangladesh than in Ghana. The findings underline the importance of interaction and overlap among the different dimensions and agency outcomes (Kabeer, Mahmud, and Tasneem 2011).

Because agency is exercised in different ways and in a number of different domains, multi-dimensional indices can be a useful way to capture and synthesize results. Building on OPHI's research highlighted above, the Women's Empowerment in Agriculture Index (WEAI) focuses on the productive sphere, and measures women's empowerment, agency, and the inclusion of women in the agriculture sector.⁶ The WEAI comprises two sub-indices: the first measures five domains of empowerment (so-called 5DE) — namely, agricultural production, resources, incomes, leadership, and time use, which are equally weighted, implying that each domain is equally important (Sabina Alkire and James Foster: 2011). The second, the Gender Parity Index (GPI) measures relative inequality in the same domains in each dual-adult household. The final WEAI score aggregates the 5DE and the GPI with a 9:1 weighting. The authors acknowledge that the weights are somewhat arbitrary but argue that the index recognizes “the importance of the gender equality as an aspect of empowerment” (Alkire et al, 2013: 76). It is also possible to examine the gender parity results separately.

The WEAI has been applied in a number of countries that are part of the US Government's Feed the Future Initiative. Hazel Malapit, Kathryn Sproule, Chiara Kovarik, Ruth Meinzen-Dick, Agnes Quisumbing, Farzana Ramzan, Emily Hogue, and Sabina Alkire's (2014) baseline analysis for 13 countries⁷ finds that the greatest constraints on women in agriculture are

lack of access to credit and ability to make credit-related decisions; excessive workloads; and low group membership. Limited ownership of assets and lack of leisure time typically contribute least to women's disempowerment. The importance of looking separately at gender equality is underlined by the variation in GPI results across countries with similar 5DE scores -- on average women are twice as disempowered as men. Interestingly, however, the same factors are at play: the largest contributor to men's disempowerment is group membership, followed by workload and access to and decisions on credit. The WEAI results illustrate the value of multidimensional indices, as well as the importance of weighting decisions, and of focusing separately on gender related constraints and inequality. On the policy front, the results can inform understanding of the connections between women's empowerment, agricultural growth, and food security. The Pathways and WEAI studies shed important light on different aspects of women's agency and empowerment. Yet the coverage has been restricted in scope, given the reliance on specially designed and commissioned surveys. The Pathways project explored three countries, while the WEAI is not nationally representative, undertaken in 13 countries, with plans to extend to six more. The WEAI is further limited in its scope, which excludes such key domains as sexual and reproductive health and rights, and women's attitudes and aspirations.

So what are the major implications of the emerging literature for the measurement of women's empowerment? There are several. First, agency can be exercised in many domains of life and in many different ways and while complex, measuring at least key dimensions of agency and empowerment is feasible and important. Second, a number of indicators are needed to capture the different dimensions of women's agency and empowerment -- sexual and reproductive health, household decision-making, economic activities, participation in community decision-making bodies and national politics -- as well as indicators that capture gender norms

and women's motivations for their choices and actions. Third, in order to examine the links between agency and empowerment, indicators selected should ideally capture choices that challenge or question existing gender norms and other constraints to women's ability to pursue valued goals and exercise strategic choices about their lives, and reflect both individual and collective agency. These implications and caveats are borne in mind and used to inform our empirical strategy for analyzing women's agency and empowerment for a large sample of developing countries.

The framework adopted for our empirical analysis is informed by both strands of work. We take Amartya Sen's concept of freedom as the starting point, and underline the multidimensional and interlocking nature of aspects of agency, and constraints. Because we are relying on existing data sources, we cannot craft the questions and analysis exactly in light of the theory, but are able to gain a broad understanding of major factors at play. We do not attempt to aggregate the different aspects of agency into a single index, but rather explore the various manifestations of agency, or lack thereof, that can be observed in practice. We include a focus on violence, which we see as a major denial of agency warranting deeper exploration. Finally, and not least, underling the emphasis in Kabeer's work, we recognize that context specificity means identifying and interpreting indicators of agency is not straightforward. Moreover, the inter-relations among observed and unobserved factors point to the likelihood of endogeneity. For this reason, we can only draw out associations, and are careful not to infer causal relations. Nevertheless it is possible to expose patterns across countries while recognizing that their importance to women's empowerment may vary between and within countries.

WHAT WE CAN MEASURE TODAY – INVESTIGATING THE DHS

What can we learn about existing patterns of agency and empowerment around the world? While purposefully designed surveys have enormous advantages, these are relatively costly, associated with specific research programs so that the data is not publicly available, and presently limited to a few countries. Researchers can obtain a fuller picture by turning to data sources that already exist for a large number of countries, and the Demographic and Health Surveys (DHS) are the best option available today.

The DHS are well-established nationally representative population-based household surveys that have been conducted since 1984.⁸ The surveys use consistent sampling methodologies and questions to ensure comparability across countries and over time. In all households, women aged 15-49 are eligible to participate; in many surveys a sub-sample of men also participate.⁹ It includes a number of questions designed to capture information on women's status and empowerment in different domains of their lives, as well as demographic and socioeconomic characteristics.¹⁰ Among the practical advantages are its relatively wide availability and frequency: publicly available DHS for 58 countries (accounting for 78% of the developing world's population) cover at least some of the indicators used below.¹¹

Guided by our review of the literature of women's agency and empowerment, we begin by identifying which DHS variables might be used (Table 1). We follow several criteria for indicator selection. We want to maximize country coverage and number of observations. The indicators should capture the exercise of agency that can lead to empowerment rather than the preconditions, and relate to different domains of life where choices are important.

[Table 1]

We select domains that are significant in shaping women's ability to pursue goals that are of value to them. The domains selected are: social norms and attitudes; sexual and reproductive health and rights; freedom from gender-based violence; freedom of movement; and, control over household resources. Freedom from gender-based violence is included as an essential domain of women's agency both for its intrinsic value in asserting fundamental human rights and for its instrumental value in promoting gender equality in a wide range of outcomes at individual, family and society levels (Jeni Klugman, Lucia Hanmer, Sarah Twigg, Tazeen Hassan, Jennifer McCleary-Sills, and Julieth Santamaria 2014). Whether a woman thinks intimate partner violence (IPV) is justified captures an aspect of women's own sense of empowerment: belief in regressive gender norms can constrain individual agency. Freedom of movement outside the home indicates whether women are able to build and maintain social and economic networks as well as participate in the economy and civic life (Klugman et al. 2014). Finally, building on our literature review, decision-making about large purchases is included. The eligible samples for dependent variables range for 271,548 (for violence) to 855,110 for attitudes to IPV.

Table 2 shows correlations to provide a sense about which indicators perform better and add value. Importantly, the correlation coefficients suggest our list of indicators capture distinct dimensions of empowerment: the level of correlation is generally low -- below about 40 percent - - so that the different dimensions of empowerment are only moderately related at the individual level. There is one, perhaps unsurprising, exception: the correlations between refusing sex and asking for use of condom exceed 70 percent. This suggests that the value-added of using both indicators is low and we drop the ability to refuse sex from the agency proxies from our regression analysis.

[Table 2]

These DHS measures ask women to answer straightforward questions about what is done (or what their attitude is) in specific, everyday circumstances. Data on what people say that they do mitigates some of the adaptive expectations bias that arises from asking people about how much choice or freedom they feel they have without asking what they actually do. This also has the advantage that they are “expressions of empowerment” (or lack thereof) and, unlike more abstract questions about the exercise of power and choice, people can be expected to readily understand the questions and attach similar meanings to their answers.¹²

Yet the DHS is not without disadvantages. First, the information on assets is limited. As Cheryl Doss, Chiara Kovarik, Amber Peterman, Agnes Quisumbing, and Mara van den Bold (2013) show in their careful review, the formal ownership of land and housing alone is not the same as having agency in farm management and production decisions (e.g. about farming methods, crops and marketing), and the use of resulting incomes, let alone voice and influence in the community. However given the findings from the Pathways and WEAI about the relative importance of such ownership, this gap is not crucial to our analysis. Second, and arguably more importantly, the DHS data on jobs (in all their forms including self-employment, entrepreneurship, own account work and unpaid work on family businesses and farms) are limited. It is not possible to explore correlations between the different sorts of work and agency that were found important in the Pathways work. We lack data on earnings, incomes, savings and credit that might be correlated with individual agency and empowerment. Third, several critical dimensions of agency are missing from the DHS, including political voice and influence, and collective agency. Fourth, direct measures of perceptions of self-worth, aspirations and motivations are missing. Fifth, the DHS does not include qualitative analysis of the type undertaken in the Pathways project, and we do not have community level information -- e.g.

distance to health centers or schools -- that can be used to indicate local differences in socio-economic conditions.

Finally, but not least, we only have information collected from women aged 15-49 and the information on men is limited. This means that we cannot directly look at parity in the ways that the WEAI has explored. Data on girls is missing – so we have no information about their sexual autonomy, early marriage and so on (although we do have information about the age of marriage). Likewise, older women are excluded, which thereby also excludes an important of people, growing in demographic importance, who may be subject to particular constraints. This has been found for widows, for example, as documented by Jean Dreze and P V. Srinivasan (1997). Dominique Van de Walle (2013) found that widows are often disadvantaged, and largely hidden from view in the data used to inform social policy.

Cross-country analysis does have important advantages in drawing out systematic patterns and helping to inform broad policy discussions and agendas. At the same time we recognize that analysis using pooled cross-country data can obscure country and context specific social exclusion, and thereby miss important aspects of women's agency and empowerment. Moreover we are unable to precisely identify causal relations. For these reason the results should be seen as indicative, and as a springboard to motivate and explore key patterns and constraints at the country level.

With these caveats in mind, we turn now to understand what can be gleaned about agency and empowerment from the DHS for a large and diverse cross section of developing countries.

WHAT WE CAN LEARN FROM THE DHS: INITIAL CORRELATIONS

Our literature review suggested that the ability to exercise agency is related to access to material and human assets as well as context specific factors and individual aspirations and motivation.

We examine empowerment proxies across countries and explore their correlation with assets and context; individual education, household wealth and area of residence. When, according to our proxy measures, women are not empowered, we regard this as an agency deprivation.

Table 3 shows agency deprivations in up to 55 developing countries with DHS data since 2001. These basic results confirm the overall importance and relevance of the indicators under review, revealing that large shares of women lack agency in the domains of freedom from violence, sexual rights and reproductive health and their freedom of movement.

In general we see that rates of deprivation are worse in low-income countries – especially with respect to early marriage and attitudes towards violence. The worst country outliers are Niger, where 75 percent of women are married as children and Guinea where 87 percent of women condone gender-based IPV. At the other end, we see Ukraine, where 12 percent of women are married as children and Colombia where 2 percent of women at condone IPV. Interestingly however, the highest rates of restriction on movement are reported in upper middle-income countries, notably Azerbaijan, Gabon and Peru.

[Table 3]

Table 4 shows how agency deprivations are associated with education, location and household wealth (measured by an asset index).¹³ Some striking differences emerge. First, education appears to play a very important role. Comparing the *no education* and *higher education* rows, we see major differences – for example fewer than one in ten university graduates married young, compared to nearly two thirds of those without education. Reported rates of experiencing violence likewise vary from 42 to 13 percent. Even completing primary

education is associated with better outcomes; 25 percent of those completing primary education experienced IPV. These can be interpreted as threshold effects, since the variables measure the completion of different levels of education. Second, location is also important. Compared to women living in urban areas, higher proportions of rural women experience deprivations in the domains under review, especially in early marriage, condoning intimate partner violence and control over resources. These results echo the Pathways findings that stressed the importance of context, with rural location being an influential factor.

Third, with the exception of child marriage, household wealth status makes less difference – except for the richest quintile. Similar proportions of women living in rich and poor households experience deprivations in terms of violence and lack of control over resources. It is likewise notable that restricted movement is reported at similar rates, even for the richest. Living in a richer household does not necessarily imply that women have access to resources in their own right. This finding suggests that household wealth does not protect women against agency deprivations.

[Table 4]

To what extent do women face constraints across multiple domains? We looked at patterns in the 54 developing countries for which we have relevant DHS data, to see how these play out at the individual level. We examined agency deprivations of accepting violence, having no say over major household decisions, and being married young to analyze how these adverse norms and constraints overlap at the individual level.

Figure 1 highlights the headline global results of extensive and overlapping disadvantage: that almost four out of five women report at least one of these constraints, and that more than 1 in 8 experiences all three. Behind the global picture are countries where the situation is even

worse. In Niger, for example, virtually every single woman experiences at least one of these constraints and almost half are subject to all three (Figure A1).

WHAT WE CAN LEARN FROM THE DHS: ECONOMETRIC ANALYSIS

The initial cross tabulations and correlations suggest some important factors are at play. We explore these patterns more systematically using econometric analysis, to try to identify which factors appear to be most important, even if data limitations prevent causal inferences. We construct a series of models to explore each of the empowerment proxies of interest – namely, sexual and reproductive rights and health, household decision-making and freedom of movement, and violence. Our modeling strategy was informed by the conceptual and literature review above. The dependent variables were selected to cover domains that are important for empowerment and reflect significant choices (or their denial) that question, challenge or imply changes to existing gender norms and structures of constraint. The independent variables include potential determinants of women’s ability to exercise agency individually and in relation to her family, and access to material resources, which is a potential pre-condition for the exercise of agency.¹⁴

First we select a number of individual characteristics: age, education, marital status, age of marriage, number of children. We also include whether women work, and the type of earnings (cash or kind). Being paid in kind is likely to indicate that work is informal and low productivity, and may be a broad proxy for low quality work. Second, the education level of the husband or partner might influence women’s ability to exercise agency.¹⁵ The exploration of violence also includes husband’s use of alcohol. Third, several household characteristics are included, specifically, whether parents or in-laws live at home, whether the household is headed

by a female, location and the household wealth index, as defined above. Fourth, we include measures of agency -- being married as child; decisions over large purchases; decisions about contraceptive use; and, attitudes toward violence -- as independent variables, since agency in one domain may influence the ability to exercise agency in another. Country fixed effects and dummy variables for fragile and conflict affected countries, using the World Bank's categorization, were included.¹⁶

A logit model used to explore associations, with clustered standard errors,¹⁷ which generates estimates of the likelihood of experiencing specific agency deprivations. Model selection was guided by McFadden (1973) R^2 .¹⁸ Following the guidance in DHS (2012), the data is unweighted because the use of sample weights is inappropriate for estimating such relationships as regression and correlation coefficients.¹⁹

It is important to recognize the problem of endogeneity. For example, education may affect the number of children a woman bears, the type of payment received for work and household wealth. Further, dependent and independent variables may be simultaneously determined as an omitted variable (like an unobserved social norm) might determine both the empowerment proxy and an independent variable (e.g. decision-making). We are therefore careful to not infer causality from our results, and use alternative model specifications to examine simultaneity whenever possible.

We examine models for empowerment proxies in turn, but do not attempt to aggregate the results for the various indicators. Rather, the interest lies in being able to look at the results across dimensions, and commonalities and differences therein.

Looking at the domains of sexual and reproductive rights and health, household decision-making and freedom of movement, Table 5 reports the odds ratios for all the variables with a

statistically significant impact on the probability of experiencing the deprivation. All coefficients are significant at $p < 0.01$. Highlights include a series of negative findings around marriage: being married – either monogamous or polygamous marriage -- reduces sexual autonomy.²⁰ Being married as a child further reduces sexual autonomy, and those women are more likely to have their movement restricted by their husbands, as are women in polygamous marriages.

[Table 5]

Confirming the pattern found in the frequency distributions, Table 5 suggests that education plays a positive role, and the possibility of threshold effects. Controlling for other factors, the analysis reveals that completion of secondary education and above is associated with doubling or tripling of measures of sexual autonomy. The husband's education is also associated with a higher likelihood of his partner having sexual autonomy, albeit to a lesser extent. Having primary or secondary education does not reduce the probability of mobility restrictions, but women with higher education are less likely to be restricted. Education is also associated with a higher probability that women can make decisions about large purchases, though the effect is less marked.

Interesting results emerge from the econometric associations. Ability to exercise agency over household purchases and contraceptive are associated with a higher likelihood that women can ask for condom use (or refuse sex), suggesting that agency in these domains is correlated with sexual autonomy.²¹ Women living in richer households are more likely to be able to exercise agency but, interestingly, the difference is generally not large, usually increasing this probability by less than 10 percent. Economic opportunities appear to have mixed effects; consistent with the Pathways findings that context is important. Compared to not working, women who are paid in cash and kind, or cash only, are more likely to have sexual autonomy.

Being paid has strongest effects on household spending decisions, the likelihood that women are involved in these decisions is some 60 percent higher. On the other hand, freedom of movement is *worse* for women that are in paid work. The World Health Organization (WHO) (2012) considers controlling behaviors -- including isolating a person from family and friends and monitoring their movements -- a form of violence and so this result is consistent with the finding that women's labor market participation increases the risk of violence in some settings (Seema Vyas and Charlotte Watts, 2009).

The household characteristics in the model have significant but small effects. The exception is the larger coefficient on decision making for female headed-household and women living in nuclear (as opposed to extended) families, who are over one-third more likely to be able to decide on household purchases. This recalls other research about the significance of mothers-in-law, especially in extended family situations (Robert Shuter 2012; Eleanor Holroyd, Violeta Lopez, and Sally Wai-Chi Chan 2011; and Saraswoti Kumari Shrestha, Bilkis Banu, Khursida Khanom, Liaquat Ali, Narbada Thapa, Babill Stray-Pedersen, and Bhimsen Devkota 2012).

Finally we see that living in fragile or conflict-affected country has significant, though mixed, effects. Holding other factors constant, living in such a country is associated with lower sexual autonomy -- the likelihood that women can ask her partner to use a condom is about one-third lower. In contrast, the likelihood that women decide about large household purchases is five-fold higher for women living in fragile countries, and the likelihood that their husbands or partners restrict their movement is halved. These findings are consistent with qualitative research in conflict-affected countries which document how gender norms may be relaxed by opening up more space for women to exercise authority in their households and gain more economic independence (Patti Petesch 2012).

We turn now to gender-based violence, given its growing prominence in the gender equality agenda and in the evolving post-2015 development framework. A recent global study underlined that over 35 per cent of women worldwide have experienced physical or sexual violence partner or non-partner sexual violence (WHO 2013). Intimate partner violence, violence at the hands of a husband, boyfriend or partner is both the most pervasive form of gender-based violence and one that too few governments recognize as a crime (Klugman et al. 2014: 55). It is a violation of basic human rights and its effects are felt at the individual, family and economy levels.

Research shows that IPV is more frequent and severe among poorer groups across such diverse countries as India, Nicaragua, and the United States—though not in others, such as South Africa (Rachel Jewkes 2002). Being a member of an ethnic minority or lower caste can worsen the threat of gender-based violence. A recent study in India found that 35 percent of Muslim women and 41 percent of women from scheduled castes were exposed to physical violence (Koustuv Dalal and Kent Lindqvist 2012).

What can we learn from the DHS on this critical front? DHS data on violence is available for 22 countries. Among the correlates of ever experiencing IPV (Table 6), what is perhaps most striking is how the husband's use of alcohol affects the likelihood that women will be subject to abuse. Women who report that their husbands are often drunk are five times more likely to be subject to IPV and their risk doubles with less frequent drunkenness.

[Table 6]

Several other factors also emerge as especially significant. Women's own attitudes towards violence are important – that is, whether they think it is acceptable to be beaten for various trivial reasons.²² Again confirming earlier research, their exposure as children also has

significant impacts on the probability that they will suffer IPV, increasing the likelihood over twofold. The circumstances of marriage also matter. Being married under eighteen and being in a polygamous marriage each is associated with a 20 percent higher probability of being subjected to IPV. Education has a protective effect but, interestingly, this is evident only at secondary and higher levels for women, and with higher education for men. The probability of being subjected to IPV is about a third lower for female university graduates. While this was not evident from the cross tabulations, once we control for other factors in the econometric model, living in a richer household does reduce the probability of suffering IPV as does living in rural areas. Living in a fragile or conflict affected state is associated with a one-third higher likelihood that a women will experience IPV. Finally the model shows that women who live in countries with domestic violence legislation in place are 7 percent less likely to be subject to IPV compared to countries without such laws.²³

Many of these factors are consistent with findings from the broader health literature. For example, Karen Devries, Joelle Mak, Claudia García-Moreno, Max Petzold, James Child, Gail Falder, Stephen Lim, Loraine Bacchus, Rebecca Engell, Lisa Rosenfeld, Christina Pallitto, Theo Vos, Naeemah Abrahams, and Charlotte Watts' (2013) study, which drew on data from 141 studies in 81 countries found strong association between exposure to violence and later experiences, that secondary education is associated with lower levels of IPV and, that alcohol use by men is commonly associated with an increased severity and frequency of perpetration of IPV.

CONCLUSIONS AND IMPLICATIONS FOR FURTHER RESEARCH

Agency and empowerment is central to the gender equality agenda. Agency has intrinsic value, and also carries important implications for empowerment and the nature and exercise of other

dimensions of wellbeing, including the pursuit of economic opportunities and the engagement in decision-making.

While central notions around agency are now well established, progress on the empirical front has faced major challenges around developing tractable measures and data availability. This has limited the breadth of our understanding about patterns of agency across countries. Yet while complex, measuring at least key dimensions of agency is feasible. A number of indicators are needed to measure agency in different dimensions. Many survey sources lack the information needed in order to gain a full picture of agency and empowerment.

This paper has explored what can be learnt from the analysis of DHS micro-data about agency and empowerment. It is the first such empirical investigation to be undertaken for a large number of countries – some 58 countries are included, representing almost 80 percent of the female population of the developing world.

Much of what emerged is consistent with the existing literature, though we were able to quantify some important correlations, and add some useful nuances and caveats. Our results suggest that completing secondary education, and beyond, has consistently large positive associations, underlining the importance of going beyond the traditional MDG focus on primary schooling and suggesting there may be important threshold effects for education. There appear to be positive links with the poverty reduction and economic growth agenda, but clearly this alone is not enough. Women living in richer households are more likely to be able to exercise agency but the impact is not as large as that of education. Women's own economic opportunities and earned income can have positive effects, but again, possibly not as large as expected.

We focused on violence and showed how the risk of suffering violence at home was systematically related to the husband's use of alcohol, as well as to the woman's own attitudes to

violence. Education has a protective effect against violence but again, interestingly, this is evident only at secondary and higher levels for women, and with higher education for men. Finally, and not surprisingly, child marriage is associated with increased probability of agency deprivations, which supports the increased global attention to this pervasive phenomenon.

Much more research is needed on this important topic, building on the contributions and insights in this volume. This is likely to involve several, complementary tracks. Specific purpose surveys can help to elicit richer understanding about opportunities and constraints. Subjective and qualitative information is clearly important. Finally, we reiterate the emphasis on context specificity and multi-dimensionality, and the caution that understanding and interpretation of results is always not straightforward. These implications and caveats need to be borne in mind in future investigations of women's agency and empowerment.

Lucia Hanmer

World Bank - Gender Group

1818 H Street MC 4-400 , Washington, DC 20008, USA

e-mail: lhanner@worldbank.org

Jeni Klugman

Harvard University - Kennedy School of Government

Mailbox 100, 79 JFK Street, Cambridge, MA, USA

e-mail: Jeni_Klugman@hks.harvard.edu

NOTES ON CONTRIBUTORS

Lucia Hanmer is Lead Economist in Gender and Development at the World Bank Group. She served previously as Senior Economic Adviser for the Economic Empowerment Section at UN Women and Senior Economic Adviser at the UK's Department for International Development, after serving as Country Representative for the World Bank in Guyana. She was a researcher at the UK's Overseas Development Institute and taught economics at the Institute of Social Studies in The Hague. Much of her work has been in Sub-Saharan Africa. She holds a Ph.D. in Economics from the University of Cambridge.

Jeni Klugman is a fellow at the Kennedy School of Government's Women in Public Policy Program at Harvard University, where she is teaching a course on gender inequality and development. She was Gender Director at the World Bank until July 2014, and previously served as Director and Lead Author of three global Human Development Reports published by the UNDP. She sits on several boards and panels, including those related to the World Economic Forum and the Journal of Human Development and Capabilities. She holds a Ph.D. in Economics from the Australian National University and postgraduate degrees in both Law and Development Economics from the University of Oxford.

ACKNOWLEDGMENTS

We would like to thank Julieth Santamaria for her work on the data analysis.

TABLES

NOTES

¹ Notably, the 1979 Convention on Elimination of All Forms of Discrimination (CEDAW), now ratified by 188 states, covers equality in marriage and family life, mobility, citizenship and family formation. (https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-8&chapter=4&lang=en). The 1995 Beijing Platform for Action aims at: "...removing all obstacles to women's active participation in all spheres of public and private life."

(<http://www.un.org/womenwatch/daw/beijing/platform/index.html>)

² Not covered in this paper is the more qualitative work, including the research on ladders of power and freedom used by Deepa Narayan et al in *Voices of the Poor*.

³ Alkire explains the relationship between the capability approach and agency as follows: "[C]apabilities, like budget sets, convey information on the range of valuable opportunities a person enjoys. In addition to capabilities or *opportunity freedoms*, development should also advance *process freedoms*. These include personal freedoms related to agency" (Alkire 2008:3).

⁴ Kabeer refers to material and human resources.

⁵ <http://www.pathwaysofempowerment.org>

⁶ The WEAI was developed by the U.S. Agency for International Development, International Food Policy Research Institute, and OPHI: see <http://www.ifpri.org/publication/womens-empowerment-agriculture-index>.

⁷ Bangladesh, Cambodia, Nepal, Tajikistan, Haiti, Honduras, Kenya, Rwanda, Uganda, Malawi, Zambia, Ghana, Liberia

⁸ <http://www.dhsprogram.com/Who-We-Are/About-Us.cfm>

⁹ <http://dhsprogram.com/data/data-collection.cfm>

¹⁰ <http://dhsprogram.com/Topics/Womens-Status-And-Empowerment.cfm>

¹¹ Surveys for the latest available year 2001-12: *East Asia and Pacific* (Cambodia, Indonesia, the Philippines, Timor-Leste, Vietnam); *Europe and Central Asia* (Albania, Armenia, Azerbaijan, Moldova, Turkey, Ukraine); *Latin America and the Caribbean* (Bolivia, Colombia, Dominican Republic, Guyana, Haiti, Honduras, Nicaragua, Peru); *Middle East and North Africa* (Arab Republic of Egypt, Jordan, Morocco); *South Asia* (Bangladesh, India, Maldives, Nepal, Pakistan); *Sub-Saharan Africa* (Benin, Burkina Faso, Burundi, Cameroon, Chad, Democratic Republic of Congo, Republic of Congo, Côte d'Ivoire, Ethiopia, Gabon, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Sierra Leone, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe).

¹² Ibrahim and Alkire 2007.

¹³ The household's wealth index takes the values from 1-5 according to the quintile of distribution.

¹⁴ Land and housing data are available for thirteen countries. Land ownership had no significant or only very small effects on the empowerment proxies (see Table A7). To increase the sample size these variables were dropped from the model.

¹⁵ It is possible that women's education and age *relative to her husband's* is important for agency. We did examine these relative variables, but found no significant results and they are not reported here.

¹⁶ See notes to Table 5.

¹⁷ Clustered standard errors relax the assumption of independence of individual error terms in favor of assuming independence between clusters. This approach is useful when there are observations on people who live in the same communities and the error term associated with one

individual or household is likely correlated with those of others in the same neighborhood (Stata Press, 2015).

¹⁸ McFadden's R^2 uses a likelihood ratio to calculate how much of the variance in the dependent variable is explained by the variance of the independent variables and includes penalties for the number of variables that do not improve the predictive power of the model.

¹⁹ The use of weights in likelihood estimations means that the estimates are not a true likelihood (William Sribney, 2007) and so it is not possible to produce predictive test statistics.

²⁰ We use the term sexual autonomy to refer to the results for both ability ask for use of a condom and to refuse sex. The results for the latter are in Table A3.2, model 5.

²¹ Table A3.1 shows that coefficients and McFadden's R^2 's are little changed in model specifications which exclude these variables, so it seems unlikely that these results are due to endogeneity.

²² The coefficients and McFadden's R^2 's are little changed in model specifications which exclude these variables (Table A4), so it seems unlikely that these results are due to endogeneity.

²³ This is the difference in predicted probabilities of experiencing IPV between women in countries with and without domestic violence legislation.

BIBLIOGRAPHY

- Acharya, Dev R., Jacqueline S. Bell, Padam Simkhada, Edwin R. van Teijlingen, and Pramod R. Regmi. 2010. "Research Women's autonomy in household decision-making: a demographic study in Nepal." *Reproductive Health* 7(15).
- Alkire, Sabina. 2008. "Concepts and measures of agency." OPHI Working Paper Number 10,

Queen Elizabeth House, University of Oxford.

Alkire, Sabina and James Foster. 2011 “Counting and multi-dimensional poverty measurement.”

Journal of Public Economics 95 [7-8]: 476-487.

Alkire, Sabina, Ruth Meinzen-Dick, Amber Peterman, Agnes Quisumbing, Greg Seymour, and

Ana Vaz. 2013. “The women’s empowerment in agriculture index.” *World*

Development 52: 71-91.

Alkire, Sabina, Agnes Quisumbing, Esha Sraboni and Ana Vaz (2013) “Measuring autonomy:

evidence from Bangladesh.” Oxford Poverty and Human Development Initiative (OPHI)

Research in Progress 38a.

Allendorf, Keera. 2007. “Do women’s land rights promote empowerment and child health in

Nepal?” *World Development* 35(11): 1975-1988.

-----, 2012. “Women’s agency and the quality of family relationships in India.” *Population*

Research and Policy Review 31(2): 187-206.

Dalal, Koustuv and Kent Lindqvist. 2012. “A National Study of the Prevalence and Correlates of

Domestic Violence among Women in India.” *Asia-Pacific Journal of Public*

Health 24(2): 265–277.

Devries, Karen M., Joelle Y. T. Mak, Claudia García-Moreno, Max Petzold, James C. Child,

Gail Falder, Stephen Lim, Loraine J. Bacchus, Rebecca E. Engell, Lisa Rosenfeld,

Christina Pallitto, Theo Vos, Naeemah Abrahams, and Charlotte H. Watts. 2013. “The

Global Prevalence of Intimate Partner Violence Against Women.” *Science* 340(6140):

1527-1528.

DHS (2012) Guide to DHS statistics.

(http://dhsprogram.com/pubs/pdf/DHSG1/Guide_to_DHS_Statistics_29Oct2012_DHSG1.pdf)

Doss, Cheryl, Chiara Kovarik, Amber Peterman, Agnes Quisumbing, and Mara van den Bold.

2013. "Gender Inequalities in Ownership and Control of Land in Africa: Myth and Reality." No. 1308. International Food Policy Research Institute (IFPRI).

Drèze, Jean and P.V. Srinivasan. 1997. "Widowhood and Poverty in Rural India." *Journal of Development Economics* 54(2): 217-234.

Feed the Future, International Food Policy Research Institute, US Agency for International Development, and Oxford Poverty and Human Development Initiative. 2012. *Women's Empowerment in Agriculture Index*. Washington, DC: International Food Policy Research Institute.

Field, Erica, Seema Jayachandran, and Rohini Pande. 2010. "Do traditional institutions constrain female entrepreneurship? A field experiment on business training in India." *The American Economic Review*: 125-129.

Folbre, Nancy 1994. *Who pays for the kids? Gender and the structures of constraint* London: Routledge.

Holroyd, Eleanor, Violeta Lopez, and Sally Wai- Chi Chan. 2011. "Negotiating "Doing the month": An ethnographic study examining the postnatal practices of two generations of Chinese women." *Nursing & Health Sciences* 13(1): 47-52.

Ibrahim, Solava and Sabina Alkire. 2007. "Agency and Empowerment: A proposal for Internationally Comparable Indicators." *Oxford Development Studies* 34(4): 379-403.

Jewkes, Rachel. 2002. "Intimate Partner Violence: Causes and Prevention." *The Lancet* 359(9315): 1423–1429.

-
- Kabeer, Naila. 1999. "Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment." *Development and Change* 30: 435–64.
- , 2001a. "Conflicts over Credit: Re-evaluating the Empowerment Potential of Loans to Women in Rural Bangladesh." *World Development* 29(1): 63–84.
- , 2001b. "Reflection on the Measurement of Women's Empowerment." *SIDA Studies No. 3 Discussing Women's Empowerment: Theory and Practice*. Stockholm: Sida.
- , 2008. "Paid Work, Women's Empowerment and Gender Justice: Critical Pathways of Social Change." *Pathways Working Paper No 3*. Institute of Development Studies, University of Sussex, Brighton.
- , 2011a, "Contextualising the economic pathways of empowerment: findings from a multi country research programme". *Pathways Policy Paper*. Brighton: Institute of Development Studies.
- with Ragui Assaad, Akosua Darkwah, Simeen Mahmud, Hania Sholkamy, Sakiba Tasneem and Dzodzi Tsikata. 2013 *Paid Work, Women's Empowerment, and Inclusive Growth: Transforming the Structures of Constraint*. New York: UN Women.
- Kabeer, Naila, Simeen Mahmud, and Sakiba Tasneem. 2011. "Does paid work provide a pathway to women's empowerment? Empirical findings from Bangladesh." *IDS Working Paper No 375*. Institute of Development Studies, University of Sussex, Brighton.
- Klugman, Jeni, Lucia Hanmer, Sarah Twigg, Tazeen Hasan, Jennifer McCleary-Sills, and Julieth Santamaria. 2014. *Voice and Agency*. Washington: World Bank Publications.
- Malapit, Hazel Jean, Kathryn Sproule, Chiara Kovarik, Ruth Meinzen-Dick, Agnes Quisumbing,

-
- Farzana Ramzan, Emily Hogue, and Sabina Alkire. 2014. Measuring Progress toward Women's Empowerment, Women's Empowerment in Agriculture Index: Baseline Report, Washington, DC: International Food Policy Research Institute.
- McFadden, Daniel. 1973. "Conditional logit analysis of qualitative choice behavior," in Paul Zarembka, ed. *Frontiers in Econometrics*, pp. 105-142. New York: Academic Press.
- Muñoz Boudet, Ana María, Patti Petesch, and Carolyn Turk. 2012. *On Norms and Agency: Conversations about Gender Equality with Women and Men in 20 Countries*. Washington: World Bank Publications.
- Narayan, Deepa, Robert Chambers, Meera K. Shah, and Patti Petesch. 2000. *Voices of the Poor: Crying out for Change*. New York: Oxford University Press for the World Bank.
- Petes, Patti. 2012. *The Clash of Violent Conflict, Good Jobs, and Gender Norms in Four Economies*. Washington, DC: World Bank.
- <https://openknowledge.worldbank.org/handle/10986/12130>.
- Samman, Emma, and Maria Emma Santos. 2009. "Agency and Empowerment: A review of concepts, indicators and empirical evidence."
- Sen, Amartya. 1985. "Well-being, agency and freedom: the Dewey lectures 1984." *The Journal of Philosophy* 82(4): 169-221.
- , 1993. "Positional Objectivity" *Philosophy and Public Affairs*, 22 (2):126-145
- , 1999. *Development as Freedom*. Oxford University Press.
- Shuter, Robert. 2012. "When Indian Women Text Message: Culture, Identity, and Emerging Interpersonal Norms of New Media," in Pauline Hope Cheong, Judith N. Martin, and Leah P. Macfadyen, eds. *New Media and Intercultural Communications: Identity, Community and Politics*, pp 209-222. New York: Peter Lang Publishing Group.

-
- Shrestha, Saraswoti Kumari, Bilkis Banu, Khursida Khanom, Liaquat Ali, Narbada Thapa, Babill Stray-Pedersen, and Bhimsen Devkota. 2012. “Changing trends on the place of delivery: why do Nepali women give birth at home.” *Reproductive Health* 9(1):25.
- Sribney, William. 2007 Chi-squared test for models estimated with robust standard errors. StataCorp <http://www.stata.com/support/faqs/statistics/chi-squared-test/>
- Stata Press 2015. Structural Equation Modelling Reference Manual, Intro 8, page 581
- United Nations Girls’ Education Initiative. 2012. *Engendering Empowerment: Education & Equality: A companion volume to the E4 conferences*. New York: UNGEI.
- US Agency for International Development. n.d. “Data collection. The DHS Program: Demographic and Health Surveys.” <http://dhsprogram.com/data/data-collection.cfm> (accessed January 2015).
- US Agency for International Development. n.d. “Women’s Status and Empowerment. The DHS Program: Demographic and Health Surveys.” <http://dhsprogram.com/Topics/Womens-Status-And-Empowerment.cfm> (accessed January 2015).
- Van de Walle, Dominique. 2013. “Lasting Welfare Effects of Widowhood in Mali.” *World Development* 51: 1-19
- Vaz, Ana, Pierre Prateley and Sabina Alkire 2014 “Measuring women’s autonomy in Chad and its association with breast feeding practices using the relative autonomy index”. *Mimeo*.
- Seema Vyas and Charlotte Watts, 2009 “How does economic empowerment affect women’s risk of intimate partner violence in low and middle income countries? A systematic review of published evidence” *Journal of International Development* 21: 577–602
- World Health Organisation. 2012. *Understanding and addressing violence against women. Intimate Partner Violence*. WHO/RHR/12.36

World Health Organisation. 2013. *Global and Regional Estimates of Violence against Women: Prevalence and Health Effects of Intimate Partner Violence and Non Partner Sexual Violence*. Geneva: World Health Organization.

Table 1 DHS variables and sample sizes

Domain	Proxy and sample
<i>Social norms and attitudes</i>	<p>Attitude to intimate partner violence If a husband is justified in hitting his wife for at least one of the following: goes out without telling him; neglects the children; argues with him; refuses to have sex; burns the food.</p> <p><i>All women n = 855,110 (55 countries)</i></p>
<i>Household decision making</i>	<p>Control over resources The respondent has final say on large household purchases either alone, with husband or another person.</p> <p><i>All women married or living with a partner n = 616,899 (54 countries)</i></p>
<i>Gender-based violence</i>	<p>Freedom from violence Has ever experienced physical or sexual violence</p> <p><i>All women n = 271,548 (31 countries)</i></p>
<i>Sexual health and reproductive rights</i>	<p>Negotiate sex Can refuse sex.</p> <p><i>All women currently in a union n = 277,380 (37 countries)</i></p> <p>Negotiate condom use Can ask partner to use condom.</p> <p><i>All women currently in a union n = 268,677 (37 countries)</i></p> <p>Married as an adult Married age 18 years or above.</p> <p><i>All women married or living with a partner n = 895,712 (58 countries)</i></p>
<i>Freedom of movement</i>	<p>Control over movement Movement restricted by husband in at least one of the following ways: not permitted to meet female friends; contact with your family restricted; insists on knowing whereabouts at all times.</p> <p><i>All women 15-49 in married or living with a partner = 274,112 (29 countries)</i></p>

Source: http://dhsprogram.com/What-We-Do/Survey-Types/DHS-Questionnaires.cfm#CP_JUMP_16179.

Note: Husband refers to husband/partner. See Table A2 for details.

Table 2 Correlation coefficients for agency proxies

Variables	Number of countries	Married as a child	Condomes IPV	Resources	Movement	Ask use of condom	Refuse sex	Intimate partner violence
Number of countries		58	55	54	29	37	37	31
<i>Married as a child</i>	57	1						
<i>Condomes IPV</i>	55	0.103***	1					
<i>Resources</i>	54	0.177***	0.247	1				
<i>Movement restricted</i>	29	-0.014*	0.137	-0.076***	1			
<i>Ask use of condom</i>	37	-0.166***	-0.209***	-0.358***	-0.202***	1		
<i>Refuse sex</i>	37	-0.293***	-0.186***	-0.315***	-0.151***	0.7204***	1	
<i>Intimate partner violence</i>	31	0.078***	0.195***	-0.077***	0.374***	0.059***	0.067***	1

Notes: Tetrachoric correlation coefficients are shown. *p < 0.1 **p < 0.05 ***p < 0.001. The null hypothesis is that the two variables are independent.

Source: For all tables and graphs, author analysis based on DHS 2001-2012 unless otherwise indicated.

Table 3 Indicators of agency deprivation in developing countries

	Low income	Lower middle income	Upper middle income	All
<i>Married as child</i>	51% (23)	39% (25)	26% (10)	41% (58)
<i>Condomes IPV</i>	47% (22)	42% (23)	23% (10)	42% (55)
<i>Ever suffered IPV</i>	40% (13)	33% (12)	32% (6)	34% (31)
<i>Lack of control over resources</i>	45% (22)	42% (23)	34% (9)	42% (54)
<i>Movement restricted</i>	46% (11)	28% (13)	52% (5)	31% (29)
<i>Cannot ask use of condom</i>	45% (19)	45% (14)	17% (4)	44% (37)

Notes: Population weighted averages; number of countries shown in brackets.

Table 4 Frequency of agency deprivations experienced by education, location and household asset index, all countries (percent)

	Distribution	Married as a child	Experienced IPV	Condomes IPV	Lack control of resources	Movement restricted	Cannot ask use of condom
<i>Overall</i>	-	41%	34%	42%	42%	31%	56%
<i>Education</i>							
No education	31%	66%	42%	54%	51%	30%	66%
Primary	23%	47%	25%	47%	41%	37%	39%
Secondary	36%	25%	27%	37%	39%	30%	27%
Higher	10%	6%	13%	14%	25%	28%	10%
<i>Area of residence</i>							
Urban	39%	29%	29%	31%	34%	31%	32%
Rural	61%	49%	37%	49%	47%	32%	50%
<i>Asset Index</i>							
Poorest	17%	56%	42%	50%	47%	34%	58%
Poor	19%	51%	40%	48%	46%	34%	52%
Middle	20%	44%	37%	47%	43%	32%	48%
Rich	21%	36%	32%	41%	41%	30%	39%
Richest	23%	23%	21%	27%	36%	28%	27%

Notes: Joint probabilities are calculated over rows, i.e, # (row & column)/#row. Column variables defined in Table 1. Calculated using individual survey weights provided by DHS. DHS (2012) advice is that use of sample weights is appropriate when estimating percentages, means, and medians.

Figure 1 Overlapping agency deprivations, fifty-four developing countries

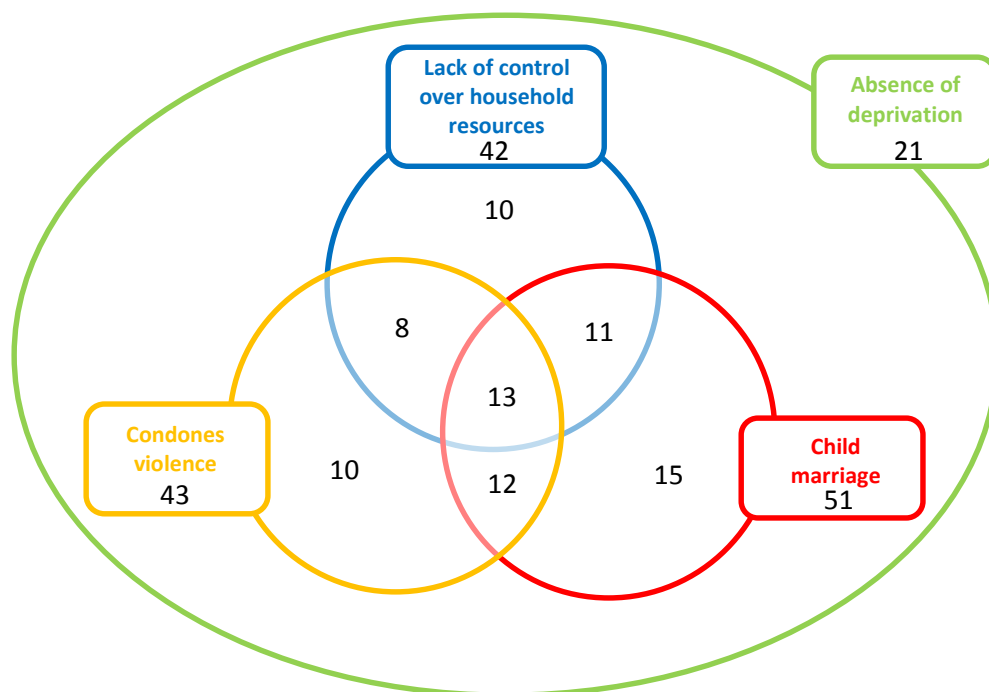


Table 5 Significant correlates of agency proxies, Logit models, odds ratios

Variables	Cannot ask for use of condom	Cannot decide on large purchases	Husband limits movement
<i><u>Woman's own characteristics</u></i>			
Current age	1.013	0.958	0.985
Married	1.406	-	-
Polygamous marriage	1.100	1.283	1.077
Married before age 18	1.077	-	1.089
Primary education	0.652	0.898	1.118
Secondary education	0.438	0.776	1.043
Higher education	0.288	0.633	0.815
Work paid in kind	1.068	0.893	1.105
Work paid in kind and cash	0.891	0.588	1.256
Work paid in cash	0.845	0.613	1.182
Number of children		0.972	1.017
<i><u>Husband's education</u></i>			
Primary	0.773	0.704	1.094
Secondary	0.638	0.648	1.109
Higher education	0.557	0.567	0.992
<i><u>Household characteristics</u></i>			
Female-headed household	0.879	0.621	1.224
Parent or parent in law present	-	0.957	0.958
Wealth index	0.884	0.991	0.982
Rural	1.110	1.164	0.928
Family structure: nuclear	-	0.660	0.938
<i><u>Other determinants</u></i>			
Decision over large purchases	0.754	-	-
Contraception decision: husband	0.767	-	-
Contraception decision: joint	0.660	-	-
<i><u>Country characteristics</u></i>			
Fragile state	1.501	0.206	0.471
Observations	251,239	553,500	255,510
Number of countries	37	53	29
McFadden R squared	0.255	0.179	0.0756

Notes: Unweighted logit with fixed effects, selected coefficients. All coefficients significant at $p < 0.01$. Full models in annex. Base categories: marital status; living together; no education; work not paid; contraception decision is the respondent's; family structure: male or joint-headed household; extended or other non-nuclear family structure. Fragile states per World Bank categorization 2015: Burundi, Chad, DR Congo, Côte d'Ivoire, Haiti, Liberia, Madagascar, Mali, Sierra Leone, Timor-Leste, and Zimbabwe.

Table 6 Significant correlates of intimate partner violence, odds ratios

Variables	Experienced IPV
<u>Woman's own characteristics</u>	
Current age	0.989
Widowed	1.806
Married	0.898
Divorced or not living together	3.012
Woman is in a polygamous partnership	1.223
Married before age 18	1.210
Work paid in kind	1.493
Work paid in kind and cash	1.451
Work paid in cash	1.284
Primary education	
Secondary education	0.870
Higher education	0.647
Total children ever born	1.083
<u>Husband's characteristics</u>	
Primary education	1.176
Secondary education	1.103
Higher education	0.860
Husband sometimes arrives at home drunk	1.799
Husband often arrives at home drunk	4.771
<u>Household characteristics</u>	
Family structure: nuclear	1.093
Rural	0.776
Wealth index	0.925
<u>Other characteristics</u>	
Decision over large purchases	0.929
Did her father ever beat her mother	2.462
Wife beating is justified for at least one reason	1.457
<u>Country characteristics</u>	
Length of time that a law has been in place	0.863
Fragile state	1.347
Observations	144,018
Number of countries	22
McFadden R squared	0.134

Notes: Unweighted logit with fixed effects, all coefficients significant at $p < 0.01$. Full model in annex. Base categories as above, plus husband's drunkenness: never arrives home drunk.

SUPPLEMENTAL ONLINE APPENDICES

Table A1 Selected agency indicators in different domains from *Pathways*

	Economic agency	Mobility in public domains	Participation in public life	Attitudes and self-worth
<i>Individual</i>				<p>Son preference/daughter</p> <p>Preference/no preference</p> <p>Working women are more content than nonworking</p> <p>Considerable control over own life</p> <p>Feels under constant pressure</p> <p>Hopeful about the future</p>
<i>Family</i>	<p>Decided on use of own income</p> <p>Bought new asset from own income</p> <p>Decision to take up paid work</p> <p>Decides own health expenditure</p>		Decided herself who to vote for	<p>Family values her work</p> <p>Her income has improved her treatment in the family</p>

<i>Community</i>		<i>Able to go unaccompanied to:</i> Health clinic Market Natal relatives House	Voted in last local/ national election Can attend public meetings Participated in demonstration/ protest	
------------------	--	--	--	--

Source: Kabeer, N. (2013). Paid Work, Women's Empowerment, and Inclusive Growth: Transforming the Structures of Constraint. New York: UN Women.

Table A2 DHS questions related to empowerment in different domains.

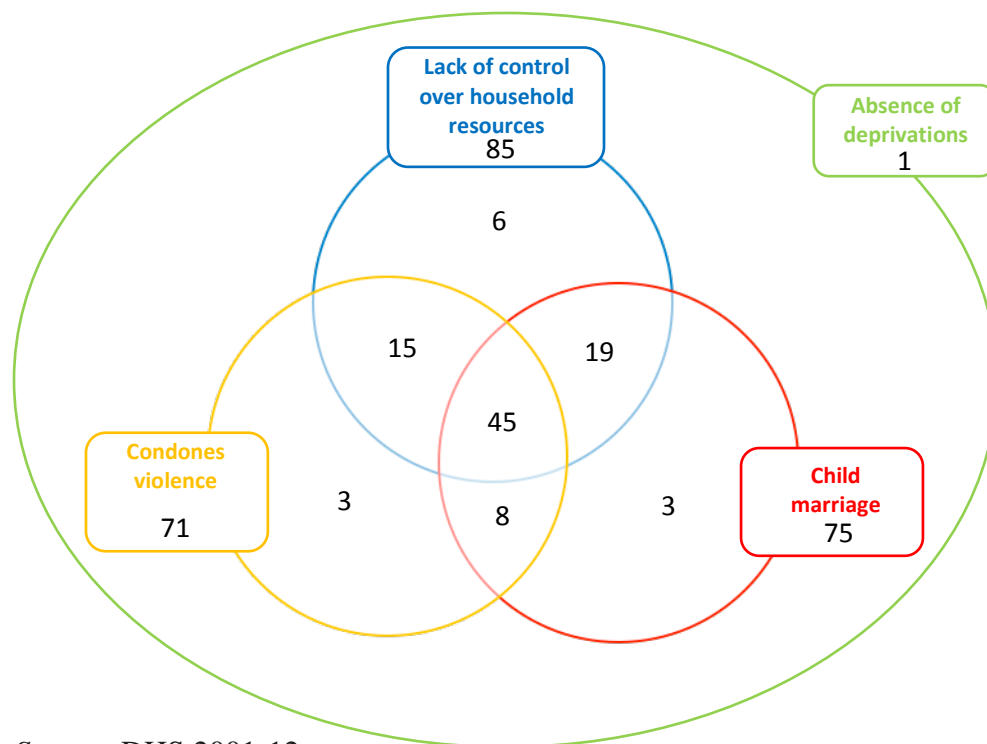
Domain	Questions
Social norms and attitudes	In your opinion, is a husband justified in hitting his wife in the following situations if she: goes out without telling him; neglects the children; argues with him; refuses to have sex; burns the food.
Household decision making	Who usually decides how your husband's earnings will be used: you, your husband or you and your husband jointly? Who mainly decides how the money earned by the respondent is used: Food to be cooked Making household purchases for daily needs Making large purchases for the household
Gender-based violence	Did your (last) (husband/partner) ever do any of the following things to you? Push you, shake you, or throw something at you? Slap you? Twist your arm or pull your hair? Punch you with his fist or with something that could hurt you? Kick you, drag you, or beat you up? Try to choke you or burn you on purpose? Threaten or attack you with a knife, gun, or other weapon? Physically force you to have sexual intercourse with him when you did not want to? Physically force you to perform any other sexual acts you did not want to? Force with threats or in any other way to perform sexual acts you did not want to?
Sexual health and reproductive rights	Can you say no to your husband if you do not want to have sexual intercourse? Could you ask your husband to use a condom if you wanted him to?

	Now I would like to ask about your first husband. In what month and year did you start living with him?
Freedom of movement	<p>Please tell me if these apply to your relationship with your (last) husband?</p> <p>He (does/did) not permit you to meet your female friends?</p> <p>He (tries/tried) to limit your contact with your family?</p> <p>He (insists/insisted) on knowing where you (are/were) at all times?</p>

Source: http://dhsprogram.com/What-We-Do/Survey-Types/DHS-Questionnaires.cfm#CP_JUMP_16179

Note: Husband refers to husband or partner.

Figure A1 Overlapping Agency Deprivations, Niger, 2006



Source: DHS 2001-12.

Table A3.1 Sexual and Reproductive Health and Rights Empowerment Proxy, odds ratio

Variables	Cannot ask use of condom				
	(1)	(2)	(3)	(4)	(5)
<i>Woman's own characteristics</i>					
Age	1.010*** (0.001)	1.009*** (0.001)	1.011*** (0.001)	1.013*** (0.001)	1.013*** (0.001)
Married	1.457*** (0.029)	1.417*** (0.028)	1.392*** (0.028)	1.404*** (0.028)	1.404*** (0.028)
Woman is in a polygamous partnership	1.181*** (0.018)	1.147*** (0.017)	1.146*** (0.018)	1.102*** (0.017)	1.102*** (0.017)
Married before age 18	1.128*** (0.013)	1.097*** (0.013)	1.078*** (0.012)	1.076*** (0.012)	1.076*** (0.012)
Primary education	0.504*** (0.008)	0.596*** (0.009)	0.634*** (0.010)	0.652*** (0.010)	0.652*** (0.010)
Secondary education	0.253*** (0.005)	0.351*** (0.007)	0.417*** (0.009)	0.437*** (0.009)	0.437*** (0.009)
Higher education	0.131*** (0.005)	0.213*** (0.009)	0.268*** (0.011)	0.287*** (0.012)	0.287*** (0.012)
Work paid in kind	1.149*** (0.040)	1.118*** (0.039)	1.046 (0.037)	1.068* (0.038)	1.068* (0.038)
Work paid in kind and cash	0.914*** (0.022)	0.893*** (0.021)	0.856*** (0.021)	0.890*** (0.022)	0.890*** (0.022)
Work paid in cash	0.751*** (0.011)	0.770*** (0.012)	0.815*** (0.013)	0.844*** (0.013)	0.844*** (0.013)
<i>Husband's characteristics</i>					
Primary education		0.709*** (0.012)	0.755*** (0.013)	0.773*** (0.013)	0.773*** (0.013)
Secondary education		0.534*** (0.010)	0.619*** (0.012)	0.639*** (0.013)	0.639*** (0.013)
Higher education		0.432*** (0.013)	0.535*** (0.017)	0.557*** (0.017)	0.557*** (0.017)
<i>Household characteristics</i>					
Female-headed household			0.884*** (0.014)	0.880*** (0.014)	0.880*** (0.014)
Parent or parent in law present in the HH.			1.058*** (0.023)	1.049** (0.023)	1.049** (0.023)
Wealth index			0.874*** (0.006)	0.884*** (0.006)	0.884*** (0.006)
Rural			1.117*** (0.024)	1.111*** (0.024)	1.111*** (0.024)
<i>Other determinants</i>					
Cannot decide over large purchases				1.326*** (0.019)	1.326*** (0.019)
Contraception decision: Husband				0.767*** (0.024)	0.767*** (0.024)

Contraception decision: Joint				0.660*** (0.010)	0.660*** (0.010)
<i>Country characteristics</i>					
She lives in a fragile state					1.510*** (0.095)
Constant	0.656*** (0.032)	0.927 (0.048)	0.978 (0.058)	0.946 (0.056)	0.627*** (0.042)
Observations					
	258,053	250,381	250,381	250,120	250,120
Number of countries					
	37	37	37	37	37
McFadden R squared	0.246	0.254	0.258	0.263	0.263

Base categories: Marital status: living together. Education: no education. Work: work not paid.

Contraception decision: contraception decision is the respondent's. Clustered standard errors in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1.

Table A3.2 Sexual and reproductive health and rights empowerment proxy, odds ratio

Variables	Cannot refuse sex				
	(1)	(2)	(3)	(4)	(5)
<i><u>Woman's own characteristics</u></i>					
Age	0.997*** (0.001)	0.997*** (0.001)	0.997*** (0.001)	0.999 (0.001)	0.999 (0.001)
Married	1.269*** (0.025)	1.240*** (0.025)	1.224*** (0.025)	1.228*** (0.025)	1.228*** (0.025)
Woman is in a polygamous partnership	1.158*** (0.017)	1.138*** (0.017)	1.144*** (0.017)	1.107*** (0.016)	1.107*** (0.016)
Married before age 18	1.093*** (0.013)	1.071*** (0.013)	1.062*** (0.012)	1.058*** (0.012)	1.058*** (0.012)
Primary education	0.605*** (0.009)	0.687*** (0.011)	0.707*** (0.011)	0.723*** (0.011)	0.723*** (0.011)
Secondary education	0.391*** (0.008)	0.492*** (0.010)	0.531*** (0.011)	0.556*** (0.012)	0.556*** (0.012)
Higher education	0.238*** (0.010)	0.314*** (0.014)	0.348*** (0.015)	0.373*** (0.016)	0.373*** (0.016)
Work paid in kind	0.891*** (0.035)	0.879*** (0.034)	0.855*** (0.033)	0.867*** (0.034)	0.867*** (0.034)
Work paid in kind and cash	0.783*** (0.020)	0.779*** (0.020)	0.765*** (0.020)	0.797*** (0.020)	0.797*** (0.020)
Work paid in cash	0.811*** (0.012)	0.824*** (0.013)	0.844*** (0.013)	0.872*** (0.014)	0.872*** (0.014)
<i><u>Husband's characteristics</u></i>					
Primary education		0.753*** (0.012)	0.773*** (0.013)	0.785*** (0.013)	0.785*** (0.013)
Secondary education		0.624*** (0.012)	0.666*** (0.013)	0.681*** (0.014)	0.681*** (0.014)
Higher education		0.620*** (0.019)	0.682*** (0.021)	0.703*** (0.022)	0.703*** (0.022)
<i><u>Household characteristics</u></i>					
Female-headed household			0.894*** (0.014)	0.906*** (0.014)	0.906*** (0.014)
Parent or parent in law present in the HH			0.991 (0.022)	0.983 (0.022)	0.983 (0.022)
Wealth index			0.947*** (0.006)	0.954*** (0.006)	0.954*** (0.006)
Rural			1.055** (0.024)	1.050** (0.024)	1.050** (0.024)
<i><u>Other determinants</u></i>					
Cannot decide over large purchases				1.421*** (0.021)	1.421*** (0.021)
Contraception decision: husband				0.978 (0.031)	0.978 (0.031)
Contraception decision: joint				0.814***	0.814***

				(0.013)	(0.013)
<i>Country characteristics</i>					
Fragile state					1.154** (0.074)
Constant	0.592*** (0.031)	0.776*** (0.043)	0.810*** (0.050)	0.721*** (0.044)	0.625*** (0.042)
Observations	266,453	258,529	258,529	258,257	258,257
Number of countries	37	37	37	37	37
McFadden R squared	0.183	0.188	0.189	0.193	0.193

Table A4 Household-decision making empowerment proxy, odds ratios

Variables	Cannot decide about large purchases			
	(1)	(2)	(3)	(4)
<i>Woman's own characteristics</i>				
Current age	0.960*** (0.000)	0.960*** (0.000)	0.958*** (0.001)	0.958*** (0.000513)
Woman is in a polygamous partnership		1.395*** (0.019)	1.288*** (0.018)	1.283*** (0.0184)
Years of education	0.939*** (0.001)	0.965*** (0.001)	0.967*** (0.001)	
Primary education				0.898*** (0.00996)
Secondary education				0.776*** (0.00985)
Higher education				0.633*** (0.0121)
Respondent currently working	0.651*** (0.006)	0.651*** (0.006)	0.654*** (0.006)	
Work paid in kind				0.893*** (0.0232)
Work paid in kind and cash				0.588*** (0.0105)
Work paid in cash				0.613*** (0.00576)
Number of children	0.970*** (0.002)	0.972*** (0.003)	0.969*** (0.003)	0.972*** (0.00260)
<i>Husband's characteristics</i>				
Partner's education level		0.796*** (0.004)	0.834*** (0.004)	
Primary education				0.704*** (0.00780)
Secondary education				0.648***

Higher education				(0.00776) 0.567*** (0.00971)
<u>Household characteristics</u>				
Female-headed household			0.620*** (0.007)	0.621*** (0.00671)
Parent or parent in law present in the HH			0.962*** (0.012)	0.957*** (0.0116)
Wealth index			0.991** (0.004)	0.991** (0.00407)
Rural			1.188*** (0.015)	1.164*** (0.0152)
Family Structure: nuclear			0.652*** (0.005)	0.660*** (0.00541)
<u>Country characteristics</u>				
Fragile state				0.206*** (0.0142)
Constant	0.996 (0.054)	1.099* (0.061)	1.381*** (0.080)	7.064*** (0.359)
Observations				
	592,710	576,786	564,126	553,500
Number of countries				
	54	54	54	53
McFadden R squared	0.160	0.167	0.175	0.179

Base categories: Marital status: living together. Education: no education. Work: work not paid. Contraception decision: contraception decision is on the respondent. Clustered standard errors in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1.

Table A5 Freedom of movement empowerment proxy, odds ratios

Variables	Husband/partner restricts movement			
	(1)	(2)	(3)	(4)
<u>Woman's own characteristics</u>				
Current age	0.986*** (0.001)	0.987*** (0.001)	0.985*** (0.001)	0.985*** (0.001)
Woman is in a polygamous partnership	1.091*** (0.020)	1.097*** (0.020)	1.077*** (0.020)	1.077*** (0.020)
Married before age 18	1.105*** (0.011)	1.097*** (0.011)	1.089*** (0.011)	1.089*** (0.011)
Primary education	1.156*** (0.019)	1.120*** (0.018)	1.118*** (0.018)	1.118*** (0.018)
Secondary education	1.080*** (0.019)	1.050*** (0.019)	1.043** (0.019)	1.043** (0.019)
Higher education	0.819*** (0.020)	0.818*** (0.021)	0.815*** (0.021)	0.815*** (0.021)
Work paid in kind	1.112*** (0.042)	1.107*** (0.041)	1.105*** (0.042)	1.105*** (0.042)
Work paid in kind and cash	1.278*** (0.028)	1.269*** (0.029)	1.256*** (0.028)	1.256*** (0.028)
Work paid in cash	1.218*** (0.014)	1.205*** (0.014)	1.182*** (0.014)	1.182*** (0.014)
Number of children	1.015*** (0.004)	1.013*** (0.004)	1.017*** (0.004)	1.017*** (0.004)
<u>Husband's characteristics</u>				
Primary education		1.077*** (0.017)	1.094*** (0.018)	1.094*** (0.018)
Secondary education		1.105*** (0.019)	1.109*** (0.019)	1.109*** (0.019)
Higher education		0.981 (0.022)	0.992 (0.023)	0.992 (0.023)
<u>Household characteristics</u>				
Wealth index			0.982*** (0.006)	0.982*** (0.006)
Rural			0.928*** (0.017)	0.928*** (0.017)
Parent or parent in law present in the HH			0.958** (0.017)	0.958** (0.017)
Female-headed household			1.224*** (0.015)	1.224*** (0.015)
Family Structure: nuclear			0.938*** (0.010)	0.938*** (0.010)
<u>Country characteristics</u>				
Fragile state				0.471*** (0.031)
Constant	1.000 (0.046)	0.940 (0.045)	1.036 (0.055)	2.200*** (0.145)
Observations	264,151	255,510	255,510	255,510

Number of countries	29	29	29	29
McFadden R squared	0.0723	0.0741	0.0756	0.0756

Base categories: Marital status: living together. Education: no education. Work: work not paid.
Contraception decision: contraception decision is on the respondent. Clustered standard errors in parentheses *** p < 0.01, ** p < 0.05, * p < 0.1.

Table A6 Freedom from violence agency proxy, odds ratios

Variables	Intimate partner violence			
	(1)	(2)	(3)	(5)
<u>Woman's own characteristics</u>				
Current age	0.991*** (0.001)	0.987*** (0.001)	0.991*** (0.001)	0.989*** (0.00114)
Widowed	1.209** (0.095)	1.453*** (0.183)	1.838*** (0.245)	1.806*** (0.274)
Married	0.800*** (0.014)	0.863*** (0.018)	0.883*** (0.020)	0.898*** (0.0226)
Divorced or not living together	2.967*** (0.087)	2.699*** (0.123)	3.055*** (0.152)	3.012*** (0.174)
Woman is in a polygamous partnership	1.171*** (0.024)	1.171*** (0.031)	1.187*** (0.034)	1.223*** (0.0369)
Married before age 18	1.220*** (0.014)	1.219*** (0.016)	1.220*** (0.017)	1.210*** (0.0184)
Work paid in kind				1.493*** (0.0684)
Work paid in kind and cash				1.451*** (0.0423)
Work paid in cash				1.284*** (0.0207)
Primary education	1.010 (0.017)	1.042** (0.020)	1.051** (0.022)	0.995 (0.0218)
Secondary education	0.791*** (0.015)	0.884*** (0.020)	0.921*** (0.022)	0.870*** (0.0216)
Higher education	0.494*** (0.013)	0.584*** (0.019)	0.652*** (0.023)	0.647*** (0.0251)
Total children ever born	1.086*** (0.003)	1.081*** (0.004)	1.078*** (0.004)	1.083*** (0.00471)
<u>Husband's characteristics</u>				
Husband's education (years)		0.988*** (0.002)	0.992*** (0.002)	
Primary education				1.176*** (0.0271)
Secondary education				1.103*** (0.0272)
Higher education				0.860*** (0.0315)
Husband sometimes arrives at home drunk		1.935*** (0.028)	1.826*** (0.028)	1.799*** (0.0302)
Husband often arrives at home drunk		5.233*** (0.118)	4.904*** (0.117)	4.771*** (0.123)
<u>Household characteristics</u>				
Female-headed household			0.989 (0.020)	0.990 (0.0223)

Family Structure: Nuclear			1.092*** (0.015)	1.093*** (0.0162)
Rural			0.788*** (0.017)	0.776*** (0.0179)
Wealth index			0.929*** (0.007)	0.925*** (0.00740)
<i>Other characteristics</i>				
Decision over large purchases	0.973** (0.012)	0.940*** (0.013)	0.940*** (0.014)	0.929*** (0.0149)
Did her father ever beat her mother			2.455*** (0.037)	2.462*** (0.0399)
Wife beating is justified for at least one reason			1.478*** (0.024)	1.457*** (0.0252)
<i>Country characteristics</i>				
Length of time that a law has been in place - base 2013 = 0				0.863*** (0.0103)
Fragile state				1.347*** (0.0976)
Constant	0.684*** (0.035)	0.504*** (0.031)	0.334*** (0.025)	0.260*** (0.0195)
Observations	239,674	178,040	164,093	144,018
Number of countries	31	29	28	22
McFadden R squared	0.0655	0.102	0.131	0.134

Base categories: Marital status: living together. Education: no education. Work: work not paid. Contraception decision: contraception decision is the respondent's. Husband's drunkenness: he never arrives home drunk. Clustered standard errors in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1

Table A7 Logit regression models including ownership of land, odds ratios

Variables	Cannot ask for use of condom		Husband limits her movement		Experienced IPV		Cannot decide over large purchases	
<i>Woman's own characteristics</i>								
Current age			0.980*** (0.00147)	0.982*** (0.00148)	0.980*** (0.00281)	0.980*** (0.00281)	0.972*** (0.00103)	0.971*** (0.00102)
Married	1.477*** (0.0390)	1.489*** (0.0391)			0.820*** (0.0352)	0.821*** (0.0353)		
Woman is in a polygamous partnership	1.288*** (0.0306)	1.287*** (0.0305)	1.107*** (0.0330)	1.112*** (0.0332)	1.228*** (0.0615)	1.234*** (0.0617)	1.590*** (0.0350)	1.601*** (0.0351)
Married before age 18	1.083*** (0.0186)	1.083*** (0.0186)	1.037* (0.0210)	1.040* (0.0211)	1.213*** (0.0396)	1.214*** (0.0396)		
Difference between ideal number minus ever born	1.016*** (0.00316)	1.016*** (0.00315)						
Number of children			1.016** (0.00730)	1.017** (0.00729)	1.092*** (0.0108)	1.092*** (0.0108)	1.008* (0.00492)	1.006 (0.00489)
Primary education	0.596*** (0.0132)	0.595*** (0.0132)	1.255*** (0.0371)	1.258*** (0.0371)	1.047 (0.0477)	1.049 (0.0477)	0.849*** (0.0173)	0.850*** (0.0174)
Secondary education	0.380*** (0.0119)	0.379*** (0.0118)	1.190*** (0.0438)	1.199*** (0.0441)	0.947 (0.0540)	0.951 (0.0541)	0.663*** (0.0171)	0.664*** (0.0171)
Higher education	0.198*** (0.0149)	0.198*** (0.0149)	0.912 (0.0626)	0.932 (0.0639)	0.720*** (0.0912)	0.724** (0.0919)	0.566*** (0.0252)	0.567*** (0.0252)
Work paid in kind	1.197*** (0.0633)	1.201*** (0.0633)	0.972 (0.0673)	0.973 (0.0677)	1.413*** (0.121)	1.411*** (0.121)	0.937 (0.0428)	0.925* (0.0422)
Work paid in kind and cash	0.842*** (0.0294)	0.845*** (0.0295)	1.145*** (0.0468)	1.166*** (0.0474)	1.301*** (0.0705)	1.307*** (0.0707)	0.637*** (0.0185)	0.629*** (0.0182)
Work paid in cash	0.902*** (0.0201)	0.901*** (0.0201)	1.148*** (0.0269)	1.155*** (0.0272)	1.289*** (0.0459)	1.291*** (0.0460)	0.627*** (0.0109)	0.627*** (0.0110)
Owns land	1.082*** (0.0268)			0.912*** (0.0241)		0.995 (0.0386)	0.805*** (0.0149)	
Owns land alone		1.064*	1.167***		1.082			0.804***

		(0.0348)	(0.0394)		(0.0560)		(0.0224)	
<i>Husband's characteristics</i>								
Primary education	0.695*** (0.0169)	0.696*** (0.0169)	1.173*** (0.0367)	1.170*** (0.0366)	1.211*** (0.0585)	1.210*** (0.0584)	0.910*** (0.0195)	0.905*** (0.0194)
Secondary education	0.550*** (0.0165)	0.550*** (0.0164)	1.178*** (0.0430)	1.177*** (0.0429)	1.151** (0.0653)	1.151** (0.0653)	0.864*** (0.0216)	0.862*** (0.0216)
Higher education	0.513*** (0.0259)	0.513*** (0.0259)	1.076 (0.0602)	1.080 (0.0604)	0.860 (0.0857)	0.862 (0.0859)	0.811*** (0.0303)	0.804*** (0.0300)
Husband sometimes arrives at home drunk					1.971*** (0.0736)	1.971*** (0.0735)		
Husband often arrives at home drunk					4.529*** (0.245)	4.529*** (0.244)		
<i>Household characteristics</i>								
Female-headed household	0.847*** (0.0196)	0.843*** (0.0195)	1.118*** (0.0269)	1.131*** (0.0270)	0.898** (0.0392)	0.901** (0.0392)	0.651*** (0.0144)	0.661*** (0.0147)
Parent or parent in law present in the HH	1.012 (0.0306)	1.012 (0.0306)	1.002 (0.0390)	1.007 (0.0392)			1.013 (0.0247)	1.010 (0.0247)
Wealth index	0.884*** (0.00851)	0.883*** (0.00849)	0.954*** (0.0104)	0.950*** (0.0104)	0.996 (0.0163)	0.996 (0.0164)	0.955*** (0.00708)	0.956*** (0.00709)
Rural	1.139*** (0.0379)	1.150*** (0.0380)	0.831*** (0.0275)	0.846*** (0.0281)	0.766*** (0.0349)	0.768*** (0.0352)	1.140*** (0.0274)	1.106*** (0.0264)
Family Structure: nuclear	0.863*** (0.0133)		0.913*** (0.0190)	0.917*** (0.0191)	1.071** (0.0363)	1.070** (0.0362)		0.857*** (0.0132)
<i>Other characteristics</i>								
Cannot decide over large purchases	1.251*** (0.0254)				1.086** (0.0373)	1.082** (0.0371)		
Contraception decision: husband	0.797*** (0.0373)	1.248*** (0.0253)						

Contraception decision: joint	0.694*** (0.0151)	0.798*** (0.0374)						
Did her father ever beat her mother		0.695*** (0.0151)			2.101*** (0.0720)	2.102*** (0.0721)		
Wife bearing is justified for at least one reason					1.503*** (0.0542)	1.506*** (0.0543)		
<i>Country characteristics</i>								
Fragile state	2.101*** (0.152)	2.098*** (0.152)	0.567*** (0.0412)	0.566*** (0.0411)	0.993 (0.0846)	0.993 (0.0845)	0.274*** (0.0208)	0.274*** (0.0208)
Length of time that a law has been in place - base 2013					0.922*** (0.00670)	0.922*** (0.00678)		

Base categories: Marital status: living together. Education: no education. Work: Work not paid. *Contraception decision*: contraception decision is the respondent's. Husband's drunkenness: he never arrives home drunk. Clustered standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.8 Country fixed effects for Tables A1-A4, odds ratio

Country	Cannot ask for use of condom (Model 4)	Cannot decide over large purchases (Model 4)	Husband limits her movement (Model 4)	Experienced IPV (Model 4)
Albania	2.419*** (0.174)	0.765*** (0.0484)		
Armenia	0.762*** (0.0732)	0.327*** (0.0236)		
Azerbaijan		1.655*** (0.0974)	2.089*** (0.162)	0.331*** (0.0290)
Bangladesh		0.691*** (0.0359)		
Benin	2.072*** (0.140)	1.609*** (0.0893)		
Bolivia		0.361*** (0.0202)	0.0933*** (0.00585)	
Burkina Faso	1.711*** (0.116)	3.593*** (0.230)	0.298*** (0.0208)	0.175*** (0.0155)
Burundi	0.427*** (0.0260)	3.084*** (0.219)		
Cambodia	0.216*** (0.0167)	0.0826*** (0.00717)		
Cameroon	1.452*** (0.103)	1.447*** (0.0790)	0.702*** (0.0494)	0.813** (0.0711)
Colombia		1.192*** (0.0548)	0.522*** (0.0299)	6.325*** (1.032)
Congo, Dem. Rep.	3.659*** (0.230)	9.235*** (0.648)		
Congo, Rep.	2.150*** (0.150)	1.152** (0.0664)		
Cote d'Ivoire	1.316*** (0.0884)	9.344*** (0.708)	0.703*** (0.0478)	0.302*** (0.0322)
Dominican Republic	0.512*** (0.0320)	0.562*** (0.0283)	0.685*** (0.0417)	
Egypt, Arab Rep.		1.218*** (0.0640)		
Ethiopia	2.320*** (0.151)	0.533*** (0.0312)		
Gabon	0.818** (0.0648)	0.596*** (0.0410)	1.014 (0.0732)	
Ghana	0.799*** (0.0692)	1.149* (0.0844)	0.634*** (0.0562)	0.844* (0.0770)

Guinea		1.204*** (0.0727)		
Guyana	0.466*** (0.0475)	0.202*** (0.0213)		
Haiti	0.262*** (0.0177)	2.118*** (0.143)	1.807*** (0.0984)	0.292*** (0.0296)
Honduras	0.419*** (0.0269)	0.572*** (0.0294)	0.708*** (0.0416)	2.781*** (0.432)
India		0.878*** (0.0406)	0.216*** (0.0127)	
Indonesia		0.329*** (0.0166)		
Kenya		0.759*** (0.0478)	0.433*** (0.0300)	0.625*** (0.0528)
Lesotho	0.407*** (0.0303)	0.322*** (0.0201)		2.485*** (0.173)
Liberia	1.352*** (0.102)	1.653*** (0.147)	1.516*** (0.107)	
Madagascar	0.367*** (0.0280)	1.122* (0.0774)		
Malawi	0.501*** (0.0297)	3.196*** (0.163)	0.659*** (0.0426)	1.170** (0.0883)
Maldives		1.057 (0.120)		
Mali	2.279*** (0.154)	17.34*** (1.218)	1.077 (0.0656)	0.250*** (0.0263)
Moldova		0.0878*** (0.00845)	0.713*** (0.0507)	
Morocco		1.289*** (0.0693)		
Mozambique	2.689*** (0.174)	0.647*** (0.0381)	0.419*** (0.0277)	0.816*** (0.0637)
Namibia	0.438*** (0.0415)	0.514*** (0.0380)		
Nepal	0.685*** (0.0483)	0.922 (0.0508)	0.195*** (0.0167)	1.317*** (0.101)
Niger	6.625*** (0.574)	4.075*** (0.298)		
Nigeria	3.318*** (0.196)	2.077*** (0.117)	0.379*** (0.0236)	0.313*** (0.0248)
Peru		0.573*** (0.0301)	0.779*** (0.0466)	11.71*** (2.312)
Philippines		0.315*** (0.0185)	0.186*** (0.0119)	1.150 (0.0984)
Rwanda	0.547*** (0.0403)	0.596*** (0.0344)		

Sao Tome and principe	0.571*** (0.0681)	0.930 (0.110)	0.484*** (0.0498)	
Senegal	2.714*** (0.186)	2.622*** (0.182)		
Sierra Leone	2.652*** (0.218)	4.202*** (0.335)		
Swaziland	0.388*** (0.0374)	0.942 (0.0714)		
Tanzania	0.770*** (0.0520)	2.381*** (0.150)	0.585*** (0.0404)	0.522*** (0.0431)
Timor-Leste		0.852* (0.0749)	0.647*** (0.0477)	
Uganda	0.818*** (0.0635)	0.857** (0.0600)	0.802*** (0.0653)	1.222** (0.111)
Ukraine	0.396*** (0.0438)	0.177*** (0.0188)	0.685*** (0.0543)	

Base category: Zambia. Clustered standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.