ABSTRACT

Title of Document:	DO ECONOMICS TRUMP CULTURE? EFFECTS OF WOMEN'S WORK AND RELATIVE ECONOMIC RESOURCES ON MARRIED WOMEN'S AUTHORITY IN HOUSEHOLD DECISIONMAKING IN JORDAN
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The effects of work on women's household decisionmaking authority have been documented in many empirical studies. However, few studies have explored its effects in a social context where women's labor force participation is low. Little is known about the conditions through which women's work enhances authority within the household. Using 2007 Jordan Demographic and Health Survey I explore the effects of women's work and relative economic resources on their authority in household decisionmaking net of culturally relevant sources of power. The country has enhanced its human capital base, developed new industries and promoted women's work, but it also remains a bastion of traditional gender norms. Drawing on resource theory, gender performance theories, theories of institutionalized patriarchy and bargaining approaches, I argue that women's work and relative economic resources matter more for some dimensions of household decisionmaking than others. Engagement in the labor market confers exclusive control over matters of personal wellbeing, while enhancing women's leverage to participate in family management

decisions. However, only women in nuclear households experience the benefits of productive work on authority in household decisionmaking. Results confirm the multidimensionality of household decisionmaking power, and a possible causal effect of work participation. While individual factors matter, regardless of women's economic resources and other characteristics, living in regions with high socio-economic development and less patriarchal norms is associated with greater decisionmaking authority. The results of this research contribute to our understanding of women's empowerment by empirically demonstrating the conditions under which economic resources may trump cultural scripts, when cultural factors may matter more, and when the two interact.

DO ECONOMICS TRUMP CULTURE?
EFFECTS OF WOMEN'S WORK AND RELATIVE ECONOMIC RESOURCES
ON MARRIED WOMEN'S AUTHORITY IN HOUSEHOLD DECISIONMAKING
IN JORDAN

By

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DEDICATION

This dissertation is dedicated to my father Khodr for his resilience and selflessness, and to my mother Joumana for her grace and strength.

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CHAPTER 1. INTRODUCTION

The Middle East and North Africa (MENA), like much of the developing world, have experienced profound demographic changes since the 1950s. Among the most notable changes in the region that are likely to revolutionize gender relations both within the home and workplace are the decline in fertility, improvement in maternal and child health, increase in women's educational attainment, rise in women's age at marriage, and the narrowing of the spousal age gap – not withstanding great intra-regional and intra-national variations (Tabutin and Schoumaker 2005).

One aspect of women's status that has confounded researchers and policy makers despite these demographic changes has been the persistently low rates of women's labor force participation. In this regard, MENA stands out among developing regions in that women's labor force participation rates are the weakest (Blau et al 2006) and gender disparities are among the largest in the world (Shafik 2001). The increased cost of living and higher standards of consumption linked to globalization, economic crises and structural adjustment policies, which would otherwise favor an increase in women's labor force participation, seem to affect Arab women's work differently.

The focus of research on women's low labor force participation and structural level explanations - such as the downsizing of the public sector, poor economic growth, insufficient job creation, and the mismatch between skills and labor market demands (Miles 2002; Moghadam 1998; Spierings and Smits 2007; World Bank 2004; World Bank 2013b), partially emanates from the notion that participation in

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productive work, especially paid work, empowers women. The underlying

assumption is that participation in productive work confers both material and non-

material resources which women can leverage to enhance their bargaining position

within the household. Yet, in predominately traditional cultural contexts, engaging in

productive work may have negative consequences as well – for example, concern for

safety by families and a backlash within the household resulting from gender bending

behavior.

Significance And Relevance To The Present State Of Knowledge

Using the 2007 Jordan Demographic and Health survey, a nationally

representative survey covering 14,564 households and 10,876 ever-married women

aged 15-49 years, I explore the effects of women's work and advantages in relative

economic resources on their empowerment within the household operationalized in

terms of women's control over or participation in a number of decisions that relate to

their own wellbeing and the daily management of their households, including

financial, organizational and social ones. My focus on women's authority in

household decisionmaking is based on the conceptualization of women's

empowerment as access to and control over material and non-material resources that

facilitate the ability to decide and act free from the control of others (Dixon-Mueller

1978; Dyson and Moore 1983; Mason 1986).

This research makes three contributions. First, research on Arab women's

status has been concerned with the causes underlying their low labor force

participation with very little done to empirically test the underlying assumptions of

the effects of women's work on empowerment within the household in societies

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where women's work is rare and traditional gender norms persist. Most research on the effects of women's work on authority in household decision-making has been conducted in developing countries where more than one quarter of women of working age are engaged in productive work[1]. Jordan offers a unique opportunity to test whether women's work and other economic resources increase their authority within the household in a society where women's work is not the norm. The country has undertaken efforts to enhance its human capital base, develop new industries and promote women's work, but it also remains a bastion of traditional gender and family norms. Additionally, this study empirically tests the importance of women's participation in productive work for their authority in household decisionmaking vis-a-vis culturally relevant sources of power, such as women's position within their households, and other characteristics that confer prestige in this social context.

Second, existing literature from other developing regions has underscored the complexity of the relationship between women's work and empowerment, but it remains unclear under what conditions women's work contributes to their authority within the household. By incorporating measures of women's employment status (e.g. unpaid versus paid), relative income and relative occupational status, this study expands our understanding of the conditions under which women's work increases their authority within the household. Controlling for education alone does not account for differences in other relative economic resources that have been empirically linked

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[1] Studies on the effects of women's work on authority in household decisionmaking have been conducted in several countries in Africa, South East Asia and Latin America and include Nigeria, Ghana, India, Pakistan, Bangladesh, Indonesia, Sri Lanka, Peru, Bolivia and Nicaragua. With the exception of Pakistan, women's labor force participation in these countries ranges between 35% and 60%.

to intra-household gender dynamics in other country/regional contexts. For example, relative earnings can impact martial quality (Brennan, Barnett, and Gareis 2001), marital power (Izraeli 1994; Rodman 1967), the household division of labor (Brines 1994) and women's leisure time (Cinar and Anbarci 2001).

Third, this study distinguishes between different types of decisions in keeping with the conceptualization of empowerment as multidimensional (Kishor 2000; Malhotra 1997; Malhotra and Mather 1997; Mason 1986; Narayan 2005). For the sake of simplicity, research on women's authority in household decisionmaking has relied on summative indices, with some exceptions (Heaton, Huntsman, and Flake 2005). In this dissertation, I make two broad distinctions between decisions that are personal and related to interpersonal power and decisions that have to do with family management.

Finally, scholarship on the intersection of gender, work and family in the Middle East is limited despite the recognition that gender stratification is multidimensional and a function of mutually reinforcing relations of power both within and outside of the home (Collins, Chafetz, Blumberg, Coltrane, and Turner 1993; Presser and Sen 2000; Sen and Batliwala 2000). Rarely has research on MENA examined the relationship between differences in women and men's economic resources and power relations within the Arab household. With a few exceptions (Cinar and Anbarci 2001; Kishor 2000) research on women's empowerment have been mostly qualitative (Miles 2002) and focused on its benefits in terms of child and maternal health outcomes (Al Riyami, Afifi, and Mabry 2004; Kishor 1995). Studies

on intra-household decisionmaking and gender relations in Arab society have been mostly qualitative (El-Kholy 2002; Nadim 1985).

To what extent does productive work enhance women's authority within the Arab family, net of the effects of culturally relevant sources of power and other individual and household characteristics? Do women's advantages in economic resources, such as income and occupational status, enhance their authority in household decisionmaking? Do the effects of women's work and relative economic advantages vary by dimension of decisionmaking? Is women's authority in household decisionmaking subject to contextual effects such that living in more socioeconomically developed regions with less restrictive gender norms is associated with higher levels of authority regardless of women's own characteristics? And are positive effects of women's work even bigger in more developed regions with less patriarchal norms?

In developing hypotheses about these relationships I draw on a number of theoretical perspectives – namely, resource theory, performance theories, theories of institutionalized patriarchy and bargaining approaches. Work, even unpaid, develops women's self-esteem, communication and negotiation skills and sense of responsibility, which can be leveraged for greater authority in household decisionmaking. I argue that the effects of women's work and advantages in economic resources (income and occupation prestige) on women's authority within the household are conditioned by the broader social context. Certain dimensions of women's authority within the household may be influenced by women's work and advantages in relative economic resources while others are not. In more traditional

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societies governed by patriarchal gender and family norms, culturally relevant sources of power, such as women's position within the family (e.g. married to head of household, number of living sons, etc…) may be more dominant sources of domestic power (Mason 1997).

I explore these research questions using a variety of quantitative techniques. I use principal components factor analysis to examine the underlying structure of household decisionmaking. Factor analysis has been used elsewhere to distinguish between different dimensions of empowerment (Agarwala and Lynch 2006; Kishor 2000). I conduct ordinary least squares, logistic and ordered logistic regressions of women's authority in household decisionmaking on women's work, relative income and relative occupational status controlling for culturally relevant sources of power and other background characteristics. Culturally relevant sources of power refer to characteristics of women that in their social context confers upon them prestige and respect given their gender and place within the household or family.

I use multilevel modeling to explore whether average levels of women's household decisionmaking authority and the effects of work vary according to the structural characteristics of the regions in which women reside.

My analytical framework rests on the assumption that work affects women's empowerment. However, I cannot rule out issues of selectivity in who works and that women who are more empowered within their households are more likely to challenge social norms and participate in productive work. I address the issue of endogeniety in two ways. First, I conduct a propensity score matching procedure to estimate the effect of work on women's household decisionmaking power. Because

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household characteristics can influence both women's decision to participate in work, especially formal sector work outside of the house, and women's authority within the household, I use within-household fixed effects modeling to control for unobserved household characteristics for which propensity score matching techniques are not suited.

Since I conceptually approach women's authority in household decisionmaking from the perspective of empowerment, in **Chapter 2** I outline the historical backdrop in which the concept of women's empowerment emerged, the rationale for research on it, and key issues in its conceptualization and measurement. In **Chapter 3**, I review theoretical perspectives and empirical evidence specific to the dimension of women's empowerment which is the focus of my analysis – namely, women's authority within the household. Four strands of literature stand out: resources theory, gender performance theories, and theories of institutionalized patriarchy and bargaining approaches. Because my dissertation explores the effects of women's work and the conditions under which women's work increases their authority within the household, in **Chapter 4** I address the question of who works and whether work enhances women's authority within the household. This chapter provides a conceptual and methodological note on women's work in developing countries, a summary of how work theoretically enhances women's empowerment within the household, and a review of empirical evidence on the effects of women's productive work in developing countries. I also address the issue of endogeniety between women's work and authority within the household. In **Chapter 5** I make the case for the inclusion of occupational prestige in the analysis of the effects of

women's work on authority within the household in so far as it represents non-material resources (social prestige) conferred by work participation which can enhance women's sense of empowerment. **Chapter 6** provides a background on gender work and family norms and patterns in Jordan, highlighting some intra-regional variations as well. **Chapter 7** summarizes the issues raised in the preceding chapters, gaps in existing literature and relevance of the current study. In this chapter I present my research questions and hypotheses. **Chapter 8** provides information on the sample, dependent, independent and control measures and analytical methods. I present the results of my analyses in **Chapter 9.** The conclusion and discussion of findings are presented in **Chapter 10.**

CHAPTER 2. WOMEN'S EMPOWERMENT

Women's authority in household decisionmaking in developing countries has been approached from the framework of women's empowerment. Since I adopt this conceptual framework, in the following sections I review key issues in the conceptualization and measurement of women's empowerment.

The Rationale For Interest In Women's Empowerment

Within the international development field, interest in "women's empowerment" initially stemmed from research highlighting the linkages between women's standing in their homes and communities to demographic processes and outcomes (Mason 1986). Early scholarship in this area is rife with a multiplicity of terms such as 'status of women' (Dixon 1975), 'female autonomy'(Dyson and Moore 1983), 'patriarchy' (Cain, Khanam, and Nahar 1979) and 'men's situational advantage' (Caldwell 1981).

Irrespective of terminology, from the 1960s onward, evidence from the field and empirical research on developing countries documented the correlation, and sometimes feedback effects, between women's empowerment and age at marriage (Dyson and Moore 1983), contraceptive use and fertility (Cain 1982; Cain, Khanam, and Nahar 1979; Caldwell 1981; Dixon 1975), infant and child mortality and morbidity, and the gender gap in infant and child mortality (Dyson and Moore 1983). The growing recognition of the impact of women's status on demographic outcomes and processes inspired an paradigm shift in the 1990s from a macro-level family planning approach aimed at population reduction, to a more micro-level

individualistic approach grounded in the discourse of women's rights and empowerment (Finkle and Crane 1985; McIntosh and Finkle 1995).

Although the new paradigm largely ignored the meso sphere, or the influence of institutions, on demographic processes and outcomes (Presser 2000), the institutionalized focus on women's empowerment heralded in a new wave of scholarship that expanded our understanding of women's empowerment by explicating its meaning, dimensions, conditions and correlates, and providing a more nuanced understanding of its complex relationship to demographic processes and outcomes (Balk 1997; Bloom, Wypij, and Gupta 2001; Dharmalingam and Morgan 1996; Hobcroft 2000; Kishor 2000; Malhotra, Vanneman, and Kishor 1995; Morgan, Sharon, Smith, and Mason 2002; Sen and Batliwala 2000).

Conceptualizations Of Women's Empowerment

Women's empowerment has been conceptualized in terms of freedom and choice, condition versus process and agency versus structure. Differentiations along other axes have also been articulated, such as responsibility versus rights (Basu and Koolwal 2005), or stated differently, empowerment as a means or as an end in-and-of-itself (Narayan 2006). Here, I focus on the former two differentiations, as they constitute mainstream approaches in existing literature.

Women's empowerment: condition versus process

Women's empowerment as a condition has been defined in terms of: (a) prestige (Epstein 1982); (b) female autonomy, or freedom from control by others within the family and household to decide and act for oneself (Dyson and Moore

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1983); and (c) the distribution of power and resources that favors men and renders women dependent on them (Cain, Khanam, and Nahar 1979).

The conceptualization of empowerment as control over different types of resources was first articulated by Dixon (1978) and later developed by Mason (1986) as the extent of women's access to (and control over) material resources (i.e. food, income, land, and other forms of material wealth) and social resources (i.e. knowledge, power and prestige) within the family, the community and broader society. Empirical evidence has led to refinements in this conceptualization by distinguishing between access to resources and control over them (Kishor 1995). For example, participation in paid employment ensures women's access to income but does not necessarily imply that they will control how their income is spent. Access to and control over material and social resources are, arguably, the most pervasive operational definitions of women's empowerment (Basu and Koolwal 2005; Desai and Johnson 2005) alongside freedom to do things (autonomy), and these definitions appear in several prominent empirical studies (Agarwala and Lynch 2006; Balk 1997; Jejeebhoy and Sathar 2001).

The above conceptualization of women's empowerment suggests that women's empowerment is a condition or 'state'. Yet, it can also be construed as a process (Kishor 2000) whereby the powerless gain greater control over the circumstances of their lives including control over resources (i.e. physical, intellectual, financial) and ideology (i.e. beliefs, values, and attitudes) (Batliwala 1994; Sen and Batliwala 2000). Some decisions require the life-long accrual of negotiation skills while other decisions are affected by more immediate conditions

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(Malhotra and Schuler 2005). Most scholarship focuses on outcomes rather than processes (McDonald 2000), partially because they are easier to capture in quantitative methods.

Women's empowerment: agency versus structure

The conceptualization of women's empowerment in terms of the ability to decide and act on free accord and bring about change in one's own life frames empowerment in terms of agency (Batliwala 1994; Malhotra and Schuler 2005). However, structure may circumscribe the extent of individual agency (Agarwal 1994; Jejeebhoy and Sathar 2001). There is great difficulty in disentangling structural (i.e. community-level) dimensions of women's empowerment from individual aspects (Desai and Johnson 2005; Mason and Smith 2003). The complementarity of the perspectives of agency and structure (Kabeer 1999) has been substantiated by empirical evidence pointing to the importance of individual characteristics net of the effect of community-level variables. In some cases, most of the variation in dimensions of women's empowerment can be explained by structural factors such as cultural differences in family and gender norms (Jejeebhoy and Sathar 2001). A cross-cultural study of over 56 communities in 5 Asian countries illustrates that structural effects may outweigh the influence of household and individual level characteristics, such as education, and employment (Mason and Smith 2003). For example, women's educational attainment may facilitate formal sector paid employment, but the level of economic development and economic structure in women's area of residence influences the availability of (suitable) jobs.

(How) does context effect women's empowerment?

I use *context* and *structure* interchangeably to refer to several factors that are pervasive and institutionalized within the social, cultural, economic, legal and political fabric of society which can influence individuals' behavior, life chances and outcomes. Contextual factors are located at the level of the community, market and state. Operationalizations of context include, but are not limited to, *level of social development* (e.g. literacy, mortality and access to health care) (Malhotra, Vanneman, and Kishor 1995) ; *level of economic development* (e.g. community has a bank, level of agricultural productivity , degree to which economy is non-agricultural) (Malhotra, Vanneman, and Kishor 1995; Marion 2004); and *degree of patriarchy or traditional gender norms* (e.g. median age at first marriage, gender gap in infant mortality; women's share of the labor force; village mean for women's mobility, village mean for gender attitudes) (Balk 1997; Kishor 2000; Malhotra, Vanneman, and Kishor 1995). Figure 1 depicts how context or structural factors are conceptually expected to influence women's authority within the household.

Context shapes the causes and correlates of any given dimension of women's empowerment (Dharmalingam and Morgan 1996) . Context also conditions the magnitude of the effects of the causes or correlates of women's empowerment (Heaton, Huntsman, and Flake 2005; Malhotra and Mather 1997). For example, in traditional societies, duration of marriage, number of sons, and being married to the head of the household are more important predictors of women's economic decisionmaking authority and other dimensions of empowerment in contrast to more egalitarian societies where women's education, and to some extent productive work, are important (Jejeebhoy 2000; Kulik 2011; Mason 1997).

Similar findings in support of the salience of contextual effects on women's empowerment are available from developed countries. In a cross-country study of intra-household gender dynamics in Denmark, France, Germany, Greece, Yugoslavia, and the United States the effects of men's education, income and occupation on their authority vis-à-vis their wives is conditioned by context defined in terms of the extent of patriarchal norms (Rodman 1967; Rodman 1972). In commenting on the work of Blood and Wolfe (1960), who conducted one of the earliest studies on intra-household power dynamics in the United States, Gillispie (1971) argues that structural factors matter more for marital power than individual characteristics. While relative and absolute levels of husbands' and wives' income, education, occupational prestige and social status matter, men dominate not as individuals but as a class because of institutionalized male supremacy (Gillespie 1971). Scholarship on women's work decisions in advanced countries has increasingly incorporated structural factors, such as the ideological and political context or regime type, family policies (e.g. public childcare) and tax regime (individual or non-individual) (Lippe and Dijk 2002).

Women's empowerment as a multidimensional concept

Often, operational measures of women's empowerment are tallied into a summary index of women's empowerment. However, evidence from a number of developing countries spanning Africa, Latin America and South Asia, East Asia and the Pacific, illustrates while it is possible to be disempowered in more than one dimension, women's empowerment is also orthogonal; namely, equality or empowerment in one dimension is not necessarily correlated with other dimensions

(Malhotra 1997; Malhotra and Mather 1997; Mason 1986). This line of reasoning parallels the notion of the multidimensionality of gender and gender stratification (Collins et al. 1993; Presser and Sen 2000).

Women's (dis)empowerment derives from multiple systems or relations of power that operate on different levels such as the household, community, market and government (Sen and Batliwala 2000). Accordingly, the extent of women's empowerment can also differ by level of social organization. For example, women with low freedom of movement outside the household do not necessarily suffer from low empowerment within the household in terms of authority over household decisionmaking (Desai and Temsah 2013).

Since women's empowerment varies by context, dimension and level of social organization (Narayan 2005), the conditions or correlates of empowerment also differ by dimension (Dharmalingam and Morgan 1996; Heaton, Huntsman, and Flake 2005; Jejeebhoy and Sathar 2001; Mason 1986). For example, education may empower women in household decisionmaking but educated women in some contexts may also be less likely to be employed than uneducated women (Desai, Dubey, Joshi, Sen, Shariff, and Vanneman 2010), reducing their financial independence.

Methodological Note On The Measurement Of Women's Empowerment

My analysis of the effects of women's work and other relative economic advantages on women's authority within the household relies on household survey data and quantitative methods. In order to qualify my results, in this section I discuss several methodological issues in the measurement of women's empowerment. This

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discussion is organized around five broad topics: (a) quantitative versus qualitative methods of data collection; (b) selection of culturally relevant questions; (c) wording of questions and the issue of empowerment vis-à-vis whom; (d) selection of respondent and perceptions of authority; and (e) one dimensional measures and summative indices.

Quantitative versus qualitative methods of data collection

The method by which information is obtained influences results; observation by investigator or participatory research introduces objectivity concerns and field survey questionnaires can lead to both social desirability and interviewer effects (Narayan 2005; Rodman 1972). Some studies incorporate a combination of quantitative (survey data) and qualitative methods (e.g. focus groups) (Jejeebhoy and Sathar 2001; Malhotra and Mather 1997). Mixed methods approaches can provide greater confidence in results, such as when focus group discussions confirm differential patterns of women's authority in decisionmaking revealed by factor analysis (Jejeebhoy and Sathar 2001).

While survey data enable an analysis of women's empowerment that is not possible by qualitative methods due to sample size restrictions (Desai and Temsah), the latter are able to get at the complex processes underlying relationships in a way that quantitative analysis does not. Focus groups on women's authority in household decisionmaking among Indian and Pakistani women reveal the complexity of the process and women's shrewd understanding of power play (Jejeebhoy and Sathar 2001). An ethnographic study of the effects of migrant labor on Sri Lankan women's empowerment within the household reveals a variety of ranging from outright

aggressive confrontation, making concessions in some areas to gain in others, and more "feminine" approaches of engaging men as the ostensible head of households to achieve desired outcomes (Handapangoda 2012). A mixed methods study of the effects of education and women's labor force participation on household decisionmaking in Sri Lanka highlights how women deploy threats, resources and social networks to get their way (Malhotra and Mather 1997).

Selection of culturally relevant questions

Another issue in the measurement of women's empowerment has to do with the selection of questions that are culturally relevant to women's empowerment, to women across the life course, and the socio-economic spectrum. The 'standard' set of questions concerned with women's empowerment usually cover the following: (a) freedom of movement to visit a variety of places; (b) degree of authority in a range of household decisions, including financial, social, organizational and interpersonal ones, and (c) freedom from experiencing domestic violence. These questions are asked alongside other information considered to be indictors or sources of women's empowerment such as access to and control over resources, level of education, women's participation in paid employment, and a host of other individual and household characteristics.

While a standard set of questions facilitates cross-national and international comparison, the cultural relevance of questions is important if any meaningful conclusions about women's empowerment are to be made (Rodman 1972; Safilios-Rothschild 1970). What it means for a woman to be empowered in a developing country context is qualitatively different from a developed country context (Basu and

Koolwal 2005). Within developing nations, variations in family systems and kinship patterns may also imply different notions of empowerment and therefore a need for a different set of measures (Malhotra and Schuler 2005). The relevance of decisions to the dynamics of marital power differs across the life course and from one couple to the next (Rodman 1972). The range of household decisions would also differ for rich versus poor women (Malhotra and Mather 1997).

Wording of the questionnaire: empowerment vis-à-vis whom?

In addition to the selection of culturally relevant questions, wording of questions can mask the extent of empowerment, and empowerment vis-à-vis whom. The wording of questions on authority in household decisionmaking ("who has the final say in….") ignores the issue of veto power and that the final decision maker may have been delegated as opposed to self-appointed (Rodman 1972). The response categories are also important in tapping into generational and gender power relations rather than assuming that household dynamics are confined to the conjugal pair (Malhotra and Mather 1997; Sen, Rastogi, and Vanneman 2006).

In asking "who has the final or sole say in…" it is difficult to ascertain who has the power, the person who makes the decision, or person who decides to let the other be the final decider (Safilios-Rothschild 1970)? A spouse may relegate some decisions to the other spouse because s/he finds them cumbersome; thus the relegating spouse is not necessarily less empowered (Safilios-Rothschild 1970). Nor is the implementing spouse more empowered in the sense that having the final authority imposes the burden of responsibility (Basu and Koolwal 2005).

Selection of respondent and perceptions of household authority

Studies have found that husbands and wives do not always agree on who makes decisions in the household. Comparisons of husbands and wives' responses to questions pertaining to household decisionmaking authority and freedom of movement in five Asian countries reveal significant differences(Ghuman, Lee, and Smith 2006). Husbands are likely to report greater authority for wives than wives attribute to themselves. Couples' differences in reporting on marital authority can be due to social desirability effects and/or random measurement error (Ghuman, Lee, and Smith 2006; Rodman 1972). Differences in the semantic and cognitive meaning of responses for women and men are responsible for couple disagreement and lead to different levels of women's empowerment depending on whose response is taken into consideration (Ghuman, Lee, and Smith 2006).

One dimensional measures, summative indices and the multidimensionality of empowerment

The final methodological issue I review relates to the multidimensionality of empowerment and is both a critique of one dimensional measures (Agarwala and Lynch 2006) and summative indices of women's empowerment. One dimensional measures are too simplistic, and more accurately serve as indicators or sources of empowerment (e.g. women's education or paid work) rather than (evidence of) empowerment itself (Kishor 2000). Additionally, uni-dimensional measures fail to highlight the mechanism through which empowerment operates and ignores the complexity and multidimensionality of women's empowerment in so far as each dimension is determined by and affects a different set of socio-economic and demographic variables (Agarwala and Lynch 2006). Summative indices ignore the

fact that empowerment in one dimension is not commensurate with other dimensions (Malhotra and Schuler 2005). Women who control financial decisions do not necessarily have authority over other decisionmaking aspects (Malhotra and Mather 1997). The inappropriate combining of items may mask effects and relationships between conditions of empowerment and their consequences (Malhotra and Schuler 2005). Equal weighting of items in summative indices ignore variation in the importance and/or frequency, and therefore relevance of these items to marital power (Agarwala and Lynch 2006; Gillespie 1971).

CHAPTER 3. WOMEN'S AUTHORITY IN HOUSEHOLD DECISIONMAKING:
THEORETICAL PERSPECTIVES AND EMPIRICAL EVIDENCE

In this chapter, I review major theoretical perspectives and empirical

evidence pertaining to the dimension of women's empowerment that is the focus of

my analysis – namely, women's authority in household decisionmaking.

Theoretical Perspectives On Household Decisionmaking

In this dissertation, I focus on the role of married women's productive work

and relative economic advantages in shaping their household decisionmaking

authority in a context where women's work participation is low and traditional gender

norms prevail. Several strands of literature are relevant to this discussion and can be

grouped into two broad camps – one that emphasizes micro-level interactions and

individual characteristics, and the other that underscores the role of social context in

influencing decisionmaking patterns within households. Resource theory underscores

the role of individuals' relative economic resources in shaping intra-household

decisionmaking. Performance theories focus on household decisionmaking as an

arena in which husbands and wives deploy cultural gender schemas. In contrast to

these more micro-level theorizations, stand theories of institutionalized patriarchy and

bargaining approaches. Theories of institutionalized patriarchy suggest that women's

disadvantages are institutionalized and create long-term patterns of intra-household

inequalities that have little do with resources, and whether a woman is employed or

not. Bargaining approaches challenge unitary models of household decisionmaking

arguing that household decisionmaking is a bargaining process in which who can be

bargained with, what can be bargained over, and the extent of bargaining are shaped

by broader structural factors.

Resource theory: economic advantages and household decisionmaking

Early theorizations of intra-household gender relations focused on efficiency in decisionmaking assuming that individuals most qualified to make decisions would do so. This is based on the assumption of neoclassical economics that decisionmaking is a unitary process carried out by an altruistic head who makes decisions for the entire household based on common preferences and tastes in order to maximize the household's utility (Becker 1991). The most efficient way to maximize utility is through specialization and exchange based on comparative advantage in economic resources (Becker 1973; Becker 1974; Becker 1991; Blau, Ferber, and Winkler 2010).

Resource theory underlines the role of economic resources in shaping household decisionmaking and was first articulated by Blood and Wolfe (1960) in their seminal study of marriage dynamics among couples in Detroit, Michigan in which they explore husbands' and wives' authority in household decisions. Although Blood and Wolfe (1960) define resources "as anything that one partner may make available to the other, helping the latter satisfy his needs or attain his goals," resource theory has generally been framed in terms of comparative advantages in economic resources.

Variation in decisionmaking patterns between couples can be explained mostly by differences in their relative educational levels, occupational prestige and income (Blood and Wolfe 1960). Education is a source of power in so far as it confers skills and knowledge useful for decisionmaking and also facilitates opportunities to engage in employment, which generates resources. Similarly, work participation confers knowledge and interpersonal skills, in addition to income. Occupational status matters in so far as more prestigious jobs generate self-confidence, and involve

communication and negotiation skills and responsibility, which can be leveraged in decisionmaking at home (Blood and Wolfe 1960).

Blood and Wolfe argue that cultural scripts for gender roles play a trivial role in martial power dynamics by pointing to deviations from traditional norms among sub-groups of the population whom we might expect to have a more patriarchal balance of power, such as farm families, Catholics families and immigrant families. The authors conclude that cultural scripts for gender roles do not define power dynamics; rather ideologies emerge to justify a particular pattern which can only be based on 'pragmatic' resources (Blood and Wolfe 1960).

Resource theory in a cultural context: resources as culturally relevant

Empirical evidence highlights the limitations of economic resources in explaining household decisionmaking patterns. The reversal of the effects of education, occupation and income on husbands' authority in Greece and Yugoslavia compared to the United States, France, Germany and Denmark, where they are positively related, indicates that economic advantages only partially explain martial power. The theory of resources in a cultural context, articulated by Rodman (1967; 1972) underscores the importance of context (patriarchal norms) in giving meaning to resources.

Performance theories: deference as gender performance

The hypothesized relationship between relative economic resources and intra-household gender relations breaks down when women's economic standing (e.g. relative earnings or relative contribution to household expenditure) exceeds that of

their husbands, highlighting the importance of performing cultural gender scripts (Bittman, England, Folbre, Sayer, and Matheson 2003; Brines 1994; Tichenor 1999).

The idea of gender performance was first articulated by Goffman (1976) and later developed by West and Zimmerman (1987) and West and Fenstermaker (1995). Gender is articulated in a series of daily interactions that give meaning to what it means to be a woman or man. The salience of gender scripts in intra-household gender dynamics has been documented in research on the household division of labor. For example, in a sample of married couples in the United States, men's share of housework is positively correlated with women's contribution to household expenses so long as women do not contribute more than one-half. Dependent men's contributions to housework decreases as their dependency increases beyond this point; and this is true for men in poor households or long-term unemployment (Brines 1994). Two mechanisms are at play here: women do not pressure men to do more because they do not want to emasculate them, or men assert their masculinity by doing less housework (Brines 1994). Similar findings of gender deviation correction behavior are reported for a sample of Australian couples. Men's share of housework is positively correlated to women's relative earnings up to a certain point, thereafter the gender gap widens and this is due to Australian women putting in more time (Bittman et al. 2003).

More recent research on gender has challenged its salience as a master category, arguing that certain social interactions and social institutions can render gender less important and therefore offer resistance to mainstream gender roles (Deutsch 2007). While gender scripts may be salient in given conditions, some have

tried to highlight women's cooption of traditional scripts to gain concessions and resources underscoring both conformity and resistance to power relations that subordinate women (Gallagher 2007). Others have maintained the master status of gender but demonstrated conditions under which interactions with different social institutions result with different implications for gender equality (Ridgeway 2009).

While gender performance theories have mostly been used to explain the household division of labor, they can be extended to marital power relations. In patriarchal societies, or societies in transition toward egalitarianism, women's advantages in economic resources can translate into lower authority in decisionmaking (or particular aspects of decisionmaking) either because women choose to relegate more power to their husbands to reify their claims to masculinity, or men exercise greater veto power or annex more authority over decisions to assert their masculinity.

Institutionalized male authority and bargaining approaches

Feminist scholarship has raised important blind spots in the assumptions of neoclassical model of the family which underpin resource theory (Agarwal 1997; Blau, Ferber, and Winkler 2010; England and Budig. 1998). It ignores conflict of interests and power asymmetries, assuming a shared utility function for all members of the household (England and Budig. 1998; Folbre 2001). Resource theories on marital power dynamics also ignore other resources that are traded in marriage such as love, sex and affection (Safilios-Rothschild 1970).

More relevant to the discussion at hand, feminist theories of power underscore the role of interlocking systems of power or gender stratification that reinforce

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women's inferior position within the household, community, market and broader society (Collins et al. 1993; Sen and Batliwala 2000). While individual resources such as education, income and occupational status matter, men's continued dominance is a result of institutionalized male supremacy (Gillespie 1971). The distribution of economic resources has to do with institutionalized male authority; comparative advantage is not necessarily innate but influenced by public policies such as tax and social security (Blau, Ferber, and Winkler 2010). Contextual factors such as social norms and gender ideologies influence *who* is involved in the process of household decisionmaking; *what* can be bargained over; and the *extent* of bargaining permissible (Agarwal 1997).

Bargaining approaches construe household decisionmaking in terms of bargaining based on game theory (Agarwal 1997; Manser and Brown 1980) in which household members have different interests and act strategically to advance their own wellbeing (Osmani 2007). The term 'patriarchal bargain' was first coined by Kandiyoti (1988) to refer to the strategies women adopt despite asymmetrical power relations. Women negotiate their identities, roles and responsibilities by adopting different strategies ranging from acquiescence and collaboration to subversion, co-option and flagrant opposition (Kandiyoti 1988). Thus, household decisionmaking can involve both conflict (Ulph 1988) and cooperation (Manser and Brown 1980; McElroy and Horney 1981), and the gains of cooperation are not necessarily equally shared; the person with greater bargaining power gets a bigger share. Factors that improve women's fallback position - the situation that would arise if cooperation breaks down, enhances women's leverage within the household (Osmani 2007).

Empirical evidence on the determinants of women's decisionmaking authority

Empirical evidence from developing countries illustrates that authority in household decisionmaking is associated with women's absolute and relative material and non-material resources Contextual factors, which include gender norms and economic structure, are also influential in determining sources of women's household authority and the size of their effects.

Among Ghanaian couples, spouses' relative educational and occupational levels are correlated with different decisionmaking modes (i.e. syncratic, autonomic or autocratic) (Oppong 1970). Formal education, access to work and contributions to household expenses enhance women's authority in household decisionmaking among Nigerian couples (Kritz and Makinwa-Adebusoye 1999). The magnitude and statistical significance of the effects of women's economic resources can vary by dimension of decisionmaking. Empirical evidence from Sri Lanka indicates that women's education and earnings enhance their participation in financial decisions, but not in decisions regarding the household's social and organizational life, which historically and culturally are relegated to men (Malhotra and Mather 1997).

A cross-country comparison of the determinants of women's autonomy in Peru, Bolivia and Nicaragua indicates that the magnitude and statistical significance of the effects of women's education and income on their decisionmaking authority varies not only by dimension of decisionmaking, but by country as well (Heaton 1996). Multicounty studies of women's empowerment in India, Malaysia, Thailand, Philippines and Pakistan find that in more traditional settings, the number of sons, age, marital duration, dowry, nuclear residence and women's family position (married

to household head) are more important predictors of women's authority in economic decisionmaking and access to/control over own and family resources than education or labor force participation (Jejeebhoy and Sathar 2001; Mason 1997). In societies characterized by strong natal kinship ties, frequency of contact with natal kin is positively correlated with authority in household decisionmaking and control over finances (Bloom, Wypij, and Gupta 2001). For rural Guatemalan households, structural factors, such as the type of economic production (e.g. agricultural versus non-agricultural, export manufacturing etc…) and level of economic development are more important predictors of husbands' authority in household decisionmaking than spouses' or households' characteristics (Marion 2004).

CHAPTER 4. WOMEN'S WORK PARTICIPATION: WHO WORKS AND DOES WORK ENHANCE WOMEN'S HOUSEHOLD DECISIONMAKING AUTHORITY?

Because I am interested in the effects of women's work and other economic resources on authority in household decisionmaking in a context where women's work is rare and traditional gender norms prevail, in this chapter, I expand my discussion of women's labor force participation. I provide a conceptual and methodological note on women's work in developing countries and MENA region. Since there is some selectivity in who works, I review theoretical perspectives on women's work in developing countries. I explicate the process by which productive work is theorized to increases women's household authority. I also address the issue of endogeniety between women's work and authority in household decisionmaking since it is possible that women who are empowered within their households are more likely to overcome social and cultural barriers to participating in productive work.

Conceptual And Methodological Note On Women's Work In Developing Countries

To qualify the results of my analysis, which rely on household survey data and quantitative methods, a note on issues in the measurement of women's work in developing countries and MENA in specific is required.

In developing nations, most of women's productive work is unpaid work in family farms and businesses, subsistence farming, self-employment, home-based work or informal work and is not reflected in national labor statistics leading to an undercounting (Anker 1983; Beneria 1992; Boserup 1970; Das 2005; Donahoe 1999). Distinctions between primary and secondary activity contributes to underreporting; most women report their primary activity as being a housewife so they are reported as

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being economically inactive (Donahoe 1999). Other reasons for the undercounting of women's economic activity in official statistics includes phrasing of the question which lead to self-exclusion by women respondents, and interviewers deciding on the basis of sex and their own stereotypes of work (Boserup 1971; Boserup 1970; Das 2005; Donahoe 1999).

The 1993 Systems of National Accounts (SNA), which establishes an internationally agreed upon framework and guidelines for the compilation of economic activity data, provides a revised definition of economic activity which includes a narrow range of unpaid work - mostly goods produced for self-consumption and subsistence that could otherwise be sold (Beneria 1992; Vanek 1996). Unpaid work, such as child and elderly care, cooking and cleaning are excluded (Vanek 1996). The expanded definition still leads to underreporting, and in some cases governments do not adhere to it (Hirway 2000). Expanded definitions of productive work combined with time-use surveys may help achieve a more accurate picture of the extent of women's participation in productive work (Donahoe 1999; Hirway 2000).

Although time-use surveys have gained popularity since the 1990s, and have been conducted in 64 developed and developing countries, only 5 countries in MENA have implemented time-use surveys – namely, Iraq (2007), Morocco (2011-2012), Oman (2007-2008), Palestinian Territories (2000), and Turkey (2006) (United Nations Statistics Division 2012). Time-use surveys can be costly and time-consuming. Other measurement techniques such as activities lists provide more comprehensive and accurate levels of women's participation in productive work

compared to standard keyword questions (Langsten and Salen 2008) because they eliminate prior assumptions about work by the interviewer and respondent (Anker 1983). Despite revisions to concepts and definitions of work and new measurement techniques, a focus on paid formal sector work persists because data on formal sector paid work are available and more reliable (Moghadam 2005). The lack of detailed and reliable data has contributed to a narrow focus – namely, whether women work or not. Other measures, such as differences in *earnings*, *occupational status*, and *quasi-work experience*, are largely absent in labor market analysis and sociological analysis of family dynamics.

Data issues on women's work participation in MENA

Some additional methodological notes on the collection of data on women's work in MENA are worth making in order to outline the challenges of doing empirical research in this region and put the contributions of this dissertation into context.

With a few exceptions (Cinar 2001a; Doumato and Posusney 2003; Salehi-Ishfahani 2001), most information on women's work in MENA is from ethnographic studies (Ibrahim 1985; Lobban 1998; Moghadam 2005). Standard conceptualizations of productive work, operationalizations and measurement techniques place a downward bias on women's participation in productive activities. The lack of data on women's productive work due to the conceptual and methodological shortcomings discussed above, coupled with the lack of time-series data and inconsistent definitions of work preclude the analysis of trends (Moghadam 2005). The absence of gender-disaggregated data limits analysis of gender differences in income and wages

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(Moghadam 2005; United Nations Economic and Social Commission for Western Asia 2007; United Nations Economic and Social Commission for Western Asia 2012). While international sources of data are available, inconsistencies among these sources and between national and international ones, (Moghadam 2005) can influence confidence in results.

Who works? Theory and evidence on women's work in developing countries

Two theoretical streams on the determinants of women's labor force participation stand out. The first emphasizes individual (i.e. personal endowments) and household level characteristics, and the second underscores the role of structural factors, such as gender and family norms, economic structures, legislation (labor laws, social protection, family policies), capital accumulation, population density and access to land which shape whether women work and the nature of their work (Beneria and Sen 1981; Boserup 1970; Cinar 2001b).

According to neoclassical economic models, women's labor force participation is influenced by preferences or tastes, the wage rate and nonwage income available. Women work when the market wage rate is higher then the value placed on their time at home. Women's education increases the opportunity cost of staying home. Increases in men's relative wages have an income effect and are negatively related to women's labor force participation. Increases in women's relative wages have a substitution effect whereby women scale back nonmarket time and increase their hours in market work. A change in women's relative wages affects both their labor force participation and hours worked, although the effect on hours worked

is less predictable relative to the effect on women's labor force participation. Countervailing forces such as substitutes for childcare, whether formal (paid childcare) or informal (family), may also increase women's labor force participation (Blau et al 2005).

Individual and household level characteristics

Several inter-related and mutually reinforcing factors account for women's participation in paid work and the formal sector in MENA. These include individual-level factors such as age, education, socio-economic class, delays in age at marriage, marital status, presence/absence of the husband, fertility, size and the size and composition of the household (Lloyd 1991; Moghadam 2005). An empirical study of the nature of women's labor market participation and level of participation (hours) in Egypt finds that women's age, education, marital status and the employment status of male household members are important predictors (Assaad and El-Hamidi 2001).

Structural factors

Women's participation in paid employment and the formal sector in MENA are also shaped by structural factors (Cinar and Anbarci 2001) which include level of economic development and type of economic structure, pervasiveness of religious institutions and traditional gender and family forms.

Economic structures and the pull toward productive work

Feminist political economic perspectives highlight the role of economic structures in creating a distribution of opportunities and resources suitable for women's participation. For example, differential patterns of women's participation in paid work and by type of sector in Jordan, Iran and Tunisia can be partially explained

by different economic structures – non-oil, oil economy and mixed oil economy, respectively. Export manufacturing economies are more likely to create female-typed jobs than oil export economies (Moghadam 2005).

The rise in women's labor force participation and the feminization of manufacturing elsewhere in Asia, such as Indonesia, Malaysia, Philippines, and South Korea were a response to a number of push and pull factors. The supply of suitable (female-typed) jobs generate a pull factor while low males wages create a push factor (Moghadam 2005). With the exceptions of Morocco and Tunisia, we do not observe a feminization of manufacturing in the Arab region commensurate with that of East Asia (Karshenas 2002). Not all MENA countries pursued export-oriented industrialization, many continue to depend on oil exports, foreign exchange and remittances (Moghadam 2005). Historically high male wages in the non-agricultural sector allowed for the persistence of the single-breadwinner patriarchal family structure (Karshenas 2002).

Cultural norms, legislation and government policies

Economic structures do not operate on their own but rather interact with other structural factors such as cultural norms, legislation and government policies that can reinforce women's place at home or encourage women's participation in productive work in the market. Women's economic activity and economic resources are shaped by their productive and reproductive roles and the interaction between the two (Beneria 1979; Beneria and Sen 1981). The political economy of the Arab region along with the pervasiveness of patriarchal norms create what Moghadam (2005) terms a "patriarchal gender contract" in which men remain the breadwinners and women the homemakers. The rise in religious orthodoxy among the predominately

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Muslim populations may also play a role (Miles 2002). The persistence of patriarchal laws such as fathers' and husband's control over women's mobility (e.g. permission to travel) or the ability to access credit is one aspect (Moghadam 2005). While structural adjustment policies have had both positive and negative effects on women's labor force participation (Moghadam 2001), women's low participation in the formal paid sector and their marginalization into low paying jobs have been linked to the failure of the region's family systems to catch up with contemporary economic realities (Karshenas and Moghadam 2001). Even if patriarchal norms reinforced by political Islam are not necessarily incompatible with women's work, a study of women's labor force participation in urban Turkey finds that they shape the nature of women's work leading to the concentration of women in a small segment of formal sector jobs and informal work that do not require travel, late and overnight work (Okten 2001). Cultural norms and gender systems perpetuate men's control over women and enforce a modest demeanor, which may result with seclusion from the public sphere and partially explain women's concentration in self-employment, home-based production and unpaid work in family businesses (Moghadam 2005).

However, economic necessity can overpower norms of modesty and seclusion, as reflected by the participation of low-income Egyptian wives and daughters in factory work (Nadim 1985). A study of women's labor force participation in the Palestinian territories illustrates that women's low labor force participation rates and concentration in marginalized sectors (informal work, domestic services and low paid agricultural work) has more to do with limited economic opportunities than cultural restrictions on women's work (Hammami 2001).

State policies to invest in women's health, education and employment matter in terms human capital formation. Women's educational attainment in the Arab region has increased over the decades, and in several countries women's enrollment in tertiary education exceeds that of men (Economic and Social Commission for Western Asia 2004). However, women's labor force participation in MENA is about 20 percent and is the lowest in the world (World Bank 2012). The issue of women's labor force participation in the region is not necessarily an issue of human capital endowments per se (Robinson 2005), but rather the lack of pull factors or supply of suitable jobs and an overarching environment that is conducive to women's work.

Labor laws, such as maternity leave and equal pay are instrumental in institutionalizing support for women's paid employment and formal sector work. Discrimination in the labor market in hiring practices and wages, especially given the preponderance of high male and youth unemployment in the region, contributes to women's low participation in paid and formal sector work in the Middle East (Moghadam 2005). Amendments to family law abolishing existing restrictions on women's ability to accept employment, travel, and take out a loan without the approval of fathers and/or husbands are also needed (Karshenas and Moghadam 2001).

Does work increase women's household decisionmaking authority? Issues of endogeniety between women's work and empowerment

Research on women in MENA has focused on explaining their low levels of labor force participation – the lowest in the world. The focus on women's participation in paid work stems from two underlying assumptions – the first being

that access to and control over economic resources (such as income generated by employment) is "…the most important and *achievable* (though certainly not the sole) independent variable affecting gender stratification at a variety of "nested" micro and macro levels ranging from the couple to the state" (Blumberg 1991). The second is the assumption that what was emancipatory for women in developed countries would apply to women in developing countries (Malhotra and Mather 1997). The purpose of this dissertation is to empirically test whether women's work and relative economic advantages increase their authority in the household in a setting where women's work is rare and traditional gender norms prevail. My analytical strategy rests on the following theorizations of how work participation is expected to increase women's authority within the household.

Participation in productive work, especially paid employment, is expected to influence women's empowerment in general, and authority in decisionmaking in particular by: (a) providing material resources (income) and knowledge; (b) freeing them from subordinate unpaid positions within the family; (c) enhancing communication and negotiation skills; (d) improving self-confidence and feelings of self-efficacy; and (e) providing social prestige especially in occupations that are socially regarded in high standing (Blood and Wolfe 1960; Kabeer, Mahmud, and Tasneem 2011; Malhotra and Mather 1997). Figure 2 illustrates the pathways through which women's work is theorized to impact women's authority within the household.

Broadly speaking, there are two distinct perspectives on the effects of women's work and income-generating activities on their empowerment within and outside of the household (Pearson 2004). The notion that work or income-generating

activities increase women's empowerment, or leads to greater bargaining power, is supported in the work of several scholars (Bergmann 2005; Blood and Wolfe 1960; Blumberg 1991; Goode 1963; Kessler-Harris 2001; Manser and Brown 1980). Other scholars find that the effects of work are not always positive for women (Bahramitash 2007; Greenhalgh 1991; Hartmann 1979; Kopinak 1995; Mason 1986).

Results of empirical studies suggest that the effects of women's labor force participation on their authority in household decisionmaking depends on the following: (a) the nature of work (e.g. formal sector and outside of the home versus informal and in the household) and process by which women come to work; (b) type of decision (e.g. financial versus personal and child-related); and (c) contextual setting (e.g. gender norms).

Effects of women's work by employment status and process through which women come to engage in productive work

Evidence from Bangladesh and Nigeria suggest that the nature of women's work is likely to impact their voice and agency; formal and semi-formal work and work outside of the house are related to the most positive outcomes for women's decisionmaking authority (Kabeer, Mahmud, and Tasneem 2011; Kritz and Makinwa-Adebusoye 1999). Whether work is empowering for women has to do with the process in which women come to be engaged in paid work (Jejeebhoy and Sathar 2001). Employment has a different meaning for poor versus rich women; for the former it may very well be a family responsibility due to need rather than the basis for independence (Sathar and Desai 2000; Sharma 1980).

Effects of women's work by type of household decision

For a sample of Sri Lankan women, current, past and quasi work experiences are important for bolstering women's authority in financial decisions but not social and organizational ones (Malhotra and Mather 1997). Similarly, among a sample of Bangladeshi women, women's participation in regular formal-sector work is positively correlated with greater authority in economic decisionmaking, but not personal or child related matters (Kabeer, Mahmud, and Tasneem 2011).

Effects of women's work by contextual setting

While participation in paid work outside of the house may be an important predictor of women's authority in household decisionmaking, the size and statistical significance of effects differ by the extent to which gender and family norms are patriarchal (Jejeebhoy and Sathar 2001), and the overall country context (Heaton, Huntsman, and Flake 2005). In rural Bangladesh, family position (i.e. relationship to the head of the household) is the most important covariate of women's authority in household decisionmaking while women's work has no effect (Balk 1997). The differential effect of work on women's empowerment by context may partially have to do with contextual variations in the acceptability of work and the type of work opportunities available, as well as conceptual and methodological variations in women's empowerment and work (Kabeer, Mahmud, and Tasneem 2011).

Endogeniety between women's work and women's authority within the household

The positive correlation between women's participation in productive work and empowerment within the household could be due to the fact that women who are empowered within the household are those who are likely to overcome social cultural

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barriers to their participation in paid work (Kabeer, Mahmud, and Tasneem 2011). The endogeniety between women's work and empowerment (Balk 1997) can be addressed methodologically in a number of ways, which I discuss in the Chapter on Data and Methods.

CHAPTER 5. DOES OCCUPATIONAL PRESTIGE MATTER FOR WOMEN'S HOUSEHOLD DECISIONMAKING

Because this dissertation aims to broaden our understanding of the conditions under which women's work increases authority in household decisionmaking, I make the case for including relative spousal occupational prestige. First, I provide a background on occupational status in the social sciences literature. Next, I review empirical evidence on the relationship between occupational status and various dimensions of women's empowerment. I provide an overview of how occupational status has been operationalized in research (i.e. measures) and why occupational prestige scores, specifically Treiman's Standard International Occupational Prestige Scores, are a suitable for the study at hand.

Occupational status in sociological research

Starting the 1960s, occupational status featured prominently in scholarship on social stratification and social mobility in advanced countries (Faunce 1990; Gusfield and Schwartz 1963; Treiman 1976). Within family studies, research on occupational status has explored its impact on a number of gender and family outcomes and dynamics including: wife and child abuse (McCloskey 1996); marital satisfaction (Richardson 1979); psychological wellbeing (Carlton and McCullough 1981); shifts in marriage (i.e. dissolution) and wives' work trajectories (i.e. labor market exit, move to traditional or lower status job or advancement) (Philliber and Hiller 1978; Philliber and Hiller 1983; Smits, Ultee, and Lammers 1996); and household decisionmaking patterns (Blood and Wolfe 1960; Oppong 1970).

Empirical evidence on occupational status and intra-household gender dynamics

Empirical evidence on the strength of the relationship between occupational status and gender dynamics within the household is mixed and varies depending on our operationalization of occupational status, and whether we are considering wives' or husbands' status separately or jointly. The relationship between occupational prestige and time spent doing housework is less consistent than the impact of other measures of relative resources, such as earnings and education (Shelton and John 1996). Men's occupational status can have a negative impact on their housework time (McAllister 1990), a positive association (Deutsch, Lussier, and Servis 1993) or none at all (Coverman 1985). Women's occupational status may matter more than men's. Men married to women in decisionmaking/authority positions are likely to share more equitably in housework in both Sweden and the United States (Aytac 1990). Alternatively, women's relative occupational authority decreases their housework time (Brayfield 1995). Men's share of housework increases when both spouses are in professional/managerial occupations compared to those in which neither spouse is in such occupations, although the difference in housework is really more of a decrease in wives' contribution than an increase in husbands' (Presser 1994). A study of equal occupational status dual-earner couples with children found that equality in public roles does not necessarily translate into more egalitarianism at home (Biernat and Wortman 1991).

The case for occupational status in research on household decisionmaking

Despite the mixed evidence on the association between occupational status and intra-household gender relations, the inclusion of occupational status in research on women's authority in household decisionmaking can be made on two premises: (a) notion of occupational prestige as another resource (Deutsch, Lussier, and Servis 1993); and (b) women's authority in decisionmaking as a factor of both relative resources and gender identity.

In so far as employment confers resources other than income, occupational status provides confidence and self-efficacy. Certain occupations, especially white-collar jobs in which women tend to be concentrated, enhance communication and negotiation skills which can be leveraged in household decisionmaking (Blood and Wolfe 1960). The operationalization of occupational status in terms of occupational prestige may be a good measure to include over and above economic activity status (i.e. working or not working) and relative income in that is a proxy measure of social prestige (Adler and Kraus 1985).

If men's sense of masculinity and authority in patriarchal societies derive from making the largest economic contribution, relative occupational status matters in terms of gender performance (McCloskey 1996). For example, research points to a positive correlation between wives' occupational superiority and the likelihood of experiencing wife abuse (Carlton, McCullough, and Sugimoto 1981). While the experience of wife abuse represents an extreme attempt by men to enact their gender identity and gain power, by the same logic, in patriarchal societies, wives' occupational superiority may be correlated with reduced authority in some household

decisions. The mechanisms of gender deviation correction behavior described in my discussion of the effects of women's economic advantages on the gender gap in household labor can also be extended to authority in household decisionmaking. Either women relegate greater power in decisions to men and/or men exercise greater veto power or annex authority over a larger share of household decisions.

Operationalizing occupational status in terms of occupational prestige

Occupational status can be operationalized in several ways, here I make the case for its operationalization in terms of Treiman's Standard International Occupational Prestige Scale. I provide a background on the classification of occupations, discuss various measures of occupational status, and summarize the advantages of using prestige scores over other measures of occupational status.

Classification of occupations

Classifications of occupations have been developed based on a combination of objective and subjective criteria. Some of these classifications are status-based categorizations of occupations (e.g. occupational prestige) while others are meant to map job titles, requirements, and conditions into broad categories (Gottfredson 1980). In general, occupations have been classified along the following dimensions: occupational status; job characteristics and requirements; self-direction or work autonomy; census categories, occupational reinforcers or rewards; and global occupational environment characteristics (Gottfredson 1980).

Efforts to produce internationally comparable data on occupations has resulted with international standards, such as the International Standards for the Classification

of Occupations that was developed by the International Labor Organization (ILO) in the 1960s (ISCO-68). ISCO has undergone two revisions resulting with ISCO-88 and ISCO-08. The latest revision (ISCO-08) was adopted in December 2007 and the ILO only recently released the mapping of ISCO-88 to ISCO-08 (ILO 2010)[2]. ISCO-88 is a four level classification of occupations based on skill requirements. The first digit distinguishes nine major occupational groups which are: (1) Legislators, Senior Officials and Managers; (2) Professionals; (3) Technicians and Associate Professionals; (4) Clerks; (5) Service Workers and Market Sales Workers; (6) Skilled Agricultural and Fishery Workers; (8) Plant and Machine Operators and Assemblers; and (9) Elementary occupations. These nine major groups breakdown into another twenty-eight sub-major groups, one-hundred sixteen minor groups and three hundred ninety unit groups (ILO 2010).[3] ISCO-88 does not differentiate occupations by employment status – that is, employer, employee or self employed, and it also blurs some industry distinctions (Ganzeboom and Treiman 1996).

Classifications of occupations by status

ISCO provides an international standard for the classification of occupations by skill level (objective criteria). Standards for the classification of occupations based on normative criteria (e.g. status) have been developed and mapped to ISCO occupational categories to facilitate cross-country comparisons. Of the two main classifications of occupational status – occupational prestige and socioeconomic

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[2] To view mapping of ISCO-88 to ISCO08 see
http://www.ilo.org/public/english/bureau/stat/isco/isco08/index.htm.
[3] http://www.ilo.org/public/english/bureau/stat/isco/isco88/major.htm.

indices (Ganzeboom and Treiman 1996), I focus on the former and explain why below.

Occupational prestige

Occupational prestige is the most widely appraised and used framework in social science research and is based on public perceptions of desirability of an occupation (Ganzeboom and Treiman 1996; Gottfredson 1980). It is a societal evaluation of occupations based on their standing in society and arguably "the best indicator of family social position in modern industrialized societies" (Otto 1975). Occupational prestige scores are calculated through a weighted average of ranking scores over all raters (Zhou 2005). They can have a subjective basis (i.e. ask raters why they rated occupations as they did), or an objective basis by providing raters with scales on which to rate occupations (e.g. benefit to society, power, skill, social standing etc…) (Wegener 1992).

The Standard International Occupational Prestige Scale (SIOPS) was developed by Treiman in the late 1970s from secondary analysis of occupational prestige data from 86 studies from over 60 countries ranging in level of development from western and eastern Europe, north and south America and Asia (Ganzeboom and Treiman 1996). The construction of prestige scores follows as similar methodology across all countries whereby raters are provided a number of occupations to rate and then ratings are aggregated into a mean score. An analysis of the prestige scores from these studies reveals similar rankings in occupations irrespective of questionnaire wording, raters' social standing and countries' occupational structure (e.g. country has few pilots or professors but raters still provide

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similar ranking for these occupations as raters in countries where these occupations are more prevalent). The results were generalized to other countries using the ILO International Standard of Classification of Occupations (Treiman 1976).

Applicability of prestige scores in developing countries

The universality of prestige scores across industrialized countries has been substantiated by some research (Inkeles and Rossi 1956). Within industrialized countries, some studies point to different ratings by the age, race and educational level of raters (Guppy and Goyder 1984) while other research indicates occupational prestige is independent of education and has more to do with the collective consciousness of urban and industrial populations which lead to similar evaluations of occupations (Balkwell, Bates, and Garbin 1982). This raises the issue of the applicability of prestige scores in contexts marked by different economic structures, such as non-industrialized countries or rural areas (Tannenbaum and Treiman 1979). Political systems and structures different than those of advanced countries may confer different levels of social prestige to occupations (Sharlin 1980).

Prestige scores of occupations are strikingly similar across countries irrespective of the level of development, and this has been attributed to the diffusion of Western evaluations of occupations and Western occupational structure due to the proliferation of industrial technology and organization (Haller and Bills 1979; Haller and Lewis 1966; Thomas 1962; Treiman 1976). Research on national prestige scores in Chile (Carter Jr and Sepulveda 1964), Iran (Abdollahyan and Nayebi 2009) and urban China (Lin and Xie 1988) corroborate the universality of occupational prestige rankings.

Another critique of occupational prestige measures is that they are not neutral to the gender of the incumbents in the occupations or the gender of raters (Haug 1975; Hawkins and Pingree 1978; Powell and Jacobs 1984; Powers and Holmberg 1978; Touhey 1974; Xu and Leffler 1992). Research on gender and occupational prestige have highlighted differences in occupational prestige given to women and men within the same occupation; differences in occupational prestige of sex-typed occupations (female-typed are always less prestigous than male-typed jobs even if the latter are not more complex) (Haug 1975; Powell and Jacobs 1984), and gender difference in the correlates of occupational prestige (e.g. income and education) (Bose and Rossi 1983). Some studies show no differences in occupational prestige of women and men (England 1979).

In light of concerns with popular-rated prestige scores discussed above, some studies on occupational status favor the use of socio-economic indices over the use of popular-rated prestige scores because the former are based on objective criteria (i.e education and income) (Goyder 2005; Grasmick 1976; Spaeth 1979). Although occupational prestige may be correlated with other socio-economic indicators, "a fundamental sociological insight is that prestige, like other social statuses or social honors, is related to but distinctive from one's economic resources or structural positions" (Zhou 2005: 92).

CHAPTER 6. THE COUNTRY CONTEXT: GENDER, WORK AND FAMILY IN JORDAN

Several studies have addressed the effects of women's work on women's authority within the household. One contribution of this dissertation is that it empirically explores the relationship in a context where women's work participation is low and traditional gender norms prevail. The purpose of this chapter is to provide an overview of gender, work and family issues in Jordan. I focus on socio-economic and demographic indicators of development and gender norms that are relevant to women's productive work and empowerment within the household. I also highlight some intra-regional differences in levels of socio-economic development and gender norms, linking them to historical differences between religious, ethnic and local groups, as well as geography and natural resources which may have influenced the development trajectories of different parts of the country.

Research on women's labor force participation in Jordan has focused on its determinants and correlates, and its relation to economic growth. Jordan has implemented extensive reforms to promote its private sector, including investment in its human capital base (World Bank 2005). About 5 percent and 9 percent of GDP is spent on education and health, respectively (World Bank 2005). These investments have translated into some tangible gains for women described below.

Family formation: marriage and fertility

Median age at first marriage has increased, but one-half of Jordanian women today marry by the age of 22 (Department of Statistics Jordan and Macro

International Inc. 2008).[4] Childbearing commences soon after marriage; one-half of Jordanian women have their first baby by the age of 23.9 (Department of Statistics Jordan and Macro International Inc. 2008).[5] Although contraceptive use among ever-married women increased significantly since the 1990s from 40 to 57 percent, rates have stabilized since 2002 (Department of Statistics Jordan and Macro International Inc. 2008). Mean ideal family size remains relatively high at 3.9 children per woman (DOS and Macro Intl. 2008). Total fertility rate in Jordan decreased from 7.4 in the late 1970s to 3.6 in 2007 (Department of Statistics Jordan and Macro International Inc. 2008), but remains among the highest in the region (World Bank 2005).

Women's literacy and educational attainment

Literacy levels and educational attainment among women have improved and the gender gap has narrowed. Less than 4 percent of Jordanian women cannot read or write and almost 30 percent have a post-secondary degree (Department of Statistics Jordan and Macro International Inc. 2008). The gender gap in enrolment in tertiary education has been slightly in favor of women (Jansen 2006; Kawar 2000) since the early 1990s (UN MDG database 2010). However, Jordanian women and men continue to specialize in gender-typed areas (Department of Statistics Jordan 2009). Women's completion rates at the tertiary level remain low and are about one-third of that of men, and high drop out rates from both high school and post secondary education persist with the primary reason being marriage. (Hendessi 2007)

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[4] Kawar (2000) places age at marriage in the 1970s at 17 and the DHS (1990) estimates women's median age at marriage in 1990 to be around 19. Also, median age at first marriage pertains to women aged 25-49 years
[5] Median age at first birth pertains to women aged 25-49 years.

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Historical overview of women's labor force participation in Jordan

Prior to the 1950s, most of women's work was as domestic help in private households and in light industries (Harris 1958). The lack of industrial production in the country combined with the availability of employment opportunities in neighboring countries facilitated outward male migration. In the 1970s most male migration from Jordan was into Iraq, Libya and Saudi Arabia (Moghadam 2005). High male wages made possible by the oil boom during this period translated into sizable remittances that had an income effect on women's participation in paid work (Moghadam 2005). In the 1980s and into the early 1990s, with rising debt and changes in the global economy, non-oil producing countries, such as Jordan, switched to export–based growth in manufacturing and agricultural (Moghadam 2005). During this period, Jordan beefed up its manufacturing sector (UNDP 2002), focusing on textiles, garments, and pharmaceuticals, which today are among the country's top exports along with jewelry, electrical appliances, machinery, chemicals, minerals and plastic products (Jordan Investment Board). Jordan has also worked to develop its services sector (i.e. banking, tourism and telecommunication (Moghadam 2005). In 2007, more than one-half of the country's GDP came from services, transportation and communication, 17 percent from industry and 3 percent from agriculture (Jordan Investment Board). Less than 3 percent of Jordan's land is arable and 11.5 percent is used for agriculture so employment in this sector is low; in 2009 1 percent of women's employment was in agriculture compared to 2.2 percent of men's employment (World Bank 2013c).

The correlation between export-led growth and women's labor force participation in manufacturing that was observed in other Asian countries and Turkey,

did not occur in Jordan (Moghadam 2005). In 2010, 9.3 percent of employed women worked in industry compared to 21 percent of employed men (World Bank 2013c). The majority of female employment (90 percent) is in services (World Bank 2013c). This may have to do with the nature of the country's export industry which was not conducive to women's participation.

The period following the implementation of structural adjustment policies (1990s) was particularly harsh on women. During this period women's unemployment was double that of men, and educated women were more likely to be without a job than similarly educated men or less educated women as job growth was in areas that did not require a high degree of skill or education (Moghadam 2005).

Current economic activity levels: employment, unemployment and underemployment

Jordanian women's labor force participation is lower than countries with similar levels of socio-economic development (World Bank 2005). Official sources put Jordanian women's labor force participation at about 14 percent (Department of Statistics Jordan 2009).[6] Moreover, only 12 percent of married Jordanian women are employed (Department of Statistics Jordan 2009). Although women's participation in paid work doubled between 1980 and 2000 (Kawar 2000), it is estimated to be at one-half its potential level (World Bank 2005). Unemployment levels are generally high in the country; about 10.3% among men and 24.1% among women according to 2010

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[6] Author's calculation based on the figures reported by the Jordanian Department of Statistics Labor Force Survey results for November 2009. The following data were reported: female population aged 15-60 (18,384); female population aged 15-60 employed (2,089); female population aged 15-60 unemployed (531).

World Bank data (World Bank 2013c).[7] In addition to high levels of unemployment, underemployment is pervasive in Jordan and partially related to the mismatch between labor market demands and skills (World Bank 2005).

Occupational segregation, wage and non-wage gender differentials

When Jordanian women work, they enter highly segregated sectors and occupations. This is partially related to the educational curricula, which continue to perpetuate traditional gender roles (Hendessi 2007; World Bank 2005). It is also related to women's self selection into traditional majors (e.g. education) or training programs (e.g. secretarial work) (Hendessi 2007) which is reinforced by traditional cultural norms discussed below.

Significant levels of vertical and horizontal occupational segregation impede women's labor force participation (Hendessi 2007; World Bank 2005). Occupational segregation in Jordan is estimated to be the highest in MENA (World Bank 2005). Women tend to be clustered in the professional and associate professional categories while men tend to be more evenly spread out across occupations (Department of Statistics Jordan 2009). Additionally, most working women are in the educational and health sectors while most men are in public administration and defense sectors, and whole sale and retail trade and related fields (Department of Statistics Jordan 2009).

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[7] Unemployment rates for men and women in the fourth quarter of 2011 were 10.7 % and 18.3%, respectively according to the Jordan Department of Statistics (2012) Department of Statistics Jordan. 2012. "Press Release on Unemployment in the 4th Quarter of 2011." Accessed at http://www.dos.gov.jo/dos_home_e/main/archive/Unemp/4th_quart.pdf on 10/19/2012.

As in most developing countries, the public sector continues to be the largest employer of women in Jordan (Moghadam 2005; Said 2001; World Bank 2005), despite downsizing in recent years (Miles 2002). Government jobs offer better pay, job security and longer paid maternity leave (Hendessi 2007). However, women in the public sector are clustered in "soft" ministries such as health, education and social services (World Bank 2005). Moreover, government regulations on the private sector reduce incentives to hire women by increasing direct and indirect costs of hiring them (Hijab 1988; Miles 2002). These regulations include paid maternity leave, the provision of childcare facilities if the establishment employs more than 20 women, and other expenses (Hendessi 2007; World Bank 2005).

While the purpose of such regulations is to protect women, they create a backlash that includes not only occupational segregation, partially related to crowding into more female-typed and low(er) paying jobs, but also wide gender wage differentials (Hendessi 2007; World Bank 2005). The World Bank (2005) estimates that if discrimination were removed and women were paid commensurate with their education, then women's wages would increase by 45 percent in the private sector and 13 percent in the public sector (World Bank 2005). Significant nonwage differences exist as well. For example, men receive family tax allowances, irrespective of the employment status of their spouses. However, female employees need to verify that their husbands are incapacitated, decreased or old (World Bank 2005).

Cultural attitudes, gender and family norms

Gender differentials in the country's labor market are partially related to traditional gender ideologies and norms that curtail women's public life participation. Honor killings are particularly problematic in Jordan and are related to a culture that values women's modesty and seclusion (Moghadam 2005). Jordanian family law remains very conservative. Women require the permission of their husbands and/or fathers to look for a job and remain in it. Paternal authority continues post marriage; a father can prevent his daughter from working even if her husband approves (Sonbol 2003). In recent years, the country has witnessed a ratcheting up of Islamic discourse emphasizing women's domestic role, and this has been linked to widespread male unemployment (Miles 2002).

Cultural attitudes and family norms are particularly constraining for women of low-income groups (Miles 2002), but have had no impact on women's enrolment in universities (Jansen 2006). Jordanian society places a high value on education (Jansen 2006; Hendessi 2007), for both girls and boys (Allaf 2008) as a status symbol of modernity and culturedness (Janson 2006). Women's education is meant to increase their attractiveness in the marriage market rather than the labor market (Janson 2006). The notion that business and work are for men, and that women belong in the house, contributes to low completion rates in tertiary education, and consequently low labor force participation (Hendessi 2007). Attitudes about appropriate work, stemming from concerns for safety and modesty, further limit women's work options (Kawar 2000). For example, teaching and embroidery are acceptable in so far as they are consistent with motherly roles or 'natural' abilities (Kawar 2000). Distance of workplace from home, transportation, sex segregation in the workplace and work

schedules that permit women to return home before dark are among the factors that affect whether Jordanian women work and what kind of work they do (Kawar 2000; Miles 2002, Hendessi 2007). Focus groups of Jordanian men reveal great concern for the increasing power working wives show within the household. Husbands felt particularly threatened if wives made more money or, if they were unemployed but their wives worked. In such circumstances, husbands feel it is warranted to divorce their wives (Miles 2002).

Traditional gender norms and inequalities within the Jordanian family are reproduced in the workplace, as discussed in the previous section. Employers prefer not to hire women because of their perceived commitment to family and lack of experience (Ali, Mustafa, Khouri, and Markaz al-Buhuth 1990), and the additional costs of hiring them discussed above. When employers hire women it is at a lower pay and position even for the same qualifications as reflected in the gender gap in wages (World Bank 2005).

Intra-regional variations in socioeconomic development and social norms

There are intra-regional differences in levels of socio-economic development such as women's literacy rates, school enrolment rates and attainment levels, and variations in gender norms such as women's work participation. (United Nations Development Programme and Ministry of Planning and Interational Cooperation of the Hashemite Kingdom of Jordan 2011). For example, the proportion of women who cannot read or write is highest in the Southern governorate of Karak and lowest in the Central governorate of Madaba (United Nations Development Programme and

Ministry of Planning and Interational Cooperation of the Hashemite Kingdom of Jordan 2011). The smallest gender gap in adult literacy is in the Central governorate of Amman and the Southern Governorate of Aqaba, while the widest gap is in the Southern governorate of Ma'an. These rates mask urban-rural differences which are even wider – rural women have the lowest literacy rates (United Nations Development Programme and Ministry of Planning and Interational Cooperation of the Hashemite Kingdom of Jordan 2011).

Access to vocational training, which can facilitate employment, and the distribution of medium and small enterprises which can offer employment opportunities, are also uneven across Jordan's regions (United Nations Development Programme and Ministry of Planning and Interational Cooperation of the Hashemite Kingdom of Jordan 2011). Women's access to short vocational training course is lowest in the South, and the concentration of medium and small enterprises is the highest in the Central region of Amman and Zarqa and the Southern region of Aqaba (United Nations Development Programme and Ministry of Planning and Interational Cooperation of the Hashemite Kingdom of Jordan 2011).

These intraregional differences may be partially related to divergent development trajectories that have to do with geography and natural resources that lead to the concentration of development resources in certain areas. For example, Amman has historically been one of the centers of industry (Harris 1958). However, intraregional differences may also be linked to profound historical differences between the country's Bedouin tribes, village dwellers and urban comminutes, and

the presence of ethnic and religious minorities with historical ties to the West (Harris 1958).

Although Jordan is predominately Arab and Muslim Sunni, there are a few religious and ethnic minorities[8]. The largest religious non-Muslim minority are Christians – mostly Greek Orthodox, Greek Catholic and Roman Catholics (Harris 1958). The largest non-Arab ethnic minority are the Circassians – descendants of Sunni Muslims who fled the Caucasus after the Russian conquest in the 19th century (Harris 1958). Circassians are noted to have more Westernized customs due to their historical affiliation with Europe (Harris 1958). Jordan's Christian minorities also have greater assimilation to Western customs given their ties to the West by virtue of the religion they share; they have also historically been more urbanized, educated and wealthy (Harris 1958).

Contact with the West and the greater assimilation to western practices and values also differentiates the West Bankers (i.e. Palestinians) from East Bankers (i.e. what is traditionally known as Transjordan). Following 1948, the West Bank was annexed and added to the Transjordanian East Bank. The Tranjordanian East Bank is largely rural and isolated, while the West Bank territory, consisting of Palestinians, is mostly urbanized, and by virtue of having been under British mandate rule, was more westernized (Harris 1958). The West Bank regions are more secularized compared to the historically conservative eastern parts of Jordan (Harris 1958).

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[8] The religious composition of Jordan is as follows: 92 percent Sunni Muslim, 6 percent Christian, 2 percent Shi'a Muslims and Druze. Source: Jordan Investment Board. "Jordan Fact Sheet." Accessed at http://www.jordaninvestment.com/JordanataGlance/JordanFactSheet/tabid/219/language/en-US/Default.aspx on 03/11/2013..

While tribal affiliation and kinship ties historically have defined the social organization of Jordanians, there are profound historical differences in the social values, expectations, livelihoods, and dress of the Bedouin nomads/tribes of the desert, village dwellers and townspeople. While Bedouin nomads and village dwellers share similar kinship patterns that are patrilineal, patrilocal and based on paternal authority, town dwellers have been more westernized and in tune with ideals of individualism and social and economic progress (Harris 1958). These historical differences may partially explain present-day differences gender and family norms.

CHAPTER 7. SUMMARY AND RESEARCH QUESTIONS

In this dissertation, I empirically test the effects of women' work and relative economic resources on married women's authority within the household in Jordan net of the effects of more culturally relevant sources of power and other background individual and household characteristics. Economic resources refer to characteristics of women such as their employment status, income and occupational prestige. Culturally relevant sources of women's domestic power refer to attributes of women, which based on their gender and position within the family or household, gives them respect, prestige and influence (Dixon-Mueller 1978; Dyson and Moore 1983; Mason 1986). Culturally relevant sources of power reflect the social context (i.e. gender and family systems) and include characteristics such as marital duration, number of children, whether the woman is married to the head of household, and whether the woman is related to her husband prior to marriage (i.e. endogamy) (Mason 1997).

Research on the determinants of household decisionmaking authority has been conducted in a broad range of developing countries (Bloom, Wypij, and Gupta 2001; Marion 2004; Mason 1997; Mason and Smith 2003; Oppong 1970). Many of these studies have focused on the effects of women's work on authority in decisionmaking (Balk 1997; Handapangoda 2012; Heaton, Huntsman, and Flake 2005; Jejeebhoy and Sathar 2001; Kabeer, Mahmud, and Tasneem 2011; Kritz and Makinwa-Adebusoye 1999; Malhotra and Mather 1997; Rammohan and Johar 2009). However, the conditions under which women's work increases authority within the household remain unclear. This dissertation makes several important contributions in this respect.

First, it explores the effects of women's work on authority in household decisionmaking in a context where women's work is rare (women's labor force participation in Jordan is less than 15%) and rigid traditional gender norms prevail. Second, it tests the importance of women's work vis-a-vis culturally more relevant sources of empowerment, such as women's family status. Third, it distinguishes between different dimensions of household decisionmaking – namely, personal decisions and family management decisions. Fourth, it expands our knowledge of the conditions through which productive work influences women's authority within the household by looking at the nature of women's work, relative income and relative occupational prestige. Relative income and relative occupational prestige are dimensions of women's work that may influence empowerment within the household by conferring both material and non-material resources which can be leverage in decisionmaking.

Finally, most research on women in MENA has focused on women's low labor force participation, the lowest in the world, and structural-level explanations. Few studies explore the interrelationship between gender, work and family, and quantitative work in this area is limited. My analytical approach to exploring the effects of women's work and other relative economic advantages rests on several theoretical strands pertaining to household decisionmaking as a particular facet of women's empowerment and women's work. Refer to Figure 3 for a conceptual map of the determinants of women's authority in household decisionmaking.

In the preceding chapters I discussed theoretical approaches to, and the measurement of, women's empowerment with a particular focus on women's

authority in household decisionmaking. I referred to research on both developed and developing countries to summarize how our understanding of the importance, meanings, causes and consequences of women's empowerment and its measurement have evolved and where gaps in our knowledge remain.

Women's empowerment has been conceptualized both as a condition or state and a process. It has also been construed in terms of individual agency and structure. While individual characteristics and resources matter, empowerment derives from broader institutionalized power relations. The conditions for women's empowerment occur on multiple levels of social organization – the individual, family/household, community, market, government and broader society. Additionally, context operationalized in terms of gender or family norms, level of socio-economic development, or type of economic structure in area of residence, gives social meaning to sources of power and conditions the size of effects. The multidimensional nature of empowerment implies that the causes and conditions of empowerment differ by dimension, and that empowerment in one dimension may not correspond with other dimensions.

My approach to women's authority in household decisionmaking is based on the conceptualization of empowerment as access to and control over material and non-material resources that enables one to choose and act free from the control of others. Three strands of literature on women's authority in household decisionmaking stand out. Resource theory provides a unitary model of household decisionmaking in which authority is based on relative economic resources. Performance theories emphasize women's deference in household decisionmaking as gender performance

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rather than a product of individual resources. Theories of institutionalized patriachy emphasize institutionalized male dominance while bargaining approaches conceptualize household decisionmaking as a bargaining process shaped by cultural norms (i.e. gender and family systems).

Most empirical research on the determinants of women's authority in household decisionmaking in developing countries has focused on the effects of women's work. The focus on women's work rests on two assumptions. First, work confers material and nonmaterial resources that women can leverage in household bargaining. Second, since women's labor force participation enhanced women's empowerment in the West, it is theoretically expected to have the same effect in developing countries. Evidence from the field indicates mixed effects of work on increased authority in household decisionmaking. In more traditional contexts, economic advantages may matter less, or not at all, compared to more culturally relevant sources of power such as number of living sons and being married to the head of the household. Even among seemingly egalitarian couples, or in societies transitioning toward greater equality at home and in public, women's advantages in relative economic resources may produce a backlash because of the persistence of traditional gender ideology that attributes the largest economic contribution and position for men. Under such circumstances, women, men or both may engage in gender deviation correction behavior to restore normative roles and behavior – i.e. male authority within the household.

Research questions and hypotheses

Based on resource theory in a cultural context, performance theories, theories of institutionalized patriarchy and bargaining approaches, and empirical evidence on the effects of work on women's authority within the household, I address the following questions:

1. Does work enhance married women's decisionmaking authority net of the effects of culturally relevant sources of power and other background individual and household characteristics?

If relative economic resources affect women's bargaining power within the household as resource theory predicts, women who work should have greater decisionmaking authority within the household. Moreover, within the various kinds of economic activity women undertake, paid work that confers independent income (in contrast to unpaid family work or unpaid work) should confer greater positive benefits. On the other hand, if deference in household decisionmaking is more performance in service of rigid gender norms as predicted by performance theory, than women's work will not confer greater decisionmaking authority.

2. Do women's relative advantages in income and occupational prestige enhance women's authority in household decisionmaking net of the effects of individual and household characteristics?

If relative economic resources affect women's bargaining power within the household as predicted by resource theory, than net of the effects of individual and household characteristics, women whose income is about the same or more than their husbands are likely to have greater authority in household decisions than women who earn less than their spouse or who work but have no earnings. Additionally, women

who are in occupations that are equally or more socially prestigious than their husbands are likely to have greater authority in household decisions than women whose occupational prestige is lower. However, if deference in household decisionmaking is more performance in service of rigid gender norms as predicted by performance theory, than women's relative advantages in income and occupational prestige will not be associated with greater decisionmaking authority.

3. Do the effects of women's work and economic resources (i.e. relative income and occupational prestige) on women's authority within the household vary by dimension of domestic power (i.e. type of household decision)?

If cultural context gives meaning to sources of power as resource theory in a cultural context predicts, and if the extent of bargaining and what can be bargained over are shaped by social context as predicted by bargaining approaches, than women's work and economic resources are expected to have a positive and statistically significant effect on women's authority in personal decisions. On the other hand, women's work and economic resources are expected to have a smaller or statistically non-significant effect on women's authority in family management decisions which in a patriarchal society may be subject to greater male involvement.

4. Do regional characteristics, such as levels of socio-economic development and the extent of patriarchal gender norms, condition regional averages of women's household decisionmaking authority and influence the size of the effects of women's work on women's authority in household decisionmaking?

If institutionalized power relations in broader society shape the dynamics of intra-household gender dynamics as predicted by theories of institutionalized

patriarchy than: (a) women who live in regions marked by above average levels of socioeconomic development and less patriarchal norms should experience higher levels of household decisionmaking authority regardless of their own characteristics and those of their households; and (b) the effects of women's work on their authority in household decisionmaking should be stronger in areas with average or above average levels of socio-economic development and less patriarchal norms. Similarly, the effects of women's work on their authority in household decisionmaking should be smaller in areas marked by below average levels of socio-economic development and more patriarchal gender norms.

The hypotheses presented above may be thought of in a complementary rather than competing way. For example, if cultural context gives meaning to sources of power, what can be bargained over and how much bargaining can take place, as predicted by bargaining approaches and the theory of resources in a cultural context, than economic activity and women's relative economic resources can still enhance women's decisionmaking authority net of the effects of culturally relevant sources of power as predicted by the theory of relative resources. However, cultural gender scripts may mediate the extent to which economic resources enhance women's authority within the household – that is, women have leverage to participate in the decisionmaking process but not necessarily to exercise exclusive control.

CHAPTER 8. DATA AND METHODS

This research is based on secondary data analysis. In this chapter I describe the survey instrument, sampling procedure, measures utilized and the analytical sample. I also explain my analytical methodology for approaching my research questions.

The data source for the study is the 2007 Demographic and Health Survey (DHS) for Jordan conducted by the Department of Statistics with primary funding from the Government of Jordan and USAID and additional funding from UNICEF and UNFPA.[9] DHS surveys cover a variety of population and health issues and have been carried out in many developing countries. Jordan has conducted four standard DHS surveys in 1990, 1997, 2002 and 2007 and an interim survey in 2009. The 2007 Jordan DHS is unique in that it offers detailed data on women's economic activity, including employment status, relative income and occupational status.

The 2007 Jordan DHS is a nationally representative sample of 14,564 households that covers all 12 governorates and urban and rural areas. The sampling frame does not include remote areas and therefore excludes the nomadic population. Populations in group housing are also not covered (i.e. hospitals, hotels, prisons, and work camps. In addition to a household module, a questionnaire was administered to 10,876 eligible ever-married women aged 15-49 who slept in the selected household the night before the survey interview. The eligible women response rate was 97.9 percent (Department of Statistics Jordan and Macro International Inc. 2008). Due to my focus on the effects of women's relative resources on authority in household

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[9] The survey is entitled the "Jordan Population and Family Health Survey" and is part of the worldwide Demographic and Health Surveys Programs.

decisions, my sample is restricted to currently married women. This leaves us with a sample size of 10,360 currently married women, about 96 percent of the original sample. Descriptive statistics of my dependent, independent and control variables are presented in Appendix Table 1.

Dependent variables

The part of the questionnaire that is of most interest for this study has to do with questions on various aspects of household decisionmaking. Women were asked "who usually decides…." or "who usually makes decisions…" on/about the following: (1) how husband's earnings are used; (2) health care for yourself; (3) making major purchases; (4) making purchases for daily household needs; and (5) visits to your family and relatives. Response categories include respondent only, respondent and husband, husband only and other. The frequency distributions of these decisionmaking variables are presented in Appendix Table 2.

In many developing countries, household decisionmaking is not confined to the conjugal pair and may include other co-residing relatives such as parents and in-laws. However, the majority of households in Jordan are nuclear (88 percent of analytic sample).[10] Thus, about one percent or fewer women reported someone else as the person who usually decides. I recode my dependent variable in terms of decisions for which women are the sole deciders (sole authority). I also construct a secondary measure of women's authority in household decisionmaking that accounts for women's participation in decisionmaking (shared authority) that includes women who

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[10] I define a nuclear household as one in which there is only one married female and one married male.

decide in conjunction with their spouses or alone. While it is difficult to ascertain whether the respondent is the junior or equal partner in shared decisionmaking (Desai and Johnson 2005), distinguishing between women's authority in household decisionmaking in terms of exclusive control versus participation may reveal the effects of women's work on enhancing women's participation in household decisionmaking that would otherwise be masked if we focused exclusively on women's sole authority.

In addition to distinguishing between different levels of authority (sole versus shared), I use principal components factor analysis to distinguish between different dimensions of household decisionmaking. I first model household decisionmaking authority with all five items described above. Each of the five decisionmaking variables are reverse coded so that the highest score is assigned to the response category "Respondent alone", followed by "Respondent and Husband", "Husband alone" and "Someone Else/Other." Items that do not load well on a factor (less than 0.40) are deleted. The extracted components are labeled to best describe the dimension of decisionmaking within the household that each factor appears to represent based on variables with the highest loadings (0.40 or more) after rotation on that factor, and in keeping with theory and practical utility.

Results of the principal component factor analysis are presented in Table 1 and indicate that household decisionmaking is underlined by two dimensions which I refer to as family management decisions (factor 1) and personal decisions (factor 2) based on the items with the highest loadings. Decisions relating to daily needs, large purchases, social visits, and husband's earnings all load on factor 1 with loadings of

0.6 or greater after rotation. The decision relating to personal health loads on factor 2 with a loading of 0.9 after rotation.

Rather than utilizing predicted scores, I construct a summative index for family management decisionmaking ranging from 0-4 reflecting the number of decisions (i.e. decisions relating to daily needs, large purchases, social visits, and husband's earnings) for which women report having sole or shared authority. The use of a summative index is justified in this case as its composition is substantiated by the results of the factor analysis. Additionally, a summative index provides a more intuitive understanding for the reader than a predicted score, and facilitates cross-country comparisons. Since the summative index for sole authority in family management decisionmaking is highly positively skewed with many zero values, I recode this measure into a binary outcome variable in which women who have a score of 1 or greater on the sole authority in family management index are coded "1" and women with a score of 0 on the index are coded "0". The frequency distribution on the index measuring shared authority in family management decisionmaking is only slightly skewed, so no transformation of this variable is necessary. I analyze women's personal decisionmaking as a binary variable. Therefore, all subsequent analyses are conducted on four dependent variables:

1. *Sole authority in at least one family management related decision* (binary)

2. *Shared authority in family management decisionmaking index* (continuous)

3. *Sole authority in personal decisionmaking* (binary)

4. Shared authority in personal decisionmaking (binary)

About 66 percent of women in the analytical sample report being the sole decision maker on at least one family management related matter. On average, women in my analytical sample reported participating in 2.6 of 4 family management-related decisions. Almost one-half of the sample (47 percent) reported exclusive authority in personal decisionmaking while 89 percent reported shared authority in personal matters.

Independent variables

Because this study focuses on whether economic resources adequately explain women's empowerment within the household, I use four measures of economic activity– current labor force participation, employment status, relative income and relative occupational prestige.

Labor force participation

The DHS asked women "have you done any work in the last seven days, even for one hour. By "work" I mean any paid work, any work in a business completely or partially owned by yourself, any work in a business owned by the household without payment or work in any other business." The survey uses an expanded definition of work that captures both paid and unpaid work and home-based work or work in family business. The measure of work I use includes women who reported working in last seven days or had a job but were absent from it in last seven days. Approximately 13 percent of the analytical sample is currently working.

Employment status

The second measure is employment status. Work, even unpaid, can enhance women's authority in household decisionmaking but the effect may vary by the nature of work (paid versus unpaid or self-employed versus employee). The DHS asked currently working women "what is your employment status?" The variable is categorical and can take on the following values: employee, employer, self employed, unpaid family worker and unpaid worker. Over 90 percent of women in the sample are employees. Unpaid family workers (n= 20) and unpaid workers (n=3) constitute a very small category so I group them when running my models. However, there are some differences between the two – unpaid family workers tend to be less educated and belong to less affluent households compared to unpaid workers who tend to be more educated and come from wealthier families. Additionally, unpaid family workers tend to be clustered in occupations typical of family-run businesses and farms. Among the three unpaid workers in our sample, one reported herself as a modern health professional, and two reported themselves as clerical workers.

Relative income

The third measure is relative income. The DHS asked women "would you say that the money you earn is more than what your husband earns, less than what he earns, or about the same?" This variable is ordinal and has the following response categories: more than him; less than him; about the same; husband doesn't bring in any money; and don't know. About 87 percent of women in the analytical sample report having no income; this reflects mostly women who do not work (n= 8,987) and a very small number of women who work but are unpaid (n=23). Seven percent of

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women report having less income than their spouses. Five percent of women report making about the same or more than their husbands. A negligible proportion of the sample reported husbands with no earnings (n=42) and women in this group are all paid workers, so effectively can be considered to have more relative income. However, I analyze them as a separate group to explore the possibility of gender compensation behavior under different circumstances.

Occupational prestige

The fourth measure is relative occupational status. Women who are currently working or worked in the last 12 months were asked about their current occupation. Wives also reported on their husbands' occupations. DHS coded occupations according to 1988 International Standard of Classification of Occupations (ISCO-88). I construct a measure of relative occupational prestige by mapping Treiman's occupational prestige scores to the occupational data of wives and husbands. See Appendix Table 3 for the occupation distribution of women and men and respective Treiman occupational prestige score. I calculate relative occupational prestige scores as the difference between wives and husbands' occupational prestige, similar to a procedure followed by McCloskey (1996). I classify women in my analytical sample into four groups: both do not work; husband has more prestige, wife does not work; husband has more prestige, wife works; and wife has same or greater prestige. The last category (wife has same or greater occupational prestige) includes women whose husbands do not work (n= 141). About three-quarters of women in the sample are married to men who have greater occupational prestige, but the majority of these cases are attributable to the fact that most women do not work. About 4 percent

consists of women who work but whose husbands have greater occupational prestige and about 10 percent comprises women whose occupational prestige is equal to or greater than that of their husbands. Less than 1% of this category includes working wives whose husbands are without work (n=141).

Control variables

Because I explore the effects of work on women's authority in household decisionmaking in a context where women's work is rare and traditional gender norms prevail, I control for culturally relevant sources of power. These include the following four measures of women's status within the household: martial duration, whether the respondent has at least one living son, whether the respondent's husband has co-wives, whether the respondent is related to her husband prior to marriage (e.g. cousins) and the respondent's relation to the head of household.

Women's negotiation and communication skills improve over the course of marriage. In a society where women are largely seen as mothers and have no source of financial security except their male kin, having at least one living son can secure a women's position within her marital home and enhance her bargaining position. Co-wives may weaken women's bargaining position if women have to compete with the demands of other wives. Endogamy – the practice of marrying within one's social group or family, may enhance women's status within the household (reflected in whether women reported being related to husband prior to marriage, for example being cousins). Being married to the head of the household or being the head of the household also shifts decisionmaking dynamics in favor of women. Because a very small number of currently married women report being the head of the household

(n=83), I include them along with women who are married to the household head (n=9,458).

About 80 percent of women in the sample have at least one son, 6 percent are married to husbands who have co-wives, and 43 percent are related to their husbands prior to marriage (i.e. an endogamous marriage). The majority of women (91 percent) are married to the household head.

In addition to culturally relevant sources of domestic power, which I refer to as family status measures, I control for a number of individual and household characteristics. These background variables include women's age, women's educational attainment, husbands' educational attainment, husbands' economic activity status, whether the husband is living in the same household as the respondent, household wealth index and place of residence (urban/rural and region). Because the household decisionmaking may be influenced both by gender and generational hierarchies (Sen, Rastogi, and Vanneman 2006), I also control for the number of female and male adults in the household. See Appendix Table one for summary statistics.

Methods

In the previous section, I described my data. Here, I explain the analytical methodology I select to test my hypotheses and which are best suited to the nature of the data.

Ordinary least squares regressions

      The testing of my hypotheses requires different methods. I conduct ordinary least squares regressions of women's shared authority in family decisionmaking index on my explanatory factors and control variables. I include my variables sequentially in my analysis building progressively complex models. I control for a number of background characteristics described above. The empirical model I adopt is described below:

$$Y_i = \beta_0 + \beta_{work} X_i + \sum_{i=1}^{n} \sum_{j=1}^{k} \beta_j X_{ij} + \varepsilon_i$$

where

Y_i is the number of family management decisions for which women report deciding in conjunction with their spouses or alone (i.e. shared authority in family management decisionmaking index);

β_0 is the intercept;

β_{work} is the estimated effect of women's work on the shared authority in family management decisionmaking index score of woman i; and

$\sum_{i=1}^{n} \sum_{j=1}^{k}$ represents the control variables for k number of controls and n number of observations.

I model the effects of women's employment status (β_{status}), relative income (β_{income}) and relative occupational prestige $(\beta_{prestige})$ on women's shared authority in family decisionmaking index in a similar fashion.

Ordered logistic regressions

Because the shared authority in family management decisionmaking index is composed of multiple categories (0,1, 2, 3, 4) that have a meaningful rank order in which a value is 'higher' than the previous one, I also use an ordered logistical model to analyze its correlates. The ordered logistic regression model is composed of a number of logits on binary outcomes which calculates the odds of falling in the first category versus higher categories, the second category versus higher categories and so on. Although each equation can have different intercepts, the effect of a variable is held to be equal in all equations (parallel regression assumption), which is not necessarily realistic but can be tested (Long 2012).

Logistic regressions

The remaining three outcome variables, *women's sole authority in at least one family management decision*, *women's sole authority in personal decisionmaking*, and *women's shared authority in personal decisionmaking* are binary so I analyze them using a logistic model summarized below:

$$\log it[p(Y=1)] = \beta_0 + \beta_{work}X_i + \sum_{i=1}^{n} \sum_{j=1}^{k} \beta_j X_{ij}$$

where

Y is one of the binary outcome variables

      (1) sole authority in family decisionmaking

      (2) sole authority in personal decisionmaking

      (3) shared authority in personal decisionmaking

β_0 is the intercept;

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β_{work} is the estimated effect of women's work on the decisionmaking authority of woman i; and

$$\sum_{i=1}^{n} \sum_{j=1}^{k}$$ represents the control variables for k number of controls and n number of observations.

I model the effects of women's employment status (β_{status}), relative income (β_{income}) and relative occupational prestige ($\beta_{prestige}$) on women's sole authority in family decisionmaking and sole and shared authority in personal decisionmaking in a similar fashion.

Propensity score matching

Results from the OLS, ordinal logistical and logistical regressions of women's authority in family management and personal decisionmaking on women's work may indicate correlation but not necessarily causation. The correlation between women's participation in work and authority in household decisionmaking could be due to the fact that women who are empowered within the household are those who are likely to overcome cultural barriers to their participation in paid work (Kabeer, Mahmud, and Tasneem 2011)

There are several ways to address endogeniety between women's work and women's empowerment within the household. Qualitative data provide rich detail on causal pathways to empowerment within the household (Kabeer, Mahmud, and Tasneem 2011). Longitudinal data can also help rule out issues of endogeniety through life course analysis (Kabeer, Mahmud, and Tasneem 2011). Instrumental variable methods have been used to estimate the effects of women's participation in

credit schemes on women's bargaining power (Osmani 2007) , women's health (Nanda 1999), and to explore the effects of women's work on a variety of dimensions of women's empowerment (Rammohan and Johar 2009).

In my analysis, I adopt two techniques to address the issue of endogeniety – propensity score matching and within-household fixed effects. The propensity to engage in productive work is likely to be correlated with factors that influence the propensity for women's decisionmaking authority. To address the potential bias due to unobserved heterogeneity, I use propensity matching estimation. This technique was first developed by Rosenbaum and Rubin (1983). Propensity score matching methods have been increasingly employed in studies of medicine and epidemiology, as well as in education and other social science research. Unlike traditional matching estimators which condition on X (a set of covariates), propensity score matching techniques condition on the propensity score since observations with the same propensity score share similar distributions of the vector of covariates (Dehejia and Wahba 1999; Mocan and Tekin 2006).

The first step in propensity score matching is estimating the propensity score using a logistical regression where the propensity score is defined as a function of a vector of covariates X such that $X_i \perp D_i \mid p(X_i)$ - namely, that conditional on the propensity score, the covariates are independent of the assignment to treatment (Di) – in this case work participation (Rosenbaum and Rubin 1983). The choice of the covariates are determined by satisfying the balancing property – that is, that the average propensity score of treatment (women who work) and control units (women who do not work) do not differ within each group (Becker and Ichino 2002; Dehejia

and Wahba 1999; Dehejia and Wahba 2002). Imposing the common support condition ensures that each treated unit (women who work) is matched with a corresponding control unit (women who do not work). This condition may or may not improve the quality of matches, so may not be necessary (Becker and Ichino 2002; Mocan and Tekin 2006). The average treatment effect on the treated (ATT) is the average difference in the outcome variable (in this case the extent of women's authority in household decisionmaking) between the treated and untreated cases, after the sample of untreated cases is reweighted on the propensity score of treated cases, and it is estimated as a nonparametric regression (Caliendo and Kopeinig 2005; Mocan and Tekin 2006).

I generate the propensity scores using the STATA's *pscore* command and then estimate the average treatment effect on the treated using the generated propensity scores (Becker and Ichino 2002). According to Becker and Ichin (2002), a range of matching methods are available all of which imply a "…tradeoff between quality and quantity of matches, and none of them is *apriori* superior to the others" (p.361).

The *stratified method* divides the propensity score into intervals so that treatment and control cases within the strata share about the same propensity score and ATT is calculated as the average ATT of the block. This approach, however, risks excluding treatment cases for which there are no control cases within the same strata. The *nearest neighbor method* matches each treatment case to a control case with the nearest propensity score. However this can be a poor match if the nearest control case has a very different propensity score. *Radius methods* match treatment

cases to control cases within a pre-specified radius. The selection of small radius may result with better matches, but also the loss of treatment cases for which there are no control cases. *Kernel matching* adopts weighted averages of all control cases so that better matches have a bigger influence on the estimation of ATT (Rendall 2013), in contrast to radius matching in which all control units are equally weighted regardless of the quality of the match (Caliendo and Kopeinig 2005).

For greater confidence in results, I calculate the ATT for each of my four dependent variables using all four methods described above and compare results. I calculate the propensity score using the following covariates which are expected to influence women's propensity to engage in productive work: woman's age, woman's educational level, husband's educational level, husband's presence in the household, household wealth index, whether the woman has at least one child under the age of 5; whether two or more adult males or two or more adult females live in the household, urban/rural residence and governorate. Conditioning on variables that are not strictly exogenous (i.e. correlated with both women's work participation and authority in household decisionmaking) may introduce bias (Mocan and Tekin 2006).

With the exception of the stratification method for which this command is not available, ATT standard of errors are computed using a bootstrap with 50 replications. Bootstrapping is one way to address the problem with standard of errors – namely, "the problem is that the estimated variance of the treatment effect should also include the variance due to the estimation of the propensity score, the imputation of the common support, and possibly also the order in which treated individuals are

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matched. These estimation steps add variation beyond the normal sampling variation."[11]

Propensity score matching assumes that given a set of observable characteristics, women differ in their choice to work for reasons uncorrelated to the outcome of interest – authority in household decisionmaking. Results are robust in so far as the unobservable characteristics that make women more likely to engage in work do not directly affect their authority in household decisionmaking. Otherwise, results are biased if unobservable characteristics that influence the propensity to work also affect household decisionmaking. Estimates of the average treatment effect on the treated assume that individuals' assignment to treatment is independent of each other (Caliendo and Kopeinig 2005). However, women living in household in which other women engage in productive work may be more likely to work themselves. Within-household fixed effects analysis can partially address these shortcomings.

Within-household fixed effects analysis

Household characteristics can influence both women's chances of participating in paid work and women's authority in household decisionmaking. Controlling for unobserved household characteristics can partially isolate the effect of work on women's authority thereby addressing the limitations of propensity score matching discussed above. The only variables that enter the within-household fixed effects model are those that pertain to the woman herself – namely, women's work, women's age, women's education, husbands' characteristics (presence in same

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[11] Source: European Commission website:
http://ec.europa.eu/regional_policy/sources/docgener/evaluation/evalsed/sourcebooks/ method_techniques/counterfactual_impact_evaluation/propensity/propensity_details_ en.htm

household as wife, educational level and current labor force participation), marital duration, whether the respondent has at least one living son, whether respondent's husband has co-wives, respondent's relationship to the head of the household, and whether the respondent is related to her husband prior to marriage (endogamy).

The dependent variable *women's shared authority in family management decisionmaking* is continuous and near normal, so it is analyzed using the xtreg command in STATA. Since the dependent variables *women's sole authority in at least one family management related decision, women's sole authority in personal decisionmaking*, and *women's shared authority in personal decisionmaking* are binary, they are estimated with STATA's xtlogit command so only households in which there are at least two women enter the model.

Multi-level analysis of the effects of work on women's authority in household decisionmaking

Women's empowerment within the household is shaped by individual and household characteristics. Yet, contextual factors may influence the distribution of these resources within the population. For example, opportunities to go to school and employment will influence chances of being educated and engaging in productive work, in addition to conditioning the size of the effects of these variables on outcomes of interest. Although I control for place of residence (urban/rural and governorate) in the preceding analyses, multi-level analysis controls for observed and unobserved heterogeneity, which would otherwise lead to smaller standard of errors and spurious results.

I conduct a hierarchal linear modeling (HLM) analysis to explore whether contextual factors influence regional averages of women's household decisionmaking

authority, and if they conditions the effects of women's work on authority within the household – namely whether the positive effects of women's work on household decisionmaking are stronger in regions marked by average or above average levels of socio-economic development and less patriarchal gender norms. Analysis is conducted on 24 regions which reflect the governorate in which women reside and whether or not their locality is urban or rural.

The use of multi-level modeling can be justified on three principles – theoretical, empirical and statistical (Luke 2004). In Chapter 3 I summarized key theoretical perspectives on the determinants of women's authority in household decisionmaking. Theories of institutionalized male power posit that women's status within the household is not only a function of their individual characteristics and those of their households, but also structural factors. The pervasiveness of patriarchy within our cultural, social, economic, political and ideological frameworks shapes women's comparative resources and influences what can be bargained over and how much bargaining can take place (Agarwal 1997; Collins et al. 1993; Gillespie 1971; Sen and Batliwala 2000). Empirical evidence reinforces the multilevel nature of women's empowerment with the household. Cross-country studies illustrate that the size and statistical significance of the effects of women's resources vary from one context to the other (Bloom, Wypij, and Gupta 2001; Dharmalingam and Morgan 1996; Heaton 1996; Jejeebhoy and Sathar 2001; Mason 1997). Statistically, the case for multilevel analysis is strong when the data are multilevel in nature. Of the three justifications described above, the third is the weakest for the data I use since they are collected on the individual level. The DHS did not collect governorate level or other

regional level statistics. To test my hypotheses on the effects of contextual factors I had to aggregate up from the individual level, a limitation in itself.

The contextual factors in which I am interested are regional levels of socio-economic development and extent of patriarchal norms. I operationalize level of socio-economic development in terms of average women's literacy rate in a given region. I operationalize gender norms in terms of two measures: women's work participation and attitudes toward wife beating. Low levels of women's labor force participation rate may reflect traditional gender norms and the notion that women belong at home. They could also reflect poor work opportunities. Women's attitudes toward wife beating may reflect one aspect of patriarchal norms. Research on gender-based violence in the Arab region suggest that the justification of wife beating by both women and men may be partially related to patriarchal attitudes (Haj-Yahia 2002; Haj-Yahia and Uysal 2011; Khawaja, Linos, and El-Roueiheb 2008; Obeid, Chang, and Ginges 2010) in so far as patriarchal ideology condones male dominance and control over women, emphasizes women's obedience and loyalty to men, and justifies women's punishment for violating these norms (Smith 1990; Straus 1977).

Summary statistics of regional-level indicators of socioeconomic development and gender norms are presented in Appendix Tables 4a and 4b. The data are initially available on the woman-level, but because they reflect the regional context, they can be aggregated to the regional level. The rejection of wife beating rate reflects the percent of women who believe that wife beating is not justified under any of the seven conditions specified in the interview – namely, going out without telling the husband, neglecting the children, arguing or insulting the husband, disobeying the

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husband or having relations with another man. On average, about 93 percent of women in my analytical sample are literate; about 6 percent of women reject domestic violence under any circumstance, and about 13 percent of women participate in productive work. However, there is considerable spread across regions (see Appendix Tables 4a and 4b).

Given the multidimensional nature of women's empowerment (and patriarchy), women's labor force participation rates and women's disapproval of wife beating may not go hand-in-hand and this is reflected in the data on Jordan. Appendix Table 4b indicates that while women's literacy rates and rejection of wife beating are highest in the Central region, women's labor force participation is the lowest in this part of the country. By contrast, women's participation in the labor force is highest in the Southern region, yet this is a pocket of the country where women's literacy and rejection of wife beating are low.

Results from ANOVA analysis (not shown here) illustrate statistically significant differences in the variance in women's decisionmaking authority between regions for all four measures except sole authority in personal decisionmaking. However, these results should be taken with caution as the ANOVA approach to modeling between-group differences treats group parameters as fixed effects, overlooking random variability in group-level characteristics, and it is less capable of handling severely unbalanced designs (Luke 2004).

I use a two-level model to explore the effects of level of socio-economic development and gender norms on women's authority in household decisionmaking. For each of my four dependent variables, I estimate two equations - one at the

individual level and one at the regional. In each instance I model both the intercept (average level of women's authority) and the work participation gradient (effect of women's work on household decisionmaking authority).

Typically, HLM analysis involves three steps, the first partitions the variance in the outcome into its within and between regions components. The fully unconditional model partitions variance in women's authority in household decisionmaking within-regions as a factor of women's individual and household level characteristics, and between-regions as a factor of regional-level variables – namely, level of socio-economic development and gender norms. The between-region component of the variance is measured by the interclass correlation (ICC) and is modeled as a function of regional factors. However, this step is not appropriate for dichotomous outcome variables (Lee and Burkam 2003), so it is only carried out for the dependent variable *shared authority in family management decisionmaking* index.

The second step (within-model or Level 1) involves estimating, within each region, the effects of women's work and other background characteristics on women's authority in household decisionmaking. All independent variables at Level 1 are estimated as fixed effects with the exception of women's work; that is, their slopes are kept constant across regions and the between-region variances of their relationship to the outcome are fixed.

The third step (between-regions model or Level 2) involves exploring the relationship between measures of regional socio-economic development and gender norms described earlier, and the regional level estimate of women's authority in household decisionmaking. The results of the HLM models, which tested the

hypotheses put forth in Research Question 4, are presented in the both log odds and odds metric.

At level 1, I model *shared authority in family management decisionmaking* of woman i in region j as a function of woman's work and a number of individual and household characteristics as follows:

$$Y_{ij} = \beta_{0j} + \sum_{q=1}^{Q} \beta_{qj} X_{qij} + r_{ij}$$

where

Y_{ij} is the authority in household decisionmaking of woman i in region j;

β_{0j} is the average level of authority in household decisionmaking in region j;

X_{qij} is a series of woman-level q=1, …, q characteristics;

β_{qj} are the level-1 coefficients measuring the effect of individual woman-level characteristics on their authority within the household;

r_{ij} is the random error associated with woman i in region j on her authority within the household.

I model *women's sole authority in family management decisionmaking*, *women's sole authority in personal decisionmaking*, and *women's shared authority in personal decisionmaking* of woman i in region j as a function of woman's work and a number of individual and household characteristics using a logistic model. I control for the same variables as in preceding statistical analyses – namely, woman's age, and education, husband's characteristics (currently working, educational level and presence in the household), household wealth index, whether there are one or more adult males and one or more adult females in the household and whether the household is nuclear. I also control for family status variables– namely, marital

duration, living sons, co-wives, relationship to household head and relationship to husband prior to marriage.

At level 2 (between-regions), I model the intercept and one coefficient (β_{qj}) of the level-1 equation – namely, the work participation slope as follows:

$$\beta_{qj} = \gamma_{q0} + \sum_{s=1}^{S_q} \gamma_{qs} W_{sj} + u_{qj}$$

where

β_{qj} is a level-1 coefficient;

γ_{qs} (q=0, 1, …, S_q) are level-2 coefficients;

W_{sj} is set of s region level variables for region j;

u_{qj} is the random effect of region j.

I model the intercept β_{0j} (average level of women's authority in household decisionmaking in region j) as a function of women's work participation rate W_j (γ_{01}), women's literacy rate W_j (γ_{02}), women's rejection of wife beating rate W_j (γ_{03}), and the random effect of region j on mean authority in household decisionmaking (u_{0j}). This is based on the theoretical notion that women in regions marked by higher levels of development and less patriarchal norms will experience greater authority in household decisionmaking over and above their own characteristics.

I model the work participation slope in region j (β_1) as a function of regional-level measures of women's work participation, women's literacy, and rejection of wife beating given that I hypothesize that the effect of women's work participation on authority in household decisionmaking is mitigated by regional levels of development and the extent to which gender norms are patriarchal. I allow my intercept to vary

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randomly. All level-1 variables, with the exception of my main explanatory variable, women's work participation, are grand mean centered and their error terms are fixed. I group-mean center women's work participation and allow its error term to vary to explore whether regional characteristics influence the relationship between this variable and women's level of authority in household decisionmaking.[12]

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[12] I include weights in the weight-region model but not in this portion of the statistical analysis (between-regions) due to the fact that I am aggregating up from the individual level and do not have weights on the regional level.

CHAPTER 9. RESULTS

In this section, I present the results of bivariate and multivariate analyses linking the latter to the research questions and hypotheses presented in Chapter 7.

Bivariate analysis

Cross-tabulations of women's decisionmaking authority in personal and family management by labor force participation status, employment status, relative income and relative occupational prestige are illustrated in Tables 2-3. Bivariate statistics support our contention that patterns of decisionmaking authority differ by type of decision and our conceptualization of women's authority, i.e. whether we operationalize authority in terms of women deciding on their own versus deciding in conjunction with their spouses.

Table 3 shows that the majority of women in my sample exercise considerable *input* in family management decisionmaking. In each type of family management decision (Columns VII-X), except for control over husband's earnings, over two-thirds of women share decisionmaking power with their husbands or decide on their own. Jordanian women have greater and more exclusive control over personal matters. About 90 percent decide alone or with their husbands on personal matters such as health.

When *exclusive control* of household decisions is considered, the proportion of women who have significant power is lower, especially for family management decisions. Table 2 illustrates that about one-third of women in the sample report having sole authority in at least one family management decision. With the exception of decisions relating to the daily needs of the household, for each type of family

management decision (Columns II-V), 10 percent or less of women report having exclusive control. The sample is almost equally divided between women who report exclusive control over personal matters and those who do not.

With regards to my main explanatory variables, the cross-tabulations reveal a mixed picture. Women who are currently engaged in productive work are more likely to exercise authority in both family management and personal decisionmaking across both operationalizations of decisionmaking (i.e. whether defined as sole or shared).

Work participation and women's authority in household decisionmaking

Among married women in our analytical sample, about 38 percent of women who work have exclusive decisionmaking authority over at least one family management issue, compared to 33 percent of women who do not work $(\alpha = 0.001)$. On average women who work are likely to decide with their husbands or on their own on about 2.85 of 4 family-related decisions compared to 2.57 among women who do not work $(\alpha = 0.001)$. About 51 percent of women who work report exclusive control when it comes to personal health matters compared to 47 percent of women who do not work $(\alpha = 0.01)$. About 93 percent of women who work decide on personal health issues in conjunction with their spouses or alone compared to 89 percent of those who do not work $(\alpha = 0.001)$.

Employment status and women's authority in household decisionmaking

Based on the cross-tabulations presented in Tables 2 and 3, it is difficult to identify a clear pattern of association between the nature of women's economic activity and authority in household decisionmaking. It appears that unpaid family

workers are less likely to participate in any type of family management

decisionmaking and even less likely to exercise sole authority in this arena. Unpaid

workers (n=3) stands out as exceptionally empowered within the household when

both dimensions of household decisionmaking (personal and family) and both

operationalizations of authority (sole and shared) are considered – this may reflect

women from more affluent classes who take on volunteer work in chartable

organizations or non-profits. Within the category of paid workers, which includes

employees, employers and the self employed, self-employed women are more likely

to exercise exclusive control in family management decisionmaking and personal

decisionmaking. Results from ANOVA model (not shown here) indicate that

differences in women's authority in household decisionmaking by employment status

are statistically significant. However, small sample sizes in many categories reduce

our ability to make generalizations based on these observations.

Relative income, relative occupational prestige and women's authority in household decisionmaking

When it comes to relative income, women who make about the same or more

than their spouses, and women who are paid workers but whose husbands do not

bring in money, exercise greater (sole and shared) authority in personal

decisionmaking compared to women who make less money than their spouses, or

women who have no earnings. However, the advantages conferred by making the

same or more income than one's spouse compared to women who earn less is not

reflected in family management decisionmaking. Women who have the same or

greater occupational prestige than their spouses are more likely to have input in both

personal and family management decisionmaking compared to women who do not

work and women who work but are in less prestigious occupations. Results from

ANOVA model (not shown here) indicate between-group differences in mean

outcomes for personal and family management decisionmaking are statistically

significant. Substantively, however, the differences discussed above are very small.

Culturally relevant sources of domestic power and women's authority in household decisionmaking

Tables 4a and 4b illustrate the association between culturally relevant sources

of domestic power and women's sole and shared authority in household

decisionmaking, respectively. Culturally relevant sources of domestic power refer to

characteristics of women that in their social context confer prestige and respect given

their gender and place within the household or family.

Marital duration, having at least one living son, and being married to the head

of the household (or being the household head) are associated with higher levels of

women's exclusive decisionmaking power in both dimensions. Women in

endogamous marriages (i.e. related to husband prior to marriage as a cousin, for

example) also appear more likely to exercise sole authority in decisionmaking than

women who are unrelated to their spouses prior to marriage. Women whose husbands

have co-wives experience reduced decisionmaking authority in family management

compared to women whose husbands have no other wives.

The relationships between women's work and other relative economic

resources and women's household decisionmaking authority are explored in

multivariate analysis that control for a number of background characteristics and

culturally relevant sources of domestic power. The results of these analyses are

discussed below.

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Multivariate models

I estimated multivariate models using methodologies for continuous and binary dependent variables; including ordinary least squares, logistic regressions and ordered logistic models. For both financial management and personal decisionmaking, I initially tested my models for wife having the major input (sole authority) in household decisionmaking and re-ran the models for wife having some input, which includes all women who reported deciding in conjunction with their spouses or on their own. This differentiation between sole versus shared decision making authority provided very different results for family management decisionmaking, and less so for personal decisionmaking. This finding indicates that women's relative economic resources are not keys issues in their control of family management matters. For each set of decisions, I present the baseline model with my main explanatory variable and the full model with all family status variables and other background individual and household characteristics.

The results indicate that while women's labor force participation enhances women's authority in family management and personal decisionmaking, the effect varies depending on how I operationalize women's empowerment within the household. The statistical significance of the effects of women's work differs when I define women's empowerment within the household as decisionmaking in conjunction with spouse or alone as opposed to exclusive control. For matters related to family management, women's work has no statistical significance for women's exclusive control, but its statistical significance is evident when I define authority in the household in terms of shared decisionmaking. On the other hand, the positive and statistically significant effects of work participation are evident for both measures of

authority in personal decisionmaking (sole and exclusive) even after controlling for background factors. The associations between other sources of economic power and women's decisionmaking authority are mixed. I discuss these results in detail below.

Family management decisionmaking: effects of work and economic resources

In the following sections, I discuss the results of my multivariate analysis as they pertain to the dimension of household decisionmaking that has to do with family management.

Does work participation enhance women's family management decisionmaking authority?

Table 5 illustrates that women's participation in productive work is not associated with women's exclusive control over family management matters. However, as Table 6 illustrates, when authority is expanded to include shared decisionmaking, in the baseline model, women's work participation is associated with a 0.235 increase in women's family management decisionmaking score $(\alpha = 0.01)$. Even after controlling for background characteristics and culturally relevant sources of power, work participation continues to confer positive benefits for women's participation in family management decisionmaking and is associated with a 0.119 increase on the index $(\alpha = 0.01)$.

Does paid economic activity confer additional benefits for women's authority in family management decisionmaking?

Tables 7 and 8 illustrate the association between women's employment status and decisionmaking authority in family management net of the effects of our control variables. Consistent with the results from Table 5, women's economic activity, irrespective of its nature (i.e. paid or unpaid), has no statistically meaningful

association with women's likelihood of exercising sole authority in at least one family management related decision. When authority in family management is considered on the basis of shared decisionmaking, every type of economic activity, whether paid or unpaid, is associated with a statistically significant increase on thefamily management index compared to women who do not work, except for the category of self-employment, even after controlling for all background characteristics and traditional sources of domestic power (see Table 8).

To test whether paid economic activity confers greater benefits than unpaid economic activity, I re-run my models with unpaid family workers and unpaid workers as the reference category (see Table 8a and 8b). Unexpectedly, paid work that confers an independent income seems to confer fewer benefits for women's authority in family management decisionmaking (both sole and shared) compared to unpaid work. These results are statistically non-significant except in one instance; self- employed women score lower on the shared authority in family management decisionmaking index compared to unpaid workers ($\alpha = 0.1$) (see Table 8b). These results are counter-intuitive and run counter to prevailing theoretical perspectives on the determinants of women's empowerment. The way data were collected may not have adequately captured unpaid work. The small sample sizes for the various categories of employment status do not permit us to draw conclusive remarks on the effects of different types of work on women's authority within the household.

Comparisons among different types of paid economic activity are presented in Tables 8c and 8d. Compared to employees (N=1,258), wives who are self-employed (N=71) are more likely to be the sole deciders on at least one family management

related decision while employers are less likely, however the results are statistically non-significant. When women's input in decisionmaking is considered, being an employer (N=21) is associated with an increase in the decisionmaking index score compared to employees, but again the finding is statistically non-significant. That these results do not indicate any statistically meaningful differences within different types of paid economic activity does not imply that none exist, but possibly that lack of statistical power of these sub-categories of women's work.

Do women's advantages in relative income enhance their family management decisionmaking authority?

The association between women's relative income and family management decisionmaking authority net of the effects of all control variables are presented in Tables 9 and Table 10. Women's relative income has no statistically significant effect on women's sole authority in family management decisionmaking (Table 9). However, when authority is considered in terms of decisionmaking conducted in conjunction with the spouse or alone, earning the same or more is associated with a 0.173 increase on the decisionmaking index ($\alpha = 0.01$) compared to women who do not work or women who are in unpaid work, holding all other variables constant. Similarly engaging in paid work but earning less than one's husband is associated with a 0.0790 increase on the index ($\alpha = 0.05$) compared to women who do not work or are unpaid workers. On the other hand, women who are in paid work but whose husbands do not work (effectively, women who have greater relative income) suffer a penalty; their score on the index decreases by 0.0672. However, this association is statistically non-significant, possibly due to the very small size of this group (n=42).

To test whether advantages in relative income confer additional benefits for women's authority in family management decisionmaking compared to women who earn less than their spouses, I re-run the same model with "women who earn less" as the reference category (see Tables 10a and 10b). There is no statistically significant difference in the odds of being the sole decision maker on at least one family management decision between women who earn the same or more compared to women who earn less than their spouses. However, women who earn about the same or more than their husbands participate in a greater number of family management decisions than women who earn less even after we control for family status and other background variables ($\alpha = 0.1$) (see Table 10b). Unexpectedly, women who work for pay but whose husbands have no earnings - effectively women who have an advantage in relative income, participate in a smaller number of family management decisions compared to women who earn less than their husbands but the difference is not statistically significant.

Additionally, women whose husbands do not work but who are personally engaged in paid work participate in fewer family related decisions compared to women who earn more than their working spouses (see Table 10c). This suggests that being a working women with a dependent husband carries a penalty with it, or is not as rewarding as making about the same or more than a non-dependent spouse.

Do women's advantages in relative occupational prestige enhance their family management decisionmaking authority?

The effects of women's relative occupational prestige on sole and shared authority in family management decisionmaking are presented in Table 11 and Table 12, respectively. Consistent with measures of economic status, women's relative

occupational prestige is not associated with women's exclusive control in family management decisionmaking in any statistically significant way. When family management decisionmaking is considered on the basis of providing input with one's spouse or alone, women's relative advantages in occupational prestige is associated with a 0.230 increase in their index score $(\alpha = 0.01)$ compared to women who do not work, but whose husbands work. Even after controlling for culturally relevant sources of domestic power and other background characteristics, women's relative advantages in occupational prestige enhance their participation in decisionmaking on family management-related issues; being in an equally or more prestigious occupation than one's husband is associated with a 0.139 increase in the index score compared to women who do not work, but whose husbands work $(\alpha = 0.01)$.

Results of multivariate models comparing women who are in an equally or more prestigious occupations than their husbands to those who are in less prestigious occupations are presented in Table 12a and Table 12b. Holding background factors constant, women who are in equally or more prestigious occupations than their spouses experience lower decisionmaking authority in family management related issues on both measures of authority (i.e. sole and shared) compared to women who are in less prestigious occupations. However, these results are statistically non-significant.

Results from the ordered logistic regressions of women's sole and shared authority in household decisionmaking on women's work, employment status, relative income and relative occupational prestige are consistent with the findings reported from the ordinary least squares regressions (see Appendix Tables 5-9).

Personal decisionmaking: Effects of women's work and economic resources

Two dimensions, family management and personal decisionmaking, or decisions that relate to a woman's personal health underline household decisionmaking. In this section I repeat the analysis above for the dependent variables *sole authority in personal decisionmaking* and *shared authority in personal decisionmaking*. Results indicate that personal decisionmaking differs from family management in that women's work and other relative economic resources can influence women's exclusive control in this arena, albeit with mixed results.

Does work participation enhance women's personal decisionmaking authority?

The results of the logistic regressions of women's sole and shared authority in personal decisionmaking on women's participation in productive work are presented in Table 13 and Table 14, respectively. Women who are in paid work are 1.3 times more likely to exercise exclusive control on matters relating to their personal health compared to women who do not work $(\alpha = 0.01)$. The positive effects of women's work participation on their odds of exercising exclusive power over decisions that relate to their own health remain relatively unchanged both in magnitude and statistical significance even after we control for a number of family status and background variables. The effects of women's work on authority in personal decisionmaking are even larger when we consider joint decisionmaking. Holding all control variables constant, women who work are about 1.5 times more likely to decide with their husbands, or on their own, on matters relating to their own health than women who do not work $(\alpha = 0.1)$.

Does paid economic activity confer additional benefits for women's authority in personal decisionmaking?

Controlling for background variables, the positive effects of paid forms of economic activity on exclusive power in personal matters compared to not working, is statistically significant for employees only (see Table 15). There is no statistically significant difference between unpaid work and not working when it comes to sole authority in personal decisionmaking. The lack of statistical significance may be due to the small size of these groups; only 21 of women in the sample are employers, 71 are self-employed, and 23 are unpaid workers compared to 8,987 who do not work.

When the possibility of providing input in personal decisions is considered, the positive effects of paid economic activity relative to not working are more evident (see Table 16). Employees are about 1.6 times more likely to decide with their husbands ($\alpha = 0.05$) on matters of their own health, and self-employed women are about 6.7 times more likely to partake in shared decisionmaking than women who do not work ($\alpha = 0.05$) even after we control for cultural sources of power and other background factors. Additionally, there is no statistical difference in the chances of joint decisionmaking on personal matters between women who work and women who are in unpaid work.

To test whether paid forms of economic activity confer greater benefits than unpaid work, I re-run the regressions with "unpaid family workers and unpaid workers" as the omitted category. The greater benefits conferred by paid forms of economic activity compared to unpaid workers is evident in Table 16a, however they are statistically non-significant when exclusive control is considered. When personal decisionmaking is measured in terms of deciding with one's husband or alone, the

benefits of paid work compared to unpaid work are large and statistically significant net of the effects of controls. Compared to unpaid family workers and unpaid workers, employees and self employed women are about 5.9 $(\alpha = 0.1)$ and 24 $(\alpha = 0.01)$ times more likely to decide with their husbands, or on their own, on matters related to their personal health, respectively. Women employers are about 1.6 times more likely to experience shared personal decisionmaking authority compared to women who are in unpaid work but this association is statistically non-significant.

To test differences within different kinds of paid economic activity, I re-run the models using "employee" as my reference category (see Table 16b). Net of the effects of control variables, there is no statistically significant difference in the association between different kinds of paid economic activity and women's sole personal decisionmaking authority. When shared authority is considered, self-employed women are about 4 times more likely to decide on personal matters in conjunction with their spouses or on their own compared to employees $(\alpha = 0.1)$.

Do women's advantages in relative income enhance their personal decisionmaking authority?

The effects of women's relative income on sole and shared authority in personal decisionmaking are presented in Table 17 and Table 18, respectively. Consistent with the results of the analyses on the association between different types of economic activity and women's sole authority in personal decisionmaking, net of the effects of controls, women who are in paid work, are more likely to decide alone compared to women who do not work or those who are in unpaid forms of economic activity irrespective of the relative magnitude of their earnings. Women who are paid workers but whose husbands have no earnings are about 3 times more likely;

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$(\alpha = 0.05)$ to be the sole decision makers on issues pertaining to their own health even after we control for family status and other background variables (see Table 17). Results are statistically non-significant for women whose income is the same or greater.

The benefits of advantages in relative income for women who earn about the same or more than their spouses and for women who work but whose spouses do not bring in any money are larger and statistically significant when shared authority in personal decisionmaking is considered (see Table 18). The odds of providing input in personal matters, or deciding alone, compared to women who do not work or are unpaid workers, rise to 2.6 and 5.6 respectively. However, this does not tell us whether women who earn about the same or more than their spouses are more likely to exercise sole or shared authority in personal decisionmaking compared to women who earn less.

The results of the logistic regression of women's sole and shared authority in personal decisionmaking on women's relative income where the reference category is "women who earn less" are presented in Table 18a. There is no statistical significance between women who earn about the same or more and women who earn less when exclusive control is considered. However, when authority is defined in terms of shared decisionmaking, women who earn as much as their husbands or more, as well as women who are in paid work but whose husbands do not bring in money are about 2.2 and 4.6 times more likely to be involved in decisionmaking relating to their own wellbeing than women who earn less than their husbands, even after we control for all background characteristics $(\alpha = 0.1)$.

Do women's advantages in relative occupational prestige enhance their personal decisionmaking authority?

The association between women's relative occupational prestige and women's sole and shared authority in personal decisionmaking net of the effects of family status and other characteristics are presented in Table 19 and Table 20, respectively. Consistent with previous analyses on the effects of work on women's personal decisionmaking authority, any type of work, regardless of its relative prestige, enhances women's exclusive authority in personal health matters net of background factors. However, this association is statistically significant only for women who are in less prestigious occupations. Additionally, women who do not work and whose husbands do not work are less likely to exert exclusive control on personal health issues than women who do not work but whose husbands do work $(\alpha = 0.05)$. Similar results are evident when we consider the association between women's relative occupational prestige and joint decisionmaking on personal matters (Table 20). However, these results do not indicate whether women in about the same or more prestigious occupations fare better than women in less prestigious occupations.

To explore whether women's advantages in relative occupational prestige confer greater benefits on their authority in personal decisionmaking compared to women in less prestigious occupations, I re-run my model with "women in less prestigious occupations than their husband' as my omitted category (see Table 20a.). Results indicate that net of the effects of women's family status and other background characteristics, being in an occupation that is equally or more prestigious than one's spouse does not confer greater benefits in personal decisionmaking (sole or shared) compared to being in a less prestigious occupation – rather the association is negative

and statistically non-significant. These results do not permit us to draw conclusive remarks about the association between women's occupational prestige and the extent of women's authority in household decisionmaking. I discuss the limitations of these findings in the Discussion chapter.

Do the effects of work and relative economic resources vary by dimension of household decisionmaking?

Household decisionmaking among Jordanian couples is underlined by two distinct dimensions – decisions that have to do with the daily management of the household and those that have to do with women's personal health. In the previous sections I reviewed the results of my models estimating the association between women's work and other economic resources and these dimensions separately. Results suggest that women's work and advantages in other relative economic resources may confer additional benefits in both aspects of household decisionmaking. A comparison between models is not possible, however it is possible to draw some conclusions as to whether the effects of women's work and economic resources on their authority within the household vary by dimension of domestic power.

Women's *control over* family management issues is not shaped by women's labor force participation, in contrast to women's control over personal decisions (comparison of Tables 5 and 13). Even after controlling for a host of family status and other background variables, women's labor force participation is statistically significant in explaining variation in women's authority in personal decisionmaking. While engaging in productive work enhances women's exclusive control over

personal matters, when it comes to family management, it increases their ability to participate in the decisionmaking process with their spouses.

Participating in paid forms of economic activity confers addition benefits compared to unpaid types of work for shared authority in personal decisionmaking, but has no statistically significant effect on family management matters (comparison of Tables 8b and 16a). Advantages in relative income confer additional benefits for women's participation in both personal and family management decisions (comparison of Tables 10b ad 18a). Differences in women's control over or participation in family management matters and personal issues are not explained by advantages in relative occupational prestige (comparisons of Tables 12a-12b and 20a).

Nuclear versus extended household: does it matter for women's decisionmaking authority?

The analysis of women's decisionmaking authority thus far has made no distinction between nuclear and extended households. Although about 88 percent of married women in the analytic sample live in nuclear households, empirical evidence indicates both gender and generational hierarchies within households (Malhotra and Mather 1997; Malhotra, Vanneman, and Kishor 1995). To explore these effects, I re-run the regressions of women's authority in household decisionmaking on women's work and relative economic resources separately for women in nuclear households and those living in extended households and compare the estimated coefficients. The results of these analyses are summarized in Appendix Tables 10-17.

Family management decisionmaking in nuclear versus extended households

The positive effect of women's work on women's shared authority in family management decisionmaking is statistically significant for women who live in nuclear households but not those who reside in extended households (see Appendix Table 10). Employment status is statistically unrelated to women's authority in family management decisionmaking for both women in nuclear and extended households (see Appendix Table 11). Advantages in relative income enhance women's bargaining power in family management decisionmaking only for women who live in nuclear households (see Appendix Table 12). Among women who live in nuclear households, making about the same or more money than one's husband is associated with a 0.110 increase in women's score on the shared authority in family management index ($\alpha = 0.05$). On the other hand, this association is negative and statistically non-significant for women in extended households. Women's advantages in relative occupational prestige are statistically unrelated to women's authority in family management decisionmaking in both nuclear and extended households (see Appendix Table 13).

Personal decisionmaking in nuclear versus extended households

Work enhances women's personal decisionmaking authority, net of the effects of culturally relevant sources of domestic power and other background factors only for women residing in nuclear households (see Appendix Table 14). Among nuclear households, women who work are 1.265 times ($\alpha = 0.05$) more likely to exercise exclusive control over personal matters and 1.476 times ($\alpha = 0.1$) more likely to participate in such decisions compared to women who do not work, after controlling for individual and household factors. Although women's employment status is

statistically unrelated to women's sole authority in personal decisionmaking across both types of households, paid forms of work confer additional benefits for shared authority in personal matters for women who live in nuclear households but not those in extended households (see Appendix Table 15). Net of the effects of background individual and household characteristics, women employees in nuclear households are 7.635 times $(\alpha = 0.05)$ more likely to decide in conjunction with their spouses or alone on matters related to their own wellbeing compared to women in unpaid forms of work. Self-employed women in nuclear households are 92.56 times $(\alpha = 0.01)$ more likely to share authority in personal decisionmaking compared to women in unpaid forms of work even after we control for individual and household factors.

The benefits of women's advantages in relative income in terms of enhancing their position to participate in decisions that have to do with their own wellbeing accrue for women in both nuclear and extended households (see Appendix Table 16). Net of control variables, women in nuclear households who earn about the same or more than their spouses are 2.084 times $(\alpha = 0.1)$ more likely to participate or decide alone on personal matters compared to women who earn less. Among extended households, the positive benefits of advantages in relative income are even higher; compared to women who earn less then their spouses, women who make about the same or more are 7.380 times $(\alpha = 0.1)$ more likely to exercise shared authority in personal decisionmaking than women who earn less than their husbands. Advantages in relative occupational prestige are statistically unrelated to women's personal decisionmaking in both nuclear and extended households (see Appendix Table 17).

To summarize, the positive benefits of women's work are statistically significant for women's authority in both dimensions of household decisionmaking in nuclear but not extended households. While employment status is statistically unrelated to family management decisionmaking regardless of household structure, when it comes to shared authority in personal decisionmaking, the additional benefits of participating in forms of employment that confer independent income (employees and more so self employment) is evident only for women in nuclear households. Whereas advantages in relative income are experienced only by women who live in nuclear households when it comes to shared authority in family management decisionmaking, women's participation in personal decisionmaking is enhanced by advantages in relative income in both nuclear and extended households. Moreover, the effects of advantages in relative income for women's shared authority in personal decisionmaking are *bigger* for women in extended households. Advantages in occupational prestige are statistically unrelated across both dimensions of decisionmaking for women in both nuclear and extended households. These results suggest that women's decisionmaking authority in extended households is associated with factors other than their economic status and differ substantially from intra-household power dynamics in nuclear households. The large, positive and statistically significant effect of women's advantages in relative income on women's shared authority in personal decisionmaking in extended households may have more to do with access to income than work itself.

Does work empower women within the household? Addressing the issue of causality

The results of the multivariate models indicate correlation between work and relative economic resources, but they do not imply correlation. To test whether women's work leads to greater decisionmaking power within in the household, I conduct a propensity matching technique on all four outcome measures.

Results of propensity score matching

I estimate the propensity score for my analytical sample by including all the covariates linearly, and recoding husband's educational level and household wealth index into fewer categories in order to satisfy the balancing property.[13] Appendix Table 18 reports the results from the logistic regression that predicts the propensity scores. The overwhelming majority of the covariates are statistically significant predictors of women's participation in productive work.

The propensity score matching procedure starts by diving the analytical sample into equally spaced intervals of the propensity score and testing the equality of this score for the treatment group (women who work) and the control group (women who do not work). If the propensity score of the two groups differ, the interval is split and the test is repeated. This procedure also tests for the equality in the means of the covariates between the treatment cases and control cases within each propensity score block. I impose the common support restriction in the calculation of the propensity score to ensure that each treatment case has a corresponding match in

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[13] Husband's educational level is originally four categories – none, primary, secondary and higher but the variable was recoded so that the latter two groups – secondary and higher were combined into one. Similarly, the household wealth index consisted of five groups – poorest, poorer, middle, richer, and richest and was recoded so that the latter two categories of richer and richest are combined into one.

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the control group. The final number of blocks that satisfies the balancing property is 9. Table 21 presents the distribution of the number of working women (treatment cases) and non-working women (control cases) across the propensity score blocks.

T-statistics of the equality of the means of the covariates between treatment and control cases within each block are presented in Table 22. The great majority of women who do not work and women who do work are identical in their observed characteristics within each block. Differences between women who work and women who do not work are statistically significant at the 0.05 level for only 19 of 306 combinations. The mean propensity score is 0.209 and the standard deviation is 0.108 for women who work, while the mean propensity score for women who do not work is 0.120 and the standard deviation is 0.084.

Table 23 presents the estimated average treatment effect on the treated (ATT) that resulted from the various methods of matching I discussed in the Methods section. I include weights in the calculation of the propensity score and in the matching routine I calculate standard of errors using bootstrapping with 50 replications.[14] I also impose the common support restriction to remove all cases of non-working women who do not match to a working woman.

The results are consistent across different matching methods. For example, women's labor force participation tends to increase women's propensity to decide alone on family related matters by about 2-4 percentage points. It increases the propensity to decide exclusively on personal matters by 2-4 percentage points as well.

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[14] Bootstrapping of standard of errors is conducted for all matching methods except STATA's "stratification" method as this command is not available. Additionally, the STATA commands for estimating average treatment effects do not allow for the inclusion of weights in this step.

In contrast to multivariate regression analysis, ATT estimates can be compared to simple differences in means or proportions (Rendall 2011). Thus, the estimated ATT is the difference in decisionmaking authority between women who work and women who do not work after the sample of non-working women (control cases) is reweighted on the propensity scores of working women (treatment group) – namely, the probability that a woman with a given set of characteristics will engage in productive work (treatment) (Caliendo and Kopeinig 2005; Rendall 2011).

Among the possible matching techniques reported in Table 23, I use the results of kernel matching to compare against the bivariate association of engaging in productive work and women's authority in household decisionmaking, presented in Table 24. I selected this method over the rest since there are many comparable untreated cases, and using more than one nearest neighbor and giving greater weight to better matches improves precision (Caliendo and Kopeinig 2005).

Overall, 37.7 percent of married women who work reported having the sole say in at least one family management related decision compared to 33.1 percent of women who do not work. After controlling for socio-economic factors that influence the propensity to work, we can say that an additional 2.72% of women would experience exclusive control in at least one family management decision if they were to engage in productive work. This is smaller than the difference between women who work and who do not work (33.7 – 33.1=4.6), implying a greater propensity for sole authority in family management decisionmaking among women who work. After accounting for this higher propensity by matching, the incidence of exclusive control in family management matters is 1.09 times higher (33.1 /[33.1-2.72]=1.09) among

women who work. Similarly, the propensity score estimate of women's labor force participation on women's sole and shared authority in personal decisionmaking is smaller than the observed difference in decisionmaking between women who work and those who do not, implying a greater propensity for authority in personal decisionmaking among women who work. Even after controlling for this propensity by matching, the incidence of exclusive control and shared authority in personal matters is 1.07 (46.8.1 /[46.8-3]=1.07) and 1.04 times higher (88.6/[88.6-3.75]=1.04) among women who work, respectively.[15]

We would interpret the propensity score estimates of the "work effect" on the other three measures of household decisionmaking in a similar fashion. If women were to engage in productive work, the number of family management decisions in which women decide in conjunction with their husbands or alone would increase by 0.204. The additional percent of women who would exercise exclusive control in personal matters would increase by about 3 percent if they were to engage in productive work and the percent that exercise shared authority in personal decisionmaking would increase by 3.75%. To the extent that my estimates are not affected by the endogeniety of the choice to work, they suggest that women's labor force participation increases the propensity that women will decide either exclusively or jointly in household decisionmaking.

Results of within-household fixed effects

The results from the propensity score matching technique are robust in so far as the variables on which we match are strictly exogenous and that non-observable

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15 In explaining the results of the propensity score matching, I adopt the same analysis style as Rendall (2011).

characteristics, for which this type of analysis does not control, do not simultaneously influence the propensity to engage in productive work and women's authority in household decisionmaking. Additionally, estimates of the average treatment effect on the treated assume that individuals' assignment to treatment is independent of each other(Caliendo and Kopeinig 2005). However, women living in household in which other women engage in productive work may be more likely to work themselves.

To address this issue and that of unobservable characteristics I conduct a fixed effects model. Since this is a within-household fixed effects analysis, only variables that reflect women's individual characteristics enter the model. In the case of the three binary outcome variables (sole authority in at least one family management decision, sole authority in personal decisionmaking and shared authority personal decisionmaking), only households where there are at least two women enter the model.

The results of within-household fixed effect regressions are presented in Tables 25-27. Women who work are 3.3 times more likely to experience exclusive control in at least one family management decision compared to women who do not work, however, this model is statistically non-significant (see Table 25). Engaging in productive work is associated with a 0.447 increase ($\alpha = 0.05$) in the index score when shared authority in family management is considered (see Table 26). Women who work are about 6 times more likely to exercise sole authority in personal decisionmaking compared to women who do not work ($\alpha = 0.05$) (see Table 27). The comparable statistic for the within-household fixed effect model of shared

authority in personal decisionmaking is 0.803 but neither this statistic or the model are statistically significant.

Contextual effects on women's authority in family management and personal decisionmaking

Empirical evidence from developed and developing countries indicate that contextual (i.e. structural) factors, located at the level of community, market, and state influence women's empowerment in a number of ways. Conceptually, structural factors may matter more for the marital balance of power than individual characteristics since men dominate not as individuals only but as a class due to institutionalized male privilege (Gillespie 1971). First, context shapes the causes and correlates of a given dimension of women's empowerment (Dharmalingam and Morgan 1996; Jejeebhoy 2000; Kulik 2011; Mason 1997). For example, in traditional societies, economic resources may be less important for women's power compared to culturally relevant social capital, such as the number of sons. Second, contextual factors may condition the magnitude of the effects of the correlates of women's empowerment (Heaton, Huntsman, and Flake 2005; Malhotra and Mather 1997; Rodman 1967; Rodman 1972).

To test whether women's household decisionmaking authority is shaped by contextual factors, I undertake a hierarchical linear modeling analysis of my four dependent variables.[16] I operationalize context in terms of three regional-level

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[16] I use Bartlett's test (Snedecor and Cochran Snedecor, George W. and William G. Cochran. 1989. *Statistical Methods, Eighth Edition*: Iowa State University Press.) to test whether variances are equal between groups (i.e. regions). Results of analysis of between-group variance (not shown here) indicate that at least one region's variance is different from the others for all four outcome variables except sole authority in personal decisionmaking. Similar results are obtained when using Levene's test of the

measures – women's literacy rate, women's labor force participation rate, and women's rejection of wife beating rate. These measure are expected to capture some aspects of regional-level socio-economic development and the extent of patriarchal gender norms, which can foster opportunities or obstacles for women's increased authority in household decisionmaking.

If contextual factors matter as suggested by theoretical frameworks and empirical evidence, than women who live in regions with average or above average rates of women's literacy, labor force participation and rejection of wife beating, will on average experience higher levels of authority in household decisionmaking than women in regions were rates are low(er). To explore the effect of regional levels of socio-economic development and gender norms on the regional average of women's household decisionmaking authority I model the intercept. To explore whether the effect of women's work is stronger in regions marked by average or above average rates of women's literacy, labor force participation and rejection of wife beating (i.e. high levels of socioeconomic development and less patriarchal gender norms) I attempted to model the work participation slope. However, I found that this relationship did not vary systematically between regions so I could not successfully model it as a random Level 2 outcome. Thus, I fixed this effect and only modeled the intercept. The results of HLM analyses of women's authority in household decisionmaking are presented in Tables 28-36.

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assumption of equal variance, which is an alternative to the Bartlett test in that it is less sensitive to departures from normality.

HLM analysis of sole authority in family management decisionmaking

The within-regions model of women's sole authority in family management decisionmaking (Table 28) indicates that women's labor force participation is positively correlated with women's sole authority in at least one family management decision but the association is statistically non-significant.[17] This is consistent with our earlier findings from the logistic regression of sole authority in family management decisionmaking on women's work.

The results of the fully conditional model are displayed in Table 29. The analysis includes variables that describe regions in terms of their socioeconomic development and gender norms and tests our hypothesis about the effects of context on women's sole authority in family management decisionmaking. The estimated average of regional averages of the *odds* that a woman will be the sole decision maker for at least one family management decision (γ_{00}) in regions with average women's literacy rates, average women's labor force participation rates, and average rates of women's rejection of wife beating is 0.51 $(\alpha = 0.001)$, controlling for women's economic status, family status and other background characteristics.[18] As average women's literacy rate (γ_{01}) increases so do women's odds of being the sole decision maker on at least one family management issue. In other words, a 1-SD increase in the regional average literacy rate for women results with a 1.51 increase in the odds of being the sole decider on at least one family management decision $(\alpha = 0.01)$.

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[17] Based on population average model with robust standard of errors. The association between women's work and sole authority in at least one family management decision is statistically non-significant even without controlling for other individual and household characteristics.

[18] Based on population average model. Odds ratio is calculated from the coefficient b as follows: odds ratio= e^{b}.

Average women's labor force participation rate (γ_{03}) and the average rate of women's rejection of wife beating (γ_{02}) are statistically unrelated to women's sole authority in family management decisionmaking. The lack of statistical significance of the effects of regional women's labor force participation rates and rejection of wife beating rates may be partially related to high multicollinearity. However, even after entering them separately, these measures remained non-significant. Thus, I conclude that women are more likely to have sole authority in family management issues in regions with higher women's literacy rates, over and beyond their own behavior and regardless of their characteristics or those of their households.

Comparing the variance components across models illustrates a progressive decrease. Without any explanatory variables, the variance component of the intercept (average of regional averages) is 0.171. The variance of the intercept remains unchanged when only women's work participation is included. After controlling for women's individual and other background characteristics the variance in the intercept decreases to 0.167 (see chi-square table at the bottom of Table 28). This modest decline implies that individual explanations are incomplete. Controlling for contextual factors reduces the variance component of the intercept to 0.115 (see chi-square table at the bottom of Table 29). Our model explains about 31 percent of between-region variance in women's exclusive control over family management related decisionmaking.[19] Explaining away all regional level variance is not

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[19] The percent of explained between-region variance is calculated by subtracting the residual variance in the intercept listed in the chi-squared table at the end of table 29 (0.115) from the initial variance in the intercept listed in the chi-squared table at the end of table 28 (0.167) and dividing by the estimated initial variance: [(0.167-0.115)/0.167] = 0.31.

necessarily the goal. However, that the biggest decline in the variance component occurs when contextual measures are entered into the model provides empirical evidence that social context can exert important effects on women's empowerment within the household over and above their own characteristics.

HLM analysis of shared authority in family management decisionmaking

Running a fully unconditional model with no explanatory variables for women's shared authority in family management decisionmaking shows that less than one percent of the variance in women's shared authority in family decisionmaking occurs between regions.[20] See Table 32 for variance components. A summary of the within-model for women's shared authority in family management decisionmaking is presented in Table 30. Within regions, my model indicates that women's labor force participation is associated with a 0.121 increase ($\alpha = 0.001$) in women's index score net of the effects of women's family status measures and other background characteristics. The reliability for the intercept ($\lambda_{\text{intercept1}} = .890$) is adequate (over 0.100) therefore I proceeded with modeling it.

The results of the fully conditional model are summarized in Table 31. The reported reliability for this model was $\lambda_{\text{intercept1}} = 0.841$ indicating the precision with which we can estimate the random effects for the intercept. The estimated average of regional averages of women's score on the shared authority in family management index (γ_{00}) in regions with average rates of women's literacy, average rates of women's labor force participation, and average rates of women's rejection of wife beating is 2.591 ($\alpha = 0.001$) controlling for women's economic status, family status

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[20] Interclass correlation (ICC) = 0.00784/(0.00784+0.77909)=0.0099=1%.

and other background characteristics. Average women's literacy rates (γ_{01}) and average women's labor force participation rates (γ_{03}) are statistically unrelated to the average of regional averages of women's shared authority in family management decisionmaking index score. To test whether the lack of statistical significance of regional rates of women's literacy and labor force participation is not due to multicollinearity, I enter each one of these measures into my model separately, but they remain non-significant. The relationship is positive and statistically significant for women's rejection of wife beating (γ_{02}). Every 1-SD increase in the rate of women's rejection of wife beating is associated with a 0.043 increase $(\alpha = 0.001)$ in the shared authority in family management index score. These results suggest that living in regions with high rates of women's rejection of wife beating is associated with greater shared authority in family management issues over and above women's individual and household characteristics.

As shown in Table 32, my fully conditional model explains 100 percent of the variance in the average of regional averages of women's shared authority in family management decisionmaking.[21] In addition, the variance in the intercept is no longer statistically significant, indicating that the model was able to explain enough of the variance in the intercept that it was no longer variable between regions.

HLM analysis of women's sole authority in personal decisionmaking

The within-regions model of women's sole authority in personal decisionmaking is displayed in Table 33.[22] Within-regions, the model indicates that

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[21] The percent of variance in the intercept explained = within – between/within=(0.004-0.000)/0.004=1=100%
[22] Based on the population average model with robust standard of errors.

women's labor force participation is associated with a 0.301 increase ($\alpha = 0.01$) in the log odds that women will exercise exclusive authority in personal health matters, net of the effects of women's family status and other background characteristics. Stated differently, women who work are about 1.35 times more likely to decide on alone on matters of personal health compared to women who do not work. [23]

The results of the fully conditional model are summarized in Table 34.[24] The estimated average of regional averages of the odds that a woman will have exclusive control over her own health (γ_{00}) in regions with average women's literacy rates, average women's labor force participation rates, and average rates of women's rejection of wife beating is 0.903 ($\alpha = 0.05$), controlling for women's economic status, family status and other background characteristics.[25] Average women's literacy (γ_{01}), average women's rejection of wife beating (γ_{02}), and average women's labor force participation (γ_{03}) are statistically unrelated to women's sole authority in personal decisionmaking even when they are entered separately into the model. Other characteristics of social context may be better suited for explaining regional variation in this dimension of household decisionmaking.

Comparing the variance components across models illustrates that my models contribute little to explaining variance in women's sole authority in personal decisionmaking between regions. Without any explanatory variables, the variance component of the intercept is 0.0177. The variance of the intercept barely changes to 0.017 when only women's work participation is included, and declines to 0.015 when

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[23] Odds ratio is calculated from coefficient b as follows: odds ratio= e^b.

[24] Based on the population-average model with robust standard of errors.

[25] Odds ratio is calculated as e^b where b is the coefficient.

individual and household characteristics are controlled (see chi-squared table at the bottom of Table 33). Controlling for contextual factors reduces the variance component in the intercept to 0.013 (see chi-squared table at the bottom of Table 34). The variance of the intercept remains statistically significant. The multivariate, multilevel model presented in Table 34 accounts for approximately 13 percent of between-region variance in women's sole authority in personal decisionmaking, indicating that many other regional factors affect this dimension of women's empowerment.

HLM analysis of women's shared authority in personal decisionmaking

Table 35 presents a summary of the within-model of women's shared authority in personal decisionmaking.[26] Within-regions, the model indicates that women's labor force participation is associated with a 2.247 increase ($\alpha = 0.001$) in the odds that women will participate in decisions related to personal health matters, net of the effects of women's family status and other background characteristics. Stated differently, women who work are about 9.459 times more likely to decide either jointly with their spouse or alone on matters of personal health compared to women who do not work.

The results of the fully conditional model are summarized in Table 36.[27] The estimated average of regional averages of the odds that a woman will decide in conjunction with her husband or alone on matters of personal health (γ_{00}) in regions with average women's literacy rates, average women's labor force participation rates, and average rates of women's rejection of wife beating is 8.434 ($\alpha = 0.001$)

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[26] Based on the population average model with robust standard of errors.
[27] Based on the population average model with robust standard of errors.

controlling for women's economic status, family status and other background characteristics. Average women's literacy (γ_{01}) and average women's rejection of wife beating (γ_{02}) are positively associated with the regional average of women's shared authority in personal decisionmaking. Every 1-SD increase in average women's literacy rates is associated with a 1.091 increase in women's odds of participating in decisions that related to their own wellbeing $(\alpha = 0.1)$. Women living in regions that are 1 SD above the mean in the rate of women's rejection of wife beating experience a 1.115 increase in the odds of deciding alone or jointly with their spouses on personal matters $(\alpha = 0.01)$. Women's labor force participation (γ_{03}) does not have a statistically significant contextual effect even when it is entered separately into the model to avoid issues of multicollinearity with other regional measures. Thus, I conclude that women are more likely to have some say in matters of personal wellbeing when living in regions with above average rates of women's literacy and above average rates of women's rejection of wife beating regardless of their individual or household characteristics. This confirms the hypothesis about the effects of regional characteristics on shared authority in personal decisionmaking.

The model presented in Table 36 explains about 68 percent of between-region variance in women's shared authority in personal decisionmaking (see the chi-squared table at the bottom of Table 36).[28] Additionally, controlling for contextual factors renders the residual variance in the intercept no longer statistically significant indicating that the model was able to explain enough of the variance that it was no

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[28] The percent of variance in the intercept explained = within –
between/within=(0.047-0.015)/0.047=0.68=68%

longer variable between regions. These results provide empirical support that individual-level explanations alone do not suffice and that social context exerts significant effects on women's empowerment within the household.

CHAPTER 10. DISCUSSION

At the beginning of this dissertation, I posed the question "do economics trump culture?", and using several multivariate methods of analysis, I test whether women's labor force participation and relative economic resources empower them when it comes to decisionmaking within the household even after we control for culturally relevant sources of domestic power and other background characteristics. The results of this dissertation are consistent with multidimensional conceptualizations of women's empowerment, but they also expand our theoretical model by providing empirical support for the conditions under which economic resources might trump cultural factors, and when cultural factors matter more, or when the two interact.

Economic and cultural explanations are better thought of as complementary rather than competing accounts of women's decisionmaking authority within the household. This research demonstrates that while women's work participation may have a causal effect on improving women's bargaining position within the household, relying solely on women's own characteristics and those of their households to explain power dynamics within the household provides incomplete explanations. Below I expand on these points and highlight some important non-findings, limitations and future directions for research.

Economic and cultural factors are complementary rather then competing explanations

For currently married Jordanian women, participation in productive work is associated with greater control and participation in household decisionmaking even after controlling for women's family status, other individual characteristics and household factors. However, the effects of women's work differ by dimension of household decisionmaking and whether we define authority as exclusive control or the ability to decide in conjunction with one's spouse. The effects of women's work and relative economic resources on women's household decisionmaking authority also differ markedly between women in nuclear and extended households.

Engaging in productive work enhances women's ability to *participate* in family management decisions while it confers greater chances of exercising *exclusive control* over personal decisions. Advantages in relative income do not confer additional benefits in terms of exclusive control over either dimension of household decisions. However, making about the same or more than one's spouse is associated with higher levels of women's participation in both family management and personal matters, over and above the effects of women's family status, individual characteristics and household factors, compared to not working or working and making less than one's spouse.

The benefits of participation in productive work and advantages in relative income on women's chances of exercising shared authority in family management and personal decisionmaking are only experienced by women in nuclear households. The differential impact of women's work and relative economic resources on women's household decisionmaking authority by household structure suggests that

patterns of marital power in extended households differ substantially from nuclear ones. In extended households, both gender and age hierarchies matter, and adherence to traditional gender norms may also matter more. In contrast to nuclear households, the extent of women's decisionmaking authority in extended households is far more likely to be negatively influenced by the presence and number of adult women and men. There may be a selectivity bias in the types of women who select into marriages that result with extended households; such women may be more likely to subscribe to traditional gender scripts in which men are expected to play the dominant role as providers and guardians.

I interpret the differential impact of women's productive work and relative income by dimension of household decisionmaking, level of authority and household structure to imply that cultural gender scripts and social context shape whether or not economic resources impact household decisionmaking dynamics, which aspects of these dynamics, and the extent of their influence. The results of this dissertation demonstrate empirically that theories of relative economic resources, gender performance, institutionalized patriarchy and bargaining approaches are complementary rather then competing explanations for women's authority within the household. In this respect, the findings presented here are consistent with existing research which has dispelled black-and-white conceptualizations of women's empowerment that emphasize comparative advantage in economic resources, or those that focus exclusively on cultural gender scripts. For example, approaches to household decisionmaking based on relative economic resources cannot explain why women who make more than their spouses, or contribute more to household expenses,

spend more time in housework or experience declines in their husbands' participation (Bittman et al. 2003; Brines 1994). Similarly, a focus on cultural gender scripts cannot account for high levels of women's labor force participation in some Muslim countries, such as Indonesia (40 percent) and Malaysia (32 percent), compared to very low levels of participation in other countries (World Bank 2013a).

A growing body of research has documented the multidimensionality of women's empowerment and demonstrated that different dimensions are correlated with different factors (Dharmalingam and Morgan 1996; Jejeebhoy and Sathar 2001; Malhotra 1997; Malhotra and Mather 1997; Mason 1986). For example, in traditional societies, women's schooling and participation in productive work matter less than culturally relevant sources of domestic power such as duration of marriage, number of sons, and being married to the head of the household (Jejeebhoy 2000; Kulik 2011; Mason 1997).

The results presented in this dissertation expand our theorizations of the multidimensionality of women's empowerment, and particularly the conditions for women's authority in household decisionmaking, by empirically demonstrating under what circumstances economic factors matter more than cultural ones and vice versa, as well as how much these factors matter. Even in largely traditional societies with low levels of women's labor force participation, advantages in economic resources may trump cultural gender scripts if women live in nuclear households in which they do not have to contend with generational hierarchies. Living apart from in-laws may not only facilitate women's ability to leverage their advantages in relative economic resources to gain a greater say in household decisionmaking, but it may also free men

from the burden of doing their own gender to save face in front of their parents or in-laws. The differentiated impact of women's work by type of decision even within nuclear households suggests that economic considerations and cultural norms may interact and shape the extent to which women's gains in spheres considered to be "masculine" such as employment, translate into a greater stake in the management of the household.

Multidimensionality of household decisionmaking

The nature of household decisionmaking in Jordanian society is underlined by a distinction between decisions that have to do with the daily management of the household and those that pertain to women's own wellbeing. Jordanian women are far more likely to exercise exclusive control over personal matters. The daily management of the household is one arena in which women can have influence as co-participants, yet this is one aspect of the household in which men are also more likely to decide on their own.

Additionally, these two dimensions of household decisionmaking differ in their nature and correlates. While participation in productive work enhances women's chances of exercising exclusive control over personal decisionmaking, it improves women's chances of partaking in decisions that have to do with the management of the household. The differential impact of women's work by household decision and level of authority may partially have to do with the fact that family management decisions by nature differ fundamentally from personal decisionmaking in that they have to do with the wellbeing of others so spouses are likely to participate. The differentiation in household decisionmaking and its correlates in Jordanian society

may also have to do with cultural gender scripts. In so far as men are expected to act as the guardians and protectors, we would expect them to decide on matters that have to do with the wellbeing of others

Individual level explanations are incomplete: social context matters

My research demonstrates that women's economic resources, net of other background characteristics and those of their households, are under some conditions positively associated with their household decisionmaking power. However, the story does not end here. My results expand research on women's household decisionmaking authority by providing further empirical evidence that characteristics of regions in which women reside can exert important effects on the extent of women's control over, or participation in, decisions that have to do with the daily management of their families and their personal wellbeing.

There are important regional effects on women's authority in household decisionmaking, even after controlling for women's relative economic resources, husbands' characteristics, women's family status such as whether their husbands have co-wives, whether they are related to their spouses prior to marriage, number of living sons and being married to the household head or being the head, as well as household factors such as whether their husbands live with them and whether they live in nuclear households. Individual models tend to overlook the pervasiveness of cultural norms which shape day-to-day behavior and activities, and structural level factors that can facilitate or complicate women's abilities to decide on their own, free from the control of others, on issues that have to do with the management of their families and their own wellbeing. For example, the availability of well-paying female suited jobs

may encourage women and their families to overlook traditional gender norms, especially in the context of high living costs.

Regional characteristics were associated with between-region differences in average levels of women's authority in household decisionmaking. Regardless of women's characteristics, regions with high levels of women's literacy and/or women's rejection of wife beating are associated with higher levels women's of household decisionmaking power. This implies that in such regions, even women who do not work are more likely to have exclusive control over, or participate in, household decisions. On the other hand, regional levels of women's labor force participation do not seem to influence the extent of women's household decisionmaking. I discuss this important non-finding and its implication for our theorizations of women's empowerment in the latter section.

Some important non-findings

There are several important non-findings that are relevant to our theorizations of women's empowerment and the conditions under which we expect women's labor force participation to enhance the extent of women's authority within the household. These non-findings include the following: distinctions in level of decisionmaking authority by type of economic activity (i.e. paid versus unpaid), effects of occupational prestige, lack of a systematic difference in the effects of work by regional characteristics, and the association of family status variables with the extent of women's household decisionmaking authority. Below I describe these non-findings in detail.

Is there a difference between paid and unpaid work?

In this research, I could not detect any statistically meaningful difference between participating in different forms of paid work versus unpaid work for the extent of women's authority in family management decisionmaking. In only one circumstance, paid work (self-employment) confers additional benefits for shared authority in personal decisionmaking The lack of statistical association between employment status and women's authority in household decisionmaking may have more to do with underreporting and undercounting. It maybe that women who participate in unpaid family work or unpaid forms of work do not consider such activities to be work and accordingly did not report it.[29] Investigators may have not consistently probed for accurate responses that capture women's unpaid work, which has a long history of been undercounted. In our analytical sample, only 23 women are unpaid workers. The lack of statistically significant difference between unpaid versus paid work may be a result of small sample size. These results do not permit us to conclude that partaking in paid forms of economic activity do not confer additional benefits for women's household decisionmaking compared to unpaid work. First, differences between paid and unpaid work have been documented in other research. Second, the results of this research indicate that advantages in relative income are positively and statistically associated with enhanced shared authority in both dimensions of household decisionmaking.

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[29] For some details on differences in the characteristics of unpaid family workers and unpaid workers, including types of occupations, refer back to Chapter 8, Section on Independent Variables.

(How) does occupational prestige matter?

The results on the association between occupational prestige and married women's authority in household decisionmaking are mixed. The results do not support the contention that women in equally or more prestigious occupations than their husbands exercise greater authority (whether exclusive or shared) in household decisionmaking compared to women in less prestigious occupations. Based on my results, I cannot identify a consistent pattern about the association between women's relative occupational prestige and the extent of their authority in household decisionmaking in which women in more or less prestigious occupations exercise greater authority than women who do not work, but women who are in more prestigious occupations have greater authority than women in less prestigious occupations. It may be that women in managerial and professional occupations are more likely to participate in or exercise exclusive control over household decisions compared to women in less skilled occupations (and women who do not work), independent of their husbands' occupations. Research that includes absolute measures of women's occupational status might be more effective in shedding light on the association between occupational status and household decisionmaking authority.

Do regional levels of women's labor force participation matter for women's authority in household decisionmaking?

I was interested in modeling the work participation slope to test whether the positive benefits of women's work are even larger in regions marked by high levels of socioeconomic development and less traditional gender norms. However, I failed to detect a systematic difference in the work participation slope between regions. This non-finding is important but may be a problem of statistical power related to modest

within-region sample sizes that include a sufficient number of women who work. Additionally, my model failed to detect a contextual effect for women's labor force participation. Regional rates of women's labor force participation were statistically unrelated to regional averages in women's household decisionmaking authority, and this may be partially explained by the lack of variation in women's labor force participation rates between regions. Women's labor force participation rate ranges from a high of about 25 percent in urban Karak to a low of 5.5 percent in rural Zarqa. This is a wider spread than that of women's rejection of wife beating rate but lower than that of women's literacy rate.

Another possible explanation for the lack of statistical association between regional rates of women's labor force participation and the extent of women's authority in household decisionmaking may have to do with the multidimensional nature of women's empowerment discussed above and in Chapter 2. Regions with the highest levels of women's literacy and rejection of wife beating also have the lowest levels of women's labor force participation (refer to Appendix Table 4b). Regions with the lowest levels of women's literacy and lowest levels of disapproval of wife beating are regions in which women's labor force participation rates are highest.

(When) does family status matter?

In this dissertation I was interested in testing whether women's participation in productive work could increase the extent of their authority within the household after controlling for factors that would hypothetically influence women's domestic power in a traditional context such as Jordan. Among the culturally relevant factors that may enhance women's influence or prestige within the household are the number

of living sons, co-wives, being related to the spouse prior to marriage (e.g. first cousin) and martial duration (Mason 1997). The importance of family status variables for the extent of women's authority in household decisionmaking varies by type of decision and household structure. When it comes to participating in decisions that have to do with the daily management of the household, marital duration is statistically important for women in both nuclear and extended households, but it has a bigger positive effect in extended households. While having co-wives has a negative effect on women's shared authority over family management decisions, this association is statistically significant only for women in nuclear households. Women's authority in personal decisionmaking, whether shared or exclusive, does not seem to be influenced by women's family status. Women's family status may impact the extent of their authority within the household and additional research may address this set of factors to further explore these associations. The data at hand permit us to conclude, that for decisions which are culturally construed to be part of men's decisionmaking prerogative in their capacity as protectors and providers, some family status variable may be influential over and above the advantages conferred by participation in productive work, and these effects may be more pronounced for women who live in traditional households.

Implications for research on women's work in MENA region

Research on women's labor force participation in MENA region and efforts to expand women's access to paid employment have been partially motivated by the underlying assumption that participation in productive work may potentially confer both material and non-material resources which can improve women's lives and the

wellbeing of others in their household. The research at hand aims to empirically explore whether these assumptions, which we observe in developed countries and other developing regions with sizable proportions of women in the labor force, can also hold true in a context where women's labor force participation rates are low and traditional gender norms prevail.

On the micro-level, the results of this dissertation support the contention that women's participation in productive work may enhance the extent of women's participation in decisions that have to do with the daily management of their households, as well as improve their chance of exercising exclusive control on issues that have to do with their own wellbeing, net of other factors. However, on the macro-level, women's labor force participation rates do not seem to be related to the extent of women's authority in household decisionmaking. This could have to do with lack of variation and/or the multidimensional nature of women's empowerment as discussed above. Nonetheless, the results of this research have two implications for literature on women's work in the MENA region and efforts to promote women's access to paid work opportunities First, enhancing women's labor force participation may not, *on the macro-level* be positively correlated with other dimensions of women's empowerment. Traditional gender norms may partially explain low levels of labor force participation, but cultural scripts adapt to economic realties as more women engage in remunerative work. Second, continuing to invest in women's education, training, and job placement may on the micro-level improve women's sense of empowerment within their households and possibly on the macro-level shift cultural gender scripts.

Limitations and future directions

This analysis relies on women's reporting, so when it comes to distinctions between exclusive control and shared decisionmaking authority, social desirability effects may influence women's responses. Cultural gender scripts may also influence women's own perceptions of the extent of their control over household decisions.

This research sheds light on the pathways through which work improves women's control over, or participation in, household decisions. However, this research did not detect meaningful differences between paid and unpaid work. This may very well have to do with reporting and data collection, yet, these results underscore the contention that conventional measures of women's work are insufficient for explicating household power dynamics. Some aspects of household decisionmaking require the life-long development of negotiation and communication skills (Malhotra and Mather 1997). Collecting information on quasi work (e.g. volunteer work and training) and whether the respondent has ever worked could shed more light on the pathways through which work empowers women within the household. Women's labor force participation rates in MENA region are low, but there is a marked difference by marital status - when Arab women work most do so prior to marriage (World Bank 2013b). The positive effects of improved communication and negotiation skills and confidence may persist long after dropping out of the labor force. Including prior work experience may help us get a better handle on how work impacts women's empowerment within the household.

Qualitative research in the form of focus groups with both women and men can shed more light on the pathways through which work empowers women within the household, as well as the strategies that women adopt within the constraints they

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face to make decisions. Why is women's decisionmaking authority marked by a sharp delineation between exclusive control over personal matters and shared authority in family management? Is this part and parcel of the concessions women make in one domain to gain in others? How and when do women use their economic and social resources to get what they want?

In this dissertation I make a distinction between two levels of women's authority – exclusive control versus shared authority in two distinct dimensions of household decisionmaking. But is there a substantive difference between being able to decide alone versus having to negotiate with one's spouse when it comes to other demographic outcomes of interest? For example, future research can explore the difference between child health and schooling outcomes depending on the level of their mother's decisionmaking authority. Differences in level of empowerment may have a substantive impact on women's own wellbeing. Women's depression rates are in MENA region are the highest in the world, and the gender gap is also the widest (Freund 2013). A number of factors, including ongoing armed conflict and civil strife, may partially explain the extraordinarily high levels of depression rates among women in MENA and that fact that the gap is the widest. However, these rates may be related to levels of women's agency and empowerment in the region (Freund 2013). Being able to participate in family management decisions is better than being shut out of this process altogether. Yet there may be a cost associated to having to negotiate with husbands on issues that have to do with the wellbeing of others that eventually takes a toll on women's own wellbeing.

TABLES

Table 1. Factors for different dimensions of women's authority in household decision making with the variables that are most correlated (factor loadings of 0.40 or more)

Factor number	Assigned factor label	Variables most correlated (loading 0.40 or more post rotation)	Factor loading after rotation
1	Family management decisions	Large purchases	0.754
		Daily needs	0.706
		Social visits to family	0.635
		Husband's earnings	0.641
2	Personal decisions	Personal health	0.926

Table 2. Married women's sole authority in household decisionmaking by various economic status measures

Variables	Personal (I)	Large purchases (II)	Daily needs (III)	Social visits (IV)	Husband earnings (V)	Sole authority in +1 family decisions (VI)
Current work status[1]						
Currently working (N=1,373)	0.51	0.15	0.29	0.12	0.05	0.38
Currently not working (N=8,987)	0.47	0.10	0.26	0.10	0.04	0.33
Nature of current work[2]						
Employee (N=1,258)	0.50	0.14	0.28	0.11	0.04	0.37
Employer (N=21)	0.43	0.14	0.29	0.14	0.14	0.43
Self employed (N=71)	0.55	0.25	0.44	0.16	0.11	0.52
Unpaid family worker (N=20)	0.50	0.20	0.20	0.15	0.00	0.35

Table 2. Married women's sole authority in household decisionmaking by various economic status measures

Variables	Personal (I)	Large purchases (II)	Daily needs (III)	Social visits (IV)	Husband earnings (V)	Sole authority in +1 family decisions (VI)
Unpaid worker (N=3)	1.00	0.00	1.00	0.33	0.00	1.00
Relative income[3]						
Wife earns more or same as husband (N=540)	0.51	0.18	0.27	0.11	0.05	0.37
Wife earns less income than husband (N=766)	0.49	0.12	0.29	0.11	0.04	0.38
Husband doesn't earn any income (N=42)	0.67	0.26	0.41	0.21	n/a	0.48
Wife has no earnings (N=9,010)	0.47	0.10	0.26	0.10	0.04	0.33
Relative occupational prestige						
Husband works, wife does not work (N=7,521)	0.46	0.09	0.27	0.10	0.04	0.34
Husband more prestige, wife works (N=384)	0.50	0.15	0.28	0.11	0.04	0.38
Wife same or more prestige (N=989)[4]	0.51	0.15	0.29	0.12	0.05	0.38
Both do not work (N=1,466)	0.52	0.13	0.22	0.12	0.05	0.31
All Married Women (N=10,360)	0.47	0.11	0.26	0.10	0.04	0.34

Notes: Values are unweighted.
[1] Includes both paid and unpaid work.
[2] Pertains to currently working women.
[3] Category "wife has no earnings" mostly pertains to women who do not work (n=8,987) and women in unpaid work (n=23).
[4] Includes working women whose husbands do not work (n=141).

Table 3. Married women's shared authority in household decisionmaking by various economic status measures

Variables	Personal (VII)	Large purchases (VIII)	Daily needs (IX)	Social visits (X)	Husband earnings (XI)	Shared family management index (XII)
Current work status[1]						
Currently working (N=1,373)	0.93	0.85	0.80	0.92	0.30	2.85
Currently not working (N=8,987)	0.89	0.66	0.68	0.83	0.42	2.57
Nature of current work[2]						
Employee (N=1,258)	0.94	0.85	0.80	0.92	0.29	2.86
Employer (N=21)	0.76	0.95	0.76	0.95	0.29	2.95
Self employed (N=71)	0.97	0.86	0.79	0.89	0.24	2.75
Unpaid family worker (N=20)	0.75	0.55	0.55	0.80	0.65	2.55
Unpaid worker (N=3)	1.00	0.67	1.00	1.00	0.00	2.67
Relative income[3]						
Wife earns more or same as husband (N=540)	0.94	0.87	0.79	0.92	0.27	2.86
Wife earns less income than husband (N=766)	0.93	0.84	0.80	0.92	0.31	2.86
Husband doesn't earn any income (N=42)	0.95	0.91	0.88	0.81	n/a	2.60
Wife has no earnings (N=9,010)	0.89	0.66	0.68	0.83	0.42	2.57
Relative occupational prestige						
Husband works, wife does not work (N=7,521)	0.89	0.66	0.70	0.84	0.41	2.60
Husband more prestige, wife works (N=384)	0.92	0.84	0.76	0.92	0.33	2.84
Wife same or more prestige (N=989)[4]	0.94	0.85	0.81	0.91	0.28	2.85
Both do not work (N=1,466)	0.87	0.61	0.60	0.79	0.51	2.40
All Married Women (N=10,360)	0.89	0.68	0.70	0.84	0.40	2.60

Notes: Values are unweighted.

Table 4a. Married women's sole authority in household decisionmaking by various culturally relevant status measures

Variables	*Personal decisions*	Large purchases	Daily needs	Social visits	Husband earnings	*Sole authority*
Marital duration						
0-4 years (N=2,158)	0.40	0.07	0.21	0.06	0.04	0.27
5-9 years (N=2,042)	0.47	0.09	0.25	0.09	0.04	0.31
10-14 years (N=1,924)	0.48	0.10	0.29	0.10	0.04	0.36
15-19 years (N=1,783)	0.50	0.12	0.30	0.12	0.04	0.38
20-24 years (N=1,288)	0.52	0.14	0.27	0.14	0.05	0.37
25-29 years (N=805)	0.52	0.14	0.27	0.11	0.05	0.35
30+ years (N=360)	0.53	0.17	0.30	0.16	0.05	0.40
Number of living sons						
No sons (N=1,949)	0.41	0.09	0.22	0.07	0.03	0.29
At least one son (N=8,411)	0.49	0.11	0.27	0.11	0.04	0.35
Co-wives						
Husband does not have other wives (N=9,721)	0.47	0.10	0.26	0.10	0.04	0.34
Husband has other wives (N=627)	0.55	0.14	0.23	0.16	0.03	0.32
Respondent's relation to head of household						
Not married to head/not head (N=819)	0.39	0.08	0.23	0.09	0.03	0.31
Respondent is household head or married to household head (N=9,541)	0.48	0.11	0.26	0.10	0.04	0.34
Relationship to husband prior to marriage (endogamy)						
Not related to husband prior to marriage (N=5,887)	0.47	0.11	0.26	0.11	0.04	0.33
Related to husband prior to marriage (N=4,472)	0.48	0.10	0.27	0.10	0.04	0.34
All Married Women (N=10,360)	0.47	0.11	0.26	0.10	0.04	0.34

Notes: Values are unweighted.

Table 4b. Married women's shared authority in household decisionmaking by various culturally relevant status measures

Variables	Personal decisions	Large purchases	Daily needs	Social visits	Husband earnings	Shared authority in family mgmt.
Marital duration						
0-4 years (N=2,158)	0.87	0.68	0.69	0.83	0.38	2.57
5-9 years (N=2,042)	0.89	0.67	0.69	0.83	0.40	2.58
10-14 years (N=1,924)	0.90	0.70	0.73	0.85	0.38	2.64
15-19 years (N=1,783)	0.91	0.69	0.72	0.85	0.39	2.63
20-24 years (N=1,288)	0.91	0.68	0.68	0.86	0.44	2.63
25-29 years (N=805)	0.90	0.67	0.66	0.84	0.48	2.62
30+ years (N=360)	0.85	0.63	0.63	0.83	0.48	2.54
Number of living sons						
No sons (N=1,949)	0.87	0.68	0.69	0.82	0.39	2.56
At least one son (N=8,411)	0.90	0.68	0.70	0.85	0.41	2.62
Co-wives						
Husband does not have other wives (N=9,721)	0.90	0.69	0.71	0.85	0.38	2.63
Husband has other wives (N=627)	0.81	0.47	0.49	0.67	0.73	2.29
Respondent's relation to head of household						
Not married to head/not head (N=819)	0.86	0.64	0.64	0.76	0.39	2.40
Respondent is household head or married to household head (N=9,541)	0.90	0.68	0.70	0.85	0.40	2.62
Relationship to husband prior to marriage						
Not related to husband prior to marriage (N=5,887)	0.89	0.69	0.70	0.84	0.40	2.62
Related to husband prior to marriage (N=4,472)	0.89	0.67	0.69	0.84	0.41	2.59
All Married Women (N=10,360)	0.89	0.68	0.70	0.84	0.40	2.60

Table 5. Logistic regression of women's sole authority in at least one family management decision on women's work

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Respondent currently working	1.038	1.048	1.005	1.01E+00	1.03E+00
Respondent's educational attainment (ref: no education)					
Primary		1.244	1.232	1.245	1.184
Secondary		1.371**	1.375*	1.404**	1.323*
Higher		1.317*	1.247	1.323	1.255
Respondent's age (years)			1.110***	1.078**	1.081**
Respondent age squared			0.999**	0.999*	0.999*
Husband's educational attainment (ref: none)					
Primary			1.012	1.015	1.008
Secondary			1.071	1.076	1.095
Higher			0.957	0.958	0.946
Husband currently working			1.226**	1.221**	1.187*
Household wealth (ref: poorest)					
Poorer			1.099	1.108	1.109
Middle			1.121	1.129	1.131
Richer			1.259**	1.280**	1.249*
Richest			1.300**	1.328**	1.226
Husband in the household			0.306***	0.301***	0.335***
Respondent has at least one living son				1.02	1.029
Respondent's husband has other wives				1.112	1.182
Respondent is married to household head or is the head				1.026	1.014
Respondent related to husband prior to marriage				0.977	0.984
Duration of marriage (years)				1.018*	1.021**
Number of adult males				0.949	0.948
Number of adult females				0.965	0.945

Table 5. Logistic regression of women's sole authority in at least one family management decision on women's work

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Region (ref.: Amman)					
Balqa					0.484***
Zarqa					0.493***
Madaba					0.608***
Irbid					1.214**
Mafraq					1.18
Jarash					0.684***
Ajlun					0.872
Karak					1.148
Tafiela					0.683***
Ma'an					0.9
Aqaba					0.439***
Urban					1.424***
Constant	0.623***	0.467***	0.128***	0.224**	0.184**
Wald Chi2 (df)	0.142 (1)	5.037 (4)	80.48 (15)	90.8 (22)	305.2 (34)
N	10360	10360	10357	10344	10344

Notes: Results reported as odds ratios. Work includes paid and unpaid work. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 6. OLS regression of women's shared authority in family management decisionmaking on women's work

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Respondent currently working	0.235***	0.134***	0.108***	0.110***	0.119***
Respondent's educational attainment (ref: no education)					
Primary		0.057	0.026	0.014	0.011
Secondary		0.257***	0.197***	0.177***	0.175***
Higher		0.417***	0.278***	0.276***	0.278***
Respondent's age (years)			0.0265***	0.007	0.007
Respondent's age squared			-0.000286**	0.000	0.000
Husband's educational level (ref: no education)					
Primary			0.015	-0.008	-0.010
Secondary			0.044	0.016	0.016
Higher			0.141**	0.110*	0.115*
Husband currently working			0.0799***	0.0660**	0.0637**
Household wealth (ref: poorest)					
Poorer			0.040	0.044	0.033
Middle			0.0586**	0.0708**	0.0530*
Richer			0.157***	0.178***	0.156***
Richest			0.155***	0.178***	0.147***
Husband in the household			0.046	-0.048	-0.052
Respondent has at least one living son				0.000	0.000
Respondent's husband has other wives				-0.149***	-0.148***
Respondent is married to HH head or is the head				0.111***	0.112***
Respondent related to husband prior to marriage				-0.004	-0.001
Duration of marriage (years)				0.00835***	0.00849***

Table 6. OLS regression of women's shared authority in family management decisionmaking on women's work

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Number of adult males				-0.0221*	-0.0209*
Number of adult females				-0.0482***	-0.0433***
Region (ref.: Amman)					
Balqa					-0.0676*
Zarqa					0.0538**
Madaba					0.111*
Irbid					-0.0820***
Mafraq					-0.128***
Jarash					-0.090
Ajlun					-0.109*
Karak					-0.0975*
Tafiela					-0.060
Ma'an					-0.032
Aqaba					-0.050
Urban					-0.033
Constant	2.629***	2.360***	1.626***	2.102***	2.156***
R-squared	0.007	0.022	0.038	0.047	0.051
N	10360	10360	10357	10344	10344

Notes: Household decisionmaking index ranges from 0 - 4 reflecting the number of family management decisions in which women decide in conjunction with their spouses or alone. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 7. Logistic regression of women's sole authority in at least one family management decision on women's employment status

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Women's employment status (ref.: does not work)					
Employee	1.015	1.02	0.98	0.993	1.013
Employer	0.662	0.652	0.581	0.568	0.548
Self employed	1.442	1.469	1.388	1.347	1.332
Unpaid family worker/unpaid worker	2.031	2.144	2.153	2.07	1.818
Women's education (ref.no education)					
Primary		1.242	1.23	1.243	1.182
Secondary		1.383**	1.387**	1.414**	1.332*
Higher		1.338*	1.262	1.333	1.262
Women's age (continuous)			1.112***	1.081**	1.083**
Age squared			0.999**	0.999*	0.999*
Husband's education (ref: no education)					
Primary			1.01	1.015	1.009
Secondary			1.067	1.073	1.093
Higher			0.958	0.959	0.948
Husband currently working			1.220**	1.215*	1.182
Household wealth (ref: poorest)					
Poorer			1.103	1.11E+00	1.11E+00
Middle			1.123	1.13E+00	1.13E+00
Richer			1.265**	1.287**	1.253*
Richest			1.308**	1.337**	1.23E+00
Husband in household			0.306***	0.301***	0.335***
Respondent has at least one living son				1.019	1.028
Respondent's husband has co-wives				1.107	1.181
Respondent is HH head/married to head				1.027	1.014

Table 7. Logistic regression of women's sole authority in at least one family management decision on women's employment status

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Respondent related to husband prior to marriage				0.974	0.982
Marital duration (continuous)				1.017*	1.021**
Number of adult males				0.949	0.948
Number of adult females				0.964	0.945
Region (ref.: Amman)					
Balqa					0.483***
Zarqa					0.492***
Madaba					0.608***
Irbid					1.208*
Mafraq					1.179
Jarash					0.684***
Ajlun					0.871
Karak					1.148
Tafiela					0.684***
Ma'an					0.901
Aqaba					0.439***
Urban					1.428***
Constant	0.623***	0.463***	0.123***	0.217**	0.178**
Wald Chi2 (df)	2.961 (4)	8.192 (7)	83.82 (18)	93.94 (25)	308.2 (37)
N	10360	10360	10357	10344	10344

Notes: Results reported as odds ratios. Unpaid workers (n=3) are included with unpaid family workers (n=23) because they are a very small group. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 8. OLS regression of women's shared authority in family management decisionmaking on women's employment status

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Women's employment status (ref.: does not work)					
Employee	0.238***	0.123***	0.0998***	0.103***	0.112***
Employer	0.476***	0.429***	0.313**	0.319**	0.316**
Self employed	0.0399	0.0616	0.0353	0.0233	0.0338
Unpaid family worker/unpaid worker	0.311*	0.353*	0.351*	0.372**	0.403**
Women's education (ref.no education)					
Primary		0.0587	0.0278	0.0154	0.0132
Secondary		0.257***	0.198***	0.177***	0.176***
Higher		0.420***	0.281***	0.279***	0.281***
Women's age (continuous)			0.0266***	0.0072	0.0077
Age squared			-0.000288**	-0.000105	-0.000114
Husband's education (ref: no education)					
Primary			0.0145	-0.00967	-0.0111
Secondary			0.0437	0.0147	0.0148
Higher			0.139**	0.107	0.112*
Husband currently working			0.0792***	0.0651**	0.0628**
Household wealth (ref: poorest)					
Poorer			0.0399	0.0439	0.0338
Middle			0.0595**	0.0717**	0.0540*
Richer			0.158***	0.179***	0.157***
Richest			0.155***	0.178***	0.148***
Husband in household			0.0448	-0.0492	-0.0537
Respondent has at least one living son				-4.42E-05	0.000357
Respondent's husband has co-wives				-0.154***	-0.153***
Respondent is the household head or married to head				0.111***	0.112***
Respondent related to husband prior to marriage				-0.00411	-0.000661
Marital duration (continuous)				0.00831***	0.00844***

Table 8. OLS regression of women's shared authority in family management decisionmaking on women's employment status

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Number of adult males				-0.0217*	-0.0205*
Number of adult females				-0.0484***	-0.0435***
Region (ref.: Amman)					
Balqa					-0.0666*
Zarqa					0.0544**
Madaba					0.113**
Irbid					-0.0820***
Mafraq					-0.128***
Jarash					-0.089
Ajlun					-0.108*
Karak					-0.0970*
Tafiela					-0.0593
Ma'an					-0.0307
Aqaba					-0.0491
Urban					-0.0327
Constant	2.629***	2.359***	1.626***	2.102***	2.154***
R-squared	0.008	0.022	0.038	0.047	0.051
N	10360	10360	10357	10344	10344

Notes: Household decisionmaking index ranges from 0 - 4 reflecting the number of family management decisions in which women decide in conjunction with their spouses. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 8a. Logistic regression of women's sole authority in at least one family management decision on women's employment status

Variable	Odds ratio
Women's employment status (ref.: unpaid family workers/unpaid workers)	
Employee	0.557
Employer	0.301
Self employed	0.733
Women who do not work	0.55
Women's education (ref.no education)	
Primary	1.182
Secondary	1.332*
Higher	1.262
Women's age (continuous)	1.083**
Age squared	0.999*
Husband's education (ref: no education)	
Primary	1.01E+00
Secondary	1.09E+00
Higher	0.948
Husband currently working	1.182
Household wealth (ref: poorest)	
Poorer	1.112
Middle	1.132
Richer	1.253*
Richest	1.232
Husband in household	0.335***
Respondent has at least one living son	1.028
Respondent's husband has co-wives	1.181
Respondent is the household head or married to head	1.014
Respondent related to husband prior to marriage	0.982
Marital duration (continuous)	1.021**
Number of adult males	0.948
Number of adult females	0.945
Urban	1.428***
Constant	0.323
Wald Chi2 (df)	308(37)
N	10344

Notes: Region dummies included but not shown here. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

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Table 8b. OLS regression of women's shared authority in family management decisionmaking index on women's employment status

Variable	Coefficient
Women's employment status (ref.: unpaid family workers/unpaid workers)	
Employee	-0.291
Employer	-0.0871
Self employed	-0.369*
Women who do not work	-0.403**
Women's education (ref.no education)	
Primary	0.0132
Secondary	0.176***
Higher	0.281***
Women's age (continuous)	0.0077
Age squared	-0.000114
Husband's education (ref: no education)	
Primary	-0.0111
Secondary	0.0148
Higher	0.112*
Husband currently working	0.0628**
Household wealth (ref: poorest)	
Poorer	0.0338
Middle	0.0540*
Richer	0.157***
Richest	0.148***
Husband in household	-0.0537
Respondent has at least one living son	0.000357
Respondent's husband has co-wives	-0.153***
Respondent is the household head or married to head	0.112***
Respondent related to husband prior to marriage	-0.000661
Marital duration (continuous)	0.00844***
Number of adult males	-0.0205*
Number of adult females	-0.0435***
Urban	-0.0327
Constant	2.557***
R-squared	0.051
N	10344

Notes: Household decisionmaking index ranges from 0 - 4 reflecting the number of family management decisions in which women decide in conjunction with spouses or alone. Region dummies included but not shown here Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 8c. Logistic regression of women's sole authority in at least one family management decision on women's employment status

Variable	Odds ratio
Women's employment status (ref.: Employee)	
Employer	0.54
Self-employed	1.315
Unpaid family worker/unpaid worker	1.794
Women who do not work	0.987
Women's education (ref.no education)	
Primary	1.182
Secondary	1.332*
Higher	1.262
Women's age (continuous)	1.083**
Age squared	0.999*
Husband's education (ref: no education)	
Primary	1.009
Secondary	1.093
Higher	0.948
Husband currently working	1.182
Household wealth (ref: poorest)	
Poorer	1.112
Middle	1.132
Richer	1.253*
Richest	1.232
Husband in household	0.335***
Respondent has at least one living son	1.028
Respondent's husband has co-wives	1.181
Respondent is the household head or married to head	1.014
Respondent related to husband prior to marriage	0.982
Marital duration (continuous)	1.021**
Number of adult males	0.948
Number of adult females	0.945
Urban	1.428***
Constant	0.180**
Wald Chi2 (df)	308.2 (37)
N	10344

Notes: Region dummies included but not shown here. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 8d. OLS regression of women's shared authority in family management decisionmaking index on women's employment status

Variable	Coefficient
Women's employment status (ref.: Employee)	
Employer	0.204
Self-employed	-0.078
Unpaid family worker/unpaid worker	0.291
Women who do not work	-0.112***
Women's education (ref.no education)	
Primary	0.0132
Secondary	0.176***
Higher	0.281***
Women's age (continuous)	0.0077
Age squared	-0.000114
Husband's education (ref: no education)	
Primary	-0.0111
Secondary	0.0148
Higher	0.112*
Husband currently working	0.0628**
Household wealth (ref: poorest)	
Poorer	0.0338
Middle	0.0540*
Richer	0.157***
Richest	0.148***
Husband in household	-0.0537
Respondent has at least one living son	0.000357
Respondent's husband has co-wives	-0.153***
Respondent is the household head or married to head	0.112***
Respondent related to husband prior to marriage	-0.000661
Marital duration (continuous)	0.00844***
Number of adult males	-0.0205*
Number of adult females	-0.0435***
Urban	-0.0327
Constant	2.266***
R-squared	0.051
N	10344

Notes: Household decisionmaking index ranges from 0 - 4 reflecting the number of family management decisions in which women decide in conjunction with their spouses or on their own. Region dummies included but not shown here. Weights included.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 9. Logistic regression of women's sole authority in at least one family management decision on women's relative income

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Women's relative income (ref.: women who don't work or women with no earnings)					
Earns about the same or more than husband	0.994	0.999	0.974	0.988	1.001
Earns less than husband	1.042	1.045	0.988	0.992	1.014
Husband has no earnings (wife is in paid work)	0.997	1.03	1.007	1.031	1.002
Women's education (ref.no education)					
Primary		1.25	1.235	1.248	1.186
Secondary		1.375**	1.377*	1.405**	1.322*
Higher		1.330*	1.257	1.331	1.26
Women's age (continuous)			1.111***	1.079**	1.081**
Age squared			0.999**	0.999*	0.999*
Husband's education (ref: no education)					
Primary			1.02	1.02E+00	1.02E+00
Secondary			1.08	1.085	1.108
Higher			0.965	0.967	0.957
Husband currently working			1.226**	1.222*	1.186
Household wealth (ref: poorest)					
Poorer			1.098	1.108	1.108
Middle			1.119	1.128	1.129
Richer			1.258**	1.280**	1.249*
Richest			1.300**	1.330**	1.227
Husband present in the household			0.306***	0.301***	0.335***
Respondent has at least one living son				1.02	1.029
Respondent's husband has co-wives				1.113	1.184
Respondent is the household head or married to head				1.024	1.012
Respondent related to husband prior to marriage				0.978	0.985

Table 9. Logistic regression of women's sole authority in at least one family management decision on women's relative income

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Marital duration (continuous)				1.018*	1.021**
Number of adult males				0.948	0.947
Number of adult females				0.964	0.945
Region (ref.: Amman)					
Balqa					0.482***
Zarqa					0.493***
Madaba					0.608***
Irbid					1.214**
Mafraq					1.178
Jarash					0.683***
Ajlun					0.872
Karak					1.149
Tafiela					0.683***
Ma'an					0.901
Aqaba					0.439***
Urban					1.422***
Constant	0.624***	0.466***	0.125***	0.221**	0.182**
Wald Chi2 (df)	0.101(3)	5.038 (6)	80.47(17)	90.78 (24)	305.2 (36)
N	10358	10358	10355	10342	10342

Notes: Results reported as odds ratios. Weights included.

*** p<0.01, ** p<0.05, * p<0.1

Table 10. OLS regression of women's shared authority in family management decisionmaking on women's relative income

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Women's relative income (ref.: women who don't work or women with no earnings)					
Earns about the same or more than husband	0.280***	0.175***	0.168***	0.169***	0.174***
Earns less than husband	0.223***	0.114***	0.0656*	0.0662*	0.0787**
Husband has no earnings (wife is in paid work)	-0.159	-0.154	-0.100	-0.066	-0.072
Women's education (ref.no education)					
Primary		0.056	0.026	0.014	0.011
Secondary		0.254***	0.196***	0.176***	0.174***
Higher		0.414***	0.276***	0.274***	0.277***
Women's age (continuous)			0.0265***	0.007	0.007
Age squared			-0.000286**	0.000	0.000
Husband's education (ref: no education)					
Primary			0.016	-0.007	-0.009
Secondary			0.045	0.018	0.018
Higher			0.145**	0.115*	0.119*
Husband currently working			0.0746***	0.0617**	0.0589**
Household wealth (ref: poorest)					
Poorer			0.040	0.044	0.034
Middle			0.0589**	0.0712**	0.0535*
Richer			0.157***	0.178***	0.156***
Richest			0.155***	0.179***	0.148***
Husband present in the household			0.041	-0.051	-0.055
Respondent has at least one living son				0.000	0.000
Respondent's husband has co-wives				-0.145***	-0.144***
Respondent is the household head or married to head				0.109**	0.109**
Respondent related to husband prior to marriage				-0.003	0.000
Marital duration (continuous)				0.00841***	0.00854***

Table 10. OLS regression of women's shared authority in family management decisionmaking on women's relative income

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Number of adult males				-0.0223*	-0.0212*
Number of adult females				-0.0487***	-0.0438***
Region (ref.: Amman)					
Balqa					-0.0676*
Zarqa					0.0546**
Madaba					0.111*
Irbid					-0.0798***
Mafraq					-0.128***
Jarash					-0.089
Ajlun					-0.109*
Karak					-0.0963*
Tafiela					-0.059
Ma'an					-0.031
Aqaba					-0.048
Urban					-0.033
Constant	2.630***	2.363***	1.636***	2.111***	2.165***
R-squared	0.008	0.022	0.038	0.047	0.051
N	10358	10358	10355	10342	10342

Notes: Household decisionmaking index ranges from 0 - 4 reflecting the number of family management decisions in which women decide in conjunction with spouses or alone Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 10a. Logistic regression of women's sole authority in at least one family management decision on women's relative income

Variables	Odds ratio
Women's relative income (ref.: women who earn less)	
Women who do not work or women with no earnings	0.987
Earns about the same or more than husband	0.987
Husband has no earnings (wife is in paid work)	0.989
Women's education (ref.no education)	
Primary	1.186
Secondary	1.322*
Higher	1.26
Women's age (continuous)	1.081**
Age squared	0.999*
Husband's education (ref: no education)	
Primary	1.021
Secondary	1.108
Higher	0.957
Husband currently working	1.186
Household wealth (ref: poorest)	
Poorer	1.108
Middle	1.129
Richer	1.249*
Richest	1.227
Husband present in the household	0.335***
Respondent has at least one living son	1.029
Respondent's husband has co-wives	1.184
Respondent is the household head or married to head	1.012
Respondent related to husband prior to marriage	0.985
Marital duration (continuous)	1.021**
Number of adult males	0.947
Number of adult females	0.945
Urban	1.422***
Constant	0.184**
Wald Chi2 (df)	305.2 (36)
N	10342

Notes: Region dummies included but not shown here. Weights included.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 10b. OLS regression of women's shared authority in family management decisionmaking index on women's relative income

Variables	Coefficient
Women's relative income (ref.: women who earn less)	
Women who do not work or women with no earnings	-0.0787**
Earns about the same or more than husband	0.0954*
Husband has no earnings (wife is in paid work)	-0.151
Women's education (ref.no education)	
Primary	0.0114
Secondary	0.174***
Higher	0.277***
Women's age (continuous)	0.00739
Age squared	-0.00011
Husband's education (ref: no education)	
Primary	-0.00869
Secondary	0.018
Higher	0.119*
Husband currently working	0.0589**
Household wealth (ref: poorest)	
Poorer	0.0341
Middle	0.0535*
Richer	0.156***
Richest	0.148***
Husband present in the household	-0.0549
Respondent has at least one living son	-1.12E-05
Respondent's husband has co-wives	-0.144***
Respondent is the household head or married to head	0.109**
Respondent related to husband prior to marriage	-1.49E-06
Marital duration (continuous)	0.00854***
Number of adult males	-0.0212*
Number of adult females	-0.0438***
Urban	-0.0332
Constant	2.244***
R-squared	0.051
N	10342

Notes: Household decisionmaking index ranges from 0 - 4 reflecting the number of family management decisions in which women decide in conjunction with spouses or alone. Region dummies included but not shown here. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 10c. Effect of women's relative income on women's family management authority

Variables	Sole say in at least one family management decision [1]	Shared authority in family management decisionmaking index [2]
	Odds ratio	Coefficient
Women's relative income (ref.: women who earn same or more)		
Women who do not work or women with no earnings	0.999	-0.174***
Women who earn less	1.013	-0.0954*
Husband has no earnings (wife is in paid work)	1.002	-0.246*
Women's education (ref.no education)		
Primary	1.186	0.0114
Secondary	1.322*	0.174***
Higher	1.26	0.277***
Women's age (continuous)	1.081**	0.00739
Age squared	0.999*	-0.00011
Husband's education (ref: no education)		
Primary	1.021	-0.00869
Secondary	1.108	0.018
Higher	0.957	0.119*
Husband currently working	1.186	0.0589**
Household wealth (ref: poorest)		
Poorer	1.108	0.0341
Middle	1.129	0.0535*
Richer	1.249*	0.156***
Richest	1.227	0.148***
Husband present in the household	0.335***	-0.0549
Respondent has at least one living son	1.029	-1.12E-05

Table 10c. Effect of women's relative income on women's family management authority

Variables	Sole say in at least one family management decision [1]	Shared authority in family management decisionmaking index [2]
	Odds ratio	Coefficient
Respondent's husband has co-wives	1.184	-0.144***
Respondent is the household head or married to head	1.012	0.109**
Respondent related to husband prior to marriage	0.985	-1.49E-06
Marital duration (continuous)	1.021**	0.00854***
Number of adult males	0.947	-0.0212*
Number of adult females	0.945	-0.0438***
Urban	1.422***	-0.0332
Constant	0.182**	2.339***
Wald Chi2 (df)	305.2 (36)	
R-squared		0.051
N	10342	10342

Notes:

[1] Results of logistic regression of women's sole say in at least one family management decision.

[2] Results of ordinary least squares regression of women's shared authority in family management decisionmaking index. Index ranges from 0-4. Shared authority includes women who report deciding in conjunction with spouses or alone.

Region dummies included but not shown here. Weights included.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 11. Logistic regression of women's sole authority in at least one family management decision on women's relative occupational prestige

Variables	Baseline	Model 2	Model 3	Model 4	Full
Relative occupational prestige (ref.: women don't work, husband works)					
Both don't work	0.849	0.875	0.728	0.735	0.76
Wife less prestige, husband more prestige	0.942	0.954	0.883	0.886	0.885
Wife more prestige or same as husband (includes men who don't work)	1.05	1.074	1.013	1.025	1.05
Women's education (ref.no education)					
Primary		1.219	1.23	1.243	1.182
Secondary		1.319*	1.367*	1.397**	1.317
Higher		1.258	1.235	1.312	1.243
Women's age (continuous)			1.111***	1.080**	1.082**
Age squared			0.999**	0.999*	0.999*
Husband's education (ref: no education)					
Primary			1.01	1.013	1.008
Secondary			1.067	1.072	1.092
Higher			0.96	0.961	0.951
Husband currently working			0.925	0.931	0.933
Household wealth (ref: poorest)					
Poorer			1.1	1.108	1.109
Middle			1.121	1.128	1.13
Richer			1.261**	1.281**	1.250*
Richest			1.306**	1.333**	1.231
Husband present in the household			0.307***	0.302***	0.336***
Respondent has at least one living son				1.021	1.03
Respondent's husband has co-wives				1.111	1.182
Respondent is the household head or married to head				1.03	1.018

Table 11. Logistic regression of women's sole authority in at least one family management decision on women's relative occupational prestige

Variables	Baseline	Model 2	Model 3	Model 4	Full
Respondent related to husband prior to marriage				0.976	0.983
Marital duration (continuous)				1.018*	1.021**
Number of adult males				0.949	0.948
Number of adult females				0.966	0.947
Region (ref.: Amman)					
Balqa					0.484***
Zarqa					0.492***
Madaba					0.610***
Irbid					1.214**
Mafraq					1.183
Jarash					0.685***
Ajlun					0.875
Karak					1.156
Tafiela					0.685***
Ma'an					0.903
Aqaba					0.439***
Urban					1.428***
Constant	0.635***	0.493***	0.167**	0.289	0.229*
Wald Chi2 (df)	3.103 (3)	7.138 (6)	82.02 (17)	92.38 (24)	306.5 (36)
N	10360	10360	10357	10344	10344

Notes: Results reported as odds ratios. Weights included.
 *** p<0.01, ** p<0.05, * p<0.1

Table 12. OLS regression of women's shared authority in family management decisionmaking on women's relative occupational prestige

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Relative occupational prestige (ref.: women who don't work, husband works)					
Both don't work	-0.115***	-0.0507*	0.0149	0.0155	0.0155
Wife less prestige, husband more prestige	0.198***	0.124***	0.0597	0.0661	0.0768
Wife more prestige or same as husband	0.230***	0.132***	0.130***	0.131***	0.140***
Women's education (ref.no education)					
Primary		0.0488	0.0261	0.0137	0.0114
Secondary		0.241***	0.197***	0.177***	0.176***
Higher		0.400***	0.275***	0.273***	0.276***
Women's age (continuous)			0.0267***	0.0071	0.00757
Age squared			-0.000288**	-0.000104	-0.000113
Husband's education (ref: no education)					
Primary			0.0161	-0.00764	-0.00918
Secondary			0.0448	0.0165	0.0167
Higher			0.144**	0.113*	0.118*
Husband currently working (y/n)			0.0958	0.0822	0.0798
Household wealth (ref: poorest)					
Poorer			0.0395	0.0435	0.0333
Middle			0.0581**	0.0703**	0.0525*
Richer			0.157***	0.178***	0.155***
Richest			0.155***	0.179***	0.147***
Husband present in the household			0.0453	-0.0476	-0.0519
Respondent has at least one living son				-0.000248	0.000162
Respondent's husband has co-wives				-0.148***	-0.147***

Table 12. OLS regression of women's shared authority in family management decisionmaking on women's relative occupational prestige

Respondent is the household head or married to head				0.111***	0.111***
Respondent related to husband prior to marriage				-0.00401	-0.000485
Marital duration (continuous)				0.00841***	0.00855***
Number of adult males				-0.0222*	-0.0210*
Number of adult females				-0.0481***	-0.0432***
Region (ref.: Amman)					
Balqa					-0.0672*
Zarqa					0.0536**
Madaba					0.112*
Irbid					-0.0820***
Mafraq					-0.128***
Jarash					-0.0904*
Ajlun					-0.109*
Karak					-0.0963*
Tafiela					-0.0599
Ma'an					-0.0316
Aqaba					-0.0504
Urban					-0.0324
Constant	2.644***	2.381***	1.608***	2.084***	2.137***
R-squared	0.009	0.022	0.038	0.047	0.051
N	10360	10360	10357	10344	10344

Notes: Household decisionmaking index ranges from 0 - 4 reflecting the number of family management decisions in which women decide in conjunction with their spouses or alone. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 12a. Logistic regression of women's sole authority in at least one family management decision on women's relative occupational prestige

Variables	Odds ratio	Odds ratio
Relative occupational prestige (ref.: wife less prestige, husband more prestige)		
Women who don't work, husband works	0.832*	1.13
Both don't work	0.730***	0.858
Wife more prestige or same as husband (includes men who don't work)	0.998	1.186
Women's education (ref.no education)		
Primary		1.182
Secondary		1.317
Higher		1.243
Women's age (continuous)		1.082**
Age squared		0.999*
Husband's education (ref: no education)		
Primary		1.008
Secondary		1.092
Higher		0.951
Husband currently working		0.933
Household wealth (ref: poorest)		
Poorer		1.109
Middle		1.13
Richer		1.250*
Richest		1.231
Husband present in the household		0.336***
Respondent has at least one living son		1.03
Respondent's husband has co-wives		1.182
Respondent is the household head or married to head		1.018
Respondent related to husband prior to marriage		0.983
Marital duration (continuous)		1.021**
Number of adult males		0.948
Number of adult females		0.947
Urban		1.428***
Constant		0.203*
Wald Chi2 (df)		306.5 (36)
N		10344

Notes: Region dummies included but not shown here. Weights included.
 *** p<0.01, ** p<0.05, * p<0.1

Table 12b. OLS regression of women's shared authority in family management decisionmaking index on women's relative occupational prestige

Variables	Coef	Coef
Relative occupational prestige (ref.: wife less prestige, husband more prestige)		
Women who don't work, husband works	-0.242***	-0.0768
Both don't work	-0.439***	-0.0613
Wife more prestige or same as husband (includes men who don't work)	0.0102	0.0632
Women's education (ref.no education)		
Primary		0.0114
Secondary		0.176***
Higher		0.276***
Women's age (continuous)		0.00757
Age squared		-0.000113
Husband's education (ref: no education)		
Primary		-0.00918
Secondary		0.0167
Higher		0.118*
Husband currently working		0.0798
Household wealth (ref: poorest)		
Poorer		0.0333
Middle		0.0525*
Richer		0.155***
Richest		-0.147***
Husband present in the household		-0.0519
Respondent has at least one living son		0.000162
Respondent's husband has co-wives		0.147***
Respondent is the household head /married to head		0.111***
Respondent related to husband prior to marriage		-0.000485
Marital duration (continuous)		0.00855***
Number of adult males		-0.0210*
Number of adult females		-0.0432***
Urban		-0.0324
Constant		2.214***
R-squared		0.051
N		10344

Notes: Household decisionmaking index ranges from 0 - 4 reflecting the number of family management decisions in which women decide in conjunction with their spouses or alone. Region dummies included but not show here. Weights included.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 13. Logistic regression of women's sole authority in personal decisionmaking on women's work

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Respondent currently working	1.306***	1.295**	1.310**	1.318***	1.294**
Respondent's educational attainment (ref: no education)					
Primary		1.054	1.275	1.283	1.276
Secondary		0.861	1.245	1.255	1.234
Higher		0.894	1.433**	1.477**	1.449**
Respondent's age (years)			1.070**	1.046	1.044
Respondent's age squared			0.999	1	1
Husband's educational level (ref: no education)					
Primary			0.811	0.81	0.81
Secondary			0.833	0.833	0.825
Higher			0.671*	0.667**	0.652**
Husband currently working			0.938	0.929	0.937
Household wealth (ref: poorest)					
Poorer			0.977	0.994	1.012
Middle			0.723***	0.739***	0.765***
Richer			0.793**	0.824*	0.869
Richest			0.708***	0.744**	0.815
Husband in the household			0.370***	0.340***	0.333***
Respondent has at least one living son				1.133	1.127
Respondent's husband has other wives				1.173	1.177
Respondent is married to household head or is the head				1.247	1.248
Respondent related to husband prior to marriage				1.062	1.06
Duration of marriage (years)				1.003	1.003
Number of adult males				0.998	0.993
Number of adult females				0.97	0.965
Region (ref.: Amman)					

Table 13. Logistic regression of women's sole authority in personal decisionmaking on women's work

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Balqa					1.398***
Zarqa					1.102
Madaba					1.345***
Irbid					1.313***
Mafraq					1.317***
Jarash					1.029
Ajlun					1.225**
Karak					1.098
Tafiela					1.257**
Ma'an					0.929
Aqaba					0.984
Urban					1.074
Constant	0.833***	0.939	0.573	0.718	0.636
Wald Chi2 (df)	7.672 (1)	11.43 (4)	96.33 (15)	107.6 (22)	146.4 (34)
N	10360	10360	10357	10344	10344

Notes: Results reported as odds ratios. Work includes paid and unpaid work. Personal decisionmaking reflects women's authority to make decisions related to their own health. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 14. Logistic regression of women's shared authority in personal decisionmaking on women's work

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Respondent currently working	1.713***	1.452*	1.386	1.413*	1.476*
Respondent's educational attainment (ref: no education)					
Primary		1.178	1.257	1.218	1.138
Secondary		1.822***	2.081***	2.017***	1.847***
Higher		2.319***	2.501***	2.570***	2.416***
Respondent's age (years)			1.038	1.015	1.023
Respondent's age squared			1	1	1
Husband's educational level (ref: no education)					
Primary			0.698	0.622*	0.620**
Secondary			0.867	0.766	0.762
Higher			0.841	0.749	0.752
Husband currently working			1.066	1.04	1.029
Household wealth (ref: poorest)					
Poorer			0.962	0.945	0.912
Middle			1.11	1.093	1.032
Richer			0.945	0.939	0.876
Richest			1.199	1.185	1.094
Husband in the household			1.492	1.309	1.291
Respondent has at least one living son				1.057	1.06
Respondent's husband has other wives				0.621**	0.639**
Respondent is married to household head or is the head				0.939	0.951
Respondent related to husband prior to marriage				1.059	1.08
Duration of marriage (years)				1.021	1.021
Number of adult males				0.988	0.997
Number of adult females				0.934	0.949
Region (ref.: Amman)					
Balqa					0.838

Table 14. Logistic regression of women's shared authority in personal decisionmaking on women's work

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Zarqa					1.636***
Madaba					1.126
Irbid					0.85
Mafraq					0.865
Jarash					0.963
Ajlun					0.974
Karak					0.858
Tafiela					0.731*
Ma'an					0.676**
Aqaba					0.675**
Urban					1.107
Constant	9.180***	5.123***	1.231	2.803	2.519
Wald Chi2 (df)	7.774 (1)	31.37 (4)	54.98 (15)	74.45 (22)	131.1 (34)
N	10360	10360	10357	10344	10344

Notes: Results reported as odds ratios. Work includes paid and unpaid work. Personal decisionmaking reflects women's authority to make decisions related to their own health. Includes women who decide in conjunction with their spouses or alone. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 15. Logistic regression of women's sole authority in personal decisionmaking on women's employment status

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Women's employment status (ref.: does not work)					
Employee	1.286**	1.274**	1.293**	1.305**	1.283**
Employer	0.945	0.959	0.997	0.978	1
Self employed	2.015**	1.956*	1.894*	1.848*	1.79
Unpaid family worker and unpaid workers	1.164	1.113	1.081	1.034	0.979
Women's education (ref.no education)					
Primary		1.048	1.268	1.277	1.27
Secondary		0.862	1.243	1.254	1.233
Higher		0.899	1.435**	1.476**	1.448**
Women's age (continuous)			1.071**	1.047	1.045
Age squared			0.999	1	1
Husband's education (ref: no education)					
Primary			0.809	0.81	0.81
Secondary			0.832	0.834	0.826
Higher			0.673*	0.670*	0.655**
Husband currently working			0.938	0.93	0.938
Household wealth (ref: poorest)					
Poorer			0.977	0.994	1.012
Middle			0.722***	0.738***	0.764***
Richer			0.793**	0.823*	0.868
Richest			0.708***	0.743**	0.814
Husband in household			0.370***	0.340***	0.333***
Respondent has at least one living son				1.132	1.126
Respondent's husband has co-wives				1.177	1.181
Respondent is the household head or married to head				1.249	1.25
Respondent related to husband prior to marriage				1.061	1.059
Marital duration (continuous)				1.003	1.003

Table 15. Logistic regression of women's sole authority in personal decisionmaking on women's employment status

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Number of adult males				0.999	0.994
Number of adult females				0.97	0.965
Region (ref.: Amman)					
Balqa					1.396***
Zarqa					1.101
Madaba					1.343***
Irbid					1.311***
Mafraq					1.318***
Jarash					1.026
Ajlun					1.223**
Karak					1.098
Tafiela					1.259**
Ma'an					0.931
Aqaba					0.984
Urban					1.073
Constant	0.833***	0.937	0.569	0.707	0.628
Wald Chi2 (df)	10.08 (4)	13.24 (7)	97.63 (18)	108.8 (25)	147.2 (37)
N	10360	10360	10357	10344	10344

Notes: Results reported as odds ratios. Personal decisionmaking reflects women's authority to make decisions related to their own health. Unpaid workers are a very small group (n=3) so they are included with unpaid family workers (n=23). Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 16. Logistic regression of women's shared authority in personal decisionmaking on women's employment status

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Women's employment status (ref.: does not work)					
Employee	1.907***	1.588**	1.534*	1.565**	1.639**
Employer	0.556	0.503	0.417	0.454	0.446
Self employed	6.976**	7.499***	6.700**	6.522**	6.677**
Unpaid family worker/unpaid worker	0.232**	0.257*	0.237*	0.249	0.278
Women's education (ref.no education)					
Primary		1.16	1.238	1.199	1.122
Secondary		1.802***	2.061***	1.998***	1.831***
Higher		2.260***	2.424***	2.496***	2.348***
Women's age (continuous)			1.036	1.013	1.022
Age squared			1	1	1
Husband's education (ref: no education)					
Primary			0.7	0.626*	0.624*
Secondary			0.873	0.775	0.772
Higher			0.858	0.766	0.769
Husband currently working			1.077	1.054	1.042
Household wealth (ref: poorest)					
Poorer			0.957	0.94	0.906
Middle			1.099	1.082	1.021
Richer			0.934	0.929	0.866
Richest			1.192	1.182	1.091
Husband in household			1.498	1.324	1.306
Respondent has at least one living son				1.053	1.055
Respondent's husband has co-wives				0.643**	0.662**
Respondent is the household head or married to head				0.943	0.955
Respondent related to husband prior to marriage				1.064	1.084
Marital duration (continuous)				1.022	1.021

Table 16. Logistic regression of women's shared authority in personal decisionmaking on women's employment status

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Number of adult males					
Number of adult females					0.832
Region (ref.: Amman)					1.629***
Balqa					1.11
Zarqa					0.851
Madaba					0.862
Irbid					0.952
Mafraq					0.965
Jarash					0.856
Ajlun					0.726**
Karak					0.669**
Tafiela					0.670***
Ma'an					1.102
Aqaba				0.989	0.999
Urban				0.935	0.95
Constant	9.180***	5.194***	1.266	2.811	2.539
Wald Chi2 (df)	20.72 (4)	44.17 (7)	69.05 (18)	89.69 (25)	147 (37)
N	10360	10360	10357	10344	10344

Notes: Results reported as odds ratios. Personal decisionmaking reflects women's authority to make decisions on their own health. Includes women who decide in conjunction with spouses or alone. Unpaid workers are a very small group (N=3) so are they included with unpaid family workers. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 16a. Logistic regression of women's personal decisionmaking on women's employment status

Variables	Sole authority	Shared authority
Women's employment status (unpaid family workers and unpaid workers)		
Employee	1.319	5.870*
Employer	1.02	1.582
Self employed	1.833	23.80***
Women who do not work	1.027	3.588
Women's education (ref.no education)		
Primary	1.271	1.12
Secondary	1.233	1.824***
Higher	1.448**	2.338***
Women's age (continuous)	1.041	1.018
Age squared	1	1
Husband's education (ref: no education)		
Primary	0.809	0.625*
Secondary	0.823	0.771
Higher	0.653**	0.767
Husband currently working	0.936	1.039
Household wealth (ref: poorest)		
Poorer	1.013	0.91
Middle	0.764***	1.027
Richer	0.87	0.872
Richest	0.815	1.105
Husband in household	0.337***	1.319
Respondent has at least one living son	1.127	1.053
Respondent's husband has co-wives	1.178	0.664**
Respondent is the household head or married to head	1.241	0.907
Respondent related to husband prior to marriage	1.058	1.084
Marital duration (continuous)	1.003	1.021
Number of adult males	0.971	0.979
Number of adult females	0.975	0.932
Urban	1.072	1.101
Constant	0.657	0.816
Wald Chi2 (df)	147.1 (37)	148.1 (37)
N	10344	10344

Notes: Results reported as odds ratios. Personal decisionmaking reflects women's authority to make decisions related to their own health. Includes women who decide in conjunction with spouses or alone. Unpaid workers are a very small group (n=3) so they are included with unpaid family workers (n=23). Region dummies included but not shown here. Weights included. *** p<0.01, ** p<0.05, * p<0.1

Table 16b. Logistic regression of women's personal decisionmaking on women's employment status

Variables	Sole authority	Shared authority
Women's employment status (ref.: employee)		
Employer	0.774	0.270
Self employed	1.39	4.054*
Unpaid family workers and unpaid workers	0.758	0.170*
Women who do not work	0.779**	0.611**
Women's education (ref.no education)		
Primary	1.271	1.120
Secondary	1.233	1.824***
Higher	1.448**	2.338***
Women's age (continuous)	1.041	1.018
Age squared	1	1.000
Husband's education (ref: no education)		
Primary	0.809	0.625*
Secondary	0.823	0.771
Higher	0.653**	0.767
Husband currently working	0.936	1.039
Household wealth (ref: poorest)		
Poorer	1.013	0.910
Middle	0.764***	1.027
Richer	0.87	0.872
Richest	0.815	1.105
Husband in household	0.337***	1.319
Respondent has at least one living son	1.127	1.053
Respondent's husband has co-wives	1.178	0.664**
Respondent is the household head or married to head	1.241	0.907
Respondent related to husband prior to marriage	1.058	1.084
Marital duration (continuous)	1.003	1.021
Number of adult males	0.971	0.979
Number of adult females	0.975	0.932
Urban	1.072	1.101
Constant	0.866	4.788
Wald Chi2 (df)	147.1 (37)	148.1 (37)
N	10344	10344

Notes: Results reported as odds ratios. Personal decisionmaking reflects women's authority to make decisions related to their own health. Includes women who decide in conjunction with spouses or alone. Unpaid workers are a very small group (n=3) so they are included with unpaid family workers (n=23). Region dummies included but not shown here. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 17. Logistic regression of women's sole authority in personal decisionmaking on women's relative income

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Women's relative income (ref.: women who don't work or women with no earnings)					
Earns about the same or more than husband	1.271	1.255	1.232	1.246	1.239
Earns less than husband	1.253*	1.242	1.315**	1.318**	1.281*
Husband has no earnings	3.935***	3.811***	2.850**	2.942**	3.008**
Women's education (ref.no education)					
Primary		1.053	1.265	1.273	1.266
Secondary		0.864	1.233	1.243	1.223
Higher		0.904	1.424**	1.468**	1.440**
Women's age (continuous)			1.071**	1.046	1.045
Age squared			0.999	1	1
Husband's education (ref: no education)					
Primary			0.818	0.816	0.816
Secondary			0.84	0.84	0.83
Higher			0.677*	0.672*	0.657**
Husband currently working			0.959	0.95	0.96
Household wealth (ref: poorest)					
Poorer			0.976	0.993	1.012
Middle			0.722***	0.738***	0.765***
Richer			0.795**	0.826*	0.872
Richest			0.709***	0.745**	0.818
Husband present in the household			0.374***	0.343***	0.337***
Respondent has at least one living son				1.134	1.128
Respondent's husband has co-wives				1.168	1.171
Respondent is the household head or married to head				1.252	1.254
Respondent related to husband prior to marriage				1.064	1.062

Table 17. Logistic regression of women's sole authority in personal decisionmaking on women's relative income

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Marital duration (continuous)				1.003	1.003
Number of adult males				0.998	0.993
Number of adult females				0.97	0.966
Region (ref.: Amman)					
Balqa					1.399***
Zarqa					1.101
Madaba					1.350***
Irbid					1.315***
Mafraq					1.327***
Jarash					1.03
Ajlun					1.233**
Karak					1.104
Tafiela					1.262**
Ma'an					0.932
Aqaba					0.984
Urban					1.074
Constant	0.833***	0.934	0.55	0.689	0.609
N	10358	10358	10355	10342	10342
Wald Chi2 (df)	13.76 (3)	16.91 (6)	98.53 (17)	109.5 (24)	147.9 (36)

Notes: Results reported as odds ratios. Personal decisionmaking reflects women's authority to make decisions related to their own health. Weights included.

*** p<0.01, ** p<0.05, * p<0.1

Table 18. Logistic regression of women's shared authority in personal decisionmaking on women's relative income

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Women's relative income (ref.: women who don't work or women with no earnings)					
Earns about the same or more than husband	3.076***	2.606***	2.496***	2.540***	2.630***
Earns less than husband	1.405	1.173	1.12	1.136	1.194
Husband has no earnings	5.010*	5.333*	5.067*	5.592*	5.630*
Women's education (ref.no education)					
Primary		1.177	1.249	1.21	1.131
Secondary		1.834***	2.066***	2.004***	1.835***
Higher		2.301***	2.424***	2.502***	2.351***
Women's age (continuous)			1.038	1.015	1.024
Age squared			1	1	1
Husband's education (ref: no education)					
Primary			0.699	0.620*	0.618**
Secondary			0.869	0.765	0.761
Higher			0.858	0.76	0.763
Husband currently working			1.093	1.07	1.058
Household wealth (ref: poorest)					
Poorer			0.968	0.95	0.916
Middle			1.115	1.097	1.036
Richer			0.951	0.945	0.882
Richest			1.205	1.188	1.099
Husband present in the household			1.5	1.317	1.293
Respondent has at least one living son				1.06	1.061
Respondent's husband has co-wives				0.625**	0.643**
Respondent is the household head or married to head				0.945	0.958
Respondent related to husband prior to marriage				1.063	1.084
Marital duration (continuous)				1.022	1.022

Table 18. Logistic regression of women's shared authority in personal decisionmaking on women's relative income

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Number of adult males				0.99	1
Number of adult females				0.935	0.95
Region (ref.: Amman)					
Balqa					0.842
Zarqa					1.643***
Madaba					1.132
Irbid					0.856
Mafraq					0.87
Jarash					0.972
Ajlun					0.984
Karak					0.862
Tafiela					0.739*
Ma'an					0.676**
Aqaba					0.681**
Urban					1.11
Constant	9.125***	5.081***	1.198	2.694	2.416
Wald Chi2 (df)	16.55 (3)	40.97 (6)	63.5 (17)	84.12 (24)	142.8 (36)
N	10358	10358	10355	10342	10342

Notes: Personal decisionmaking reflects women's authority to make decisions related to their own health. Includes women who report deciding in conjunction with spouses or alone. Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 18a. Logistic regression of women's personal decisionmaking on women's relative income

Variables	Sole authority	Shared authority
Women's relative income (ref.: women who earn less than their husbands)		
Women who don't work or women with no earnings	0.781*	0.839
Women who earn about the same or more than husbands	0.967	2.204*
Women who work but whose husbands do not have earnings	2.343	4.648*
Women's education (ref.no education)		
Primary	1.268	1.128
Secondary	1.224	1.827***
Higher	1.440**	2.340***
Women's age (continuous)	1.041	1.021
Age squared	1	1
Husband's education (ref: no education)		
Primary	0.815	0.618**
Secondary	0.828	0.76
Higher	0.656**	0.761
Husband currently working	0.959	1.055
Household wealth (ref: poorest)		
Poorer	1.013	0.919
Middle	0.766***	1.042
Richer	0.875	0.888
Richest	0.818	1.112
Husband present in the household	0.341***	1.304
Respondent has at least one living son	1.129	1.06
Respondent's husband has co-wives	1.168	0.645**
Respondent is the household head or married to head	1.248	0.913
Respondent related to husband prior to marriage	1.061	1.084
Marital duration (continuous)	1.003	1.021
Number of adult males	0.97	0.984
Number of adult females	0.976	0.932
Urban	1.073	1.108
Constant	0.833	3.27
Wald Chi2 (df)	147.6 (36)	143.5 (36)
N	10342	10342

Notes: Results reported as odds ratios. Personal decisionmaking reflects women's authority to make decisions related to their own health. Includes women who decide in conjunction with spouses or alone. Region dummies included but not shown here. Weights included. *** p<0.01, ** p<0.05, * p<0.1

Table 19. Logistic regression of women's sole authority personal decisionmaking on women's relative occupational prestige

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Relative occupational prestige (ref.: women who don't work, husband works)					
Both don't work	1.199*	1.173*	0.535**	0.539**	0.545**
Wife less prestige, husband more prestige	1.464**	1.446**	1.516**	1.525**	1.493**
Wife more prestige or same as husband (includes men who don't work)	1.286**	1.261*	1.127	1.134	1.117
Women's education (ref.no education)					
Primary		1.081	1.271	1.278	1.272
Secondary		0.902	1.234	1.243	1.223
Higher		0.946	1.442**	1.485**	1.458**
Women's age (continuous)			1.071**	1.047	1.045
Age squared			0.999	1.000	1.000
Husband's education (ref: no education)					
Primary			0.804	0.803	0.803
Secondary			0.825	0.825	0.816
Higher			0.660**	0.655**	0.641**
Husband currently working			0.526**	0.524**	0.535**
Household wealth (ref: poorest)					
Poorer			0.978	0.995	1.013
Middle			0.725***	0.741***	0.767***
Richer			0.798**	0.829*	0.874
Richest			0.710***	0.745**	0.817
Husband present in the household			0.372***	0.341***	0.335***
Respondent has at least one living son				1.134	1.127
Respondent's husband has co-wives				1.162	1.166
Respondent is the household head or married to head				1.253	1.254
Respondent related to husband prior to marriage				1.060	1.058

Table 19. Logistic regression of women's sole authority personal decisionmaking on women's relative occupational prestige

Variables	Baseline	Model 2	Model 3	Model 4	Full model
Marital duration (continuous)				1.003	1.003
Number of adult males				0.999	0.994
Number of adult females				0.970	0.966
Region (ref.: Amman)					
Balqa					1.395***
Zarqa					1.102
Madaba					1.346***
Irbid					1.311***
Mafraq					1.317***
Jarash					1.033
Ajlun					1.229**
Karak					1.099
Tafiela					1.262**
Ma'an					0.931
Aqaba					0.986
Urban					1.071
Constant	0.814***	0.879	1.028	1.272	1.119
Wald Chi2 (df)	11.44 (3)	14.27 (6)	102.3 (17)	113.3 (24)	151 (36)
N	10360	10360	10357	10344	10344

Notes: Results reported as odds ratios. Personal decisionmaking reflects women's authority to make decisions related to their own health. Weights included.

*** p<0.01, ** p<0.05, * p<0.1

Table 20. Logistic regression of women's shared authority in personal decisionmaking on women's relative occupational prestige

Variable	Baseline	Model 2	Model 3	Model 4	Full model
Relative occupational prestige (ref.: women who don't work, husband works)					
Both don't work	0.870	1.011	0.279**	0.271**	0.272**
Wife less prestige, husband more prestige	2.136**	1.888**	1.747*	1.798*	1.881*
Wife more prestige or same as husband (includes men who don't work)	1.544*	1.316	1.111	1.124	1.174
Women's education (ref.no education)					
Primary		1.178	1.252	1.210	1.132
Secondary		1.823***	2.063***	1.996***	1.831***
Higher		2.334***	2.532***	2.597***	2.445***
Women's age (continuous)			1.039	1.017	1.025
Age squared			1.000	1.000	1.000
Husband's education (ref: no education)					
Primary			0.693	0.614**	0.611**
Secondary			0.859	0.755	0.751
Higher			0.828	0.732	0.735
Husband currently working			0.313**	0.296**	0.295**
Household wealth (ref: poorest)					
Poorer			0.963	0.946	0.912
Middle			1.115	1.098	1.036
Richer			0.952	0.946	0.882
Richest			1.202	1.186	1.095
Husband present in the household			1.503	1.312	1.293
Respondent has at least one living son				1.057	1.059
Respondent's husband has co-wives				0.612**	0.630**
Respondent is the household head or married to head				0.946	0.959
Respondent related to husband prior to marriage				1.057	1.078

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Table 20. Logistic regression of women's shared authority in personal decisionmaking on women's relative occupational prestige

Variable	Baseline	Model 2	Model 3	Model 4	Full model
Marital duration (continuous)				1.021	1.020
Number of adult males				0.990	1.000
Number of adult females				0.935	0.950
Region (ref.: Amman)					
Balqa					0.835
Zarqa					1.636***
Madaba					1.128
Irbid					0.847
Mafraq					0.863
Jarash					0.968
Ajlun					0.978
Karak					0.860
Tafiela					0.734*
Ma'an					0.677**
Aqaba					0.677**
Urban					1.105
Constant	9.347***	5.108***	4.201	9.736**	8.694*
Wald Chi2 (df)	10.82 (3)	33.42 (6)	68.9 (17)	87.37 (24)	146.7 (36)
N	10360	10360	10357	10344	10344

Notes: Results reported as odds ratios. Personal decisionmaking reflects women's authority to make decisions on their own health. Includes women who decide in conjunction with their spouses or alone. Weights included.
*** $p<0.01$, ** $p<0.05$, * $p<0.10$.

Table 20a. Logistic regression of women's personal decisionmaking on women's relative occupational prestige

Variables	Sole authority	Shared authority
Relative occupational prestige (ref.: wife less prestige than husband)		
Husband works, wife does not work	0.670**	0.533*
Both do not work	0.367***	0.147***
Wife has about the same or more prestige (includes small portion of men who don't work)	0.749	0.625
Women's education (ref.no education)		
Primary	1.273	1.129
Secondary	1.225	1.824***
Higher	1.459**	2.434***
Women's age (continuous)	1.041	1.023
Age squared	1.000	1.000
Husband's education (ref: no education)		
Primary	0.802	0.611**
Secondary	0.814	0.751
Higher	0.639**	0.734
Husband currently working (y/n)	0.537**	0.297**
Household wealth (ref: poorest)		
Poorer	1.014	0.916
Middle	0.768***	1.041
Richer	0.877	0.887
Richest	0.817	1.107
Husband present in the household	0.338***	1.302
Respondent has at least one living son	1.128	1.058
Respondent's husband has co-wives	1.163	0.632**
Respondent is the household head or married to head	1.250	0.917
Respondent related to husband prior to marriage	1.058	1.078
Marital duration (continuous)	1.003	1.020
Number of adult males	0.973	0.985
Number of adult females	0.977	0.932
Urban	1.070	1.103
Constant	1.760	18.12**
Wald Chi2 (df)	150.8 (36)	147.3 (36)
N	10344	10344

Notes: Results reported as odds ratios Personal decisionmaking reflects women's authority to make decisions related to their own health. Includes women who decide in conjunction with spouses or alone. Region dummies included but not shown here Weights included.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 21. Distribution of working and non-working women within each propensity score block

Blocks	Not Working (Control group)	Working (Treatment)	Total
1	1,611	66	1,677
2	2,621	172	2,793
3	832	83	915
4	1,006	145	1,151
5	1,129	208	1337
6	854	249	1103
7	281	153	434
8	329	228	557
9	60	69	129
Total	8,723	1,373	10,096

Notes: The distributions do not include 264 observations since these observations are outside the common support region which matches each treated case (women who work) with a corresponding control case (women who do not work).

Table 22. T-statistics for the equality of the means of covariates between treated and controls cases within estimated propensity score blocks

Variable	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7	Block 8	Block 9
Respondent's age									
15-19	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20-24	0.330	0.179	0.074	0.0269**	0.037	0.010	0.002	0.000	0.000
25-29	0.101	0.202**	0.213	0.262	0.230	0.230	0.138	0.187	0.116
30-34	0.0894	0.185	0.220**	0.263	0.292	0.268	0.274	0.278	0.287
35-39	0.105	0.166	0.172	0.191	0.248	0.209	0.385	0.343	0.395
40-44	0.191**	0.163	0.190	0.151	0.114	0.200	0.120	0.172	0.155
45-49	0.183**	0.105	0.131	0.106	0.078	0.083	0.081	0.020	0.047
Respondent's education									
No education	0.217	0.078	0.037	0.013	0.005	0.002	0.005	0.000	0.000
Primary	0.225	0.126**	0.081	0.041	0.0284**	0.006	0.007	0.002	0.000
Secondary/higher	0.558	0.796**	0.882**	0.946**	0.966**	0.992	0.988	0.998	1.000
Husband's education									
No education	0.0948	0.048	0.044	0.010	0.007	0.002	0.002	0.000	0.000
Primary	0.432	0.156	0.063	0.031	0.010	0.007	0.005	0.000	0.000
Secondary/higher	0.473	0.796**	0.893	0.959	0.983**	0.991	0.993	1.000	1.000
Household wealth									
Poorest	0.557	0.381	0.198	0.342	0.119	0.024	0.012	0.000	0.000
Poorer	0.315	0.326	0.330	0.099	0.384	0.111	0.023	0.014	0.000
Middle	0.104	0.188	0.198	0.285	0.233	0.240	0.553	0.183	0.016
Richer/Richest	0.0244	0.106	0.274	0.274	0.265	0.626	0.412	0.803	0.984
Husband currently working	0.730	0.830	0.849	0.850	0.868	0.915	0.917	0.953	0.938

Table 22. T-statistics for the equality of the means of covariates between treated and controls cases within estimated propensity score blocks

Variable	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7	Block 8	Block 9
At least one child under the age of 5 in the household	0.0519	0.075	0.085	0.0626**	0.073	0.089	0.106	0.088	0.209
At least 2 male adults or 2 female adults	0.609	0.421	0.405	0.368	0.197	0.307	0.207	0.063	0.008
Urban	0.660	0.697	0.687	0.725	0.683	0.739	0.657	0.666	0.488
Rural	0.340	0.303	0.313	0.275	0.317	0.261	0.343	0.334	0.512
Governorates									
Amman	0.160	0.128	0.203	0.150	0.057	0.141	0.028	0.014	0.000
Balqa	0.0525	0.059	0.033	0.086**	0.097	0.119	0.018	0.206	0.039
Zarqa	0.187**	0.151	0.087	0.0313**	0.084	0.004	0.000	0.000	0.000
Madaba	0.0346	0.066	0.042	0.088	0.117	0.097	0.180	0.199	0.054
Irbid	0.0912	0.100	0.091	0.087	0.078	0.064	0.101	0.005	0.000
Mafraq	0.0847**	0.086	0.084	0.117	0.070	0.080	0.014	0.074	0.008
Jarash	0.106	0.097	0.157	0.037	0.074	0.014	0.074	0.000	0.000
Ajlun	0.0417	0.070	0.026	0.129	0.108	0.095	0.127**	0.104	0.000
Karak	0.0239	0.037	0.073	0.036	0.087	0.100	0.138	0.201	0.659
Tafiela	0.0555	0.071	0.047	0.095	0.107	0.101	0.071	0.113	0.008
Ma'an	0.0453	0.056	0.093	0.040	0.102	0.054	0.247	0.077	0.233
Aqaba	0.117	0.082	0.063	0.104	0.019	0.134	0.002	0.005	0.000

Notes: T-statistics pertain to the differences between the covariates of treatment and control groups within a given propensity score block. Asterisks denotes statistical significance at the 0.05 level or lower.

Table 23. Propensity score matching estimates of the effects of women's work on household decisionmaking authority

| | Stratification | Nearest neighbor | Radius matching | | | Kernel |
			radius= 0.01	radius= 0.001	radius= 0.0001	
Sole authority in at least one family management decision [a]	0.0198	0.0192	0.0371**	0.0316*	0.0218	0.0272*
	(0.0158)	(0.0179)	(0.0148)	(0.0163)	(0.0181)	(0.0150)
Shared authority in family management [b]	0.180***	0.147***	0.242***	0.226***	0.164***	0.204***
	(0.0264)	(0.0322)	(0.0257)	(0.0270)	(0.0265)	(0.0251)
Sole authority in personal decision making [c]	0.0271*	0.0200	0.0307**	0.0318**	0.0429**	0.0299**
	(0.0153)	(0.0186)	(0.0147)	(0.0151)	(0.0167)	(0.0151)
Shared authority in personal decision making [d]	0.0358***	0.0356***	0.0388***	0.0369***	0.0264***	0.0375***
	(0.0085)	(0.0106)	(0.0081)	(0.0081)	(0.0095)	(0.00812)

Notes: Standard of errors are computed using a bootstrap with 50 replications and are reported in parentheses. Weights are included in the computation of the propensity matching scores.

[a] The estimate is interpreted as the additional proportion of women who would experience sole authority in at least one family management decision if they were to engage in productive work.

[b] The estimate is interpreted as the additional number of family management decisions in which women would either decide in conjunction with their spouses or alone if they were to engage in productive work.

[c] The estimate is interpreted as the additional proportion of women who would experience sole authority in deciding on personal health matters if they were to engage in productive work.

[d] The estimate is interpreted as the additional proportion of women who either decide in conjunction with their spouses or alone if they were to engage in productive work.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 24. Comparison of PSM estimates of the effects of work on women's household decisionmaking authority and the observed difference in decisionmaking authority by women's labor force participation

	Observed difference in decisionmaking				PSM estimate of the effect of work on women's household decisionmaking authority[1]
	Women who work	Women who do not work	Difference	P-value	Estimate
Sole say in at least one family management decision [a]	0.377	0.331	0.046	<0.0001	0.027*
Shared authority in family management[b]	2.849	2.567	0.282	<0.0001	0.204***
Sole authority in personal decisions[c]	0.505	0.468	0.037	<0.01	0.030**
Shared authority in personal decisions[d]	0.932	0.886	0.046	<0.0001	0.038***

Notes: P-value pertains to t-test with equal variance.
[1] Based on kernel method of calculating the average treatment effect on the treated with bootstrapping with 50 repetitions. Includes weights in the generation of propensity scores and imposes the common support restriction.
[a] The estimate is interpreted as the additional proportion of women who would experience having the sole authority on at least one family management decision if they were to engage in productive work. [b] The estimate is interpreted as the additional number of family related decisions in which women would either decide in conjunction with their spouses or on their own if they were to engage in productive work. [c] The estimate is interpreted as the additional proportion of women who would experience having the sole authority in deciding on personal health matters if they were to engage in productive work. [d] The estimate is interpreted as the additional proportion of women who either decide in conjunction with their spouses or alone if they were to engage in productive work.*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 25. Within-household fixed effect model of the effects of women's sole authority in family management decisionmaking

Variables	Odds ratio
Women's work	3.312**
Women's education (ref.no education)	
Primary	0.777
Secondary	0.891
Higher	0.821
Women's age (continuous)	1.059
Age squared	1
Husband's education (ref: no education)	
Primary	0.682
Secondary	0.457
Higher	0.316
Husband currently works	0.715
Husband present in the household	0.924
Respondent has at least one living son	1.44
Respondent's husband has co-wives	1.501
Respondent is the household head/married to head	0.778
Respondent related to husband prior to marriage	1.621
Marital duration (continuous)	0.981
N	254
Number of groups	118
Wald Chi2 (df)	16.83 (16)

Notes: Weights not included.
*** p<0.01, ** p<0.05, * p<0.1

Table 26. Within-household fixed effect model of the women's shared authority in family management decisionmaking index

Variables	Coefficient
Women's work	0.447**
Women's education (ref.no education)	
Primary	-0.273
Secondary	-0.0104
Higher	-0.173
Women's age (continuous)	0.0715*
Age squared	-0.000517
Husband's education (ref: no education)	
Primary	-0.407
Secondary	-0.524
Higher	-0.575*
Husband currently works	0.914***
Husband present in the household	0.634***
Respondent has at least one living son	0.115
Respondent's husband has co-wives	-0.0605
Respondent is the household head or married to head	-0.0173
Respondent related to husband prior to marriage	0.288***
Marital duration (continuous)	-0.0158
Constant	-0.0126
N	10344
R-squared	0.262

Weights included.
*** p<0.01, ** p<0.05, * p<0.1

Table 27. Within-household fixed effect model of the effects of women's work on women's authority in personal decisionmaking

Variables	Sole authority	Shared authority
	Odds ratio	Odds ratio
Women's work	6.166**	0.803
Women's education (ref.no education)		
Primary	4.804**	0.733
Secondary	2.36	0.688
Higher	1.42	0.363
Women's age (continuous)	0.91	1.203
Age squared	1.00	0.997
Husband's education (ref: no education)		
Primary	0.11	3.17E-08
Secondary	0.21	3.20E-08
Higher	0.25	2.67E-08
Husband currently works	0.88	0.704
Husband present in the household	0.0790***	6.187
Respondent has at least one living son	1.83	1.181
Respondent's husband has co-wives	0.78	0.170*
Respondent is the household head or married to head	1.44	1.217
Respondent related to husband prior to marriage	1.14	1.089
Marital duration (continuous)	0.97	1.016
N	256	162
Number of groups	118	74
Wald Chi2 (df)	32.95 (16)	21.03 (16)

Notes: Weights not included.
*** p<0.01, ** p<0.05, * p<0.1

Table 28. Within-region model of women's sole authority in at least one family management decision

Fixed effects	Change in log odds		SE	Change in odds
Intercept, γ_{00}	-0.58	***	0.12	0.56
Woman's work, γ_1	0.03		0.06	1.03
Women's age (z score) γ_2	0.06	*	0.03	1.06
Woman's Education (z score), γ_3	0.05		0.04	1.05
Woman's SES (ref.: poorest)				
Poorer, γ_4	0.03		0.06	1.03
Middle, γ_5	0.04		0.06	1.04
Richer/Richest, γ_6	0.13	**	0.04	1.14
Husband currently works, γ_7	0.21	**	0.07	1.23
Husband's education level (ref.: none)				
Primary, γ_8	0.06		0.14	1.06
Secondary, γ_9	0.16		0.22	1.17
Higher, γ_{10}	0.03		0.20	1.03
Family status measures				
Respondent has at least one living son γ_{11}	0.07		0.10	1.08
Respondent's husband has co-wives γ_{12}	0.13		0.23	1.14
Respondent is the household head or married to head γ_{13}	0.25	~	0.15	1.28
Respondent related to husband prior to marriage γ_{14}	-0.02		0.03	0.98
Marital duration (z score) γ_{15}	0.14	~	0.07	1.15
Household structure measures				
Husband lives in same household as wife, γ_{16}	-0.81	***	0.16	0.45
Household has one or more adult females, γ_{17}	0.90		0.64	2.47
Household has one or more adult males, γ_{18}	-1.54	***	0.20	0.22

Table 28. Within-region model of women's sole authority in at least one family management decision

Fixed effects	Change in log odds	SE	Change in odds
Nuclear household, γ_{19}	-0.08	0.08	0.93

Chi-square table:

	SD	Variance	*df*	X^2
Intercept	0.409	0.167	23	319.17***

Notes: Weighted n=10,322 married women, unweighted N=24 regions. Population-average model with robust standard of errors.
*** p<0.001, ** p<0.01, * p<0.05, ~p<.10

Table 29. Fully conditional model: effects of regional characteristics on women's sole authority in at least one family management decision

Fixed effects	Change in log odds		SE	Change in odds
Intercept, β_0				
Intercept, γ_{00}	-0.673	***	0.082	0.51
Ave. Women's literacy γ_{01}	0.414	**	0.131	1.51
Ave. Women's rejection of wife beating, γ_{02}	-0.116		0.081	0.89
Ave. Women's work participation, γ_{03}	0.116		0.093	1.12

Chi-square table:

	SD	Variance	*df*	X^2
Intercept	0.339	0.115	20	212.9***

Notes: Weighted n=10,322 married women, unweighted N=24 regions. Population-average model with robust standard of errors. Fully conditional model controls for same variable as within-region model but are not shown here.
*** p<0.001, ** p<0.01, * p<0.05, ~p<.10

Table 30. Within-region model of women's shared authority in family management (index 0-4)

Fixed effects	Coefficient		SE
Intercept, γ_{00}	2.622	***	0.023
Woman's work, γ_1	0.121	***	0.019
Women's age (z score) γ_2	-0.003		0.025
Woman's education (z score), γ_3	0.113	***	0.015
Woman's SES (ref.: poorest)			
Poorer, γ_4	-0.026		0.035
Middle, γ_5	-0.014		-0.896
Richer/Richest, γ_6	0.077	***	0.022
Husband currently works, γ_7	0.073		0.050
Husband's education level (ref.: none)			
Primary, γ_8	-0.029		0.117
Secondary, γ_9	0.000		0.068
Higher, γ_{10}	0.111	*	0.057
Family status measures			
Respondent has at least one living son γ_{11}	0.009		0.023
Respondent's husband has co-wives γ_{12}	-0.151	**	0.051
Respondent is the household head or married to head γ_{13}	0.206	**	0.076
Respondent related to husband prior to marriage γ_{14}	-0.004		0.014
Marital duration (z score) γ_{15}	0.072	~	
Household structure measures			
Husband lives in same household as wife, γ_{16}	-0.004		0.113
Household has one or more adult females, γ_{17}	-0.194	*	0.088
Household has one or more adult males, γ_{18}	-0.227		0.225

Table 30. Within-region model of women's shared authority in family management (index 0-4)

Fixed effects	Coefficient		SE
Nuclear household, γ_{19}	0.006		0.057

Notes: Weighted n=10,322 married women, unweighted N=24 regions. Model with robust standard of errors.

*** p<0.001, ** p<0.01, * p<0.05, ~p<.10

Table 31. Fully conditional model: effects of regional characteristics on women's shared authority family management decision (index 0-4)

Fixed effects	Coefficient		SE
Intercept, β_0			
Intercept, γ_{00}	2.591	***	0.013
Ave. Women's literacy γ_{01}	0.002		0.016
Ave. Women's rejection of wife beating, γ_{02}	0.043	***	0.008
Ave. Women's work participation, γ_{03}	0.002		0.015

Notes: Unweighted N=24 regions. Model with robust standard of errors. Fully conditional model controls for same variable as within-region model but are not shown here.

*** p<0.001, ** p<0.01, * p<0.05, ~p<.10

Table 32. Variance components for HLM analysis of shared authority in family management decisionmaking index

Random effect	Standard deviation	Variance component	df	X^2	p-value
Fully unconditional model					
Intercept, μ_0	0.089	0.008	23	111.466	0.000
level-1 error, r	0.883	0.779			
Within-region model					
Intercept, μ_0	0.062	0.004	23	65.204	0.000
level-1 error, r	0.866	0.750			
Fully conditional model					
Intercept, μ_0	0.019	0.000	20	25.219	0.193
level-1 error, r	0.866	0.750			

Table 33. Within-region model of women's sole authority in personal decisionmaking

Fixed effects	Change in log odds		SE	Change in odds
Intercept, γ_{00}	-0.125	*	0.050	0.883
Woman's work, γ_1	0.301	**	0.093	1.352
Women's age (z score) γ_2	0.170	**	0.065	1.185
Woman's Education (z score), γ_3	0.013		0.058	1.013
Woman's SES (ref.: poorest)				
Poorer, γ_4	0.105		0.097	1.110
Middle, γ_5	-0.172	*	0.082	0.842
Richer/Richest, γ_6	-0.026		0.044	0.974
Husband currently works, γ_7	-0.060		0.098	0.941
Husband's education level (ref.: none)				
Primary, γ_8	-0.175	*	0.086	0.840
Secondary, γ_9	-0.159		0.130	0.853
Higher, γ_{10}	-0.390	**	0.120	0.677
Family status measures				
Respondent has at least one living son γ_{11}	0.130	**	0.042	1.139
Respondent's husband has co-wives γ_{12}	0.165		0.134	1.179
Respondent is the household head or married to head γ_{13}	0.185	~	0.110	1.204
Respondent related to husband prior to marriage γ_{14}	0.064	*	0.029	1.066
Marital duration (z score) γ_{15}	-0.035		0.051	0.965
Household structure measures				
Husband lives in same household as wife, γ_{16}	-1.038	***	0.117	0.354
Household has one or more adult females, γ_{17}	2.347	***	0.598	10.455
Household has one or more adult males, γ_{18}	-0.432		0.414	0.649

Table 33. Within-region model of women's sole authority in personal decisionmaking

Fixed effects	Change in log odds		SE	Change in odds
Nuclear household, γ_{19}	0.193	~	0.107	1.213

Chi-square table:

	SD	Variance	*df*	X^2
Intercept	0.123	0.015	23	52.033**

Notes: Weighted n=10,322 married women, unweighted N=24 regions. Population-average model with robust standard of errors.
*** p<0.001, ** p<0.01, * p<0.05, ~p<.10

Table 34. Fully conditional model: effects of regional characteristics on women's sole authority in personal decisionmaking

Fixed effects	Change in log odds		SE	Change in odds
Intercept, β_0				
Intercept, γ_{00}	-0.102	*	0.040	0.903
Ave. Women's literacy γ_{01}	0.024		0.058	1.024
Ave. Women's rejection of wife beating, γ_{02}	-0.047		0.037	0.954
Ave. Women's work participation, γ_{03}	0.012		0.043	1.012

Chi-square table:

	SD	Variance	*df*	X^2
Intercept	0.112	0.013	20	40.309**

Notes: Unweighted N=24 regions. Population-average model with robust standard of errors. Fully conditional model controls for same variable as within-region model but are not shown here.
*** p<0.001, ** p<0.01, * p<0.05, ~p<.10

Table 35. Within-region model of women's shared authority in personal decisionmaking

Fixed effects	Change in log odds		SE	Change in odds
Intercept, γ_{00}	2.247	***	0.072	9.459
Woman's work, γ_1	0.409	***	0.077	1.505
Women's age (z score) γ_2	0.059		0.071	1.061
Woman's education (z score), γ_3	0.179	***	0.031	1.196
Woman's SES (ref.: poorest)				
Poorer, γ_4	-0.106		0.169	0.899
Middle, γ_5	0.019		0.176	1.019
Richer/Richest, γ_6	-0.144		0.146	0.866
Husband currently works, γ_7	0.073		0.105	1.075
Husband's education level (ref.: none)				
Primary, γ_8	-0.410	~	0.237	0.664
Secondary, γ_9	-0.158		0.320	0.854
Higher, γ_{10}	-0.127		0.268	0.880
Family status measures				
Respondent has at least one living son γ_{11}	0.061		0.068	1.063
Respondent's husband has co-wives γ_{12}	-0.487	***	0.093	0.614
Respondent is the household head or married to head γ_{13}	0.002		0.162	1.002
Respondent related to husband prior to marriage γ_{14}	0.072		0.114	1.075
Marital duration (z score) γ_{15}	0.139		0.095	1.149
Household structure measures				
Husband lives in same household as wife, γ_{16}	0.266	*	0.125	1.304
Household has one or more adult females, γ_{17}	1.076	**	0.383	2.933
Household has one or more adult males, γ_{18}	-0.273		0.174	0.761

Table 35. Within-region model of women's shared authority in personal decisionmaking

Fixed effects	Change in log odds	SE	Change in odds
Nuclear household, γ_{19}	0.108	0.148	1.114

Chi-square table:

	SD	Variance	*df*	X^2
Intercept	0.216	0.047	23	53.224**

Notes: Weighted n=10,322 married women, unweighted N=24 regions. Population-average model with robust standard of errors.
*** p<0.001, ** p<0.01, * p<0.05, ~p<.10

Table 36. Fully conditional model: effects of regional characteristics on women's shared authority in personal decisionmaking

Fixed effects	Change in log odds		SE	Change in odds
Intercept, β_0				
Intercept, γ_{00}	2.132	***	0.044	8.434
Ave. Women's literacy γ_{01}	0.087	~	0.049	1.091
Ave. Women's rejection of wife beating, γ_{02}	0.108	**	0.035	1.115
Ave. Women's work participation, γ_{03}	-0.061		0.066	0.940

Chi-square table:

	SD	Variance	*df*	X^2
Intercept	0.124	0.015	20	27.535

Notes: Unweighted N=24 regions. Population-average model with robust standard of errors. Fully conditional model controls for same variable as within-region model but are not shown here.
*** p<0.001, ** p<0.01, * p<0.05, ~p<.10

APPENDIX TABLES

Appendix Table 1. Summary statistics of variables

	N	Mean	SD
Dependent variables			
Who decides on the following …			
Own health care			
Someone else	10360	0.0034	0.0580
Husband alone	10360	0.1042	0.3056
Respondent and husband jointly	10360	0.4191	0.4934
Respondent alone	10360	0.4733	0.4993
Making large household purchases			
Someone else	10360	0.0083	0.0907
Husband alone	10360	0.3108	0.4628
Respondent and husband jointly	10360	0.5750	0.4944
Respondent alone	10360	0.1059	0.3077
Making household purchases for daily needs			
Someone else	10360	0.0122	0.1096
Husband alone	10360	0.2917	0.4546
Respondent and husband jointly	10360	0.4346	0.4957
Respondent alone	10360	0.2616	0.4395
Visits to family or relatives			
Someone else	10360	0.0036	0.0597
Husband alone	10360	0.1557	0.3626
Respondent and husband jointly	10360	0.7386	0.4394
Respondent alone	10360	0.1021	0.3028
Husband's earnings[a]			
Someone else	9939	0.0008	0.0284
Husband alone	9939	0.4021	0.4903
Respondent and husband jointly	9939	0.5573	0.4967
Respondent alone	9939	0.0398	0.1956
Family management decisionmaking index - sole authority (0-4)	10360	0.5078	0.8505
Family management decisionmaking index- some authority (0-4)	10360	2.6042	0.9291
Sole authority in personal decisionmaking	10360	0.4733	0.4993
Shared authority in personal decisionmaking	10360	0.8924	0.3099
Independent variables			
A. Economic variables			
Respondent's currently working	10360	0.1325	0.3391
Respondent's employment status[b]			

Appendix Table 1. Summary statistics of variables

	N	Mean	SD
Employee	1373	0.9162	0.2771
Employer	1373	0.0153	0.1228
Self-employed	1373	0.0517	0.2215
Unpaid family worker	1373	0.0146	0.1199
Unpaid worker	1373	0.0022	0.0467
Respondent's relative income			
Wife earns more or same as husband	10358	0.0521	0.2223
Wife earns less than husband	10358	0.0740	0.2617
Husband doesn't not earn income	10358	0.0041	0.0636
Wife has no income	10358	0.8699	0.3365
Respondent's relative occupational prestige			
Wife does not work, husband more prestige	10360	0.7260	0.4460
Both do no work	10360	0.1415	0.3486
Husband has more prestige, wife works	10360	0.0371	0.1889
Wife has same or more prestige[c]	10360	0.0955	0.2939
B. Family Status variables (cultural variables)			
Marital duration in years (0-37)	10360	12.8161	8.5733
Respondent has at least one son	10360	0.8119	0.3908
Husband has other wives	10348	0.0606	0.2386
Head of household or married to head of household	10360	0.9209	0.2698
Related to husband prior to marriage (endogamy)	10359	0.4317	0.4953
Control variables			
Respondent's age in years (15-45)	10360	33.7517	7.9144
Respondents' educational level			
No education	10360	0.0635	0.2439
Primary	10360	0.0898	0.2859
Secondary	10360	0.5671	0.4955
Higher	10360	0.2796	0.4488
Husbands' educational level			
No education	10360	0.0347	0.1832
Primary	10360	0.1295	0.3358
Secondary	10360	0.5977	0.4904
Higher	10360	0.2378	0.4257
Husband currently working	10360	0.8449	0.3620
Husband lives in same household as respondent	10360	0.9845	0.1237
Number of adult females in household			
None	10360	0.0034	0.0580
One	10360	0.7052	0.4560
Two	10360	0.1642	0.3705
Three	10360	0.0826	0.2753

Appendix Table 1. Summary statistics of variables

	N	Mean	SD
Four	10360	0.0278	0.1644
Five	10360	0.0119	0.1083
Six	10360	0.0036	0.0597
Seven	10360	0.0011	0.0326
Eight	10360	0.0003	0.0170
Number of adult males in household			
None	10360	0.0065	0.0802
One	10360	0.7255	0.4463
Two	10360	0.1264	0.3323
Three	10360	0.0813	0.2733
Four	10360	0.0369	0.1885
Five	10360	0.0182	0.1338
Six	10360	0.0041	0.0635
Seven	10360	0.0013	0.0354
Household wealth index			
Poorest	10360	0.2775	0.4478
Poorer	10360	0.2492	0.4326
Middle	10360	0.2095	0.4069
Richer	10360	0.1596	0.3662
Richest	10360	0.1042	0.3056
Governorates			
Amman	10360	0.1233	0.3288
Balqa	10360	0.0762	0.2653
Zarqa	10360	0.0980	0.2973
Madaba	10360	0.0819	0.2742
Irbid	10360	0.0821	0.2746
Mafraq	10360	0.0819	0.2743
Jarash	10360	0.0789	0.2695
Ajlun	10360	0.0785	0.2689
Karak	10360	0.0718	0.2582
Tafiela	10360	0.0774	0.2673
Ma'an	10360	0.0723	0.2590
Aqaba	10360	0.0778	0.2679
Urban	10360	0.6903	0.4624

Notes: Unweighted.
[a]Excludes men who have no earnings or do not work.
[b]Refers to women who are currently working
[c]Includes husbands who do not work.

Appendix Table 2. Women's authority in household decisionmaking

	Personal	Family management			
	Own health	Large purchases	Daily needs	Social visits	Husband's earning
Respondent alone	47.33 (4,903)	10.59 (1,097)	26.16 (2,710)	10.21 (1,058)	3.82 (396)
Respondent and husband	41.91 (4,342)	57.5 (5,957)	43.46 (4,502)	73.86 (7,652)	53.47 (5,539)
Husband alone	10.42 (1,082)	31.08 (3,220)	29.17 (3,022)	15.57 (1,613)	38.57 (3,996)
Someone else	0.33 (34)	0.79 (82)	1.2 (124)	0.29 (30)	…
Other	0.01 (1)	0.04 (4)	0.02 (2)	0.07 (7)	0.08 (8)
Missing	…	…	…	…	0.01 (1)
Husband no earnings	…	…	…	…	3.65 (378)
N/A	…	…	…	…	0.41 (42)

Notes: Sample restricted to currently married women. Values are unweighted. Frequencies shown in parentheses.

Appendix Table 3. Distribution of women and men's occupations

Treiman's Prestige score	ISC0-88	Occupational group	Respondent's occupation		Husband's Occupation	
			N	%	N	%
64	1110	Legislators	…	…	1	0.01
71	1120	Senior national government officials	…	…	1	0.01
63	1130	Traditional chiefs and heads of village	…	…	1	0.01
63	1140	Senior officials - special interest organizations	…	…	1	0.01
50	1310	General managers	…	…	2	0.02
69	2110	Physicists, chemists and related professionals	…	…	8	0.08
51	2130	Computing professionals	1	0.01	20	0.19
63	2140	Architects, engineers and related professionals	12	0.12	160	1.54
62	2210	Life science professionals	3	0.03	23	0.22
73	2220	Health professionals (except nursing)	18	0.17	65	0.63
54	2230	Nursing and midwifery professionals	11	0.11	11	0.11
78	2310	College, university and higher education teaching professionals	11	0.11	48	0.46
60	2320	Secondary education teaching professionals	196	1.89	160	1.54
57	2330	Primary and pre-primary education teaching professionals	294	2.84	121	1.17
62	2340	Special education teaching professionals	1	0.01	…	…
62	2350	Other teaching professionals	5	0.05	27	0.26
57	2410	Business professionals	81	0.78	461	4.45
73	2420	Legal professionals	4	0.04	52	0.50
54	2430	Archivists librarians and related information professionals	1	0.01	4	0.04
58	2440	Social science and related professionals	11	0.11	8	0.08
57	2450	Writers and creative or performing artists	1	0.01	4	0.04
60	2460	Religious professionals	4	0.04	12	0.12

Appendix Table 3. Distribution of women and men's occupations

Treiman's Prestige score	ISC0-88	Occupational group	Respondent's occupation		Husband's Occupation	
			N	%	N	%
48	3100	Physical and engineering science associate professionals	2	0.02	152	1.47
53	3120	Computer associate professionals	11	0.11	14	0.14
46	3130	Optical and electronic equipment operators	1	0.01	12	0.12
54	3140	Ship and aircraft controllers and technicians	…	…	21	0.20
52	3150	Safety and quality inspectors	…	…	24	0.23
52	3210	Life science technicians and related associate professionals	1	0.01	1	0.01
51	3220	Modern health associate professionals	17	0.16	37	0.36
51	3220	Modern health associate professionals (other)	81	0.78	48	…
50	3230	Nursing and midwifery professionals	…	…	…	…
50	3310	Primary education teaching associate professionals	176	1.70	49	0.47
50	3320	Pre-primary education teaching associates	3	0.03	…	…
50	3330	Special education teaching associate professionals	4	0.04	1	0.01
49	3410	Finance and sales associate professionals	…	…	95	0.92
52	3420	Business services agents and trade brokers	…	…	17	0.16
49	3430	Administrative associate professionals	104	1.00	232	2.24
49	3440	Customs, tax and related government associate professionals	…	…	17	0.16
45	3451	Police inspectors and detectives	…	…	1	0.01
49	3460	Social work associate professionals	4	0.04	2	0.02
45	3470	Artistic, entertainment and sports associate professionals	1	0.01	19	0.18
50	3480	Religious associate professionals	3	0.03	59	0.57
45	4110	Secretaries and keyboard-operating clerks	21	0.20	29	0.28
44	4120	Numerical clerks	11	0.11	163	1.57
32	4130	Material-recording and transport clerks	…	…	131	1.26

Appendix Table 3. Distribution of women and men's occupations

Treiman's Prestige score	ISC0-88	Occupational group	Respondent's occupation		Husband's Occupation	
			N	%	N	%
37	4140	Library, mail and related clerks	53	0.51	291	2.81
37	4190	Other office clerks	…	…	3	0.03
37	4210	Cashiers, tellers and related clerks	…	…	10	0.10
38	4220	Client information clerks	6	0.06	105	1.01
32	5110	Travel attendants and related workers	1	0.01	18	0.17
26	5120	Housekeeping and restaurant services workers	1	0.01	114	1.10
27	5130	Personal care and related workers	12	0.12	3	0.03
29	5140	Other personal services workers	25	0.24	72	0.69
37	5160	Protective services workers	…	…	106	1.02
32	5220	Shop salespersons and demonstrators	32	0.31	844	8.15
24	5230	Stall and market salespersons	…	…	18	0.17
40	6110	Market gardeners and crop growers	9	0.09	155	1.50
38	6130	Market-oriented animal producers and related workers	11	0.11	46	0.44
24	6140	Forestry and related workers	…	…	2	0.02
28	6150	Fishery workers, hunters, and trappers	…	…	1	0.01
34	7110	Miners, shotfirers, stone cutters and carvers	…	…	53	0.51
31	7120	Building frame and related trades workers	…	…	264	2.55
38	7130	Building finishers and related trades workers	…	…	85	0.82
37	7140	Painters, building structure cleaners /related trades workers	…	…	60	0.58
43	7210	Metal molders, welders, sheet-metal workers, structural-metal preparers, and related trades workers	…	…	8	0.08
38	7220	Blacksmiths, tool-makers and related trades	…	…	139	1.34
45	7230	Machinery mechanics and fitters	…	…	208	2.01

Appendix Table 3. Distribution of women and men's occupations

Treiman's Prestige score	ISC0-88	Occupational group	Respondent's occupation		Husband's Occupation	
			N	%	N	%
28	7240	Electrical and electronic equipment mechanics	…	…	199	1.92
42	7310	Precision workers in metal and related materials	…	…	2	0.02
28	7320	Potters, glass-makers and related trades	…	…	1	0.01
29	7340	Printing and related trades workers	…	…	9	0.09
28	7410	Food processing and related trades work	5	0.05	78	0.75
27	7420	Wood treaters, cabinet-makers and related trades workers	…	…	65	0.63
34	7430	Textile, garment and related trades work	38	0.37	64	0.62
40	7440	Pelt, leather and shoemaking trades work	…	…	6	0.06
31	8110	Mining and mineral-processing-plant operators	…	…	41	0.40
28	8120	Metal-processing -plant operators	…	…	1	0.01
42	8130	Glass, ceramics and related plant-operators	…	…	1	0.01
38	8140	Wood-processing-and papermaking-plant operators	…	…	1	0.01
37	8150	Chemical-processing plant operators	…	…	22	0.21
43	8160	Power-production and related plant operators	…	…	32	0.31
30	8210	Metal-and mineral-products machine operators	…	…	40	0.39
33	8220	Chemical-products machine operators	…	…	13	0.13
36	8230	Rubber- and plastic-products machine operators	…	…	5	0.05
32	8270	Food and related products machine operation	…	…	12	0.12
32	8310	Locomotive engine drivers and related workers	…	…	6	0.06
32	8320	Motor- vehicle drivers	1	0.01	1,377	13.29
25	8330	Agricultural and other mobile plant operators	…	…	70	0.68
12	8340	Ships deck crews and related workers	…	…	5	0.05
21	9110	Street vendors and related workers	…	…	20	0.19

Appendix Table 3. Distribution of women and men's occupations

Treiman's Prestige score	ISC0-88	Occupational group	Respondent's occupation		Husband's Occupation	
			N	%	N	%
23	9120	Shoe cleaning and other street services	…	…	1	0.01
21	9130	Domestic and related helpers, cleaners	62	0.60	58	0.56
13	9140	Building caretakers, window and related work	…	…	3	0.03
20	9150	Messengers, porters, doorkeepers and related work	1	0.01	631	6.09
16	9160	Garbage collectors and related laborers	…	…	52	0.50
23	9210	Agricultural, fishery and related labor	15	0.14	61	0.59
20	9310	Mining and construction laborers	…	…	904	8.73
19	9320	Manufacturing laborers	7	0.07	27	0.26
20	9330	Transport laborers and freight handlers	…	…	23	0.22
		Missing	…	…	4	0.04
		Not working	8,987	86.75	1,607	15.51
		Total	10,360	100.00	10,360	100.00

Notes: Unweighted.

Appendix Table 4a. Summary statistics of regional variables

	N	Mean	SD	Min	Max
Women's rejection of wife beating rate	24	0.059	0.033	0.016	0.132
Women's work participation rate	24	0.133	0.045	0.055	0.248
Women's literacy rate	24	0.917	0.074	0.642	0.983

Notes: Women's rejection of wife beating refers to women who believe that domestic violence is not justified under any of the seven conditions specified: goes out without telling husband; neglects the children; argues with him; burns the food; insults him; disobeys; or has relations with another man. Regions reflect all original 12 governorates further subcategorized into rural and urban. Unweighted.

Appendix Table 4b. Selected indicators of socioeconomic development and gender norms by governorate, 2007

Governorate	Women's labor force participation rate	Women's literacy rate	Women's rejection of wife beating rate
Amman	11.47	97.81	12.01
Balqa	16.18	93.72	10.9
Zarqa	7.29	98.19	13.13
Madaba	17.71	93.76	8.67
Central region	**11.17**	**97.37**	**12.05**
Irbid	11.47	97.41	3.5
Mafraq	11.96	89.84	3.35
Jarash	9.59	96.39	5.88
Ajlun	15.24	97.26	3.31
North Region	**11.65**	**96.12**	**3.69**
Karak	21.41	92.21	2.91
Tafiela	14.63	90.92	5.68
Ma'an	16.68	86.13	2.73
Aqaba	10.87	91.53	8.87
South region	**16.91**	**90.47**	**4.77**
National average	**11.78**	**96.47**	**9.15**

Note: Weights included.

Appendix Table 5. Ordered logistic regression of women's sole authority in family management decisionmaking index on women's work

Variables	Coefficient	None	One decision	Two decisions	Three decisions	Four decisions
			Change in predicted probabilities			
Respondent currently working	0.045	-0.0101	0.0057	0.0027	0.0012	0.0040
Respondent's educational attainment (ref: no education)						
Primary	0.109					
Secondary	0.236					
Higher	0.184					
Respondent's age (years)	0.061					
Respondent's age squared	-0.001					
Husband's educational level (ref: no education)						
Primary	0.014					
Secondary	0.085					
Higher	-0.083					
Husband currently working	0.145					
Household wealth (ref: poorest)						
Poorer	0.034					
Middle	0.047					
Richer	0.145					
Richest	0.120					
Husband in the household	-1.483***					
Respondent has at least one living son	0.031					
Respondent's husband has other wives	0.177					
Respondent is married to HH head or is head	0.129					

Appendix Table 5. Ordered logistic regression of women's sole authority in family management decisionmaking index on women's work

Variables	Coefficient	None	One decision	Two decisions	Three decisions	Four decisions
			Change in predicted probabilities			
Respondent related to husband prior to marriage	-0.023					
Duration of marriage (years)	0.0197**					
Number of adult males	-0.052					
Number of adult females	-0.007					
Urban	0.358***					
Threshold						
1…	1.125					
2…	2.558***					
3…	3.707***					
4…	5.063***					
Wald Chi 2(df)	328.3 (34)					
N	10344					

Notes: Family management decisionmaking index ranges from 0 -4 reflecting the number of decisions in which women decide alone. Region dummies included but not shown here. Weights included.
[a] Change in the predicted probabilities of exercising sole authority in family management decisions for a change from not working to working while holding all other variables constant at their means.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Appendix Table 6. Ordered logistic regression of women's shared authority in family management decisionmaking index

Variables	Coefficient	Change in predicted probabilities				
		None	One decision	Two decisions	Three decisions	Four decisions
Respondent currently working	0.225**	-0.0034	-0.2020	-0.0262	0.0268	0.0230
Respondent's educational attainment (ref: none)						
Primary	0.049					
Secondary	0.420**					
Higher	0.640***					
Respondent's age (years)	0.003					
Respondent's age squared	0.000					
Husband's educational level (ref: no education)						
Primary	-0.060					
Secondary	-0.045					
Higher	0.187					
Husband currently working	0.061					
Household wealth (ref: poorest)						
Poorer	0.067					
Middle	0.111					
Richer	0.324***					
Richest	0.322***					
Husband in the household	-0.118					
Respondent has at least one living son	0.016					
Respondent's husband has other wives	-0.338**					
Respondent is married to household head or is the head	0.233					
Respondent related to husband prior to marriage	-0.008					
Duration of marriage (years)	0.0193**					
Number of adult males	-0.0720**					

Appendix Table 6. Ordered logistic regression of women's shared authority in family management decisionmaking index

| Variables | Coefficient | None | Change in predicted probabilities | | | |
			One decision	Two decisions	Three decisions	Four decisions
Number of adult females	-0.049					
Urban	-0.100					
Threshold						
1…	-3.469***					
2…	-1.308*					
3…	-0.0144					
4…	2.738***					
Wald Chi squared (df)	292.1 (34)					
N	10344					

Notes: Family management decisionmaking index ranges from 0 -4 reflecting the number of decisions women decide in conjunction with spouses or alone. Region dummies included but not shown here. Weights included.
[a] Change in the predicted probabilities of exercising shared authority in family management decisions for a change from not working to working while holding all other variables constant at their means.
*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 7. Ordered logistic regression of women's authority in family management decisionmaking index on women's employment status

Variables	Sole (coef)	Shared (coef)
Women's work (ref.: does not work)		
Employee	0.002	0.209**
Employer	-0.308	0.675*
Self employed	0.467	0.004
Unpaid family worker and unpaid workers	0.796	1.056
Women's education (ref.no education)		
Primary	0.101	0.053
Secondary	0.241	0.422***
Higher	0.197	0.647***
Women's age (continuous)	0.0635*	0.003
Age squared	-0.001	0.000
Husband's education (ref: no education)		
Primary	0.008	-0.062
Secondary	0.077	-0.049
Higher	-0.086	0.178
Husband currently working	0.143	0.058
Household wealth (ref: poorest)		
Poorer	0.037	0.069
Middle	0.048	0.114
Richer	0.148	0.328***
Richest	0.122	0.325***
Husband in household	-1.488***	-0.121
Respondent has at least one living son	0.030	0.017
Respondent's husband has co-wives	0.169	-0.348**
Respondent is the household head or married to head	0.131	0.231
Respondent related to husband prior to marriage	-0.026	-0.008
Marital duration (continuous)	0.0190**	0.0193**
Number of adult males	-0.051	-0.109
Number of adult females	-0.006	0.100
Urban	0.363***	-0.049
Threshold		
1…	1.170	-3.474***
2…	2.604***	-1.313*
3…	3.754***	-0.019
4…	5.110***	2.735***
Wald Chi2 (df)	329.9 (37)	297.8 (37)
N	10344	10344

Notes: Family management decisionmaking index ranges from 0 -4 reflecting the number of decisions in which women report having sole or shared authority. Region dummies included but not shown here. Weights included. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Appendix Table 7a. Ordered logistic regression of women's authority in family management decisionmaking index on women's employment status

Variables	Sole (coef)	Shared (coef)
Women's work (ref.: unpaid family workers and unpaid workers)		
Employee	-0.772	-0.833
Employer	-1.099	-0.368
Self employed	-0.307	-1.023
Women who do not work	-0.772	-1.042
Women's education (ref.no education)		
Primary	0.099	0.0471
Secondary	0.235	0.418**
Higher	0.190	0.646***
Women's age (continuous)	0.054	0.00678
Age squared	-0.001	-0.000122
Husband's education (ref: no education)		
Primary	0.012	-0.0649
Secondary	0.080	-0.0516
Higher	-0.085	0.175
Husband currently working	0.141	0.0596
Household wealth (ref: poorest)		
Poorer	0.041	0.0669
Middle	0.055	0.115
Richer	0.156	0.328***
Richest	0.135	0.335***
Husband in household	-1.476***	-0.133
Respondent has at least one living son	0.024	0.0148
Respondent's husband has co-wives	0.177	-0.338**
Respondent is the household head or married to head	0.045	0.221
Respondent related to husband prior to marriage	-0.026	-0.00679
Marital duration (continuous)	0.0196**	0.0164*
Number of adult males	-0.0746*	-0.0493
Number of adult females	-0.041	-0.0874*
Urban	0.362***	-0.0944
Threshold		
1…	0.116	-4.507***
2…	1.551	-2.346**
3…	2.700***	-1.053
4…	4.057***	1.701*
Wald Chi2 (df)	332.3 (37)	295.4 (37)
N	10344	10344

Notes: Family management decisionmaking index ranges from 0 -4 reflecting the number of decisions in which women report having sole or shared authority. Region dummies included but not shown here. Weights included.*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 8. Ordered logistic regression of women's authority in family management decisionmaking on women's relative income

Variables	Sole (coef)	Shared (coef)
Women's relative income (ref.: women who don't work or women with no earnings)		
Earns about the same or more than husband	0.010	0.346***
Earns less than husband	0.028	0.129
Husband has no earnings	0.024	-0.163
Women's education (ref.no education)		
Primary	0.112	0.052
Secondary	0.236	0.419**
Higher	0.190	0.639***
Women's age (continuous)	0.061	0.003
Age squared	-0.001	0.000
Husband's education (ref: no education)		
Primary	0.030	-0.058
Secondary	0.101	-0.043
Higher	-0.067	0.196
Husband currently working	0.144	0.050
Household wealth (ref: poorest)		
Poorer	0.033	0.070
Middle	0.045	0.114
Richer	0.144	0.326***
Richest	0.121	0.327***
Husband present in the household	-1.484***	-0.125
Respondent has at least one living son	0.030	0.016
Respondent's husband has co-wives	0.178	-0.327**
Respondent is the household head or married to head	0.127	0.229
Respondent related to husband prior to marriage	-0.023	-0.007
Marital duration (continuous)	0.0195**	0.0194**
Number of adult males	-0.053	-0.0721**
Number of adult females	-0.008	-0.050
Urban	0.356***	-0.100
Threshold		
1…	1.142	-3.485***
2…	2.576***	-1.324*
3…	3.725***	-0.0304
4…	5.080***	2.723***
N	10342	10342
Wald Chi squared (df)	328.4 (36)	299 (36)

Notes: Family management decisionmaking index ranges from 0 -4 reflecting the number of decisions in which women report having sole or shared authority. Region dummies included but not shown here. Weights included. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table 8a. Ordered logistic regression of women's authority in family management decisionmaking on women's relative income (ref.: women who earn less than their husbands)

Variables	Sole (coef)	Shared (coef)
Women's relative income		
Women don't work or no earnings	-0.0244	-0.13
Earns same or more than husband	-0.0143	0.22
Husband has no earnings	-0.00688	-0.299
Women's education (ref.no education)		
Primary	0.11	0.0468
Secondary	0.23	0.416**
Higher	0.183	0.638***
Women's age (continuous)	0.0515	0.00617
Age squared	-0.000556	-0.000114
Husband's education (ref: no education)		
Primary	0.034	-0.0602
Secondary	0.104	-0.0452
Higher	-0.0654	0.193
Husband currently working	0.142	0.0507
Household wealth (ref: poorest)		
Poorer	0.0375	0.0686
Middle	0.0524	0.114
Richer	0.152	0.325***
Richest	0.134	0.336***
Husband present in the household	-1.472***	-0.136
Respondent has at least one living son	0.0241	0.0138
Respondent's husband has co-wives	0.186	-0.317**
Respondent is HH head/married to head	0.0404	0.217
Related to husband prior to marriage	-0.0221	-0.00548
Marital duration (continuous)	0.0201**	0.0166*
Number of adult males	-0.0766*	-0.0505
Number of adult females	-0.0419	-0.0882*
Urban	0.355***	-0.0967
Threshold		
1…	0.833	-3.618***
2…	2.268***	-1.457**
3…	3.417***	-0.163
4…	4.772***	2.590***
Wald Chi2 (df)	330.9 (36)	296 (36)
N	10342	10342

Notes: Family management decisionmaking index ranges from 0 -4 reflecting the number of decisions in which women report having sole or shared authority. Region dummies included but not shown here. Weights included. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Appendix Table 8b. Ordered logistic regression of women's authority in family management decisionmaking on women's relative income

Variables	Sole (coef)	Shared (coef)
Women's relative income (ref.: women who earn about the same or more than husbands)		
Women who don't work	-0.0101	-0.349***
Women who earn less than husbands	0.0143	-0.22
Husband has no earnings	0.00742	-0.519
Women's education (ref.no education)		
Primary	0.11	0.0468
Secondary	0.23	0.416**
Higher	0.183	0.638***
Women's age (continuous)	0.0515	0.00617
Age squared	-0.000556	-0.000114
Husband's education (ref: no education)		
Primary	0.034	-0.0602
Secondary	0.104	-0.0452
Higher	-0.0654	0.193
Husband currently working	0.142	0.0507
Household wealth (ref: poorest)		
Poorer	0.0375	0.0686
Middle	0.0524	0.114
Richer	0.152	0.325***
Richest	0.134	0.336***
Husband present in the household	-1.472***	-0.136
Respondent has at least one living son	0.0241	0.0138
Respondent's husband has co-wives	0.186	-0.317**
Respondent is the household head or married to head	0.0404	0.217
Respondent related to husband prior to marriage	-0.0221	-0.00548
Marital duration (continuous)	0.0201**	0.0166*
Number of adult males	-0.0766*	-0.0505
Number of adult females	-0.0419	-0.0882*
Urban	0.355***	-0.0967
Threshold		
1…	0.847	-3.837***
2…	2.282***	-1.676**
3…	3.432***	-0.383
4…	4.786***	2.370***
Wald Chi2 (df)	330.9 (36)	296 (36)
N	10342	10342

Notes: Family management decisionmaking index ranges from 0 -4 reflecting the number of decisions in which women report sole or shared authority. Region dummies included but not shown here.. Weights included. *** p<0.01, ** p<0.05, * p<0.

Appendix Table 9. Ordered logistic regression of women's authority in family management decisionmaking on women's occupational prestige

Variables	Sole (coef)	Shared (coef)
Relative occupational prestige (ref.: women who don't work, husband works)		
Both don't work	-0.367	0.078
Wife less prestige, husband more	-0.103	0.108
Wife same/more prestige as husband	0.055	0.287**
Women's education (ref.no education)		
Primary	0.104	0.050
Secondary	0.228	0.421**
Higher	0.172	0.634***
Women's age (continuous)	0.062	0.003
Age squared	-0.001	0.000
Husband's education (ref: no education)		
Primary	0.010	-0.058
Secondary	0.077	-0.044
Higher	-0.082	0.195
Husband currently working (y/n)	-0.179	0.137
Household wealth (ref: poorest)		
Poorer	0.034	0.067
Middle	0.046	0.109
Richer	0.146	0.322***
Richest	0.126	0.324***
Husband present in the household	-1.482***	-0.118
Respondent has at least one living son	0.032	0.016
Respondent's husband has co-wives	0.175	-0.335**
Respondent is HH head or married to head	0.132	0.233
Related to husband prior to marriage	-0.025	-0.008
Marital duration (continuous)	0.0199**	0.0194**
Number of adult males	-0.051	-0.0720**
Number of adult females	-0.006	-0.049
Urban	0.360***	-0.098
Threshold		
1…	0.816	-3.383***
2…	2.250***	-1.222*
3…	3.399***	0.0717
4…	4.755***	2.825***
Wald Chi squared (df)	331.2 (36)	292.5 (36)
N	10344	10344

Note: Family management decisionmaking index ranges from 0 -4 reflecting the number of decisions in which women report having sole or shared authority. Region dummies included but not shown here. Weights included. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table 10. Nuclear versus extended: effects of women's work on women's family management decisionmaking authority

Variables	Sole authority[1]		Shared authority[2]	
	Nuclear	Extended	Nuclear	Extended
	OR	OR	Coef	Coef
Respondent currently working	1.023	0.977	0.121***	0.096
Respondent's educational attainment (ref: no education)				
Primary	1.059	2.321*	-0.016	0.243
Secondary	1.226	2.131*	0.192***	0.057
Higher	1.170	1.990	0.279***	0.272
Respondent's age (years)	1.085*	1.032	0.008	0.022
Respondent's age squared	0.999*	1.000	0.000	0.000
Husband's educational level (ref: no education)				
Primary	1.057	0.760	-0.020	0.120
Secondary	1.151	0.719	-0.034	0.458**
Higher	0.993	0.598	0.078	0.444**
Husband currently working	1.139	1.647	0.021	0.341***
Household wealth (ref: poorest)				
Poorer	1.148	0.892	0.0490*	-0.019
Middle	1.178	0.855	0.0534*	0.140
Richer	1.263*	1.258	0.167***	0.153
Richest	1.249	1.148	0.151***	0.202*
Husband in the household	0.741	0.280***	0.064	0.016
Respondent has at least one living son	0.954	1.604*	-0.014	0.047
Respondent's husband has other wives	1.198	1.168	-0.148***	-0.117
Respondent is married to household head or is the head	1.061	1.114	0.248***	0.083
Respondent related to husband prior to marriage	0.951	1.218	-0.009	0.035

Appendix Table 10. Nuclear versus extended: effects of women's work on women's family management decisionmaking authority

Variables	Sole authority[1]		Shared authority[2]	
	Nuclear	Extended	Nuclear	Extended
	OR	OR	Coef	Coef
Duration of marriage (years)	1.023**	0.996	0.00716***	0.0158*
Number of adult males	0.998	0.876*	0.011	-0.0691***
Number of adult females	0.927	0.910	-0.0396**	-0.0736***
Urban	1.361***	1.951***	-0.0529*	0.050
Constant	0.0882**	0.205	1.996***	1.342***
Wald Chi2 (df)	241 (34)	105 (34)	…	…
R-squared	…	…	0.045	0.116
N	9111	1233	9111	1233

Notes:

[1] Results of logistic regression of women's sole authority in at least one family management decision.

[2] Results of ordinary least squares regression of women's shared authority in family management decisionmaking index. Index ranges from 0-4. Includes women who report deciding in conjunction with spouses or alone.

Region dummies included but not shown here. Weights included.

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 11. Nuclear versus extended: effects of women's employment status on women's family management decisionmaking authority

Variables	Sole authority [1]		Shared authority [2]	
	Nuclear	Extended	Nuclear	Extended
	OR	OR	Coef	Coef
Women's employment status (ref.: unpaid family workers/unpaid workers)				
Employee	0.549	0.638	-0.213	-0.411
Employer	0.306		-0.010	0.000
Self employed	0.731	0.729	-0.263	-0.807
Women who do not work	0.544	0.670	-0.326	-0.499
Women's education (ref.no education)				
Primary	1.052	2.371*	-0.016	0.259
Secondary	1.229	2.190**	0.190***	0.084
Higher	1.171	2.062	0.280***	0.301*
Women's age (continuous)	1.087*	1.033	0.008	0.023
Age squared	0.999*	1.000	0.000	0.000
Husband's education (ref: no education)				
Primary	1.060	0.752	-0.020	0.097
Secondary	1.152	0.707	-0.034	0.430**
Higher	0.999	0.589	0.076	0.420**
Husband currently working	1.135	1.638	0.020	0.339***
Household wealth (ref: poorest)				
Poorer	1.152	0.889	0.0494*	-0.020
Middle	1.179	0.857	0.0543*	0.142
Richer	1.267*	1.258	0.168***	0.153
Richest	1.255	1.147	0.151***	0.201*

Appendix Table 11. Nuclear versus extended: effects of women's employment status on women's family management decisionmaking authority

Variables	Sole authority [1]		Shared authority [2]	
	Nuclear	Extended	Nuclear	Extended
	OR	OR	Coef	Coef
Husband in household	0.743	0.280***	0.061	0.017
Respondent has at least one living son	0.953	1.602*	-0.013	0.046
Respondent's husband has co-wives	1.202	1.154	-0.152***	-0.126
Respondent is the household head or married to head	1.059	1.116	0.248***	0.085
Respondent related to husband prior to marriage	0.949	1.215	-0.009	0.033
Marital duration (continuous)	1.022**	0.996	0.00712***	0.0156*
Number of adult males	0.998	0.877*	0.011	-0.0684***
Number of adult females	0.926	0.910	-0.0399**	-0.0735***
Urban	1.366***	1.947***	-0.0526*	0.049
Constant	0.156	0.299	2.322***	1.825***
Wald Chi2 (df)	243.2 (36)	106.2 (37)	…	…
R-squared	…	…	0.045	0.117
N	9111	1233	9111	1233

Notes:

[1] Results of logistic regression of women's sole authority in at least one family management decision.

[2] Results of ordinary least squares regression of women's shared authority in family management decisionmaking index. Index ranges from 0-4. Includes women who report deciding in conjunction with spouses or alone.

Region dummies included but not shown here. Weights included.

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 12. Nuclear versus extended: effects of relative income on women's family management decisionmaking authority

Variables	Sole authority[1]		Shared authority [2]	
	Nuclear	Extended	Nuclear	Extended
	OR	OR	Coef	Coef
Women's relative income (ref.: women who earn less)				
Women who do not work or women with no earnings	0.989	1.014	-0.0784**	-0.064
Earns about the same or more than husband	1.014	0.723	0.110**	-0.015
Husband has no earnings (wife is in paid work)	0.778	17.26*	-0.216	0.436
Women's education (ref.no education)				
Primary	1.065	2.344*	-0.014	0.239
Secondary	1.232	2.121*	0.193***	0.046
Higher	1.179	2.006	0.279***	0.269
Women's age (continuous)	1.085*	1.027	0.007	0.022
Age squared	0.999*	1.000	0.000	0.000
Husband's education (ref: no education)				
Primary	1.055	0.789	-0.023	0.140
Secondary	1.148	0.754	-0.036	0.480**
Higher	0.990	0.620	0.079	0.467**
Husband currently working	1.131	1.762*	0.014	0.355***
Household wealth (ref: poorest)				
Poorer	1.147	0.882	0.0500*	-0.021
Middle	1.178	0.842	0.0541*	0.136
Richer	1.261*	1.242	0.166***	0.152
Richest	1.248	1.120	0.151***	0.199*
Husband present in the household	0.744	0.294***	0.068	0.027
Respondent has at least one living son	0.953	1.578*	-0.014	0.043
Respondent's husband has co-wives	1.204	1.168	-0.141***	-0.114

Appendix Table 12. Nuclear versus extended: effects of relative income on women's family management decisionmaking authority

Variables	Sole authority[1]		Shared authority [2]	
	Nuclear	Extended	Nuclear	Extended
	OR	OR	Coef	Coef
Respondent is the household head or married to head	1.054	1.120	0.241**	0.086
Respondent related to husband prior to marriage	0.951	1.219	-0.008	0.037
Marital duration (continuous)	1.023**	0.997	0.00727***	0.0160*
Number of adult males	0.999	0.877*	0.011	-0.0692***
Number of adult females	0.926	0.899	-0.0412***	-0.0762***
Urban	1.359***	1.961***	-0.0526*	0.050
Constant	0.0901**	0.196	2.092***	1.385***
Wald Chi2 (df)	240.7 (36)	111.7 (36)	…	…
R-squared	…	…	0.046	0.117
N	9110	1232	9110	1232

Notes:

[1] Results of logistic regression of women's sole authority in at least one family management decision.

[2] Results of ordinary least squares regression of women's shared authority in family management decisionmaking index. Index ranges from 0-4. Includes women who report deciding in conjunction with spouses or alone.

Region dummies included but not shown here. Weights included.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Appendix Table 13. Nuclear versus extended: effects of relative occupational prestige on women's family management decisionmaking authority

Variables	Sole authority [1]		Shared authority [2]	
	Nuclear	Extended	Nuclear	Extended
	OR	OR	Coef	Coef
Relative occupational prestige (ref.: Wife less prestige, husband more prestige)				
Women who don't work, husband works	1.118	1.180	-0.0861*	0.014
Both don't work	0.915	0.320	-0.027	-0.413
Wife more prestige or same as husband (includes men who don't work)	1.170	1.123	0.058	0.144
Women's education (ref.no education)				
Primary	1.058	2.284*	-0.016	0.233
Secondary	1.222	2.090*	0.193***	0.047
Higher	1.160	1.961	0.278***	0.263
Women's age (continuous)	1.087*	1.029	0.008	0.021
Age squared	0.999*	1.000	0.000	0.000
Husband's education (ref: no education)				
Primary	1.056	0.742	-0.020	0.122
Secondary	1.147	0.709	-0.034	0.463**
Higher	0.997	0.592	0.081	0.453**
Husband currently working (y/n)	0.957	0.483	0.075	-0.058
Household wealth (ref: poorest)				
Poorer	1.148	0.889	0.0490*	-0.021
Middle	1.177	0.861	0.0531*	0.142
Richer	1.265*	1.253	0.166***	0.149
Richest	1.255	1.135	0.151***	0.197*

Appendix Table 13. Nuclear versus extended: effects of relative occupational prestige on women's family management decisionmaking authority

Variables	Sole authority [1]		Shared authority [2]	
	Nuclear	Extended	Nuclear	Extended
	OR	OR	Coef	Coef
Husband present in the household	0.738	0.291***	0.064	0.031
Respondent has at least one living son	0.956	1.582*	-0.013	0.038
Respondent's husband has co-wives	1.195	1.171	-0.147***	-0.112
Respondent is the household head or married to head	1.068	1.123	0.248***	0.086
Respondent related to husband prior to marriage	0.950	1.221	-0.009	0.038
Marital duration (continuous)	1.023**	0.998	0.00719***	0.0168**
Number of adult males	0.998	0.877*	0.010	-0.0686***
Number of adult females	0.929	0.905	-0.0397**	-0.0761***
Urban	1.364***	1.955***	-0.0521*	0.049
Constant	0.0915**	0.634	2.026***	1.752***
Wald Chi2 (df)	242.1 (36)	107.7 (36)	…	…
R-squared	…	...	0.045	0.118
N	9111	1233	9111	1233

Notes:

[1] Results of logistic regression of women's sole authority in at least one family management decision.

[2] Results of ordinary least squares regression of women's shared authority in family management decisionmaking index. Index ranges from 0-4. Shared authority includes women who report deciding in conjunction with spouses or alone.

Region dummies included but not shown here. Weights included.

*** p<0.01, ** p<0.05, * p<0.1   .

Appendix Table 14. Nuclear versus extended: effects of women's work on women's personal decisionmaking authority

Variables	Sole authority[1]		Shared authority [2]	
	Nuclear	Extended	Nuclear	Extended
Respondent currently working	1.265**	1.58	1.476*	1.155
Respondent's educational attainment (ref: no education)				
Primary	1.216	1.685	1.123	1.228
Secondary	1.171	1.897*	1.790***	2.581*
Higher	1.321	2.986**	2.126***	7.770***
Respondent's age (years)	1.067	0.869	1.053	0.873
Respondent's age squared	0.999	1.003*	1	1.001
Husband's educational level (ref: no education)				
Primary	0.827	0.626	0.631*	0.568
Secondary	0.846	0.572	0.739	1.113
Higher	0.676*	0.406*	0.732	1.028
Husband currently working	0.936	0.832	1.028	0.908
Household wealth (ref: poorest)				
Poorer	1.039	0.871	0.933	0.884
Middle	0.792**	0.553**	1.069	1.002
Richer	0.822*	1.419	0.806	1.636
Richest	0.833	0.784	0.944	2.189
Husband in the household	0.785	0.210***	2.327	1.046
Respondent has at least one living son	1.105	1.45	1.048	1.16
Respondent's husband has other wives	1.231	1.356	0.755	0.731
Respondent is married to household head or is the head	1.204	1.154	1.424	1.01
Respondent related to husband prior to marriage	1.037	1.241	1.058	1.211
Duration of marriage (years)	1.003	0.979	1.014	1.074*
Number of adult males	1.014	0.915	0.954	1.039

Appendix Table 14. Nuclear versus extended: effects of women's work on women's personal decisionmaking authority

Variables	Sole authority[1]		Shared authority [2]	
	Nuclear	Extended	Nuclear	Extended
Number of adult females	0.966	1.077	0.934	0.97
Urban	1.075	1.086	1.139	0.998
Constant	0.214*	8.775	0.648	17.52
Wald Chi2 (df)	99.23 (34)	83.05 (34)	104.8 (34)	97.63 (34)
N	9111	1233	9111	1233

Notes:

[1] Results of logistic regression of women's sole authority in personal decisionmaking reported as odds ratios.

[2] Results of logistic regression of women's shared authority in personal decisionmaking reported as odds ratios. Shared authority includes women who report deciding in conjunction with spouses or alone.

Region dummies included but not shown here.

Weights included.

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 15. Nuclear versus extended: effects of women's employment status on women's personal decisionmaking authority

Variables	Sole authority[1]		Shared authority[2]	
	Nuclear	Extended	Nuclear	Extended
Women's employment status (ref.: unpaid family workers/unpaid workers)				
Employee	1.631	0.429	7.635**	1.013
Employer	1.263		1.975	
Self employed	2.38	0.266	92.56***	0.459
Women who do not work	1.302	0.277	4.68	0.829
Women's education (ref.no education)				
Primary	1.212	1.736	1.127	1.227
Secondary	1.174	1.989*	1.814***	2.612*
Higher	1.324	3.143**	2.113***	7.709***
Women's age (continuous)	1.067	0.87	1.051	0.874
Age squared	0.999	1.003*	1	1.001
Husband's education (ref: no education)				
Primary	0.824	0.604	0.627*	0.559
Secondary	0.845	0.548	0.736	1.095
Higher	0.677*	0.391*	0.74	1.014
Husband currently working	0.938	0.829	1.041	0.913
Household wealth (ref: poorest)				
Poorer	1.038	0.868	0.923	0.889
Middle	0.790**	0.555**	1.056	1.006
Richer	0.820*	1.418	0.793	1.638
Richest	0.831	0.781	0.94	2.189
Husband in household	0.787	0.210***	2.381	1.05
Respondent has at least one living son	1.103	1.449	1.039	1.161

Appendix Table 15. Nuclear versus extended: effects of women's employment status on women's personal decisionmaking authority

Variables	Sole authority[1]		Shared authority[2]	
	Nuclear	Extended	Nuclear	Extended
Respondent's husband has co-wives	1.235	1.335	0.777	0.734
Respondent is the household head or married to head	1.204	1.158	1.427	1.009
Respondent related to husband prior to marriage	1.036	1.237	1.06	1.207
Marital duration (continuous)	1.003	0.979	1.015	1.074*
Number of adult males	1.014	0.916	0.95	1.038
Number of adult females	0.967	1.077	0.938	0.97
Urban	1.073	1.083	1.128	1
Constant	0.163	30.74*	0.14	20.55
Wald Chi2	100.5 (37)	85.45 (36)	123.1 (37)	98.35 (36)
N	9111	1233	9111	1233

Notes:

[1] Results of logistic regression of women's sole authority in personal decisionmaking reported as odds ratio.

[2] Results of logistic regression of women's shared authority in personal decisionmaking reported as odds ratio. Shared authority includes women who report deciding in conjunction with spouses or alone.

Region dummies included but not shown.

Weights included.

*** $p<0.01$, ** $p<0.05$, * $p<0.10$.

Appendix Table 16. Nuclear versus extended: effects of women's relative income on women's personal decisionmaking authority

Variables	Sole authority[1]		Shared authority[2]	
	Nuclear	Extended	Nuclear	Extended
Women's relative income (ref.: women who earn less)				
Women who do not work or women with no earnings	0.795	0.675	0.822	1.483
Earns about the same or more than husband	0.977	0.954	2.084*	7.380*
Husband has no earnings (wife is in paid work)	2.051	…	3.79	…
Women's education (ref.no education)				
Primary	1.21	1.653	1.125	1.167
Secondary	1.164	1.826	1.790***	2.471*
Higher	1.315	2.918**	2.083***	7.765***
Women's age (continuous)	1.067	0.868	1.052	0.881
Age squared	0.999	1.003*	1	1.001
Husband's education (ref: no education)				
Primary	0.828	0.656	0.624*	0.685
Secondary	0.846	0.606	0.731	1.339
Higher	0.677*	0.431	0.736	1.281
Husband currently working	0.956	0.864	1.054	0.899
Household wealth (ref: poorest)				
Poorer	1.039	0.868	0.937	0.917
Middle	0.792**	0.548**	1.072	1.036
Richer	0.825*	1.411	0.81	1.73
Richest	0.836	0.778	0.947	2.331
Husband present in the household	0.779	0.217***	2.299	1.054
Respondent has at least one living son	1.107	1.437	1.051	1.145

Appendix Table 16. Nuclear versus extended: effects of women's relative income on women's personal decisionmaking authority

Variables	Sole authority[1]		Shared authority [2]	
	Nuclear	Extended	Nuclear	Extended
Respondent's husband has co-wives	1.219	1.371	0.754	0.76
Respondent is the household head or married to head	1.226	1.16	1.446	1.02
Respondent related to husband prior to marriage	1.038	1.247	1.061	1.223
Marital duration (continuous)	1.003	0.98	1.015	1.076*
Number of adult males	1.013	0.914	0.956	1.037
Number of adult females	0.968	1.069	0.934	0.977
Urban	1.075	1.089	1.143	0.977
Constant	0.26	12.45	0.779	8.564
Wald Chi2 (df)	100.6 (36)	80.42 (35)	114.8 (36)	103.2 (35)
N	9110	1230	9110	1230

Notes:

[1] Results of logistic regression of women's sole say in personal decisionmaking reported as odds ratios.

[2] Results of logistic regression of women's shared authority in personal decisionmaking reported as odds ratios. Shared authority includes women who report deciding in conjunction with spouses or alone.

Region dummies included but not shown here. Weights included.

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 17. Nuclear versus extended: effects of relative occupational prestige on women's personal decisionmaking authority

Variables	Sole authority[1]		Shared authority[2]	
	Nuclear	Extended	Nuclear	Extended
	OR	OR	OR	OR
Relative occupational prestige (ref.: Wife less prestige, husband more prestige)				
Women who don't work, husband works	0.721*	0.357*	0.572	0.38
Both don't work	0.414**	0.0971**	0.171***	0.0800*
Wife more prestige or same as husband (includes men who don't work)	0.809	0.357	0.697	0.275
Women's education (ref.no education)				
Primary	1.212	1.733	1.12	1.234
Secondary	1.161	1.934*	1.777***	2.587*
Higher	1.325	3.096**	2.146***	8.204***
Women's age (continuous)	1.069*	0.869	1.056	0.872
Age squared	0.999	1.003**	0.999	1.001
Husband's education (ref: no education)				
Primary	0.823	0.558	0.625*	0.506
Secondary	0.84	0.506	0.732	0.978
Higher	0.668*	0.356*	0.721	0.905
Husband currently working	0.564*	0.232*	0.325**	0.195
Household wealth (ref: poorest)				
Poorer	1.039	0.888	0.933	0.881
Middle	0.793**	0.559**	1.071	1.006
Richer	0.825*	1.476	0.809	1.652
Richest	0.836	0.787	0.947	2.163
Husband present in the household	0.78	0.208***	2.306	1.049

Appendix Table 17. Nuclear versus extended: effects of relative occupational prestige on women's personal decisionmaking authority

	Sole authority[1]		Shared authority [2]	
	Nuclear	Extended	Nuclear	Extended
Respondent has at least one living son	1.105	1.503	1.047	1.173
Respondent's husband has co-wives	1.22	1.308	0.743	0.696
Respondent is the household head or married to head	1.214	1.169	1.448	1.016
Respondent related to husband prior to marriage	1.036	1.217	1.057	1.204
Marital duration (continuous)	1.003	0.975	1.013	1.070*
Number of adult males	1.017	0.913	0.958	1.04
Number of adult females	0.968	1.079	0.937	0.97
Urban	1.072	1.09	1.137	1.006
Constant	0.488	90.93**	3.477	241.1**
Wald Chi2 (df)	102.7 (36)	89.18 (36)	116.2 (36)	111.2 (36)
N	9111	1233	9111	1233

Notes:

[1] Results of logistic regression of women's sole say in personal decisionmaking reported as odds ratios.

[2] Results of logistic regression of women's shared authority in personal decisionmaking reported as odds ratios. Shared authority includes women who report deciding in conjunction with spouses or alone.

Region dummies included but not shown here.

Weights included.

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 18. Estimates of the (logistic) propensity score model

Variable	Coefficient	SE
Respondent's age (ref. 15-19)		
20-24	16.20***	(0.304)
25-29	17.12***	(0.226)
30-34	17.22***	(0.226)
35-39	17.26***	(0.206)
40-44	17.21***	(0.200)
45-49	17.13	0.000
Respondent's educational attainment (ref.: no education)		
Primary	0.0333	(0.411)
Secondary/Higher	0.504*	(0.305)
Husband currently working	0.0698	(0.157)
Husband's educational attainment (ref.: no education)		
Primary	-0.426	(0.486)
Secondary/Higher	0.273	(0.438)
Household structure		
No children	0.494***	(0.189)
At least 2 male or 2 female adults in household	-0.648***	(0.141)
Household wealth index (ref.:poorest)		
Poorer	0.219	(0.171)
Middle	0.737***	(0.170)
Richer/Richest	1.234***	(0.169)
Governorate (ref.: Amman)	0.0764	(0.096)
Balqa		
Zarqa	0.630***	(0.147)
Madaba	-0.353**	(0.167)
Irbid	0.761***	(0.143)
Mafraq	0.228	(0.157)
Jarash	0.620***	(0.164)
Ajlun	0.278	(0.169)
Karak	0.738***	(0.153)
Tafiela	1.059***	(0.151)
Ma'an	0.724***	(0.154)
Aqaba	0.884***	(0.154)
Rural	0.0791	(0.160)
Constant	-20.62***	(0.448)
Log likelihood	-3445	
N	10357	

Notes: Weights included.
*** p<0.01, ** p<0.05, * p<0.1

FIGURES

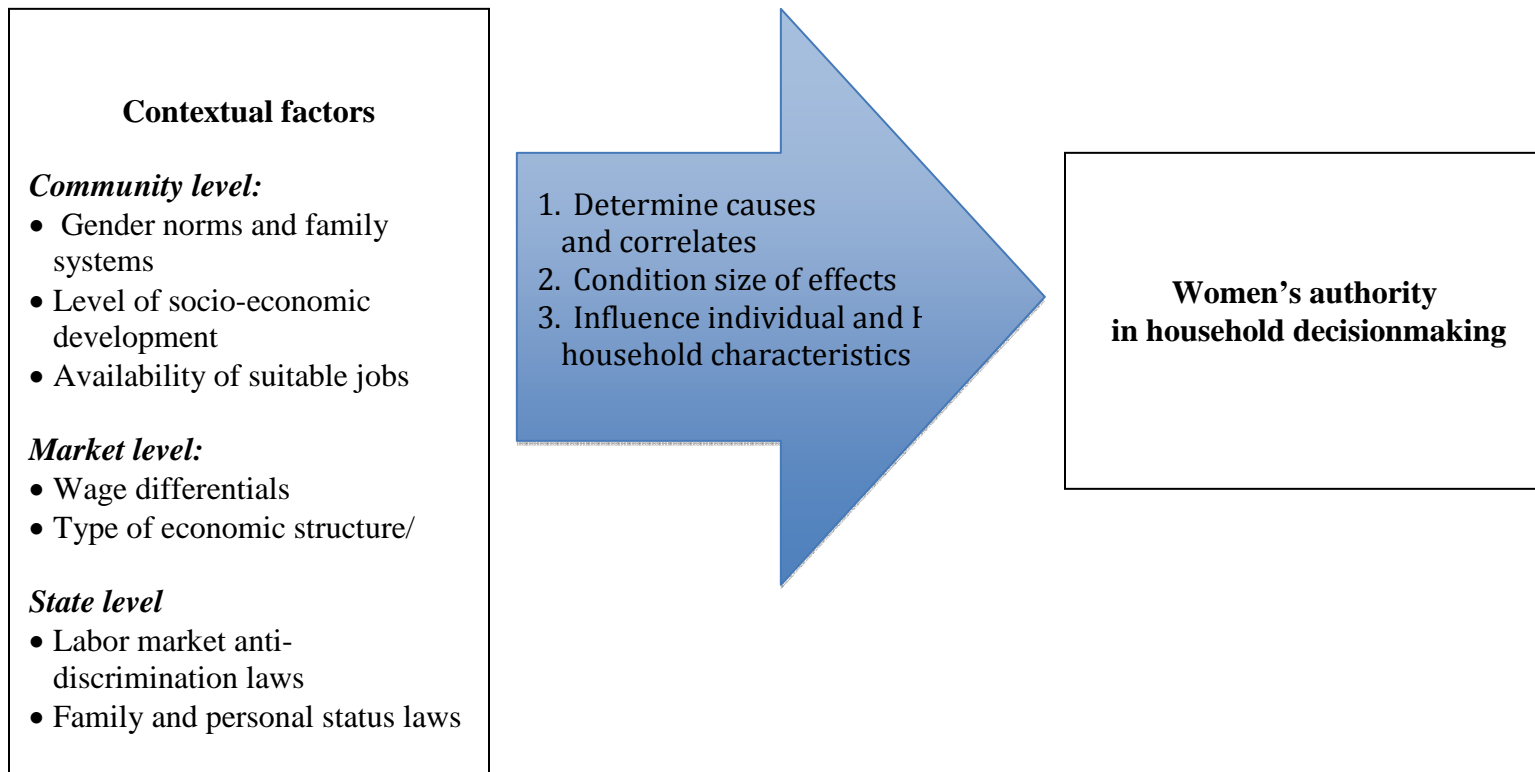**Figure 1. Pathway through which context influences women's authority in household decisionmaking**

Contextual factors

Community level:
- Gender norms and family systems
- Level of socio-economic development
- Availability of suitable jobs

Market level:
- Wage differentials
- Type of economic structure/

State level
- Labor market anti-discrimination laws
- Family and personal status laws

1. Determine causes and correlates
2. Condition size of effects
3. Influence individual and household characteristics

Women's authority in household decisionmaking

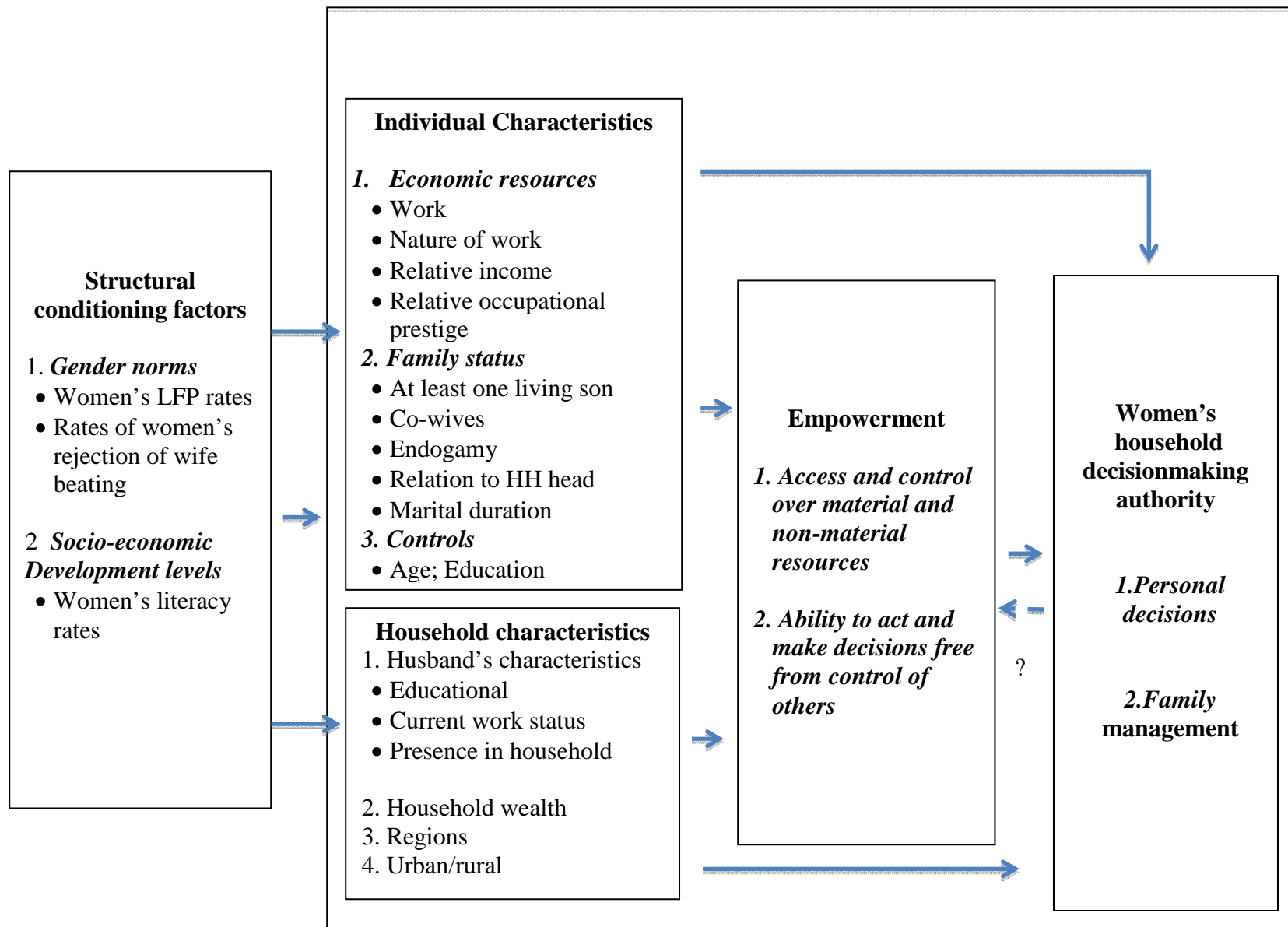**Figure 2. Pathways through which women's work impacts women's authority in household decisionmaking**

| Women's work | Income
Knowledge
Confidence
Negotiation skills
Social prestige/status | Women's authority in household decisionmaking |

Structural conditioning factors

1. *Gender norms*
- Women's LFP rates
- Rates of women's rejection of wife beating

2 *Socio-economic Development levels*
- Women's literacy rates

Individual Characteristics

1. *Economic resources*
- Work
- Nature of work
- Relative income
- Relative occupational prestige
2. *Family status*
- At least one living son
- Co-wives
- Endogamy
- Relation to HH head
- Marital duration
3. *Controls*
- Age; Education

Household characteristics
1. Husband's characteristics
- Educational
- Current work status
- Presence in household

2. Household wealth
3. Regions
4. Urban/rural

Empowerment

1. Access and control over material and non-material resources

2. Ability to act and make decisions free from control of others

?

Women's household decisionmaking authority

1.Personal decisions

2.Family management

Figure 3. Conceptual map of the determinants of married women's authority in household decisionmaking

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