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WOMEN EMPOWERMENT EXTERNALITIES OF THE 2004 MOROCCAN  
MOUDAWANA REFORM: INTRAFAMILY BARGAINING AND EDUCATIONAL  
ATTAINMENT

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By Alex Martin

A thesis presented in partial fulfillment of the requirements for completion  
Of the Bachelor of Arts degree in International Studies  
Croft Institute for International Studies  
Sally McDonnell Barksdale Honors College  
The University of Mississippi

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May 2017

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ABSTRACT

ALEX MARTIN: Women Empowerment Externalities of the 2004 Moroccan Moudawana Reform: Intrafamily Bargaining and Educational Attainment

In order to evaluate the potential human capital externalities of women empowerment and more equitable Moudawana (personal status law) policies in the North Africa region, I use 2 countries as case studies, each with different Moudawana regimes. I compare Morocco, which had a significant Moudawana reform in 2004, to Egypt, whose Moudawana is far more inequitable. Using difference-in-difference analysis on survey data, I compare educational attainment in Morocco and Egypt. I support this with descriptive statistics about women empowerment in Morocco. The results suggest that the Moudawana reform may increase women empowerment and lead to increased educational attainment.

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Preface: In the fall of 2015, I spent a semester studying in Meknes, Morocco, where I shared an apartment with five other American students. Our program hired a housekeeper, Nora\*, to cook most of our meals and do some cleaning. She was from a small village in the mountains and spoke a unique Arabic dialect, so we communicated in small spurts. Our conversations mostly involved me parsing her sentences, asking her to explain the words I did not understand, inevitably leading to more sentences and more questions. Given the language barrier and her shy temperament, I began to learn a few details about her life after a month of such communication. Some stuck out to me- that she had left her husband, who she said was cruel to her daughter, and now lived alone with her daughter, working this job to afford her daughter's private schooling.

Looking back on this experience, I find it remarkable that she was able to leave her husband; it is even more remarkable that she was able to live alone, making her own decisions about her employment and her daughter. These decisions, which seem commonplace to Westerners, were only completely afforded to Nora and women like her in the Moroccan Moudawana (family law or personal code) reforms of 2004. Because of this experience and other similar experiences during the semester I spent studying in Morocco, I developed an interest in the interaction between laws and opportunities as well as the economic externalities that varying degrees of opportunity and agency can have on a country's population.

## 1. Introduction

I am broadly interested in how changes in policy, even when working against cultural or religious norms, can have an impact on the empowerment of women. In order to investigate the potential importance of laws and policies that provide equitable opportunity and agency structures to all citizens, I analyze educational attainment during the period of 2003-2010 in two similar countries in the Middle East and North Africa (MENA) region, Morocco and Egypt. Using a difference-in-differences test, I examine the changes in women empowerment resulting from the 2004 Moroccan Moudawana reform. I find that the reform of the Moudawana is statistically significant in explaining an increase in educational attainment for both men and women. I also provide evidence suggesting that this reform has positively affected the relative bargaining power of women in the household. I will also discuss other potential explanations for the increase in educational attainment and remaining roadblocks to enforcement of the Moudawana.

I will be using Arabic language terms such as moudawana and shar'iah. While they are not names, due to conventions of the Arabic language they may be capitalized or not capitalized. If these terms stand for a specific thing, such as the Moroccan Moudawana, they will be capitalized; if referred to generally, they will not. Any italics of Arabic terms are not my own.

I also made efforts to use my Arabic and French language skills. The surveys that I used were in French and Arabic. The Moudawana policies themselves that I discuss were originally written in Arabic. This required an extensive amount of translation.

## 2. Literature Review

### 2.1. Effect of Policy on Gender Equity

Empowerment is both the process and the outcome of enhancing the structure of opportunity and enhancing the capacity for agency of a population or population sub-group (Narayan 2005). The opportunity structure, here, is the ability of an individual or a group to make choices on their own behalf, and the capacity for agency is the ability of this individual or group to enact their choices to bring about desired outcomes. Together, these concepts form the degree of empowerment experienced by a person or group. This is a relatively new concept in the discussion about economic development, e.g., it has only been recognized by the World Bank as a development goal and tool for poverty reduction since 2001 (Kabeer 1999; World Bank 2001). Many recent studies show a link between empowerment and long-term development outcomes, indicating that empowerment is not only important to ensure equity for all members of society, but also to better enable society as a whole to grow and develop economically and societally, as I discuss in Section 2.2 (World Bank 2001). Unequal empowerment means that a society's policies, laws, and norms give some individuals or groups better access, power, or opportunities than others (Smith 1989).

In 1973, Ester Boserup published a book titled *Woman's Role in Economic Development*, which is widely regarded as a “pioneering effort” to examine the part of women in economic development (Beneria and G. Sen 1981, p. 279). Not only did she find that women had often been ignored in past development analyses and proposed policy reforms, but she also found that many well intended policies could actually be harmful to women (Boserup 1970; Boserup 1973). Since then, an extensive literature has developed on the impact of policy on gender equity and the importance of “gender mainstreaming.”

There is significant literature supporting the idea that policy can increase gender equality and empower women (Korpi et al., 2013). In many Western countries, researchers, originating with Hernes in 1987, have determined that social policies aimed at reducing gender inequality through a reduction in the gender employment gap have been effective to some extent (Hernes 1987; Hobson 1990; Crompton 2006). There is empirical evidence to support that policies that increase the gender equity of access to economic assets are linked with a productivity increase for female producers (Goldstein and Udry 2008). A recent 2014 paper by Mariaflavia Harari about the restructuring of Kenyan inheritance rights, upon which I model my empirical analysis, supports the idea that increased property rights for women can increase women empowerment and thus positively impact a variety of health and educational outcomes (Harari 2014). I will further discuss the link between policies that promote gender equity and other societal outcomes in Section 2.3.

Conversely, many policies aimed at increasing gender equality can often have unintended, negative consequences. Many studies show that these policies can hurt women by, for example, failing to “challenge the gender division of household labor,” creating stronger glass ceilings, and increasing discrimination by employers (Korpi et al., 2013 p. 2; Booth 2006;



Mandel and Semyonov 2005). Even seemingly innocuous policies such as tax codes can have adverse gender equity impacts by, for example, penalizing part-time work or a second household income (True 2003). As discussed in a 2002 United Nations Development Report, this is a particular salient issue in the MENA region (UNDP 2002).

In the Arab world specifically, personal status laws have often been a source of discrimination against women. As I will discuss later, restrictive personal status laws are often associated with conservative and/or fundamentalist governments (Charrad 2011). These personal status codes do legally limit a woman's influence in the family, often legally requiring a woman to obey her husband or another male guardian. Also, they can, for example, limit the number of women in the labor force. In the Middle East, a reduction of the presence of women in the labor force has been linked with "profound social consequences" including "higher fertility rates, less education for girls, and less influence within the family" (Ross 2008, p.1). On the other hand, Tunisia overhauled its Moudawana in 1956 post-colonization, making a number of reforms aimed at gender equity, such as a minimum marriage age and a guarantee of equal wages between genders. In return, the country has seen a variety of health, labor, and educational benefits for society stemming from these freedoms given to women (Watts 2007).

Given these benefits and risks, most NGOs and governments alike now practice "gender mainstreaming," the idea that gender should be considered in all policies, reforms, and activities (Anderson 1993). However, it is necessary to continue to evaluate policy through this lens. The degree of empowerment can be measured quantitatively and analyzed by comparing many indicators of women empowerment, such as school enrollment, educational attainment, literacy, health, life expectancy fertility, skill endowments, etc. (Diener & Fujita 1995; Alsop & Heinsohn 2005). While one or more of these indicators might be affected initially while the rest remain

stagnant, an overall increase in the above variables would support an increase in women empowerment, but there is not a perfect association between these variables (Mueke 1992; Kabeer 1999; Narayan 2005). Although these are inexact relationships, these variables are often highly correlated. Therefore, increases in three or more would suggest an increase in women empowerment, while an increase in only one or two might not be enough to confirm such a relationship.

## 2.2. Gender Equity and Economic Growth

Gender empowerment and gender equity are not only important in their own right. There is extensive evidence to support that gender empowerment and increased gender equity can drive or increase economic growth and development. There are two main theoretical pathways that could explain the relationship between women empowerment and economic growth and development. One is the structuralist school, which says that incentive structures, such as education laws, voting laws, or even societal norms, must be reformed to promote women empowerment. Reductions in gender inequality following from these reforms would likely help to promote economic growth. Alternatively, modernization theory says that increases in economic growth will eventually bring about societal modernization and greater resource wealth, which would in turn promote women empowerment via mechanisms such as greater democratization. These theoretical pathways differ largely in the direction of proposed causality.

The structuralist approach necessitates reforms that restructure incentives to encourage equitable treatment for all. The previously mentioned “gender mainstreaming” is part of this approach (Molyneux 2007). The primary avenues through which economic growth and development are affected by women empowerment are physical and human capital investments as well as the fair functioning of markets and economic institutions (World Bank 2001). Reforms

in these areas, economic growth aside, have been shown to improve opportunities for women, increase access to schooling for children (girls in particular), improve health outcomes for women and children, and enhance women empowerment in general (IMF 2000; World Bank 2001). Examples of reforms include allowing women to have more free time throughout the day by improving infrastructure or allowing women to hold land titles, houses, or other productive assets that can increase their level of productivity (Jejeebhoy 1995). Positive empowerment and economic growth outcomes directly linked to such reforms show that a society need not wait for the possibility that modernization and democratization would eventually lead to more equitable practices (Dollar & Gatti 1999).

Lipset first observed that economic development is related to democracy (Lipset 1959). The subsequent body of research founded what is known as modernization theory, which explains how democracy and development can be correlated (Prezeworski and Lmogni 1997). In modernization theory, there are three main processes: socioeconomic development, value change, and democratization (Weber 1958; Rostow 1961; Barro 2000; Inglehart & Welzel 2003). Debates continue as to how exactly these processes are related, and there is still a critical lack of a completely integrated theory of modernization and social change (Dahl 1998; Inglehart & Welzel 2003). Some researchers believe that socio-economic development causes the rise of “modern” values, such as gender equity and democracy, but still others (like structuralists) believe that these values, when enacted, can enable socio-economic development (Inkeles & Smith 1974; Putnam 1993; Landes 1998 Inglehart & Baker 2000). Amartya Sen’s 2001 book “Development as Freedom” was praised for its depiction of how greater access to rights and resources enrich and empower many marginalized people. However, it lacked an investigation

into mechanisms that might actually allow these goods to reach and affect said people (Evans 2002).

While modernization theory shows how democracy is connected to economic development, studies such as Boserup's 1970 study on cash crops and revenue flow shows that an increase in resources or wealth does not always mean that these benefits are passed on to all people. Democracy can affect women empowerment, if enough of the population supports structural reforms that make the distribution of and access to key resources and decision-making abilities more equitable. Thus, while modernization theory might show how structural reforms could come about, it seems necessary that these reforms take place for women empowerment to meaningfully increase.

Leading development authorities such as the World Bank support structural reform as part of the best practices of economic development work (World Bank 2001). Many recent empirical cross-country studies find that increased gender equity in education and in the market sphere has a significant, positive effect on labor productivity and thus on economic growth (Knowles et al. 2003). Additionally, similar studies find that inequity in education can be linked directly to relative lower economic growth (Klasen 2002). This underlines the importance of the structuralist hypothesis and thus global efforts to enact reforms that support increases in women empowerment. For these reasons, women empowerment can have significant, positive effects on economic growth.

### 2.3. Family Bargaining

Family bargaining is a key mechanism by which I believe that structural changes in family code would increase women empowerment and thus affect overall educational attainment in Morocco. In general, this is the mechanism by which reforms, such as family code changes,

could have short- and long-term positive impacts on children's education and women's labor force participation (Agarwal 1997). The family bargaining theory suggests that households do not always make decisions about resource allocation as an entire unit. Instead, contrary to the often-used neoclassical unitary model of decision making, intrafamily bargaining is crucial.

Historically, microeconomic theory solely relied upon the unitary model of the household or family (Rode 2011). In this model, the household or family functions under one decision-making preference and maximizes the utility of the entire unit through the distribution of resources under a pooled budgetary constraint (Samuelson 1956). Thus, in this model, the decisions made by the household depend only on the total income brought into the unit, not on the income source. However, there is substantial support in the literature that the unitary household model is likely not the most accurate way to model household decision making (Chiappori et al. 2009). Specifically, the amount of power, be it economic, legal, political, social, or other, held by different family members affects the outcome of key decisions (Alderman et al. 1995). Models that consider frameworks in which the source of income or amount of resources held by different members of the household or family unit can affect demand to be non-unitary (Chiappori et al. 2009).

The non-unitary or family bargaining model demonstrates that "...the distribution of well-being among family members reflects their individual economic opportunities outside that family." (McElroy 1997 p. 54) Broadly, models of non-unitary behavior can be divided into cooperative and non-cooperative models (Chiappori et al. 2009). The results of cooperative models, where all members of the unit participate in decision making, are Pareto efficient. However, in non-cooperative models, where some members of the family are deprived of agency in decision-making, the outcome is not necessarily Pareto efficient.

The first significant cooperative, non-unitary model is the Nash bargaining model (Manser and Brown, 1980). This model was the first to consider separate utility functions and threat points for each member of the household. A generalization of this model, the collective model, uses a pooled budget constraint to maximize a weighted sum of each members' utility (Chiappori 1988). The implication is that, though the "power" of each member may differ, the outcome of any decision is Pareto efficient. The threat point in cooperative models is often divorce, but Lundberg and Pollak achieve satisfactory empirical results by defining the threat point as any non-cooperative equilibrium (Lundberg and Pollak 1993). This concept is demonstrated by an empirical study of child benefits in the United Kingdom (Lundberg, Pollak, and Wales 1997). Essentially, the child benefit was redirected by the government from husbands to wives in most cases through a weekly payment instead of simply a tax benefit for the working spouse, usually only the husband. Under the unitary model, the distribution of resources would not change; however, this policy change resulted an increase investment of resources into women and children's clothing as well as children's educational expenses. This supports the "separate spheres" bargaining hypothesis, where there does not need exist the "threat" of divorce to support a change in family decision making outcomes.

The cooperative model is helpful in understanding family and household decision making behavior. However, realistically, there are so many clearly inefficient outcomes observed in family and household units--for example, domestic abuse and child neglect are two stark examples (Lundberg and Pollak 2008). Therefore, it seems important to consider models that produce inefficient outcomes. These non-cooperative models differ from the cooperative models in that they allow the potential for inefficient outcomes through the absence of a pooled budget constraint. In this model, each member of the household maximizes their own utility to produce

outcomes that can be efficient but are usually not. There is evidence that cultural factors can play a role in the presence of a non-cooperative bargaining situation, where distribution of resources depends on the amount of power held by the husband or wife (Lundberg and Pollak 1994).

While cooperation is an important consideration, I will consider family bargaining issues through the “separate spheres” bargaining model. The presence of Pareto inefficient outcomes is not negligible, but it is relatively small and difficult to estimate. Additionally, using the “separate spheres” and other closely related models, there is a significant amount of empirical evidence based on data from real experiments that that changes in relative wealth or power among members of a household or family will change the resource distribution outcome (Attanasio and Lechene 2002). Generally, empirical studies of household situations show that an increased income of the wife translates into increased spending on women’s and children’s food and clothing and decreased spending on services and “adult” foods and beverages (Chiappori et al. 2009). Furthermore, other studies, such as Harari’s analysis of Kenyan inheritance rights and bargaining power, demonstrate that women don’t have to literally bring in more income to affect changes in resource allocation (Harari 2014). Changes in legal and political rights that increase the power of the woman within the family can also have similar effects. For these reasons, policy reform can be an effective tool for enhancing women empowerment, even for issues at which it is not directly targeted (McElroy 1998). It is for this reason that the Moroccan Moudawana reform could be linked to increased women empowerment.

### 3. Moroccan and Egyptian Moudawana

As discussed above, development policies can have positive, significant effects on the economic growth and development of a country and should be encouraged; however, they should never be assumed to be gender neutral by default. When these policies encourage equitable

opportunity and agency structures in society, this redistribution of power can have significant effects on decision making about resource distribution within the household. For this reason, the Moroccan Moudawana, by giving equitable rights to women in the family, likely has significant, positive effects on women empowerment and thus on outcomes for women and children.

### 3.1. Discussion of Country Level Statistics

In order to compare Morocco and with a control country in a difference-in-differences analysis, they must be broadly similar. For this analysis, the operational difference is the reformed Moudawana in Morocco and a more conservative, traditional Moudawana, like the Moudawana in Morocco pre-reform, in the control country. I use a discussion of country level statistics of Arab countries in the MENA region to conclude that Egypt is the best fit for the country of comparison. Though dissimilarities exist, I believe that this comparison is adequate enough to be helpful in discussing this issue although not flawless.

Freedom House, a nongovernmental resource organization that advocates for civil liberties and political rights, has given each country in the MENA region an equity score in five subcategories, with each score ranging from 1 (least equitable) to 5 (most equitable). To produce these scores, over 40 local and international scholars work for a period of 20 months of investigation. The five subcategories are as follows: Non-Discrimination and Access to Justice; Autonomy, Security, and Freedom of the Person; Economic Rights and Equal Opportunity; Political Rights and Civic Voice; Social and Cultural Rights. This is a quantitative, objective way to evaluate the relative opportunity and agency structures of each country.

For the year 2003, not factoring in the Moudawana reform, these figures are available for all Arab countries in the MENA region, as shown below in Table 2.



Table 1 Freedom House Scores of Arab Middle Eastern Countries, 2003

Country	Non-Discrimination and Access to Justice	Autonomy, Security, and Freedom of the Person	Economic Rights and Equal Opportunity	Political Rights and Civic Voice	Social and Cultural Rights
Algeria	3.0	2.4	2.8	3.0	2.9
Bahrain	2.2	2.3	2.9	2.1	2.8
Egypt	3.0	2.8	2.8	2.7	2.9
Iraq	2.7	2.6	2.8	2.2	2.1
Jordan	2.4	2.4	2.8	2.8	2.5
Kuwait	1.9	2.2	2.9	1.4	2.8
Lebanon	2.8	2.9	2.8	2.9	2.9
Libya	2.3	2.1	2.3	1.2	1.8
Morocco	3.2	3.2	3.1	3.0	3.0
Oman	2.0	2.1	2.7	1.2	2.1
Palestine	2.6	2.7	2.8	2.6	2.9
Qatar	2.0	2.1	2.8	1.7	2.5
Saudi Arabia	1.2	1.1	1.4	1.0	1.6
Syria	2.7	2.2	2.8	2.2	2.3
Tunisia	3.6	3.3	3.1	2.8	3.3
UAE	1.7	2.1	2.8	1.2	2.3
Yemen	2.4	2.3	2.3	2.6	2.1

Source: Freedom House, 2005

It should be noted that these 2003 figures for Morocco do not factor in the Moudawana reform. Of these listed Arab countries in the MENA region that I could potentially use for my difference-in-difference analysis, only three other countries have roughly similar scores to Morocco, Algeria, Egypt, and Tunisia. Tunisia instituted a secular family policy reform in 1956 that was instituted top-down. Therefore, Tunisia is not an appropriate case for comparison. Algeria and Egypt, however, both have a more traditional, conservative family code based on Shar'iah. I will further evaluate the merits of Algeria and Egypt to use for difference-in-differences analysis. The 2005 United Nations Human Development Report for the MENA region provides 2003 data on a variety of socioeconomic variables. Some selected variables are shown below in Table 2 for Algeria, Egypt, and Morocco.

Table 2 Comparative Statistics for Morocco, Egypt, and Algeria

	2003		
	Morocco	Egypt	Algeria
Human Development Index (0-1)	.631	.659	.722
GDP per capita (PPP US\$)	4,004	3,950	3,576
Net Primary Enrollment Rate (%)	90	91	96
Annual Population Growth Rate (%)	1.4	1.8	1.3
Total Fertility Rate (%)	3.3	2.8	2.41
Life Expectancy at Birth (Years)	69.7	69.8	71.1
Life Expectancy, Female (Years)	71.9	72.1	73.5
Life Expectancy, Male (Years)	67.5	67.7	69.4
Adult Literacy Rate, Female (%)	38.3	43.6	64.0
Adult Literacy Rate, Male (%)	63.3	67.2	81.1
GINI Index Score (0-100)	34.4	39.5	35.3
Education Index	.58	.62	.71
GDP Index	.62	.61	.69

Source: United Nations 2005, World Bank

In close to every category, Morocco is notably more similar to Egypt than Algeria (UNHDR 2005). Of these similarities, two merit a mention. Their respective GDP per capita figures are very similar, with Egypt at \$3,950 PPP, US\$ and Morocco at 4,004 PPP, US\$. Additionally, the 2003 net primary enrollment rates of Egypt and Morocco are 90% and 91%, respectively. These measures demonstrate that the economic and educational situations as well as relative gender equity of the average person in Morocco and Egypt are very similar. However, there are also important differences to consider that could have an effect on my analysis.

In 2003, Morocco and Egypt had very similar fertility rates, with Morocco 2.9% and Egypt 3.1%. However, in the period from 2003-2010, Morocco underwent a demographic transition, the extent of which is unclear, but it is thought that by 2010, the fertility rate in Morocco had dropped by some estimates to 2.4% percent while it hovered around 2.8% in Egypt (Achy 2010). This is a remarkably rapid demographic transition. In real terms, this causes less stress on public resources such as school. Additionally, because the population is growing much more slowly, Morocco's GDP per capita grows much more rapidly. However, the GDP growth rates of Morocco and Egypt remain relatively similar. Even so, it is possible that this demographic transition could potentially skew my analysis.

There also exist some statistics suggesting a diverging poverty trend in the two countries. In Morocco, by its own national standards, the percent of people living below the poverty line was 15.3% in 2000 and 8.9% in 2000. By Egyptian national standards, this was 16.7% in 1999 and 21.6% in 2008. Unfortunately, this is the only data that I have been able to find. These two data points do suggest a diverging poverty trend, but the data is problematic due to the fact that more data points are not available and that these are only issued by the respective standards of each country, not by international standards. Data by international standards is only available for Morocco in 2000 and 2006, in which it is 6.3% and 3.1% respectively, much lower than the national guideline statistics. However, if people in Morocco are becoming richer and people in Egypt are becoming poorer, would certainly affect this study. I will further elaborate on this in the limitations section.

A well-documented countervailing force in Morocco is its reputation for its poor human capital situation (Achy 2010). Its illiteracy rate remains higher than Morocco and Egypt, even given the increase in GDP per capita, and Egypt has a reputation for having a slightly better

developed educational system than in Morocco. Inequality also remains substantially higher in Morocco than in Egypt, with the Moroccan tax code benefitting the rich, urban population at the expense of the rural poor. It is important to discuss and acknowledge these differences, and I note that any of these could potentially impact my analysis. However, I believe that the comparison in Morocco and Egypt is close enough that comparing them in difference-in-difference analysis is more helpful than comparing Morocco alone, as I have shown there is no other suitable match in the MENA region.

Given these similar national-level statistics at the start time of this study, combined with similar opportunity and agency structures as represented by the Freedom House scores, Morocco and Egypt are suitable candidates for this difference-in-differences study. The treatment, or the key difference which I will study, is a 2004 personal status or “Moudawana” reform in Morocco that I will suggest caused a significant increase in women empowerment.

The 2004 Moroccan Moudawana reform as well as the success of the larger Moroccan feminist movement are unmatched in the contemporary Arab world. I will discuss how this reform was accomplished by briefly detailing the history of family law or personal status laws in Morocco and Egypt, a comparable Arab country where only much more modest family reforms have happened in contemporary history. Additionally, I will discuss other relevant laws, such as education policies that Morocco and Egypt have in common. These explanations support my argument that these two countries are good comparison cases for use in this difference-in-differences study.

### 3.2. Morocco

The modern movement for women’s rights in Morocco dates back to colonial Morocco and the 1946 “Sisters of Purity” organization, which released a then-optimistic list of demands

that included "...the abolition of polygamy, full and equal political rights, and increased visibility in the public sphere" (Sadiqi 2010, web). Many female professors and writers, as well as a wide span of civil society, adopted these demands. When Morocco became independent in 1956, it quickly released its first personal status code termed "Moudawana," which solely and thoroughly regulated family matters, including marriage, divorce, and inheritance. This code was incredibly disappointing to the entire women's movement.

Far from adopting the demands of the Sisters of Purity, the first Moudawana reflected the Maliki school of Islamic jurisprudence, subject to a conservative interpretation of the Quran. At the time, many laws regarding banking, the finance sector, and the penal code adhered to a civil code that dramatically diverged from traditional Quranic thought. Moudawana was the only law that strictly adhered to religious fundamentals and tribal norms (Zvan 2007). Under this first Moudawana, "...men could unilaterally divorce their wives while women's right to divorce was highly restricted; women could not marry without legal approval from a guardian or tutor; married women were obliged by law to obey their husbands; and men could marry multiple women without their wives' consent" (Touimi-Benjelloon 2008, web).

Over the next roughly forty years, women continued to organize, publishing newspapers and magazines, holding marches, and circulating petitions. They continued to face resistance from the Islamist party (the PJD) and various Islamist groups, who believed that their demands were not compatible with Islam. A notable effort occurred in 1992-1993, when the Union de l'Action Feminine (UAF) circulated a petition encouraging a more equitable Moudawana reform that garnered over a million signees and has been termed the One Million Signatures campaign (Zvan 2007). In the year 1993, Morocco ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) which was a notable step forward, although

Morocco formally set a list of reservations to the CEDAW provisions. (These provisions were still technically in place until 2008 (Hanafi 2013). The women's movement as well as the push from the international community through CEDAW resulted in a very minor and largely inconsequential reform made by King Hassan II, who was notorious for his conservative views and corruption among his administration (Zvam 2007). However, the women's movement viewed this as a small success because it meant that change in the Moudawana was possible.

When King Hassan II died in 1999 and King Mohamed VI, who was rumored to have more "modern" or relatively liberal views, took the throne, the efforts of the women's movement and the international community were revitalized (Sadiqi 2010). The international community was very hopeful that his reign could be used to address many human rights issues in Morocco. For this reason, a large number of NGO's, with support from the World Bank, launched "...a campaign to promote women's participation in public life and development" (Harrak 2009 p.4) Encouraged by this, the then Secretary of State for Childhood and Family Issues Said Saadi authored and presented a proposal to promote the status of women to democracy. This proposal was directly linked to various United Nations declarations and the resolutions from the 1995 Beijing United Nations conference. However, while this project received intensive support from civil society, it was never fully supported by the government or Moroccan society entirely. Public debate about this was demonstrated by two Moroccan marches in March of 2000. One, in favor of Said's plan, was held in Rabat and 500,000 people attended. An opposing rally in Casablanca counted more than 2,000,000 people in attendance. The sheer amount of support and dissent show how this was (and remains) a contentious societal issue where the international community and a large part of the Moroccan society are in opposition.

The effort of the Moroccan women's movement and the international development community culminated in the Moudawana reform of 2004, which is discussed in detail in section r. Throughout the globe, this reform is hailed as victory for women that is unique in the Arab world. "The new *Mudawwana* jettisoned the patriarchal model of the family," argues Margot Badran, a distinguished scholar and historian of the Middle East and gender, "alleged to be the authentic Islamic model of the family, in favor of an egalitarian family model based upon the *shar'iah*... This was a victory that Egyptians could not achieve after a century of demands and activist efforts" (Badran 2008, italics original, web).

### 3.2. Egypt

Egypt's personal status code was first established in the 1920's, and has been a principal source of gender-based discrimination since its inception (Tadros 2010). Interestingly, Egypt had an even more extensive and active women's movement that began around this time, just after the revolution in 1919, and continued throughout the 20th century led by groups such as the Egyptian Feminist Union (Khalifa 1973). The agenda of these groups included a vast reform of the Moudawana, equal access to education for males and females, and equitable labor opportunities. Starting in 1945, this women's movement "came of age" and reinvigorated itself by gaining a larger audience and linking the campaign for social reforms to women's political rights (Khater and Nelson 1988). During this entire period, women's groups were fighting ardently with male nationalists as well as Islamist groups. The women's movement, which had a reputation for militancy, was ended abruptly under the rule of Gamal Abdel Nasser from 1952-1970. However, Nasser's regime did have a commitment to "social egalitarianism." For example, the 1956 revised constitution gave women political and voting rights as well as reformed the

educational system to increase primary and secondary enrollment in education. Despite this, the conservative personal status laws remained (Hatem 1993). Hatem argues:

“State feminism under the Nasser regime produced women who were economically independent of their families, but dependent on the state... While state feminism created and organized a system of public patriarchy, it did not challenge the personal and familial views of women’s dependency on men that were institutionalized by the personal status laws and the political system.” (1992, p. 233)

Under the Sadat regime, however, from 1970-1981, many of these economic freedoms were removed under his “infitah” policies. The Egyptian government utterly abandoned its prior commitments to gender equality. Although somewhat paradoxically, pressure from then First Lady Jehan Sedat led to few minor Moudawana reforms that gave women limited legal rights in marriage and divorce in 1979. However, in 1985, under the Mubarak regime with intense pressure from Islamists, the Moudawana was amended and many of these limited freedoms were rescinded. The conservative stronghold on the Egyptian government continued, and the personal status code or Moudawana has only very minor reforms since 1985 (Al-Ali et al. 2002). In 2000, it became legal for a woman to divorce her husband if she repaid the dowry and forfeited all financial rights. It is worth noting that Egypt has made a few important legal reforms since the time of this study, such as increasing the minimum marriage age to 18 for all people, reforming child custody laws moderately, and criminalizing female genital mutilation (World Bank 2010).

#### 4. Moroccan Moudawana Reform

Throughout the Arab world, personal status laws or Moudawana are viewed as a principle source of gender discrimination legally and practically (Tadros 2010). The Moudawana is “...a collection of legal rules that organize kinship relationships. It regulates the rights and duties



pertaining to marriage, the custody of children, inheritance, divorce, and alimony” (Ghazalla 2001 p.2). Scholar Fatima Harrak writes that the reformed Moroccan Moudawana “constitutes a landmark in the history of Moroccan and Arab women’s struggle for equality” (Harrak 2011, web). The gist of this reform is that it calls for equality between men and women by introducing “joint and equal responsibility” in the home and in household affairs. It implements a liberal view of Sharia law termed “goals of shar’iah,” which seeks to view the Quran’s instructions through a broader lens of God’s goodness, modernity, and fair intentions.

While the Morocco’s Moudawana was reformed based upon “goals of shar’iah,” Egypt’s Moudawana, ratified in 1925, is based strictly on Sharia. It has only seen relatively minor reforms since its inception and remains significantly less equitable than Morocco’s Moudawana. Especially in a marriage and household, women’s freedoms and decision-making abilities can be constrained by her husband, who holds the legal power in an Egyptian marital relationship (Tadros 2010). This Egyptian personal status code is a practical, significant source of discrimination against women. Table 3 below provides a comparison of Moroccan Moudawana pre-2004 reform and post-2004 reform with Egyptian Moudawana in several dimensions.

Table 3 Comparison of Egyptian and Moroccan Moudawana

	Egypt	Morocco	Morocco pre-2004
Household Equality	Husband has control of household decisions; wife legally obligated to obey	Husband and wife “share joint responsibility of the family”	Husband had control of household decisions; wife legally obligated to obey
Divorce	Men may divorce unilaterally; wife may apply for divorce, but relinquishes her custody rights and rights to financial compensation from	Both men and women may initiate a divorce; divorce by mutual consent is possible	Divorce and repudiation are left to the discretion of the husband only

	husband		
Polygyny	“Allows up to four wives; must inform prior wives, who may divorce if they can prove that the additional marriage will cause them significant harm”	“Women may prohibit polygyny in marriage contract; all parties must be informed before the husband takes another wife and the prior wife can be granted a divorce”	Husbands may take up to four wives, if they can provide for them financially
Custody	A child must be transferred from the mother to the father, unless a judge rules alternatively, at age 10 for boys and 12 for girls	Mother has first right to custody until children are 18; Father may apply for visitation	Fathers have first custody rights if women remove or leave area where husband lives; children can choose their custodian at age 15
Marriage Age	18 for males; 16 for females	18	18 for males; 15 for females
Marriage Tutorship	A woman’s must have a male guardian who serves as a marriage tutor; he cannot compel a marriage but must consent to it	Women do not require “marriage tutors” and may negotiate their own marriage contracts; they cannot be compelled to marry and need no one’s consent	Women did not have control over the marriage contract; a marriage tutor had to consent to the marriage. Parents could compel marriage
Right to Post-Marital Career and/or Education	Women do not have the right to work independent of husband’s or other male guardian’s approval	Women are entitled to “self-guardianship” in all matters, instead of requiring a male family member	Spousal approval required for continued work or education
Informal Marriage (‘urfi)	Informal marriages are legal, can be easily dissolved, and are often used for the sexual exploitation of women	Informal marriage is illegal	Informal marriage is not specifically illegal but also it not legal

Implementation	No implementation clause is found in the Moudawana	Specifically calls for judiciary system to uphold the rules of this family law; calls for the public prosecutor to be part of every Family Law action	No implementation clause was found in the Moudawana
Mobility	Unmarried women under age 21 must obtain permission from their father or male guardian before traveling and/or obtaining a passport	No permission needed if over 18 (same for males and females)	Women required to have a male guardian with control over travel and other decisions
Domestic Violence	Personal status code does not mention domestic violence	Domestic violence is grounds for divorce	Personal status code does not mention domestic violence

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Source: Woodrow Wilson Center 2005; Morocco 2003; Morocco 1986; Egypt 2000.

Many of these differences are important and worth highlighting. The key difference, which illustrates the spirit of the Moudawana reform, is that the reform gives men and women completely shared and joint responsibility for the entire family. Accordingly, women now have an equal legal opinion in marriage negotiation, divorce, and polygyny. Whether married or single, Moroccan women over the age of 18, like men, no longer require male guardianship at any time and have complete rights to make decisions about labor and education. Conversely, in Egypt, the husband still has legal control over the family and the wife has a legal responsibility to obey him and abide by his decisions. Egyptian women must have a male guardian that makes or at least must approve of their decisions about seeking education and employment.

The Moroccan Moudawana is remarkable both for its comprehensiveness as well as its accomplishment through advocacy and activism, whereas Egypt's Moudawana has only been reformed top-down by political leaders and is greatly lacking (Hanafi 2013). As shown in Table

3, the Moroccan Moudawana is significantly more equitable than the Egyptian Moudawana. I will show that these differences in Egyptian and Moroccan personal status codes have statistically significant effects on education levels, and suggest that they improve women's participation in the labor force as well as decision-making abilities in the household. In my extensive search, I did not find another significant reform that would have gender-specifically impacted the opportunity and agency structure of either country during this period or provided causes for a positive shock to educational attainment (Sadiqi 2010; Tadros 2010).

I believe the effects of this treatment are most powerful on the margin. For example, women capable of supporting themselves and their children pre-reform would not have been able to leave a negligent or abusive male guardian to form their own household may choose to do so after the Moudawana reform. Middle class families that have sufficient resources to send the female children to secondary school, but choose to allocate them elsewhere, may now choose to do so as these girls will have the rights to dictate their own futures and their education may be more likely to be used for gain.

The hypothesis is that the Moudawana reform will be correlated with a significant increase in educational attainment in Morocco for children of both genders. The Moudawana reform might not make a difference in families too poor to afford any schooling, for mothers incapable of working, or for families wealthy enough that sending their girls to school is no burden. For this reason, I expect there to be a small yet significant treatment effect. This is consistent with the hypothesis about the theoretical pathway of mothers choosing to use their new rights to support all of their children, both male and female, by sending them to school and ensuring they receive sufficient healthcare.

There are two most likely causes for changes in decision outcomes caused by the Moroccan Moudawana. In this case, when a woman is empowered by more equitable family codes, she may choose to exert her influence to ensure that her children stay in school or receive better preventative healthcare (Rubalcava and Thomas 2000). This is heavily supported in the literature on family bargaining mentioned earlier on similar cases in Kenya, the United Kingdom and Mexico. I believe this is the stronger force in the short term. Additionally, if a girl is likely to be more empowered later in life, the family may choose to invest more in her development in accordance with an expected higher future income. However, this effect is likely not observed in such a short time period after the reform.

## 5. Methodology

The main concepts in my study are women empowerment and opportunity and agency structures. I will examine women empowerment through the lense of educational attainment, supported by descriptive statistics about entry into the labor force and decision-making power. This dependent variable will be measured by years of education for both males and females. The research design is a comparative difference-in-differences test using pooled cross-sectional survey data from two points in time for Morocco and Egypt from the years 2003-2010, modeled on an analysis done in Mariaflavia Harari's 2014 paper "Women's Inheritance Rights and Bargaining Power: Evidence from Kenya." The difference-in-differences design will allow me to discern the positive effects of economic growth and development over time on increased gender equity from the positive impact of more equitable policy. My treatment, in this case, is the mentioned policy reform. Whereas Harari (2014) compares two ethnic groups in her study, where one received the treatment and one did not, I compare Morocco and Egypt, as previously discussed. This design allows me to rely on a qualitative understanding of each country's

opportunity and agency structures and how they have evolved while also making use of the quantitative survey data to control for differences based on region, age, wealth, and other factors.

The specification of this difference-in-differences model for each gender is as follows:

$$y = \alpha + \beta_1 * post * Morocco + \beta_2 * post + \beta_3 * Morocco + \beta_4 * wealthindex + \beta_5 * urbanity + \varepsilon$$

The main coefficient of interest here is  $\beta_1$ , which is the coefficient of treatment. A significant, positive treatment coefficient would indicate that the Moudawana reform had a significant, positive effect on educational attainment.  $\beta_2$  represents the effect of time on educational attainment; as a general trend, the world and the MENA region in general is becoming more educated, which I want to isolate.  $\beta_3$  isolates the country effect, and  $\beta_4$  isolates the effect of income, and  $\beta_5$  isolates the effect of living in an urban area. Table 4 below lists and describes each variable. Initial estimates of this model indicated that it was likely that there are gender effects on the treatment coefficient. These estimates by gender of the discussed model can be found in the appendix and will briefly be discussed in the results section. Because of the observed potential that the independent variables depend on gender, it is necessary to run a full unrestricted model that allows the independent variables to interact with gender. The specification of this full unrestricted model is found below:

$$y = \alpha + \beta_1 * post * Morocco + \beta_2 * post + \beta_3 * Morocco + \beta_4 * urban + \beta_5 * wealthindex + \beta_6 * post * Morocco * female + \beta_7 * post * Female + \beta_8 * Morocco * female + \beta_9 * urban * female + \beta_{10} * wealth * female + \beta_{11} * female + \varepsilon$$

In this model, for example, the treatment coefficient is represented by  $\beta_1$  for males and by  $\beta_1 + \beta_6$  for females. A description of each independent variable in either model is found below in Table 4.

Table 4 Variable Descriptions

Variable	Definition
Post*Morocco	This is the treatment variable; equals 1 if the responses were recorded after the time of the reform in Morocco and 0 otherwise
Post	Equals 1 if the response was recorded after the time of the reform and 0 otherwise
Morocco	Equals 1 if the subject resides in Morocco and 0 otherwise
Wealth Index	A scale from 1 to 5, with 1 the poorest and 5 the richest
Urbanity	Equals 1 if the respondent lives in a major urban area and 0 otherwise
Post*Morocco*Female	This is the treatment variable interacted with gender; equals 1 if the responses were recorded after the time of the reform in Morocco and the respondent is a female and 0 otherwise
Post*Female	Equals 1 if the response was recorded after the time of the reform and the respondent is a female and 0 otherwise
Morocco*Female	Equals 1 if the subject resides in Morocco and is a female and 0 otherwise
Wealth Index* Female	The interaction of the wealth index and gender
Urbanity*Female	Equals 1 if the respondent lives in a major urban area and is a female and 0 otherwise
Female	Equals 1 if the respondent is a female and 0 otherwise

I estimate the regression model to survey respondents under the age of 30, that is, those young enough to have been affected by the reform. Additionally, I will use descriptive statistics from the 2010 World Bank Morocco and Youth Household Survey to support the claim that increased women's empowerment in the family and household leads to more equitable outcomes for the women and children. Although this analysis is restricted to a single year's class, it will

further illuminate the current women empowerment situation in Morocco, as well as the various decision making outcomes of women.

## 6. Data

Quantitative data that can be used to analyze these outcomes are fairly scarce. I use Demographic and Health Survey (DHS) data for Morocco in 2003 and Egypt in 2003 and 2008, supplemented by more recent World Bank Household and Youth Survey data for Morocco in 2009. The DHS Survey is public health focused, while the World Bank Survey is centered on economic conditions. Both are reputable, widely used services with excellent surveying and sampling techniques. The questions used for comparison have nearly identical wording. (DHS; World Bank) In order to conduct the analysis, I did have to use the World Bank survey to construct some of the measures used by the DHS, such as the Wealth Index. I constructed the Wealth Index by analyzing the type of housing in which a survey respondent resided, as well as their ownership of certain consumer semi-luxury goods, such as televisions and computers. The wealth index I constructed has a similar mean and standard deviation to the DHS wealth index, as shown in the Results section in Tables 5-8. This data is available for download to registered users on the DHS and World Bank websites and each set of responses is available in several formats. Both surveys are incredibly large both in scope and number of observations. Data describing the population I am testing can be found below in Table 5.



Table 5 Descriptive Statistics

Variable	Morocco 2003			Egypt 2003		
	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
Sex	64044	0.519	0.500	52945	0.491	0.500
Age	64038	27.216	19.694	52943	25.057	18.759
Highest Ed. Level	64036	0.769	0.864	52945	1.129	1.005
Urban	64044	0.494	0.500	52945	0.608	0.488
Wealth Index (1 to 5)	64044	2.849	1.422	52495	2.820	1.439
Primary School	64036	0.520	0.500	52945	0.633	0.482
Secondary School	64036	0.214	0.410	52945	0.415	0.493

  

Variable	Morocco 2010			Egypt 2008-2009		
	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
Sex	10769	0.502	0.500	92120	0.495	0.500
Age	10769	29.557	19.938	92120	25.709	18.889
Highest Ed. Level	9907	0.979	0.888	92120	1.129	1.005
Urban	10769	0.434	0.496	92120	0.585	0.493
Wealth Index (1 to 5)	10683	2.957	1.072	92120	2.895	1.420
Primary School	9907	0.638	0.481	92120	0.665	0.472
Secondary School	9907	0.300	0.458	92120	0.446	0.497

Source: World Bank 2010; DHS 2003, 2003-2004, 2008-2009

## 7. Data Analysis Results

## 7.1 Regression Results

Regression results of the full unrestricted model can be found below in Table 6.

Table 6 Unrestricted regression results

Variable	Coefficient (Std. Error)	t (p-values)
Post*Morocco	1.830 (0.115)	15.79 (0.000)
Post	0.065 (0.048)	1.35 (0.176)
Morocco	-1.631 (0.053)	-30.50 (0.000)
Urban	0.432 (0.050)	8.58 (0.000)
Wealth Index	0.629 (0.017)	35.59 (0.000)
Post*Morocco*Female	-0.229 (0.144)	-1.40 (0.163)
Post*Female	0.342 (0.069)	4.97 (0.000)
Morocco*Female	-0.188 (0.075)	-2.49 (0.013)
Urban*Female	0.211 (0.071)	2.96 (0.003)
Wealth Index*Female	0.484 (0.025)	19.31 (0.000)
Female	-2.384 (0.078)	-30.39 (0.000)
Constant	5.533 (0.055)	100.46 (0.000)
--	--	--
R-Squared	0.1023	
Observations	141, 402	
Breusch-Pagan (p-value)	2543.36 (0.000)	

I conducted a Breusch-Pagan/ Cook-Weisberg test for heteroskedasticity for this regression. Heteroskedasticity violates the fifth fundamental assumption of multiple linear regression, the homoscedasticity assumption, which is that variance is constant or, more precisely, "...the error  $u$  [ $\varepsilon$  in this model] has the same variance given any value of the explanatory variables" (Wooldridge 2013, p. 62). If this assumption is violated and there is heteroskedasticity present in the model, the estimated standard deviations and t-statistics are likely to be biased. However, even in the presence of heteroskedasticity, the estimated coefficients remain unbiased. For this test, the null hypothesis is that there is no heteroskedasticity, or more specifically, that variance is constant. I found a  $\lambda^2$  value of 2453.36 with a 0.000 significance level, which means that null hypothesis is rejected and suggests that this data does suffer from heteroskedasticity.

I have corrected for this by using robust standard errors and t-statistics. This estimated model can be found below in Table 7.

Table 7 Unrestricted regression results with robust standard errors and t statistics

Variable	Coefficient (Robust Std. Error)	t (p-values)
Post*Morocco	1.830 (0.100)	18.36 (0.000)
Post	0.065 (0.051)	1.28 (0.202)
Morocco	-1.631 (0.052)	-31.32 (0.000)
Urban	0.432 (0.051)	8.43 (0.000)
Wealth Index	0.629 (0.018)	34.28 (0.000)
Post*Morocco*Female	-0.229 (0.144)	-1.59 (0.111)
Post*Female	0.342 (0.073)	4.70 (0.000)
Morocco*Female	-0.188 (0.073)	-2.58 (0.010)
Urban*Female	0.211 (0.073)	2.90 (0.004)
Wealth Index*Female	0.484 (0.026)	18.72 (0.000)
Female	-2.384 (0.080)	-29.97 (0.000)
Constant	5.533 (0.056)	98.02 (0.000)
--	--	--
R-Squared	0.1023	
Observations	141, 402	

Additionally, in order to identify the sources of heteroskedasticity in the model, I estimated the model using the squared residuals as the dependent variable. The results of this are found below in Table 8.

Table 8 Regression on squared residuals

Variable	Coefficient (Std. Error)	t (p-values)
Post*Morocco	-3.592 (0.522)	-6.88 (0.000)
Post	-0.184 (0.217)	-0.85 (0.397)
Morocco	-9.203 (0.241)	--38.21 (0.000)
Urban	-1.489 (0.227)	-6.56 (0.000)
Wealth Index	2.293 (0.080)	28.78 (0.000)
Post*Morocco*Female	2.800 (0.741)	3.77 (0.000)
Post*Female	1.094 (0.310)	3.53 (0.000)
Morocco*Female	-1.257 (0.340)	-3.70 (0.000)
Urban*Female	2.461 (0.322)	7.65 (0.000)
Wealth Index*Female	0.454 (0.113)	4.02 (0.000)
Female	-2.858 (0.353)	-8.09 (0.000)
Constant	24.040 (0.248)	96.89 (0.000)
--	--	--
R-Squared	0.0636	
Observations	141, 402	

These results indicate that there are many sources of heteroskedasticity in this model. The only independent variable above that is not significant in this regression is the Post variable, which differentiates between time periods. Again, I have attempted to correct for the

heteroskedasticity found in the model by using robust standard errors, the results of which are found above in Table 7.

As discussed, the most important coefficients are the treatment coefficients. For males, this is represented as  $\beta_1$ , and for females, this is equal to  $\beta_1 + \beta_6$ . The estimated value of the treatment effect is positive for both genders. For males, this value is 1.830, meaning that for males the treatment is associated with an increase of 1.830 years of education on average. For females, the value for this coefficient is 1.601, meaning that for females the treatment is associated with an increase of 1.601 years of education on average. I tested the hypothesis that there is a significant treatment effect; specifically, the null hypothesis is that  $\beta_1 = \beta_6 = 0$ . This test has a result of  $f=286.50$ , with a p-value of 0.000. Thus, we can reject the null hypothesis that there is no treatment effect at the 99% significant level. Additionally, I used an F-test to test whether or not the treatment effect depends on gender. Specifically, the null hypothesis is that  $\beta_6$  is equal to zero. This test has a result with a result of  $F=2.54$  with a p-value of 0.111. Thus, we fail to reject the hypothesis that the treatment effect depends on gender. Thus, we can conclude that the treatment coefficients for males and females are not statistically significantly different. These estimated values and statistical tests are consistent with the hypothesis that the Moudawana reform is associated with an increase in educational attainment.

Because this study period occurs over a relatively short period of time directly following the reform, one potential explanation for why the treatment effect doesn't depend on gender is that the increased relative return on investment of girls' education as an incentive to increased educational attainment is not present. That is, an increase in women empowerment would in the long run encourage families to send their daughters to school longer, as they will be able to make their own choices about employment or graduate school in the future and thus be better

able to reap the benefits of schooling. However, it seems unlikely that families would realize this so soon after the reform. Thus, the effect being roughly the same for males and females is consistent with the short-term hypothesis that increasing women empowerment increases educational attainment for children.

Aside from this main conclusion, there are other interesting results of this study. The estimated wealth index coefficient, represented by  $\beta_5$  for males, is 0.629; for females, represented by  $\beta_5 + \beta_{10}$ , the estimated value is 1.113. So, the estimated value for females is roughly twice that for males. This suggests that female education may be consumed as a luxury good, as it is positively correlated with a rise in income, whereas male education is seen as more of a necessity.

Both male and female education is significantly and positively correlated with urbanity. This is expected, as education and attendance are typically better in cities. Additionally, as I will discuss later, there is evidence that there is a lack of knowledge about and enforcement of the Moudawana in rural areas, so this positive coefficient supports the hypothesis that the Moudawana is correlated with this increase in educational attainment. The constant for males is 6.397, while the constant for females is 4.436, suggesting that average female educational attainment is still far behind average male educational attainment.

The small, positive values for the Post coefficient, representing change over time are expected and in accordance with a general increase in education over time. The negative values for  $\beta_3$ , the Morocco coefficient, are negative, which is unsurprising given that the educational system in Egypt is on the whole marginally more developed than in Morocco.

## 7.2 Discussion of Descriptive Statistics

The results of selected questions of the 2010 World Bank Morocco Household and Youth Survey, found below in Tables 8 and 9, are also worth discussing.

Table 9 Descriptive Statistics: Bargaining Power

Of women under 29, in the household, who decided if you did or not stay in school?	Frequency	Percent
Woman herself	879	54.46
Father decides alone	401	24.85
Mother decides alone	25	1.55
Father and his Spouse	136	8.43
Father and Woman	13	0.81
Father and Spouse of Woman	61	3.78
Father and Male Relatives	21	1.30
Other comb. of relatives	9	0.56
Woman's Husband Alone	40	2.48
Husband and Wife Together	24	1.49
Husband and Woman's Mother	1	0.06
Too Old to Study	4	0.25
Total	1614	100.0

Source: World Bank 2010



Table 10 Further Descriptive Statistics: Bargaining Power

Of women 15-49 in the household, who decided if you seek or remain in paid employment?	All Respondents		Respondents in paid employment or seeking work	
	Frequency	Percent	Frequency	Percent
Woman herself	1273	41.86	285	81.66
Father decides alone	356	11.71	18	5.16
Mother decides alone	30	0.99	6	1.72
Father and his Spouse	52	1.71	2	0.57
Father and Woman	30	0.99	2	0.57
Father and Spouse of Woman	65	2.14	7	2.01
Father and Male Relatives	82	2.70	5	1.43
Other comb. of relatives	42	1.38	0	0.00
Woman's Husband Alone	789	25.95	3	0.86
Husband and Wife Together	292	9.6	21	6.02
Husband and Woman's Mother	12	0.39	0	0.00
Too Old to Work	18	0.59	0	0.00
Total	3041	100.0	349	100.0

Source: World Bank 2010

The first question was restricted to women under 29. Of these women, only 54.46% reported that they were deciding for themselves whether or not to stay in school. Granted, some of these respondents are under 18 and still likely responsible to their parents legally. Furthermore, of women aged 15-49, only 41.86% decided themselves if they could seek or remain in paid employment. Significantly, of this 41.86%, 81.66 % were in paid employment or

seeking work. 11.77% of women answered that their fathers alone were responsible for their employment choices and 25.95% of spouses alone. Of these women, 5.16% and 0.86% respectively were in paid employment or seeking work.

Additionally, as previously discussed, Morocco underwent a rapid demographic transition during the time period of this study, with fertility rates dropping from roughly 2.9% to 2.4%. I was not able to confirm this with survey data, but the decrease in fertility rates over time at the national level is also associated with an increase in women empowerment. These figures suggest that Moudawana abeyance and enforcement is still subject to fairly strict cultural patriarchal norms. While it seems through this analysis that Moudawana reform has given women increased bargain power, it is also likely that complete equity in intrafamily decision making is far from achieved.

## 8. Limitations

The differing focuses of the two surveys severely limited the scope of this study. Apart from basic personal information, the two surveys, the DHS survey and the World Bank Morocco Household and Youth Survey, were almost completely disjoint in available information. Preferably, I would have used a DHS survey from Morocco in the 2008-2010, but as USAID phased out of Morocco with its 2003-04 survey, this is non-existent. The DHS survey mainly focuses on health and family, while the survey done by the World Bank almost solely focuses on economic opportunity. The only significant intersection of information availability that I can find is in the studied topic, educational attainment, which determined the choice of the dependent variable. A significant area for future research is finding and/or developing other data that could further illuminate the women empowerment externalities of this reform, such as more developed

labor force participation data and analysis or an exploration of children's preventative healthcare outcomes.

Additionally, it is impossible to eliminate the possibility that other factors in Morocco and Egypt are at play. As acknowledged, the factors affecting educational attainment could include the Moroccan demographic transition and higher relative poverty reduction. Because difference-in-differences analysis relies on the assumption that the two cases are equal except for one pivotal change, differences between Morocco and Egypt certainly could affect this study. Both of these factors would likely bias the analysis in favor of increased education in Morocco. I attempted to find a way to determine which respondents were above or below the poverty line, but this was not possible with available data. In future research, finding a way to incorporate a measure of poverty and fertility into this analysis would be beneficial.

#### 9. Barriers to Implementation/ Realization

Despite these developments, Morocco still faces significant obstacles in establishing gender equity in opportunity and agency structures. A study published in 2013 by Danish Centre for Research and Information on Gender, Equality, and Diversity discusses the obstacles to enforcement of the *Moudawana* that exist in Morocco (Hanafi 2013). Hanafi analyzed implementation through a series of stakeholder interviews and a significant legal analysis as well as a public perception analysis. She found that there is a significant gap between the rural and urban enforcement of the *Moudawana*. "The views of a segment of civil society members," she writes, "is that knowledge about the *Moudawana* has not spread consistently or evenly to Moroccans who live outside urban centers" (Hanafi 2013 p. 11). Additionally, there has not been an extensive training of judges and other public officials on how to handle adjudication of the new policies. In general, Moroccan courts are very slow and heavily dependent on judicial

discretion, so there is a wide range of outcomes possible in the court for cases tried based on the new Moudawana.

Additionally, it is difficult for women, especially illiterate women, to become informed about the Moudawana (Hanafi 2013). As 65% of Moroccan women were illiterate in 2003, there are likely a significant number of women that still could not read a Moudawana pamphlet if they were given one. Furthermore, as discussed, women's educational attainment at the end time of this study was still on the average much lower than men's. For women to achieve empowerment in society, this educational gap has to continue to improve. For these reasons, as supported by the descriptive statistics, I believe Morocco still has room to improve gender equity in both the public and private sphere. However, the model demonstrates that the reform may have helped to bring about significant improvements, even with its deficiencies.

## 10. Conclusion

Through this analysis, I have suggested that the Moroccan Moudawana supports and encourages increased educational attainment, and have suggested that the mechanism by which this occurs is increased women empowerment in intrafamily bargaining. These results suggest that reforms aimed at making opportunity and agency structures more equitable can have positive impacts on women empowerment, even in the presence of contradictory social norms and subpar enforcement. Therefore, legislative reforms towards more gender equitable policy can be worthwhile goals even when they might seem to be subject to intense social and political disapproval.

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## Appendix 1 Regressions Separated By Genders

Variable	Years Education of Males Under 30		Years Education of Females Under 30	
	Coefficient (Robust Std. Error)	t (p-values)	Coefficient (Robust Std. Error)	t (p-values)
Post*Morocco	1.830 (0.100)	18.36 (0.000)	1.601 (0.104)	15.35 (0.000)
Post	0.065 (0.051)	1.28 (0.202)	0.408 (0.052)	7.85 (0.000)
Morocco	-1.631 (0.052)	-31.32 (0.000)	-1.819 (0.051)	-35.69 (0.000)
Urban	0.432 (0.051)	8.43 (0.000)	0.644 (0.052)	12.47 (0.000)
Wealth Index	0.629 (0.018)	34.28 (0.000)	1.113 (0.018)	61.20 (0.000)
Constant	6.397 (0.127)	50.20 (0.000)	4.436 (0.128)	34.66 (0.000)
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R-Squared	0.057		0.134	
Observations	70, 868		70, 534	
Breusch-Pagan (p-value)	894.88 (0.000)		1776.96 (0.000)	