# GENDERED FISCAL INCIDENCE ANALYSIS. A REVIEW OF THE LITERATURE

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CEQ INSTITUTE
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Working Paper 76
NOVEMBER 2013

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## ABSTRACT

This paper presents a review of the scope, methodologies and main findings of sixteen gendered fiscal incidence studies. Of the sixteen studies, seven focused on measuring gender equity in government spending on education and health, five on estimating the incidence of taxes only, and the remaining four on estimating the effect of partial combinations of taxes and transfers. The studies provide useful insights regarding the presence or absence of gender equity implied by specific taxes and transfers or some combinations. One main conclusion is that there is no comprehensive study that looks at the incidence of taxes and cash and in-kind transfers combined.

***JEL Classification:*** H22, D63, J16

***Keywords:*** fiscal incidence, taxes, transfers, gender, inequality, government policy

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* Launched in 2008, the CEQ project is an initiative of the Center for Inter-American Policy and Research (CIPR) and the department of Economics, Tulane University, the Center for Global Development and the Inter-American Dialogue. The CEQ project is housed in the Commitment to Equity Institute at Tulane. The CEQ project is housed at the Commitment to Equity Institute at Tulane. For more details visit www.commitmentoequity.org. The authors are grateful to the World Bank Gender and Development Group (PRMGE) for their support in the preparation of this review. The review is based on a report prepared for this unit. The authors are grateful to Elisa Gamberoni, Lucia Hanmer and Erwin Tiongson for their suggestions in the preparation of this review and to Melissa Reitcheck for her research assistantship. All errors and omissions remain our sole responsibility.

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**Introduction**

What is the impact of taxes and government transfers on inequality and poverty between genders? Are there noticeable differences between females and males in terms of who bears the burden of taxation and receives the benefits from government spending? Taking gender into account, how equitable is spending on public education, health, and other government services? In this paper we examine the evidence based on an analytical review of available gendered fiscal incidence studies.

Following Casale (2012), Glick et al. (2004), and Grown and Valodia (2010), a gendered fiscal incidence analysis is defined by whether the effect of taxes and transfers is reported by gender or in a gender-aware manner. After a thorough search of the English-language academic literature and publications by international organizations, sixteen studies were selected based on whether they included an actual fiscal incidence analysis for hypothetical prototype households or using microdata.[1] Our review is explicitly empirical in focus. Using the standard taxonomy in fiscal incidence analysis,[2] we examine the studies' scope and methodology. Based on which of the three above questions are addressed in each study, we present a synthesis of results.

Table 1 presents a summary of the covered studies by fiscal policy intervention. All in all, the sixteen studies cover thirty-two countries, of which ten are high income OECD, five upper-middle income countries, ten lower-middle income, and seven low-income ones. Four studies were published in a peer-reviewed journal, five were subject to light refereeing (i.e., edited volumes and reports), and seven were at first glance not subject to a formal peer review process (including working papers). Three were published in the 1990s, five in the 2000s, and eight in 2010 or later. Of the sixteen studies, seven are focused on measuring gender equity in government spending on education and health (also called in-kind transfers), five on estimating the incidence of taxes only, and the remaining four on estimating the effect of combinations of taxes and transfers. In terms of the three questions mentioned at the beginning, seven focus on the second question, seven on the third and only two on the first. Notably, there are no comprehensive studies that analyze the impact of direct and indirect taxes as well as cash and in-kind transfers combined.

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[1] The initial list included some qualitative studies and papers on general methodological issues but that were not of a technical nature.

[2] See Bourguignon and Pereira da Silva (2003), Coady (2006), Lustig and Higgins (2013), Martinez Vazquez (2001) Moreno-Dodson and Wodon (2008), and Morra et al. (2009).

From the gender perspective, the main issue is which criteria the studies use to define "gender." In general, two approaches are followed: gender is defined using household types (headship, main breadwinner, number of adults by gender, for example) or the gender of the individuals. It is important to note that studies may use more than one definition. Taking the latter into account, in our sixteen-studies sample, gender is defined at the household level in fifteen instances and by the gender of the individual in nine cases. Of those that defined gender at the household level, eight cases were by employment status, five by the relative presence of males/females, and four by headship. In general, because it is straightforward by nature, the categorization based on the gender of individuals is used primarily in studies that look at the incidence of public spending on education and health. In contrast, studies that focus on the impact of taxes and cash transfers, need to rely on approximations: i.e., defining the gender of the household by the relative presence or employment status of adult males and females.

The studies reviewed here provide useful insights regarding the presence or absence of gender equity implied by specific taxes, taxes combined with cash transfers, and government spending on education and health. As discussed by Stotsky (1997), gender inequities in the fiscal system can arise due to explicit provisions in the tax and transfers system or can be implicit. Distinguishing between explicit and implicit biases is important for the interpretation of results and the policy implications. For example, if girls receive less education transfers because household dynamics make them drop out of school at earlier ages, spending more on education will not necessarily correct this inequity. Conditional cash transfers that give higher scholarships to girls than boys, however, are likely to increase school attendance by girls. The majority of the reviewed studies demonstrated that implicit gender bias exists in some form; in some cases, against women (in particular, due to their disproportionate presence as second-earners and single parents and as workers in the informal sector), and in other cases it was bias against men.

Two caveats are in order. First, although our review includes a significant number and methodologically diverse set of gendered fiscal incidence studies of those identified, the list should not be viewed as exhaustive.[3] Second, while we tried to assess the strengths and limitations of the studies, we have not conducted what would constitute a thorough, peer-review type examination of their quality.

[3] For example, we did not include computable general equilibrium (CGE)-based studies focused on gendered-analysis of trade liberalization. Also, we did not review all the papers in Grown and Valodia (2010).

## Scope and Methodology

Fiscal incidence analysis is used to assess the distributional impacts of a country's taxes and transfers.[4] Essentially, fiscal incidence analysis consists of allocating taxes and public spending (social spending in particular) to households or individuals so that one can compare the "pre-fisc" incomes with the "post-fisc" incomes, where the latter may include the monetized value or consumption of free public services.[5] In addition to assessing the impact of fiscal policy on the distribution of income, one may be interested in how taxes and transfers affect the welfare of different morally relevant social groups such as groups of individuals differentiated by gender.[6] Adding the gender dimension to fiscal incidence can shed light on how the fiscal system may either exacerbate inequity between genders or not do enough to correct them. Hence the importance of gendered fiscal incidence analysis as a diagnostic tool: the results can be used to inform decision-makers as to which areas of fiscal policy may be in need of reform in order to reduce gender inequities.[7]

The typical indicators of a standard incidence analysis are measures of progressivity such as incidence –i.e., the share of taxes (transfers) paid (received) as a proportion of the pre-tax (pre-transfer) income-- and concentration coefficients or shares (by decile or quintile) of specific or overall taxes and transfers. In addition, fiscal incidence studies may report inequality and poverty indicators --such as the headcount ratio and the Gini coefficient—before and after taxes and transfers. Also, some studies include indicators of horizontal equity.[8] The gendering of fiscal incidence indicators can be done in two main ways: by classifying households into types based on gender or by classifying individuals by gender. As discussed below, the problem with the latter is that for some indicators (e.g., the incidence of consumption taxes) this cannot be done properly without

[4] Unless specified otherwise, in this review we shall use the term fiscal incidence analysis interchangeably with fiscal policy, fiscal interventions, and taxes and benefits incidence analysis. Also, benefits and government transfers shall be used interchangeably. For expositional ease, government transfers shall be called transfers. The monetized value of free (or quasi free) public services shall be called transfers in kind.

[5] Some studies use consumption instead of income.

[6] Other morally relevant groups may be, for example, defined by location, ethnicity, race and religion.

[7] In this review, the terms "gendered," "gender-aware," and "gender-sensitive" are used interchangeably.

[8] Lustig and Higgins (2013) present a whole array of indicators typically used in fiscal incidence analysis.

taking into account the intra-household distributional dynamics between genders, data that is very infrequent and difficult to generate.

From a methodological point of view, the most common fiscal incidence analysis just looks at what is paid and what is received without assessing the behavioral responses that taxes and public spending may trigger on individuals or households. This is often referred to as the "accounting" approach.[9] Put simply, the accounting approach consists of starting from a pre-fisc income and, depending on the fiscal intervention under study, allocating the proper amount of a tax or a transfer to each household or individual. If the fiscal intervention is a direct tax (transfer) and one starts the analysis from pre-tax (pre-transfer) income, the post-tax income is calculated by subtracting (adding) the tax paid (transfer received). In other words, let's define the before taxes and transfers income of unit $h$ as $I_h$ and net taxes of type $i$ as $T_i$. Let's define the "allocator" of tax $i$ to unit $h$ as $S_{ih}$ (or the share of net tax $i$ borne by unit $h$).[10] Then, post-tax income of unit $h$ can be defined as: $Y_h = I_h - \sum_i T_i S_{ih}$. Although the theory is quite straightforward, its application can be fraught with complications. Most of the complications arise because actual incidence can be quite different from statutory incidence (for example, due to tax evasion) and the data to calculate the actual incidence is incomplete or absent.[11]

Twelve of the sixteen studies examined used the accounting approach only. An alternative to the accounting approach is to model behavioral responses in the incidence analysis. Fiscal incidence analysis with behavioral responses, in turn, can be done within a partial or a general equilibrium framework. Of the sixteen studies, behavioral responses are modeled in only three: Rizwana Siddiqui

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[9] See Bourguignon and Pereira da Silva (2003). Note that the "accounting" approach does incorporate some behavioral responses since actual incidence usually differs from statutory incidence because, for example, people evade taxes.

[10] Based on presentation by Jim Alm, Department of Economics, Tulane University, on May 2010, World Bank, Washington, DC.

[11] For more details on the approaches to fiscal incidence analysis see, for example, Adema and Ladaique (2005), Alleyne et al. (2004), Atkinson (1983), Barr (2004), Bergh (2005), Birdsall et al. (2008), Bourguignon and Pereira da Silva (2003), Breceda et al. (2008), Coady (2006), Demery (2000), Dilnot et al. (1990), Ferreira and Robalino (2010), Fiszbein et al. (2009), Fullerton and Metcalf (2002), Goñi et al. (2011), Grosh et al. (2008), Kakwani (1977), Lambert (2002), Lora (2006), Lustig and Higgins (2013), Martinez Vazquez (2001), McIntyre and Ataguba (2010), Moreno-Dodson and Wodon (2008), Morra et al. (2009), O'Donnell et al. (2008), Shah (2003), Suits (1977), van de Walle and Nead (1995), and World Bank 2000/2001, 2006, 2009).

(2009) who uses a computable general equilibrium (CGE) and in Siobhan Austen, Monica Castro, Rhonda Sharp, and Diane Elson (2013) and Peter Glick, Rumki Saha, and Stephen D. Younger (2004) who estimate demand responses. James Browne (2011) and Francesco Figari, Herwig Immervoll, Horacio Levy, and Holly Sutherland (2011) also examine the incentives to work applying a standard formula to calculate Participation Tax Rates (PTRs).

Fiscal incidence analysis can be partial or comprehensive. Partial fiscal incidence analysis assesses the impact of one or several fiscal policy interventions: for example, income taxes or use of public education and health services. Comprehensive fiscal incidence analysis assesses the impact of the revenue and spending sides simultaneously: namely, the impact of direct and indirect taxes, cash and in-kind transfers, and indirect subsidies. Regarding the analysis of the effects of indirect taxes and subsidies, some focus on consumption taxes and subsidies only while others include the effects of indirect production taxes and subsidies, including their indirect effect (using, for example, input-output matrices). The most frequently analyzed policy interventions in the studies reviewed here were education and health expenditures (seven studies) and direct (personal income tax and contributions) and indirect (consumption or VAT) taxes (seven studies). Direct transfers are part of only three studies. None include corporate income tax. None of the studies were comprehensive, meaning that they did not assess the incidence of taxes and transfers (cash and in-kind) combined.

Furthermore, incidence analysis can use income or consumption (per capita or equivalized) to measure household welfare. Additionally, there is point-in-time vs. lifetime fiscal incidence analysis. The analysis can assess a current system or estimate the potential or actual effects of particular reforms. It can use the statutory incidence or the actual one (include tax evasion or less than full take-up of a cash transfer, for example). It can make different tax shifting assumptions and use different approaches to monetize the value of in-kind benefits. The analysis can assess the average incidence of a tax or benefit or it can assess the incidence on the margin: e.g., the distribution of an increase in the spending of public education. In our selected studies, six looked at the impact of actual or potential reforms (of which four also looked at the existing system) and the rest assessed the existing system. Eight studies do average incidence analysis only, one does marginal, and six do both average and marginal. More details can be found in Table 3.

In terms of data, incidence studies use micro-data from household surveys or rely on incidence indicators from secondary sources. Since in practice surveys will not include information on every tax paid or transfer received (or the information even if it exists may be inaccurate), that

information must be generated in a consistent and methodologically solid way. Frequently, the information will have to be generated using more than one method to check the sensitivity of the results to assumptions that one cannot externally validate.[12] With the exception of Haroon Akram-Lohdi and Irene van Staveren (2003), the remaining fifteen studies relied on micro-data from household surveys; most complemented their analysis with data from secondary sources. Most of the findings come from information that by now could be considered dated. Of the forty-eight "data points" -- a pair of country and year of survey -- included in the sixteen studies, only fourteen are for after 2000.[13]

Gendered fiscal incidence analysis requires a mechanism to distinguish how fiscal interventions affect different genders and, because typically different genders coexist in the same consumption unit (e.g., the household), this can be challenging. In the literature on gendered fiscal incidence analysis, authors tend to equate gender with household type. The simplest distinction of household type is by the gender of the head of household. However, tax incidence analysis frequently uses more nuanced categories. For example, Browne's (2011) analysis of the gendered potential impact on net incomes of United Kingdom (UK) fiscal reform identifies more than 40 (!) household types. Caren Grown and Imraan Valodia (2010) and Daniela Casale (2012) use headship, employment categories (male breadwinner, female breadwinner, dual earner and none employed), and household sex composition (adult male majority or adult female majority).[14] Another approach is to classify the population directly by the gender of the individual. This is applied in the education and health benefit incidence studies, for example, as those pioneered by Lionel Demery, Shiyan Choa, Rene Bernier and Kalpana Mehra, (1995), and Lionel Demery, Julia Dayton, and Kalpanna Mehra (1996), Lionel Demery (2000), Lionel Demery and Isis Gaddis (2009). It is also applied in

[12] For a detailed description on ways to deal with the absence or unreliability of information in household surveys see Lustig and Higgins (2013).

[13] The total number of data years is greater than the 16 studies because some studies examined data from more than one point in time. In the case of the benefit incidence analysis studies, this is because they examined two points in time using different data sets. However, in the case of Chakraborty et al. (2010) a sub-sample of combined estimates based on all rounds of the National Sample Survey (1950-2005) was used to estimate the incidence of indirect taxes. Also, in the case of Siddiqui (2007) data from several sources that spanned from 1990-2006 was used in the CGE model.

[14] Adult here is someone 18 years old and older.

studies that examine the distribution of income between genders in the household such as Figari et al. (2011), for example. (Table 3)

Another important methodological topic to consider is the different types of gender inequities that can occur in fiscal systems. As discussed by Janet G. Stotsky (1997), gender inequities in the fiscal system can arise due to explicit provisions in the tax and transfers system or due to implicit biases. Explicit provisions that are biased against the gender that tends to have lower earnings and less power (i.e., women) are not that common. Absence of a gender inequity in the statutory design of a tax or a transfer, however, can give a false sense of comfort since most of the inequities result from implicit biases. The latter occur when taxes and transfers "…have a differential impact on women and men due to gendered social or economic behavior…"[15] even though the tax law or the transfers system contains no explicit bias. Examples of an implicit bias would be a personal income tax system that has "…joint filing requirements that tax secondary earner income (primarily women's) at a higher marginal tax rate than primary earner income, thus affecting women's labour supply and other decisions."[16] In some societies, girls are not sent to school by their parents for a variety of reasons; the incidence of education benefits will be lower for women because of societal roles and not a bias in the provision of education by the state.

**Main Findings**

The main findings here are presented by the studies´ objective. The objective of each study was determined relying on the type of gendered indicators that were reported and how they could be mapped into the three main questions that a standard gendered fiscal incidence analysis is meant to address: What is the impact of taxes and government transfers on gendered inequality and poverty? Are the burden of taxation and the benefits from government direct transfers and indirect subsidies different by gender? How equitable is spending on/usage of public education, health and other government services by gender?[17] We call them Objective One, Two and Three, respectively.

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[15] Casale, 2009, p. 3. Casale actually cites Stotsky (1997) who was among the first to classify gender bias in the forms of implicit and explicit.

[16] Grown and Valodia, 2010, p. 6

[17] In this paper we will use benefit incidence and incidence of public spending on in-kind transfers such as education and health interchangeably.

Briefly, if the study reported the impact of a tax or a transfer on a gendered poverty or inequality indicator, it was classified under Objective One. A typical gendered poverty indicator is the headcount (or poverty gap or squared poverty gap) ratio by gender of the household head before and after the "fisc." A typical gendered inequality indicator would be the distribution of the per capita income, consumption or wealth of adult men and women in coupled households before and after the "fisc." If the study reported the incidence,[18] concentration shares, concentration coefficients, progressivity indicators of taxes and/or direct transfers and/or indirect subsidies by gender, it was classified under Objective Two. Finally, if the study reported concentration shares, concentration coefficients, progressivity for or the distribution of use of public education and health (or other government services) by gender, it was classified under Objective Three.[19]

As shown in Table 2, only two studies analyzed the impact of taxes and government transfers on gendered inequality and poverty indicators (Objective One). Siddiqui (2009) analyzed the impact on poverty by gender of household head and Figari et al. (2011) examined the distribution of income by gender in coupled households before and after the 'fisc.' Six examined gendered indicators of who bears the burden and receives benefits of taxes and transfers (Objective Two): Akram-Lodhi and van Staveren (2003), Aryeetey et al. (2010), Browne (2011), Casale (2012), Chakraborty et al. (2010), and Ssewanyana et al. (2010). Eight looked at gendered indicators of access to/use of public services (Objective Three): Austen et al. (2013), Castro-Leal (1996), Demery

[18] Note that the word incidence in the literature is used in more than one way. Musgrave (1959) called "expenditure incidence" the effect that government taxes and spending has on relative factor and product prices and the distribution of earnings. In Demery et al. (1995 and 1996), the word "incidence" refers to the exercise of allocating benefits from public spending to individuals and households. The word "incidence" can also refer to a specific indicator used in incidence analysis: i.e., incidence is the ratio of the effect on the relevant income category. For example, effective tax paid divided by the pre-tax income by decile.

[19] The reader should recall that inequality and poverty indicators are always calculated with households (or, rather, individuals), ranked by the per capita income of the relevant income concept. That is, the gendered headcount ratio after the "fisc," for example, is calculated by ranking individuals based on their post "fisc" income regardless of what their ranking was in the pre "fisc" situation. In contrast, the indicators related to Objectives 2 and 3 keep individuals ranked by their pre "fisc" situation. For example, we may want to know if poor female-headed households on average receive more or less in cash transfers than equally poor male-headed households or if public spending on education is equally distributed between boys and girls in the bottom quintile. In these cases, the classification of households into poor and nonpoor or quintiles is based on their pre "fisc" income.

et al. (1995), Demery et al. (1996), Demery & Gaddis (2009), Glick et al. (2004), Mogues et al. (2011), and Rashid et al. (2011).

Siddiqui (2007) is the first study (to our knowledge) that applies a CGE using a gendered SAM (social accounting matrix) that looks at the gender-specific consumption effects of reducing trade tariffs and government spending. The results of the study showed that trade liberalization would reduce the gender wage gap and the reduction of government expenditures would have more negative impacts on women's market employment than on men's, and it would be biased against the poor.

Figari et al. (2011) is the only study of the ones reviewed here that looks at the incidence of taxes and transfers on men and women individually rather than by household types. This is interesting because one can estimate the distribution of income between men and women within couples before and after fiscal interventions. In particular, the authors analyze the incidence of direct personal income taxes, contributions to social security and cash transfers on the income shares by gender. They found that in the nine European Union (EU) countries that they examined, Finland and the UK had the largest within-couple income equalization achieved by the tax and benefit systems. In these countries, the income tax system, which was an individual tax system in each case, contributed particularly to within couple equalization. In the joint tax countries--France, Germany, and Portugal-- there was a disadvantage through the tax-benefit system to women who work compared to their male partners who also work (when male partners were the main breadwinner).

One of the most frequent types of gendered incidence analysis has looked at Objective Two: that is, the burden of both direct and consumption taxes and the benefits of transfers by gender. This requires making assumptions in terms of the allocation of welfare within the household, a difficult matter because there are no generalizable patterns across cultures and across time. As mentioned above, one way this has been dealt with is by classifying households into "types" that can subsequently be identified with a particular gender: for example, to assume that households with a majority of adult women (males) are "female-type" ("male-type") of households; or, to distinguish households by the gender of the breadwinner.

Grown and Valodia's (2010) edited volume includes among the first gendered personal and consumption tax incidence analysis that uses this approach. The book includes studies in eight developing and advanced countries that apply the same methodological framework, three of which were assessed for this paper: Ernest Aryeetey, Isaac Osei-Akoto, Abena D. Oduro, and Robert

Darko (2010) examine Ghana, Pinaki Chakraborty, Lekha Chakraborty, Krishanu Karmakar, and Sashi M. Kapila (2010) examine India, and Sarah Ssewanyana, Lawrence Bategeka, Madina Guloba, and Julius Kiiza (2010) examine Uganda. A similar framework is used by Casale (2012) to estimate the incidence of consumption taxes in "female-type" and "male-type" South African households. In an otherwise path breaking book, one important limitation of the studies in Grown and Valodia (2010), especially those for developing countries, is that they tend to ignore tax avoidance especially via the presence of informal markets (and, especially, in rural areas).[20]

Aryeetey et al. (2010) found that personal income taxes in Ghana do not explicitly disadvantage any gender. However, men end up paying more because they earn more. In regards to indirect taxes, the burden of VAT falls more on male-type households because of the composition of consumption, where they consume more alcohol and tobacco than women. Chakraborty et al. (2010) discerned that in India, personal income taxes provided preferential treatment to women. The aggregate indirect tax was highest in households with more males and was lowest for female dominated households. In rural areas, female-headed households bore the largest share of the burden of indirect taxes. Ssewanyana et al. (2010) found that in Uganda the personal income tax system was progressive but there was horizontal inequity. Men were not explicitly disadvantaged but ended up paying more because they earn more. Indirect taxes were slightly progressive overall and the burden was higher for male-type than female-type households. Casale (2012) found that the indirect tax system in South Africa did not show implicit bias against female-type households, those in the lowest quintiles, or those with children. There was however, implicit bias against male-type households and those without children. But this was mainly income driven. When incidence was examined by consumption category, female-type households bore a higher burden on food, utilities, children's clothing, etc.

Each of the chapters in the Grown and Valodia (2010) edited volume implemented simulations to zero-rate, reduce, or increase taxes on certain consumption items. Aryeetey et al. (2010) found that zero-rating children's clothes and footwear and reducing kerosene taxes would have little impact on gender differences. Chakraborty et al. (2010) found that if tobacco tax rates were doubled, the indirect tax incidence in male-headed households would become higher than female-headed households. Ssewanyana et al. (2010) found that although removing the sales tax

[20] Grown and Valodia, 2010, p. 36

would have little impact on progressivity overall, the greatest beneficiaries would be the poorest households with female heads because VAT declines as a percentage of consumption expenditure more in female-headed than male-headed households. Casale (2012) also analyzed the effect of VAT rating basic food and paraffin and zero-rating non-confectionary food items, children's clothing and footwear, a basket of personal care items, baby food, and household fuels in South Africa. The results show that zero-rating baby food, household fuel sources, and children's clothing would be the most beneficial in terms of gender and income equity.

Browne (2011) simulates the impact of (at the time, upcoming) reforms in the tax and benefit system on men and women in the UK using a detailed classification of households by headship, marital status, employment status and number of children. He also estimates the potential effects on incentives to work. He found that in the UK there was little difference in the distributional effect of reforms between single-earner couple households whether the man or woman was the earner. Similarly, there was little difference in the effects of the reforms between two earner couple households whether the man or woman was the higher earner. The reforms, however, would bring a larger loss for female single-adult households because more lone parents are female. The loss would be about the same for the poorest and fourth quintiles, but there would be a higher loss for the second and third quintiles. At the richest quintile, lone fathers would fare the worse. Also, the reforms would slightly decrease incentives for men and women to do paid work and increase earnings.

Safe from Akram-Lodhi and van Staveren (2003) -- a qualitative assessment of differences in tax burdens born by men and women as entrepreneurs--, there were no studies that look at the incidence of taxes on women as entrepreneurs and what does this mean for incentives to be an entrepreneur. Akram-Lodhi and van Staveren (2003) argued that the VAT system in Vietnam contributed to implicit gender biases on women-owned small and medium enterprises (SMEs). For example, women benefited less from VAT exemption because they were disproportionately represented in the informal sector.

One of the first and also most frequent types of fiscal incidence analysis has looked at Objective Three: i.e., the incidence of education and health benefits by gender. Among the first available, are those by Demery et al. (1995 and 1996) on the incidence of public spending on

education and health by gender in Ghana and Cote d'Ivoire.[21] Another one of the first studies to assess the incidence education spending by gender was that of Florencia Castro-Leal (1996). Mansoora Rashid, Vajeera Dorabawila, and Richard Adams (2001) also assessed the incidence of public education spending in Albania (outside of the Tirana region). In the same vein, Glick, Saha, and Younger (2004) present a benefit incidence analysis of public spending on education and health and public employment by gender and quintiles in nine countries. Theirs was among the first gendered differentiated demand-response analysis associated with a reduction in the cost of education and health services. More recently, Austen et al. analyze incidence of education spending between boys and girls in rural and urban areas in Timor-Leste and illustrates how this information could be used for gender-responsive budgeting.[22]

The Demery et al. (1995), Demery, Dayton, and Mehra (1996), Demery (2000), Demery and Gaddis (2009), and Glick, Saha, and Younger (2004) use among the most robust methodologies to do this type of benefit incidence analysis, even if quality differences are not captured. Demery et al. (1995) found that in Ghana gender inequality on education expenditures was apparent at every level and did not change over time from 1989 to 1999. In regards to healthcare, women received more of the overall public spending on health, but the poorest women were not as likely to benefit from health services. Demery, Dayton, and Mehra (1996) discerned that in Côte d'Ivoire females only received about one-third of the total education subsidies and the average per capita subsidy of boys was almost twice that of girls. On the other hand, the per capita health subsidy was slightly higher for females than males. In a more recent study, Demery and Gaddis (2009) found that in Kenya the per capita spending on education at the primary level was distributionally progressive and boys only had a slight advantage over girls. The secondary and tertiary education level spending was regressive and boys received more subsidies than girls. The marginal incidence showed that if spending were increased for primary schooling, poor girls would benefit the most. In regards to health care, females

[21] Demery et al. used the methodological approach for expenditure incidence analysis applied by Meerman (1979) and Selowsky (1979). Although Bird and Miller (1989) on Jamaica was among the first gendered fiscal incidence studies, we did not include it here because it was based on a very small sample of households and thus unclear if it was statistically representative.

[22] The studies mentioned in this paragraph are not to be an exhaustive list. However, they illustrate well the diversity in scope and methods among the studies that exist.

received more health care spending than males, but poor women did not fare well compared to richer women. The marginal incidence showed that poor females could benefit from increased primary healthcare level spending, but not from increased hospital-based care spending. Glick, Saha, and Younger (2004) found that of the nine countries that they assessed in their study, there were no consistent correlations between gender gaps and per capita expenditures. Of the gaps that did exist, the largest were found in secondary education, public employment, and time spent collecting water.

Castro-Leal (1996) determined that in Malawi gender disparities in gross education enrollment rates rose for all income groups from 1990/91 to 1994/95, but girls in the poorest quintile had the lowest enrollment rates in both years. Castro-Leal (1996), however, uses a method to predict enrollment in the second period that could be problematic: it appears that she assumed the same rate of increase in enrollment for all quintiles and males and females within the same region (there are three regions) and, thus, her results may be driven by assumption. Austen et al. (2013) found that in Timor-Leste total public expenditure on education favored boys as well as expenditure in each education level, which was also more pronounced for rural areas; however, the authors do not analyze incidence across different quintiles or income groups. Rashid, Dorabawila, and Adams (2001) showed that government spending on basic education in Albania (outside the Tirana region) was pro-poor for both females and males in the lowest quintile. However, public spending on secondary and tertiary levels favored the third and top quintiles as well as favored richer males.

All the benefit incidence analyses that look at transfers in-kind are subject to the same standard criticism: most do not take into account differences in the quality of education and health services. Glick, Saha, and Younger (2004) was the only study of those reviewed here to examine quality by introducing quality indicators into their gender differential demand analysis of education and health services in Madagascar and Uganda. Their assessment did not show gender differences in either country in the impact of quality related indicators or provider cost indicators.

Tewodaj Mogues, Carly Petracco, and Josee Randriamamonjy (2011) is the only study that analyzes the impact of a comprehensive program of support to agriculture and rural areas in a poor country. They found that women in rural Ethiopia received half the amount of agricultural extension services as men, male headed households were favored by the public works components of the Food Security Program (FSP) but female headed households were favored by the direct support

component, and female headed households were more likely to travel further to their main source of water and were more likely to access safe water than male headed households.

**Concluding Remarks**

The studies reviewed here revealed that—while explicit biases are rare or nonexistent--some form of implicit gender bias exists in taxes and transfers across many countries. In most cases, this implicit gender bias is against women. This is a consequence of the disproportionate presence of women as second-earners, single parents and as informal sector workers, as well as the lower usage of education services by girls. The instances of "bias" against men are, more often than not, related to the fact that males or male-type households earn higher incomes or because men consume relatively more tobacco and alcohol, goods that are frequently subject to high excise taxes.

The preceding review reveals an important gap: there is no comprehensive gendered fiscal incidence study available. In particular, there are none that look at the impact of direct and indirect taxes (including consumption and production indirect taxes and subsidies), cash transfers, indirect taxes and in-kind transfers combined. Furthermore, practically no study looks at the impact of the tax and cash transfers system either. This is a serious limitation since what matters in the end is the net effect of the fiscal interventions on people's incomes and consumption. As shown in the studies by Nora Lustig (2013) and Nora Lustig, Carola Pessino, and John Scott (2013), direct cash transfers sometimes offset the negative effects on purchasing power induced by consumption taxes on low-income households; but sometimes they don't. Thus, in some countries, poverty rates (after cash transfers and direct and consumption taxes) could be higher than market income poverty, while in others poverty will be lower. Focusing on the tax side only can lead to the wrong diagnostics and the wrong policy recommendations. For example, recommending an increase in the number of exemptions of consumption taxes on goods and services primarily consumed by women to lower their tax burden may be less efficient and effective to help women than using the same amount of resources for cash transfers programs that are targeted to poor women, education for girls and subsidized childcare.

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**Note:** "*" signifies that the reference was included in the survey of the literature on gendered incidence analysis.


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## Table 1: Gendered Fiscal Incidence Studies: a Summary

| | # of Studies | Objectives[a] | | | Development Level[b,g] | | | | Data Years[h] | | | | | Peer Review[c] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | LI | LMI | UMI | HI | 1950-1979 | 1980-1989 | 1990-1999 | 2000-2009 | 2010-Present | Yes | Light | No |
| **Total** | 16 | 2 | 8 | 6 | 7 | 10 | 5 | 10 | 1 | 7 | 26 | 14 | 0 | 4 | 5 | 7 |
| Indirect Taxes[d] | 2 | | 2 | | | 1 | 1 | | | | 1 | 1 | | 1 | | 1 |
| Direct & Indirect Taxes | 3 | | 3 | | 1 | 2 | | | 1 | 1 | 1 | 3 | | | 3 | |
| Direct Taxes & Direct Cash Transfers | 1 | 1 | | | | | | 9 | | | 5 | 4 | | 1 | | |
| Direct & Indirect Taxes & Direct Cash Transfers | 1 | | 1 | | | | | 1 | | | | 1 | | | | 1 |
| Indirect Subsidies[e] | 0 | | | | | | | | | | | | | | | |
| In-kind (Education, Health, & Infrastructure) Expenditures | 7 | | 2 | 5 | 5 | 6 | 4 | | | 6 | 18 | 3 | | 1 | 2 | 4 |
| Direct Cash Transfers & In-kind Expenditures | 1 | | | 1 | 1 | | | | | | | 1 | | | | 1 |
| Indirect Taxes & In-kind Expenditures | 1 | 1 | | | | 1 | | | | | 1 | 1 | | 1 | | |
| Comprehensive [f] | 0 | | | | | | | | | | | | | | | |

**Source:** Compiled by authors based on studies included in the literature review.

**Table 1 Notes:**

**a** The three objectives are defined as follows: Objective 1: What is the impact of taxes and government transfers on gendered inequality and poverty indicators?; Objective 2: Are the burden of taxation and the benefits from government direct transfers and indirect subsidies different by gender?; Objective 3: How equitable is spending on/access to public education, health and other government services by gender?

**b** Country Categories were determined according to the World Bank's classifications. The acronyms are defined as follows: LI = Low Income, LMI = Lower Middle Income, UMI = Upper Middle Income, HI = High Income: OECD. Please note the current country category was used. Therefore, the year of the data used for each study might have corresponded to placing these countries under different categories. For more information visit: http://data.worldbank.org/about/country-classifications/country-and-lending-groups.

**c** The peer reviewed categories are as follows: "yes" indicates that the study was published in a peer reviewed journal; "light" indicates that the study was reviewed but not in the same rigorous fashion as a peer reviewed journal, studies in this category were typically included in an edited volume or published as a report by an institution; and "no" means that the study was not peer reviewed, such as working papers.

**d** With and without indirect subsidies.

**e** Can include consumption and/or production subsidies.

**f** Direct and Indirect Taxes and Direct Cash Transfers and In-kind Expenditures.

**g** The development level will include a total of more than 16 studies, which is the total number of studies included in the literature review. This is because Glick et al. (2004) and Figari et al. (2011) each examined nine countries in their study. Therefore, the total number of development levels is 32 because there were 32 countries included in the 16 studies reviewed for the literature review.

**h** The total number of data years is greater than the 16 studies because some studies examined data from more than one point in time. In the case of the benefit incidence analysis studies, this is because they examined two points in time using different data sets. However, in the case of Chakraborty et al. (2010) a sub-sample of combined estimates based on all rounds of the National Sample Survey (1950-2005) was used to estimate the incidence of indirect taxes. Also, in the case of Siddiqui (2009) data from several sources that spanned from 1990-2006 was used in the CGE model.

## Table 2: Gendered Fiscal Incidence Studies: Policy Intervention, Objective, Indicators, Methodology, and Main Findings

| Study & Country & Survey Data[a] and Year | Peer Reviewed[b] | Policy Intervention | Objective[c] & Gendered Indicator[d] | Method | Main Findings |
|---|---|---|---|---|---|
| **1. Akram-Lodhi & van Staveren (2003)**<br><br>Vietnam<br><br>VLSS 1998 | No | *Indirect Taxes:* VAT system | *Objective 2*<br>*Indicators:* Although no quantitative estimates, emphasis on differences in the incidence of VAT between male and female-owned SMEs | Qualitative gendered tax incidence for owners of SME. | Found that VAT system contributed to implicit gender biases on women-owned SMEs: for ex. women benefit less from VAT exemption because they are disproportionately represented in the informal sector. |
| **2. Aryeetey et al. in Grown & Valodia (2010)**<br><br>Ghana<br><br>GLSS 2005-2006 | Edited Vol. | *Direct and Indirect Taxes:* PIT and indirect taxes (VAT, excise, fuel) incidence analysis; actual and simulations of potential indirect tax policies | *Objective 2*<br>*Indicators:* Incidence of analyzed taxes by type of household (gendered headship, employment category and hh (household) composition) and by expenditure quintile | Accounting approach<br>Consumption per capita<br>Partial<br>Point-in-time<br>Current and potential effects of reform<br>Burden of indirect taxes shifted to consumers<br>Statutory tax rates<br>Average incidence | PIT does not explicitly disadvantage any gender but men end up paying more because they earn more.<br>The burden of VAT falls more on male-type hh because of the composition of consumption (more alcohol and tobacco). |
| **3. Austen et al. (2013)**<br><br>Timor-Leste<br><br>TLLSS 2006-2007 | Yes | *Education Expenditures:* incidence of public spending on education at all levels | *Objective 3*<br>*Indicators:* Concentration shares for public spending on education by level, by gender and by location (rural-urban) | Accounting approach<br>Welfare indicator used to rank hh not clear<br>Partial<br>Point-in-time<br>Valuation of education at government cost by level of education (excluding capital exp. on new schools)<br>Enrollment based on survey and not administrative accounts<br>Average incidence | Total education expenditure favored boys as well as expenditure in each education level, and the result was more pronounced for rural areas.<br>Probit analysis suggests that girls are more likely to attend school if there were more adults in the hh who attended school and if they spoke *tetum* (national language); they were less likely to attend school as they got older and if the hh was poor. |

**Table 2 Continued: Gendered Fiscal Incidence Studies: Policy Intervention, Objective, Indicators, Methodology, and Main Findings**

| Study & Country & Survey Data[a] and Year | Peer Reviewed[b] | Policy Intervention | Objective[c] & Gendered Indicator[d] | Method | Main Findings |
|---|---|---|---|---|---|
| **4. Browne (2011)**<br><br>UK<br><br>Family Resources Survey 2008-2009, Expenditure and Food Survey 2008 | No | *Direct and Indirect Taxes & Direct Transfers:* tax, tax credit, and transfer incidence analysis of forthcoming reforms | *Objective 2*<br>*Indicators:* Gendered income loss (as a percent of pre-reform net income) for population as a whole and by household type and quintile | Accounting approach and potential effect on work incentives<br>Income (per capita?)<br>Partial but more components than other studies<br>Point-in-time<br>Potential effects of approved reforms<br>No mention of tax shifting assumptions<br>Statutory rates<br>Marginal incidence | Little difference in distributional effect of reforms between single-earner couple hh whether man or woman is the earner; or, between two earner couple hh whether man or woman is the higher earner. Larger loss for female single-adult hh (more lone parents are female); about the same for poorest and 4th quintile but a higher loss for the 2nd and 3rd; at the richest quintile, lone fathers fare worse. Reforms slightly decrease incentives for men and women to do paid work and increase earnings. |
| **5. Casale (2012)**<br><br>South Africa<br><br>IES 2000 | Yes | *Indirect Taxes:* indirect taxes (VAT, excise, fuel) incidence analysis; potential effects of adding items with zero VAT and zero rating new items | *Objective 2*<br>*Indicators:* Gendered incidence of indirect taxes by household type, rural/urban, race and quintile | Accounting approach<br>Consumption per capita<br>Partial; includes indirect effect of fuel taxes on public transportation but not based on actual estimates<br>Point-in-time<br>Actual and potential effects of hypothetical reforms<br>Taxes are shifted to consumers<br>Statutory rates<br>Average incidence | No implicit bias against female-type hh, those in lowest quintiles, or those with children. Implicit bias against male-type hh and those without children but mainly income driven. When incidence was examined by consumption category, female-type hh bore a higher burden on food, utilities, children's clothing, etc. Largest gender and income equity gains would be attained by zero-rating children's clothing. |
| **6. Castro-Leal (1996)**<br><br>Malawi<br><br>HESSEA 1990-1991; MOE 1994-1995 | No | *Education Expenditures:* incidence of public spending on education at all levels | *Objective 3*<br>*Indicators:* Concentration shares and gross and net enrollment rates (coverage) by expenditure quintile and gender | Accounting approach<br>Expenditure per adult equivalent<br>Partial<br>Point-in-time<br>Valuation of education at government cost by level of education<br>Enrollment based on survey in first year but enrollment on second period<br>Average and marginal | Gender disparities in gross enrollment rates rose for all income groups; girls in the poorest quintile had the lowest enrollment rates in both years |

**Table 2 Continued: Gendered Fiscal Incidence Studies: Policy Intervention, Objective, Indicators, Methodology, and Main Findings**

| Study & Country & Survey Data[a] and Year | Peer Reviewed[b] | Policy Intervention | Objective[c] & Gendered Indicator[d] | Method | Main Findings |
|---|---|---|---|---|---|
| **7. Chakraborty et al. in Grown & Valodia (2010)**<br><br>India (PIT);<br>West Bengal, India (indirect taxes)<br><br>National Sample Survey 2005 (PIT); 1950-2005 (indirect taxes) | Edited Vol. | *Direct and Indirect Taxes:* PIT and indirect taxes (VAT, excise, fuel) incidence analysis; simulation of potential policy "Integrated Good and Services Tax" considered for 2010/11 | *Objective 2*<br>*Indicators:* Gendered incidence of PIT tax by household type; incidence of VAT, excise and fuel taxes by household type and quintile | Accounting approach<br>Consumption per capita<br>Partial<br>Point-in-time<br>Current and potential effects of reform<br>Burden of indirect taxes shifted to consumers<br>Statutory tax rates<br>Average incidence | PIT provided preferential treatment to women; family size and number of dependents did not matter.<br><br>Aggregate indirect tax was highest in households with more males and was lowest for female dominated households.<br><br>In rural areas, female-headed households bore the largest share of the burden of indirect taxes. |
| **8. Demery et al. (1995)**<br><br>Ghana<br><br>GLSS 1989 and 1992 | No | *Education and Health Expenditures:* Incidence of public spending on education at all levels; incidence of public spending on health at all facility types | *Objective 3*<br>*Indicators:* Concentration shares, concentration curves and enrollment (coverage) by expenditure and equivalized expenditure quintile, location and gender | Accounting approach<br>Welfare indicator used to rank hh: expenditures per capita and equivalized<br>Partial<br>Point-in-time<br>Valuation of education and health at government cost by education level (excluding capital exp. on new schools) and by usage of health facility<br>School enrollment and health facility usage based on survey and not administrative accounts<br>Average and marginal incidence | Gender inequality apparent at every education level and did not change over time.<br>Women received more of the overall health spending but the poorest women were not as likely to benefit from health services. |
| **9. Demery et al. (1996)**<br><br>Côte d'Ivoire<br><br>Public-sector recurrent health disbursements 1986, 1995; LSMS 1986; PS 1995 | No | *Education and Health Expenditures:* Incidence of public spending on education at all levels; incidence of public spending on health at all facility types | *Objective 3*<br>*Indicators:* Concentration shares, concentration curves and enrollment (coverage) by expenditure quintile, location and gender | Accounting approach<br>Welfare indicator used to rank hh: expenditures per capita and equivalized<br>Partial<br>Point-in-time<br>Valuation of education and health at government cost by level of education (excluding capital exp. on new schools) and by usage of facility for health<br>School enrollment and usage of health facility based on survey and not administrative accounts<br>Average and marginal incidence | Females only received about one-third of the total education subsidies in 1995 and the average per capita subsidy of boys was almost twice that of girls.<br>The per capita health subsidy was slightly higher for females than males. |

**Table 2 Continued: Gendered Fiscal Incidence Studies: Policy Intervention, Objective, Indicators, Methodology, and Main Findings**

| Study & Country & Survey Data[a] and Year | Peer Reviewed[b] | Policy Intervention | Objective[c] & Gendered Indicator[d] | Method | Main Findings |
|---|---|---|---|---|---|
| **10. Demery & Gaddis (2009)**<br><br>Kenya<br><br>KIHBS 2005-2006 | Edited Vol. | *Education and Health Expenditures:* Incidence of public spending on education at all levels; incidence of public spending on health by level of care | *Objective 3*<br><br>*Indicators:* Concentration shares, concentration curves and enrollment (coverage) by equivalized expenditure quintile, location and gender | Accounting approach<br><br>Welfare indicator used to rank hh: per capita expenditures<br><br>Partial<br><br>Point-in-time<br><br>Valuation of education and health at government cost by level of education (excluding capital exp. on new schools) and by usage of facility for health<br><br>School enrollment and usage of health facility based on survey and not administrative accounts<br><br>Average and marginal incidence | The per capita spending on education at the primary level was distributionally progressive and boys only had a slight advantage over girls. The secondary and tertiary education level spending was regressive and boys received more subsidies than girls. If spending were increased for primary schooling, poor girls would benefit the most. Females received more healthcare spending than males, but poor women did not fare well compared to richer women. Poor females could benefit from increased primary healthcare level spending. |
| **11. Figari et al. (2011)**<br><br>Austria, Finland, France, Germany, Greece, Italy, the Netherlands, Portugal, UK<br><br>*EUROMOD:* Austrian version of European Community Household Panel 1998; Finland: Income Distribution Survey 2001; France: Budget de Famille 1993/4; Germany: GSOEP 2000; Greece: European Community Household Panel 1994; Italy: SHIW 1995; Netherlands: SEP 1999; Portugal: European Community Household Panel 2000; UK: FES 2000/1 | Yes | *Direct Taxes & Direct Transfers:* incidence of tax and benefit systems on differences in income and incentives to earn income between genders within couples | *Objective 1*<br><br>*Indicators:* inequality between men and women in couples | Accounting approach<br><br>Welfare indicator used to rank hh: income<br><br>Partial<br><br>Point-in-time<br><br>Current tax/benefit system in 9 EU countries<br><br>Statutory tax rates<br><br>Average | Austria, Finland, the UK, and France had tax-benefit systems that did the most to equalize couple incomes. In countries with joint tax filing, which were France, Germany, and Portugal, there was a disadvantage through the tax-benefit system to women compared to their male partners who also work. |

**Table 2 Continued: Gendered Fiscal Incidence Studies: Policy Intervention, Objective, Indicators, Methodology, and Main Findings**

| Study & Country & Survey Data[a] and Year | Peer Reviewed[b] | Policy Intervention | Objective[c] & Gendered Indicator[d] | Method | Main Findings |
|---|---|---|---|---|---|
| **12. Glick et al. (2004)**<br><br>Bulgaria, Ghana, Jamaica, Madagascar, Mauritania, Pakistan, Peru, Uganda,<br>Vietnam<br><br>Bulgarian Integrated Household Survey 1995, 2001; Ghana Living Standards Survey 1987, 1992; Jamaica Survey of Living Conditions 1989, 1999; Madagascar: Enquete Permanente aupres des Menages 1993, Enquete Prioritaire Aupres des Menages 1999; Mauritania: Enquete Permanente sur les Condiciones de Vie des Menages 1987, 1995; Pakistan Integrated Household Survey 1991, 1999; Peru: Encuesta Nacional de Hogares sobre Medición de Niveles de Vida 1985, 1997; Uganda Integrated Household Survey 1992, Uganda National Household Survey 1999; Vietnam: VLSS 1993, 1998 | Edited Vol. | *Education and Health Expenditures, and Infrastructure Access:* incidence of health and education use, public employment, and time spent collecting water; coverage rates of education and health services, and public employment | *Objective 3*<br>*Indicators:* concentration shares and coverage by per capita income/expenditure (depending on country) by gender | Accounting approach; demand analysis<br>Welfare indicator used to rank hh: income/consumption (depending on country) per capita<br>Partial<br>Point-in-time<br>Education, health, public employment, and time spent collecting water based on usage<br>School enrollment, usage of health facility, public employment, and time spent collecting water based on survey and not administrative accounts<br>Average and marginal incidence | No consistent correlations between gender gaps and per capita expenditures were found. Of the gaps that did exist, the largest were found in secondary education, public employment, and time spent collecting water. The gender differential demand analysis of education and health services in Madagascar and Uganda did not show gender differences in either country in the impact of quality related indicators or provider cost indicators. |
| **13. Mogues et al. (2011)**<br><br>Ethiopia (rural)<br><br>EEPRI/IFPRI Gender and Rural Services surveys 2008-09 | No | *Direct Transfers and Education, Health, and Infrastructure Expenditures:* incidence of components of FSP, drinking water supply, and agricultural extension services | *Objective 3*<br>*Indicators:* Concentration shares, concentration curve by gender, quintile, type of household | Accounting approach<br>Welfare indicator used to rank hh: income per capita<br>Partial<br>Point-in-time<br>Valuation of FSP and agricultural extension services at government cost; amount of time and distance to safe water supply<br>FSP, drinking water access, and agricultural extension services based on survey and not administrative accounts<br>Average and marginal incidence | Women received half the amount of agricultural extension services as men, male headed households were favored by the public works components of the FSP but female headed households were favored by the direct support component, and female headed households were more likely to travel further to their main source of water and were more likely to access safe water than male headed households. |

**Table 2 Continued: Gendered Fiscal Incidence Studies: Policy Intervention, Objective, Indicators, Methodology, and Main Findings**

| Study & Country & Survey Data[a] and Year | Peer Reviewed[b] | Policy Intervention | Objective[c] & Gendered Indicator[d] | Method | Main Findings |
|---|---|---|---|---|---|
| **14. Rashid et al. (2011)**<br><br>Albania (outside Tirana region)<br><br>Albania LSMS 1996 | No | *Education Expenditures:* incidence of public spending on education at all levels | *Objective 3*<br>*Indicators:* Concentration shares and enrollment (coverage) by gender and expenditure quintile. | Accounting approach<br>Welfare indicator used to rank hh: consumption per capita<br>Partial<br>Point-in-time<br>Valuation of education at government cost by level of education<br>School enrollment based on survey and not administrative accounts<br>Average incidence | Government spending on basic education was pro-poor for females and males in the lowest quintile. Spending on secondary and tertiary levels favored the third and top quintiles as well as favored richer males. |
| **15. Siddiqui (2009)**<br><br>Pakistan<br><br>Supply and Use Table 1990; SAM 1999; Agriculture census 1993; HIES 1991; LFS 1990-1991; GPN-Survey 2006; small rural household survey 2000 | Yes | *Indirect Taxes & Education and Health Expenditures:* incidence of tariff reductions and retrenchment in government expenditures simulations | *Objective 1*<br>*Indicators:* poverty measured assessed by gender, include: FGT indices: head count ratio, poverty gap, poverty severity; capability poverty: change in infant mortality (IMR) and literacy rate (LR); time poverty: change in female leisure time | Behavioral responses: computable general equilibrium model<br>Welfare indicator used to rank hh: expenditures equivalized<br>Partial<br>Point-in-time<br>Potential effects of tariff reductions and retrenchment in government expenditure simulations<br>Gender features based on survey and not administrative accounts<br>Average incidence | Trade liberalization would reduce the gender wage gap and reduction of government expenditures would have more negative impacts on women's market employment than on men's and it would be biased against the poor. |
| **16. Ssewanyana et al. in Grown & Valodia (2010)**<br><br>Uganda<br><br>UNHS III 2005-2006 | Edited Vol. | *Direct and Indirect Taxes:* PIT and indirect taxes (VAT, excise, fuel) incidence analysis; simulations of potential indirect tax policies | *Objective 2*<br>*Indicators:* Gendered incidence of PIT by household type; incidence of VAT, excise and fuel taxes by household type and quintile | Accounting approach<br>Consumption per capita<br>Partial<br>Point-in-time<br>Current and potential effects of reform<br>Burden of indirect taxes shifted to consumers<br>Statutory tax rates<br>Average incidence | PIT is progressive but there is horizontal inequity<br>PIT does not explicitly disadvantage any gender but men end up paying more because they earn more. In the case of indirect taxes, they are slightly progressive overall. The burden was higher for male-type hh than female-type hh |

**Source:** Compiled by authors based on studies included in the literature review.

**Table 2 Notes:**

**a** The last entry in the first column is the acronym of the household survey utilized in the corresponding study. See Glossary for full names of surveys.

**b** The peer reviewed categories are as follows: "yes" indicates that the study was published in a peer reviewed journal; "light" indicates that the study was reviewed but not in the same rigorous fashion as a peer reviewed journal, studies in this category were typically included in an edited volume or published as a report by an institution; and "no" means that the study was not peer reviewed, such as working papers.

**c** For definitions of fiscal incidence indicators see Table 1.

**d** The three objectives are defined as follows: Objective 1: What is the impact of taxes and government transfers on gendered inequality and poverty indicators?; Objective 2: Are the burden of taxation and the benefits from government direct transfers and indirect subsidies different by gender?; Objective 3: How equitable is spending on/access to public education, health and other government services by gender?

## Table 3: Gendered Unit of Analysis[a] by Policy Intervention (by Study)

| | Presence of Adults | | | Employment Status | | | | Headship | | | Gender of Recipient | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Adult Male Majority | Adult Female Majority | Equal Number Adults | Male Breadwinner | Female Breadwinner | Dual Earner | No Employed | Male Headed | Female Headed | Couple Headed | Male | Female |
| **TAX** | | | | | | | | | | | | |
| Direct and Indirect | | | | 4[b] | 4[b] | 4[b] | 4 | | | | | |
| Direct Only: Personal and Corporate Income | | | | | | | | | | | | |
| Indirect Only | 5 | 5 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| **BENEFIT** | | | | | | | | | | | | |
| Direct Only | | | | | | | | | | | | |
| Indirect Subsidies Only | | | | | | | | | | | | |
| In-Kind Only | | | | | | | | | | | 7 | 7 |
| Other Combination of Benefits | | | | | | | | 1 | 1 | | 1 | 1 |
| **TAX & BENEFIT** | | | | | | | | | | | | |
| Direct and Indirect Taxes, & Direct Transfers | | | | | | | | | | | | |
| Indirect Subsidies | | | | | | | | | | | | |
| In-Kind Transfers | | | | | | | | | | | | |
| Other Combination of Taxes & Benefits | | | | 3[c] | 3[c] | 2c | 2[c] | 2[d] | 2[d] | 1[d] | 1 | 1 |
| **TOTALS** | 5 | 5 | 5 | 8 | 8 | 7 | 7 | 4 | 4 | 1 | 9 | 9 |

**Source:** Compiled by authors based on studies included in the literature review.

**Table 3 Notes:**

a Gendered units of analysis were based on the categories used by, for example, Grown and Valodia (2010) edited volume and Casale (2012).

b Signifies with children.

c One study examined households with and without children. The same study examined male breadwinners who were in a couple where the spouse did not work, single household breadwinners for males and females, and dual earner couples where the spouses worked equal amounts of time and also accounting for spouses who worked part time.

d One study examined each gender indicator with and without children.