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# GENDER IN DEVELOPMENT: INTRA-HOUSEHOLD AND LABOUR MARKET INEQUALITY

The XXII Italian Association for the Study of Comparative Economic Systems (AISSEC) Scientific Conference held in Pescara in June 2022 collected several contributions on the topic "(Re)discovering the drivers of economic development". This newsletter contains three articles based on a selection of the contributions focusing on gender inequality.

The challenges faced by women in their multiple roles is indeed an unescapable issue to be addressed to guarantee the achievement of Sustainable Development Goal #5 (Gender Equality). The effect of discrimination is multidimensional, involving employment, health, education, safety, and with positive, i.e. self-reinforcing, feedback mechanisms across dimensions. The articles selected in this newsletter describe gender issues from different perspectives and through different methodologies. They also converge in indicating the fight against gender discrimination and women empowerment are still crucial issues to be addressed for economic and human development.

The first article in this newsletter is by Elisabetta Calabresi and investigates the effect of female education on the prevalence of Intimate Partner Violence (IPV) in Uganda and the channels underlying this effect. The author adopts a local randomization approach to a fuzzy Regression Discontinuity Design, exploiting the implementation of the Universal Primary Education policy in 1997. An additional year of schooling decreases the physical IPV index. On the contrary, there are no effects on women's gender attitudes, labour market outcomes, and relationship characteristics. The results suggest that the relationship between female education and IPV is context-dependent and that female education may help, but it is not sufficient, for achieving real gender equality.

The second article is by Federica Alfani, Fabio Clementi, Michele Fabiani, Vasco Molini and Enzo Valentini. Drawing on various macro- and micro-data sources, the authors present robust evidence of an inverted U-shaped relationship between female labour force participation and inequality. A decile-level analysis shows that female labour force participation has higher levels of returns on income among top deciles of the income distribution compared with the lower deciles in the developing countries analyzed. This evidence focuses attention on the importance of developing policies specifically targeting women in lower deciles of the income distribution.

The last article, by Emanuela Ghignoni, Marilena Giannetti and Vincenzo Salvucci, reminds us that gender discrimination in the labour market is not a problem only for developing countries and emerging economies which might still suffer from cultural norms preventing the full development of women potential. This article explores the extent and evolution of wage gaps in Italy by gender and citizenship. Indeed, wage gaps between migrant and native workers are also registered. Micro-data from the Italian

labour force survey are analyzed with decomposition techniques to estimate that part of the wage gap that cannot be explained by differences in worker's characteristics and is explained by the discrimination of migrants and migrant women.

# Female education and Intimate partner violence: evidence from Uganda

*by Elisabetta Calabresi*[*]

## *Motivation*

Intimate Partner Violence (IPV) is a social, health, and human rights problem that dramatically affects the lives of billions of people all around the world. The majority of victims are women: globally, almost 1/3 of women aged 15-49 years have experienced some form of violence by the partner or ex-partner (WHO, 2021; Sardinha et al., 2022). IPV has serious adverse consequences on physical, mental, sexual, and reproductive health, and on labour market outcomes. Moreover, it has severe negative externalities on children (Erten, 2022). Economically speaking, these consequences translate into an estimated global cost of IPV of around 5.2% of the global GDP (Fearon & Hoeffler, 2014).

Female empowerment has been often considered a major tool in the fight against domestic violence, but its impact is actually ambiguous. Indeed, on the one hand, female economic empowerment may reduce IPV risk by increasing women's outside options and bargaining status, and by reducing their exposure to perpetrators and the household's financial stress. On the other hand, female empowerment may increase this risk because violence may be used as an instrument for extracting resources and as a backlash for asserting dominance in the household. There is a growing literature investigating the IPV effects of policies fostering various aspects of female empowerment, such as unilateral divorce legalization, prosecution policies, cash transfers, and labour market opportunities, but the findings are mostly mixed (Erten, 2022).

However, there is a dimension of female empowerment that has not received the deserved attention in this literature: female education. Indeed, several analyses have observed a negative association between female education and IPV, but this may be biased by unobservable and unobserved characteristics affecting both the level of female schooling attainment and the prevalence of IPV. The importance of identifying the causal impact derives from the current international emphasis on promoting female education (UN General Assembly, 2015) and from the remark that its relationship with IPV is not straightforward (Erten & Keskin, 2018). Indeed, the effect may move through several channels. Firstly, female education may change women's attitudes towards domestic violence, making them more conscious of its forms and less tolerant of it. Secondly, it may improve women's labour market outcomes, with the above-mentioned ambiguous effects on IPV. Moreover, female education may lead to assortative matching, so that more educated women may choose or end up with "higher quality" partners: partners with characteristics that decrease their likelihood of exerting violence. Finally, female education may affect some relevant relationship characteristics. These channels are interconnected and may be at play more than one at a time. Erten and Keskin (2018) found that the rise in female education in Turkey increased psychological and economic IPV through the mechanism of labour market outcomes.

My research aims at identifying the impact of an increase in female schooling attainment on the

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prevalence of IPV in Uganda, one of the countries with the highest IPV pervasiveness around the world (more than half of ever-in-union women affected in 2016). Therefore, I contribute to the connection between the literature investigating the effects of female education and the literature studying the policies that may reduce IPV. Moreover, with respect to the paper by Erten and Keskin (2018), I use a different methodological approach and examine a different context, so that the final impact and the mechanisms at play may diverge, as in fact happens.

### *Data and empirical strategy*

Identifying the causal effect of female education on IPV prevalence is not immediate, since both may be affected by some elements on which I do not have information, such as childhood's socioeconomic status, upbringing, and gender discriminating norms. In order to address this endogeneity, I adopt a so-called local randomization approach to a fuzzy Regression Discontinuity Design (Cattaneo et al., 2018), exploiting the Universal Primary Education (UPE) policy as a natural experiment. The UPE reform abolished school fees at all levels of primary school starting from the 1st of January 1997. Considering that the Ugandan educational system consists of 7 years of primary school with the school starting age of 6, the policy should have affected children born in 1984 or later (children of primary school ages or younger at the time of its implementation). Therefore, I consider the UPE reform (the "treatment assignment") as a plausibly exogenous change in female education (the "treatment take-up") in a small window of cohorts around the year of birth 1984 (the "cutoff"). So, girls born just above and just below 1984 are considered comparable in both observable and unobservable characteristics. The idea is that being of primary school age at the time of UPE implementation can be considered an as-good-as random condition in the selected window. Moreover, it is assumed that, in that window, the year of birth and the exposure to the policy affect the IPV prevalence only through women's schooling attainment: namely, that the exclusion restriction holds. The setting is said "fuzzy" because not all the girls exposed to the policy increased their education, especially considering the spread of school delayed entries and early drop-outs in Uganda.

The relevant window for estimation is set at 3 years: women born between 1981 and 1983 are considered as not exposed to UPE, while those born between 1984 and 1985 are considered as exposed. This length is the largest possible for which the UPE exposure and the educational attainment do not affect the probability that the women have ever had a relationship. In this way, I avoid possible selection into the sample of ever-in-union women, which is the group for whom the outcome of interest is defined. Moreover, predetermined characteristics (family history of domestic violence, ethnolinguistic background, and the number of siblings) are well-balanced between the two considered groups. Finally, the length of 3 years is also used in other papers adopting the same strategy to study UPE effects on various outcomes (Behrman, 2015a; Behrman, 2015b; Behrman et al., 2017).

Therefore, I estimate a Two-Stage Least-Squares model in the window of 3 years around 1984. The data for the analysis comes from the Ugandan Demographic and Health Survey of 2016. Questions about IPV were asked, confidentially, to women between 15 and 49 years old that have had at least one relationship. The outcome of the analysis is represented by three indices for physical, sexual, and emotional violence.

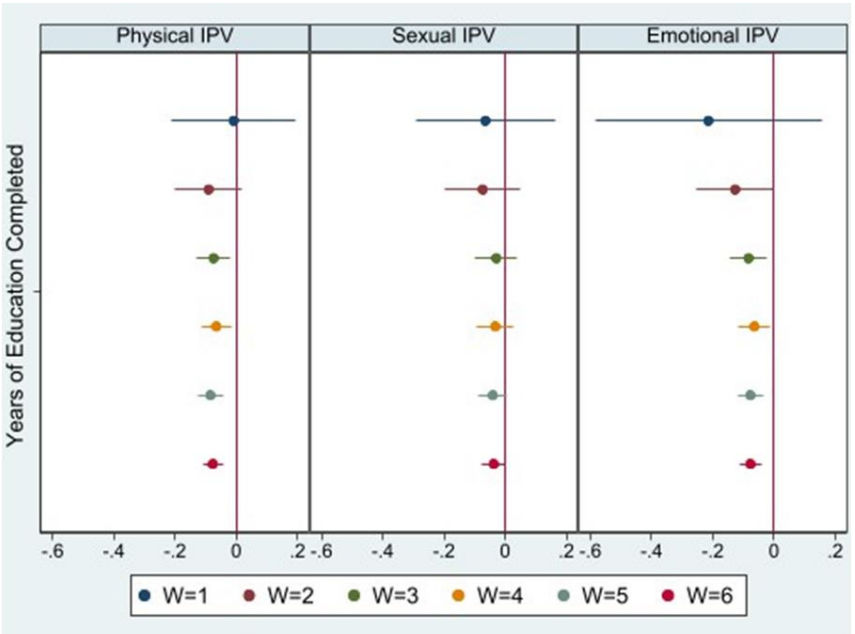
### *Findings and robustness checks*

In the selected window, women exposed to the UPE policy have on average 1.39 years more of schooling with respect to women who were older than official primary school ages in 1997. This is the first stage of the analysis, and it appears to be strong enough, having an F statistic of 24.43 (Staiger & Stock, 1994). Moreover, the reform was successful in increasing the likelihood that women complete both primary and secondary school, and that they are literate.

Looking at the relationship between female education and IPV, the Ordinary Least Squares (OLS) results reveal a negative and significant association between women's educational attainment and physical and emotional violence. However, these findings are likely to be biased, as already specified, so I look at the Reduced Form (RF) and Two-Stage Least-Squares (2SLS)models. The RF regressions investigate the effect of having been exposed to UPE on IPV prevalence. The reform has negative and significant effects on ever having suffered from physical and emotional violence by the partner. Finally, the 2SLS regressions identify the Local Average Treatment Effect of female education on IPV prevalence for ever-in-union women in the window of 3 years. An additional year of schooling reduces the physical violence index by 7.4 percentage points (corresponding to 0.105 standard deviations) and the emotional violence index by 8.3 percentage points (corresponding to 0.103 standard deviations).

The validity of the empirical strategy and the robustness of the results are confirmed by a series of checks, using for instance different indices for IPV and for the exposure to UPE. Additionally, the results are not too sensitive to the selection of the window (see Figure 1): the effect on sexual violence is never significant, that on physical violence is always negative and significant from the window of 3 years onwards, and that on emotional violence is always negative and significant also in the window of 2 years around the cutoff.

**Figure 1: Results' sensitivity to window selection**




Notes: All models include sampling weights. Robust standard errors are clustered at the primary sampling unit level. The confidence interval is set at 90%. The covariates included are pre-treatment characteristics: family history of domestic violence, ethnolinguistic background, and number of siblings.

However, one may argue that the findings are exclusively due to the age difference between the groups exposed or not exposed to the UPE policy, since this difference in age is reflected in a difference in exposure to the risk of IPV. In particular, the group not exposed to UPE may have suffered more IPV over its life simply because it is older. This threat is largely reduced considering a small window of birth cohorts, but I also explored the effect of female education on the IPV prevalence in the 12 months preceding the survey. The direction of the effect is the same as the main analysis, but it is statistically different from 0 only for the emotional violence index. Another possible threat to the exclusion restriction is that the reform might have affected also the education of the women's partners, which in turn may affect IPV prevalence. However, there is evidence that the policy did not influence males' years of schooling (Behrman, 2015a; Keats, 2018). Moreover, since the average age difference between partners in Uganda is of 6 years, and this is not affected by the treatment, on average the partners of women in the selected window were not of primary school ages in 1997. For the avoidance of doubt, the findings are consistent also restricting the sample to women whose partner is at least 3 years older.

***Potential mechanisms and interpretation***

The analysis shows that an increase in girls' years of schooling in Uganda negatively affected the emotional and physical IPV prevalence. But what may be the relevant channel behind these effects? As mentioned, there are mainly four potential mechanisms: changes in gender attitudes, labour market outcomes, partner's and/or relationship's characteristics (Erten & Keskin, 2018).

The attitudes channel is investigated by analyzing the effect of an increase in educational attainment on the respondent's justification of wife-beating in various scenarios and of negotiations of sexual relationships. The relevance of this channel lies in the extent to which education may make women less tolerant of violence and/or more aware of its shapes, potentially reducing their risk of experiencing IPV (especially if combined with effective outside options). However, in the current context, female schooling did not affect gender and domestic violence attitudes. This result actually reduces concerns about another possible threat to the analysis: namely, that the increase in education changed the reporting rate of IPV.

Secondly, female education may affect IPV by modifying women's labour market outcomes. Indeed, better labour market outcomes provide women with more outside options and bargaining power within the household, decreasing IPV. However, women's labour outcomes may also increase their risk of experiencing violence as an instrument for extracting resources and/or as backlash because of possibly contrasting gender norms. In this analysis, increased years of schooling only reduced the likelihood that the woman works in the agricultural sector, not affecting the probability of being employed, the type of earnings received, nor the assets' ownership.

Moreover, female education may reduce the incidence of IPV also through the so-called assortative matching, so that more educated women have partners with characteristics that may make them less likely to perpetrate violence. Women's additional grades attained reduce the age and schooling difference between the spouses, and increase the likelihood that the partner has completed secondary school, that he is employed, and that he works in sectors other than the agricultural one.

The last potential channel that I consider is that of changes in past and current relationship characteristics, which may be affected by the woman's level of education and may alter her risk of suffering from IPV.

However, it seems that female education did not affect various measures of bargaining power within the household nor the household's type of residence, but it increases the probability that the household is in the highest wealth quintile.

Therefore, the IPV reduction seems to be mostly due to assortative matching: more educated women match with more educated and better-employed partners, ending up in richer households. The reason why these changes lead to a reduction in IPV can be reconnected to various theories. Indeed, the observed decline in IPV may be due to the minor financial stress in the household. Moreover, it may be ascribed to the partner's better employment status, since this may reduce potential male backlash, instrumental use of violence, and the time the couple spends together. Additionally, the partner's higher schooling attainment may have fostered more gender-equal attitudes. Finally, the IPV decrease may be due to the lower inequality between the spouses in terms of both educational attainment and employment sector (but this is not reflected in other measures of women's empowerment within the household). In general, there is suggestive evidence that the negative effect of female education on emotional and physical IPV in Uganda is due to assortative matching, but it is not possible to identify which ones of the mentioned changes in the partners' characteristics play the most significant role in reducing IPV. Moreover, it should be noted that this channel, differently from the others, does not assure that female education contributes to an overall reduction of IPV, since the phenomenon may be more heavily suffered by less educated women who possibly match with "lower-quality" partners in terms of features more likely conducive of violence.

The last point that is worth discussing is the null effect of female education on sexual IPV. Given that the main mechanism behind the decline in physical and emotional IPV appears to be assortative matching, this result implies that changes in the above-mentioned partners' characteristics do not affect the incidence of sexual violence in the current context. More specifically, it seems that the household's wealth, the partners' employment status and educational level, and the couples' inequality in terms of schooling attainment and employment sector, are not relevant elements in determining the prevalence of this specific kind of IPV in Uganda. This consideration suggests that further research is needed in order to tackle sexual IPV.

### *Conclusions*

To sum up, using a local randomization approach to a fuzzy Regression Discontinuity Design, the analysis finds evidence that female education decreases emotional and physical IPV, for complier ever-in-union women born between 1981 and 1986 in Uganda. The effect on emotional IPV is strongly consistent with all the performed robustness checks, and that on physical IPV is mostly consistent. The results may seem in contrast with those by Erten & Keskin (2018), but the analyses actually provide evidence of two different channels through which the effect may move. The authors found that, in Turkey, female education improved women's labour market outcomes, resulting in higher IPV because of instrumental violence and/or male backlash. I, instead, provide evidence of the assortative matching channel, which adversely affects the IPV prevalence.

In general, the study shows that female education may help in reducing IPV, providing further incentives to governments to promote this dimension of female empowerment. However, it also emphasizes that increasing women's education alone is not sufficient for achieving a more comprehensive concept of female empowerment, as expected. Indeed, the rise in female education in Uganda did not have a strong

impact on women's gender attitudes, labour market outcomes or empowerment within the household. Additionally, the contrasting results with the analysis by Erten & Kesin (2018) indicate that the relation between female education and IPV prevalence is context-dependent. Therefore, policy-makers should accurately study and take into account the constraints that, in any given context, may impede that higher female education translates into improvements in women's well-being both within the household and in the labour market. Moreover, the analysis suggests the importance of designing policies on the side of the perpetrators in order to reduce the IPV prevalence. Finally, the study indicates that researchers and policy-makers should consider in detail the various kind of IPV, in order to grasp the causes behind any specific act of violence and adequately tackle them.

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# Does gender equality in labour participation bring real equality? Evidence from developed and developing countries

*by Federica Alfani[*], Fabio Clementi[†], Michele Fabiani[‡], Vasco Molini[§], Enzo Valentini[†]*

## *Introduction*

Over the past few decades developing countries have seen a rapid increase in the number of women taking an active role in the labour market; however, this picture is highly heterogeneous. For many developing countries, increasing Female Labour Force Participation (FLFP) levels remains a priority (United Nations, 2000; World Bank, 2012), as well as a challenge because, as documented in this article, increasing female participation in labour market in many of these countries can produce undesired distributional effects if it is not adequately combined with measures targeted towards women in the lower deciles of the income distribution. This effect tends to be stronger in contexts where FLFP is low and remains significant when participation increases but remains comparatively low.

Analyses to assess the impact of FLFP are typically conducted on a limited set of countries (Sotomayor 2009; Shin, 2010; Gornick et al., 2019); contrary to the approach taken in this work, they do not combine macro and micro data. The novelty of the present work is that it addresses the issue from these two different angles and combines different methodologies. As a first step, we estimate an inverted U-shaped relation between FLFP and inequality (with different specifications) at a pooled cross-sectional level and identify five rather homogeneous clusters of countries. Secondly, we test the U-shaped hypothesis with aggregated micro level data; notably, we expect that FLFP can both have a pro-equality or pro-inequality impact when regressed on household income inequality, depending on which regional blocs of countries, e.g. MENA, SA and LAC, a country belongs to. In these countries, the increase in FLFP will almost always have an inegalitarian impact, while, in other areas, e.g. North Europe, the effect is the opposite.

## *Data and methodology*

The macro analysis is conducted using the World Bank's Povcalnet database. The information from PovcalNet is combined with the World Development Indicators (WDI), which is the World Bank's principal collection of development indicators compiled from officially recognized international sources. We proceed with a multivariate analysis to show the inverted U-shape relationship between FLFP and inequality. We follow a general formulation taken from the literature (Förster and Tóth, 2015). The scope

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of this regression is to show that the relation between FLFP and inequality is concave.

For the analysis based on micro data, disposable household income data was drawn from the Luxembourg Income Study (LIS). The countries' data sets are harmonized into a common framework and contain household- and person-level data on labour income, capital income, pensions, public social benefits (excluding pensions) and private transfers, as well as taxes and contributions, demography, employment, and expenditures. Sixteen countries were selected (four developing and twelve developed countries), which were considered to be representative of the macro area of the world . We also conducted a preliminary analysis on a group of Middle East and North African (MENA) countries that was not included in the LIS data set, e.g. Morocco, Jordan and Egypt.

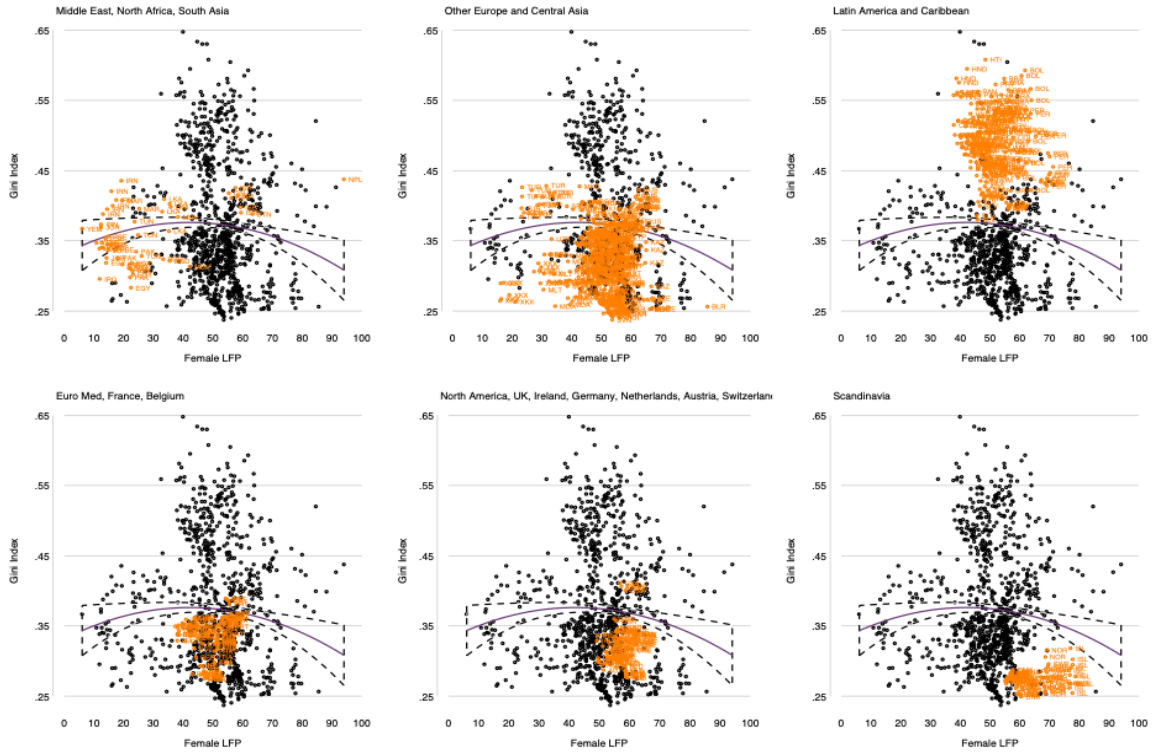
We empirically examine the implications of FLFP for household income inequality by means of a regression method based on the notion of "influence function". Firpo et al. (2009) propose a simple modification in which the quantile is added back to the influence function, resulting in what the authors call the "re-centered influence function" (RIF).

One of the key concerns with the estimation framework described above is the potential endogeneity of FLFP due to omitted variable bias. Household income may indeed lead women to seek employment, or unobserved factors such as ability could drive women's decision in favor of work. To address these issues, the strong assumption of FLFP being exogenous is relaxed, and an instrumental variable (IV) strategy is used to recover a causal interpretation. This choice is motivated by the observation that standard OLS estimates could be biased and inconsistent to the extent that FLFP is endogenous. As the proposed instrument, we chose women's average wage by deciles from the past 10 to 30 years (depending on the country) for that income bracket. The idea to use this instrument follows the findings of Blau and Kahn (2007), who show how FLFP is conditioned by the wage women can aspire to while entering the labour market. The proposed average salary by decile is a market reference point that can condition the decision to participate in the labour market; however, depending on women's ability it can be outpaced or not.

***Results***

As a matter of fact, our results confirm that the relationship between FLFP and inequality follows an inverted U-shaped. Therefore, if a country is located on the ascending part of the inverted U-shaped curve, increasing FLFP levels can lead to increasing inequality. This is the case in at least three groups of developing countries: the Middle East and North African (MENA), South Asian (SA) and Latin American and Caribbean (LAC) regions. With minor exceptions, these groups are clearly identifiable on the estimated curve, and countries within these groups present common features and a similar FLFP to the inequality gradient. While there is an extensive literature on the disequalizing impact of FLFP in developed countries, little has been written about developing countries, and to our knowledge this is the first empirical estimation of an inverted U-shaped relationship between FLFP and inequality.

**Figure 1: Female Labour Force Participation and Gini index, all countries from 2002 to 2016. Each chart focuses on a different group of countries which is marked with red.**




The picture is more heterogenous for developed countries, as shown by the quadrants in the lower row of Figure 1. For two of three country groups the gradient is negative, and positive for the remaining group. These three groups are the Scandinavians, with very high FLFP levels (the highest in the developed world) and low inequality; these countries are known for their very efficient and egalitarian fiscal policies and strong state support for working mothers. With a much lower level of FLFP (10 percentage points below the Scandinavians), but higher levels of inequality, include the following countries; the UK, the Netherlands, and Ireland, followed by the Euro-Mediterranean group, where FLFP is closer to that of Latin American countries (and in some cases lower, as in the case of Italy and Greece), but the inequality levels are much lower because they enjoy much more developed redistributive fiscal systems.

To strengthen our novel findings, we replicate these macro trends using household- and individual-level data. While micro-data are scarcer than macro-data, we were able to confirm the results from the macro analysis. Overall, the impact of FLFP is disequalizing in the developing countries under consideration. This is because the FLFP rate of return of the top two deciles of income is higher than that of the bottom two—although participation is higher among the top deciles of income. This shows that the increase in FLFP would have a strong pro-inequality impact, if not compensated with measures that favor women in the bottom deciles of income distribution. Among developed countries, the Scandinavian and the Euro-Mediterranean show higherFLFP returns in the lower deciles are higher than those in the higher ones, resulting in a pro-equality impact, while in the remaining group of European countries the dis-equalizing effect is prevalent. For the sake of brevity, only the results of the RIF-IV regression analysis for emerging countries will be presented (Table 1 and Table 2).

Table 1 looks at the impact of FLFP on income of individual deciles. Table 2 looks at both the impact on the two selected measures of inequality (P80/P20 and P90/P10 ratios). India, Morocco and Jordan all show a positive (inegalitarian) impact of FLFP on inequality. If we look at India, for example, the coefficient measuring the impact of FLFP on income of the top two deciles is almost double that of the bottom two, indicating that if not compensated with measures that favor women in the bottom deciles, the FLFP increase would dramatically raise inequalities. At the same time, the magnitude of the decile regression coefficients indicates that the gains obtained from an increase in FLFP on households' income are huge for all deciles, probably due to the fact that participation is low. Conversely in LAC, FLFP is higher, and marginal increases would not have such a big impact on household incomes. At the same time, inequality is already high, and if countries want to further increase FLFP, they should consider the distributional impact; as in the previous case, targeted policies towards women in lower deciles seem to be the best available option to mitigate the trade-off between FLFP and the increase inequality.

**Table 1: RIF-IV regression coefficients for the effect of female labour force participation on income, by country.**

| | India | Egypt | Morocco | Jordan | Brazil | Uruguay | Chile |
|---|---|---|---|---|---|---|---|
| Decile | Coefficient | Coefficient | Coefficient | Coefficient | Coefficient | Coefficient | Coefficient |
| 1 | *72.76**** | *0.14* | *0.06* | *0* | *11.09**** | *7.66**** | *9.55**** |
| | *[12.84]* | *[0.14]* | *[0.09]* | *[0.01]* | *[0.28]* | *[0.32]* | *[0.39]* |
| 2 | *64.52**** | *-0.06* | *0.07* | *-0.01* | *9.88**** | *8.98**** | *7.58**** |
| | *[11.35]* | *[0.09]* | *[0.06]* | *[0.01]* | *[0.22]* | *[0.36]* | *[0.30]* |
| 3 | *72.88**** | *-0.04* | *0.15*** | *0.03*** | *10.59**** | *9.95**** | *8.10**** |
| | *[12.82]* | *[0.10]* | *[0.06]* | *[0.01]* | *[0.21]* | *[0.39]* | *[0.32]* |
| 4 | *79.69**** | *0.05* | *0.12*** | *0.06**** | *10.08**** | *10.60**** | *7.44**** |
| | *[14.02]* | *[0.11]* | *[0.05]* | *[0.01]* | *[0.21]* | *[0.41]* | *[0.29]* |
| 5 | *91.56* | *0.09* | *0.15*** | *0.08**** | *11.06**** | *10.53**** | *8.15**** |
| | *[16.11]* | *[0.12]* | *[0.05]* | *[0.01]* | *[0.20]* | *[0.41]* | *[0.33]* |
| 6 | *105.17**** | *0.17* | *0.19**** | *0.11**** | *10.70**** | *10.57**** | *8.26**** |
| | *[18.50]* | *[0.11]* | *[0.05]* | *[0.01]* | *[0.20]* | *[0.41]* | *[0.33]* |
| 7 | *126.08**** | *0.03* | *0.17*** | *0.14**** | *11.55**** | *10.75**** | *8.62**** |
| | *[22.19]* | *[0.14]* | *[0.06]* | *[0.02]* | *[0.24]* | *[0.42]* | *[0.35]* |
| 8 | *148.90**** | *-0.08* | *0.31**** | *0.22**** | *14.42**** | *10.98**** | *11.29**** |
| | *[26.20]* | *[0.18]* | *[0.06]* | *[0.02]* | *[0.24]* | *[0.43]* | *[0.45]* |
| 9 | *197.48**** | *0.11* | *0.48**** | *0.31**** | *17.69**** | *11.67**** | *12.89**** |
| | *[34.80]* | *[0.22]* | *[0.09]* | *[0.04]* | *[0.32]* | *[0.47]* | *[0.54]* |

*Notes:* Robust standard errors in brackets; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

**Table 2: RIF-IV regression coefficients for the effect of female labour force participation on inequality, by country.**

| *Percentile ratio* | India | Egypt | Morocco | Jordan | Brazil | Uruguay | Chile |
|---|---|---|---|---|---|---|---|
| *P90/P10* | *19.22**** | *0.00* | *0.05*** | *0.05**** | *0.07* | *0.27**** | *0.11**** |
| | *[3.48]* | *[0.03]* | *[0.01]* | *[0.00]* | *[0.04]* | *[0.02]* | *[0.03]* |
| *P80/P20* | *13.64**** | *0.00* | *0.03*** | *0.03**** | *0.22**** | *0.07**** | *0.32**** |
| | *[2.42]* | *[0.02]* | *[0.01]* | *[0.00]* | *[0.02]* | *[0.01]* | *[0.02]* |

*Notes:* Robust standard errors in brackets; $^{*}$ $p < 0.10$, $^{**}$ $p < 0.05$, $^{***}$ $p < 0.01$.

## *Conclusions*

While there is almost unanimous consensus that increasing FLFP levels is an important developmental outcome—particularly in countries where FLFP levels are low and with high levels of gender discrimination—the translation of this general principle into effective policies becomes much more complicated. In certain contexts, fostering FLFP without considering its distributional impact can have potentially negative consequences in terms of inequality.

There are two good reasons why policy makers should consider this an important piece of information when formulating policies to increase FLFP levels.

First, these policies often require the usage of public resources, e.g. tax breaks or subsidies for companies employing women, financing of nurseries and schooling for children, targeted training programs for women's insertion in the labour market, as well as offering publicly financed parental leave schemes (World Bank, 2012; Martınez and Perticara, 2017; Lopez- Acevedo et al., 2020). If not targeted, these policies can benefit women working in the formal sector, in urban areas, or with higher levels of education, thus contributing to increasing inequality. The paradox, therefore, is that public policies intended to reduce a certain type of inequality will increase another type of inequality.

Second and related to the previous point, the success of these policies is very much conditioned by their capacity to overcome deep-seated prejudices and social norms. One example of this is in the MENA region, where despite a rapid increase in women's educational attainment, participation remains stubbornly low (Bandiera and Natraj, 2013). The difficulty of the task clearly requires broad coalitions, and the capacity to reach out to different social strata and constituencies.

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# The double "discrimination" of foreign women in Italy: a matching comparison approach

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*This paper explores the evolution of wage gaps in Italy by gender and citizenship. Using Labour Force Survey (LFS) data over the period 2009-2020 we apply two different matching comparison methodologies, the Ñopo decomposition and the Inverse Probability Weighted Regression Adjustment (IPWRA) technique, that allow "like for like" comparisons between individuals and are able to take into account how gender interacts with citizenship in shaping wages. Our findings show that the general gender wage gap in Italy is rather low. This gap is largely explained by workers' observable characteristics. Conversely, the citizenship wage gap appears to be much larger. Moreover, most of the reported wage gap seem to be explained by unobservable characteristics. We finally estimate the double-negative effect of being both a woman and a foreigner. Non-Italian women earned on average 44.3% per hour less than Italian men in 2009 and 46.5% less than Italian men in 2020.*

This article explores the extent and evolution of wage gaps in Italy by gender and citizenship. In the last few decades, research on the gender wage gap has produced a large body of literature. Various explanations for the existence of this gap have been advanced such as different experience, maternity penalty, and lower qualifications (see Blau and Kahn, 2017). On top of that, wage gaps between migrant[1] and native workers are registered with the same frequency as gender gaps, if not more so. Most of the studies on these issues focus on either male-female or migrant-native wage gap, and the related empirical literature often uses widely the Oaxaca-Blinder methodology (Blinder, 1973; Oaxaca, 1973) to estimate that part of the wage gap that cannot be explained by differences in worker's characteristics and that may, therefore, be attributable to discrimination and/or unobservable characteristics. Moreover, most of the empirical analysis, especially those concerning immigrants, uses data from the US and a few other countries. Only a handful of studies focus on the immigrant wage gap in Italy (Venturini and Villosio, 2008; Dell'Aringa et al., 2015; Venturini et al., 2018; Piazzalunga, 2015, among others). Nonetheless, the relevance of the immigrant population, and of immigrant women in particular, increased in the Italian labour market. According to OECD data (OECD, 2021), in 2020 permanent immigrants represented more than 10% of the Italian active population and 46% of these were women. Immigrant workers reached 14,2% of total employment, 40 per cent of which were women. Hence, even though the relevance of migrant women in Italy is increasing, the economic literature has not devoted much attention to them.

The analysis presented in this article aims at filling this gap, shedding light on if and how much migrant workers, women and migrant women are penalized in the Italian labour market. Differently from Piazzalunga (2015), which also focuses on "double discrimination" using 2009 data, we analyse the entire

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[1] In the article we use the term "migrant workers" to refer to workers who do not have Italian citizenship, as found in the Labour Force Survey (LFS)

2009-2020 period using different matching techniques. This period has been characterized by several changes in Italian politics, social struggles and a decade-long economic crisis from which the economy has not yet fully recovered. Moreover, Italy experienced an increased influx of migrants during these years, which reached unprecedented levels (OECD, 2021). Moreover, Piazzalunga (2015) applies the Oaxaca-Blinder and the Shamsuddin decomposition (Shamsuddin, 1998), whereas we decompose the gender wage gap that exists between the different categories using two different decomposition approaches: the Ñopo decomposition (Ñopo, 2004) and the Inverse Probability Weighted Regression Adjustment (IPWRA) decomposition (Cattaneo, 2010).

Based on quarterly Labour Force Survey (LFS) sample data, produced and collected by the Italian Statistical Office (ISTAT), we proceed first with the estimation of hourly wages for both Italian and foreign men/women workers. The data used in the empirical section are drawn from Istat Labour Force surveys during 2009- Q1; 2020 Q4. For the aim of this article, we consider only dependent workers, who work from 20 to 80 hours per week. Indeed, our data source does not contain information about the earnings of self-employed workers. Our sample is made of 1,629,708 dependent workers, 172,436 of which are foreigners.

We decompose the gender wage gap that exists between the different categories. In doing so, we use the Ñopo decomposition (Ñopo, 2004), which is based on matching and makes it possible to eliminate the estimation bias due to the different distribution of the characteristics among male and female workers; and the Inverse Probability Weighted Regression Adjustment (IPWRA) decomposition (Cattaneo, 2010), that confirms the robustness of our results. To the best of our knowledge, this is the first time that an IPWRA procedure is applied to the study of the citizenship/gender wage gap.

Concerning the main results, using the Ñopo decomposition we get that:

When the gender gap is considered (regardless of nationality), results show that the total gap in hourly wages is rather low. Moreover, the part which can be attributed to "discrimination" is about zero when labour market variables are included in the analysis, as women are (partly) concentrated in lower paid types of jobs.

When the citizenship gap is taken into account (regardless of gender), the total gap in hourly wages grows to 33% (in favour of Italian workers). The part attributable to "discrimination" is very high, and it even increases when labour market variables are included in the model. That is, foreign workers not only are concentrated in lower paid jobs, but they are also paid less than Italians in all types of jobs.

The wage gap between Italian men and foreign women is therefore extremely high (47%) and discrimination accounts for most of it. Moreover, the latter increases (from 43.4% to 47.9%) when labour market variables are included in the analysis, as foreign women are not only employed in lower paid jobs, but are also paid less than Italian men in all types of jobs.

As introduced, we also analyse the evolution of the gender/citizenship gap during the whole period under observation by applying the Ñopo decomposition to different years (Figure 1). As also found in Piazzalunga and Di Tommaso (2019) the total gender gap seems to increase during the financial crisis. Nevertheless, the increase we register appears to be much less pronounced than in other studies. This may be due to the fact that our results are not fully comparable with those obtained using a Oaxaca-

Blinder decomposition, as we compare "like with like" individuals through matching techniques that should produce lower estimated gaps.

The gender gap reduces even further in 2020 (Figure 1, panel a). This is not in contrast with the findings of Bonacini et al. (2021) who revealed a positive association between the level of "working from home" attitude of occupations and the gender wage gap only for (older and married) female employees working in the private sector. As in Italy women are more likely to be employed in the public sector, this may have contributed to protect female wages during the pandemic. Also, the part attributable to discrimination appears very low.

The total citizenship gap, even if it is much higher than the gender gap, follows the same pattern (Figure 1, panel b). It increases until the peak of the crisis and decreases afterwards in 2019 and 2020. As a matter of fact, foreign workers lost their jobs more frequently than Italians both during the financial crisis and the Covid pandemic. Nevertheless, the citizenship gap grew fast during the crisis, when some immigrants may have accepted wage cuts to remain employed, whereas it remained stable between 2019 and 2020 (Figure 1, panel b). Probably, in this case, foreign workers were not able to trade-off wage for job stability and simply lost their job, due to the implementation of social distancing measures and the low level of "working from home" attitude of the types of occupation they most frequently hold. This seems to be particularly valid to explain the evolution of the total gap in hourly wages between Italian men and foreign women (Figure 1, panel c). This gap increased from 2009 to 2015 and, after a temporary reduction in 2016, it stable from 2017 onwards. Even in this case, migrant women may have been able to maintain their job during the financial crisis, at the cost of a wage cut, but not during the Covid pandemic. Indeed, the employment rate for foreign women fell by 4.9%, in 2020. This is more than double the drop found for foreign men (2.2%) and eight times more than that of Italian women (-0.6%, in line with that of Italian men). This can be explained by the fact that over half of foreign women are employed as domestic workers, caregivers and cleaning staff for offices and businesses, so that a large share of them could not continue working and simply lost their job when severe constraints on mobility were imposed to contrast the pandemic. IPWRA estimations are very close to results obtained by Ñopo decomposition and both methods of estimation provide evidence of an increase in the gaps (in particular, in the citizenship gaps) during the crisis, proving the robustness of our results.

Overall, and in line with previous studies, we find that in Italy the gender wage gap exists but is rather low, and largely explained by observable characteristics of demographics, location, education, work experience and job characteristics. Moreover, it slightly increases up to the peak of the financial crisis and declines afterwards. Conversely, the citizenship wage gap is much larger than the gender gap and the unobservable component accounts for most of the observed gaps. Regarding the time trend, we find that it also increases until 2015 and declined after the peak of the financial crisis. Conversely, when we estimate the double-negative effect of being both a woman and a foreigner worker, using the same decomposition approaches highlighted above, it appears that non-Italian women earned on average 44.3% per hour less than Italian men in 2009 and they earned 46.5% less than Italian men in 2020. Even in this case, the gap is larger –and equal to 50%– at the peak of the financial crisis. The decomposition results show that differences in unobservable characteristics play a crucial role in explaining citizenship wage gaps.

As it occurs in other studies on the topic, the results obtained might in part be biased by some unobservable worker characteristic; nonetheless they give some insight on the behaviour of the Italian labour market and call for policy intervention. Given the focus on the double discrimination of foreign

women, policy recommendations include both measures to reduce the immigrant-native and the gender gap, such as reducing the language barriers between immigrant and native workers, predominantly targeting women; raising immigrant workers' –and especially female immigrant workers'– awareness regarding local legislation and individual rights; increasing the transferability of immigrant workers' qualifications and skills, and promoting active labour policies, specifically targeting women.

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