

# Engendering economic theory and application

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# Structure of presentation

- Introduction – motivating why Gender matters, and how we look at it
- Understanding why Gender matters, and the GAD approach / structural sources of inequality
- Recognizing inter-relatedness of paid/unpaid; market/nonmarket work
- WDR 2012 framework
- Gender Economics: Two broad areas of contribution
  - Economics of the household
  - Discrimination (especially in relation to labor markets)

# Introduction

- What is Gender?
- What is Gender Inequality, and why does it matter?
- Why/how does Gender matter in Development?
- Why does Gender matter in Economics (theory/the discipline) and for policy oriented economic research?

# What is gender?

What is gender inequality, and why does it matter?

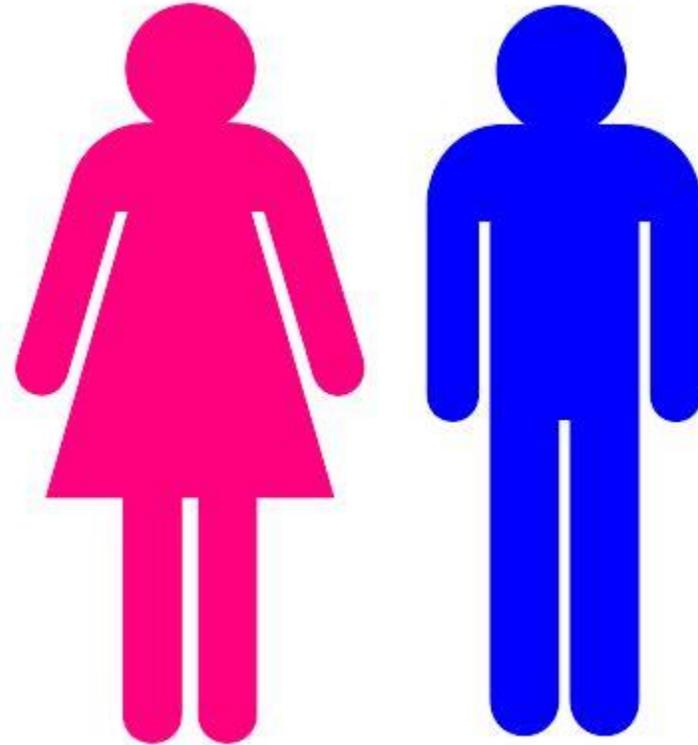
# Is gender the same as sex?

- Sex is the biological difference between men and women



# What is Gender?

- Gender – social, behavioral and cultural attributes, expectations and norms associated with being a woman or a man

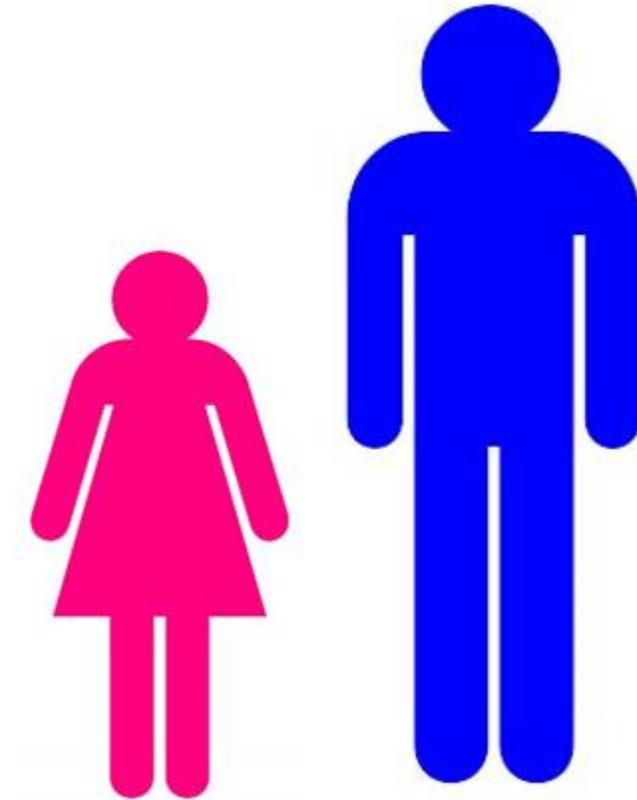


# Gender is a Social Construct

- Society defines and differentiates the roles, rights, responsibilities and obligations of women and men
- Biological differences between females and males are interpreted by society to create a set of social expectations that:
  - defines the behaviors that are appropriate for women and men
  - determines women's and men's differential access to rights, resources, and power in society

# What is Gender Inequality?

- Gender inequality is the unequal treatment or perception of individuals based on their gender. It arises from differences in socially constructed gender roles.



Why do we care about gender  
inequality?

# Why do we care about Gender Equality?

- **Intrinsic / Equity motive** – principle of universalism – development of freedoms for all people - Gender equality is a human right
  - Enshrined in CEDAW – Convention on the Elimination of All Forms of Discrimination against Women
    - Adopted by UN in 1979, ratified by 187 countries, including Sri Lanka
  - Recognized with a separate SDG

# Why do we care about Gender Equality?

- **Instrumental/ Efficiency motive – Gender equality is smart economics**
  - Removing barriers to education, economic opportunities and productive inputs can generate broad productivity gains
    - McKinsey Report (2015) - World GDP can increase by 12 trillion (size of U.S. and Chinese GDP combined) if gender inequality is removed
  - Improving women's absolute and relative status improves development outcomes (especially of the next generation)
  - Increasing women's individual and collective agency leads to better outcomes, institutions and policy choices
  - **But gender inequalities may also contribute to economic growth (Seguino 2000).**

Why/how do we care about  
Gender in Development?

# Advocacy and Intrinsic vs. Instrumental approaches

- “Advocacy on behalf of women which builds on claimed synergies between feminist goals and official development priorities had made greater inroads into the mainstream development agenda than advocacy which argues for these goals on intrinsic grounds.”
  - Kabeer, N. (1999). Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment. *Development and Change*, 30(3): 435.
- “Would a women-focused agricultural investment strategy yield a double dividend—increasing gender equity at the same time as increasing overall productivity?”
  - Doss, C. R. 2018. Women and Agricultural Productivity: Reframing the Issues. *Development Policy Review* 36:35-50.

# Smart Economics and Women in Development (WID)

- Women are heavily involved in agricultural production in the developing world—and especially in Africa—and that they have been left out of many development efforts. (WID)
- Thus, there are very high returns to targeting current investments to women—with these returns showing up as increased aggregate agricultural production and higher incomes for women. (Smart Economics)
- The importance of women as beneficiaries is increased by the instrumental roles of women with respect to child health, nutrition and education. Improving the well-being of women and offering them expanded opportunities (WID) will both increase their own welfare and have the potential to create positive effects on the next generation (Smart Economics).

# Gender and development (GAD)

- A more useful way to think about women's role in economic development is to think about gender and the role it plays in economic life, and its impact on policies.

# Gender Relations Permeate Economic Institutions and Affect Outcomes

- Economic relationships, transactions and exchange have gender relations inscribed within them.
- Gender affects
  - Household division of labor; Work burden of women; Women's labor force participation; Wage gaps between women and men; Fertility rates; Economic growth and distribution; Economic development; Quality of life and human well-being

“Whether or not interventions should explicitly target women rather than men, it is clear that a **gender-blind approach to designing interventions** will miss out on key constraints, opportunities and impacts. **Gender is embedded in the distribution of essentially all the resources** used in agriculture—including land ownership, farm management decisions, market access for inputs and outputs, information from extension services, use of information and communication technology, etc. **Gender is also embedded in the distribution of the gains** from increased agricultural productivity, particularly influencing who controls the outputs and decides how the proceeds will be used. If **interventions fail to consider how gender is embedded in the system**, we will miss critical opportunities for transforming agricultural systems, increasing productivity, reducing poverty and improving people’s lives.”

(Doss 2018)

# Why do we care about Gender in Economics?

- `Scientific motive' – Gendered economics is good economics / good science / good econometrics

The Economist explains

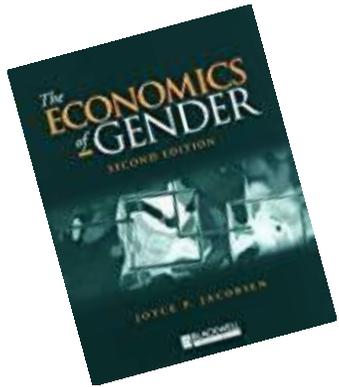
The thinking behind feminist economics



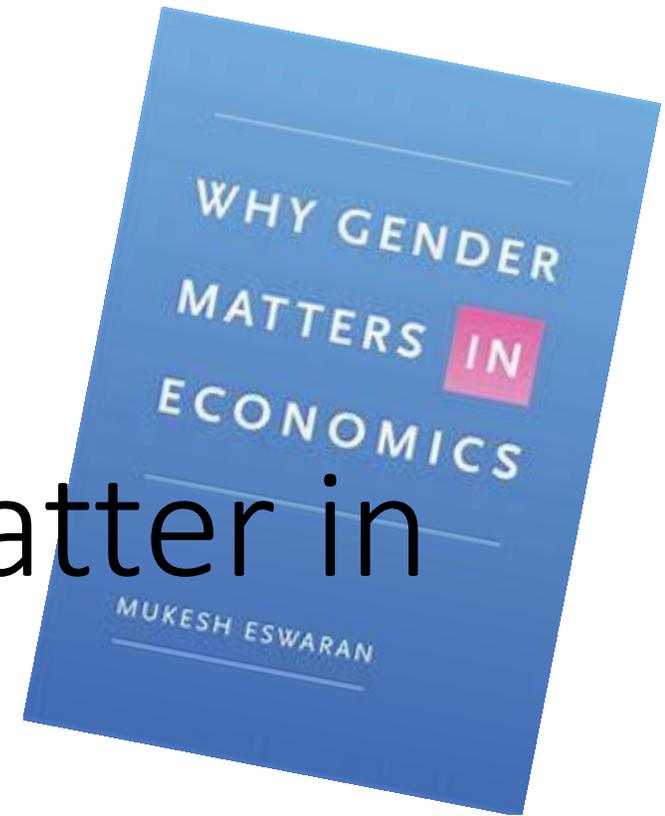
The Economist explains

Oct 20th 2015 | by S.K.

Julie Nelson, a feminist economist, writes in the *Journal of Economic Perspectives* that “many readers may have discovered that they are already doing 'feminist economics' in some ways, although they have preferred to think of themselves as just doing 'good economics'”. Indeed, feminist economists wish they lived in a world where the label need not exist.



# Why/how does gender matter in Economics?



# Gender Relations Permeate Economic Institutions and Affect Outcomes

- Economic relationships, transactions and exchange have gender relations inscribed within them.

# Structural sources of gender inequality (Heintz 2014)

- Gender division of labor and unpaid work
- Segmented labor markets
- Unequal access to assets, finance and technology
- Norms, identity and discrimination
- Intra-household dynamics and bargaining
- Violence and insecurity

A critical aspect of incorporating a gender perspective into economic research is the explicit recognition of non-market activities, unpaid household work and the gender division of labor.

James Heinz, 2014

But economic theory and models often do not reflect this underlying reality

- Models are based on a gender-neutral ‘individual’
- Unitary household model assumes homogeneity of individuals / identical preferences
- Focus is on the public sphere of “production”
- Ignores “private sphere” of household production and reproduction / care



feminist economics also criticises the methods used within the standard models taught to undergraduates for overlooking fundamental drivers of gender inequality. Take a simple economics model, which might explain a woman's decision to take on the bulk of childcare responsibilities based on her preferences for "consumption" and "leisure". Feminist economists might point out that if her preferences have been formed by a society with strong ideas about what women should do, then presenting her choice as a free one could be misleading. By ignoring potential discrimination against women, such a model could allow sexism to go unchallenged, they would argue.

# NC household model of labour supply

- We assume that the household is composed of two individuals of working age.
- We shall label them male (M) and female (F). These economic agents, M and F display economic rationality and they seek to maximise their household utility  $U$ , which consists of a set of consumption goods and services  $X$  coupled with the leisure time of the male ( $L_M$ ) and female ( $L_F$ ),

$$U = f(X, L_M, L_F)$$

- Neoclassical, unitary model - household seeking to maximise a single joint utility function subject to a common income constraint

# Household model of labour supply (contd.)

- Household constraint – income (and leisure time)

$$W_M H_M + W_F H_F + b = P_X X$$

where  $W_M$  is the husband's wage rate,  $H_M$  is the husband's hours of work,  $W_F$  is the wife's wage rate,  $b$  is the non-work income,  $P_X$  is the price of goods and services and  $X$  is the consumption of goods and services.

# 3 scenarios (3 sets of preferences)

- In the first case (Figure 1.10 (a)) only the male works to the extent of  $H_1$  hours. In
- the second set of circumstances (Figure 1.10 (b)) the male works up to his maximum of  $H_2$  (which coincides with the point  $B = H_{mM}$  in Figure 1.9) and the female works part-time to the extent of  $H_3 - H_2$  hours.
- Only in the final example (Figure 1.10 (c)) are both male and female working full-time.

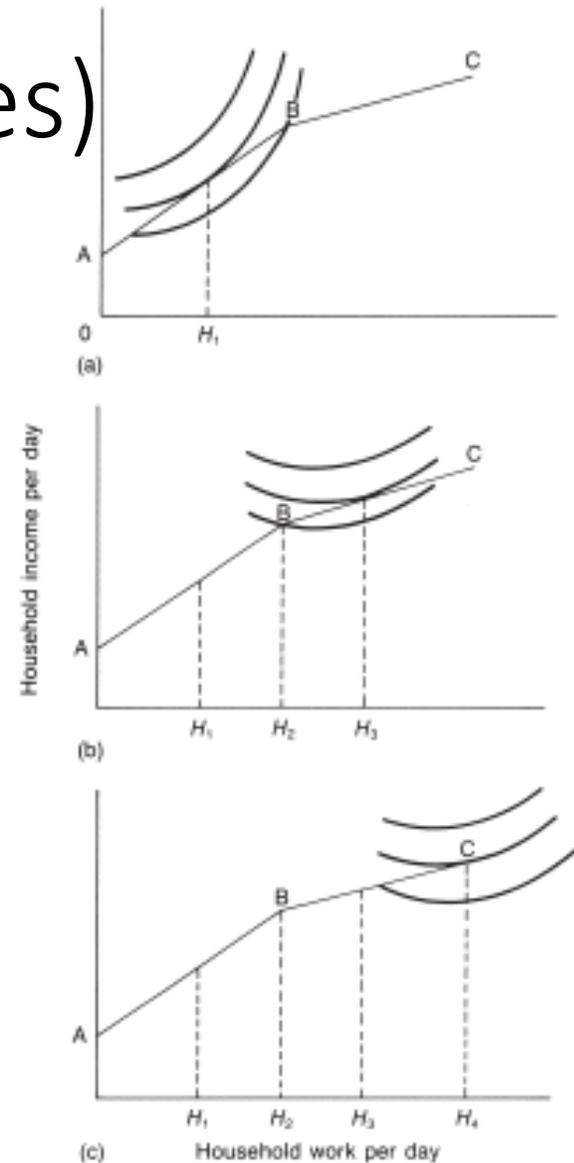


Figure 1.10

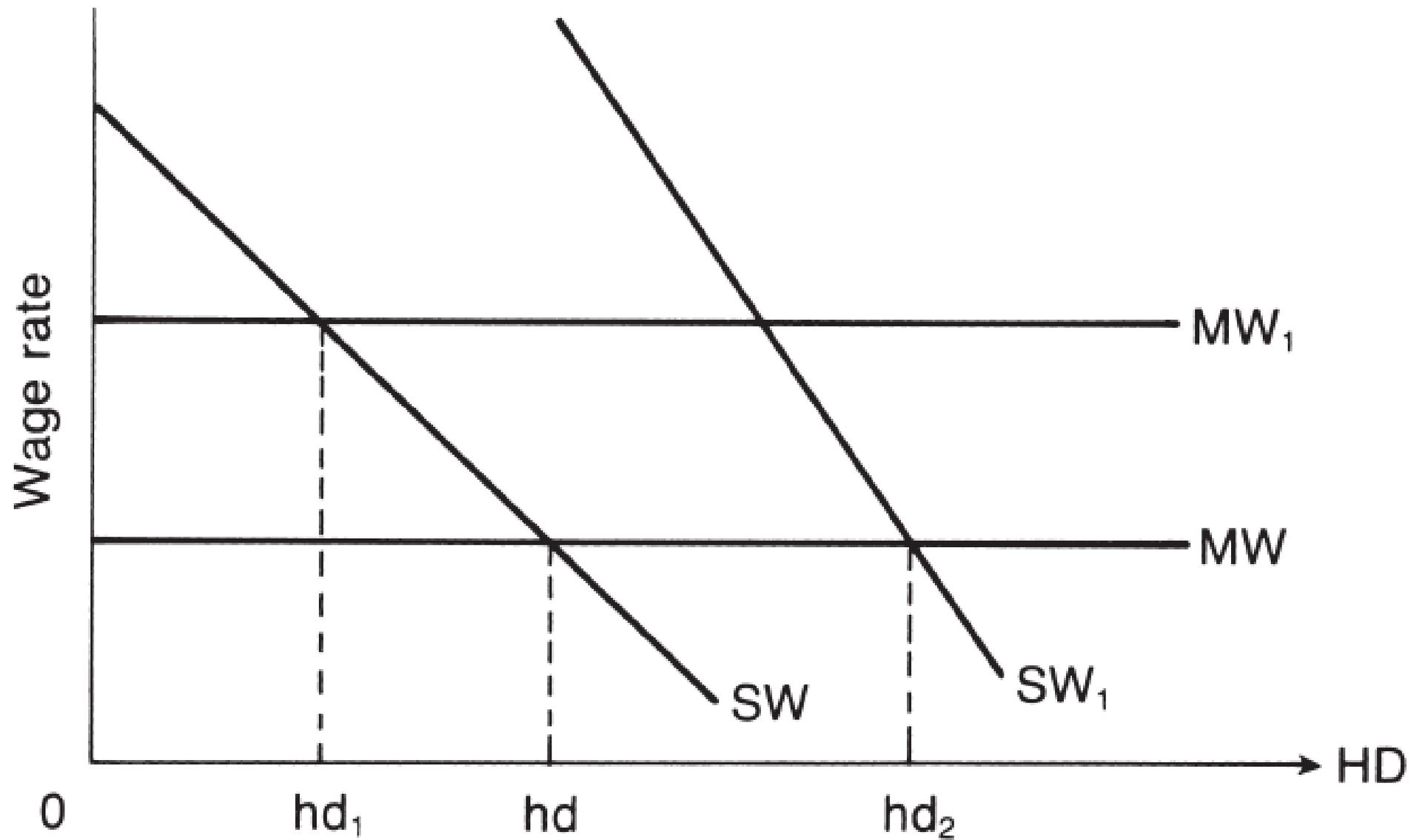
Market work and nonmarket  
work

# Allocation of time model – married women

- Allocation of time model applied to the case of married women or women with dependent children.
- The household's time ( $T$ ) can be divided up into leisure  $L$ , paid market work  $HP$  and domestic work in the home associated with child rearing  $HD$ . Thus:

$$T = HD + HP + L.$$

- Assuming an unequal distribution of responsibilities within the household and that only the wife's time is divided up between paid work ( $HP$ ) and domestic activities ( $HD$ ) then the value of that domestic work can be defined as the shadow wage of her market work.
- If wage rates decline as the willingness to work falls, a reasonable supposition given that pay rates for part-time work are generally lower than for fulltime work, then the shadow wage for the married woman falls as she increases the amount of domestic activity undertaken.



**Figure 1.12** SW, shadow wage; MW, market wage

# Married women's time allocation choice

- The market wage  $MW$  reflects the opportunity cost of staying at home and engaging in domestic activities. From the household perspective domestic activity that the wife undertakes is only worthwhile when the value of that activity exceeds its opportunity cost, i.e., when  $SW > MW$ .
- Thus the wife's time is allocated to work in the home to the extent of  $h_d$  hours, up to the point where  $SW = MW$ . Obviously were market wages for women to increase to  $MW_1$  then the amount of time allocated to domestic activity would tend to fall to  $h_{d1}$ , thereby increasing the labour supply available for paid market work.

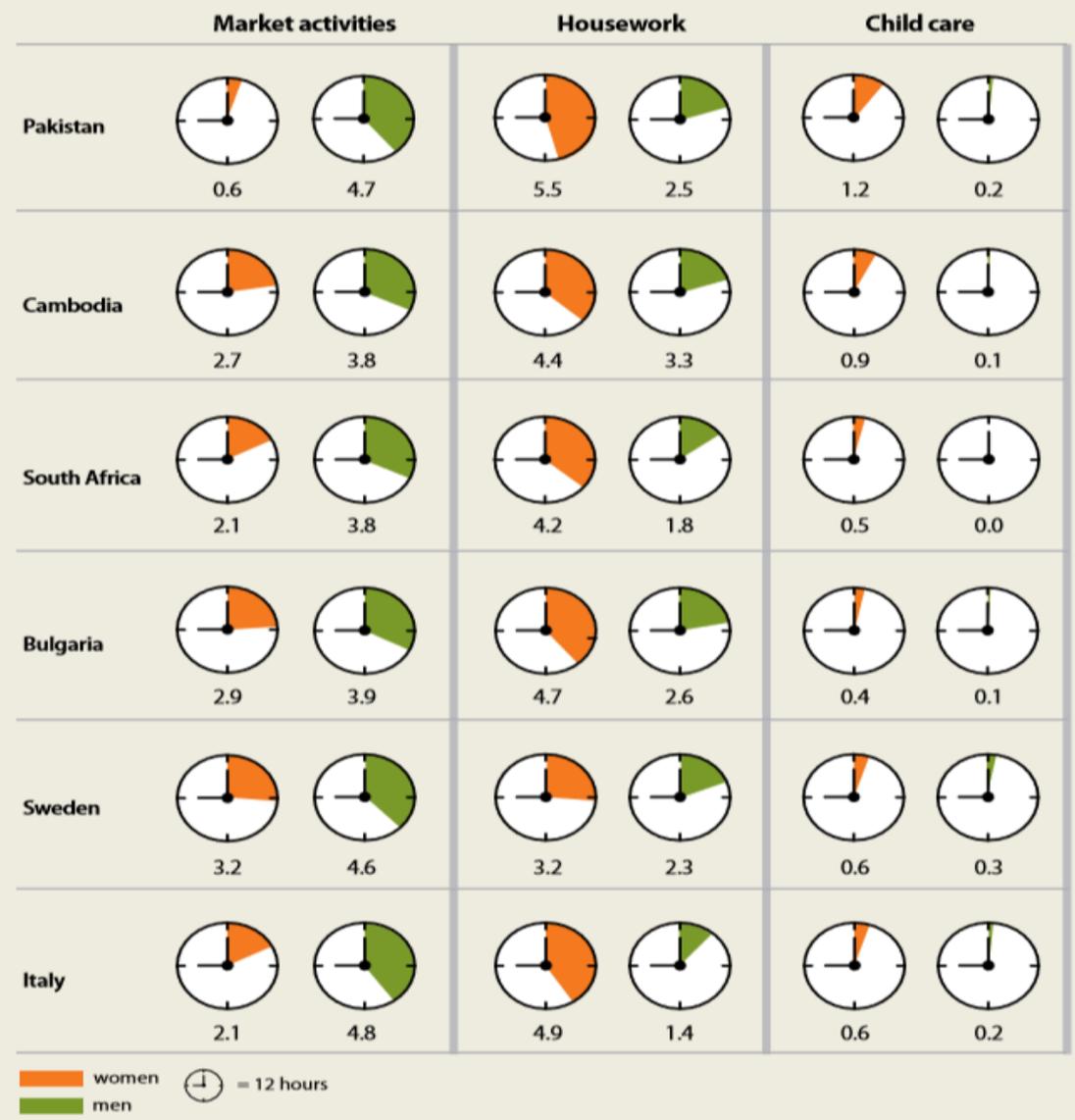
# In the presence of smaller children

- Similarly the household's evaluation of the necessity of domestic activity might change. The existence of young children especially those under 5 (the age at which school attendance is compulsory) would increase the value of domestic activities which now includes child rearing. This would shift the shadow wage function to the right to SW1, thereby increasing the time spent by the woman in the home to  $h_{d2}$ .
- Such a time allocation model suggests that the **labour force participation of household members is dependent upon a number of factors: the wage; the evaluation of domestic activity; the division of labour within the household; the existence of children and their ages.**

# Female labour force participation

- If on average women's wage rates are below those attainable by men and **if there exists an unequal division of labour within the household, such that women bear the responsibility for the majority of domestic work**, then the model would yield lower labour force participation for women than for men.
- Yet it would also predict lower participation rates for married women as compared with single women. And it would suggest a higher participation rate for childless women than mothers. Given that child rearing responsibilities vary with the age of the child one would expect older married mothers to offer more labour services than younger married mothers. In general wage changes do generate responsive reactions, especially in terms of labour force participation from married women (Pencavel 1998).

**FIGURE 10** Across the world, women spend more hours per day on care and housework than men



Source: Berniell and Sanchez-Páramo 2011.

- the gender division of labor, and time devoted to unpaid work in the household, restricts women's choices especially that between paid and non-market work. It shows how such constrained choice can lead to low female labor force participation **and disproportionate representation of women in informal work or in on-farm employment.**
  - **Because of more flexible work hours, or ability to combine farm work and childcare**

# Unpaid work

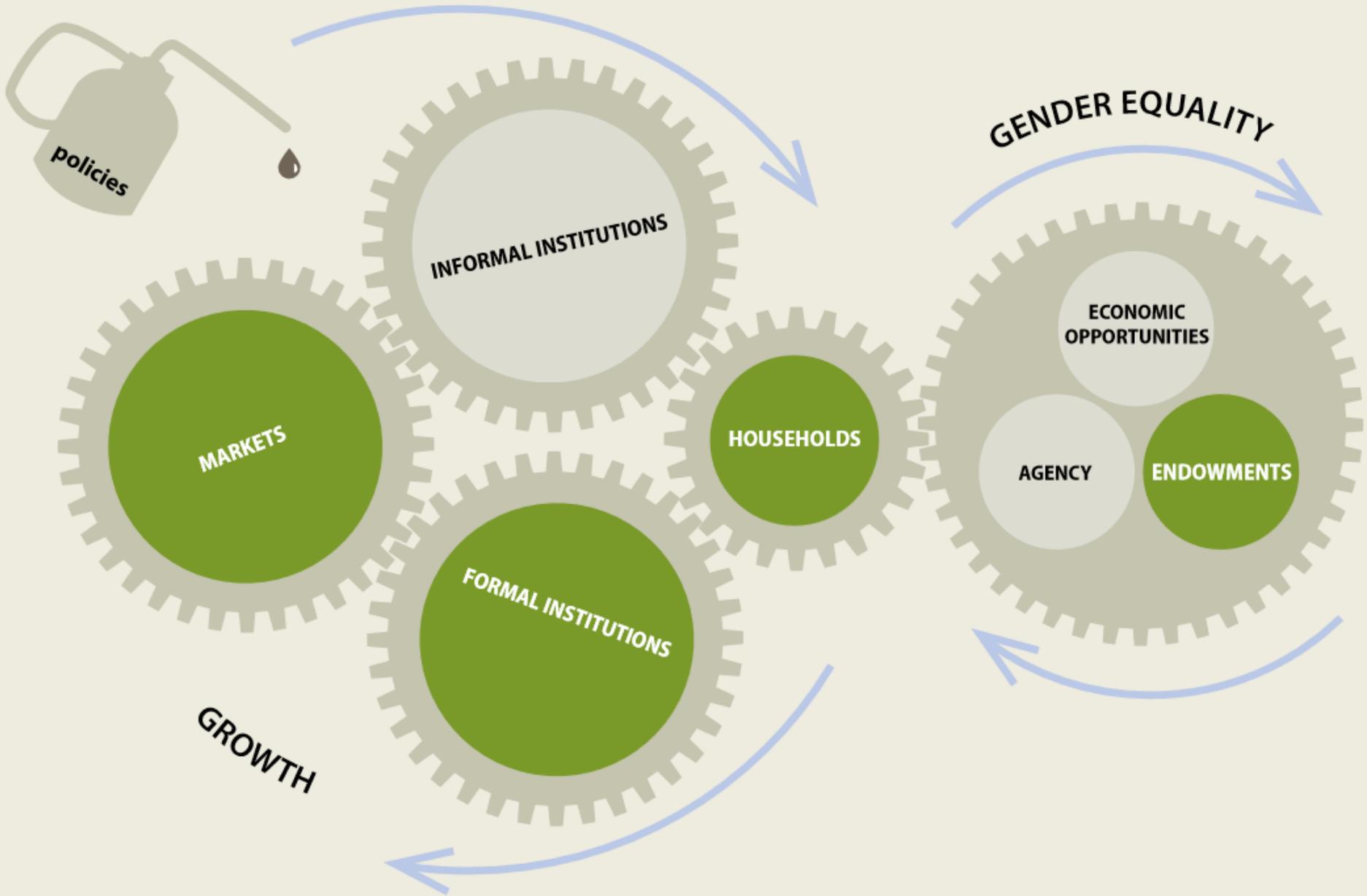
- As Nancy Folbre (2008:24-25) puts it: “Children grow up to become workers as well as taxpayers, and the older generation is not the only group that benefits from their existence.....the benefits are realized by all consumers of commodities, whether they have raised children or not.” Put in another way, those household members that perform the unpaid work of daily domestic chores and caring activities assume important costs of producing the labor force and social fabric.

# Market Work and the Need for Care

- The invisibility to policymakers of the non-market sector and of its important linkages with the market sector, particularly labor markets, reinforces the notion that workers and their families can find their own solutions to deal with family and care responsibilities and there is no need for government support or public sector provisioning.
- This private solution to the demand for care work comes with its own problems and may undermine the ability of women to have decent work. Domestic workers are predominantly women, often from poor communities, rural areas, ethnic and racial minorities, or immigrants.
- For the working poor, hiring domestic help is simply unaffordable, and workers in these households are compelled to engage children in paid work and unpaid domestic work in order for the family to meet their survival needs

WDR 2012 framework

**FIGURE 1** Gender outcomes result from interactions between households, markets, and institutions



# Dimensions of Gender Equality

- Endowments
  - Education, health, physical assets
- Economic opportunities
  - Use of endowments to translate into income
- Agency
  - Application of endowments to take actions

# Kabeer (1999)

The ability to exercise choice can be thought of in terms of three inter-related dimensions:

**resources**  
(pre-conditions)

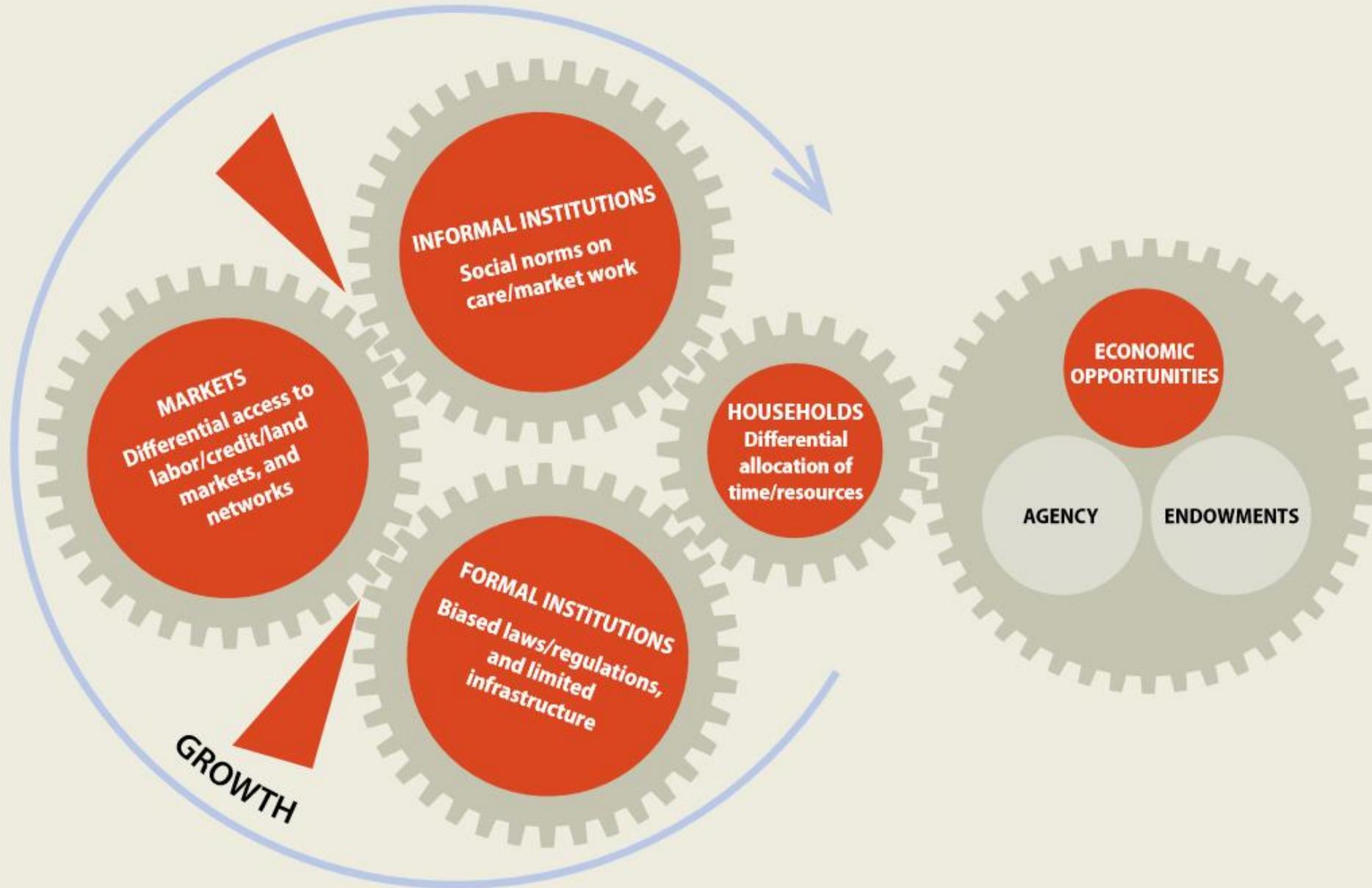
**agency**  
(process)

**achievements**  
(outcomes)

# Equality of outcomes or opportunities?

- Difference between inequalities that arise because of
- Constraints
  - Things that are beyond people's control
  - and
- Preferences and choices
  - Male-female differences in risk aversion (?), social preferences, attitudes to competition
- Opportunities approach – removing the constraints and letting people choose
- Outcomes approach – preferences are endogenous

**FIGURE 9** *Explaining persistent segregation and earnings gaps*



# Voice and agency – bargaining power/hh decision making

- But higher household incomes alone are not enough to eliminate the lower capacity of women to exercise agency. What matters are a woman's own income and assets as well as her ability to leave the household, all of which increase her bargaining power and ability to influence household choices.

# Feminism in the Dismal Science (acc. To Meagher and Nelson)

- Initial issues
  - Economics of the household
  - Labor market discrimination

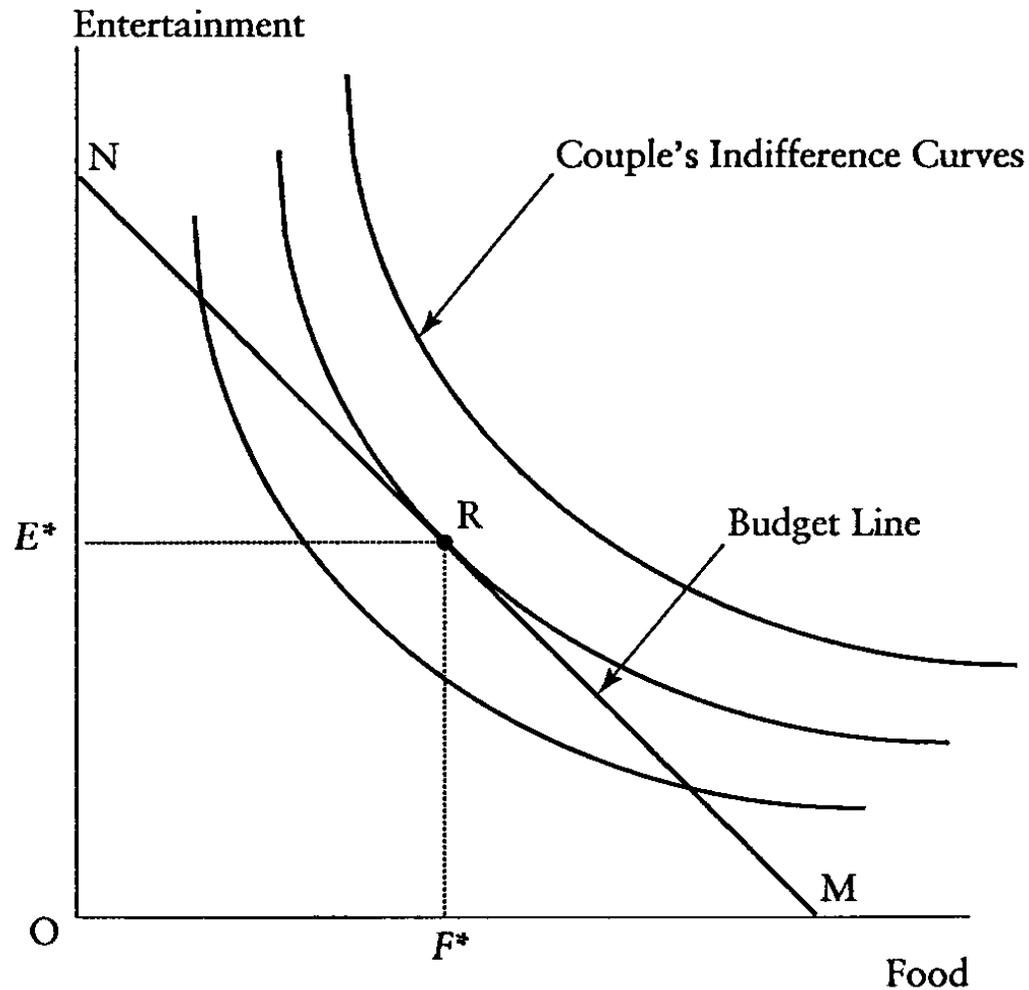


FIGURE 3.1 Resource allocation in the unitary model

## Unitary model

- Should they spend more on entertainment (getting more channels on cable TV) or food (going out to a restaurant a couple of nights a week)?
- How do they decide?
  - Income (Budget line)
  - Preferences (indifference curves)

Whose preferences?

His?



Or hers?



# How are collective models different from unitary models?

- In Unitary models, households behave as if they are a single individual – or there is a (benevolent?) dictator who decides what the household will do.
  - Note that the dictator can be self-interested or altruistic.
- Collective models (a) allow different members to have different preferences or (b) don't necessarily address how preferences lead to a collective choice (you don't have to have a way of adding up utility functions) – you can also decide whether the household is better off or not using some other measure (welfare index)

Quisimbing, A. "Gender and Household Decision-making in Developing Countries: A review of Evidence." In *The International Handbook of Gender and Poverty: Concepts, Research, Policy*, edited by S. Chant. Cheltenham, 161-166. U.K.: Edward Elgar Publishing Ltd, 2010



# How does a change in the threat point affect a change in the outcome?

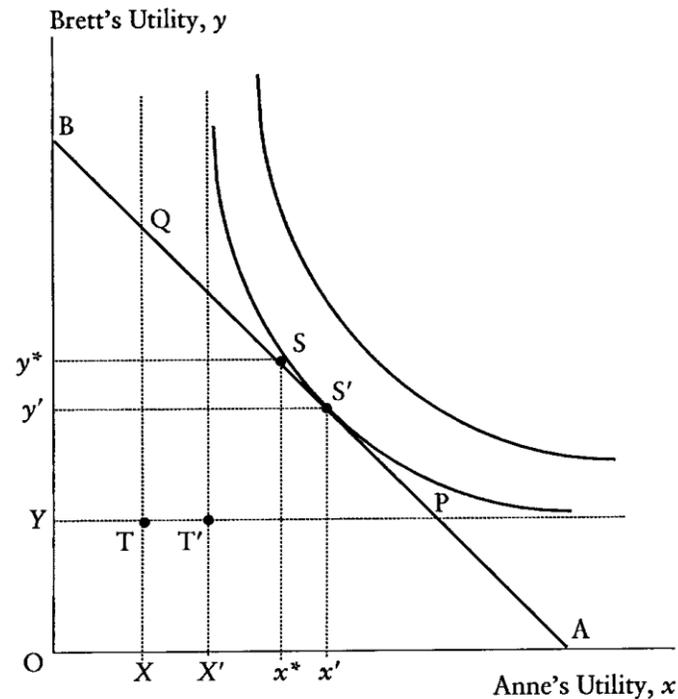


FIGURE 3.5 Illustration of how the Nash bargaining solution changes when Anne's threat utility increases

- If the threat point is at  $T$ , what is the outcome?
- If the threat point shifts to  $T'$  – what does that mean? Whose relative position has improved at  $T'$ ?
- What is the outcome when the threat point shifts to  $T'$ ?

	<b>Bargaining</b>	<b>Non-Bargaining</b>
Cooperative- Pareto efficient	<p>Bargaining power is a function of the outside options of two individuals.</p> <p>Outside option – welfare if not a member of the household.</p> <p>Key policy insight – policies that change outside options affect bargaining power within household. E.g. women’s wages.</p>	<p>Unitary – preferences are identical, and resources are pooled</p> <p>Collective – preferences are different, and modelled</p>
Non- cooperative, Not Pareto- efficient	<p>No enforceable contracts – but actions are conditional on actions of others. HH is the site of largely separate gender-specific economies linked by reciprocal claims on individuals resources (land, goods, labour, income)</p> <p>Net transfers of income (only link) are treated as given; based on that, individual utilities are maximized.</p>	

# Two classes of game theory rooted collective models

- Cooperative Bargaining models
  - Individuals have a choice of remaining single or of forming a household
  - They'll form a household when it they are better off doing so
  - Pareto efficient
- Non-cooperative bargaining models
  - Household the site of large gender-specific economies linked by reciprocal claims on individuals resources (land, goods, labour, income)

Quisimbing, A. "Gender and Household Decision-making in Developing Countries: A review of Evidence." In *The International Handbook of Gender and Poverty: Concepts, Research, Policy*, edited by S. Chant. Cheltenham, 161-166. U.K.: Edward Elgar Publishing Ltd, 2010

# What is the threat point in marriage?

- External - Divorce?
  - Marilyn Manser and Murray Brown (1980)
  - Marjorie McElroy and Mary Horney (1981)
- Internal - Utility from behaving noncooperatively within the marriage
  - Frances Woolley (1988)
  - Shelly Lundberg and Robert Pollak (1993) (Separate spheres)
    - Each person is looking only to his or her well-being, and that only in his/her traditional sphere of activity (withholding from the other the benefits of that activity).
  - Zhiqi Chen and Frances Woolley (2001)

# Does it matter? (Eswaran, p. 76)

	Alternative noncooperation scenarios	
Woman's threat utility scenarios	Divorce	Staying in the marriage, but in separate spheres
(a) Good job	Both these scenarios (Z's) will increase her bargaining power and have a similar outcome and not affect the husband's threat utility because they are both going their separate ways Same NBS in both scenarios	Husband's threat utility (level) will increase because wife has stopped doing some of the housework
(b) Real estate that earns her nonlabor income		Husband's threat utility (level) decreased because he benefits from some of her nonlabor income – her investment in 'public' goods.

# Effect of social norms in otherwise similar cases

- Amartya Sen (1990) *Gender and Collective Choice*
  - Individual self-interest is not often well-defined – socialization can mold preferences and people in a disadvantaged position may not think they are.
- Babcock and Laschever (2003)
  - Women may not ask for what is their rightful due – even if outside options are not different, the outcomes may be different
- Bowles, Babcock and Lai (2007)
  - Payoffs must include the negative reactions that women may face when they violate gender-normative roles
  - *Social norms matter*

# Determinants of threat utility

- Human capital
- Other assets
- Laws – divorce laws, inheritance laws
- Social networks (social networks\*social norms?)
- Control over income
  - Women often join ROSCAs (or other forced savings institutions) in order to get money out of their husbands control – Kibera (Anderson and Baland 2002)

# Factors that led to surge in intra-household research

- (1) the development of new models of household decision-making,
- (2) an increased awareness that paying attention to intrahousehold allocation matters in the design and implementation of development policy,
- (3) the growing availability of data from developing and developed countries with which to test alternative household models, and
- (4) the use of qualitative methods, arising from increased collaboration with anthropologists and other social scientists, to understand non-economic dimensions of human behaviour.

Quisimbing, A. "Gender and Household Decision-making in Developing Countries: A review of Evidence." In *The International Handbook of Gender and Poverty: Concepts, Research, Policy*, edited by S. Chant. Cheltenham, 161-166. U.K.: Edward Elgar Publishing Ltd, 2010

# Research questions/empirical challenge

- Do households behave like unitary or collective households? If collective, how?
- Do people in household pool their resources?
- Measuring bargaining power
- Is there Pareto optimality?
- What determines intrahousehold allocation/threatpoint/exit options?
  - Assets – different types, interactions; assets and marital and inheritance regimes
  - Social norms

# Why do we care?

- We can improve intrahousehold welfare by improving the exit options of disadvantaged groups
- If empowering disadvantaged groups within households (women?) is our goal, we need to know how the household works
  - E.g. of ITDG/Practical Action and Cashew shelling in Sri Lanka
- If there is no Pareto optimality, we can improve overall HH welfare as well
  - Higher share of women's income – higher expenditure on nutrition and education, greater food security – if existing distributions are not Pareto optimal, then strengthening women's control over resource improves everyone's welfare – efficiency gains

# Assets/resources/exit options

- Marital regimes, inheritance regimes
- Governance – if community leaders are women, then infrastructure investment prioritizes women's needs
- Tangible – physical and financial
- Human, social and political capital

# Evidence for bargaining models – different preferences

- Duncan Thomas (1990) national sample of Brazil
  - Preferences of wives and husbands differ, wives spend more on public goods that improve outcomes of health, nutrition and education.
  - Unearned income better (for analysis) because it keeps other things like HH labour supply constant
  - Unearned income in wives hands increased hh demand for nutrition by 4 times the same income in husbands hands, and child survival increased by 20 times.
- Esther Duflo (2003) – grandmothers and granddaughters
  - The effect of unearned income (pension) to black grandmothers in South Africa in the early 1990s (after the end of apartheid) improved health status (measured by WHZ and HAZ scores) of granddaughters (but not grandsons)
- John Hoddinott and Lawrence Haddad (1995)
  - Income in the hands of women increases budget share of food and decreases share of alcohol and cigarettes

# Evidence for bargaining models

- Agnes Quisumbing and John Maluccio (2003)
  - Bangladesh, Ethiopia, Indonesia, South Africa – 3 out of the 4 countries, unitary model was rejected. Women spent more on children's education.

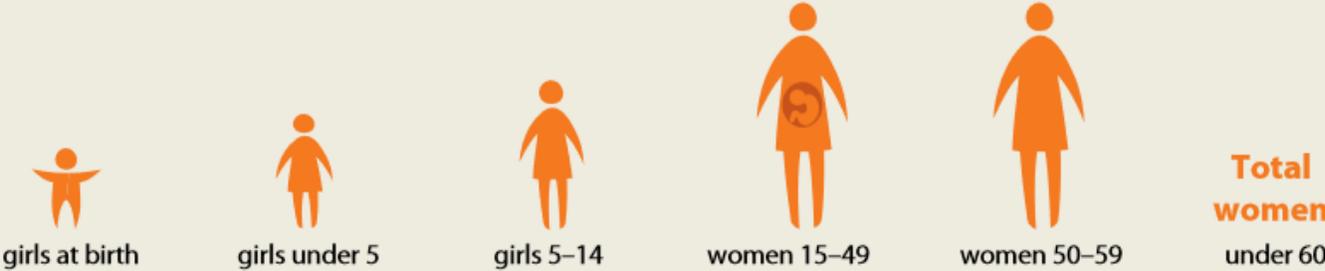
# Matlab area of Bangladesh – Anderson & Eswaran (2009)

- Women had 3 options
  - Housework only
  - Helping husbands on farms
  - Earning independently
- Those in (iii) had more autonomy than (i), but those in (ii) did not.
- The crucial thing is not working outside the hh, but having control over the income.

**TABLE 1** *Almost 4 million missing women each year*

Excess female deaths in the world, by age and region, 1990 and 2008

(thousands)



	girls at birth		girls under 5		girls 5–14		women 15–49		women 50–59		Total women under 60	
	1990	2008	1990	2008	1990	2008	1990	2008	1990	2008	1990	2008
<i>China</i>	890	1,092	259	71	21	5	208	56	92	30	1,470	1,254
<i>India</i>	265	257	428	251	94	45	388	228	81	75	1,255	856
<b>Sub-Saharan Africa</b>	42	53	183	203	61	77	302	751	50	99	639	1,182
<i>High HIV-prevalence countries</i>	0	0	6	39	5	18	38	328	4	31	53	416
<i>Low HIV-prevalence countries</i>	42	53	177	163	57	59	264	423	46	68	586	766
<b>South Asia (excluding India)</b>	0	1	99	72	32	20	176	161	37	51	346	305
<b>East Asia and Pacific (excluding China)</b>	3	4	14	7	14	9	137	113	48	46	216	179
<b>Middle East and North Africa</b>	5	6	13	7	4	1	43	24	15	15	80	52
<b>Europe and Central Asia</b>	7	14	3	1	0	0	12	4	4	3	27	23
<b>Latin America and the Caribbean</b>	0	0	11	5	3	1	20	10	17	17	51	33
<b>Total</b>	1,212	1,427	1,010	617	230	158	1,286	1,347	343	334	4,082	3,882

Source: WDR 2012 team estimates based on data from WHO (2010) and United Nations Department of Economic and Social Affairs 2009.

Note: Totals do not necessarily add up due to rounding.

# Son preference and bargaining power

- Li and Wu (2011)
- Sex preference only shows up in second and subsequent births
- So, only first borns were analysed
- Bargaining power greater (for women whose firstborns were sons) in
  - Decision making
  - Nutrition (even when children were too young to earn)



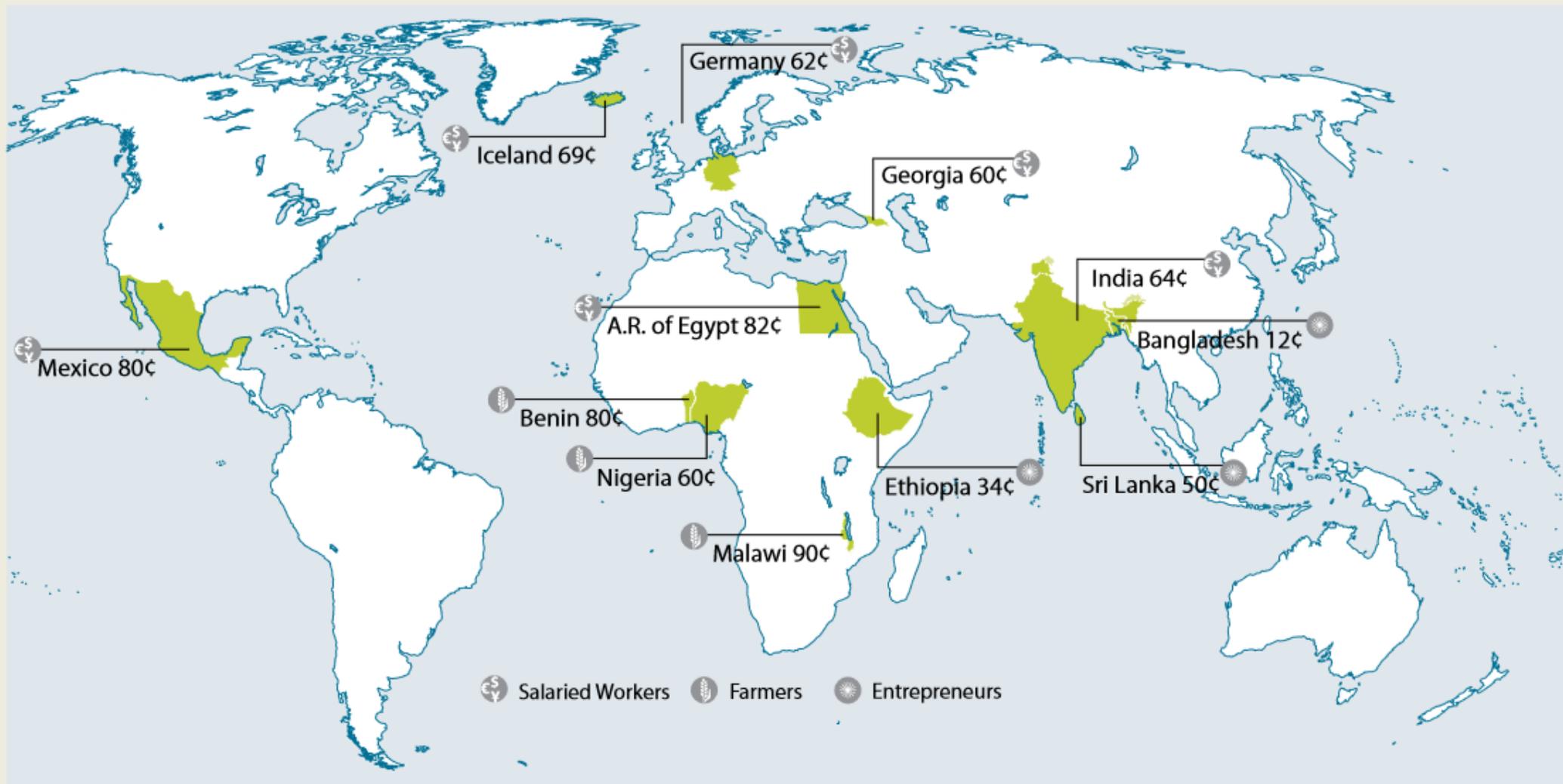
# Gender wage gaps

Why do women earn less than men on average? (Or across the distribution?)

# Outline

- Women earn less than men on average – is it due to discrimination?
- What is discrimination?
- Theories of discrimination
  - Taste for discrimination
  - Statistical discrimination
  - Efficiency wage discrimination
  - Employment discrimination
- What's in the residual?

**MAP 1** *Earnings Gaps between Women and Men (female earnings relative to \$1 of male earnings)*



Sources: Data for Benin come from Kinkingninhoun-Médagbé and others 2010; for Malawi from Gilbert, Sakala, and Benson 2002; for Nigeria from Oladeebo and Fajuyigbe 2007; for Bangladesh, Ethiopia, and Sri Lanka from Costa and Rijkers 2011; and for Egypt, Georgia, Germany, Iceland, India, and Mexico from LABORSTA, ILO.

# Why do women earn less than men on average?

- Human capital differences – education and experience
- Gender differences in occupations
- Unions
- Once all these are accounted for (comparing men and women identical in respects of productivity related characteristics), there is still a “residual” wage gap – 9-17% in U.S. (Blau and Kahn 2007)
- Working conditions (Compensating wage differentials) – about 2/5<sup>th</sup> of the gender wage gap (Randall Filer 1985)

# Blau and Kahn (2003)

- 22 countries, 1985-1994
- Countries that have more egalitarian wage gaps tend to have lower gender wage gaps – why would this be?
- Because women tend to be concentrated at the bottom of the wage distribution

# What is discrimination?

*Are women given different treatment than men by employers simply because they are women?*

# Like men, only cheaper.



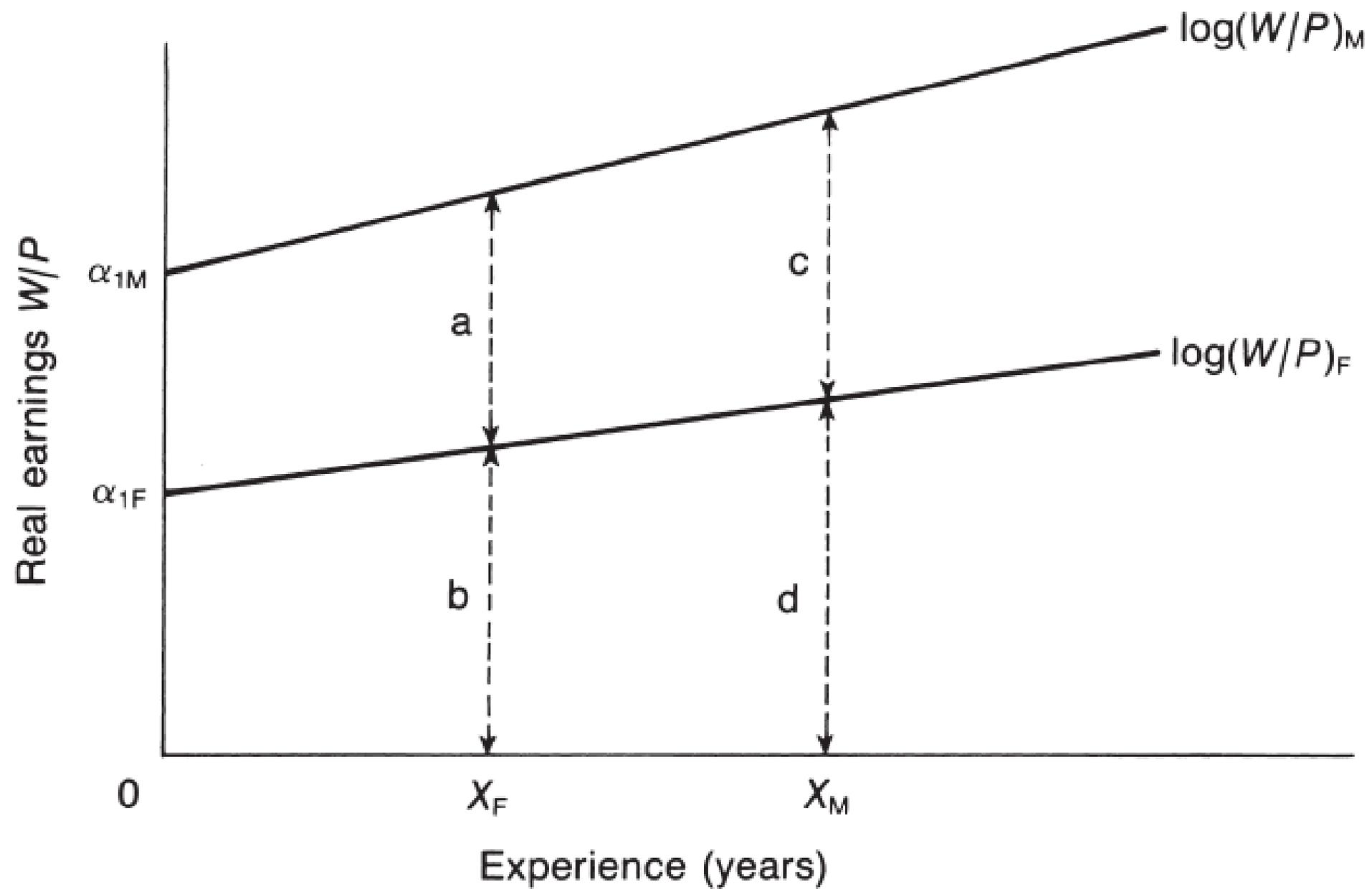


Figure 6.6

# Measuring wage discrimination continued

- The extent of discrimination can be estimated by putting average female work experience  $X_F$  into the male earnings function and predicting what males would have earned, then calculate the difference between this and actual female earnings.
- This gives us the difference  $a$  as an estimate of discrimination or the ratio  $a/b$  to arrive at a proportionate measure of the discrimination against women.
- Another estimate can be obtained by looking for the discrimination in favour of men. This is calculated by predicting what females would earn if they had the same work experience as men,  $X_M$ , and measuring the difference between this prediction and what males actually earned. This gives us the difference  $c$ , or the ratio  $c/(c + d)$ .

# Traditional Factors Affecting the Gender Pay Gap:

- Education and type of education
  - Labor Force Experience and Work Hours
  - Gender differences in Formal Training and Turnover
  - Occupations, Industries and Firms
- 
- Note: differences in these could be the result of pre-labor market discrimination as well

# Oaxaca-Blinder Framework

- Gender gap accounted for by gender differences in measured characteristics – explained portion of the gap
- Rest (residual gap) is unexplained – discrimination?
- Omitted variable bias
  - Discrimination is overstated if men have higher levels of unmeasured productivity (or poorer working conditions)
  - Discrimination is understated if women have better unmeasured characteristics (like people skills)
- Also, what if lower characteristics are themselves due to discrimination – directly, or indirectly through feedback effects?

# QR

- Mean effects
  - 95% of work in econometrics looks at mean effects. But what if distribution matters?
  - Unconditional distributions –  $Y$  or  $\ln W$  or whatever
  - Difference between male and female unconditional distribution is the raw wage gap at each distribution
  - Conditional distributions –  $Y_{hat}$  or  $\ln W_{hat}$
  - Counterfactual distributions

# Chernozhukov, Fernandez-Val and Melly

(7) Is the unconditional male wage distribution with male characteristics and the male wage function

$$(7) \quad F_{Y[m,m]}(y) = \int F_{Ym|Xm}(y|x) dF_{Xm}(x)$$

(8) Same, with female

$$(8) \quad F_{Y[f,f]}(y) = \int F_{Yf|Xf}(y|x) dF_{Xf}(x)$$

(9) Is the counterfactual distribution – if females (with female characteristics) were rewarded like men.

$$(9) \quad F_{Y[m,f]}(y) = \int F_{Ym|Xm}(y|x) dF_{Xf}(x)$$

# Pre-labor market discrimination – applies to this list

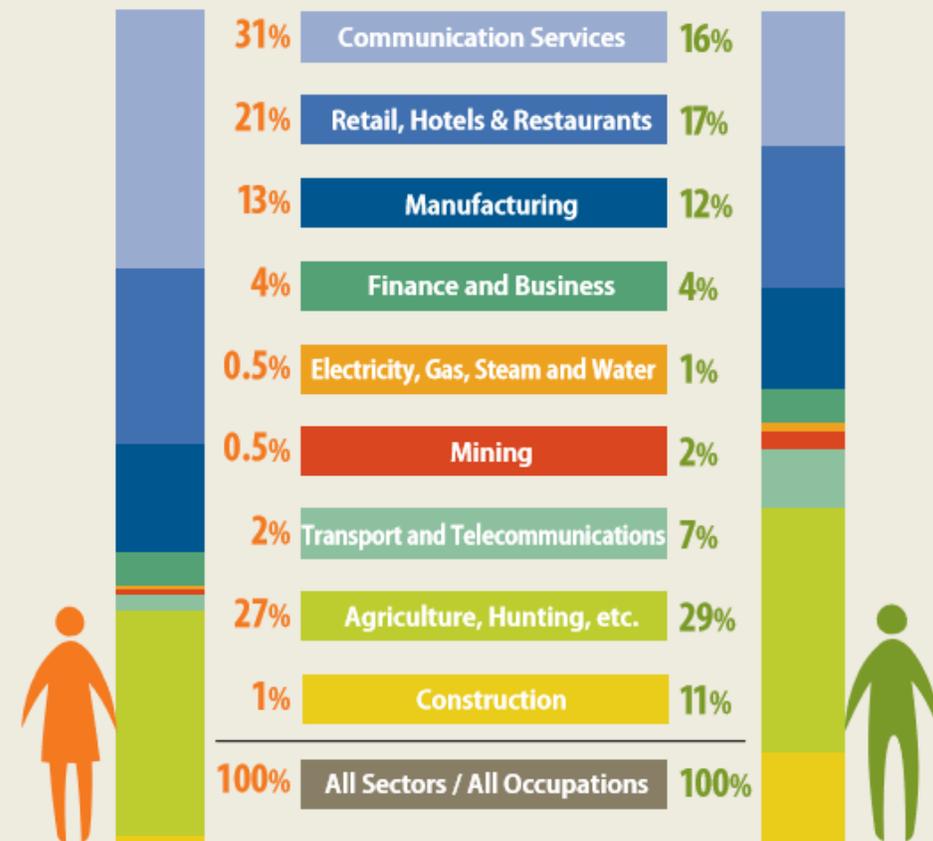
- Labour Force Participation
- Selection and the Gender Wage Gap
- Type of education
- Labor Force Experience and Work Hours
- Gender differences in Formal Training and Turnover
- Gender division of labour and motherhood
- Occupations, Industries and Firms

# Occupational segregation or occupational choice?

Women and men work in different sectors. “Women are more likely to be in low-productivity activities. More likely to be in wage or unpaid family employment...or in the informal wage sector.”

**FIGURE 8** *Women and men work in different sectors*

**distribution of female / male employment across sectors**



Source: WDR 2012 team estimates based on ILO 2010 (77 countries).

Note: Totals do not necessarily add due to rounding.

# Directly testing discrimination

Blind auditions

Resumes



I just don't think women  
should be in an orchestra

Goldin and Rouse, *Orchestrating Impartiality*  
(2000)



# Why Discrimination?

- Becker's (1957, 1971) model of racial discrimination – as taste
  - Employers, co-workers, customers or clients
  - Disappears with competition
- Why does discrimination persist?
  - If you have monopsony + lower female elasticity of labor supply
  - Statistical discrimination (Phelps, 1972)
    - Assumes uncertainty or imperfect information (about where individuals are on the distribution)
    - Disputed by Aigner and Cain (1977) – if women's productivity is on average less than men's, they will be paid less – but equal to their productivity – so not discrimination.
    - Feedback effects – self-fulfilling prophecy
  - Implicit discrimination (Bertrand, Chugh and Mullainathan 2005)
- Occupational segregation (Bergmann 1974)
- Compensating wage differentials

# Theories of discrimination

- Discrimination – gender, but applies to race, disability, etc.
- Becker's theory of discrimination – neoclassical taste model
- Employment discrimination
- Segmented labour markets – Barbara Bergmann – Job crowding
- Empirical evidence – measuring discrimination
- Marriage and children
- Growth and discrimination

# Over time – with competition

- The neoclassical model of discrimination predicts that over time, discrimination will disappear.
- This is because non-discriminating firms will prefer to hire women (whose wage is less than men, but productivity is just the same).
- As their profits increase, discriminating firms will be compelled to hire women as well, or leave the market.

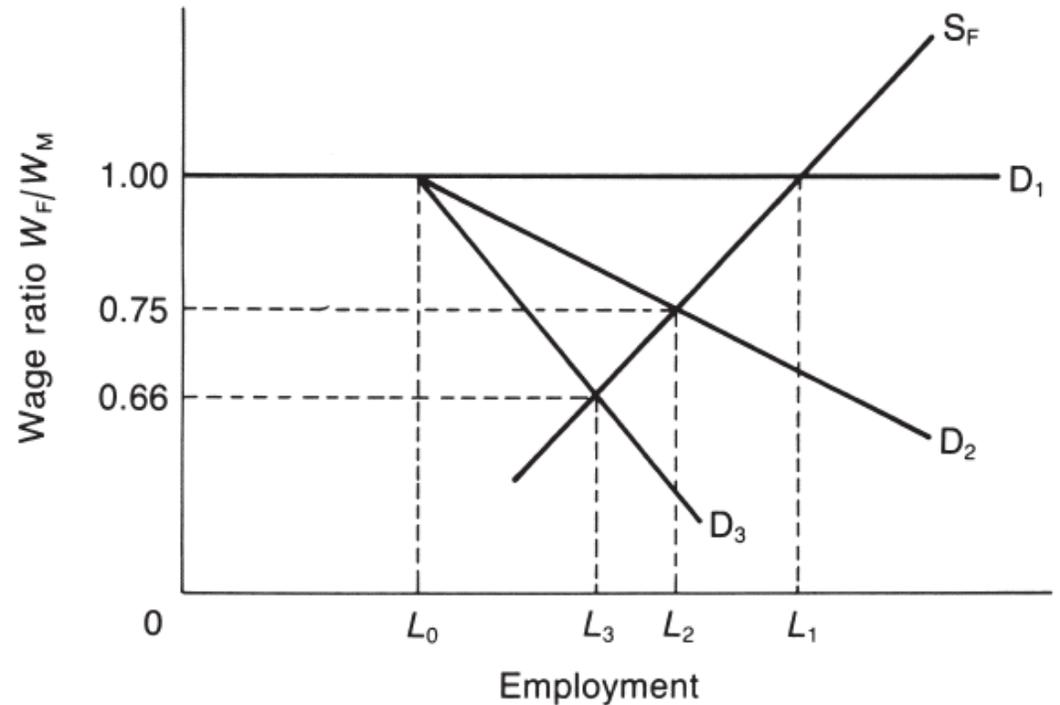


Figure 6.3

# Monopsony and *labour immobility*

- Total employment,  $0-L_M$ , such that marginal revenue productivity equates to the male wage rate,  $MRP = W_M$ . For females the firm sets their marginal cost equal to their marginal revenue productivity,  $MC_F = MRP$ .
- The female wage rate ( $W_F$ ) is set equal to the supply price of female workers at the equilibrium level of female employment  $L_F$ .
- Male employment amounts to  $L_M - L_F$  and a wage differential of  $W_M - W_F$  is observed in a profit maximising equilibrium.

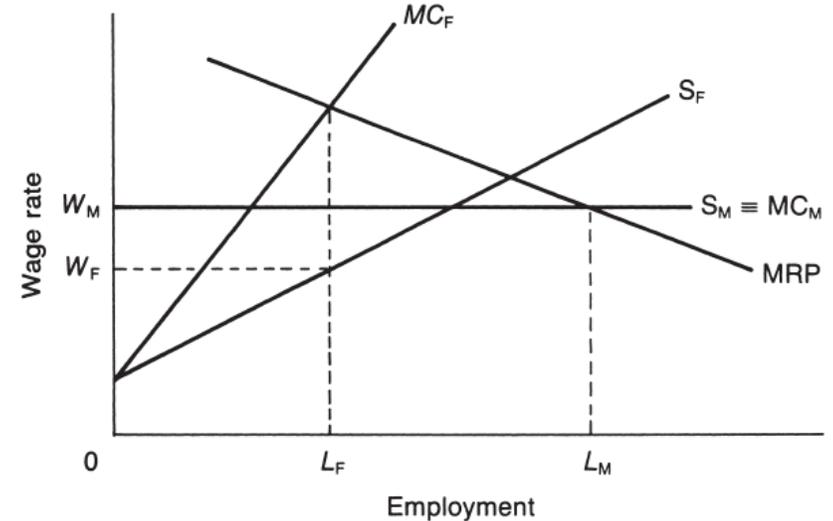


Figure 6.4

# Marriage and children and female wages

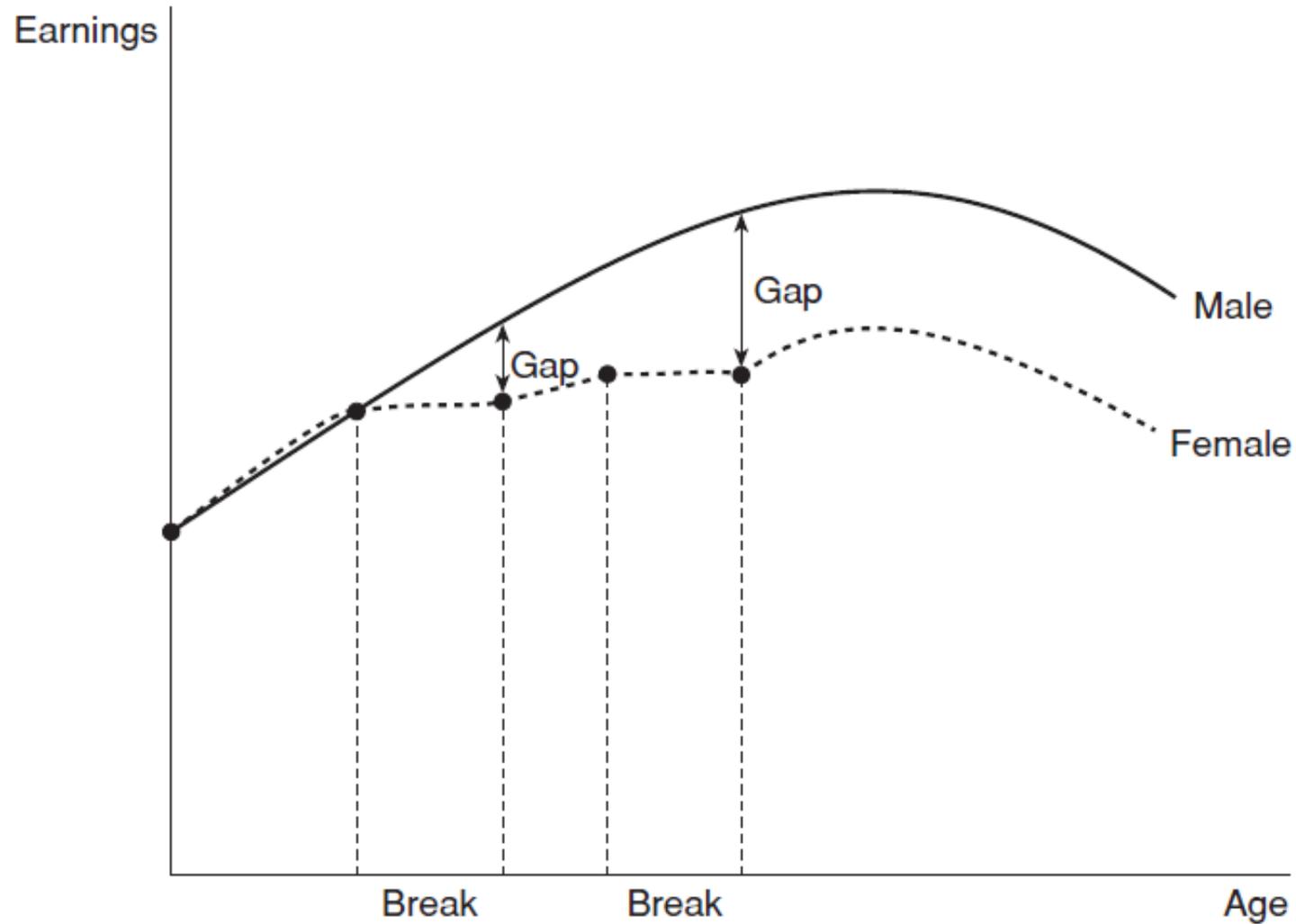
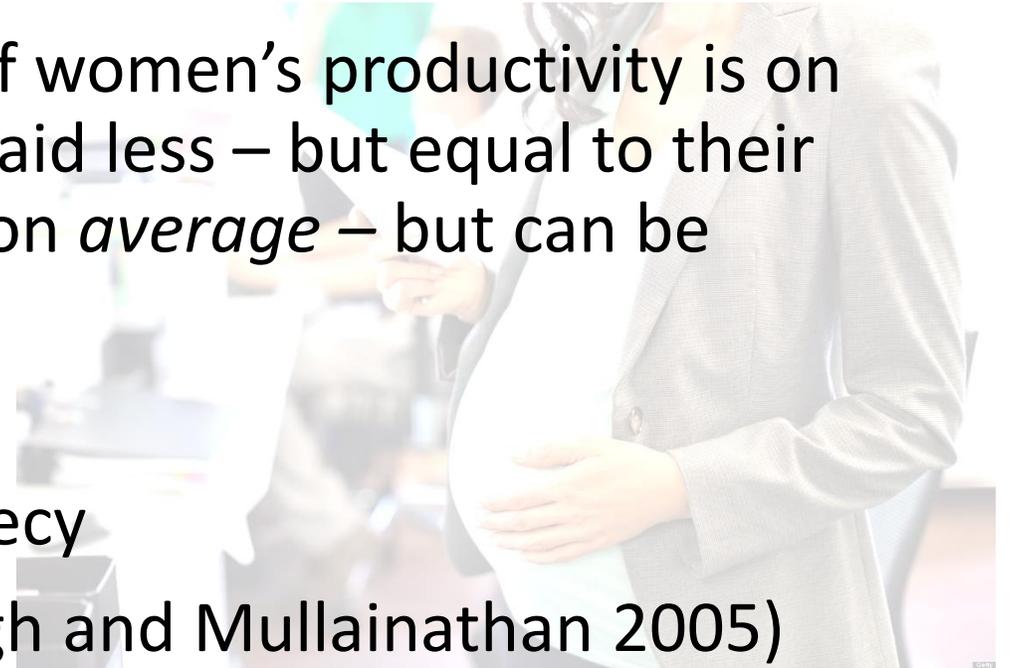


Figure 6.7

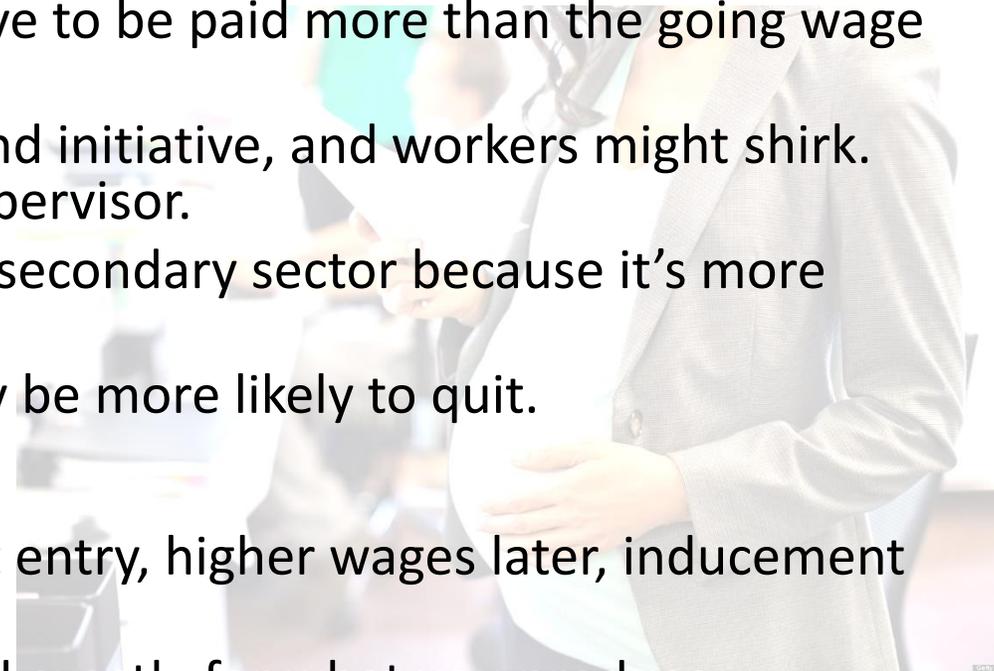
# Statistical discrimination (Phelps, 1972)

- Assumes uncertainty or imperfect information (about where individuals are on the distribution)
- Disputed by Aigner and Cain (1977) – if women's productivity is on average less than men's, they will be paid less – but equal to their productivity – so not discrimination – on *average* – but can be discrimination for an individual
- Feedback effects – self-fulfilling prophecy
- Implicit discrimination (Bertrand, Chugh and Mullainathan 2005)



# Efficiency wage theory of distribution

- Bulow and Summers (1986)
  - Dual labor market with “Good” jobs and “bad” jobs
  - In the good jobs sector (Primary) workers have to be paid more than the going wage rate – why?
  - Work (especially good jobs) requires effort and initiative, and workers might shirk. Cheaper to pay them more than to hire a supervisor.
  - Women might prefer to work in the cheaper secondary sector because it’s more compatible with household production.
  - Or, if they are in the primary sector, they may be more likely to quit.
- Goldin (1986) - early 1900s
  - Men are paid time rates (plus lower wages at entry, higher wages later, inducement to stay in the labor force),
  - Women piece rates – prevents shirking – paid exactly for what you produce.



# Segmented labour markets – Job crowding hypothesis

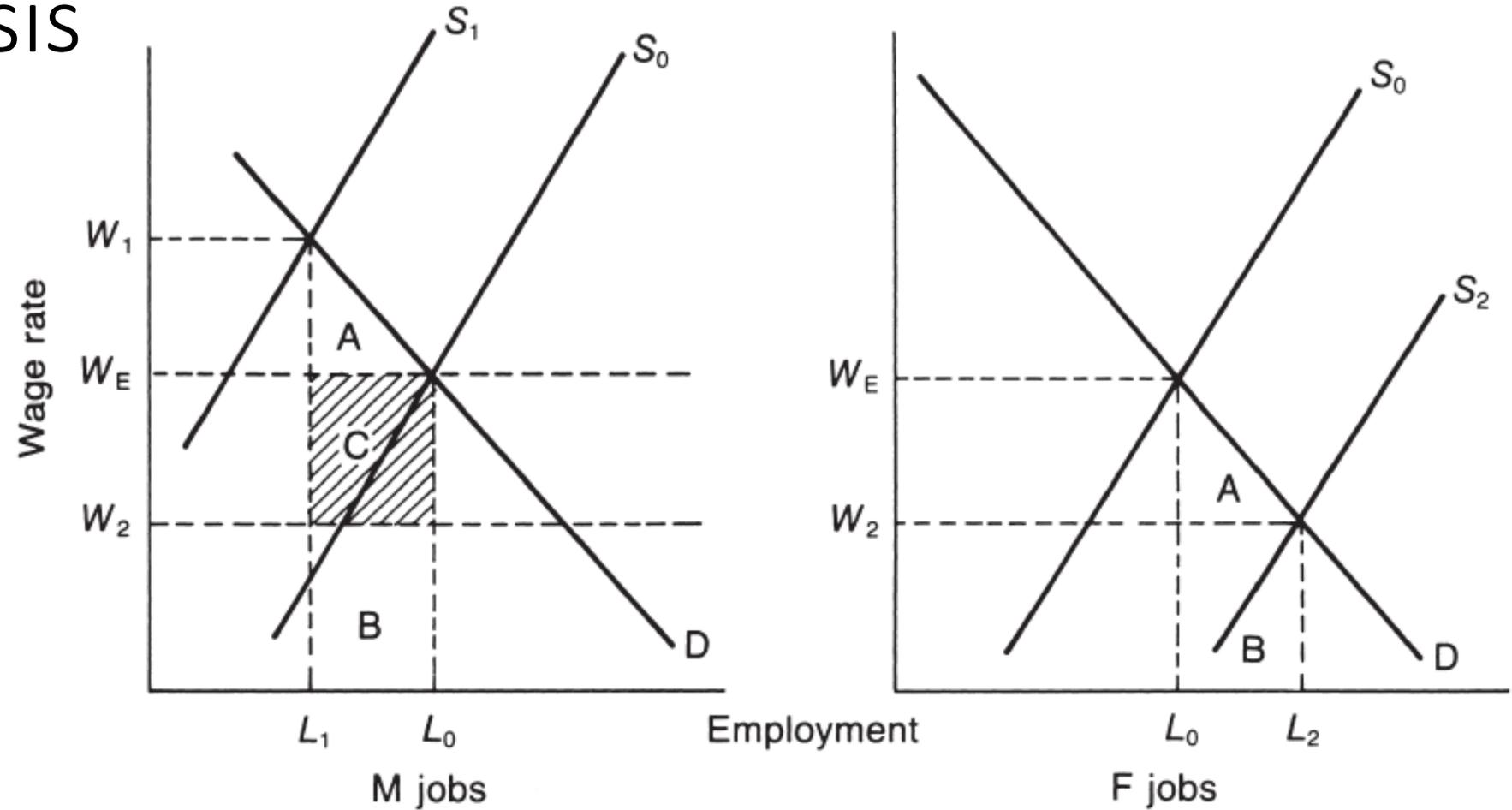


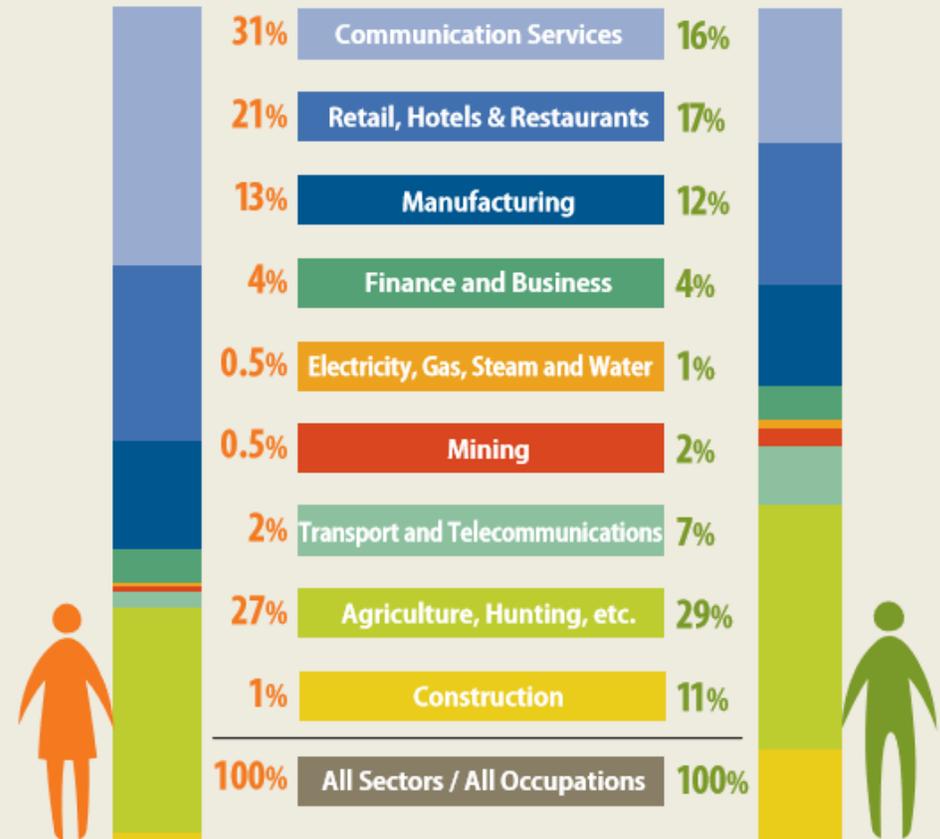
Figure 6.5

# Occupational segregation or occupational choice?

Women and men work in different sectors. “Women are more likely to be in low-productivity activities. More likely to be in wage or unpaid family employment...or in the informal wage sector.”

**FIGURE 8** *Women and men work in different sectors*

**distribution of female / male employment across sectors**



Source: WDR 2012 team estimates based on ILO 2010 (77 countries).

Note: Totals do not necessarily add due to rounding.

# Undervalued and underpaid: Women in Low-Wage Female Dominated Jobs



The gender division of labor underlies occupational segregation / choice

“The differing amounts of time that men and women allocate to care and related household work are one factor driving segregation and the consequent earnings gaps.” – WDR 2012 overview, p. 19

“The differing amounts of time that men and women allocate to care and related household work are one factor driving segregation and the consequent earnings gaps” – WDR 2012 overview, p. 17

Women’s participation and occupational choice are influenced by the gender division of labor, social norms, and household responsibilities

**FIGURE 10** Across the world, women spend more hours per day on care and housework than men



# Employment discrimination

- Thus if the wages of females depend upon their productivity and the discrimination they encounter,

$$W_F = MRP_F - D_F$$

where  $D_F$  is a discrimination factor, then at any level of the job structure, say at level  $i$

$$W_F = W_i = MRP_i = MRP_F - D_F.$$

- Therefore in order to obtain and maintain employment at level  $i$  in the job structure, females need to exhibit a productivity equal to

$$MRP_F = MRP_i + D_F.$$

- In other words women must always work to a higher standard than their male colleagues at any given level of the job hierarchy and to a higher standard than the job actually requires.

# Why? See Eswaran, p. 124

- Because women are expected to quit
- Because different jobs have different “investment” levels
  - Job A requires investment, Job B doesn't
- Both high ability and low ability workers will do better in Job A than B, and at the same rate  $5/4 = 100/80 = 200/160$
- Any difference arises from quit rates (likelihood of quit is 25% for women, 0% for men)
- Firm assigns only high ability females to Job A (but for males, both abilities) – in other words, women have to compensate for probability of quitting by being of higher ability
- In Job B, it does not matter if they quit



# New Economics of Gender

- Non-experimental (survey based) – psychological attributes and the gender wage gap
- Experimental: four major research areas
  - Risk attitudes
  - Attitudes to competition
  - Social preference (caring about others)
  - Attitudes to negotiation
- Nature or nurture?
- Gender Identity

# Norms, Psychological Attributes and Noncognitive Skills

- Do gender differences in these explain the small, but persistent, unexplained gap?
  - Women less willing than men to negotiate and compete, and to be more risk-averse (Bertrand 2011, Croson and Gneezy 2009)
- Caveats:
  - Even if there are such gaps, they are not immutable. The nature vs. nurture research agenda is still ongoing.
  - Whatever their origin, gender differences may be malleable (women can be taught negotiating skills)
  - Even when there are gender gaps, they may not necessarily favour men – women may have more “people” skills (Borghans, ter Weel and Weinberg 2014)
  - Methods – labs (generalizability) vs. survey data (endogeneity and what is being measured)

# Personality Traits

- Bowles, Gintis, and Osborne (2001) and Borghans et al. (2008a, 2008b), analyze how a broader set of personality traits and characteristics affect behaviors and labor market outcomes. The most common approach in the literature is to consider personality traits part of an individual's set of productive traits, just like cognitive skills, and to value them directly in the market.
- Systematic gender differences in traits can translate into differences in earnings, partially through occupational segregation. Personality traits can also influence earnings through preferences, including risk aversion and the taste for competition. However, evidence on gender differences in negotiation skills and in how employers view these skills suggests that labor market returns to these skills can differ by gender in a way that is similar to “discrimination” in the previous generation analyses of gender wage gaps.

# Measures of non-cognitive skills (personality traits and socioemotional skills)

## **Big Five Traits**

- Openness to experience
- Conscientiousness
- Extraversion
- Agreeableness
- Emotional stability

## **Other models**

- Grit
- Hostile attribution bias
- Decision-making
- Risk-taking
- Time-preference
- Locus of control

- Agreeableness and neuroticism are most consistently associated with gender differences (women more than men) (Bouchard and Loehlin 2001), while some research finds the same for extraversion and openness (Mueller and Plug 2006).
- This research also suggests that there are positive returns to being open for both men and women, that men earn a premium for being antagonistic (i.e., not agreeable) and that women earn a premium for being conscientious (Mueller and Plug 2006).

**Table 2. Definition of personality traits and behaviors included in the STEP instrument**

Domains	Domain items
Openness to experience	Do you come up with ideas other people haven't thought of before? Are you very interested in learning new things? Do you enjoy beautiful things such as nature, art, and music?
Conscientiousness	When doing a task, are you very careful? Do you prefer relaxation more than hard work? [R] Do you work very well and quickly?
Extraversion	Are you talkative? Do you like to keep your opinions to yourself? Do you prefer to keep quiet when you have an opinion? [R] Are you outgoing and sociable—for example, do you make friends very easily?
Agreeableness	Do you forgive other people easily? Are you very polite to other people? Are you generous to other people with your time or money?
Emotional stability	Are you relaxed during stressful situations? Do you tend to worry? [R] Do you get nervous easily? [R]
Grit	Do you finish whatever you begin? Do you work very hard? For example, do you keep working when others stop to take a break? Do you enjoy working on things that take a very long time (at least several months) to complete?
Decision making	Do you think about how the things you do will affect you in the future? Do you think carefully before you make an important decision? Do you ask for help when you don't understand something? Do you think about how the things you do will affect others?
Hostile attribution bias	Do people take advantage of you? Are people mean/not nice to you?
Risk taking	Hypothetical situation: Respondents were asked to choose between joining a lottery for a larger sum and being assured a safe but smaller amount (seven-item risk-preference scale)
Time preference	Hypothetical situation: Respondents were asked to choose between receiving a smaller payment sooner and receiving a larger payment later

Sources: Pierre et al. (2014); Gunewardena (2015)

Notes: For each item, response categories range from 1 to 4: (1) almost never; (2) sometimes; (3) most of the time; (4) almost always. The score of each domain is the average of scores for individual items. "R" refers to items that are reversely coded for this aggregation. \*In Wave 2, two additional questions were added: Q.1.25, "Do you like to share your thoughts and opinions with other people, even if you don't know them very well?" can be used instead of Q.1.04; and Q.1.26, "Do you get very upset in stressful situations?" can be used instead of Q.1.05.

# Attitudes to risk and competition

Evidence from experimental studies

# *Niederle and Vesterlund (2007):*

- Experiment:
  - Subjects given a task that has no gender advantage. Task is completed, and results made known, but not *relative* performance. A choice given between a non-competitive compensation scheme (piece rate) and a competitive one (tournament, where only highest scorer of a group of 4 gets compensated).
- Results
  1. Men compete more than women.
  2. Low performing men chose to compete more than high performing women.
  3. Low performing men competed too much (they would have earned more if they took the non-competitive option) and high-performing women competed too little.
- Interpretation:
  - Gender difference in attitude towards competition could lower women's relative pay and lead them to avoid certain occupations or business settings.
  - Buser, Niederle and Oosterbeek (2012) tracked students @ age 15 with their subsequent education choices – boys (with similar academic ability) were more likely to choose the more prestigious profile.

# Flory, Leibbrandt and List (2015)

- Job-seekers randomly assigned to viewing online job advertisements with different compensation schemes.
- The more heavily the compensation package is tilted toward own reward vs. co-worker reward, the more the applicant pool shifted toward being more male dominated.
- Sex type of the job mattered – no gender differences in propensity to apply for the job if it were “female” – strong interaction between gender role or identity of the job and men’s and women’s propensity to compete.
- Highly competitive regime disproportionately attracted low-ability males.

# Nuances in gender differences in competition

- Gender gap in competition is only partially explained by male overconfidence and is not explained by gender differences in risk attitudes or women's greater aversion to negative feedback (Borghans et al. 2008a; Borghans et al. 2008b), and is best interpreted as women having less of a taste for competition.
- Gneezy, Niederle, and Rustichini (2003) find that women do as well as men in single-sex tournaments.
- Niederle and Vesterlund (2007) find that women are willing to enter competitive environments in quota-like affirmative-action-type settings. Based on these results Bertrand (2011) reaches the tentative conclusion that although the research agenda is new, and results are too thin to be conclusive, this literature seems to imply support for affirmative action-type policies on efficiency grounds (in addition to equity considerations).

# Implications for policy

- Whether gender differences in preferences and personality traits have their roots in nature or nurture matters for policy.
- If the latter, then there is a role for well thought-out educational reforms to address gender gaps in attitudes and non-cognitive skills like risk aversion, for example.
- On the other hand, if nature were at the root of gender differences in the willingness to operate in a competitive environment, affirmative action policies may be the best way to ensure that higher-ability women are included in competitive settings (Bertrand 2011).
- Evidence from a case study of the patriarchal Maasai in Kenya and the matriarchal Khasi in India supports the theory that gender differences are rooted in environment (Gneezy, Leonard, and List 2009), as does evidence from single-sex vs. mixed schools in England, where girls in mixed schools were more risk averse and less willing to compete than their single-sex school counterparts (Booth and Nolen 2009).

# Risk Aversion: Croson and Gneezy (2009)

- In the general population, women are on average, more risk averse than men. Compensating wage differentials plus risk-aversion of women could explain part of the wage gap.
- But, not so among mutual fund managers – is it selection (only risk-loving women self-select into these occupations) or is it learning (people who initially differ in risk propensities learn from their environment).

Nature or nurture?

# Support for the nurture, rather than nature

- In a patriarchal society (Maasai of Tanzania), men opted to compete at twice the rate of women. In matrilineal/matrilocal society, where inheritance and residence are determined by female lineage (Khasi of India), women chose the competitive environment more often than men (Gneezy, Leonard and List, 2009).
- Single-sex vs. mixed schools in England, where girls in mixed schools were more risk averse and less willing to compete than their single-sex school counterparts (Booth and Nolen 2009).

# Cognitive skills – nurture or nature?

- Bertrand (2011)'s review cites field research with the Karbi (patrilineal) and Khasi (matrilineal) in India that suggests that gender differences in spatial abilities (cognitive) are also environmentally determined.
- Studies that analyze cross-country variation in the gender gap in math scores find that when controlling for sexism (using measures such as the World Economic Forum's Gender Gap Index) the male-favoring gender gap in math becomes smaller and the female-favoring gap in reading becomes larger, providing support for the theory that an environment of gender inequality can foster gender disparities in skills.

# Altruism

- Bertrand (2011) also reviews the field evidence that is consistent with a higher level of altruism and stronger preferences for redistribution among women - draws from recent evidence in the context of political preferences of women in developed countries.
- Bertrand concludes that the evidence suggests there might be true psychological differences between men and women in the strength of their social preferences, which may lead women to settle for lower wages. The literature also suggests that individuals that exhibit more greed and less altruism earn more.

# Evidence from experimental studies

- Negotiation

- For women, negotiating is less acceptable behavior (less likely to negotiate when it is not made explicit that they can negotiate), and they will negotiate if told that it is appropriate (Field experiment, Leibbrandt and List, forthcoming)
- Gender differences are reduced when women are negotiating on behalf of someone else (Mazei et al. 2015)
- Participants (of any sex?) in a lab experiment by Bowles, Babcock and Lai (2007) negatively evaluated female managers who negotiated, but not male managers who did the same.
- Negotiation is a form of bargaining – to the extent that there is discrimination in the labor market, the expected gain for women from bargaining will be smaller. Also, if they are aware that negotiation is viewed negatively, they will refrain from doing so.

# Norms and Gender Identity

- Akerlof and Kranton (2010) concept of identity: sense of belonging to a social category, combined with a view about how people who belong to that category behave. Departures from these norms generate costs, so people seek to avoid them.
- identity directly enters the utility function so that the economic actions can in part be explained by a desire to conform with one's sense of self, and can be used to explain why women who are employed in the labor market still do a disproportionate share of non-market work.

# Gender and Identity

- Research by Fortin (2005) uses the World Values Survey that elicits information on egalitarian (or otherwise) social attitudes and social representation of women as homemakers and men as breadwinners, and attitudes such as “mother’s guilt” and finds that these attitudes are closely associated with the female labor force participation decision.
- Studies that examine the intergenerational transmission of gender role attitudes (Farre and Vella 2013; Fernandez, Fogli, and Olivetti 2004), find evidence that female labor force participation is associated with having parents (mothers or mothers-in-law in the former case) with less traditional views of the role of women.
- As with risk attitudes and attitudes toward competition, girls who attend single-sex schools are less likely to hold stereotypical views of gender roles even after they no longer attended these schools.

# Norms, identity and discrimination

- Tradition or economics? Why do norms persist? Can changing prices change “norms”?
- Women and men internalize social norms and expectations in ways that affect not only their own aspirations, behaviors, and preferences but also those of their children.
- Norms may be learned in the household, but they are often reinforced by market signals and institutions, which are gender biased in many aspects.
  - For example, gender differences in the responsibility for house and care work, as just discussed, are rooted in gender roles but strengthened by discrimination in labor markets and by a lack of child-care services. At the root of gendered patterns of what men and women study is a combination of factors that feed into household decisions (norms about what is appropriate for girls and boys), institutions (gendered education systems), and markets (gendered networks and occupational segregation).

# Norms, identity and discrimination

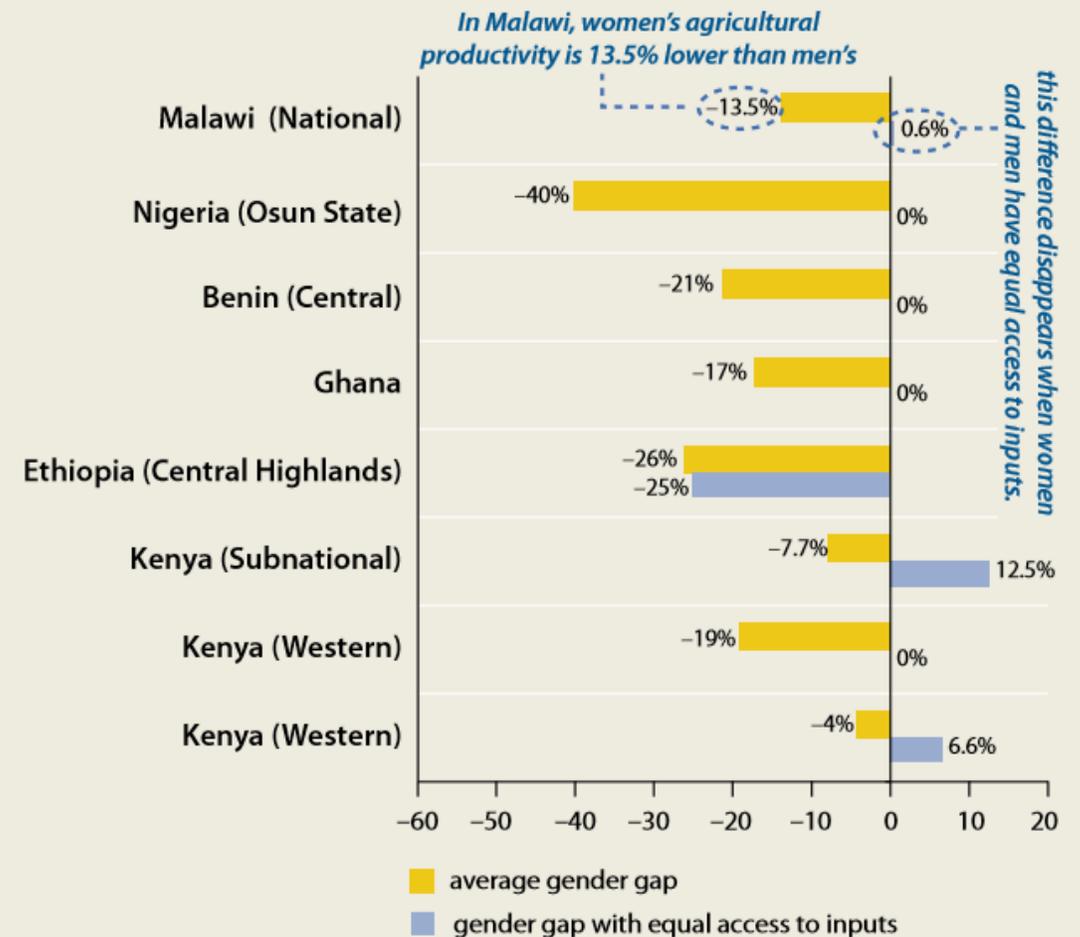
- “When few women are employed, employers may hold discriminatory beliefs about women’s productivity or suitability as workers—these beliefs can persist if there are no mechanisms in place to correct them. Access to information about jobs, and support for promotions and advancement, often occur in gendered networks, hurting women trying to enter a male-dominated field (or equally hurting men trying to enter a female-dominated one, such as nursing). And sometimes, legal barriers, framed as protective measures, prevent women from entering some sectors or occupations” WDR 2012 overview, p. 19
- In sum, whether women are farmers, entrepreneurs, or workers, many are caught in a productivity trap: working hard on an uneven playing field with unequal access to productive inputs. This trap imposes significant costs on women’s welfare and economic opportunities today—and serious disincentives to invest in the women of tomorrow. “

# Productivity differences are linked to unequal access to assets, finance and technology

“A second factor driving segregation in employment and earnings gaps is differences in human and physical endowments (including access to assets and credit). “

” – WDR 2012 overview, p. 17

**FIGURE 11** Gender differences in agricultural productivity disappear when access to and use of productive are taken into account



Source: Alene and others 2008; Gilbert, Sakala, and Benson 2002; Kinkinninhoun-Médagbé and others 2010; Mook 1976; Oladeebo and Fajuyigbe 2007; Saito, Mekonnen, and Spurling 1994; Vargas Hill and Vigneri 2009

- “In agriculture and entrepreneurship, large and significant gender disparities in access to inputs (including land and credit) and in asset ownership are at the root of the gender productivity gap. Indeed, yield differences for female and male farmers disappear altogether when access to productive inputs is taken into account (figure 11). Differences in access to inputs may be further compounded by differences in the availability of “market time,” as noted above, which can make the same investment less productive for women than for men. Jointly, these constraints mean that women entrepreneurs and farmers are often restricted to businesses and activities that are less profitable and less likely to expand.”

# Ditching that dummy

Remittances impact on youth labour supply

# Effects of migration and remittances on labour supply of household members—income effects

- Labour supply within the neoclassical household labour supply model
  - Remittances act like non-labour income to other household members--income effect
  - Degree of reduction of other members' labour supply/labour force participation depends on
    - Their wage rates
      - Labour market – own education, community characteristics – why not average male and female wage rates
      - Shadow wage of domestic work – child ratio (females only?)
    - Household preferences
      - Marital status – different effects for men and women
      - Younger members – staying out of the labour force to engage in formal (school/TVET) might be preferred – so leaving them out of the sample may be problematic
      - Cultural factors (for females) – ethnicity? ; Parental (HH) occupation – endogenous preferences?
- Heterogeneity of responses within the household, by age and gender – which may counteract each other—suggest separation by gender/distinct age categories

# Effects of migration and remittances on labour supply of household members—cross-substitution effect

- Labour supply within a household production type model/hh labour supply model—substitution effect
  - Depends on previous role of migrant – any data on this?
    - Predominantly young male – non-market work in hh enterprise
    - Hh occupation
    - Gender of migrant?

# Effects of migration and remittances on labour supply of household members—capital and durable goods

- Remittances as infusion of capital into a household micro-enterprise-- positive labour supply effects
  - HH wealth (additional capital) – should these not be interacted with remittances?
- Remittances and durable goods – and labour supply effects
  - If durable goods are capital goods into a household enterprise, the labour supply effect may be positive or negative, depending on whether K and L are substitutes or complements
  - If durable goods are household goods (e.g. washing machines) or if remittances are spent on improvement of hh infrastructure that is labour saving (piped water, gas or electricity instead of firewood) then, labour supply in non-market (domestic work) will have a negative response, or may switch from non-market to market work

Thank you!