



Macroeconomics and Gender

Recent research on economic growth
and women's economic empowerment

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MACROECONOMICS AND GENDER: RECENT RESEARCH ON THE LINKAGES BETWEEN ECONOMIC GROWTH AND WOMEN'S ECONOMIC EMPOWERMENT

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ABOUT THE GROW PROGRAM

The Growth and Economic Opportunities for Women (GrOW) program is a multi-funder partnership between the United Kingdom's Department for International Development, The William and Flora Hewlett Foundation and Canada's International Development Research Centre (IDRC).

ABOUT IDRC

Part of Canada's foreign affairs and development efforts, IDRC invests in knowledge, innovation, and solutions to improve lives and livelihoods in the developing world.

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EXECUTIVE SUMMARY

This report was commissioned by the International Development Research Centre (IDRC) to review the research findings on the linkages between women's economic empowerment and economic growth. It specifically reviews the research portfolio of the Growth and Economic Opportunities for Women (GrOW) program work dealing with macroeconomic issues.

KEY MESSAGES OF THE GrOW MACRO SYNTHESIS

The link between macroeconomic changes and female economic empowerment is often analysed using female employment as a key mediating variable. This is problematic as it does not consider the nature and quality of jobs. In some cases, getting out of bad jobs that were only taken to make ends meet can improve women's welfare and increase empowerment. The challenge is to create more and better employment opportunities for women, as well as recognize women's constraints when deciding about employment.

IMPACT OF GENDER INEQUALITY ON GROWTH

The theoretical literature emphasizes how demographic effects are the key mechanism linking lower gender inequality in education or employment to higher economic growth. In particular, reducing gender inequality lowers fertility and improves human capital. This, in turn, promotes growth. A second prominent mechanism mentioned is the distortion and sub-optimal use of talent resulting from gender gaps in education or employment. Most models suggest that exogenous

technological change will erode gender gaps in the long run but see a role for policy that could successfully promote gender equity and economic performance.

A systematic review of the cross-country empirical evidence robustly shows that lowering gender gaps in education leads to higher economic performance. The literature on the impact of other gaps, including employment gaps, is much more limited but also points to higher growth as result of lower gender gaps.

A systematic review of the micro literature finds that interventions to enhance women's economic empowerment robustly promote income and education as well as subjective well-being. The effects are rather modest, and it is not clear whether the effects would be similar if men were targeted by the interventions. Also, it is unclear how much these interventions, if implemented at scale, would affect economic growth due to general equilibrium effects.

IMPACT OF GROWTH AND MACROECONOMIC CHANGE ON WOMEN'S ECONOMIC EMPOWERMENT

Economic growth alone has no robust effect on female employment in developing countries, even when it helps close gender gaps in education. As growth draws some women into the labour force, rising incomes cause others to leave employment because their contribution to household income is less urgently required. It is difficult to assess whether this is to be welcomed as many women leave undesirable, low-paying, and often

hazardous work, or whether this happens because husbands, social norms, jobless growth, and biased technological progress push women out of the labour force.

Economic growth also does little to reduce occupational and sectoral segregation, with implications for a persistent gender wage gap. Given this segregation, where and what type of jobs are created matter for women's economic empowerment.

The pattern of growth and employment dynamics matter for women's economic opportunities. While growth based on natural resources does little to promote female employment opportunities, growth strategies based on export-oriented manufacturing can promote employment of women, particularly those with medium levels of education. Similarly, growth in non-tradable sectors benefiting from government support or facilitation — such as health, education, and public administration — can also be a key determinant of women's employment opportunities.

There is evidence that economic growth increases some aspects of empowerment within households, especially women's power in household decision-making. It has no impact on attitudes toward domestic violence or experience of domestic violence, however.

Trade dynamics and trade policy matter for women's economic opportunities. When trade policy promotes female-intensive sectors (as in Indonesia's experience), it can enhance their economic opportunities and promote their empowerment. Most experiences of trade liberalization studied (South Africa, India, Brazil) led to job losses. These were sometimes larger for men than women (Brazil), and sometimes the reverse (South Africa). At times, these led women to engage in more distress employment to make ends meet (India).

Promoting childcare opportunities and safe and reliable transport systems can help overcome some barriers to women's employment and their empowerment in the short term.

MACROECONOMIC POLICY AND WOMEN'S ECONOMIC EMPOWERMENT

The GrOW projects did not study the impact of (short-run) macroeconomic policies such as fiscal, monetary, or exchange rate policies on women's economic empowerment. These are likely to affect women's economic empowerment as they can influence their employment and income-earning opportunities, as well as the constraints they face in accessing employment and other benefits important for their economic empowerment.





1. INTRODUCTION

This paper provides a synthesis of the research commissioned by the Growth and Economic Opportunities (GrOW) program, a five-year program funded by UK's DFID, Canada's IDRC, and the William and Flora Hewlett Foundation. The synthesis focuses on research that investigates the linkages between macroeconomic growth and women's economic empowerment. In total, 30 studies were included in the synthesis, including 11 cross-country analyses, seven on Africa, one on Europe, three on Latin America and the Caribbean, one on the Middle East and North Africa, six on South Asia, and one on Southeast Asia. The aim of this synthesis is to expand the knowledge base and distil key messages on the linkages between macroeconomic changes and women's economic empowerment.

Women's economic empowerment has become increasingly recognized over the last two decades as a key development outcome by governments and key policy and research institutes. The term is defined in many ways, and also often encompasses female labour force participation as a variable to gauge its progress. Women's economic empowerment has also arguably received more attention because it is not only an end in itself but can promote economic growth by adding human capital to the labour market, for example, or through positive spill over effects on the women's children and families. To progress in this area, however, requires that gender inequality in many areas — such as in education and employment — are addressed.

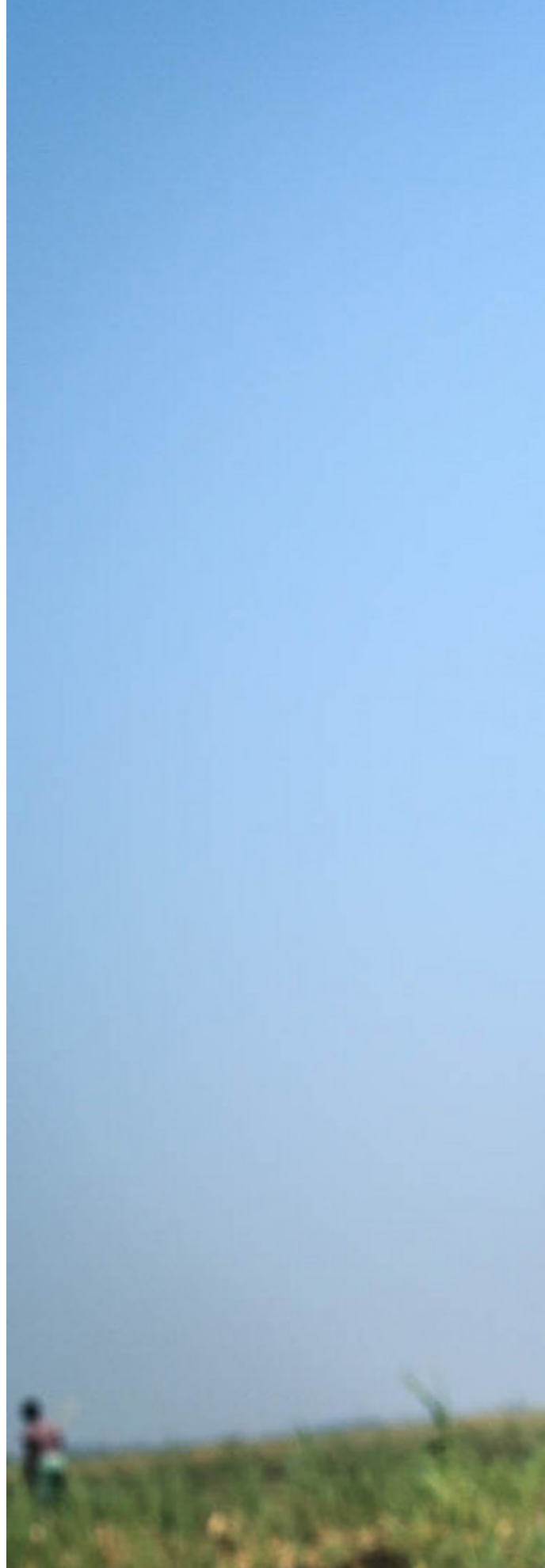
The GrOW research portfolio focuses on the linkages between economic growth and women's economic empowerment, thereby helping to fill some of key research gaps. For example, existing macro-level studies on the impact of gender gaps in employment on economic growth are few because of measurement challenges, but the small body of growing literature indicates that reducing gender gaps in employment is good for overall economic growth. Micro-level studies are also rather limited but are finding promising evidence that advancing women's economic empowerment promotes economic growth through channels such as promoting higher productivity in agricultural work, access to inputs and credits at the firm level, improving women's intra-household bargaining power, and through political empowerment.

Research outputs from the GrOW program add valuable insight to the topic of women's economic empowerment by adding a large body of research and empirical evidence on the topic. It includes studies that examine the impact of economic growth and structural change on women's economic empowerment, and studies that investigate the impact of gender inequality on economic growth. In addition to investigating these linkages, the GrOW research portfolio includes 10 studies on enabling factors — factors that help directly link growth to women's economic empowerment. These factors include three papers on education, three papers on transportation and public services infrastructure, one on childcare, one on financial inclusion, and one on affirmative action policies, as well as one on asset accumulation.

This synthesis is organized as follows:

- In **Section 2**, we lay out the conceptual framework and key definitions.
- In **Section 3**, we provide an overview of the impact of gender inequality on growth in two parts: a review of the macro literature followed by a review of micro literature.
- **Section 4** reviews the literature and studies on the impact of growth on gender inequality. In this section, we focus on employment, women's empowerment in households, trade, and the role of enabling factors.
- The **conclusion** lays out some of the key findings with a focus on policy lessons and actions that can promote women's economic empowerment and economic growth.

We hope that this document provides a useful overview of the new and exciting output of the GrOW research portfolio on macroeconomic growth and women's economic empowerment.





2. CONCEPTUAL FRAMEWORK

DEFINING AND MEASURING WOMEN'S ECONOMIC EMPOWERMENT

The concept of women's empowerment — especially their economic empowerment — started to receive its own place in policy discussions only in recent decades. Kabeer (2012) explains that global commitments such as the Beijing Platform for Action and the Millennium Development Goals helped to strengthen and give shape to the topic by including policy goals and language to support women's empowerment, economic independence, and productive employment. This then led to the recent inclusion and attention to women's empowerment.

These platforms led to the coining of the term “women's economic empowerment” (WEE) by the World Bank in 2006, defined as: “...making markets work for women (at the policy level) and empowering women to compete in markets (at the agency level)” (WBG, 2006, p. 4). Another definition, which includes both women and men is “...the capacity of poor women and men to participate in, contribute to and benefit from growth processes on terms which recognize the value of their contributions, respect their dignity and make it possible for them to negotiate a fairer distribution of the benefits of growth. Economic empowerment means people thinking beyond immediate survival needs and thus able to recognize and exercise agency and choice” (Kabeer, Eyben, & Cornwall, 2008, pp. 9–10).

While the first definition is largely centered on shaping markets, the second includes a host of other measures that reflect wellbeing and equity. The concept of WEE reflected and still reflects numerous perspectives and definitions. A recent literature survey (Laszlo & Grantham, 2017) of WEE across projects funded by IDRC's GrOW program revealed more than 40 different measures, across 32 papers and research proposals. The most common measures were female labour force participation, followed by education rates, autonomy and household decision-making power, gender inequality in social norms, and gender inequality in legal institutions. The variety in definitions is indicative of the term's aim to encompass a comprehensive understanding of WEE.

The existing academic research on WEE in the field of economics, however, often focuses mainly on one narrow set of measures focusing on labour markets: female labour force participation (FLFP), hours worked, and earnings. The focus on employment, while clearly an important indicator, can be quite misleading. As shown by Gasparini and Marchionni (2018; a study supported by IDRC outside GrOW) and Klasen (2018a), women in some regions get out of low-paid unattractive jobs as household incomes improve because the urgent necessity to earn an income recedes. This is one of the key reasons for slow improvements in female labour force participation in developing countries in the past few decades (Klasen, 2018a).



Photo: UN Women/Ryan Brown

This withdrawal from the labour force is seen as an improvement in well-being and empowerment, even if the loss of income might affect women's bargaining power within the home. At the same time, such a withdrawal could be related to the lack of suitable and well-paying job opportunities or relate to social stigmas for more educated women to work in certain sectors or occupations.

Clearly, employment is a limited indicator. For women's economic empowerment, it is critical to consider the quality of employment, including pay and working conditions, ease of access, etc. For an overview on how labour markets can shape WEE, see also the GrOW synthesis report on labour markets by James Heintz (2018).

HOW WOMEN'S ECONOMIC EMPOWERMENT CAN PROMOTE GROWTH

WEE not only pertains to the ability of women to determine the course of their lives but has direct implications for macroeconomic growth. WEE can promote economic growth through many channels, such as adding human capital to the economy, removing a gender-induced distortion in drawing on an economy's best talent, developing a comparative advantage in certain types of manufacturing and service sectors, and by promoting investments in child, household, and community welfare. Yet, to support these arguments with empirical evidence, we must first measure the relationship, which is challenging given the multifaceted nature of WEE. In surveying GrOW projects, Laszlo and Grantham (2017) found that the measurement of WEE can be broken down into a measurement of outcomes and processes. Most of the existing literature focuses on outcomes (e.g. income); there are fewer studies of processes (e.g. capabilities and agency). This may in part be due to data limitations and the challenges of measuring processes, whereas surveys can capture outcomes more easily and clearly.

“ FOR WOMEN'S ECONOMIC EMPOWERMENT, IT IS CRITICAL TO CONSIDER THE QUALITY OF EMPLOYMENT, INCLUDING PAY AND WORKING CONDITIONS, EASE OF ACCESS, ETC.

Measurement challenges are also complicated when going beyond individuals and households to assess macroeconomic effects. In a recent paper, Klasen (2018a) explains that the effects of WEE on macroeconomic growth are difficult to measure due to several methodological challenges. These challenges include: measuring whether micro-level effects are applicable to macro-level effects; the difficulty in capturing positive spill overs that contribute to economic growth (e.g. decrease in child mortality); the difficulty in taking general equilibrium effects into account; and recognition that a sizable portion of women's work is not included in national accounts (GDP estimates).

The literature stemming from the GrOW project that we review below is a collection of studies that address both outcomes and processes of WEE and relate to macroeconomic growth. While there are many measurement challenges, the studies complement each other to paint a coherent picture of the linkages between WEE and economic growth. We also provide a framework for discussion that attempts to bridge the gaps between the different dichotomies at each level of measurement challenges.

MACROECONOMIC CHANGES: HOW AND UNDER WHAT CONDITIONS DO THEY LEAD TO WEE?

There are several channels through which economic growth can promote women's economic empowerment. First, economic growth can stimulate labour demand which can draw women into the labour force. This will depend on the labour intensity of growth (i.e. how many new jobs are generated by growth) and whether the jobs are in sectors and occupations that women can easily access. Conversely, as already discussed above, higher incomes resulting from growth may lead to some women to leave undesirable jobs.

Second, economic growth can promote or accelerate structural change, with implications for female economic empowerment. The effect will depend on the direction of structural change, i.e. the nature of the growth process. For example, if growth is mostly based on expanding capital-intensive resource exploitation, it is likely to lead to fewer opportunities for women's economic empowerment than growth that promotes female employment in export-oriented manufacturing or services.

Third, growth may relieve tight budget constraints at the micro and macro level. At the micro level, this might improve access to vital household infrastructure that might reduce women's unproductive and time-consuming activities (such as fetching water or wood). At the macro level, it can generate higher tax receipts that can be used to increase health and education spending, thereby lowering gender gaps in these areas.

ENABLING FACTORS

Policies at the macro or micro level can be enabling factors linking growth to female economic empowerment. At the macro level, trade policy can provide or destroy economic opportunities for women. Similarly, fiscal policy can provide resources to promote female economic empowerment, by providing public employment opportunities for women in health or education sectors, for example, or by relieving micro-level constraints to greater female economic empowerment, such as providing better, safe, and reliable transportation services or publicly funded childcare. For an overview on the linkages between childcare and WEE, see the GROW synthesis paper on the care economy by Nancy Folbre (2018).



3. EMPIRICAL FINDINGS I: GENDER INEQUALITY ON GROWTH

The GrOW portfolio included several reviews of the literature on the impact of gender inequality on economic growth, including three systematic reviews.

THEORETICAL MECHANISMS

A first review, by Santos-Silva and Klasen (2018), examines the theoretical literature on the relationship between gender inequality and growth. The applied theoretical work tends to emphasize why gender inequality in education or employment can reduce economic growth. For example, the paper by Klasen and Minasyan (2017) presents four arguments about how gender gaps in education can reduce economic performance. First, gender gaps in education reduce the size of the workforce and potential labour hours. Second, gender gaps in education can mute the positive externalities of education on growth, such as a decrease in fertility, decrease in child mortality levels, and intergenerational knowledge transfers via the mother. Decreasing fertility, for example means the working-age population will grow faster than the dependent population. Third, a lower gender gap also increases the talent pool for employers, which should lead to better use of human capital: this has positive growth implications. Fourth, gender gaps in education can prevent countries from benefiting from some female-intensive competitive export-oriented manufacturing industries, industries

that contributed to strong economic growth in East Asia. Therefore, reducing gender gaps in education is one way to foster gender-equitable change and economic growth.

“REDUCING GENDER GAPS IN EDUCATION IS ONE WAY TO FOSTER GENDER-EQUITABLE CHANGE AND ECONOMIC GROWTH.”

Klasen and Minasyan (2017) also identify four channels through which gender gaps in employment can hamper economic growth. The first is that it reduces the natural pool of female human capital and distorts the workforce. Second, gender gaps in employment reduces overall labour force participation. Third, gender gaps in employment hinder countries from taking advantage of female-intensive export-oriented manufacturing sectors. Lastly, gender gaps in employment can reduce women's take-home earnings and, in turn, reduce their bargaining power at home. This bargaining power can have several macroeconomic growth effects, including increase savings, greater expenditures on more productive investments such the education and health of their children. Not surprisingly, many consequences and causes of gender gaps in education and employment are similar or overlap.



Compared to findings from this applied theoretical work, Santos-Silva and Klasen (2018) show that the *growth theory* literature tends to focus on how gender gaps in education or employment affect fertility and the human capital of the next generation. Such effects play out over the long term and can lead to poverty traps for countries with large gender gaps, associated high fertility, and low human capital investments. These models also typically argue that exogenous technological change tends to erode incentives to maintain gender gaps in education or employment, for two main reasons.

First, new technologies will favour brain over brawn and thus erode the male advantage of physical strength. Second, technologies help increase the efficiency of care and housework and reduce the time spent (typically by women) on these activities.

While these mechanisms are plausible, other aspects of technological change may not be so benign. For example, the growing technology, science, and engineering sectors in many countries tend to be very male-dominated, which could increase gender gaps in employment. Where initially there are gender gaps in education, skill-biased technological change can also result in women losing out as demand for unskilled labour falls.

Last, in these models, there usually is a strong role for policy. Promoting female education or employment can help countries break out of their poverty traps and embark on a self-sustaining path of higher growth and greater gender equity.



MACRO-LEVEL SYSTEMATIC REVIEW

Another part of the GrOW portfolio consists of systematic reviews of aggregate studies on gender inequality on economic growth (Klasen, 2018a; Minasyan, Zenker, Klasen, & Vollmer, 2017). The effects of women's economic empowerment on growth are difficult to capture.

Klasen (2018a) identifies five main reasons why it is difficult to measure macro-level effects of changes to growth resulting from narrower gender gaps:

- First, changes in WEE can have many positive effects, such as improved health and education of children: these are often difficult to measure.
- Second, to measure the effect of a change in policy or of gender equity, reactions by other actors must be considered (i.e. general equilibrium effects). For example, to measure the economic growth effect of an increase in female labour force participation, one cannot simply use basic accounting to calculate how much income additional female work would earn at prevailing wage rates. Instead, the effect of this change on male labour force participation, wage rates, or sectoral changes must also be considered.
- Third, a sizable portion of women's work is often not captured in national accounts. Many types of domestic care such as raising children, caring for the elderly, and housework are not included in measuring of GNI.
- Fourth, many studies estimate relationships between variables without necessarily considering the channels and mechanisms behind the relationship. These mechanisms, however, can provide insight and strengthen the robustness of the estimations.
- Last, many studies cannot identify a causal effect to show which factor led to the other: did WEE improve economic growth, or vice versa?

“IT IS DIFFICULT TO MEASURE MACRO-LEVEL EFFECTS OF CHANGES TO GROWTH RESULTING FROM NARROWER GENDER GAPS.

The systematic review of macro-level studies by Minasyan et al. (2017) focuses on the impact of gender inequality in education on economic growth, as this is the only area where there is a large, comparable, and robust literature that can be assessed in a systematic review and meta-analysis. The review includes all publicly available regression analyses using aggregate data that relate a gender-disaggregated education indicator or a gender gap measure to a measure of output or growth of output.

An extensive search of studies published in journals and of working papers yielded 1,421 potentially relevant studies. After screening for relevance and duplication, 264 studies remained. These were subjected to full-text screening by two independent screeners. After screening and the addition of five studies, based on expert recommendations, 54 studies were included in the systematic review. Since nearly all these studies include a number of different regressions, the number of regressions assessed is substantially larger.

The review finds first that most studies show that reducing gender gaps in education promotes economic growth. Second, some of the papers studied use time series methods: although they support the overall conclusion, they are methodologically weak and their findings should be treated with caution. Third, some studies use male and female education as separate variables and find a negative impact of female education on growth: these should be treated with caution as they rely on a problematic model specification that is likely to lead to biased results. Fourth, a meta-analysis of studies that use the ratio of female-to-male education finds that reducing the gender gap in education has, on average, a sizable impact on promoting economic growth that is not influenced by publication bias.

Regressions on the determinants show that the effect of the gender gap on growth is smaller if the model is estimated using fixed effects, when the share of female authors is larger, and when economic controls are included. The effect is significantly larger when the regression controls for average education, includes social or institutional controls, and uses enrolment rates instead of years of schooling. Whether it is published in a peer-reviewed journal or also includes female labour

force participation does not significantly affect the effect.

Based on these results, one can deduce that regression specifications that are arguably the most convincing — use fixed effects, years of schooling as the gap variable, and control for a large number of variables including average education — will carry a sizable and significant positive correlation coefficient, thus providing robust evidence that reducing the educational gender gap improves economic growth.

The existing body of macro-level studies on the effect of gender gaps in employment on growth is still relatively small due to data challenges and endogeneity issues (Gaddis & Klasen, 2014), as well as the measurement issues listed above. In the literature survey, Klasen (2018a) identifies key macro-level studies. We focus on the four most relevant and robust studies.

The first two studies (Cavalcanti & Tavares, 2016; Cuberes & Teignier, 2016) estimate the cost of gender discrimination in employment on economic growth. Cavalcanti and Tavares (2016) find that wage gaps decrease female labour force participation and fertility. Specifically, a 50% increase in the gender wage gap decreases per capita income by 35% in the long run. The authors argue that their findings explain differences in economic growth between the USA and countries such as India, Saudi Arabia, and Egypt. Cuberes and Teignier (2016) find that restrictions on female employment lead to an income loss of 27% in the Middle East and North Africa (MENA), 19% in South Asia, and 10% in Europe.

The third study by Klasen and Lamanna (2009) analysed regional data over a 40-year period. It found that gender gaps in labour force participation negatively affect growth. For example, in the 1990s, employment gaps led South Asia to annually lose some 0.2-0.4 percentage points (pp) in growth compared to East Asia. The results were particularly significant in the Middle East.

In applying the results of this study to Europe, Klasen and Minasyan (2017) found that gender gaps in employment led to substantial losses, hampering annual per capita growth by 0.8 pp in Ireland in the 1980s and 1990s, Spain in the 1970s and 1980s, and Portugal in the

1970s. Cumulatively, these countries lost about 17.3 pp in economic growth. This amounts to an 8.3 pp loss of output over a decade and 17.3 pp over two decades, compared to the top performers, which were Finland in the 1970s and 1980s and Sweden in the 1990s. For the United Kingdom, France, and Germany, the cumulative costs are more moderate but still amount to about four percentage points per decade.

A fourth study (Esteve-Volart, 2004) in India finds that gender gaps in employment and managerial positions have a negative effect on growth. Analysing 30 years of panel data across Indian States, Esteve-Volart finds that the gaps not only reduce income per capita, but distort the allocation of talent.

In short, the studies that link gender gaps in employment to growth are limited, but they generally find a negative relationship: gender inequality hurts growth. However, there are many issues surrounding the measurement of macro-level effects, making it difficult to clearly estimate the direction and magnitude of the effect. Micro-level findings can perhaps help provide another level of evidence on the relationship between WEE and economic growth.

MICRO-LEVEL FINDINGS

A small body of micro-level studies focus on the linkages between WEE and economic growth. They share measurement challenges with the macro-level studies: accounting for positive externalities or spill over effects, making it difficult to ascertain the aggregate-level effects. However, the literature on micro-level findings is growing.

Klasen (2018a) identified four research areas on this topic.

- The first area of research relates to farm and agricultural work. Several papers (Croppenstedt, Goldstein, & Rosas, 2013; Goldstein & Udry, 2008; Udry, 1996) find that gender inequality in terms of access to land, inputs, and agricultural technologies leads to reduced farm productivity. For example, Goldstein and Udry (2008) find that inequality in land rights in Ghana leads women to shorten fallow

periods (i.e. slash and burn agriculture), which can destroy the fertility and productivity of the soil. This inefficiency is estimated to cost 25% of output, which amounts to 1% of GDP.

- The second area of research is on the relationship between access to inputs, credit, and labour on firm efficiency. This is a nascent field of literature, and not yet resolved. Impact evaluations, however, seem to indicate that small-farm interventions may disproportionately benefit men over women (McKenzie & Woodruff, 2014).
- The third research area largely pertains to other indirect factors that can strengthen WEE, such as women's greater intra-household bargaining power and political decision-making power. A host of robust studies show that greater intra-household bargaining power improves the health and education of children, which has a positive effect on economic growth.
- Finally, several studies (Bhalotra & Clots-Figueras, 2014; Chattopadhyay & Duflo, 2004; Duflo, 2012) show that women's political empowerment can improve economic growth through the provision of public goods, better human capital, and reduced child mortality.



The GrOW portfolio also included a review of micro studies of interventions to promote women's economic empowerment (Ibanez, Sahoo, Balasubramanian, & Khan, 2018). It finds that interventions to promote women's economic empowerment (e.g. improving financial access, promoting entrepreneurial activities, promoting employment or supporting women farmers)



have a modest impact on human development in low- and middle-income countries. These interventions promote employment and increase income, subjective well-being, and income security. Some interventions also increase enrolment in training. Yet, there are no significant effects on savings, access to credit or health. There are also no significant effects on female empowerment within households, domestic violence, or consumption. As these interventions focused on women, it is not clear whether the effects would have been similar had the interventions focused on men.

dimension of WEE on growth are fewer but generally support the positive linkage. The literature on the impact of policy and interventions is still quite specific and hard to generalize.

“ THERE ARE ROBUST FINDINGS ON THE IMPACT OF GENDER GAPS IN EDUCATION ON GROWTH: THE EMPIRICAL FINDINGS ON OTHER DIMENSION OF WEE ON GROWTH ARE FEWER BUT GENERALLY SUPPORT THE POSITIVE LINKAGE.

To summarize, a large theoretical and empirical body of literature shows that reducing gender gaps and promoting WEE can boost economic growth. There are robust findings on the impact of gender gaps in education on growth: the empirical findings on other

4. EMPIRICAL FINDINGS

II: GROWTH ON GENDER INEQUALITY

To investigate the effect of macroeconomic growth on gender equality, GrOW researchers have focused on two main channels: employment and women's empowerment in the household. The studies on employment mainly find that economic growth alone has no clear impact on female employment. Rather, it depends strongly on the type of growth and the associated structural change. Growth can worsen occupational and sectoral segregation by gender. The studies on women's empowerment in households find that economic growth increases women's empowerment and decision-making power, with strong positive externalities on other family members. Among the various factors enabling WEE, the impact of greater trade on gender inequality largely depends on the type and gender composition of manufacturing sectors of a given country and is therefore highly country-dependent. The studies find, for example, a mixed effect in Brazil but a positive effect in Indonesia.

In addition, researchers focused on other factors that help strengthen the link of growth to WEE, such as education, transportation and infrastructure, childcare, financial inclusion, and affirmative action policies.

EMPLOYMENT

Klasen (2018b) shows that growth has a very uneven impact on female employment. In some regions, most notably Latin America and the Caribbean, economic

growth has been accompanied with substantial increases in female employment in recent decades. Growth in many Asian countries, including India and China, was accompanied with declining female participation. This confirms that there are no universal trends linking growth and female employment, such as the feminization U hypothesis (Gaddis & Klasen, 2014). What matters is how women's employment decisions are made independently from the economic



and social conditions of the households; the nature of social stigmas militating against (certain types of) employment for women, particularly those who are educated; and the growth of employment opportunities in sectors deemed appropriate for women.



Economic growth may also do little to increase the attachment of women to the labour force. Using a nationally representative panel dataset for India, Sarkar, Sahoo, & Klasen (2017) show that women are not only participating less in the labour force, but are dropping out at an alarming rate. To investigate the determinants of women's entry and exit from employment, they estimate an endogenous switching model that corrects for selection bias due to initial employment and panel attrition. They find that higher incomes of other members of the household lead to lower entry and higher exit probabilities of women. This income effect persists even after controlling for the dynamics of the household's asset holding. Along with the effects of caste and religion, this shows the importance of cultural and economic factors in explaining the declining workforce participation of women in India. They also explore other individual- and household-level determinants of women's employment transitions. Moreover, they find that a large public workfare program significantly reduces women's exit from the labour force.

Closely related to these findings is evidence indicating that occupational and sectoral segregation persists with economic growth. A study by Borrowman and Klasen (2017) found that economic development (measured as GDP per capita, PPP) had no statistically significant effect on occupational or sectoral segregation. Their results confirm earlier findings by the World Bank (2012) that argued that economic development is insufficient for integrating labour markets along gender lines.



OCCUPATIONAL AND SECTORAL SEGREGATION PERSISTS WITH ECONOMIC GROWTH.

Borrowman and Klasen used panel data and country fixed effects to analyse 69 developing countries from 1980-2011, using the World Bank International Distribution Database. The final dataset included a sample of countries across the following regions: sub-Saharan Africa (n=24), Latin American and the Caribbean (n=20), East Asia and the Pacific (n=10), Europe and Central Asia (n=5), and the Middle East and North Africa (n=2). Using several measures of segregation, they found that as economic development increased, occupational and

sectoral segregation increased in more countries than decreased. This is particularly the case for occupational segregation. Even when economic growth promotes female employment, women still largely enter sectors and occupations that are already dominated by women, or into female-dominated jobs. A nuanced view of the mechanism can be illustrated by a case study of Ghana's extractive sector (see below).

Given this strong segregation, the impact of economic growth on female employment will depend on which sectors expand and shrink because of growth or the pattern of structural change. Several GrOW studies consider the impact of structural change or sectoral developments on women's employment.

Enchautegui (2018) investigates the impact of the various components of GDP on female labour force participation (FLFP) of 94 low- and middle-income countries over a 24-year period from 1991-2014. She finds that, compared to growth in value added of the service sector, growth of the agricultural sector, and growth of a broadly defined natural resources sector (comprising water, gas, construction, mining, and electricity) are associated with reduced gender gaps in participation

The finding that a decrease in the private sector increases gender inequality is rather surprising given that most private sector work is informal. This indicates that greater gender inequality exists in the informal sector where women are largely concentrated. Two possible explanations are posited: the countries in the study are still developing, and do not have white collar positions available for more educated women; and agriculture is still the main economic activity in many developing countries, making it more important than the service sector.

Enchautegui also provides comparative statistics of labour force participation by males and females from 1991 to 2014. This shows that, on average, for the 94 studied countries, FLFP increased in total by 3.7 percentage points (pp), while male LFP decreased by 2 pp. This helped close the gap from 28 to 22 pp. It is unclear whether some of the increase in FLFP is due



to more men exiting from the market. A variety of methodological and data issues with the study might also affect the results.¹

An earlier study by Gaddis and Klasen (2014) investigated the extent to which sectoral value-added growth is associated with rising female participation. They find that rising shares of mining lead to lower female participation while rising shares of manufacturing and of some services are associated with greater female participation.

Baah-Boateng, Baffour, and Akyeampong (2017) provide a case study showing how sectoral segregation can persist despite economic growth. They analyse Ghana's mining sector, using the same segregation indices (Duncan index of dissimilarity, and the Karmel and MacLachlan Index) as Borrowman and Klasen (2017). They also use an Oaxaca-Blinder decomposition approach to identify the composition of earnings by gender. Analysing a sample of some 1000 men and women in the mining sector from the Ghana Living Standards Survey (2005-06 and 2012-13), Baah-Boateng et al. (2017) find that women are relegated to some of the worst occupations in the sector. For example, they are often relegated to the most menial and toxic work. In mining and petroleum, 60% of women and 41.6% of men have elementary job status: one rung up, in production,

women make up 28.9% of workers while men account for 41.3% of men. Women also earn, on average, 47.6 to 57.3% less than their male counterparts. The authors cite rigid gender norms as the main determinant of gender and wage gaps, such as the belief that women are bad luck.

Gender norms also strengthen overall sectoral segregation in Ghana where women comprise only about 19% of extractive sector workers. The shares of women in small-scale mining are much higher in Guinea (75%), Mali (50%), and Zimbabwe (50%). In short, despite an increase in economic growth — and the development of a sector — progress toward greater WEE requires addressing the barriers to occupational and sectoral equity, such as gender norms.

A second paper (Konan, 2017) also explores the relationship between artisanal mining and gender. The study finds that in the Ivory Coast, among those employed in mining, women earned less than men. This gender pay gap was attributed to cultural norms and social barriers (distance, safety). The 2016 survey included 1,842 working men and women in 20 regions, between the ages of 15-60. The author first created an empowerment index, and then used the index to employ propensity score matching to match miners and other workers, to calculate the likelihood of being employed in small-scale mining. Using the Oaxaca-Blinder estimation method to investigate wage differentials, the author found that women earn 24% less than men. According to the decomposition, 52% of the salary difference between men and women was explained by gender.

Interestingly, being employed in small-scale mining was estimated to increase the probability of being empowered by 15%. While working in small-scale mining can increase female empowerment, the effects are relatively small. This may be due to social and infrastructure barriers (distance, safe transportation,

¹ They use annual data which necessitates examining and adjusting for time series properties (e.g. autocorrelation, stationarity) which is only partly addressed. They do not include a lagged dependent variable but such dynamic panel models are usually required for such analyses. One would then have to deal with biases of including a lagged dependent variable using GMM methods. Lastly, they appear to focus on the age group 15+ where changes in education also greatly affect labour force participation rates which is not controlled for. This also explains the falling labour force participation of males.

protection from theft and physical violence). To reduce these barriers, the author recommends building schools for the children of women near mining facilities.

Gasparini and Marchionni (2017) investigated determinants of FLFP over a 20-year period in Latin America. While female participation has increased in Latin America, the rate of increase slowed down after 2000. It is difficult to identify the cause of the deceleration. Possible reasons include: sluggish overall employment growth, also for males; sectoral segregation that favours males; and improving household incomes and state transfers (particularly for poorer households) that might have enabled some women to leave low-paying or otherwise undesirable employment.



ECONOMIC GROWTH HAS NO CLEAR LINK TO FEMALE EMPLOYMENT. BECAUSE OF CULTURAL AND SOCIAL BARRIERS AND STRONG OCCUPATIONAL AND SECTORAL SEGREGATION, THE TYPE OF GROWTH MATTERS.

In summary, these studies show that economic growth has no clear link to female employment. Because of cultural and social barriers and strong occupational and sectoral segregation, the type of growth matters. While growth based on natural resources, such as mining, does little to promote female employment opportunities, growth strategies based on export-oriented manufacturing can promote women's employment, particularly those with medium levels of education. Similarly, growth in public or publicly financed service sectors, such as health, education, and public administration, can also determine women's employment opportunities.

WOMEN'S EMPOWERMENT IN HOUSEHOLDS

Economic growth can also influence more than employment, directly and positively influencing women's empowerment in households. In a large cross-country study, Braga, Astone, Peters, and Woods (2017) found that GDP growth leads to greater female intra-household bargaining power. Using a sample of one million married women across 36 countries (and a total of 99 surveys), the authors find that — holding all else

constant — an increase in GDP per capita, improves several measures of WEE. The dataset comes from Demographic and Health Surveys for the period 2000-2014 and employs a country- and time-fixed effects regression estimation method.

The two main outcome variables are self-constructed indices. The first measures intra-household bargaining power based on whether women participated in decisions pertaining to major household purchases, visiting family and friends, and even her own health care. The second measure pertains to attitudes about domestic violence, which is based on five separate questions that measure a women's willingness to justify the violence.

The authors find that a 4% annual growth rate in GDP per capita, over a five-year period, led to a 5% or so increase in the number of decisions a married woman participates in. Education accounted for a 6.6% increase in decision-making, and employment led to a 9% increase. Factors that decreased decision-making power were having children (although by a trivial 0.007 pp per child) and being Muslim (a decrease of 0.26 pp). The effects of economic growth on domestic violence were insignificant.

In a follow-up paper, Peters, Braga, Woods, Okoli, and Astone (2018) use the same dataset to investigate the impact of economic growth on attitudes toward domestic violence and the experience of domestic violence. Overall, their results suggest that attitudes toward violence do not respond directly to changes in national income. However, they do change indirectly over time, in line with social and cultural changes that are associated with economic development. The experience of intimate partner violence (IPV) appears to be more resistant to change, either directly through changes in national income or indirectly through changes associated with economic growth.

Moreover, because of the positive correlation between women's labour force participation and IPV, economic growth may have a built-in backlash - as women increase their labour force participation, men may be more likely to use violence to assert their power and control.

The question of whether employment leads to backlash and more violence was also investigated by Lenze and Klasen (2017) who analyse the effect of women's employment on domestic violence in Jordan. The authors find that without controlling for the endogeneity of domestic violence and employment, employment would have appeared to be positively associated with all forms of domestic violence. This endogeneity can be the result of reverse causality or the impact of some unmeasured third variable and it will bias the effect. After addressing this problem, they find that employment has no effect on partner violence in general; there is some evidence that it lowers sexual violence. The reduction in sexual violence is believed to be due to women's increased bargaining power at home.

“ **ATTITUDES TOWARD VIOLENCE DO NOT RESPOND DIRECTLY TO CHANGES IN NATIONAL INCOME. HOWEVER, THEY DO CHANGE INDIRECTLY OVER TIME, IN LINE WITH SOCIAL AND CULTURAL CHANGES THAT ARE ASSOCIATED WITH ECONOMIC DEVELOPMENT.**

Extending this analysis to 35 countries, Khan and Klasen (2018) find that, without taking endogeneity into account, the estimation suggests that a woman's employment increases violence by her spouse. After controlling for endogeneity, these results turn out to be the opposite, which suggests that women's employment status has a negative influence on domestic violence. Breaking down the estimation by region shows that women's employment decreases domestic violence in all regions except Latin America and East Africa. Differentiating by employment type shows that women working in agricultural occupations experience more intimate partner abuse.

A study by van Biljon (2017) found that an increase in income (receiving pensions) increases female intra-

household bargaining power and child health (measured as weight-for-height ratio). The study of state pensions in South Africa finds that pensions strengthen female bargaining power relative to younger males and females in the household. For both men and women between the ages of 15 and 60, residing with a female pension recipient decreases the probability of being the primary decision-maker by 9 pp. This effect is smaller and less robust when the pension recipient is male, where it only decreases the probability of younger household members being primary decision-makers by 2pp. When women are the recipients of old-age pensions, female bargaining power within the household increases, while female bargaining power decreases when men receive pensions.

Households that have a female pension recipient are 5 pp more likely to have a female primary decision-maker. When considering the change within a household, a female taking up the old-age pension is associated with a 3-4 pp increase in the probability of a household having a female primary decision-maker. When a male household member receives the pension, the probability of having a female primary decision-maker decreases by 2 pp. It therefore seems that resources held by grandmothers enable women to be primary decision-makers in the household. This suggests that the increase in children's well-being is due to the greater bargaining power of women with pensions. In short, pensions given to women increase WEE and bargaining power, which leads to greater investment in the well-being of the children in the household.



A study by Konan (2017) supports these findings. Measuring differences in spending patterns between empowered and non-empowered women, he found that 90% of empowered women invested in education and health fees for their children.

In sum, there is some evidence that growth and women's rising incomes improve their empowerment in the home, but this pertains only to some indicators and seems far from guaranteed. The papers also confirm that greater female empowerment in the home also leads to greater investments in child health and education.

ENABLING FACTORS

Trade

The relationship between trade policies and WEE is mixed, largely due to country-specific factors. For example, a policy change that favours female-intensive sectors may lead to a positive effect on WEE. Policies to liberalize trade, however, affect both genders but often have a disproportionately negative economic and employment effect on men. This may help to strengthen WEE, in a relative sense. Below we outline cases where women benefited from trade reforms (Indonesia); cases where women benefited relatively by losing out less than men in trade reforms (Brazil); cases where they were hurt more than men (South Africa); and cases where rising poverty associated with trade reforms led to higher female distress employment (India).

“POLICIES TO LIBERALIZE TRADE, HOWEVER, AFFECT BOTH GENDERS BUT OFTEN HAVE A DISPROPORTIONALLY NEGATIVE ECONOMIC AND EMPLOYMENT EFFECT ON MEN.

In the trade literature, adverse economic effects of trade liberalization are often worse for men than women. While both men and women benefit from cheaper goods, their employment opportunities are affected unevenly. Men are often disproportionately employed in the tradable sector, where competition decreases employment. Women, however, are often overrepresented in the service sector and are therefore less affected.

Braga (2017) shows that trade liberalization in Brazil, for example, had a surprisingly positive effect on women's empowerment as a result of higher male unemployment. Braga investigated the effect of the 1990-95 changes in tariff rate across 411 micro-regions, municipalities in a state with similar economic characteristics, with varied levels of exposure to the tariff change. He then looked at the effect on 20-35-year-old low-skilled workers. Using difference-in-differences, he found that trade liberalization reduced work for pay for both women and men: the decrease was greater for men (2.8 pp)



than for women (1.6 pp). The decrease in employment was then associated with a decrease in the marriage rate for women, a decline in single-parenthood, and a decrease in women's fertility rates. The effects were most pronounced for women without high school diplomas, and for women in micro-regions that were most affected by trade. These women were also less likely to marry low-skilled men, and therefore postponed marriage and childbearing.

The positive effects on WEE shown in Braga's paper (2017) must be considered alongside findings by Gaddis and Pieters (2017) who show that employment rates often decline with trade liberalization. The authors investigated changes in tariff rates during 1987-98 on microregions in Brazil, analysing the impact on 1991-2000 data on labour force participation and employment rates of both men and women. The people studied were 25-55 year-olds working in paid, unpaid, formal, and informal work. Gaddis and Pieters found that Brazil's

reduction in tariffs decreased labour force participation and employment for both men and women. The impact was two to three times greater for men, likely due to their larger representation in the tradable sector. This decreased the absolute gender employment gap, but not because women's participation increased. Most affected were low-income men and women in the tradable sector. In addition, the authors found that men were able to relocate to the service sector more easily than women. There was no significant association between trade liberalization and labour force participation for high-skilled workers. The findings accord with Borrowman and Klasen (2017) who found that despite economic growth, segregation of men and women in the labour force persists.

Similarly, Lepelle, Edwards, and Leibbrandt (2017) found that a decrease in tariffs in South Africa had a negative effect on female and male employment. Here the effect was more severe for women. The study investigated the differential effect of trade liberalization on regional employment by gender in South Africa over the period 1996 to 2011. They drew on employment data for 234 municipalities and exploited variations in pre-liberalization industry composition of manufacturing to identify the effect of tariff reductions on employment in manufacturing and services. They found that trade reform reduced employment in manufacturing for both men and women, but its effect was significantly stronger for women.

The gender-specific effects are driven by the industry-bias of tariff reform with female-intensive industries, such as apparel, experiencing relatively strong reductions in tariffs. They find no evidence that women benefited from trade-induced technology change or changes in the demand for skilled labour. In addition, they find that employment in the services sector fell in response to trade reform, although the effect is homogenous across gender. They argue that these results arise from reduced household income, a decline in derived demand for services, and reductions in infrastructure investment arising from the decline in manufacturing in these regions.

In follow-up work, Lepelle et al. (2018) look at the effects of trade reform on labour migration in South Africa. The

extent to which labour markets are affected by trade liberalization depends on the ease with which labour and factors of production reallocate across regions and sectors of the economy. This paper considers this key question by observing the effect of tariff reform on the spatial reallocation of labour across regions in South Africa between 1996 and 2011. The paper also examines how labour force impacts depend on migration frictions stemming from disparities in the skill level of workers and gender differences, among other factors. They find that tariff reductions on imports in SA induced a spatial reallocation of labour. They find no robust effect of tariff reform on the decision to migrate from a region, but a strong influence on the destination region. Migrants select regions that have relatively low shares of manufacturing in total employment and that experienced relatively low reductions in exposure to tariffs. These results are robust to the inclusion of controls for infrastructure, income, aggregate employment, and firm entry.

Gupta and Pieters (2018) looked at changes in female labour supply in a context of rising poverty. They studied India's trade liberalization in the 1990s, which led to increased poverty in rural areas (Topalova, 2007, 2010). Examining whether households resorted to female labour supply to cope with the negative income effects of liberalization, they found that tariff cuts did increase labour supply in the poorest 50% of districts. Among the very poorest quartile of districts, this increase is driven by men employed in public works. Since the public works programs in the 1990s mostly targeted the lowest income quartile (Dutta, Howes, & Murgai, 2010), this option was not available to households in less poor districts. Indeed, in the second-poorest quartile of districts, women increased their participation in unpaid agricultural work, and were less likely to primarily engage in domestic duties. Since most of the increase occurs among women who are less educated and belong to lower social status, the authors conclude that this labour is used as an insurance against negative income shocks.

It is also important to note that while there are general trends in terms of how trade policies affect local labour markets, not all countries will fit the model. By understanding how country-level factors and contexts

can create new pathways, they can also help contribute to the dialogue on policy changes and directions for other countries. For example, when employment favours female-intensive sectors, the effect can be positive. This was the case of Indonesia. Kis-Katos, Pieters, and Sparrow (2017) found that a decrease in input tariffs increased FLFP. In Indonesia, trade liberalization resulted in greater job opportunities as reductions in input tariffs essentially made production in those sectors more competitive. A one standard deviation reduction from the mean in input tariffs led to a 5.8 pp increase in employment for women aged 20 and over. The increase also corresponded to an equivalent decrease in the share of women who considered their primary work as domestic work. The authors found that changes in output tariffs, however, did not influence FLFP, as was the case in Brazil.

In terms of sectoral segregation, the authors surprisingly found that female-intensive sectors benefited from the input tariff liberalization in low-skilled activities, which indicates a level of segregation. However, women also moved into more male-dominated sectors. Kis-Katos et al. (2017) also found some indirect support for technology-induced increases in demand for female workers. Furthermore, they found direct evidence that tariff reductions delayed the timing (not the occurrence) of marriage among women aged 20-29, and men aged 30-39. This was not addressed in the paper but could have some strong positive social implications for childrearing and WEE. The case of Indonesia deviates from the cross-country study of sectoral segregation by Borrowman and Klasen (2017).

“ THE EFFECTS OF TRADE LIBERALIZATION DEPEND ON COUNTRY CONTEXTS [...] BUT OFTEN IT LEADS TO JOB LOSSES AND RISING POVERTY.

In sum, the effects of trade liberalization depend on country contexts. When it increases the competitiveness of female-dominated sectors, it can promote WEE. But often it leads to job losses and rising poverty, at least in the short to medium term.

OTHER ENABLING FACTORS

As outlined above, there are several different channels through which economic growth can either weaken or strengthen gender inequality. These channels themselves can also be supported by several enabling factors, such as education, transportation and public services infrastructure, childcare, financial inclusion, and affirmative action policies. Each of these factors can strengthen and support the impact of growth in FLFP and, more importantly, WEE.

As already discussed, a large body of literature shows that reducing gender gaps in education has a positive effect on economic growth, with employment as a key intermediating variable. Four well-documented mechanisms are: increasing the quantity of human capital available to society; a decrease in fertility rates; the ability to grow female-intensive export-oriented manufacturing industries; and through positive externalities that are passed onto the next generation (Klasen, 2018a; Seguino, 2017).

The first mechanism lifts the artificial barrier placed on females, where less qualified male equivalents are used instead. The second mechanism alludes to the phenomenon of the demographic gift, where the dependent population shrinks relative to the working population spurring economic growth. The third mechanism refers to industries, such as in Indonesia, which are largely dominated by women. The fourth mechanism refers to an increase in maternal education and how it can improve child nutrition and education.

But as discussed in Klasen (2018b) and Klasen and Minasyan, (2017a), closing the gender gap in education does not necessarily promote female employment in a commensurate way. In MENA and South Asia, massive improvements in female education have not been accompanied by increases in female employment, for reasons discussed above. Clearly, female education helps increase women's economic empowerment, but it is not sufficient.

Education can play a role at the micro level, and **vocational education** can be a particularly effective in bringing women into the labour force. In Nepal,

the evaluation of a large-scale vocational education program — the Adolescent Girls Employment Initiative that provided training to both men and women — found a disproportionately larger effect for women (Chakravarty, Lundberg, Nikolov, & Zenker, 2017). The program specifically targeted people aged 16-24, providing them with technical training in incense stick rolling, carpentry, tailoring, welding, masonry, and more. Depending on the skill, the courses took anywhere from four weeks to three months.

“ **FEMALE EDUCATION HELPS INCREASE WOMEN'S ECONOMIC EMPOWERMENT, BUT IT IS NOT SUFFICIENT.**

The study found that the training had a strong positive effect on becoming and remaining employed. Training led to an increase in 28 pp (overall increase: 93%) in non-farm-related work, and a 71% increase in average monthly earnings. There was, however, no significant effect on farm-related work. The program also improved the overall employment rate by 62 hours per month. The impact on women was significantly larger: in 2012, while men experienced a 10% increase after the training program, women's employment rate increased by 40%. The program ran from 2009-2012, with around 4,500 female participants. The study provides evidence that training programs can bring immediate results in the short-run and be a useful intervention when targeting women.

“ **TRAINING PROGRAMS CAN BRING IMMEDIATE RESULTS IN THE SHORT-RUN AND BE A USEFUL INTERVENTION WHEN TARGETING WOMEN.**

Investments in transportation infrastructure can also strengthen the effect of economic growth on WEE. Zolnik, Malik, and Irvin-Erickson (n.d.) studied gender differences in the use of the Lahore Metro Bus System (LMBS) in Pakistan. The authors measured the strength of relationships between gender, trip purpose, and type

using odds ratios to measure effect size. They found that women are 77.8% less likely to work outside of their homes compared to males and 61.5% less likely to travel alone but are much more likely to use the LMBS on a daily basis. Women are also more likely than men to come and go directly from and to their homes. The authors also found that women more commonly take the bus for purposes not related to their employment. They are also more likely to travel with other people (possibly for physical safety reasons). In short, transportation use differs strongly by gender; and safety may help increase the possibility for women to travel alone and use public transportation to commute to work.

“ **TRANSPORTATION USE DIFFERS STRONGLY BY GENDER; AND SAFETY MAY HELP INCREASE THE POSSIBILITY FOR WOMEN TO TRAVEL ALONE AND USE PUBLIC TRANSPORTATION TO COMMUTE TO WORK.**

In neighbouring India, Lei, Desai, and Vanneman (2017; a study supported by IDRC outside GrOW) found that improvements in transportation increase female non-agricultural LFP by facilitating access to work, providing greater free time. They also help change gender attitudes. The authors analysed household data from the India Human Development Survey, collected in 2005 and 2012. Over 42,000 households, randomly sampled across 1,503 villages in 388 districts, were interviewed. For the panel analysis, 3,373 women and 5,605 men between the ages of 25-59 were included. The authors employed a cross-sectional analysis combined with panel analysis to identify first, the changes in non-agricultural labour force participation rates differentiated by gender, and second, the effects of roads and buses on female labour force participation (and accounting for gender norms, measured through *purdah*²).

An increase in bus services increased FLFP in non-farm work at the intensive margins, and an increase in paved roads and the frequency of bus services both increase FLFP in non-farm work at the extensive margins. The

² The word *purdah* means seclusion, and applies to the behavior of women, to seclude themselves in front of men, such as covering one's face, or not being alone with a man in a public place.

authors then investigated how gender norms affects these results by controlling for the level of purdah practiced in the community. Results show that the positive effects are weaker in villages where purdah is considered common practice, "...even when the women are provided easier access to non-farm jobs, they are unable to take advantage of the job opportunities due to restrictions on their physical mobility and norms preventing interactions with unrelated men" (Lei et al., 2017, p. 21). So, while expanding transportation infrastructure can bring women into the labour force, gender norms must be considered.

Investments in **public service infrastructure** may also help women access greater employment opportunities. Research by von Fintel and Moses (2017) found that migration, for both black African men and women, is no longer primarily driven by marriage and familial considerations. Although female migration patterns tend to follow those of men, increased female labour force participation in the last two decades suggests intentional co-migration is no longer the dominant reason for female migration. Instead, black African women tend to move to regions where the earnings of (both black and white) men are high (not just of women). This implies that female migrants move based on information about earning potential which does not directly include them. One explanation is that women are drawn to better public services in areas with higher earnings. Given that women no longer move primarily for family reasons, nor do they appear to relocate in response to labour market benefits that accrue specifically to them, the authors suggest that better service provision is a key motivator in their migration decision. This is supported by a positive association between the effective targeting of the Child Support Grant in a region and female migration flows to that region. Because public services matter for women's migration decisions, public resources must be managed more effectively.

“ INVESTMENTS IN PUBLIC SERVICE INFRASTRUCTURE MAY ALSO HELP WOMEN ACCESS GREATER EMPLOYMENT OPPORTUNITIES.

A report by Peters, Astone, Malik, Maret, and Heller (2016) also emphasizes the importance of gender norms in facilitating meaningful changes for WEE. The report explains that infrastructure development such as electrification, public transportation, access to water, access to technology, and street lighting can all help promote WEE, but they must be accompanied by safety measures for women. Infrastructure alone cannot help women if they are prone to harassment and violence when using the infrastructure. In short, while necessary, infrastructure is insufficient: **norms must also change**. Norms and attitudes can have a powerful role on preventing women from entering the labour market. As discussed earlier, despite optimal conditions for increased female labour force participation in India, such as income growth and gender equality in education, gender norms against female employment have kept women out of the labour force (Sarkar et al., 2017).

Peters et al. (2016) also studied the role of childcare on WEE. They conducted a literature review using the search terms: women's labour force participation, women's labour supply, child care, time poverty, gender certified firms, workplace health, and workplace violence: they found 400 reports since 1995. A large body of literature found that childcare has a positive relationship to FLFP: many studies indicate that either greater availability or lower cost of childcare has a positive effect on FLFP.

In terms of WEE, the report argues that there is insufficient evidence that childcare increases free time for women, or whether the saved time is spent on other domestic work, perhaps even in addition to work outside the home. Also, the authors did not evidence that childcare can help women move from the informal to the formal sector. In addition to the direct relationship between childcare and FLFP, access to childcare can have other positive externalities that can support economic growth. Examples include improvements in developmental outcomes when children are placed in early-childhood education programs and some job creation in the childcare sector. However, the latter can be problematic as many of these jobs in developing countries tend to be informal and poorly paid.

Financial inclusion can also support women's economic empowerment. A study by van Biljon, Pasha, and von Fintel (2018) found that formal financial inclusion increases a woman's intra-household bargaining power, which in turn increases the likelihood that she participates in the labour force. The authors evaluated a program in South Africa, through which women received a Child Support Grant (CSG) cash transfer bank card (SASSA). The grant is a proxy for financial inclusion, which is used as a measure of women's economic empowerment. The authors control for reverse causality and endogeneity issues by instrumenting WEE with the cash transfer.

“ FINANCIAL INCLUSION INCREASES A WOMAN'S INTRA-HOUSEHOLD BARGAINING POWER, WHICH IN TURN INCREASES THE LIKELIHOOD THAT SHE PARTICIPATES IN THE LABOUR FORCE.

Results show that women who received a cash transfer gained greater decision-making power within the household, which encouraged them to enter the job market. Women who became the primary household decision-maker increased their probability of employment by 92 pp. Women who already had autonomy before the treatment still experienced a 54 pp increase in the probability of working, when they became primary decision-makers. Women who were never the primary decision-makers in their households also experienced a 42 pp increase in the probability of working. Financial inclusion had a strong effect among women who had not had a bank account before the bank card rollout, and a stronger impact on women who lived in male-dominated households. Findings support the standard non-cooperative theoretical model that posits that greater female autonomy increases female labour supply. Interestingly, the authors did not find a significant effect for men, which implies that gender norms drive the results: men may already possess a large degree of bargaining power.

Finally, **affirmative action policies** can facilitate the linkages between growth and WEE. In South Africa, a study by Klasen and Minasyan (2017b) found that when targeted appropriately, affirmative action policies can

help bring women into the labour force, and also into top occupations, reducing occupational segregation. The authors estimate the effect of three different affirmative action policies on high-skilled black women in South Africa. They find that the Employment Equity Act of 1998 had a small, delayed impact; the Black Economic Empowerment Act of 2003 had a positive effect; and the Codes of Good Conduct of 2007 had a negative effect.

“ AFFIRMATIVE ACTION POLICIES CAN HELP BRING WOMEN INTO THE LABOUR FORCE, AND ALSO INTO TOP OCCUPATIONS, REDUCING OCCUPATIONAL SEGREGATION.

The Black Economic Empowerment Act of 2003 led to a 2.2% higher likelihood of women being employed in a top-level occupation. This was then set back by the Codes of Good Conduct of 2007, however, which led to a 3% decrease in the probability of women's employment in a top-level occupation. The authors suggest that the differences in effects are due to poor job growth overall and low compliance. However, when designed appropriately, affirmative action policies have the potential to help reduce gender gaps in employment by reducing occupational segregation.

In addition to these enabling factors, three studies found that some factors had no effect on WEE or even worked against WEE. The first study tested whether **asset accumulation** could also strengthen the relationship between economic growth and WEE. A study supported by IDRC outside of GrOW by Desai and Barik (2017) investigated poor women in rural areas over 60 years using the Indian Human Development Survey, a nationally-representative sample of households in 2011-12. The authors found a strong relationship between extended household residence (inter-generational co-living) and land ownership. Older women were more likely to live with their children when the household owns land. For women, however, there was no relationship between land ownership and health expenditure (there is a positive relationship for older men in comparison to working-age men). For households with land, older men get more decision-making power, but there was no effect for women. In

the long-run, the importance of land (which has poor returns) is declining, and death of the patriarch leads to land fragmentation. This can be problematic as land was often used as informal payment by the parents for caretaking by the children. This study indicates that asset accumulation of land may not increase women's intra-household bargaining power or their general economic empowerment.

A second study by Patel et al. (2018) investigated the relationship between WEE and climate change. The authors created two indexes to measure WEE, a Women's Empowerment in Slums Index (WESI) and Empowerment in Slums Index (ESI). WESI uses 23 agency- and resource-related indicators that apply just to women; the ESI is composed of 18 indicators that apply to both men and women. The construction of the index is based on the Alkire & Foster (2011) method. The study regresses WESI and ESI on 12 different environmental factors: nine are poverty-related environmental degradation factors; three are related to climate change events. The main empirical findings (pooled cross-section, controlling for cities) found that WESI was negatively associated with temporary housing (living less than two years in a household), poor street conditions, and being in an overcrowded house. The regressions, analysed at the country-level (controlling for slums within the country), found that WEE was negatively associated with torrential rain, lack of drainage, and overcrowding in India; and flooding and lack of drainage systems in Pakistan. The study also found that women are systematically less empowered than their male counterparts. In short, climate change can work counter to the enabling forces supporting WEE.

A third study by Chopra and Zambelli (2017) found that balancing unpaid work with paid work is crucial for WEE: paid work can often have a negative effect on WEE. The authors conducted mixed-methods research on paid and unpaid work in four countries: India, Nepal, Rwanda, and Tanzania. In each country, they interviewed participants from both NGO-led and public sector-led interventions that promote WEE. The study found that women's level of unpaid care strongly determined their physical mobility and the type, quantity, and quality of paid care they could engage in. Despite the increase in income, paid work often negatively affected women

because it reduced the ability and quality of time they had with their children and families. Moreover, because of the low quality of available paid work, women's participation often led to lower empowerment and lower economic empowerment. Very few women were able to successfully manage both paid and unpaid work, and most women experienced "physical and emotional depletion." Chopra and Zambelli demonstrate the importance of evaluating how women balance paid with unpaid work to assess whether FLFP is an appropriate indicator of WEE.

As illustrated above, many factors favour female-dominated sectors, lowering the gender gap in education, investing in transportation and public services infrastructure, improving gender norms in favour of WEE, childcare, and affirmative action that can help facilitate macroeconomic growth on WEE. Many of these factors are inter-related. For example, education can shape not only wages but also gender norms and attitudes towards FLFP (Gasparini & Marchionni, 2017).

THE ROLE OF MACROECONOMIC POLICY

The GrOW portfolio did not specifically analyse the role of macroeconomic policy, such as fiscal, monetary, or exchange rate policy, on WEE. A paper by Seguino (2017), however, provides useful discussion in this regard. It emphasizes three points that are worth examining in future research. First, policies to stimulate aggregate demand can play an important role in providing a short-term boost to female employment opportunities. Second, a growth-oriented fiscal policy can promote many of the enabling factors for WEE discussed above. Conversely, austerity can reverse gains made by women by limiting employment opportunities, increasing care and other burdens, and by sometimes leading to distress employment. Last, monetary and exchange rate policy can be used to promote growth and aggregate demand and improve financial access for women.



5. CONCLUSION

Despite decades of research on WEE and its determinants, including much high-quality work in the GrOW program, the linkages between growth and WEE are still not well understood. Many questions remain about the central role of employment in linking growth and WEE. Employment is a highly unspecific indicator, comprising good and bad jobs with different conditions. Evidence also exists that reducing employment gaps promotes growth, although more work is needed in this field. Growth has a highly variable impact on employment, related to strong occupational and sectoral segregation.

While policies to promote female-dominated sectors can promote WEE, trade liberalization often does little to promote female employment opportunities. There is a growing literature on other enabling factors, but this is largely based on case studies and needs to be generalized. Building on the existing research — including the work in the GrOW program — clearly more work is needed to understand the complex linkages between economic growth and female economic empowerment.

In terms of policy, many of the studies discussed generate immediate implications. Maybe one overarching policy conclusion is that reliance on growth or increased trade alone will do little to promote WEE. Instead, more specific policies that take women's economic and social circumstances into account and focus on removing specific barriers to their empowerment are required. A second lesson from the research is that despite the overarching benefits of WEE for economic development, just relying on this 'win-win' argument may not be enough: gender equity should be a central goal in and of itself.



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