

Economic Analysis of the Situation of Women in Morocco

Fouzi Mourji* and Abdeljaouad Ezrari**

* Professor of Applied Econometrics at the Faculty of Law, Economics and Social Sciences at the University Hassan II (Casablanca), Morocco.

** Research associate at the Laboratory of Applied Statistical Analysis and Research in Economics and a substitute lecturer at the Faculty of Law, Economics and Social Sciences at the University Hassan II (Casablanca), Morocco.

Correspondance: fmourji@gmail.com

Abstract

The article investigates the situation of women in Morocco, through the different stages of life. Similarities and differences between boys and girls in regard to education and health are analyzed to see whether the early stage of life offers equal opportunities and equal “capabilities.” Secondly, the participation of men and women in the labor market is described by examining how different values are placed on the output of male and female participants.

Linked to different behaviour in the labor market, time management is deepened as a different way of comprehending gender inequality, by focusing on the differential risk of poverty facing female- and male-headed households, both during and after working age.

Based on economic and econometric analyses, a discussion of the value of women's domestic work, looking at different possible modes of “compensation”, concludes the article

keywords: Morocco , gender, labor market discrimination, time management, risk of poverty.

1. Introduction

What light can economic science shed on the central topic of this book? What tools does economics provide in analyzing a topic that raises legal and social as well as, it must be admitted, spiritual issues?

We will study the situation of women and the possibilities for development provided or allowed to them in our society. It should be noted that these issues are not exclusive to our part of the world, nor necessarily central to the “questions of the day.” Without pretending to be exhaustive, we will discuss, as an example, the work of Elisabeth Badinter (1986), which analyzes the reciprocal

relationships and positions of men and women through human history¹. She partly agrees with Simone de Beauvoir (1949), who concludes that these relationships, as well as the division of labor, are a matter of “culture” rather than “nature.”

Other analysts, far less “literary” and using alternative pragmatic approaches, come to similar conclusions; this includes, for instance, followers of Gary Becker, winner of the 1992 Nobel Prize in Economics, who (we believe ably) explains the economic foundations of social behavior. This approach inspires reflection on the roles and responsibilities of men and women, as well as on their respective situations (Becker, 1957)².

Thus, this article aims to use economic tools to describe and analyze the situation of women in Morocco, through the different stages of life.

This choice has led us to organize this article in the following sections. In the first section we study similarities and differences between boys and girls in regard to education and health, these being two areas of special concern in understanding their respective human capital endowments and, thus, potential for development. Our objective is to see whether the early stage of life offers equal opportunities and, according to Amartya Sen (1980), equal “capabilities.”

The second section is devoted to another stage of life: we analyze the situation of men and women in the labor market. We examine their participation in it, and see how different values are placed on the output of male and female participants.

Analysis of time management, the main object of the third section, views it as both a cause and a consequence of behavior in the labor market. It is also a different way of comprehending gender inequality. The second part of this section looks at developments arising from the preceding observations. It focuses on the differential risk of poverty facing female- and male-headed households, both during and after working age.

In preparing these sections we have used data collected in HCP surveys of the

¹ In a well-documented and –argued anthropological work, E. Badinter (1986) identified three different stages in the evolution of male-female relationships since the days of pre-history. Thus, humankind has advanced from a first stage involving a relationship of “The one with the other,” to an intermediate stage, up to today's “The one is the other,” at least for certain societies.

² It sets out the principle of discriminatory preference, based on the fact that employers discriminate among employees and consumers. They even give up potential earnings in order to avoid working with women. Kenneth Arrow (1972-1973) develops other hypotheses, explaining how such discriminatory practices prevent achievement of the social optimum.

different strata of the Moroccan population. Building on this analysis, we conclude with a discussion of the value of women's domestic work, looking at different possible modes of “compensation.”

2. Conclusions from socio-demographic data: unequal endowments of men and women

i. Demographic reality, correcting conventional wisdom

Table 1: Population structure by age and gender

Age group (years)	Male	Female	Both (% of total population)
0-6	51.1	48.9	12.1
6-14	51.1	48.9	16.1
15-59	49.3	50.7	62.4
60+	49.3	50.7	9.4
All	49.8	50.2	100

Source: HCP, data from RGPH, 2014 (<http://rgphentableaux.hcp.ma/Default1/>)

We note that boys significantly outnumber girls in the early age groups, accounting for 51.1% vs. 48.9% respectively. This is due to a ratio of 104 male to 100 female births, following world-wide demographic “rules.” However, male infant mortality is higher than female (32.7‰ vs. 27.4‰), as is also the case with combined infant and child mortality (39.2‰ vs. 33.1‰, respectively). Thus male mortality is lower in the youngest age group, due to games that older boys play, risks they take, etc. This leads to a small “twist” in the 15-59 age group.

Contrary to conventional wisdom, overall population distribution by gender shows near equality. Female preponderance starts only at the age of 70, where women account for 53.1% of the highest age group. Table II shows a “structural” reality in the sense that the distribution is immutable over time. This is true world-wide (unless it is “thwarted” by specific demographic policies – the case of China – or by social practices – the case of India – in which women are feared to comprise a definite minority and corrective measures have been taken).

Table 2: Infant mortality, child mortality, and combined infant & child mortality by gender and area of residence (%)

	Gender, area of residence	Infant mortality (q ₀₋₁)	Child mortality (q ₁₋₄)	Combined infant & child mortality (q ₀₋₅)
2009-2010	Male	32.7	6.7	39.2
	Female	27.4	5.8	33.1
	Urban	25.3	5.9	31.0
	Rural	35.3	7.0	42.0
	National	30.2	6.3	36.2
1987	Urban	45.5	--	--
	Rural	89.7	--	--
	National	75.7	30.7	104.1
1962	Urban	100	--	--
	Rural	170	--	--
	National	149	--	213

Source: HCP: ENDPR 2009-10, Ministry of Health: ENPS 1987.

ii. Women's health status

The only factor to bring out regarding early life is the slower growth of girls compared to boys. In 2011³ this delay affected 17.6% of girls below 5 years vs. 15.5% of boys. Does this reflect better nourishment for boys, or is it a residue of old social practices?

Regarding adulthood, maternal mortality has certainly seen a decline, passing from 227 deaths per 100,000 births to 112 between 1994 and 2010. But in developed countries this rate is only 16 per 100,000 births. At the same time, it is known that most maternal deaths result from severe hemorrhaging or sepsis during childbirth, by high blood pressure during pregnancy, or by complications from abortions practiced in poor conditions.

This indicator shows that the situation of women remains rather precarious in Morocco, with, as is well known, unequal weight according to area of residence. Women residing in rural and isolated areas suffer a greater lack of medical attention.

iii. Schooling and educational levels: an unequal dynamics by gender

This subsection considers two factors: school attendance, the rate of drop-out, and their impact on literacy.

(a) Unequal schooling of children

The 2014 population and habitat census put enrollment of children aged 7-12 at 95.1%. The gender gap (enrollment of 95.7% for boys vs. 94.4% for girls) had narrowed substantially since 2004, when the rates were 83.2% and 77.5% respectively. Gender inequality persists in the present cohort of young people; continuance of drop-outs is clearly an aggravating factor.

Notwithstanding recent progress in school enrollment, elevated drop-out persists after age 12. As a result, enrollment of children aged 13-15 and 16-18 remained relatively low (84.5% and 60.9% respectively in 2014). Girls aged 13-15 were less privileged, with only 79.7% enrolled vs. 89.2% for boys⁴. The gap was similar in the 16-18 age group—

³ Initial results of HCP, *National Anthropometric Survey*, Plan Volume #43, March-April 2013.

⁴ In recent years (HCP, 2014 Statistical Abstract) the proportion of girls having started 1st grade and completed 5th grade has been close to that of boys, even slightly higher (90.8% as against 89.3%). It is at the 5th grade that girls are relatively disadvantaged, having a lower chance of proceeding to middle and high school. In other words, even though diligent in the lower grades, some girls lose out subsequently.

female enrollment was 55.0% vs. 66.0% for boys. Post-primary drop-out was higher with girls than boys, especially in rural areas. This naturally affects female adult literacy. Table 3 below shows some progress since 2004.

Table 3: Enrollment rates by gender and area of residence (%)

	2004			2014		
	Male	Female	Both	Male	Female	Both
Enrollment rates, 7-12-year age group						
Urban	92.2	91.7	92.0	97.8	97.9	97.8
Rural	74.2	63.3	68.9	93.0	90.1	91.6
National	83.2	77.5	80.4	95.7	94.4	95.1
Enrollment rates, 13-15-year age group						
Urban	85.8	82.9	84.4	94.0	93.4	93.7
Rural	61.6	37.5	49.8	83.1	62.4	72.8
National	73.7	60.5	67.2	89.2	79.7	84.5
Enrollment rates, 16-18-year age group						
Urban	61.6	57.9	59.7	76.1	75.2	75.7
Rural	32.3	12.9	22.5	52.7	29.7	41.4
National	47.4	36.0	41.6	66.0	55.0	60.9

Source: HCP, RGPH 2004 and 2014

The drop-out of girls is related to different factors. Some are from the supply side and others from the demand i.e. characteristics of households: World Bank (2005) mention that the distance between house and school and the availability of latrines and canteens are the main reasons. Benhassine, Devoto, Duflo, Dupas and Pouliquen (2015) achieve similar results. They raise also the households' financial difficulties as major source of school drop-out. They give details by explaining that children in rural areas are more out of school in case of poverty and participate in family activities. In urban areas, poverty leads to school drop-out and work outside the home so that the child contributes to the household income by working on the street (mainly boys), in industries (girls and boys) or being domestic (girls).

Differential enrollment and drop-out rates naturally lead to gender discrepancies in human capital endowment, thus impacting socio-economic conditions of both men and women, especially their status in the labor market. We look first at the impact on the basic skills of reading and writing.

(b) Differences in adult illiteracy

The above census data show that, globally, in 2014 nearly one third (32.2%) of the Moroccan population aged 10+ (i.e. 10.2 million people) could neither read nor write. Moreover illiteracy differed widely between genders: 42.1% of women and 22.2% of men. In 2004 both global illiteracy and the gender differential (54.7% vs. 30.8%) were greater. The decrease in illiteracy between 2004 and 2014 was higher amongst males than females (annual average declines of 3.2% and 2.6% respectively). From this we conclude that "dynamic inequality" keeps increasing at the expense of women.

Table 4: Illiteracy among the population aged 10+ years by area of residence and gender

	2004			2014		
	Male	Female	Both	Male	Female	Both
Urban	18.8	39.5	29.4	14.0	31.0	22.6
Rural	46.0	74.5	60.5	34.9	60.1	47.5
Both	30.8	54.7	43.0	22.2	42.1	32.2

Source: HCP, RGPH 2004 and 2014

3. Socio-economic data illustrating the unequal status of women

Human capital endowment, comprising health and especially education, affects women's status in the labor market and, beyond that, their contribution to creation of wealth. To begin with, we look at women's contribution to the remunerated labor market, following which we focus on their access to employment and the "quality" of this access.⁵

i. Unequal labor market participation

Table 5 below gives male and female labor market participation rates. Although the data relate to 2011, the table illustrates a structural situation, involving social behavior that changes little from year to year. The data reflect cultural factors that are "corrected" by economic factors, as we will see in later sections.

Table 5: Labor market participation rates⁶ by gender and area of residence

Area of residence	Male	Female	Both	Gender parity index (female/male)
Urban	75.02	19.59	46.47	0.26
Rural	83.92	38.41	60.44	0.46
Both	78.56	27.10	52.04	0.34

Source: Calculations based on HCP, l'ENE 2011

Based on this table, female participation remains significantly lower than that of males (27.1% as against 78.6%). The urban-rural breakdown provides

⁵ Regarding the working-age population (ages 15-64), based on international standards we distinguish between: (1) the "active" population, i.e. persons participating in the labor market, and (2) those who do not participate, i.e. "inactive." Within the first category we distinguish employed and unemployed persons. Unemployed persons must not be confused with the "not employed" population, which is the population without a professional activity.

⁶ Most participants in the labor market are aged between 15 and 64 years.

additional clarification. Women's participation decreases to 19.6% in urban areas, compared with 75% for men; the comparison in rural areas is 38.4% female and 83.9% male. Thus the parity index of women/men is 0.46 in rural areas vs. only 0.26 in urban areas.

Higher female activity in rural areas is explained by the previously mentioned "correction" caused by economic factors as well as cultural practices. Actually, poverty and insecurity are widespread in rural areas, requiring the input and contribution of every family member: in other words, women work out of necessity. On the other hand, the nature of the activity, predominantly agricultural, facilitates labor force participation despite a lack of education and formal qualifications. Finally, it seems that the "salutary return" to so-called traditional practices is less strongly disseminated in rural than in urban areas, where it is vested in different modes of communication and thus becomes sensitive to "fashion."

In urban areas, women's self-selection in the labor market is due to social and cultural factors (see the other chapters of this book) as well as economic ones. Most important is the disadvantage that women face owing to the lower endowment (notably unequal access to education) that keeps many of them from seeking employment. In addition, there are the relatively low wage levels they can claim, compared with the cost of engaging domestic help. The earning differential is too low to justify or encourage women to enter the labor market. Needless to say, traditional culture assigns domestic tasks solely to women, with men playing no role. Accordingly, computations and trade-offs do not seem to be carried out in terms of the household's collective utility⁷, but rather the individual utilities of the "dominant" groups within this institution.

Table 6 below shows that differential participation is similar in all age groups; the parity index (women/men) varies only between 33% and 38%. Overall it is 34%. Even in age groups with the highest female participation (25 to 59 years), the rate does not exceed 31.5%. At the extremes it is 18.4% (15-24 years) and 19.4% (60+ years).

⁷ See Dostiet al. (2006), a study of voluntary and coercive transfers, and their impact on female domestic work in Tunisia.

Table 6: Participation rates by age group and gender (%)

Age group (years)	Male	Female	Both	Gender parity index
15-24	51.24	18.39	34.99	0.36
25-34	94.79	31.46	61.81	0.33
35-44	96.69	31.50	61.95	0.33
45-59	88.28	30.69	58.21	0.35
60+	51.50	19.36	35.00	0.38
All age groups	78.56	27.10	52.04	0.34

Source: Calculations based on HCP, l'ENE 2011

It would appear that the "guardianship" (correctly spotlighted and criticized) in both a woman's birth and in-law families--note our patriarchal society--affects significantly her decision whether or not to enter the labor market. Table 7 below shows how participation is based on marital status.

Table 7: Rates of participation by gender and marital status (%)

Marital status	Male	Female	Both	Gender parity index
Single	65.40	29.34	49.82	0.45
Married	91.30	24.56	54.79	0.27
Widowed	61.92	28.91	30.25	0.47
Divorced	82.83	46.56	51.87	0.56
All	78.56	27.10	52.04	0.34

Source: Calculations based on HCP, l'ENE 2011

Male participation reaches its maximum, and female participation its minimum, among married couples, reflecting the division of labor in a patriarchal society such as ours. Female entrance into the labor market reaches its highest level among divorced women (46%). Is this out of "necessity" or is it an index of emancipation? If the former, the divorced woman must provide for herself and her household. If the latter, entering the labor market is a matter of choice, reflecting the fact that professional activity

brings fulfillment. The following analysis, taking into account the level of poverty, implies that the first reason is not devoid of relevance.

Table 8: Labor market participation rates by gender and prevalence of multidimensional poverty⁸

Multidimensional poverty	Male	Female	Both	Female/male
No	78.19	26.35	51.55	0.34
Yes	85.01	38.60	59.97	0.45
Total	78.56	27.10	52.04	0.34

Source: Calculations based on HCP, l'ENE 2011

Table 8 yields interesting conclusions. The first is that poverty motivates the decision to seek employment, yielding maximum rates of participation for both men and women. The rate for women of working age in a state of poverty is 38.6%.

Moreover the gender gap is narrowest in this population, yielding a female/male ratio of .45 as against .34 among non-poor women. Table 9 gives further details about labor force participation as a function of living standards. The 20% poorest (quintile 1) show the highest participation rate and the lowest female/male ratio.

Table 9: Rates of participation by gender and expenditure quintile (%)

Household expenditure	Male	Female	Both	Female/male ratio
Quintile 1	85.31	35.20	59.15	0.41
Quintile 2	81.83	29.12	54.58	0.36
Quintile 3	78.41	23.66	50.47	0.30
Quintile 4	75.20	22.15	47.90	0.29
Quintile 5	73.85	26.81	49.65	0.36
Total expenditure	78.56	27.10	52.04	0.34

Source: Calculations based on HCP, l'ENE 2011

⁸ Lacking data about consumption expenditure or income, a composite indicator of living standards based on non-monetary attributes (education, employment, housing conditions, etc.) was constructed using Multiple Component Analysis.

Nevertheless, we believe that education has a “corrective” function vis-à-vis the discrimination that affects women’s status in the labor market. Table 10 below shows labor market participation reaching 79% among graduates of higher education institutions and 63% among high school graduates. This observation enables us to refine and enhance the preceding analysis. In addition to women who seek employment out of necessity, many are so motivated as a result of education that empowers them and lets them participate by choice.

Table 10: Labor market participation by gender and qualification (%)

Qualification	Male	Female	Both	Gender Parity Index
None	90.52	27.65	53.95	0.31
Elementary education	61.15	14.96	41.30	0.24
Secondary education	51.46	22.49	37.18	0.44
Undergraduate degree	83.45	63.07	74.05	0.76
Graduate degree	90.50	79.86	86.94	0.88
Vocational training	88.98	71.04	82.79	0.80
All qualifications	78.56	27.10	52.04	0.34

Source: Calculations based on HCP, l'ENE 2011

Women play a major part in reducing the gender gap. For those with graduate degrees, labor market participation equals .88 of their male counterparts' participation. At undergraduate degree level, the ratio is .76.

The analyses carried out here use descriptive statistical tools (cross variable analysis); applied through econometric modeling⁹, we use a binary logit application ($Y = 1$ if a woman participates and 0 if she does not), taking into account all variables that may influence female participation in the labor market.

So the model of women's participation in the labor market was estimated using data from the 2011 National Employment Survey, which reached nearly 60,000

⁹ Findings of a Master's thesis by Oudmane Meriem, supervised by the authors of this chapter, at the Faculty of Law, Economics and Social Sciences, University Hassan II, Casablanca (2015).

households nationwide, or 87,041 women aged 15 and more.

Our conclusion is that, in general, our society does not favor women's participation in the workforce; in other words, it is not appreciated in the prevailing value system.

Nevertheless, there is an inter-regional variability: all other things being equal, residing in Rabat-Salé-Zemmour and Grand Casablanca increases, by 76% and 29%, respectively, the probability of a woman participating in the labor market, while living in the "Oriental" region decreases it by 21%. This confirms the impact of culture and social practices. We take differences in the supply of jobs into account indirectly since our estimates of marginal effects consider the "Tangier-Tétouane" region as a point of reference. This last region does not differ from the "Oriental" as regards the supply of jobs. The social practices in question involve restrictions imposed both by the woman's and her husband's families. Some families require women to stop work in order to sustain the marital relationship.

This finding seems to reflect two factors: on the one hand, accumulation of human capital leading women to "impose" themselves via income-generating activity; and on the other hand, "necessity" that compels women to seek additional financial resources in order to meet household needs. We examine the marginal effects¹⁰ of variables such as the level of education, the income of the woman's household¹¹ the number of young children, the activity of other family members (not only the husband), etc.

Education seems to be a key factor in many ways, responding to the economic logic at the basis of social behavior. This is additional to the "capacity to compel" one acquires by succeeding in school. In effect, a higher educational level raises a woman's opportunity cost. The acquisition/accumulation of knowledge improves her potential earnings in the labor market, thus raising the cost of not entering the market. This reasoning is supported by human capital theory (Mincer 1974), which asserts that a higher level of education enables people to get higher paying jobs.

¹⁰ Econometric indicators show, for example, how much a married woman's propensity to work increases when household size rises by one unit, as her level of education goes up, or as more infants appear.

¹¹ In addition to our earlier observations in Tables 8 and 9, modeling allows us to introduce, in addition to the variables appearing there, others such as the husband's activity: thus, a woman's propensity to enter the labor market increases by 22% when the husband is unemployed.

Looking towards eventual policy recommendations, this analysis is a clear lever that can help policy makers “circumvent” the whole set of cultural factors and social inertia that stand in the way. We believe that adoption of new laws would be desirable, but may not be sufficient. Action via education is a more efficient incentive factor than adoption of legal “norms” that may not be observed. Akerlof (2005) explains how, from a pragmatic viewpoint, the efficiency of measures taken by the authorities depends heavily on their ability to meet economic actors’ demand for incentives.

ii. Inequality in access to employment and valuation of work

Following the above analysis of differential participation in the labor market, we will study the opportunities it offers women as opposed to men, in terms not only of entry but also of valuation of work, taking into account career trajectories.

(a) Unemployment rates: a fresh perspective based on re-interpretation of the data

National employment surveys reveal unemployment rates in 2014 and 2015 of 10.4% and 10.5% for women, and 9.7% and 9.4% for men. Thus it is clear that women have less opportunity to get a job when they enter the labor market. However, the labor market appears to be less unequal than some may have assumed, considering that we would expect an even greater unemployment differential between women and men. Within the cases covered by the research, discrimination appears to be more rampant in differential job offers than in job requests¹².

To fully understand the significance and scope of this data, it is important to bear in mind women’s low participation (see above). In fact, the strong self-selection of women is a veil that must be removed by noting that only highly motivated women will enter the labor market, whether out of necessity or by choice

¹² Unlike other cases of discrimination affecting foreigners or ethnic origin of citizens (cf. the work of the Chicago School in the United States - Gary Becker (1957) and its later development). In these cases discrimination emanates from employers who assess job applicants on noneconomic criteria. As regards Moroccan women, self-selection appears to be a rather decisive upstream factor.

inherent in their skills. (See the preceding analysis on the role of poverty vs. the role of accumulated human capital in encouraging women to enter the labor market.) In other words, the profile of women presenting themselves in the market is already “filtered,” in comparison to that of men, who enter the market in much larger numbers (their search for jobs is much less self-selective).

This “filter” requires women to have on average higher training and qualifications on entering the labor market compared to men. As a result, they face equal or better employment opportunities compared with men.

For women seeking employment out of necessity, the “filter” induces a low reservation wage compared with that of men. This accelerates employment opportunities (see the corresponding wage differentials, below) while leading simultaneously to a more dynamic search for employment.¹³

In other words, women in both job-search categories “compensate for” or reduce gender discrimination, reflecting the low unemployment differential cited earlier. Stratification of the data by educational level or reservation wage (identified via detailed surveys) would enhance our understanding of this behavior and help us develop recommendations for decision-makers.

We conclude that the male-female unemployment differential would have been much higher had more women entered the labor market. Despite their strong self-selection, women’s unemployment rate remains higher than men’s.

(b) Quality of entry: an additional dimension of differential status

According to Table 11 below, the quality of labor market entry is lower for women than for men. To begin with, 12.03% of the entire female population vs. 10.42% of men work without pay. As proportions of market participants, 44% of employed women work without pay (12.03 / 27.10) as against 13% for men.

Moreover, 31% of participating women hold wage-paid or salaried jobs and 14% are self-employed (44% and 34% respectively for men). It is common knowledge

¹³ This factor relating to “dynamism in the search for employment” has been noted in other studies on the Moroccan labor market. For example, Montmarquette and Mourji (1996) show how products of vocational training from rural areas find employment faster than their counterparts from urban areas, even though the latter benefit from more developed social networks. In fact, having experienced urban life and not having the same housing possibilities as their urban counterparts, rural graduates seek work more actively, helping them to shorten their period of unemployment.

that, with equal professional qualifications, self-employment constitutes a less secure and lower-paid activity--“an optimum of second best.”¹⁴ Thus, men enjoy higher-quality entry.

Table 11: Employment category by gender (%)

	Male	Female	Both
<i>Percentages of total population</i>			
Non-active	21.44	72.90	47.96
Wage-paid/salaried	34.61	8.35	21.08
Self-employed	26.68	3.88	14.93
Unpaid	10.42	12.03	11.25
Unemployed	6.85	2.84	4.79
Subtotal active	78.56	27.10	52.05
	100	100	100

Source: Calculations based on HCP, l'ENE 2011

Graduate degrees improve women's situation. From Table 12 we derive that 77% of women holding such degrees and participating in the labor market (according to Table 11, 79.86% of female graduate degree holders participate) are employed (61.34 / 79.86). This corroborates the previous reference to higher female opportunity cost, explaining graduate degree-holders' strong propensity to seek employment.

¹⁴ Note that these are often jobs in the informal sector. Indeed, as in other developing countries, slow economic growth, compared with the increase in the working-age population, leads to less job creation than is needed to absorb the flow of young people entering the labor market. The required growth of Morocco's labor market is estimated at 7% (3% to provide employment for new entrants, 2% to cope with productivity gains and 2% to absorb the unemployed). This contrasts with observed average growth rates between 3.5 and 4.5%. Thus, many people are forced to create their own jobs, leading to the development of unstructured or informal production units.

Table 12: Female employment status by qualification

	WQ	PE	SE	UGD	GD	VT	Total
Non-active	72.35	85.04	77.51	36.93	20.14	28.96	72.9
Wage-paid/salaried	4.83	7.41	14.16	38.4	61.34	44.46	8.35
Self-employed	5.02	1.17	1.07	2.03	10.41	4.46	3.88
Unpaid	17.00	3.44	0.47	0.30	0.23	1.04	12.03
Unemployed	0.81	2.94	6.79	22.33	7.89	21.08	2.84

WQ: Without qualification
UGD: Undergraduate degree

PE: Primary education
GD: Graduate degree

SE: Secondary education
VT: Vocational training

Source: Calculations based on HCP, l'ENE 2011

Following this analysis of the quality of women's insertion into the labor market, we examine the wage/salary distribution.

Table 13: Wage indices by gender and area of residence

	Wage relative to national average wage		
	Male	Female	Both
Urban	1.172	1.075	1.148
Rural	.683	.456	..665
Total	1.001	.997	1.000

Source: Calculations based on HCP, l'ENE 2011

It is clear from this table that women's wages are lower than men's. In rural areas the difference is almost half (men earn 49.8% more). This inequality is excessive, especially considering that work in rural areas, which is mostly agricultural, should not lead to significant differences in productivity.

Comparison of wages in urban areas suggests two conclusions. Inequality is lower (8.9%), but female self-selection must be taken into account. The fact that just over a quarter of working-age women participate in the labor market

(versus more than 75% for men) means that their qualifications are higher than men's. And as noted above, the market continues to discriminate even with the "filter" mentioned earlier. Since working women are more rigorously "sorted" than men, their wages should be higher. Thus, even a low differential in urban areas reflects wage discrimination¹⁵.

Table 14 confirms our conclusions. Women with no qualifications--who are relatively poor, enter the labor market out of necessity, and have a low reservation wage--face greater discrimination than their male counterparts (their wages are only half, or even less). This gap is a major concern. A smaller gender difference (23%) persists for educated women.

Table 14: Wage levels by gender and education.

Level of education	Index Wage relative to national average		
	Male	Female	Both
None	724	477	670
Primary	761	608	742
Secondary	1426	1181	1362
Higher	2627	2133	2444
Total	1001	997	1000

Source: Calculations based on HCP, l'ENE 2011

Table 14 is instructive. For each level of education, it shows male and female wages as a ratio to the national average wage. Thus, employees without qualifications, both genders taken together, average 67% of the national average, but women only earn 47.7%.

Men with higher education degrees show an index of 2.627, while women with the same educational level reach only 2.133.

Table 15 supports our analysis and indicates that wage discrimination increases

¹⁵ A real analysis of wage discrimination requires specific data. See, for example, Hela Bessibess (2016), who shows in her thesis on survey data in Tunisia (where women have enjoyed a privileged status compared to their counterparts in other Arab countries) that severe discrimination persists against women. See also: Fofana and others (2006).

as we move down socio-occupational categories. Thus, a low level of education or training, which characterizes persons in modest socio-professional categories, reflects low reservation wages; this applies to persons working out of “necessity.” At this level the wage gap is 25%-plus (index of .523 for women and .655 for men, $.655/.523 = .252$). As mentioned earlier, these strata do not feature productivity differences that would justify such wage differentials.

Table 15: Wage levels by gender and occupation

	Wage relative to national average (Index)		
	Male	Female	Both
Line managers and senior officials	4633	4186	4499
Middle managers	2472	1914	2234
Employees	1257	977	1189
Traders etc.	789	404	770
Craftsmen and skilled workers	820	581	782
Agricultural labour	545	434	529
Plant and machine operators	1104	907	1100
Non-agricultural labour	655	523	628
Total	1001	997	1000

Source: Calculations based on HCP, l'ENE 2011

The gap persists at the senior level, although at a modest value of 10.7% ($4.633/4.186 = 1.107$). However, at the middle manager level the gap is almost 30% ($2.472/1.914 = 1.292$).

In conclusion, we are concerned that the lower valuation of women's work may constitute a significant disincentive and reduce their propensity to participate, to the extent shown¹⁶ at the beginning of this section. Such lower valuation constitutes a self-sustaining phenomenon; similar to our earlier reasoning about research into female participation, the way to break the circle is to raise women's qualifications.

¹⁶ We use this term deliberately because an economy that deprives itself of a large part of its human capital also sacrifices productive efficiency. This reasoning is similar to that used in distinguishing potential versus observed GDP.

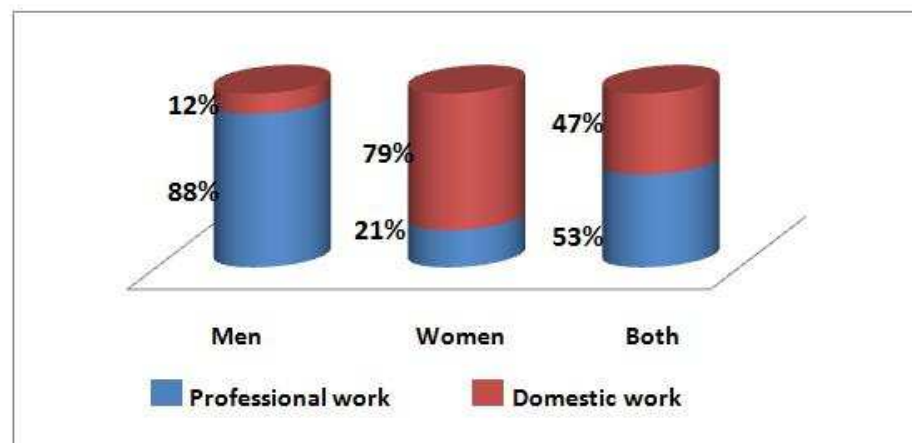
iii. Time management and unequal living standards: a summary of male-female inequality

Our analysis of the differential endowment of human capital and its impact on the quality of labor market participation explains differences in time management, as well as in the risk of poverty.

(a) Division of labor and female time management

In light of our preceding analysis, it is not surprising that the National Time-Use Survey (HCP 2014) shows women spending proportionately much less time than men in “professional” activity—i.e. activity in the labor market (4 times less: 1 h 21 min. vs. 5 h 25 min.) Also not surprisingly, they spend seven times more time on domestic activity, including both domestic chores and activity outside the house (shopping, management, paying bills, etc.) It thus appears that the time devoted to “useful” activity (whether or not paid) is more important for women. This explains the unequal leisure time (for example, only 1% of women go to cafés, versus 25% for men, who spend an average of 1 h 54 min. per day in cafés).

Figure 1: Gender inequality in the division of labor



Source : HCP, ENET 2012

This graph shows the less favorable situation of women, given that socially valued time occupies a less important place in their activity. However, within school-age groups, girls show more interest than boys. Thus, the time devoted to education and training is 4 hours within the 7-14 age group, and 4h38 min. in the 15-24 age group, with girls ahead by 22 min. and 48 min. respectively. This means that women show greater self-sacrifice when given access to education. Given that study and training comprise the “professional work” of young people, these data also mean that women are dedicated and committed to “external work” when given the opportunity. This behavior could be due to the fact that women are aware of their “place” in society, and are therefore eager to demonstrate their skills in order to “impose” themselves; first, within their families, by showing academic success, and then to be well-equipped with knowledge and skills to meet requirements of the labor market, where they face hostility both through discrimination on entering the market, and in how their work is valued (see above)¹⁷.

Table 16: Women’s time allocation by area of residence and activity of spouse (hrs:mins.)

	Professional time		Domestic time		Leisure time	
	Urban	Rural	Urban	Rural	Urban	Rural
Employed in labor market	01:57	03:20	05:00	04:39	04:13	03:37
Unemployed	04:12	04:34	02:44	03:03	04:18	04:21
Non-active	05:38	05:27	01:25	01:30	04:20	04:14
Total	03:40	03:53	03:20	03:51	04:16	03:46

Source: HCP, l’ENE 2011

Table 16 shows that Moroccan women allocate more time to professional and less to domestic activity when facing a need for employment. Also, when the spouse is inactive or unemployed, women spend more time in professional work and less in domestic activity.

¹⁷ Success rates appear to be higher for girls, whether at baccalaureate level or in universities, especially those with selective access (such as medicine).

Modeling shows that, in comparison to women without a qualification, those holding a degree devote relatively more time to income-generating activity. This corresponds to the fact that opportunity cost is correlated with educational level. A higher level of education guarantees the woman a fulfilling, well-paid job, allowing her to hire a housekeeper. However, this category comprises only a small proportion of women. Thus, the majority of women face discrimination at the various levels described above, and are more vulnerable than men.

(b) *Differential causes of poverty: demographic realities*

Table 17: *Female heads of households (%)*

	1994	2014
Urban	18.4	18.6
Rural	11.3	11.6
Both	15.4	16.2

Source: *RGPH 1994.2004 and 2014 (sample 2%). HCP.*

The table confirms that the majority of Moroccan households is headed by men (83.8% in 2014). It is only in urban areas that the proportion of female heads of households reaches nearly one fifth (18.6%). Women are more likely to be living alone (single-person households), be responsible for children after divorce, or be responsible for the birth family where the father is indigent.

Table 18 supports this finding and provides interesting clarification. More than a quarter of single-person household heads are divorced and widowed women. More than three-quarters (75.7%) and 91% respectively have to carry responsibility for the household. They are thus left to fend for themselves. The belief that male relatives ensure "protection" for these women does not correspond to reality. Since they assume the function of household head¹⁸, many divorced or widowed women are not "incorporated" into other households.

¹⁸ In this connection see A. Ghazali's article in this volume, which explains the pragmatism of the Foukahas of Souss: "They have even admitted that a widow may claim what is due her at the time of the succession, in addition to her quota as heiress." This refers to writings dating back to the 10th and 11th centuries of the Hijri.

Table 18: Female heads-of-household by marital status (%)

Marital status	2004	2014
Single	19.4	26.8
Married	4.2	3.9
Divorced	77.8	75.7
Widowed	91.2	91.0
All	16.3	16.2

Source: RGPH 1994.2004 and 2014 (sample 2%). HCP.

The distribution of women and men by marital status shows women facing greater insecurity.

Table 19: Gender distribution by marital status

Marital status	Male	Female	Both
Single	57.9	48.4	53.2
Married	40.8	42.0	41.4
Divorced	0.7	2.4	1.6
Widow	0.6	7.1	3.8

Source: <http://rgphentableaux.hcp.ma/Default1/>

Seven percent of women are widows, as against only 0.6% of men. Women are thus more likely to face insecurity. This holds also for divorced women, although the gap is smaller.

We now turn to the distribution of poverty, considering the gender effect in the inequality observed at different levels.

(c) Differential living standards and poverty by gender

Table 20 shows expenditure per capita in urban areas to be significantly lower within female-headed households, as opposed to the situation in rural areas and

globally. The breakdown of consumption expenditure and incidence of poverty by gender of the household head suggest that female-headed households' standard of living is higher than that of male-headed households. However, when we consider household demographics, the average size of those headed by men (5.4 persons) is higher than that of female-headed households (3.9 persons). The economies of scale in expenditure per capita, related to household size, have given rise to a new computation termed "adult equivalence scales."¹⁹ This analysis reverses the comparison of living standards, indicating that female-headed households are less favored than those headed by males, regardless of area of residence (Table 21).²⁰

Table 20: Annual expenditure per person by gender and area of residence (dirhams)

Area of residence	Male	Female	Both
Urban	14,000	13,362	13,895
Rural	7,712	8,417	7,777
Both	11,149	11,801	11,233

Source: HCP, ENNVM 2006/07.

¹⁹ We used the OECD scale, which assigns 0.5 to an adult, starting with the second, and 0.3 to each child.

²⁰ To make this clearer, let us consider the following illustration, based on the case of widowed female-headed households (we have seen that 91% of widowed persons living alone are women), which do not benefit from economies of scale. Consider the case of a widow living alone who spends 2,000 DH/month. The simple fact of having to rent a room (from neighbors) costing 1,000 DH/month increases her expenditure. Assuming that her other expenses amount to 1,000 DH, compared to a household of four people spending 6,000 DH (of which 3,000 for rent), the latter will enjoy a higher living standard, even though spending is only 1,500 DH per person. Members of this household benefit from economies of scale that allow them to rent a full apartment or house, thus ensuring a higher quality of life.

Table 21: Annual expenditure per consumption unit by gender and area of residence, integrating "adult equivalence scales" (dirhams)

Area of residence	Male	Female	Both
Urban	27,763	24,361	27,127
Rural	15,437	14,837	15,359
Both	22,930	21,542	22,700

Source: HCP, ENNVN 2006/07.

An econometric model (Ezzrari, 2011) integrates all determinants of poverty, thus giving a better understanding of gender impact. Controlling for the other variables, it indicates that the probability of slipping into poverty is lower for male-headed households. Table A2 in the appendix provides more details.

Earlier we explained variable Y , which takes a "0" (zero) value when the household is poor, 1 if it is vulnerable, 2 if its standard of living is at the average level, and 3 if it is relatively wealthy. The resulting coefficients indicate that a household's propensity to attain a higher standard of living increases when it is headed by a man rather than a woman. Conversely, the probability of falling into poverty (Y tends towards 0) is higher in female-headed households. The marginal effects are negative for $Y = 0, 1$ and 2, and positive for $Y = 3$, meaning that male-headed households are more likely to be wealthy.

4. Conclusion

This chapter analyzes the situation of women compared to men's at various stages of life. The data underlying our reasoning related first and foremost to health and early education, and subsequently to differential endowments in adulthood. Later we discussed the differential position of women and men in the labor market, finding inherent biases against women in the obstacles they face early in life, as well as in various forms of discrimination associated with social behavior.

We then studied the impact of discrimination on living standards, and found that women face a more precarious situation than men. Women, especially when divorced or widowed, bear responsibility for their households because they are normally not incorporated into other households. Males supposedly in charge of the family eschew responsibility.

One of our major findings is the salutary role of education as the major factor in reducing women's self-selection in deciding to seek employment. It not only increases the propensity to enter, but also lowers wage discrimination. Thus, education is a basic lever for decision-makers to counter gender discrimination. Its effects go beyond greater equality and redistribution of opportunity. It also enhances our country's overall development. Several research studies²¹ show that education affects the destiny of nations. Insofar as female education progresses, children's school attendance and educational attainment are enhanced. Beyond that, productivity and development opportunities increase.

A shortcoming of our analysis is its failure to assess women's domestic work. This essay is based on economists' estimates of the revenue women could have realized by selling their time on the labor market. An alternative approach consists of estimating the market value of goods and services to which household members have access by virtue of the tasks that women perform; in other words, what households would have to pay if they purchased those goods and services in the market.²³

²¹ See, for example, World Bank (2011) and Mourji (1995 and 2013), the case of Morocco; Mourji (1996), the case of Guinea.

Appendix**A1. The inequality of illiteracy: a historical perspective**

Illiteracy rates of population aged 10+ years, by area of residence (%)

Year	Urban	Rural	Both
2004	29.4	60.5	43
1994	37	75	55
1982	44	82	65

Source: RGPH data 1982, 1994 and 2004

HCP http://www.hcp.ma/Analphabetisme_a413.html

A2 - Probability of Poverty

Poverty (living standards) as estimated via an ordered probit model:

	Coefficient	T-stat	Marginal impact on			
			Y=0	Y=1	Y=2	Y=3
Area of residence						
- Urban	0.313	8.24	-0.019*	-0.052*	-0.015*	0.086*
- Rural	Ref.	--	--	--	--	--
Gender of household head						
- Male	0.230	4.99	-0.015*	-0.039*	-0.006*	0.061*
- Female	Ref.	--	--	--	--	--
Household size						
- Less than 4	Ref.	--	--	--	--	--
- Between 4 and 6	-0.908	-22.05	0.054*	0.142*	0.060*	-0.256*
- 7 persons	-1.472	-29.20	0.186*	0.250*	-0.147*	-0.228*

Economic Analysis of the Situation of Women in Morocco

	Coefficient	T-stat	Marginal impact on			
			Y=0	Y=1	Y=2	Y=3
Educational attainment of household head						
- No specific level or basic level	Ref.	--	--	--	--	--
- Secondary level	0.388	6.22	-0.016*	-0.054*	-0.053*	0.123
- Higher level	0.944	9.64	-0.025*	-0.099*	-0.212*	0.336*

Source: Ezzrari Abdeljaouad (2011).

References

- Akerlof George A. (2005), *Explorations in Pragmatic Economics*, Oxford: Oxford University Press.
- Benhassine N., Devoto F., Duflo E., Dupas P., Pouliquen V. (2015), « Turning a Shove into a Nudge? », *American Economic Journal: Economic Policy*, 7(3): 86-125 <http://dx.doi.org/10.1257/pol.20130225>
- Bessibes H. (2016), "La condition de la femme et la discrimination salariale de genre en Tunisie", Doctoral Thesis in Economics supervised by Rotagraziosi G. Clermond-Ferrand: International Development Studies and Research center.
- Dauphin A., Lacroix G. B., Fortin B. (2006), "Un test de rationalité collective sur des ménages bigames au Burkina Faso", in Mourji F., Dacaluwé B. and Plane P. (eds.), *Le développement face à la pauvreté*, Réseau analyse économique et développement. Paris : Economica.
- Dostie B., Vencatachellum D. (2006), "Transferts volontaires et transferts coercitifs : impact sur le travail domestique féminin en Tunisie", in Mourji F., Dacaluwé B. and Plane P. (eds.), *Le développement face à la pauvreté*, Réseau analyse économique et développement. Paris : Economica.
- Ezzrari A. (2011), "Pauvreté au Maroc : approches déterminants dynamique et stratégies de réduction". PhD thesis in econometrics supervised by Mourji F., Casablanca: Faculty of Law, Economics and Social Sciences.
- Fofana I., Cockburn J., Decaluwé B. (2006), "Modélisation du travail des hommes et des femmes dans un modèle d'équilibre général calculable appliqué au Népal" In Mourji F., Dacaluwé B. and Plane P. (eds.), *Le développement face à la pauvreté*, Réseau analyse économique et développement. Paris : Economica.
- Ghazali. A. (2017), "Femmes et héritage en Droit Musulman, quelque minement vers l'équité au Maroc?", in : Benchekroun S. (ed.), *L'inégalité en héritage*, Casablanca: Empreintes Edition.

- HCP (2015) http://www.hcp.ma/Presentation-des-premiers-resultats-de-l-Enquete-Nationale-sur-l-Emploi-du-Temps_a1463.html, Ministère de l'Éducation Nationale, de l'Enseignement Supérieur, de la Formation des Cadres et de la Recherche Scientifique - Département de l'Alphabétisation et de l'Éducation Non Formelle Etudes Royaume du Maroc (2007)
- Mourji F., Hijri N., Montmarquette C. (1995), "Les déterminants des résultats en milieu scolaire marocain", *Journal of development economics*, Vol. 1.
- Mourji. F., Montmarquette C., Garni A. (1996), "L'insertion des diplômés de la formation professionnelle dans le marché du travail marocain: une application des modèles de durée". *Revue Région et Développement*, Vol. 3.
- Mourji F., Abbaia A. (2013), "Les déterminants du rendement scolaire en mathématiques chez les élèves de l'enseignement secondaire collégial au Maroc: une analyse multiniveaux", *Journal of Development Economics*, Vol. 1.
- Oudmane M. (2015), "Analyses de l'activité des femmes au Maroc: Modélisations et arbitrages liés à la gestion du temps". Master's thesis in Econometrics supervised by Ezzrari A. and Mourji F., Casablanca: Faculty of Law, Economics and Social Sciences.
- World Bank-Middle East and North Africa-Social & Economic Development Group (2005) « The status and progress of women in the Middle East and North Africa », Washington, D. C., International Bank for Reconstruction and Development / World Bank.
- World Bank (2011), "Apprentissage pour tous. Investir dans l'acquisition de connaissances et de compétences pour promouvoir le développement". *World Bank Education Strategy. Horizon 2000*, Washington, D. C., International Bank for Reconstruction and Development / World Bank.