Benefits and Costs of the Gender Equality Targets for the Post-2015 Development Agenda

Post-2015 Consensus

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Introduction
In this paper I evaluate the draft assessment paper “Gender Equality after 2015” (Clots-Figueras 2014), which aims to assess the benefits and costs of a variety of gender equality policies under consideration for the UN’s post-2015 development goals. My approach is one of simultaneous critic and intellectual collaborator: I identify and discuss the assessment paper’s (hereafter “AP”) methodological problems and evidentiary gaps with the intent of improving its evaluative power. This paper takes on each of these issues in turn. In the first half, I critically consider the AP’s methodology from a gender-aware perspective, focusing on the problems and pitfalls of conducting benefit cost analysis based on nearly exclusively micro experimental evidence. In the second half, I argue the case for including macroeconomic perspectives and evidence, drawing from the large macro literature on gender equality and growth. I conclude by calling for a range of data in benefit cost analysis, a point magnified by how gender determines the social and economic relations of production and reproduction.

Some Considerations on Methodology
In this section I discuss the AP’s methodological strengths and weaknesses. The term “methodology” refers to two aspects of the AP’s approach: (1) the use of benefit-cost analysis, particularly when applied to questions involving gender; and (2) limiting evidence to largely microeconomically-based randomized controlled trials. My goal is not to undermine confidence in the AP’s estimates, but rather to alight on some problematic assumptions and their consequences in order to improve resultant assessments.

As the AP author points out, the key strength of randomized controlled trials is their ability to test policy changes very specifically and directly. Such studies facilitate exacting estimates of the impact of policy in particular populations, estimates that are undiluted by the omitted variables and more cloudy causal connections associated with other types of development-oriented research (especially of the econometric variety). In more technical terms, such trials presumably solve the identification problem (Reddy 2013). Resulting estimates are particularly well-suited for impact evaluation and benefit-cost analysis because trials are typically designed that way – program costs are easily recorded and impact measures are built in to experiment design. But the reliability of such BCRs must be evaluated with an awareness of their weaknesses as well as strengths, a discussion to which I now turn.

Gender and Price
Estimating benefits and costs necessitates making lots of assumptions about prices, such as how effective markets are at measuring social value, how reasonable it is to measure, combine or compare disparate life events (e.g. getting a job versus getting married) by using market income gained or lost, and whether prices derived in one community with its own set of institutions, norms and economic structure apply to outcomes in another (Kohler 2012). These issues, while germane to benefit-cost analysis in general and thus not unique to the AP, should be systematically considered and interrogated. Practices such as
scaling the costs of rape by differences in GDP, with the result that avoiding sexual assault gets valued more highly in the U.S. than Uganda, may be empirically convenient, but such choices also involve judgments about price and social value that should be explicit, consistent, and critically examined. The question then becomes: what are the principles guiding the overall approach to pricing, and do these principles introduce any systematic bias into the BCRs?

From a gender equality perspective, the question of price is particularly confounding because using market prices and incomes to estimate benefits and costs incorporates value into project evaluation in ways that can disadvantage women. Consider that despite the significant progress women globally have made in educational achievements, they systematically lag behind men in just about every labor market measure that exists. Women are more likely than men to be in vulnerable employment characterized by low pay and persistent insecurity, to have less access to productive inputs, to face pervasive occupational and sectoral segregation that leads to lower pay, and, in the developing world, to have higher rates of unemployment (ILO 2012). The result is that using additional income generated to measure the benefits of job training or lowering lifetime fertility incorporates and thus perpetuates the very gender inequality the associated program attempts to redress. Markets reflect prevailing social, political and economic conditions. Frankly, if markets were effective at pricing the social value of women’s production and gender equality, the latter would probably not be such a central development challenge. In terms of the topic at hand, in a relative benefit scenario such as that which results from a ranking of BCRs across a variety of development targets, solely using market prices to estimate value (gender) biases BCRs downward. Granted, these prices may be the best measures we have, but they require direct analysis and qualification.

**Unpaid Care Work**

A related issue is the invisibility of nonmarket work, much of it unpaid care work performed by women and girls. The fact that women largely do this work for free certainly affects its market price and the prospects for gender equality (England, Budig and Folbre 2002). Responsibility for unpaid care acts both as a constraint on labor supply and an opportunity cost for women and girls doing market work.

In terms of the labor supply constraint, attributing women’s lack of participation in income-generating activities largely to insufficient training or information ignores the socially-determined structures of constraint that all women and girls face, especially the traditional sexual division of labor. Granted, raising the returns to market work by increasing human capital, or making information about work opportunities less costly to acquire, does raise female labor supply in the communities studied. But if our attention is exclusively focused on these sorts of programs, we really do not know much about their

1 Care work can be either paid or unpaid, and it refers both to direct care activities that involve close personal or emotional interaction with those being care for, such as caring for a child, the elderly or the disabled, and indirect care such as preparing food or collecting fuel (Folbre 2006). Unpaid indirect care services are particularly salient in developing countries where infrastructure and public services can be so limited (Razavi 2007).
merit relative to other sorts of interventions. For example, an econometric study of household data shows that rural electrification in Nicaragua increased the probability that women worked outside the home by 23 percent, but had no statistically discernable impact on men (Grogan and Sadanand 2013). The introduction of electricity enabled women to reallocate their household work time in transformative ways, indicating that women’s domestic responsibilities imposed a substantial constraint on their labor supply.\(^2\) If increasing female employment is to be evaluated as a pathway to gender equality, we must certainly compare different policy routes to that target to derive robust BCRs. And considering interventions that address the labor supply constraint seems essential to this task.

Unpaid care work is not just a constraint, it is also a productive activity because it is at the heart of social reproduction – the time and commodities required to produce and maintain the labor force. Estimates of the value of unpaid care work in a cross-section of developing and emerging market economies range between 7 and 63 percent of GDP, depending on the country and methodology used (Budlender 2008). Indeed, a part of economic growth pursuant to an increase in female labor force participation can simply be attributed to the transfer of women’s work from the nonmarket to the market sector. In order to accurately measure the benefits and costs of a variety of programs aimed at increasing gender equality, the shift (for instance) to increasing female employment must account for the opportunity cost of time spent away from unpaid care work.\(^3\) By the same token, investments in infrastructure or subsidizing childcare services take on added value because they lower the opportunity cost of market work. The structure of social reproduction is not only relevant at a microeconomic level. Lowering infant mortality and fertility will facilitate shifts of investment from child quantity to quality, potentially setting economies on a higher growth path (Bloom and Williamson 1998). In addition to being a central part of women’s lives and a key source of gender inequality, unpaid care work clearly has economic value. Conducting gender-aware benefit-cost analysis requires grappling with this issue, regardless of the quantitative challenges of doing so.

**Scale, Aggregation and Externalities**

As noted above, the advantages of randomized controlled trials in terms of testing policy and establishing causality are many. But as with most things, this strength is also a weakness. The very narrow focus, particularistic circumstances, and restricted scale of such methods can greatly limit our evaluative vision. On the question of scale, benefit cost analyses should exclude projects that apply only to very specific or small populations, and to be weary of projects that have proven difficult to scale up (Kohler 2012). These sorts of caveats are made in the AP, but related questions on social externalities and the dynamics of aggregation (that the whole is more than just the sum of its parts) are never discussed. Where seemingly possible, private externalities (those experienced directly by the program

\(^2\) Echoes of a similar dynamic arise in feminist critiques of conditional cash transfer programs, which often require unpaid work time, much of it done by mothers, that may actually reduce women’s access to income-generating activities and gender equality even as children’s status improves (Molyneux 2007).

\(^3\) Joyce Jacobson (2011) provides a good example of this by subtracting the value of foregone household production from an estimate of the benefits of increasing female labor force participation.
participant), such as the decline in girls’ fertility pursuant to vocational training, are quantified in the AP as one of the multiple benefits of increasing female education. But public externalities – effects that emerge only in the aggregate as larger economic structures and relations of production are themselves altered – are missed in these benefit cost estimates because typical treatments are so limited in scale.

Indeed, some see this problem, and the increasingly exclusive focus of the development economics academy on randomized trials as the gold standard of policy analysis, as creating an inability to really pose “the big development questions,” as it is macro-level policy change, socioeconomic structures and shocks that determine the master trajectory of development, not exclusively micro-interventions like bed nets and school uniforms (Reddy 2012; Rodrik 2009). While the AP is certainly grappling with a “big question,” the evidence used to assess benefits and costs is simply too narrow to fully address such a complex, large-scale development goal. Supplementing it with a macro perspective would greatly strengthen the analysis.

**External Validity**

This last point touches on the question of external validity, or the extent to which conclusions drawn in one context can be applied to another. How generalizable the conclusions of randomized trials are across circumstances is a major challenge for this method. The author of the AP does acknowledge this point in the paper’s conclusion, noting that BCRs derived form particular programs cannot be generalized, and are only indicative of potential returns for similar programs applied in similar circumstances. But this comes across as a minor issue, partly because numbers standing alone, as BCRs do, are not weighted down or blurred with distractions like context. That is precisely their point. To give an example of what I mean, the summary BCR on women’s education as noted in Table 8 is drawn from Duflo et al. (2012). This study details a randomized trial involving 328 schools in Western Kenya that evaluated the impacts of providing educational subsidies (free uniforms) and HIV prevention education on teen pregnancy and sexually transmitted infections among girls. The AP’s computed benefits combine an estimate of the additional earnings potential gained from a combination of the education and early marriage delay effects (with the latter captured as a lower fertility-higher consequent earnings effect), both figured using Kenyan earnings data. This is an interesting example, but the question is whether the conclusion extends beyond Kenya, where factors like the cultural and economic constraints on girls’ school attendance, the school system itself, the larger economic context that determines the cost of uniforms and program administration, the returns to education, the opportunity cost of attending school – are unlikely to be found very far beyond its borders.

To deal with this analytical problem, researchers can go in one of two directions, both of which loosen the tight claim to internal validity that randomized trials are designed to capture. Comparing multiple policy interventions in a variety of contexts – all with the same goal, for instance, of raising female education as a tool for gender equality – would certainly make for a better summary BCR. But such a wealth of research is rarely available,
and even if it were, the resulting hybrid estimates would lose some internal validity in favor of reaching for generalizability. The alternative, which is more likely to prevail given lack of data or time, is to contend that the BCR in question reasonably applies elsewhere. To do so one must use just the sorts of “informal” arguments that econometric researchers typically proffer to defend their variable choices and model interpretations, and random experimentation must the same type of “soft” evidence as everyone else (Rodrik 2009). Ultimately, if we want to grapple with development’s big questions, we are going to have to let go of some of the policy precision and internal validity associated with randomized trials, and venture into the seemingly less well-defined world of macroeconomics.

A Macroeconomic Perspective

My argument for including a macroeconomic perspective in benefit cost analyses of gender equality policy is both analytical and practical. Analytically the basic point is that macroeconomic views and approaches afford insights into lots of important dynamics that are simply inaccessible or effectively hidden with a strictly micro approach based on randomized trials. The practical argument is about engaging with the widely cited instrumental case for gender equality: that gender equality is good for economic growth. In this section, I will briefly discuss each of these points, and conclude by sketching out a strategy for deriving a macro-based BCR for gender equality.

Critically Considering Macro

Many of the strengths of macro analysis have already been alluded to in the discussion above, for example capturing social externalities and accounting for the dynamics of aggregation. Increasing gender equality, like any policy goal, will have a range of impacts (Kohler 2012). At the microeconomic level, the AP discusses effects like raising household income, lowering fertility or the incidence of intimate partner violence. But if these effects are substantial enough to influence gender equality, they will also have larger economic impacts, such as changing the structure of labor markets as women do more paid work, or raising the national savings rate as a consequence of lower fertility. Policies aimed at gender equality may even change the very course of development itself.

By the same token, meso4 and macro-level structures and institutions shape and constrain choice and opportunity at the micro level in systematic ways that are essential to take into account, especially when taking a BCR derived in one context and applying it to another. One example is the importance of economic structure in determining the nature of and potential for increasing female participation in paid work. The feminization U is probably the most familiar “stylized fact” that has emerged involving these relationships. It refers to the tendency for female labor force participation to initially fall and then rise as economies undergo the structural changes associated with moving from low- to middle- to high-income structures of production and reproduction, though the strength of this empirical regularity has recently been cast into doubt (Gaddis and Klasen 2014). What is clear is that

4 The term “meso” refers to the space intermediate between micro and macro, and includes: sectors such as public and private, formal and informal, or finance and agriculture; and the formal and informal institutions that structure and mediate relations between sectors, including of course markets (Elson 1994).
economic structures matter for how policy interventions translate into gender equality outcomes. Structures like the sectoral distribution of production, urban-rural divide, nature and extent of global integration, principles of macroeconomic management, and sexual division of labor and obligation – together determine if or how policies implemented at the micro level play out. Accounting for these factors over time and space, empirically or qualitatively, is something macroeconomic perspectives do well. The results offer not only more generalizability, they shine a full light on the economic stage in which individuals, households and communities interact with each other and the policies under consideration.

There are, of course, weaknesses associated with macroeconomic analyses, especially of the econometric sort. Many of them have to do with the internal validity on which randomized trials are so strong. It is difficult to include all of the background conditions that can possibly affect a policy outcome, which may as a consequence get picked up in other coefficient estimates, resulting in omitted variable bias. Identifying precise causal relationships, especially when determining variables are themselves endogenous, is a serious challenge (Rodrik 2009). And then there is the question of policy specificity, a formidable problem when there is so little macro-level data to measure it. Some of these issues can be addressed with econometric methods (e.g. fixed effects models that enable controls for unobservables, or instrumental variable estimation that controls for endogeneity), others by the increasing availability of macro-level policy variables (the OECD’s Gender, Institutions and Development database being a prime gender-aware example). Much of the time all we can do is openly incorporate criticism and proffer supportive argument – the same sorts of informal methods micro-experimentalists use to establish external validity (Rodrik 2009). Qualitative and experimental research and methods are able to answer some questions and give detailed texture in ways that exclusively macro approaches cannot. The best result analytically would be to work out some system of complementarity, one that incorporates the strengths and insights of both.

**Gender Equality and Growth**

One of the most compelling policy arguments proffered by development professionals these days is that gender inequality is bad for economic growth – the instrumental argument for gender equality. The World Bank’s oft-repeated adage that “gender equality is smart economics,” featured in its 2012 World Development Report, is a good example of this perspective (World Bank 2011). The economic logic for this argument is straightforward: excluding women from education, employment and other economic opportunities limits the pool of potential workers and innovators and robs economies of a key productive asset. Discrimination against women and gender inequality also tend to raise fertility, lower investments in the next generation of human capital, and restrict household productivity growth, all of which have been linked with lower rates of per capita

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5 A tremendously rich theoretical and empirical literature on the relationships between gender and macroeconomics exists. A recent compendium is the edited collection by Berik, Rodgers and Seguino (2011); for overviews, see Braunstein (2011; 2012).

6 A recent article critical of just such approaches has challenged macroeconometrically-based claims on the causal link between gender equality and growth (Bandiera and Natraj 2013).
income growth. When evaluating the benefits and costs of gender equality goals, it is important to engage with this influential macro-oriented literature.

A number of empirical studies have tried to estimate just how much gender discrimination costs in terms of sacrificed growth. Econometrically estimating the growth costs of employment and education discrimination is the most common empirical methodology, primarily because of the wide availability of macro-level data on gendered employment and education gaps. The resulting estimates of sacrificed growth are substantial. For instance, Blackden and Bhanu (1999), in a study comparing Sub-Saharan Africa with East Asia, find that gender inequality in education and employment cost Sub-Saharan Africa 0.8 percentage points a year in per capita growth between 1960 and 1992; these inequalities account for up to 20 percent of the difference in growth rates between East Asia and Sub-Saharan Africa during the same period. A more recent study of the 1960-2000 period also estimated the combined growth costs of these education and employment gaps, finding that relative to East Asia, annual average growth rates in the Middle East and North Africa were 0.9 to 1.7 percentage points lower, and in South Asia 0.1 to 1.6 percentage points lower due to gender gaps in education and employment (Klasen and Lamanna 2009). In a simulation exercise of the economic costs of male-female gaps among a number of Asian countries in the early 2000s, it was estimated that gender gaps in labor force participation cost the region between $42 billion to $47 billion per year, and gender gaps in education cost $16 billion to $30 billion per year (UN-ESCAP 2007).

In a paper for the Copenhagen Consensus, Joyce Jacobson (2011) uses an accounting approach to estimate the loss to global annual GDP due to gender inequality in the labor market between 1900 and 2050 in ways that are well-suited to benefit-cost analysis. The estimates are based on: (1) adding together the additional GDP generated from gradually increasing women’s labor force participation and hours to that of men’s and eliminating the gender pay gap; and (2) subtracting the opportunity cost of foregone household production and the additional costs of education and training required to put women on a par with men in the labor market. The “maximum” estimate presumes achieving complete equality, while the “medium” estimate allows for some persistence in women’s preferences to remain in nonmarket/household production. For 2010, the global loss to GDP due to gender inequality in employment ranges between 7 and 16 percent (the medium and maximum estimates respectively). Note that Jacobson’s methodology directly addresses how gender inequality affects market price (the gender pay gap), and accounts for the opportunity cost of market work (foregone household production), both of which I posed as critiques of the studies used in the AP.

Empirical studies of the household in primarily agricultural economies aim to capture how gender discrimination limits household productivity and, by extension, macroeconomic growth. In a review of this literature for Sub-Saharan Africa, Blackden and Bhanu (1999) report on a number of these studies for the World Bank, and the results are compelling. For instance, in Kenya it was found that giving the same amount of agricultural inputs and education to women as that received by men would increase women’s agricultural yields by more than 20 percent; if women in Zambia enjoyed the same level of capital investment
in agricultural inputs (including land) as men, output could increase by up to 15 percent; and in Tanzania reducing the time burdens of women in smallholder coffee and banana grower households would increase the household’s cash income by 10 percent, labor productivity by 15 percent, and capital productivity by 44 percent.

Macro-oriented studies have also taken on the question of the costs of intimate partner violence in developing countries. Duvvury, Nguyen and Carney (2012) estimate the costs of domestic violence against women in Viet Nam by using survey data and econometric analysis. They estimate out-of-pocket costs, income forgone due to missing paid and unpaid work, and the loss to productivity, which together amount to 3.2 percent of Viet Nam’s GDP in 2010. That is a substantial loss. Similar estimates for Chile and Nicaragua, 2.0 and 1.6 percent of GDP respectively, are comparable (Morrison and Orland 1999).

Taken together we have a large and well-received literature on the aggregate benefits of different forms of gender equality that we would be remiss to ignore. To use this work for benefit-cost analysis, however, requires a parallel cost side that seems challenging to retrieve as the analyses are not typically designed this way. But there are some possibilities. Jacobson (2011) embeds costs in her estimates of lost benefits by subtracting forgone household production and the increased education costs required to achieve gender equality in the labor market. Getting a parallel BCR would be straightforward in this case given access to the underlying data.

The UN Millennium Project, which was tasked with developing a methodology to estimate the costs of achieving the Millennium Development Goals (MDGs), supported work to estimate the costs of achieving MDG3 (promote gender equality and women’s empowerment). Grown et al. (2006) calculate the costs of achieving MDG3 for five countries: Bangladesh, Cambodia, Ghana, Tanzania and Uganda, and then use these to estimate costs for all low-income countries. They identify three categories of costs: (1) MDG3 specific interventions that cost out policies designed to achieve strategic priorities associated with MDG3 (e.g. school-based reproductive health and rights awareness programs reaching 100 percent of primary and secondary school students by 2015); (2) gender equality mainstreaming activities in sectors already targeted for investment in the MDGs, such as training female extension workers for rural development; and (3) costs associated with other goals, such as building infrastructure, that will benefit women and hence contribute to achieving MDG3, though gender equality is not their stated aim. The cost estimates are annual for 2006-2015. Taking the average annual cost of policies aimed directly at gender equality (categories (1) and (2)) as a percent of per capita GDP for the five countries studied, the cost for achieving MDG3 specific interventions averages 1.1 percent, and for mainstreaming gender 3.2 percent.

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7 See Morrison and Orland (2004) for a good overview of this literature.

8 A contrary perspective in this literature that is important to acknowledge is represented by the work of Stephanie Seguino, who argues that gender-based wage gaps have actually contributed to growth among export-oriented semi-industrialized economies; in these cases wages gaps have enhanced global competitiveness and profitability, raising investment and growth (e.g. Seguino 2000). There are two (related) takeaways here: that economic structure determines the nature of these relationships, and that the type of gender inequality is what matters for growth.
These cost estimates aggregate different programs designed to achieve different gender equality goals, so pairing them with the returns to gender equality in education and employment would systematically bias the BCRs downward. Additionally, country-level estimates vary depending on the type and extent of gender equality and the idiosyncratic costs of mainstreaming gender (an internal versus external validity problem). Many of these issues are structural, as differences in patterns of production and reproduction shape how gender equality manifests and potential frameworks for change. But as with the Jacobson study, accessing and evaluating the underlying data would enable us to craft systematic decision rules and structural specificity to get macro cost estimates that could be paired with the aggregate returns derived in the gender equality and growth literature. Unfortunately, the short time frame and emphasis of this paper barred me from doing that, but such an analysis should be included in similar future projects.

**Concluding Remarks**

Using benefit cost analysis to compare development targets may be an effective way to prioritize goals and allocate scarce resources. But the key here is that the estimates of benefits and costs on which such strategies rely have to be, to put it simply and directly, really good. Otherwise, policy analysts are not getting much more than a misleading sense of justification and possibly warrantless decision rules. The point of this paper was to pick up and discuss the consequences of these issues in the AP, as well as to touch on relevant perspectives and approaches not covered.

We conclude with our two main points. First, benefit cost evaluations of policies for gender equality must be gender-aware in the sense of incorporating how gender structures, many of which exist outside the market sphere, shape choice and opportunity in economically significant ways. Women’s primary responsibility for unpaid care work, and its essential role in production and reproduction, is a key concern in this regard. Second, restricting evidence to a limited sampling of micro experimental studies misses a large macro literature on gender, one whose incorporation would greatly improve the scale and scope aspects of the BCRs. We should incorporate all the evidence we have. The result would be a sort of hybrid BCR estimate which, as is the case for hybrids in general, will tend to be more theoretically resilient and empirically robust than those derived using a strictly “purebred” approach.
References


This paper was written by Elissa Braunstein, Associate Professor, Department of Economics at Colorado State University. The project brings together 62 teams of economists with NGOs, international agencies and businesses to identify the goals with the greatest benefit-to-cost ratio for the next set of UN development goals.

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