

GENDER EQUALITY & DEVELOPMENT

INTIMATE PARTNER VIOLENCE: ECONOMIC COSTS AND IMPLICATIONS FOR GROWTH AND DEVELOPMENT

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ABSTRACT

Violence against women, recognized globally as a fundamental human rights violation, is widely prevalent across high-, middle- and low-income countries. Violence against women has significant economic costs in terms of expenditures on service provision, lost income for women and their families, decreased productivity, and negative impacts on future human capital formation. The paper makes a major contribution to the discussion of economic implications of intimate partner violence (IPV) through its conceptual mapping of the links between IPV and economic growth based on a review of literature on their complex dynamics.

It reviews costing methodologies and identifies types of costs that potentially can be estimated given different degrees of data availability. The paper argues strongly for a focus on estimating impacts on productivity, which is a key driver of economic growth. Based on data from Vietnam, the empirical estimation of IPV-related absenteeism on GDP suggests that this impact is significant—in the case of Vietnam this output loss was equivalent to 1.6 percent of GDP, or nearly one-quarter of the Government's expenditure on education.

It also calls for committed action by both national governments and The World Bank Group in terms of integrating IPV and violence against women and girls (VAWG) into national and sectoral development plans and Bank funding streams; strengthening national statistics offices to collect, manage, and analyze data on violence systematically and regularly basis; prioritizing multi-sectoral and inter-ministerial responses; and most importantly establishing a dedicated budget or funding stream for IPV and VAWG policies, programs, and interventions.

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ACRONYMS

AIDS	Acquired immunodeficiency syndrome
CDC	Center for Disease Control
CGE	Computable general equilibrium
DALYs	Disability-adjusted life years
DHS	Demographic and Health Survey
DV	Domestic violence
GBV	Gender-based violence
GDP	Gross domestic product
HIV	Human immunodeficiency virus
IPV	Intimate partner violence
PSM	Propensity Score Matching
PTSD	Post-traumatic stress disorder
PVLE	Present value of lifetime earnings
QALYs	Quality of life-adjusted years
SAM	Social accounting matrix
STI	Sexually transmitted infections
UK	United Kingdom
UN	United Nations
US	United States
VAWG	Violence against women and girls
VND	Vietnamese Dong
WB	World Bank
WHO	World Health Organization

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INTRODUCTION

Economic growth provides a critical foundation for economic development focused on ending extreme poverty and boosting shared prosperity. However, economic development is more than an increase in income; Amartya Sen suggests that it is about the expansion of “freedoms” or new opportunities, increased voice and active agency of women and girls, men, and boys, and that requires addressing inequality. Hence investments promoting gender equality and opportunities for all are key to sustained economic development.

Pro-poor growth has been highlighted as the most important factor in sustainably reducing poverty (United Nations 2000; World Bank 2000; Ravallion and Chen 2002). The literature suggests that increased gender inequality increases poverty, decreases other welfare measures, and reduces economic growth (Ravallion and Datt 1996; Thomas 1997; Blackden and Bhanu 1999; World Bank 2000; World Bank 2001; Knowles, Lorgelly et al. 2002; Klasen 2004). An important dimension of gender inequality that women and girls, and households more broadly, face is violence, which has significant economic implications that must be delineated.

Violence against women, recognized globally as a fundamental human rights violation, is widely prevalent across high-, middle- and low-income countries. A new WHO report estimates that in one in three women across the globe has experienced physical and/or sexual assault at some point in her lifetime, indicating the epidemic scale of such violence (WHO 2013). The report demonstrates unequivocally the significant health impacts: without a doubt, physical and sexual violence perpetrated against women is a major public health concern. Violence against women has also significant economic costs in terms of expenditures on service provision, lost income for women and their families, decreased productivity, and negative impacts on future human capital formation. The health and economic impacts together fracture individuals, families, communities and societies overall.

There is, however, little systematic attention in the research literature on violence against women on the economic costs, and, more importantly, the connections to economic growth. The majority of existing costing studies are largely limited to the industrialized high-income countries where the availability of data across different cost categories is more robust. Estimating the economic costs of violence against women is a new research area gaining attention in developing countries, especially with the UNiTE campaign focus on developing

comprehensive responses to address violence against women and girls (VAWG). The implications for economic growth, however, have not been systematically reviewed nor empirically tested. For developing countries the growth implications of violence against women are particularly important to establish given the role of growth in advancing economic development. This review paper will: a) review costing studies to update estimates of the economic costs of violence against women; b) review literature on economic, health, and social impacts of violence against women to map existing knowledge on the links to economic growth; c) elaborate a conceptual model of the links between violence against women and economic growth; d) propose and illustrate analytical strategy to establish the impact of violence against women on economic growth; e) identify data gaps; and f) outline recommendations for development policy actors.

1. OPERATIONAL DEFINITION OF VIOLENCE AGAINST WOMEN

There are many alternative terms employed in the literature when talking about violence against women—domestic violence including “family violence,” “intimate partner violence,” “battered wives,” “battered women,” and “gender-based violence” (Kearns, Coen, and Canavan, 2008). In the international literature, the consensus definition of violence against women is that outlined in the 1993 UN Declaration on the Elimination of Violence against Women:

the term “violence against women” means any act of gender-based violence that results in, or is likely to result in, physical, sexual, or psychological harm or suffering to women, including threats of such acts, coercion, or arbitrary deprivation of liberty, whether occurring in public or in private life.

This definition covers not only domestic or intimate partner violence (IPV)¹ but also child sexual abuse, sexual violence by strangers, cultural practices such as early marriage, “honor” killings, dowry death and FGM, structural violence in institutions such as schools and state institutions, exploitation, and trafficking. The multiplicity of forms and the variety of contexts indicates the depth and breadth of the violence experienced by women; the costs and consequences of violence experienced by women are pervasive.

Among these various forms, intimate partner violence against women has been the most researched producing reliable estimates of prevalence. A meta-review of surveys of domestic

¹While domestic violence technically refers to violent acts perpetrated by a family member against another family member, in the literature it primarily refers to women’s experience of violence by an intimate partner. In this report we shall specifically refer to intimate partner violence.

or intimate partner violence suggested that one woman in every three has experienced physical, psychological, or sexual violence in an intimate relationship (Heise et al. 1999). The WHO multi-country study across 10 countries in 2008 using a standardized instrument indicated that the prevalence of intimate partner violence ranged from 15 to 71 percent.

Economic studies have defined the parameters of intimate partner violence in various ways. Bobonis, Castro, and Gonzales-Brenes (2009) define domestic violence as including physical (i.e., pushing, kicking, throwing objects, hitting with hands or objects, choking, attacking with a knife or blade, and shooting, sexual and emotional abuse), sexual (i.e., forced sexual relations, demanding sex), and emotional abuse (ranging from “lower severity,” e.g. destroying or hiding belongings, not speaking to an individual, Declaration on the Elimination of Violence against Women to “high severity”, e.g. threatening an individual with a weapon or a partner threatening to kill himself, her, or the children). Similarly, Panda and Agarwal (2005) define IPV as including physical (i.e., slapping, hitting, kicking, beating, threatening with a weapon, forced sex) and psychological violence (i.e., insults, belittlement, threats to a woman or someone she cares about or threat of abandonment). Other studies specifically neglect the emotional and psychological element of domestic violence. Babcock et al. (1993) define IPV as occurring where a partner engages in six or more minor acts (i.e. pushing or hitting with something), two or more moderately violent acts (i.e., slapping) or at least one life-threatening violent act (i.e., beating up or threatening with a knife or gun). Likewise, Abramsky et al. (2011) did not include emotional or psychological violence in their operational definition of intimate partner violence. Morrison and Orlando also focus on moderate and severe violence including some form of injury. The recent WHO study also focuses primarily on physical and sexual violence by intimate partner or stranger (WHO 2013).

It is indicative of an unstated hierarchy of violence, with a focus on injury as emblematic of “serious” violence, particularly within a public health perspective. From an economic perspective, however, all forms of violence have an impact on ability to work, not only via physical injury but via mental health status that affects the number of days worked but also productivity.² In this study’s definition of intimate partner violence we consider psychological, physical, and sexual violence within intimate relationships. It must be recognized that most studies on intimate partner violence indicate that majority of women

²Psychological literature has documented the negative impacts of emotional violence on functioning including productivity. (See Yoshihama, et al. 2009; Kimerling, et al. 2009)

experiencing such violence report experiencing all three forms. A type of violence within intimate relationships not considered here is economic or financial abuse as little systematic data exist on its prevalence.

2. A CONCEPTUAL FRAMEWORK FOR MODELING THE IMPACT ON ECONOMIC GROWTH

The literature on the consequences and impacts of IPV, discussed at length in the next section, suggest that IPV has implications for economic growth through a complex set of mechanisms. IPV has immediate impacts in terms of missed work, poor physical and mental health status, out-of-pocket expenditures for accessing services, and replacement costs. It equally has long-term impacts on outcomes such as accumulation of education, skills, and experience within the workforce.

In this section we develop such a conceptual framework to schematically identify and delineate the complex pathways of mediation of the impact of IPV on the economic growth.

The conceptual framework in Figure 2.1 provides a visual representation of the various pathways of mediation of the impact of the IPV on the economic growth. The immediate impact of IPV is at the individual or family level, which is identified as impacts to children and women, men's education, absenteeism and presenteeism³ (both male and female), physical health, etc., and shown in the second column. These individual *micro* level variables are highlighted in different colors to organize them into *macro* categories of Human Capital, Productivity, Health (DALYs), and Household Utility.

The evidence from our literature review is that there are some important mediating variables that affect economic growth, i.e. the variables that mediate the impact of IPV at the individual level (or at the micro level) to the macroeconomic level of economic growth. In our view, these mediating variables are Capabilities, Trauma, and Intra-Household Gender Relations. These are shown as an intermediate column in the Figure 2.1. *Capabilities* of an individual are shaped by poor health status, including physical and mental health, which is often an outcome of IPV. Health status shapes the stability of employment, the acquisition of skills, and degree of mobility, all of which impact capabilities of individuals. These, in turn, affect both human capital formation and productivity and economic growth. Moreover, the range of

³Presenteeism occurs when an individual attends work while sick or unable to work to their full potential.

health impacts can also lead to lower labor force participation as well as the lower “quality” of labor force, which has implications for economic growth. Furthermore, the impact of IPV on children inflicts an intergenerational impact on their educational performance, behavior, and health, which discourages the enhancement of capabilities and thus limits future human capital formation.

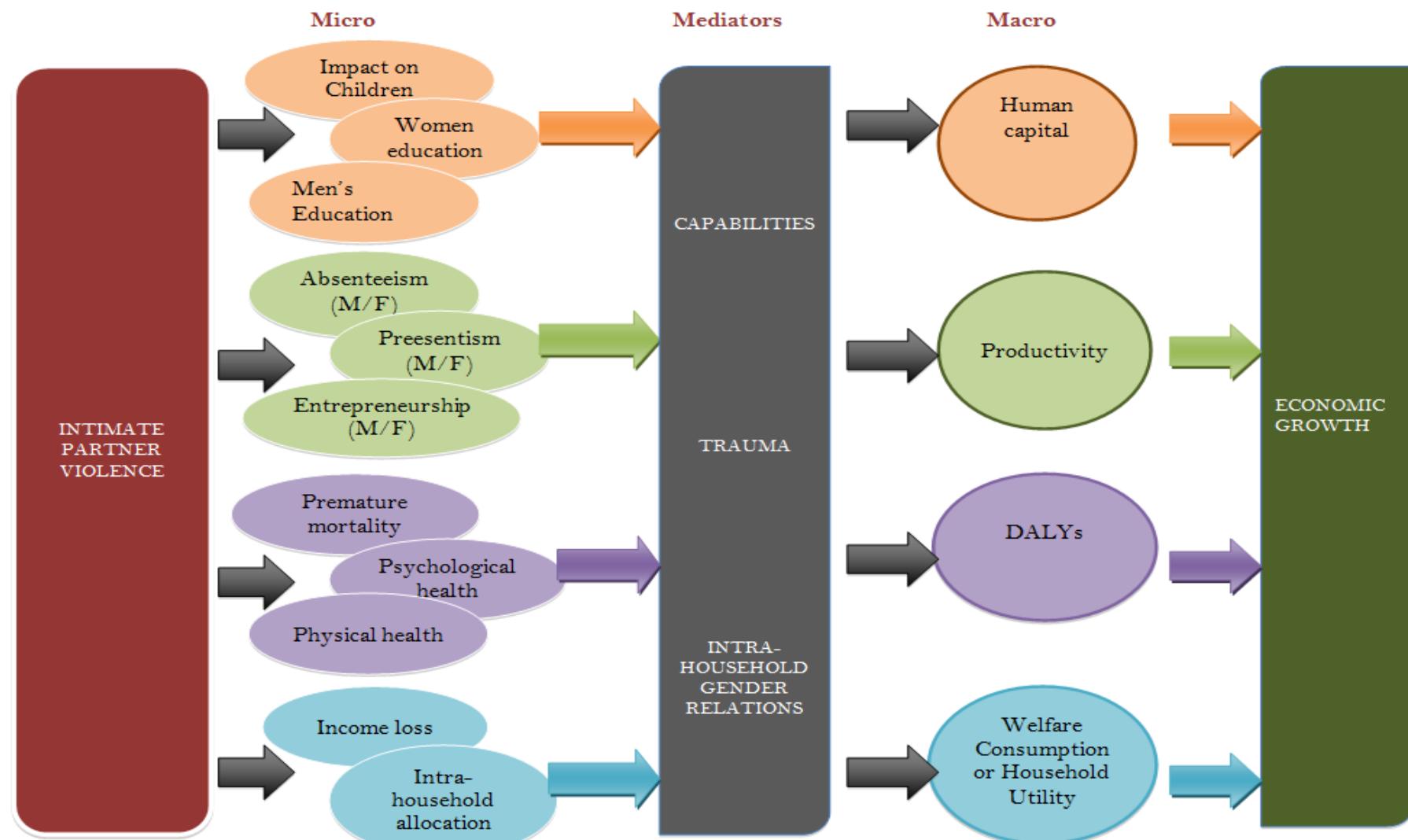
Trauma has been identified in the literature as an important mediating factor for the effects of IPV including employment stability, presenteeism that impacts on productivity, and the magnitude of disability-adjusted life years. More importantly, fear is an important mechanism that increases trauma leading to poor mental health status, depression, and other psychological effects with subsequent impacts on productivity and human capital formation.

Last but not least is the role of *intra-household gender relations*, which can fuel violence but are also affected by violence. Loss of income at the household level can potentially reduce not only consumption but also savings, affecting welfare consumption and household utility. For women engaged in micro-enterprise, violence could potentially undermine their potential resources available for investment and/or circumscribe their independent decision-making.

While all the mechanisms or pathways identified above are equally important for the study of the impact of IPV on economic growth, establishing and quantifying the impact of each of these pathways for economic growth is extremely complex. The complexity of the exercise is not only a result of the number of pathways but also of the interdependence of these pathways in mediating the impact of the IPV from the micro level to the level of macroeconomic growth.

It should be borne in mind that the conceptual framework provided here is only a starting point for the analysis of the impact of IPV on the economic growth, and Figure 2.1 should be treated as a schematic visual representation these pathways. Moreover, for the sake of visual clarity we do not show the possible interdependence of these pathways and their eventual impact on economic growth. Although we are cognizant of the nonlinear interdependence between the pathways, we did not attempt to incorporate them in the figure for it would have made the figure more complex. Furthermore, it is important to note that these pathways do not provide the exhaustive list of all possible pathways of impact of IPV on the economic growth. There are many pathways yet to be discovered and articulated with enormous implications for economic and social development.

FIGURE 2.1: CONCEPTUAL DIAGRAM OF IPV LINKS TO ECONOMIC GROWTH



3. LITERATURE REVIEW OF CONSEQUENCES OF IPV

The conceptual framework outlined previously is developed from extensive review of the literature and is discussed at length in this section. Literature on the health and social consequences of intimate partner violence is vast, highlighting the multiple adverse outcomes of IPV in terms of health, employment, inter-generational impacts, and intra-household gender relations.

3.1 IPV AND HEALTH IMPACTS

The health impacts of IPV are complex and multifaceted and encompass physical, mental, sexual, and reproductive health consequences with implications for women's morbidity and mortality (WHO 2013). Direct adverse health effects broadly include those resulting in injury, multiple health problems, chronic pain, increased association with hypertension, cancer and cardiovascular disease, disability, sexual and reproductive health problems, such as increased risk of sexual transmitted infections and HIV, miscarriage, premature birth, and loss of life. Indirect adverse health effects, which are of equal significance, include physical and psychological stress, anxiety, trauma and suffering, low energy, diminished social function, fear and control effects, as well as behavioral impacts such as alcohol or drug abuse.

3.1.1 PHYSICAL AND MENTAL HEALTH IMPACTS

The literature has largely documented the substantial health impacts of IPV while trying to gage an understanding of the intersection between IPV and the range of health impacts outlined previously. According to Gallant et al. (1997), women who have been victims of violence have more health problems, utilize health care services more frequently and are more likely to rate their health problems as worse than those who have not been victims of abuse than those who did not. Bonami et al. (2009) found that women who had suffered physical IPV used more emergency department, hospital outpatient, and primary care services. Mental health care utilization was also significantly higher for those who had suffered physical or nonphysical IPV compared to women who had never suffered abuse. Intimate partner violence is also linked with trauma and psychological factors such as stress, fear, loss of control, and depression (Swanberg, Logan et al. 2005). According to the WHO meta-analysis, experience of IPV, results in an increased likelihood of suicide attempts. Women who experienced partner violence are also more than twice as likely to experience depression.

3.1.2 IPV AND HEALTH CARE USAGE

The link between IPV and health care usage is evident. Almost half of the women experiencing abuse in the United States are physically injured by their partners (Sheridan and Nash 2007). In the WHO (2013) meta-analysis, the percentage of women who suffered injuries as a result of IPV, measured as the proportion of all women who had suffered IPV, was approximately 41percent. The resulting impacts of such non-fatal injuries include the well-documented health and social care utilization as well as possible ongoing physical and psychological impacts such as disfigurement, disability, chronic pain, and stress. Fatalities as a result of IPV are also of considerable importance and include deaths from homicide or suicide, resulting in an economic cost to society of premature mortality. For instance, from 1982-2002, as many as 38 percent of all murdered women across 65 countries were killed by an intimate partner, compared to just 6 percent of men (WHO 2013).

In addition, studies across developing countries conclude that the health impacts of violence can be as significant as some of the leading causes of injury with the impacts on reproductive health considered particularly significant (Morrison and Orlando 2004). Indeed, the prevalence of domestic violence during pregnancy in a region of the United Kingdom has been estimated at about 17 percent among pregnant women (Johnson et al. 2003). The stress and trauma of living with IPV during pregnancy has serious implications for maternal health, fetal development, birth weight, and obstetric complications (Altarac and Strobino 2002; Bacchus et al. 2004). Furthermore, a growing body of research recognizes that IPV heightens women's vulnerability to HIV or STIs, with research beginning to shed light on the complexities of the relationship between IPV and STI/HIV infections (Garcia-Moreno and Watts 2000; Campbell et al. 2008). While the prevalence of IPV and HIV infection among women varies globally, Campbell et al. (2008) infers that compared to men women remain at an increased risk of both IPV and HIV and STIs. Sub-Saharan African studies undertaken in South Africa, Tanzania, and Kenya found that HIV-positive women reported more lifetime partner violence than HIV-negative women (Campbell et al. 2008). However, the relationship is complex and causality is difficult to determine.

3.1.3 HEALTH CARE COSTS

Recently, a number of studies have estimated the health costs of IPV. An Australian study on the cost of domestic violence to the economy estimated the health costs attributable to domestic violence at AUS\$314 million for 2002-2003. Hospital costs and pharmaceutical costs accounted for almost two-thirds of total costs (Access Economics 2004). Breaking the

costs down further, depression associated with incidents of domestic violence cost approximately AUS\$111 million while physical injuries cost AUS\$51 million. The cost of depression is double that of physical injuries further emphasizing the severity of indirect adverse health effects attributable to domestic violence. Furthermore, in the United States, the direct cost of medical and mental health care services associated with IPV was estimated at almost US\$4.1 billion (NCIPC 2003). In the United Kingdom, costs to services including health care in 2008 totaled approximately UK£3,856 million (Walby 2009) while in Vietnam the average health care cost for a case of domestic violence is 252,000VND or about (US\$12.6) (Duvvury, Nguyen, and Carney 2012).

Various methodologies can be employed to understand the health burden of IPV and may employ monetary costing methods or non-monetary estimation methods (Morrison and Orlando 2004). Typically, within monetary costing studies health care costs are considered as direct health care utilization costs and include: general practice care; accident and emergency and hospital care; medication; psychiatric and counseling services. Indirect costs often include lost productivity and premature mortality (Duvvury, Grown et al. 2004). While many studies take a cross-sectional estimation of the cost of IPV, primarily due to lack of longitudinal data, often the costs of adverse health impacts as a result of IPV extend over the life-course. Moreover, the evident intrinsic and complex nature of the health implications of IPV mean that the health consequences of domestic violence extend beyond the immediate incident of health and social care utilization costs. Therefore, cross-sectional approaches may significantly underestimate the true economic cost of IPV (Morrison and Orlando 2004).

The World Health Organization (2013) recently completed a meta-analysis of the health effects of IPV and highlighted that at least one of the studies included in their meta-analysis demonstrated violence preceding an increased health risk. An example of the effects of IPV over the life course is the relationship between IPV and drug or alcohol abuse, the latter of which may increase the risk of subsequent adverse health effects at a later stage in life. It is important to note, however, that simultaneity exists in the relationship between IPV and alcohol and or drug abuse and thus causal direction is not easily established. Given the complexity of the relationship between IPV and health effects, the evident bidirectional relationships and the lack of appropriate longitudinal data, fully quantifying the health burden of IPV is difficult (WHO 2013).

Non-monetary estimates of the impact of IPV attempt to overcome the issues of placing a monetary value on life and health loss. One approach used to establish non-financial

estimations of the impact of IPV on health, pain, suffering, and trauma is Disability-Adjusted Life Years (DALYs). A DALY is a disability-adjusted life year that combines years of potential life lost⁴ with the loss experienced by living with a disability. It is calculated by multiplying years spent living with a disabling condition that results from a particular disease or injury by an associated disability weight (Drummond 1999).

The DALY approach to domestic violence was applied in Access Economics' Australian study on the cost of domestic violence to the economy to understand the percentage contribution of domestic violence to the burden of disease. Results suggest that from 2002-2003, 37,437 years of healthy life were lost associated with female victims of domestic violence, representing 2.8 percent of the total female Australian burden of disease (VicHealth 2003). Indeed both DALYs and QALYs are subject to criticism; the key limitation is that the measures are not financial and thus, meaningful comparisons and extraction of results beyond the health sector is lost (Morrison and Orlando 2004).

3.1.4 HEALTH IMPACTS AND HUMAN CAPITAL

While costing the health burden of IPV is of considerable importance, the impact of IPV may be considered as a negative effect on an individual's investment in health, diminishing productivity in the workforce as well affecting the complementary relationship between health and education and the accumulation of skills (Howitt 2005). Following the human capital framework by Becker (1967), increasing a person's human capital will raise their productivity in the market place, resulting in earnings, and in the non-market or household sector, where they produce goods that enter into the utility function (Grossman 2000). Becker (1964) and Fuchs (1966) identify health capital as one component of human capital stock. Grossman (1972; 2000) goes further and suggests that a person's stock of knowledge affects market and non-market productivity but also that a person's stock of health determines how much time they can devote to producing earnings and commodities.

Thus, health can be considered as both human capital in itself and an input into other forms of human capital such as education (Bleakley 2010). Considering health as human capital within the productive efficiency framework, healthier workers or those who do not experience IPV may be more productive in the labor force for a variety of reasons: increased stamina, better overall health, and attentiveness. Thus, a reduction in IPV across the workforce resulting in improvements in health may be represented by an increase in efficiency within a firm or

⁴ Years of potential life lost are the years of life lost due to premature death.

sector's production function and therefore, will impact GDP and economic growth (Howitt 2005). In conclusion, identifying health as a key aspect of human capital makes it an integral part of economic growth (Bloom, Canning et al. 2004).

3.2 IPV, EMPLOYMENT AND PRODUCTIVITY IMPACTS

The relationship between IPV and employment is complex. On the one hand, research suggests that employment is a protective factor in the experience of violence—employed women are less likely to report experiencing violence than those who are unemployed (Vyas and Watts 2009; Villareal 2007). On the other hand, other research also suggests that women who experience violence are more likely to be employed: two separate analyses of both the National Violence Against Women Survey and National Crimes Victimization Survey data for 2004 in United States indicated that women experiencing violence had a 10 percent higher employment level than that of non-abused women (Farmer and Tiefenthaler 2004; Farmer and Tiefenthaler 2004). A study of Latin American countries also found that women who had experienced violence were more likely to be employed, with divorce being the mediating factor (Aguero 2012). Morrison and Orland (2004) also found women in Haiti, Peru, and Zambia who experienced physical violence were more likely to be employed. Other research has suggested that women experiencing violence are less likely to be employed (Meisel, Chandler et al. 2003; Romero, Chavkin et al. 2003). Many of the studies are based on cross-sectional data and thus cannot establish the causal relationship. An interesting randomized control trial of women in the flower industry in Ethiopia suggests that employment opportunities may increase violence as men feel “threatened” by the autonomy earned by their wives (Hjort and Villanger 2012, cited in Aguero 2012).

Few studies that have looked at longitudinal data or panel data suggest long-term impacts on employment status, annual work hours, and job turnover (Tolman and Wang 2005; Lindhorst, Oxford et al. 2007; Staggs, Long et al. 2007; Crowne, Juon et al. 2011). For example, Lindhorst et al. (2007) found that among young women with children, experiencing IPV during the transition into adulthood had a negative effect on the likelihood of being employed four and five years later. Crowne et al. (2011) found that experience of IPV (particularly physical violence) among women with children had resulted in lower employment stability both concurrently (experienced violence in the last 12 months) and over the long-term (experience of violence at time 1 resulted in lower employment stability six years later). The authors conclude that while IPV has a negative effect on employment stability, it is more of a

medium-term effect than long-term: women reporting IPV prior to six years did not have increased employment instability.

Another key finding was that depression mediated 24 percent of the effect between IPV and long-term employment stability. A population-based survey of women in California indicated that psychological violence was a stronger predictor of unemployment than physical violence, largely through the effects of psychological violence on post-traumatic stress disorder (PTSD) (Kimerling, Alvarez et al. 2009). The role of trauma in labor market outcomes is also suggested in a study on the impact of sexual violence on labor force participation and wages. Sabia, et al. (2013) using data on 8,273 young women from the US National Longitudinal Study of Adolescents (involving three repeated surveys between 1995-2008) conclude that sexual violence results in 6.6 percent decline in labor force participation and 5.1 percent decline in wages. They suggest that between 18 percent and 31 percent of the association between sexual violence, labor force participation, and wages, respectively, is explained by stress-related adverse psychological and physical consequences. The existing research suggests that IPV can have significant impacts on economic growth through its impact on both labor force participation and employment stability. There is a need for longitudinal data to more rigorously establish the impact of IPV on long-term employment, a longstanding call of other research reviews (Riger and Staggs 2004; Swanberg, Logan, and Macke 2005; Tolman and Raphael 2000; Vyas and Watts 2009).

3.2.1 WORK DISTRACTION RESULTING IN LOST PRODUCTIVITY

In terms of the effect of IPV on employee productivity, the limited available research in the United States suggests a negative relationship (see Swanberg and Logan 2005; Reeves 2004), but the magnitude is unclear. A study of IPV among employed persons (823 men and 1550 women) suggests current victims display significantly higher levels of work distraction compared to non-victimized employees. (Reeves & O'Leary-Kelly 2007; Reeves et al. 2006). Additionally, current victims experience significantly higher levels of work distraction compared to lifetime victims. More importantly lifetime victims of IPV missed more hours of work because of absenteeism than current victims. This suggests that employees currently experiencing IPV are more distracted at work and that lifetime victims are more likely to display absenteeism, potentially because of the long-term psychological stress.

Studies point to the key role that psychological and emotional abuse, threats of violence, and stalking can play in women's ability to achieve or maintain employment. These factors are

corroborated by a quantitative study of partner stalking, which found that partner stalking was associated with higher rates of harassment at work, work disruption, and violence-related job performance problems among a sample of women recruited from domestic violence courts (Logan, Shannon et al. 2007).

There is stronger evidence that women experiencing violence and working have greater employment instability. Employed women experiencing violence are often subject to a range of interference tactics by their partner undercutting their ability to maintain regular employment. Some of the tactics undermining efforts to get to work, hiding or stealing keys or transportation money, and not showing up to care for children (Moe and Bell 2004; Swanberg, Macke, and Logan 2006). Experiencing IPV is thus associated with increased absenteeism over the long term and presenteeism in the short term through tardiness, not showing up for work, and use of sick days as well as problems with concentration, job performance, and productivity (Brush 2002; Moe and Bell 2004; Reeves & O'Leary-Kelly 2007; Swanberg et al., 2006; Swanberg and Logan 2005; Tolman and Rosen 2001). Women in abusive relationships tend to experience high rates of job loss and turnover and many times are forced to quit or are fired (Bell 2003; Meisel et al. 2003; Swanberg et al. 2006; Swanberg and Logan 2005). For example Swanberg et al. (2005) found that victimized women were less likely to work full-time in the subsequent year to an IPV episode, impacting their ability to take opportunities of training or upgrading skills. In sum, IPV affects a survivor's ability to be engaged at work, maintain employment stability, and achieve occupation attainment.

The productivity impacts have been estimated in several costing studies. The 2004 Australian study estimated production related costs including

- *reduced productivity of the victim;*
- *absenteeism of the victim, perpetrator and family members;*
- *costs of replacing lost output through overtime by other workers;*
- *reduced productivity of the victim's and perpetrator's co-workers and friends and family;*
- *additional administrative costs of employers; and*
- *loss of unpaid household and voluntary work by the victim, perpetrator, and family and friends.*

Overall, the total cost of temporary absenteeism from paid and unpaid work is estimated to be \$283.3 million in 2002–2003. Another study by Morrison and Orlando (1999) estimated productivity impact in terms of lost earnings (i.e. lower earnings of women experiencing violence compared to non-abused women) was 1.2 percent and 2 percent of GDP in Chile and Nicaragua. The lower earnings of women experiencing violence are reported by studies in

Mexico (Lozano 1994), Bangladesh (ICRW 2009) and Vietnam (Duvvury et al. 2012). The Vietnam study also found that the loss of income due to missed paid and unpaid work came to about 0.94 percent of GDP.

3.3 EDUCATIONAL IMPACTS OF IPV

The literature consistently shows that those with lower levels of education are more likely to perpetrate and experience IPV. Women with less education were more likely to experience violence and men with lower levels of education are more likely to perpetrate violence against their partners (Ackerson, Kawachi et al. 2008). Because IPV is more commonly experienced by younger women (World Health Organization/London School of Hygiene and Tropical Medicine 2010) and many of the studies contained in the literature are based on cross sectional data, the longer term impacts of IPV on education is, as of yet, unexplored in the literature.

There is evidence from a US-based study to suggest that children exposed to IPV are more likely to miss school and suffer poorer health than their counterparts (Arias 2004). A study in Nicaragua noted that 63.1 percent of the children of female victims had to repeat a school year; those children also left school an average of four years earlier than other children (Morrison and Orlando 1999). Moreover, children who witness abuse or who are victims themselves tend to imitate that behavior and perpetuate the cycle. Truancy is also higher among children exposed to IPV in the home, which is likely to directly impact on the child's education (Emery 2011).

3.4 IMPACTS OF CHILDHOOD EXPOSURE

The short-term and longer-term impacts of IPV on children and the negative repercussions resulting from exposure to IPV are not merely evident in the immediate period following the experience but can follow them through to adulthood. That children suffer adverse effects in an household where IPV between both parents occurs is undisputed (Edleson 1991; Peterson 1991). Over the last three decades there have been many studies carried out to investigate the effect of exposure to IPV on children and adolescents. It has long been agreed that among the detrimental impacts of exposure to violence in the home on the child's development (Osofsky 1999; Bosquet Enlow, Egeland et al. 2012), the main effects of such exposure as outlined by Bosquet, Enlow, Egeland et al. (2012), pertain to emotional and behavioral functioning, social competence, school achievement, cognitive functioning, psychopathology, and general health.

In conducting a meta-analysis of the literature Wolfe, Crooks et al. (2003) investigating the effects of children's exposure to domestic violence, it was found that children exposed to violence experienced significantly more difficulties compared with peers. Further studies show, regarding the experience of difficulties, there is very little difference between children who witness and are victims of violence and those who witness only (Hughes 1988; Hughes, Parkinson et al. 1989; Sternberg, Lamb et al. 1993; O'Keefe 1995). In a US study investigating why some children exposed to IPV are more resilient than others in terms of adverse outcomes, it was concluded that differentials in parenting performance, child exposure to less severe violent incidents, and the extent to which the child's mother's mental health suffered were all significant factors (Howell, Graham-Bermann et al. 2010).

3.4.1 IMPACTS ON CHILDREN'S HEALTH

There are a number of studies within the literature highlighting the physical effects of IPV on children's health. One study carried out in Bangladesh found that over two of every five married mothers with children aged under five years experienced intimate partner violence in the previous 12 months (Silverman, Decker et al. 2009). In this study, children of those experiencing IPV within the previous 12 months were significantly more likely to have experienced recent acute respiratory tract infections and diarrhea than those who did not. Another study of DHS data for Latin American countries also found that children exposed to IPV in the home were more likely to experience diarrhea in the last 15 days, have lower birth weight, and less likely to receive vaccines (Aguero 2012). Morrison and Orlando (2004) also find children of women experiencing physical violence are more likely to suffer diarrhea, have higher rates of anemia, and have poorer outcomes in terms of height for age. Ackerson, Kawachi et al. (2008), on examining evidence from India, found that IPV has impact on chronic malnutrition of children. Children of mothers either currently experiencing or ever having experienced IPV with a current or former partner have a significantly increased risk of death in infancy or before five years of age (Åsling-Monemi, Peña et al. 2003). Children as young as one year old can experience trauma from hearing or witnessing IPV (Bogat, DeJonghe et al. 2006).

3.4.2 IMPACTS ON BEHAVIORS

Emery (2011) investigated the effect of a child's exposure to IPV and behavioral problems controlling for selection effects. He found that childhood exposure to IPV significantly impacted on internalizing behaviors, for example depression, externalizing behaviors, such as acting out, and truancy among children. These findings are of concern due to the causal

problems to the individual, the family and society. Externalizing behavior has been linked to involvement in criminal behavior and gang involvement in later years which is quite difficult to measure in monetary terms when monetizing the effects of IPV on economic growth, perhaps this is another area that requires further investigation within the literature.

A study in the US examining the effects of exposure to IPV on adolescents, by interviewing adolescents at three consecutive time periods, it was found that adolescents exposed to IPV in the first period are significantly more likely to engage in violent behavior. There was also a significantly higher incidence rate of internalizing symptoms among those suffering violence in the first period. There was no significant change in the level of illegal drug use across any of the time periods between those exposed to violence and those not exposed to violence in the home(Wright, Fagan et al. 2011).

These adverse effects of childhood exposure to IPV are known to follow on into adolescence and even adulthood (Dube, Anda et al. 2002; Abramsky, Watts, et al. 2011; Gass, Stein, et al. 2011). Individuals exposed to IPV as children are significantly more likely to experience other adverse childhood experiences and as frequency of witnessing IPV increased the chance of reported alcoholism, illicit drug use, IV drug use, and depression also increased (Dube, Anda, et al. 2002). Another worrying trend is that women exposed to physical abuse, sexual abuse, and IPV in childhood are 3.5 times more likely to report IPV victimization as adults. In men exposure to physical abuse, sexual abuse, and IPV in childhood results in men being 3.8 times more likely to report IPV perpetration indicating an intergenerational transmission effect (Whitfield, Anda, et al. 2003). Adults who experienced adverse childhood experiences are significantly more likely to either attempt to or actually take their own lives (Dube, Anda, et al. 2001).

3.5 DOMESTIC VIOLENCE AND INTRA-HOUSEHOLD BARGAINING

Bobonis, Castro, and Gonzales-Brenes (2009) assert that domestic violence in marriage is often regarded as a coercive instrument at the disposal of one individual for use in controlling the resources or behavior of the other individual. It plays an important role in intra-household resource allocation whereby wives who are victims of IPV usually face a consequent loss of power in household bargaining and decision making, in turn leading them to lose out in the allocation of resources within the family. Further, this can have adverse effects on children within the household whereby resources may be directed away from the wife and her children (Rao 1998). Indeed there is a considerable body of evidence, which demonstrates that women

spend their money differently to men and are more likely to allocate financial and other resources to their children than men.

Access to resources within the household can have important consequences for the likelihood of experiencing domestic violence within the household. Jejeebhoy (1998) identified that within households where women have control over resources the chance of violence is reduced considerably. In a similar vein Gelles (1976) and Pagelow (1981) examined the relationship between a woman's access to resources and the likelihood that she will leave an abusive relationship. Both studies identify that fewer resources means less power and in turn less likelihood of leaving an abusive relationship. According to Farmer and Tiefenthal (1997) as women's economic opportunities improve their threat point increases, which results in an increasing likelihood they will leave the relationship.

The relationship between women's intra-household economic status and domestic violence is equally complex. "While an increase in household economic resources attributable to a woman may reduce economic stress and spousal violence, it may also introduce additional tension and struggle within a household. In an effort to maintain the status quo, the increased economic strength of a woman may be countered by an increase in violence" (Bhattacharyya et al. 2011:5). Indeed the empirical evidence reflects this—outcomes are not pre-determined. When considering women's economic position within the household the literature commonly explores women's employment status. Jejeebhoy (1998) found that women who work tend to be no less vulnerable to domestic violence than women who do not work. Conversely, Farmer and Tiefenthal (1997) found that women's income was negatively and significantly related to the level of domestic violence in the home. The authors argue that earning women receive less marginal utility from their husbands' transfers, and therefore he cannot inflict as much violence for the given transfer without violating her marginal utility. Panda and Agarwal (2005) found no clear pattern for the effect of a woman's employment on the likelihood that she will be the victim of domestic violence—the authors found that a woman's employment status did not matter unless she was in regular employment, which lowers the risk of long-term physical violence.

Duvvury et al. (2012) found that domestic violence has a negative impact on women's earnings through missing paid work. Any violence was found to result in a loss of earnings by 35 percent for the victim. This is, therefore, likely to have an impact on the resources available within the household and how these resources are allocated. "Women experiencing

violence do face a very significant monetary drain, which has ripple effects on those around her who often provide the financial support to meet these costs" (Duvvury et al. 2012: 82)

Another less common way of examining a woman's economic status is through looking at her property status. Panda and Agarwal (2005) found that women's property status can play a critical role in reducing their risk of marital violence. In this research a dramatically higher proportion of non-propertied women experienced physical and psychological violence than those women who owned both land and a house. According to Agarwal (1997), ownership of assets or land indicates the strength of a woman's fallback position and the tangible exit option, which in turn may prevent marital violence. Home ownership can give a woman an immediate escape option while access to land can enhance women's livelihood options, both serving to empower the woman through increased economic security. A woman with such assets is not faced with the making the choice between homelessness and injury, and thus may have a reduced tolerance to violence. Therefore property ownership can serve as both a deterrent and exit option (Panda and Agarwal 2005). Similarly Bhattacharyya et al. (2011) identified that women's ownership of property increases a woman's economic security, reduces her willingness to tolerate violence and by providing a credible exit option works towards deterring spousal violence.

4. SUMMARY OF COST ESTIMATES OF INTIMATE PARTNER VIOLENCE

Studies measuring economic impact often adopt a framework of direct and indirect costs incurred in prevention, response and opportunity costs (Somach and AbouZeid 2009). Direct costs represent expenditure on services and measures for preventing and responding to violence against women. Indirect costs are costs that result from the physical and psychological trauma and life-long effects that such violence has on those experiencing violence. A decrease in the quality of life of the survivor of violence and those close to them may also be considered as an indirect cost. Costs measured vary across studies but can include:

- burden on justice system (resources expended in civil, criminal and administrative structures);
- costs for the health system to provide care and treatment;
- resources expended for provision of social services (shelters, income support, and other support services) for women and their children;
- costs borne by the individual woman including health care costs, housing and shelter costs, and legal costs;
- foregone income for households and overall economy through lost wages, decreased productivity due to trauma, pain and suffering, and the consequent decrease in taxes revenues to the state; and

- second-generation costs including effects on children and impact on human capital formation.

In terms of estimation of these costs it is equally important to differentiate between tangible (that which can be monetized) and intangible costs (which cannot be readily monetized). Day, et al. (2005:6) propose the following schema that for classifying costs

Direct tangible costs are actual expenses paid, representing real money spent. Examples are taxi fare to a hospital and salaries for staff in a shelter. These costs can be estimated through measuring the goods and services consumed and multiplying by their unit cost. It also includes expenditure on prevention and service provision across sectors, including justice, health, social services, education and so on.

Indirect tangible costs have monetary value in the economy, but are measured as a loss of potential. Examples are lower earnings and profits resulting from reduced productivity. These indirect costs are also measurable, although they involve estimating opportunity costs rather than actual expenditures. Lost personal income, for example, can be estimated by measuring lost time at work and multiplying by an appropriate wage rate.

Direct intangible costs result directly from the violent act but have no monetary value. Examples are pain and suffering, and the emotional loss of a loved one through a violent death. These costs may be approximated by quality or value of life measures, although there is some debate as to whether or not it is appropriate to include these costs when measuring the economic costs of violence against women.

Indirect intangible costs result indirectly from the violence, and have no monetary value. Examples are the negative psychological effects on children who witness violence, which cannot be estimated numerically.

4.1 COSTING METHODOLOGIES AND DATA REQUIREMENTS

While the methodologies for estimating economic costs are in the process of being continuously refined, several meta reviews of costing studies (Duvvury, et al. 2004; Morrison and Orlando 2004; Day, et al. 2005; and Willman 2009) indicate that most studies use five distinct approaches or methodologies.

1) Direct accounting methodology: Focuses on establishing a unit cost either through a bottom-up (based on detailed costs for providing a service) or top-down proportional approach (derived from an annual budget). The accounting methodology is used across service provision sectors for an aggregate cost of preventing and responding to violence. It is also used for establishing foregone income and requires data on prevalence of IPV, number of incidents experienced in a year, days lost per incident, and average wage.

Accounting methodology is a core methodology used in most studies to establish direct cost of service provision (see Greaves, et al. 1995, Heiskanen and. Piispa 2002, Access Economics 2004). The 2004 Access Economics study for example, establishes utilization rate of services (health, police, court), calculates unit cost of service provision including capital cost, salary cost and raw material cost, and applies a national prevalence rate to get costs for each service. Greaves, et al. on the other hand applied unit cost of services from other studies in the absence of detailed information. When detailed unit cost data for services are unavailable, another approach is to estimate the fraction attributable to IPV along with IPV exposure of individuals (prevalence rate) and apply to regression model of total expenditures to establish the increase in annual costs of the specific service due to IPV. The regression technique has been applied particularly in the case of medical expenditures (see Chan and Cho 2010 for a detailed discussion).

In terms of foregone income, a study by Center for Disease Control calculated the impact on work by establishing the incidents resulting in missed paid work and household work and applying average number of days missed to estimate the total person days lost. The total person days lost is multiplied by mean daily wage rate to estimate the monetary cost of missed work.

An advantage of the accounting methodology is that it is straightforward and less data intensive than other methods. It is most often useful to establish a quick rough estimate based on available data and simple assumptions. Another advantage is that it can establish opportunity costs at the household level, which can be a powerful demonstration to communities of the impact of violence. A limitation of this method is that it requires primary data, which is often not available, particularly in the global south. Another disadvantage is that time frames may not be consistent when depending on unit costs from other studies. More importantly it is not possible to capture long-term costs and it has the potential for double counting. The interpretation of the costs of direct provision is problematic—increase in cost of service provision may be a reflection of effective response by government and NGOs, leading to increased use of services. It in fact highlights that service provision costs need not linearly increase with increased prevalence/incidence rate of IPV.

2) Present value of lifetime earnings approach: Using a human capital framework econometric methodology is used to measure the indirect costs in terms of lost productivity and lost time in the labor market due to IPV. The specific costs estimated by various studies include the lost productivity due to IPV the loss to due to premature mortality and loss due to

disability. For example, the loss due to pre-mature mortality is estimated using regression analysis to establish the present value of life-time earnings (PVLE). This method has been used by several studies including Greave, et al. (1995) for Canada, Miller, et al. (1996) for the United States, and Walby (2004) for England. Estimates of impact on labor-force participation and earnings due to IPV are based on a reduced earnings equation that includes along with a standard variable for earnings and indicators for IPV (Morrison and Orlando 1999; Vyas 2013). Very often there is simultaneity problem in that earnings may impact on probability of experiencing violence, and the impacts of violence on earnings. This is usually addressed by using an instrumental variable approach, or including a variable that is related to violence but not labor force participation or earnings. This method requires data on working life trajectories, micro data sets with standard labor force information on women's participation, working hours, and earnings. A problem with this method is that simultaneity is often not addressed so the causal direction cannot be ascertained and a robust instrumental variable is usually difficult to identify.

The limitation of present value of lifetime earnings approach is that most need adequate sample size and significant amount of detailed data on macro variables that may or may not be routinely or systematically collected. As mentioned, another limitation is that econometric approach cannot address the causality issue. Also the econometric approach can be useful in estimating some costs but not all costs associated with IPV.

3) Propensity score matching (PSM)

This falls broadly under the econometric methodology but stands out in that it is a non-parametric approach used to establish the social and health impacts of IPV. The method involves estimating a probit equation of risk factors for violence, matches women victimized and those not victimized and compares some outcome measure for the two groups such as wages, for example. It is more rigorous than a simple comparison of means as women in the two samples are matched in terms of probability of violence. The PSM method has been used to estimate the impacts of IPV on employment, earnings, on children, and on health costs. For example in Colombia, using PSM method, researchers found that women experiencing violence had 8 percent higher unemployment rates than non-abused women (Ribero and Sanchez 2004). Morrison and Orlando (2004) applied the PSM methodology to Demographic and Health datasets that had data on prevalence of violence, different measures of child health, children's education, women's reproductive health outcome, women's mental health to estimate the impacts of IPV on women's health, earnings, employment, and child health.

The limitation of PSM is that it requires large samples to have meaningfully matched groups for comparison. The method is limited in that it cannot be used to calculate all the different cost categories of IPV as the method is focused on outcomes.

4) Willingness-to-pay or -accept/contingent value methodology

This methodology has been used to estimate the direct intangible cost of long-term pain and suffering. The willingness-to-pay estimates are based on values that workers (or consumers) place on small risks of injury or death, whereas “willingness-to-accept” estimates are based on actual jury awards for identified individuals who were injured. The latter method has been used in high-income market economies with developed jurisprudence on damages in road accidents, medical malpractice, and so on. Walby (2004), for example, applied the willing to pay estimates determined by the UK Department of Transport in terms of reducing the risk of suffering injuries and fatalities from automobile accidents. She relied on work developed by Brand and Price (2000) estimating the willingness-to-pay to avoid certain types of violent crimes. Essentially, she matched injuries and trauma from domestic violence including rape and stalking to the common crimes listed by Brand and Price and applied their estimates of willingness-to-pay to estimate the monetary cost of pain and suffering due to domestic violence. Miller et al. (1996) used jury awards to determine the willingness to accept compensation for pain suffering and loss of quality of life due to fatal and non-fatal outcomes.

The limitation of both the willingness-to-pay and willingness-to-accept is that both require significant data and make assumptions regarding the similarity of duration and intensity of trauma from IPV and other violent crimes. Given the lack of willingness-to-pay or accept surveys focused on IPV, studies using methodologies make assumptions about comparability of risk. And the application of the methodology is limited in many developing countries given the normalization of violence as a socially accepted phenomenon and where market-based valuation of life, i.e. life and other types of health insurance are undeveloped, is not the norm.

5) Disability adjusted life years (DALYs)

A methodology used in health economics, DALYs measure the years of life “lost” due to death, disability, and chronic morbidity. It is particularly useful to establish the health burden of IPV relative to other health conditions such as heart conditions, cancer, etc. For example, a study in Mexico City indicated that IPV was the third most important source of DALYs for women (Lozano 1999). A study in Australia suggested that, for women aged 15 to 44, IPV was a leading contributor to death, disability, and morbidity (VicHealth 2004). Often the issue with DALYs is the lack of any systematic method to translate them into monetary costs.

Access Economics (2004) used a method of deriving the value of a life year ascribing value to statistical life and applying this to disability adjusted life years to convert DALYs into dollar terms. The limitation of this methodology is similar to the willingness-to-pay/accept compensation methodologies in that it is extremely data intensive and methodologically very complex. As evident from the discussion above the data requirements for the various methodologies vary significantly as summarized in Table 4.1 below.

Table 4.1: Data Requirements of Different Costing Methodologies

Methodology	Costs	Data Requirements
Accounting	<p>Direct tangible costs—health, police, court, shelter, counseling, legal aid</p> <p>Indirect tangible costs:</p> <ul style="list-style-type: none"> i) out of pocket expenditures—accessing services, leaving home, replacing property ii) loss of income due to missed work iii) missed school days 	<p>Prevalence rate—percentage of women experiencing in the population, Incident or victimization rate—number of incidents per 100 women</p> <p>Utilization rate—percentage of women experiencing violence using the service</p> <p>Unit cost of service provision—cost per 1 meeting of woman providing service, calculated on basis of detailed breakdown of cost or a proportion total budget of service based on utilization rate</p> <p>Primary data on fees, transport, and other routine costs for accessing services, hotel and transport costs leaving home, expenditure on replacing property (furniture, utensils, phones, vehicles, etc.)</p> <p>Days missed per incident, average wage</p> <p>Days missed by children per incident, total school fees paid in a year to estimate value of missed school days</p>
Econometric Approaches	<p>Indirect tangible costs</p> <p>1) lost time on the labor market</p> <p>2) lost productivity/earnings</p> <p>3) consumption loss</p>	<p>Prevalence of violence/incidents, macro data on age, education, employment rate, occupation, years of employment, hours worked, earnings/wage data, labor force participation, discount rate</p> <p>Detailed data on income data for different types of households to calculate equivalent disposable income</p> <p>Data on probability of not being in relationship after violence</p>
Willingness-to-pay/accept	Productivity loss, pain suffering and lost quality of life	Prevalence data/incidents, distribution of type of injury or fatality, cost estimates on willingness-to-pay—detailed data by risk of different types of injury/negative outcomes, detailed data on jury awards for different types of injury or fatality

DALYs	Productivity loss, pain, suffering, and lost quality of life	Detailed demographic and burden of disease data, detailed data health outcomes due to IPV, attributable fraction of burden of disease to IPV, value of statistical life, discount rate
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4.2 SURVEY OF EXISTING COST ESTIMATES

Nearly 40 studies have attempted to establish economic estimates of IPV in high-, middle- and low-income countries (see Appendix 1). One of the early national level studies is the 1995 study in Canada by Greaves, Hankivsky, and Kingston-Riechers, which found that the total annual cost to abused women and government agencies in Canada due to IPV is more than CAN\$4.2 billion. Walby (2004) estimated national aggregate costs and found that the total cost for the United Kingdom was £23 million (British). A French study in 2010 estimated an annual cost of €2.5 billion per year based on analysis of available secondary data (Netcoux 2010). Estimates of costs in the United States have ranged from US\$5.8 billion (NCIPD 2003) to US\$12.6 billion (Women's Advocates 2002) and US\$67 billion (Miller et al. 1996).

A comprehensive study on costs undertaken by Access Economics in Australia in 2004 suggests that the annual cost of IPV is AUS\$8.1 billion (Access Economics 2004). This study undertook a thorough assessment that included seven categories of costs including pain suffering and pre mature mortality, health costs, production-related costs, consumption-related costs including property replacement costs, second generation costs of impacts on children, administrative costs including justice system costs, and transfer costs including lost taxes. A subsequent study in 2009 projected that the macro cost would rise to AUS\$15.6 billion by 2021-2022 if no action were taken (National Council to Reduce Violence Against Women 2009).

The differences in the estimates are due to the range of costs included in the estimation. For example, the Miller, Cohen, and Wiersama estimate is higher than other US estimates because it affixes a monetary value to pain, suffering, and loss of quality of life. Walby (2004) also found that the monetary value of “human and emotional costs” is more than double all costs of service provision and loss of economic output.

Among developing countries few studies on the costs of violence are available, though interest has recently surged in establishing economic costs. One study by Mansingh and

Ramphal (1993) estimated the direct costs of treating victims of IPV in Jamaica's Kingston Public Hospital in 1991 at US\$454,000. Another study conducted by the Inter-American Development Bank in Chile and Nicaragua in 1999 (Morrison and Orlando 1999) examined the impact of IPV on earning capacity. This study estimated that, in Chile, all types of IPV reduced women's earnings by US\$1.56 billion (more than 2 percent of Chile's gross GDP in 1996), and by US\$29.5 million in Nicaragua (about 1.6 percent of the 1996 GDP of Nicaragua). In both countries, abused women earned far less than non-abused women. A multi-country study in Bangladesh, Morocco, and Uganda estimated out-of-pocket expenditures incurred by women for accessing services and missed days of work. Results indicated that out-of-pocket expenditures for accessing services ranged from US\$5 for an incident of violence in Uganda to US\$157 in Morocco.

Similarly, in Bangladesh, the value of lost work amounted to US\$5 or about 4.5 percent of the average monthly household income (ICRW 2009). A recent study by CARE found total cost of domestic violence in Bangladesh in 2010 equated to more than 143 billion *taka* (US\$1.8 billion at current exchange rates). This amounted to 2.05 percent of GDP—or the equivalent of 12.65 percent of government spending that year (Rowell 2013). A household survey in Vietnam undertaken in 2012 estimated that out of pocket expenditures for accessing services and replacing property amounted to 21 percent of women's monthly income while missed paid and unpaid work came to 13.5 percent of women's monthly income (Duvvury, et al. 2012).

TABLE 4.2: COSTS OF VIOLENCE IN RELATION TO GDP

Author	Country	Costs	Prevalence of Violence	Estimate	Percent of GDP	Expenditure on Primary Education as Percent of GDP
CDC (2003)	US (for 1995)	Annual health care cost, missed work, foregone earnings	1.8% current violence: .2 % rape, 1.3% physical violence .5% stalking Incidents of physical violence – 3.2/woman	\$5.8 billion: 4.1 billion medical costs 1.8 billion missed work and foregone earnings	0.065	1.56
Access Economics (2004)	Australia	Service provision, economic costs, pain and suffering	4.5% ^a	\$8.1 billion/year	1.2	1.58
Walby (2004)	UK	Service provision, Economic output and human and emotional costs	2.8% ^a /626,000 (incidents)	£23 billion/year	1.91	1.15
Orlando & Morrison (1999)	Nicaragua (1997)	Productivity loss	53% ever violence	\$29.5 million	1.6	N/A
	Chile (1997)	Productivity loss	40% ever violence	\$1.56 billion	2.0	1.44
ICRW 2009 ^a	Uganda	Out of pocket expenditures	50% physical violence	\$ 5	1.6 ^b	1.85
	Morocco	Out of pocket expenditures	36.7% psychological 24.6% physical violence 27.2% sexual violence	\$ 157	6.5 ^b	1.94
Duvvury, et al. (2012)	Vietnam (2011)	Out of pocket expenditures, missed work	58% ever violence, 10.9% ^a , 8.89 incidents/woman	\$1.71 billion	1.41	1.56
CARE (2010)	Bangladesh	Productivity loss Out of pocket expenditures and income loss due to missed work	\$2.26 billion Sample of 485 families, assumed prevalence 25% of families experience violence	\$1.8 billion	1.71 2.05	0.98

^a Refers to violence in last 12 months or current violence

^b The ICRW study did not extrapolate the costs to the macro level and therefore estimated the costs as proportion of per capita gross national income (GNI).

In terms of GDP (see Table 4.2), the costs are between 1.2 and 2 percent of GDP across countries. Significance of these costs is clearly highlighted when costs of IPV are compared to education expenditure as proportion of GDP. For example, in Vietnam the total cost of IPV including out of pocket expenditure, missed income, and productivity loss together come to 3.12 percent of GDP or nearly double of what is spent on primary education. Equally in Bangladesh the cost of IPV, which is only a partial estimate with only out of pocket expenditure and reduced income for missing work, is twice what the government spent on primary education. In the United Kingdom and Australia, which have more complete cost estimation of violence including cost of pain, suffering, and lost quality of life but based on significantly lower prevalence of violence to the other developing countries, the costs are roughly equivalent to spending on primary education as a proportion of GDP. The comparison across the studies and countries starkly illustrates that cost of IPV is particularly significant in low- and middle-income countries relative to key development expenditures. However, cost estimates give a snapshot at a point of time and do not necessarily establish the impacts on economic growth.

4.3 ESTIMATING COSTS IN DEVELOPING COUNTRIES

The studies highlighted above have sparked an interest of both UN agencies and government of low- and middle-income countries in generating cost estimates. We propose a framework of what costs can be estimated using different methodologies given different levels of data availability in most low- and middle-income countries (see Table 4.3). As seen from the above discussion of costing studies, most studies use a mix of methodologies to derive different categories of costs. The discussion of methodologies, and the data requirements in particular, underscores the complexity of the cost estimation exercise.

Table 4.3: Framework of Potential Cost Estimates

Data	Methodology	Cost
Utilization data, budget allocations for services Unit costs of services from secondary sources	Accounting Econometric	Direct cost of service provision
Survey on violence—prevalence, injury, health-related outcomes Secondary data on injury impacts on work and earnings	Econometric PSM	Productivity impact Foregone earnings Health costs
Dedicated Costing survey – prevalence, incidents, expenditures, missed work, earnings, etc	Accounting Econometric PSM DALYs	Out of pocket expenditures Lost income due to missed work Productivity impact Foregone earnings Impact on school performance Tax revenue lost Administrative costs
Longitudinal data—impacts on children, long-term impact of disability on work and productivity	Econometric PSM DALYs Willingness-to-pay/accept	Intergeneration impact on children—cost of juvenile crime, human capital of children Pain, suffering, lost quality of life

For example, if a country has only budget figures of allocation for different services and some basic utilization rate by IPV survivors from service records, then a rough approximate estimation of cost of service provision is possible. If actual unit costs can be established from other studies or from a specific survey with services, then a more reliable estimate of cost of service provision can be calculated. If, on the other hand, a country has had a dedicated survey (WHO) or a module on violence (as part of another survey such as DHS) giving data on prevalence, incidents, type of injury, and health-related outcomes along with secondary data from others sources on injury impacts on work and earnings, then a broader set of costs can be calculated including health care costs, productivity impact, and foregone income. A specific costing survey with data on prevalence, incidents, specific expenditures for services, replacement of property and accommodation, missed days of housework and paid work would enable more robust estimates of out of pocket expenditures, lost income, foregone earnings, productivity loss, impacts on children, impacts on tax revenues, and administrative costs including incarceration of perpetrators, housing support, and so on.

To calculate meaningful estimates, governments will have to make investments in data collection, not only data on violence but also strengthening existing data collection systems,

particularly at points of service in the health and police sectors. The purpose of the cost estimation exercise needs to be clearly articulated. If a government's priority is to strengthen its response to IPV, estimates of cost of service provision are useful to evaluate adequacy of the level of response. If the priority is to assess the efficacy of response then cost estimation of productivity impact or pain, suffering, and loss of quality of life would highlight the criticality of addressing the mental health consequences or considering additional needs and supports that survivors of violence require to rebuild lives. Cost estimates for IPV, of whatever level, are essential information to plan effective economic development that would not only result in improved welfare and well-being but strengthen voice and participation of women, girls, boys, and men in the development process.

5. IPV AND ECONOMIC GROWTH: PROPOSED ANALYTICAL STRATEGY

The conceptual framework in section 2 outlined the different pathways by which the micro impacts of IPV potentially impact on economic growth. The macro impacts of violence can be summarized as impacts on human capital, productivity, and welfare, which are closely interrelated with economic growth. While all the mechanisms or pathways identified above are equally important for the study of the impact of IPV on economic growth, establishing and quantifying the impact of each of these pathways for economic growth is extremely complex. The complexity of the exercise is not a result of the number of pathways but because of the interdependence of these pathways in mediating the impact of the IPV from the micro level to the level of macroeconomic growth.

There are, of course, various possibilities for exploring a particular pathway. For example, the human capital effect on growth has been extensively explored in the literature. There is much evidence to suggest that education, measured by years of schooling, plays an important role in terms of promoting economic growth (Lucas Jr 1988; Foster and Rosenzweig 1996; Temple 1999; Kalemli-Ozcan, Ryder et al. 2000). Barro's pivotal paper (1991) ascertains the importance of education as a determinant of economic growth and highlights the increased effect of education on growth in developing countries as opposed to developed countries. In a subsequent paper, Barro (2001) estimates that an additional year of second-or third-level schooling for males can incur as much as 0.44 percent increase in growth rate per year. The methodology applied in that paper could potentially be extended to include IPV as one of the independent variables in his model. It would be possible to execute such a study to estimate the impact of IPV on economic growth using the incidence rate per 1,000 women in each country, if such data were available. The lag of the incidence rate could be used as the instrument to ensure that the educational effect on economic growth be separated from the effect of IPV on growth. The incidence rate (IR) would be a better measure than prevalence rate (PR) as the IR would normalize the data to make a cross-country comparison possible. Prevalence data are not detailed enough to allow for the isolation of the true effect of IPV on economic growth, which is the objective when using this model. For example, prevalence data is not deemed suitable because the lag of the prevalence rate is required, fluctuations in which may be due to changes in population as oppose to incidence of IPV. However, one would have to be cautious with the use of such a method in order to control for multicollinearity and endogeneity given the somewhat unexplored cyclical relationship between education and IPV, and also between IPV and economic growth.

Other literature has explored the link between gender equality and macroeconomic growth. The modeling strategy that is generally applied in the literature is the framework of the macroeconomic growth models, such as the Overlapping Generations Model (OLG), to analyze the long-run impact of the gender equality on economic growth. For instance, the recent paper by Agénor and Canuto (2013) use a three-period OLG model to demonstrate that access to infrastructure may enhance the intra-household bargaining power for women via human capital formation, which in turn would increase their savings rate and foster economic growth in the long run. The problem with this approach is the choice-theoretic articulation of women's bargaining power within the household for modeling the importance of gender equality for economic growth. It is well documented in the literature based on case studies and focus group discussions that the problem of time allocation of women at home is not an individual optimization problem for women based on whether or not they have access to human capital infrastructure or general infrastructure. Hence, by representing the problem of intra-household bargaining in the choice theoretic framework and stating the problem either as a static optimization model or as an intergenerational dynamic optimization model is in a way circumventing the real question of the dynamics of evolution of women's bargaining power at the level of the household and its impact to macroeconomic growth. Furthermore, the choice-theoretic framework may not be useful while studying the impact the IPV on economic growth, because violence borne by women at home is not amenable for such a framework. Moreover, the choice theoretic models using static or dynamic optimization techniques vastly restrict the degrees of freedom to a problem that is already severely restricted by the lack of empirical data.

In the next section, we explore one of these pathways, namely, absenteeism, to quantify the economic impact of IPV by estimating loss of productivity and output using production data of a few major sectors of the Vietnamese economy. This is but one input into modeling the interrelation between IPV and economic growth. A fuller model would include for example the long-term impacts on human capital, the consumption loss due to lower earnings, public health expenditure due to trauma and physical health problems, and the loss in taxes due to decreased economic output, among others. However, an estimate of sectoral output and productivity loss can be an important starting point providing empirical estimates that could be incorporated into Computable General Equilibrium (CGE) model, which is increasingly being used to explore the implications for economic growth.

5.1 ESTIMATING ECONOMIC LOSS DUE TO VIOLENCE AGAINST WOMEN: A SECTORAL APPROACH

In this section, we estimate the economic impact of IPV by estimating the loss of productivity and output using the production data of a few major sectors of the Vietnamese economy. The exercise we undertake here is to explore one of the pathways of mediation discussed in the conceptual framework, see Figure 2.1, namely, absenteeism and presenteeism, and quantify the economic loss due to IPV both in productivity and output. The analytical approach we have taken here, in terms of calculating the indirect economic loss due to IPV, is to use the sectoral distribution of women's work force participation in the major sectors of the Vietnamese economy.

We argue that the multi-sectoral approach, which is empirically grounded, would be amenable to study the pattern and intensity of the contribution of women in various sectors of production and thereby facilitating the study of estimating the impact on economic growth both in the short run as well in the long run. The temporal analysis of the pattern of employment would reveal the impact of structural change in economy and women's employment and their long-term contribution to the economy. Moreover, the multi-sectoral approach can potentially bring out the mutually reinforcing dynamics between IPV and economic growth—i.e. the reverse causation effect from economic growth to IPV. For instance, economic growth might induce structural change in the economy whereby the sector where women dominate might become the most productive sector in the economy.⁵ This structural change owing to economic growth might affect the existing intra-household bargaining equilibrium thereby inducing violence or reducing it. Although there are many studies on the impact of IPV on economic costs, as discussed in the previous sections, there is a paucity of literature on the analysis of the impact of economic growth on the nature and pattern of IPV. The sectoral analysis would help in quantifying the impact of economic growth on IPV through the analysis of the structural change in the economy due to economic growth and its impact on the women's employment and contribution in the real economy.

The sectoral approach we have taken in this report is more empirical in nature and estimates the impact of IPV on economic growth from the actual loss of output in the economy. We consider four major sectors in terms of their contribution to GDP of the Vietnamese economy

⁵The recent work by McMillan and Rodrik (2011) document the contrasting patterns of structural change between the advanced economies and the developing economies. For instance, they estimate that economic growth has delivered positive structural change in Asia meaning that labor has moved from low productivity sectors to high productivity sectors. However, they document an opposite movement in Africa and Latin America, with the most striking change in Latin America. The implications of the structural change owing to economic growth is enormous for intra-household bargaining for women, IPV, and gender equality.

to provide an illustration of our approach to estimate the loss of productivity due to absenteeism due to IPV.⁶ However, our approach is generalizable in terms of adding more sectors at the same level of aggregation or coarse-graining further to the level of availability of disaggregated data on the production sectors. From the Vietnam study (Duvvury et al. 2012 and GSO 2010), we have the estimates of the prevalence rate and incidence rate for violence against women in Vietnam. Using these two empirical estimates we develop an analytical approach to estimate both loss of productivity for women and loss of income due to violence in individual sectors.

5.2 ESTIMATING THE LOSS OF PRODUCTIVITY

The number of people experiencing violence in sector i is given by

$$DV_i = (LFP_i^W * PR) + (LFP_i^M * PR) \quad (1)$$

Where (LFP_i^W) is the number of women employed in sector i , (LFP_i^M) is the number of men employed in the sector and PR is the prevalence of violence in population.

The total incidents of violence in sector I are calculated as

$$TIV_i = DV_i * IR \quad (2)$$

Where (IR) is the incidence rate of violence defined as the average number of incidents.

Using Eqs. (1) and (2) we calculate the total work days lost due to violence by

$$TD_i = (TIV_i * a_i^W * LDVW) + (TIV_i * a_i^M * LDVM) \quad (3)$$

Where a_i^W is the proportion of total incidents resulting in missed work for women, a_i^M is the number of incidents resulting in missed work for men, $LDVW$ is the average number of days missed by women per incident and $LDVM$ is the average number of days missed by men per incident.

We can now estimate the total loss of output due to violence in each individual sector.

Let Y_i^W be the proportion of output that is attributable to individuals in sector i . Then the average annual output per worker in sector i is given by

⁶The Vietnam study only explored the days of work missed due to incidents of violence (absenteeism) and did not capture presenteeism (tardiness, leaving early, inability to concentrate, etc.)

$$\bar{Y}_i^w = \frac{Y_i^w}{n_i} \quad (4)$$

The average output per day per worker in sector i , which is the estimated annual output per worker per day in the individual sectors, i.e. for sector i it is given by

$$DY_i = \frac{\bar{Y}_i^w}{\text{work days in a year}} \quad (5)$$

Now using the average output of each worker in each sector per workday (Eq. 5) and the total work days lost given in Eq. 3, we estimate the total loss of output due to violence in sector i as,

$$OLDV_i = DY_i * TD_i \quad (6)$$

5.3 ESTIMATING THE LOSS OF INCOME

The total loss of income due to violence is estimated simply by multiplying the total incidents of violence faced by workers in the individual sectors, for example, TIV_i in Eq. 2 for sector i , with the average number of work days lost per incident ($LDVW$) and ($LDVM$) in Eq. 3.

Thus the total loss of income due to violence ($ILDV$) across all sectors is given by

$$ILDV = \sum_{i=1}^n (TIV_i * LDVW) + (TIV_i * LDVM) \quad (7)$$

This loss of income can be used to understand the impact on household consumption and savings. However, in the remaining analysis we consider only the loss of productivity due to IPV for our study of its impact on economic growth and not the loss of income approach.

6. ESTIMATION OF IPV IMPACT ON OUTPUT LOSS

As is evident from the conceptual framework outlined above there are many pathways impacted by IPV that have an effect on economic growth. One of these pathways for which we have data and can provide empirical estimate is Gross Domestic Product lost due to IPV-related absenteeism.

6.1 DATA FOR ESTIMATION

The following section is primarily based on Vietnamese data. The household level estimates are based on the results of a survey collected in Vietnam in 2012 in which a total of 1,053 women were surveyed—541 in rural areas and 512 in urban areas—to obtain relevant information on experiences of domestic violence and its associated costs at the household level. The women were interviewed individually and alone by specially trained interviewers (Duvvury et al. 2012).

An additional 10 in-depth interviews were carried out with women seeking support from Peace House (a national shelter of Women’s Union), CSAGA (a national NGO providing counseling and other support), and the Center for Support and Healthcare for women in DucGiang Hospital (Hanoi).

Women respondents were drawn from across the seven geographical regions of Vietnam and interviewed in seven rural and seven urban districts. The majority of the women included in the sample were married (92 percent), 6 percent separated or divorced, and 1 percent widowed. This is in line with the national culture as ever-partnered women were selected for the interview. The average age of women in the study was 39, ranging from 20 to 52, and the average age of their partners was 42, ranging from 20 to 66. Eight women in the study reported their partner’s age as unknown. The average family size of women respondents in the sample was 4.38, again reflecting the national trend, and actual family size ranged from 1 to 15. Mean age at marriage was 22 with those from rural areas reporting a lower mean age than women from urban areas.

Among data collected in the survey was the number of incidents of IPV experienced by the women in the previous 12 months, the number of days missed from work, both paid and reproductive as a result of the incident, and the number of paid workdays missed by husbands/partners as a result of the incident. Out of pocket spending as a direct result of the incident was also captured in the survey.

6.2 RESULTS

We apply the methodology outlined in Section 5.2 above to estimate the output loss due to IPV in Vietnam for the year 2011.⁷ We first identified key sectors of the economy where

⁷ We took 2011 as the year to calculate the output loss as data calculated in the Duvvury study (2012) survey was undertaken in 2012 and referred to experience of violence in the past 12 months.

female employment is concentrated—in Vietnam, manufacturing, trade and education, health and arts sectors account for 92 percent of all women employed in the economy in 2011. The total output of these four sectors accounted for 68 percent of the 2011 national output.

To calculate the loss of output due to IPV in the selected sectors, we require estimates of the prevalence rate of violence (PR), incidence rate or number of incidents per woman in previous 12 months (IR), average number of days missed per incident (LDV) and output/worker/day (DY_i). In Vietnam the PR used is the 2010 prevalence rate of current violence of 27 percent, reported in General Statistics Office's National Study on Domestic Violence (GSO, 2011). The IR is assumed to be 8.89 as estimated for Vietnam by Duvvury, et al. (2012). This figure was applied to the number of women experiencing current IPV in order to gain an estimate for the total number of incidents of IPV in each sector. The Duvvury et al. (2012) study found 14 percent of total incidents involved missing work on average for 5.5 days per incident. Further to this, the women interviewed also reported that in 7 percent of incidents, their partners also missed work on average for 6.5 days. For LDV, we used the figure of 5.5 days missed per incident for women and 6.5 days for men and the proportions of 14 percent and 7 percent respectively. For DY_i we took the sectoral annual output in constant 1994 prices divided by the number of workers (women and men in each sector) and assumed number of working days in a year to be 260.

Substituting PR, IR, a and LDV for men and women into equations 1, 2, and 3, we get the total number days of work missed by women and men due to violence. In Vietnam across the four sectors, workdays missed by women due to violence come to 41.3 million and by men to 24.7 million, or a total of 66 million days. Across the four sectors included in this analysis, agriculture, manufacturing, trade, and health and education, each had a reduced output of approximately 0.6 percent due to IPV-related absenteeism in 2011.

Substituting the DY_i calculated for each sector and estimated TD_i in equation 6, we calculate the loss of output in each sector. For estimating the loss of output across on average for the four sectors we first calculated a weighted average of DY_i, with weights being the share of each sector in the total output of the four sectors. The estimates of the loss of output due to violence are given in Table 6.1. The total loss of output resulting from IPV-related absenteeism in the four selected sectors comes to 2.4 percent of the sector output for the four sectors combined. In terms of the impact on the overall economy, the output loss comes to 1.6 percent of the 2011 GDP in Vietnam.

To put this in perspective, 1.6 percent of GDP equals 24 percent of government spending on health in Vietnam in 2012, or 25 percent of the education and training budget in Vietnam (Ministry of Finance of the Socialist Republic of Vietnam 2012).

Another way of understanding the scale of loss is equating the output loss to cost of starting up a business in Vietnam. The cost of doing business in Vietnam was on average 565 million VND⁸ or US\$26,796 (World Bank 2013). This includes cost associated with starting the business, getting electricity for the commercial building, dealing with construction permits, and registering the property. These four costs are chosen because a monetary value can be calculated; the other costs associated with doing business are mostly tax-related and dependent upon the size and nature of the business. We estimate the output loss of IPV to GDP, as a result of IPV-related absenteeism, at about 13,480 billion VND or US\$63.93 million. That is the equivalent to the cost of setting up 23,858 businesses in Vietnam at a cost of US\$26,796 per business.

⁸This value excludes taxes

TABLE 6.1 VIETNAM

Sector	LFw	Women Exp ⁹ Violence	Incidents (women)	incidents resulting in loss of work—Women	Avg number of days missed—women	TDMw
Agriculture	12377529	3341933	29709782	4159369	5.5	22876532
Manufacturing	3567641	963263	8563408	1198877	5.5	6593823
Trade	4756854	1284351	11417877	1598503	5.5	8791765
E,H,Art	1626067	439038	3903050	546427	5.5	3005348
Total	22328091					41267470
Sector	LFm	Men Prep Violence	Incidents (Men)	incidents resulting in loss of work—Men	Avg number of days missed—men	TDMm
Agriculture	11992839	3238067	28786412	2043835	6.5	13284929
Manufacturing	3383957	913668	8122511	576698	6.5	3748539
Trade	3098058	836476	7436268	527975	6.5	3431838
E,H,Art	841181	227119	2019086	143355	6.5	931808
Total	19316034					21397114
Sector	TDM(w+m)	Yi	Yi/person	Yi/person/day	OLDV	OLDV/Yi
Agriculture	36161461	767096	0.03	0.00012	4378	0.006
Manufacturing	10342363	748970	0.11	0.00041	4286	0.006
Trade	12223603	591622	0.08	0.00029	3541	0.006
E,H,Art	3937156	207931	0.084	0.00032	1276.191	0.006
Total	62664584	2315619	0.075	0.00029	13481	0.024

6.3 COMPARISON WITH OTHER DEVELOPING COUNTRIES

To contextualize the results of Vietnam, comparative analysis was undertaken with two other developing countries for which recent prevalence data was available. In Bangladesh, we took the PR of previous 12 months of 31 percent from the WHO Multi-country study on women's health and domestic violence against women. The PR for Bangladesh only includes prevalence of sexual and physical violence and does not account for psychological violence. The Ugandan PR of 44.5 percent was taken from the Uganda Demographic and Health Survey 2011. This prevalence rate includes physical, sexual, and psychological forms of violence. Following the same procedure as applied for Vietnam, we took the same four sectors, which accounted for 79 percent of total female employment and 56.6 percent of GDP in Bangladesh. In Uganda, the same four sectors accounted for 92 percent of total female employment and 38 percent of GDP. By applying the Vietnamese average number of incidents experienced over 12 months and the number of days missed from work to Uganda and Bangladesh, using the same methods, it is estimated that the productivity loss due to IPV-related absenteeism in Uganda and Bangladesh was 1.27 percent and 1.28 percent of GDP in 2012 respectively (Table 6.2 below).

TABLE 6.2: CROSS-COUNTRY COMPARISON OF IPV-RELATED ABSENTEEISM COSTS

	Prevalence rate (last 12 months)	Productivity loss (USD millions)	Percentage GDP	Comparison to spending on health	Comparison to spending on education and training
Vietnam	27%	\$63.93 million	1.6%	◊ 24%	◊ 25%
Bangladesh	31%	\$262 million	1.28%	◊ 39%	◊ 59%
Uganda	44.5%	\$87.76* million	1.27%	◊ 14 %	◊ 44%

◊Health and Education spending rates taken from www.indexmundi.com/facts

* GDP for Uganda is taken at market prices.

In both Bangladesh and Uganda, while the proportion of output loss as a percent of GDP was lower, the significance of this loss is dramatic in comparison to spending on education and training, which is critical to economic growth. In Bangladesh, the loss is equivalent to nearly 60 percent of what is spent on education and 40 percent of what is spent on health. In Uganda the loss due to IPV is equivalent to 44 percent of the amount allocated to overall education. If only spend on primary education as proportion of GDP is considered (0.98 percent in Bangladesh 1.85 percent in Uganda, and 1.56 percent in Vietnam, see Table 4.1), the loss due to IPV is roughly equivalent. This underscores that the loss due to IPV is a significant drain on an economy's resources and prevention of IPV could in fact facilitate economic

development by reinforcing the positive effects of critical investments in health and education.

This comparison also suggests that regardless of the economic level of the three countries, the magnitude of the output loss due to IPV is roughly equivalent. An important question to explore is whether, as economic development unfolds, with implications for trends in female labor force participation and structural shifts in the economy, the significance of the output loss declines. This is further explored below.

6.4 ESTIMATING THE EFFECT OF IPV ON GDP

As evident from the conceptual framework outlined above there are many pathways impacted by IPV that have an effect on economic growth. One of these pathways for which we have data and can make some estimate on is GDP lost due to IPV-related absenteeism. The calculations above estimate the effect of absenteeism due to IPV for the overall economy to be about 1.6 percent, inclusive of male and female lost days. Next we estimate what GDP in Vietnam might look like if IPV-related absenteeism was not occurring in the economy.

Using the equation for the output loss due to violence (OLDV) given in Eq. (6), we estimate the potential output for IPV-related absenteeism, i.e. output that would be if IPV-related absenteeism were not present, is estimated as follows¹⁰:

$$Y_p = \left(\frac{S_i}{Y_A} * \left(\frac{\bar{Y}/n}{\text{work days in a year}} \right) * TD_i \right) + \left(1 - \frac{S_i}{Y_A} \right) \quad (8)$$

where Y_A is actual output and s_i is the individual sector's output.

The above equation (Eq. 8) can be further simplified and decomposed to understand the sources of growth that can accrue to the potential output if IPV-related absenteeism is not present.

$$Y_p = \frac{S_i}{Y_a} \left[\left(\frac{\bar{Y}}{n * \text{work days}} \right) * (TD_i) + \left(\frac{(Y_a - S_i)}{S_i} \right) \right] \quad (9)$$

From Eq. (9) the sources of growth of the potential output for IPV-related absenteeism can be calculated and the growth equation is given by,

$$g_{Y_p} = g_{\bar{Y}} + g_{TD_i} \quad (10)$$

¹⁰ The general way to calculate Y_p is $Y_p = Y_a * (1 + OLDV_i)$ and we have reworked the general formula in terms of sectoral shares, which is given in equation 8.

Hence, as seen in Eq. 10 the sources of growth of the potential output for IPV-related absenteeism arise from the gain in productivity from both women and men (g_Y), and the gain in the number of days of work for not experiencing IPV (g_{TD_i}). In our analysis we have considered the latter—i.e., we have accounted only for the total number days lost by women due to IPV at the same level of productivity in our estimation of the potential output. Thus, the difference between the actual and the potential output reflects only the loss in the number of workdays by women because of IPV. We produce both the actual output and the potential output accounted for IP- related absenteeism in Figure 6.1.

FIGURE 6.1: ACTUAL OUTPUT VERSUS POTENTIAL OUTPUT

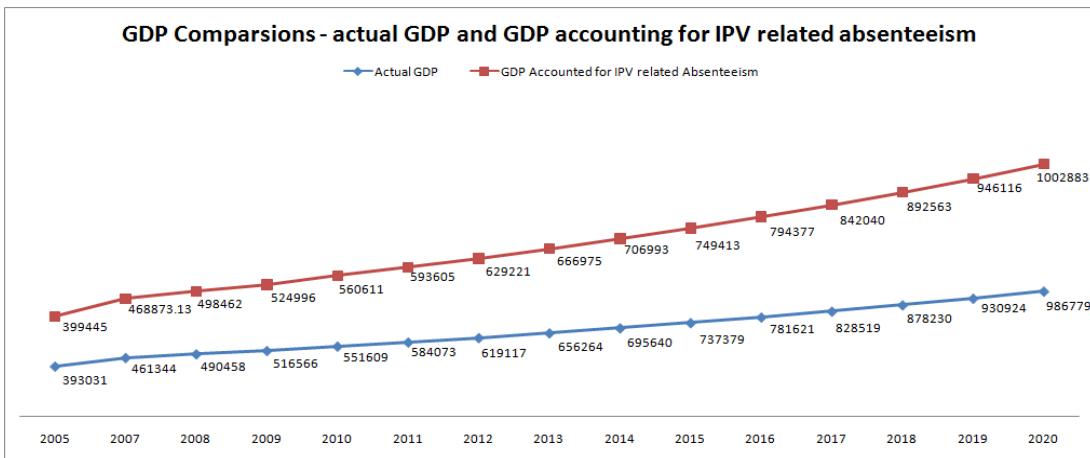


Figure 6.1 illustrates the actual and potential GDP accounted for IPV-related absenteeism for the period 2005 to 2011, and projected up to 2020.¹¹ Taking the estimated productivity loss due to IPV-related absenteeism, as calculated in the previous section, we add this to GDP for each year and project it out to 2020. The figure 6.1 therefore illustrates the potential impact of this 1.6 percent output loss on economic growth in Vietnam projected up to 2020. The blue line represents actual GDP projected to 2020. The red line represents GDP when there is no loss due to productivity loss associated with IPV- related absenteeism. For 2010-2011, we

¹¹The projection of GDP is based on a conservative figure of 6% taken from a survey of literature. For instance, the World Bank (2013) report estimates the annual GDP growth rate for Vietnam from 2008 to 2012 to be 5.9 percent per annum. Another report by Price Waterhouse Cooper (2011) projects the GDP growth rate in Vietnam out to 2050 to be 8.8 percent per annum. [Ngoc \(2008\)](#) investigate the sources of Vietnam's economic growth for the period 1975-2003 and found using a Cobb-Douglas production function that the main cause of growth in the state was capital accumulation and that technological progress was statistically absent over the time period. For the period 2003-2012 the growth rate in the Vietnamese economy averaged at just under 7 percent. For the purposes of our estimation the more conservative figure of 6 percent is taken and GDP is estimated out to 2020 based on this figure.

have both the actual and potential GDP allowing us to estimate the potential versus actual growth rate. The actual growth from 2010-2011 was 5.88 whereas the potential growth rate based on GDP accounting for loss in output due to IPV-related absenteeism comes to 7.61.

A number of assumptions have been made in the estimation of the potential output accounted for IPV-related absenteeism. First, the estimates are based on sectoral divisions as of 2011 and the true scenario is likely to deviate from the above approximations due to the dynamic nature of an economy. Another key assumption here is that the relative productivity loss of GDP due to IPV-related absenteeism is constant over time, that is, as GDP increases so does the absolute value of the productivity loss. Thus, as discussed, we assume that economic growth is driven by increases in the number of workers with the current sex ratio staying the same, whereby the absolute number of women experiencing violence increase and/or growth results from increased productivity. Therefore if IPV-related absenteeism remains constant the loss will increase as every working day missed means a higher level of productivity foregone.

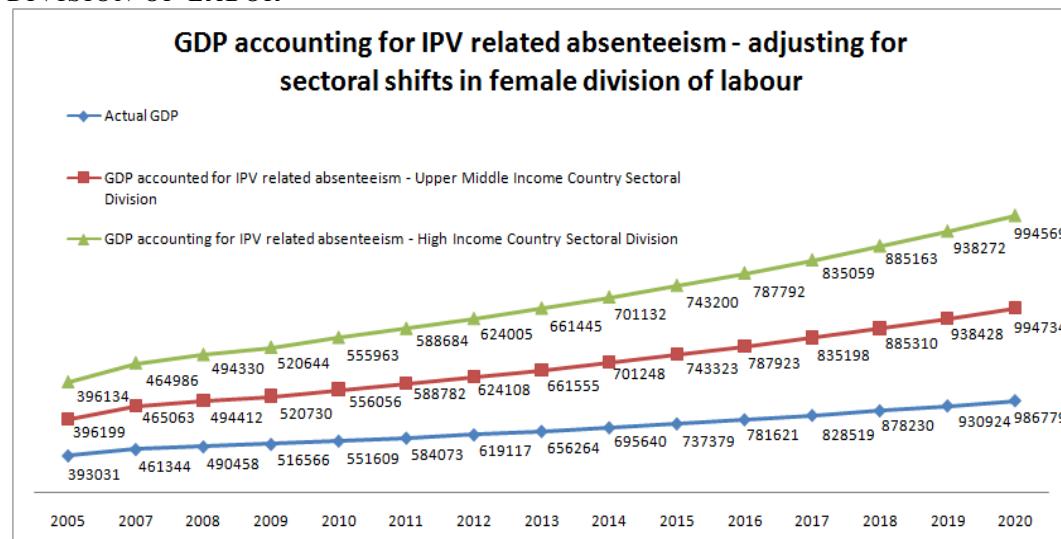
Some of the other limitations of our analysis include that our estimation does not take into account changes to sectoral compositions which would likely change as the economy grows, with workers more likely to move to higher output sectors from lower output sectors (McMillian and Rodrik 2011). There are also possible long-term impacts on human capital that are not taken into account here, for example, as outlined in the literature review, exposure to IPV during childhood can have a very real impact on children and their development and educational attainment. In other words, the intergenerational transmission would make the prevalence rates of IPV change as a function of time, which again would affect the impact of IPV on economic growth. Our analysis does not account for changes in future female labor force participation, especially that of younger women, which would likely change from the current level as IPV decreases. Thus, our estimate of the potential output is based on a conservative scenario in terms of growth rates of actual output reported in the literature and also is static in nature, i.e. many of the variables that we identify as important in our analysis have been kept constant.

6.5 SECTORAL SHIFT IN DIVISION OF LABOR

To begin a more dynamic analysis, we briefly explore below the implications of a structural shift in the division of labor that is likely to happen with economic development. We assume the sectoral divisions both of upper middle-income and high-income countries drawn from the *Statistical Yearbook for Pacific and Asia 2011* (ESCAP 2012). In upper middle-income

countries, labor tends to have the following allocations per sector: 16 percent agriculture, 27 percent manufacturing, and 57 percent services. For high-income countries, labor is generally divided 5 percent in agriculture, 25 percent manufacturing, and 70 percent in trade, health, education, and arts. For the purposes of this analysis, we apply these sectoral divisions to the employment data for Vietnam assuming the overall number of women and men employed in the economy are unchanged. Thus we first redistributed female employment across the three sectors and then adjusted male employment to maintain the same total employment in each sector.

FIGURE 6.2: POTENTIAL GDP WHEN THE ESTIMATED PRODUCTIVITY LOSS DUE TO IPV-RELATED ABSENTEEISM IS ADDED ONTO GDP – SHIFT IN SECTORAL DIVISION OF LABOR



Assuming an IPV prevalence rate of 27 percent, an average number of incidents in the previous 12 months of approximately nine per woman and 2011 productivity rates per worker, the potential productivity loss is 1.18 percent of GDP using the distribution of labor in upper middle income countries and 1.16 percent of GDP taking the distribution of labor in high income countries. In fact, the effect on GDP between the two economies is quite similar, implying that if the average incidence rate, the productivity and average number of days missed remain unchanged, the impact on GDP will remain largely unchanged also. In each scenario the slope of the line changes with growth in GDP progressing at a more rapid pace when IPV-related productivity loss due to employee absenteeism is accounted for.

McMillian and Rodrik (2011) examine the sectoral divisions of labor between developing and advanced economies and suggest that, as an economy advances and grows, technological change and human capital are likely to increase productivity rates per worker. Based on this

reasoning the above estimates for changes in sectoral composition are probably underestimates.

The changes in sectoral distribution reflect the impact of changing output level, as TD_i remains unchanged. One source of growth in potential output accounting for IPV-related absenteeism is change in productivity level (see equation 9). To assess the impact of productivity, we need to explore not only sectoral shifts, but also changes in sectoral productivity over time. As previously mentioned McMillian and Rodrik (2011) suggest that economic growth can potentially deliver positive or detrimental structural change¹², which can have a significant impact on IPV and hence on TD_i in equation 3, $TD_i = (TIV_i * a_i^W * LDVW) + (TIV_i * a_i^M * LDVM)$

6.6 CONCLUSION ON IPV AND GROWTH

The above analysis indicates that IPV-related absenteeism output loss can indeed be significant (1.6 percent of GDP in the Vietnam case). The impact on economic growth cannot be fully established, as output loss in specific sectors can have multiplier effect throughout an economy through forward and backward linkages, demand/consumption and government tax revenues. We also note that even with structural change in the economy, the output loss due to IPV-related absenteeism continues to be significant. The analysis overall demonstrates the need to address violence against women in the process of economic development.

A more general dynamic analysis needs to be undertaken to reveal the true scale of the impact of IPV on economic growth and economic development. Central to such an analysis would be an understanding how the indicators of IPV evolve with economic development. One argument in development literature is that economic growth would lead to eradication of all problems like IPV, poor health, poverty, etc. However, in that case industrialized economies of the West with high levels of economic development or economic growth are not devoid of these problems (Ravallion and Datt 1996; Thomas 1997; Blackden and Bhanu 1999; World Bank 2000; World Bank 2001; Knowles, Lorgelly, et al. 2002; Kliesen 2004). As stated at the outset of this paper, economic growth lays a foundation for economic development but is not a sufficient condition for development in terms of improved health outcomes, increased education or expansion in labor force participation of women. For example, it is widely acknowledged that Sri Lanka and Kerala both had positive development outcomes even at

¹² Detrimental structural change refers to structural change that is growth reducing and, as argued by McMillian and Rodrik (2011), is caused by labor movement from high-productivity sectors to low-productivity sectors.

low levels of per capita GDP. However, there is little empirical investigation on how higher education, improved health, or expansion of women's economic activity interacts with prevalence of IPV over time. Available studies using cross-sectional analysis suggest that IPV is positively correlated with education and health status but that there is a complex dynamic with employment. There is need for deeper empirical analysis of IPV trends over time to map the dynamic between economic development and IPV. For such an exercise we need both trend data and longitudinal data to establish the direction and magnitude of the relationship.

7. DATA REQUIREMENTS

Robust and comprehensive cost estimates of IPV as well as analysis of the links between IPV, economic growth and economic development are limited by significant data gaps. In the framework (Fig 2.1), we suggest several complex pathways by which IPV impacts on economic growth. Analysis of any one pathway is limited by the incomplete and fragmentary data in most developing countries. In Table 7.1 below we outline some of the data requirements for the different components of the framework of links between IPV and economic growth.

TABLE 7.1: DATA REQUIREMENTS FOR ESTIMATING IPV IMPACT ON ECONOMIC GROWTH

Components	Data Requirements	Computation possibility
Productivity impact	<p>Trend data in prevalence and incidents of IPV</p> <p>Business surveys for firm data on absenteeism, presenteeism (tardiness, difficulty to concentrate), job turnover, occupational mobility, disruption to workplace</p> <p>Employment surveys with IPV, labor force participation, occupational distribution, and earnings data</p> <p>Longitudinal data on women experiencing IPV on their subsequent educational attainment including job training, types and duration of employment, and savings behavior</p>	<p>Estimate change in output loss with change in prevalence, apply to changing distribution of workforce by sector</p> <p>Data from firms could be used to capture more fully the impacts of IPV on productivity while on the job. Productivity impact useful to capture the output loss, as well as estimate multiplier effects on firm income, tax revenues, and investment, which all impact on economic growth</p> <p>Estimate the impacts of IPV on output across sectors as well as between formal and informal economies. Provide input to country level CGE model</p> <p>Estimate participation rate, quality of workforce, reduced earnings, savings rate—important variables for growth equations</p>
Human capital	Need longitudinal data to establish probability of children not completing education, probability of drug use, likelihood of engaging in crime, probability of poor mental health status	Determine reduced earnings and output loss based on Barro's model of education impact on economic growth
DALYs	Country-specific detailed data on contribution of IPV to overall burden of disease, value of statistical life estimates for low and middle income countries	<p>Establish the monetary value of fatality and chronic morbidity due to IPV</p> <p>Estimate the burden on health system expenditure</p>
Intra-household gender relations	<p>Comprehensive module in violence surveys for detailed data on impact on household work and out of pocket expenditure due to IPV, investment in education of children, malnutrition</p> <p>Longitudinal household data on gender relations with households, family formation, savings behavior</p>	<p>Estimate reduction in household consumption, impact on hunger, poverty, reduced investment in human capital of children</p> <p>Estimate probability of split in family after IPV, which can be used to estimate consumption loss, estimate decline in savings rate</p>

Productivity Impact

To establish more robust estimates of the immediate and long-term productivity impact of IPV on economic growth, data on trend in prevalence, firm-level data on absenteeism, presenteeism, costs of job turnover, costs of retraining, etc. are needed.

Prevalence of IPV

Over the past two decades research on violence against women, and specifically on intimate partner violence, has advanced rapidly. There has been significant progress in terms of the availability of prevalence data of IPV in more developing countries. The availability of the standardized WHO survey instrument for IPV prevalence along with the Domestic Violence Module of Demographic and Health Survey have contributed to cross nationally comparable data on IPV. Both survey instruments provide detailed data on health consequences of IPV on women chronic morbidity, reproductive health status and mental health, impacts on child health outcomes, childhood experiences of violence, health service utilization, and help-seeking behavior. However, as both surveys have a health focus, the economic impacts of IPV are less explored. For example, a WHO multi-country study implemented across 10 and also being adapted to other national studies, the impact on work is asked but at a very general level: “In what way, if any, has the violence disrupted your work or other income generating activities?” with the options being on type of disruption but with no follow-up questions on actual days. Additionally, the impact on reproductive or household work is not probed. Apart from a question on daily work suffered as part of assessing mental health status, there are no specific questions to assess the impact on presenteeism. Equally, while frequency of violent behavior is asked, the actual number of incidents is not asked, making it impossible to estimate incident or victimization rate (i.e. number of incidents per 100 women), which is an important variable to estimate macro-level impacts. The module implemented by DHS does in fact ask number of incidents for each behavior but has no specific questions on impact on work, and, in practice, the part of the module asking for number of incidents is rarely implemented.

A big constraint with data in low- and middle-income countries is that there is no annual survey of crime victimization as in the United States or other OECD countries. Both the WHO and DHS surveys are not repeated surveys (with the exception that the DHS Domestic Violence Module has been repeated in a couple of countries, including Colombia, Dominican Republic, and Uganda). Analysis of impacts on economic growth is constrained by lack of trend data of prevalence of IPV. As an economy undergoes structural change, prevalence data along with labor force participation rate is required to map the dynamic consequences on productivity.

Business and Employment Surveys

To apply the proposed analytical strategy on inter-sectoral impacts of IPV across countries, we would require robust information on probability of employment with experience of violence, short run absenteeism, detailed data on presenteeism (tardiness, leaving early, ability to concentrate, disruption to work environment), and employer costs to maintain production through overtime, replacing employees, retraining, etc. The existing research instruments on IPV do not address these data needs. In the Australian study, the estimate of production-related costs relied on a specific survey that was done with businesses to assess their costs of IPV. The World Bank could potentially use the argument of potential economic impacts of IPV to promote new research among employed workers among firms, with particularly high concentrations of female workers.

Another avenue is to incorporate questions on violence within the labor force survey, national employment surveys or the living and standards survey. Tanzania for example included a module on violence in a National Panel Survey, which was part of the Living Standards Measurement Study. The survey collects information on poverty, agriculture and other development indicators. The household survey included a module on violence that asked questions for physical and sexual violence adapted from the WHO questionnaire.

The advantage of this approach is that workers in both formal and informal sectors would be covered, which would be critical in developing countries where the informal sector contributes significantly to GDP and is identified as a major source of economic growth (Charmes 2012). This would also aid analysis of not only inter-sectoral structural change, but also of the shifts between formal and informal employment. Such data would contribute to incorporating violence impacts into the Social Accounting Matrix (or the Computable General Equilibrium model) and explicate the differentiated impacts on the paid and unpaid sectors of the economy (including household work). Studies on costing (Australia and UK) in fact suggest that violence impacts not only paid employment but also unpaid community and voluntary work, which has implications for social infrastructure, another key driver of economic growth. An important disadvantage with Panel Survey is that the adherence to WHO guidelines regarding safety and confidentiality, such as conducting interviews in private was patchy, the use of male interviewers, and lack of information as to what extent special training was provided to implement the violence module (Vyas 2013). As noted by Vyas, given these challenges, the disclosure on IPV in the Panel survey was significantly lower than the DHS survey in Tanzania. Thus, integrating a violence module into existing data collection efforts on economic issues may seem quite opportune, but careful attention must be paid to addressing the very specific challenges involved in implementing violence

surveys in order to produce reliable results. Efforts in these cases should focus on building the capacity of national statistics offices to collect data on IPV according to WHO guidelines to ensure both reliability of data and, more importantly, safety of survey respondents.

Longitudinal Data

The literature contains empirical analysis on the intermediate and long-term effects of exposure to IPV on children. However, there have been few analyses carried out on the long-term impacts of IPV on women directly exposed to violence by their partners. For example, the employment status of women exposed to IPV has been explored, but little is known about the type of employment they undertake or the long-term educational impacts of women who ever experienced IPV, such as the effects of on-the-job training foregone due to absenteeism or poor health in the past compared to women that have never experienced IPV. The long-term impacts of IPV on education, employment prospects, and health impacts, both psychological and physical, require further exploration over longer time periods.

Human Capital Impact

To establish the human capital effects on economic growth requires one to estimate second-generation costs. Required data would include impacts on child health (malnutrition and morbidity, for example), impacts of behavioral problems on educational attainment, expenditure on counseling, child support and child protection, impact on future labor force participation and employment stability. Such data would in fact require longitudinal studies to demonstrate the specific causal effects and their magnitude, which could then be included in a modeling of economic growth. While some studies are available in the industrialized countries, there are virtually no or limited studies in the Global South. A few efforts for developing longitudinal databases on children are focused primarily on health with little attention to violence in the home. A problem with such studies is that the respondent is the parent supplemented with clinical data on the child's health through routine visits to the health facility.

DALYs

The health impacts through the estimation of DALYs are also difficult to rigorously establish in developing countries. An important data point required is to establish the impact of IPV on different diseases. Global burden of disease estimates may offer some data to make assumptions of IPV impact on different diseases but to date there is little exploration of this dimension in developing countries. There is a global initiative to estimate the burden of

disease due to IPV, which may provide data for developing countries.¹³ Such data will allow estimating attributable fractions, needed to estimate health costs econometrically when data on unit costs and actual service use of violence survivors are unavailable, as is often the case in developing countries.

Assigning value to DALYs or pre-mature mortality is also plagued by data limitations. The 2004 Australian study on costs of violence assumed value of statistical life from several US studies, which itself is based on jury awards. The method of applying estimates from industrialized countries to developing countries is of course fraught with difficulties given the different levels of monetization across the two groups of countries. An alternative method is to estimate the present value of lifetime earnings, which would require robust earnings data.

Intra-household gender relations

To estimate the impact on household consumption, far more data is required than is currently available. One step would be to introduce comprehensive module into the DHS or WHO questionnaire with detailed questions on the economic impacts of violence including consequences for reproductive work, out of pocket expenditures for accessing services and routine health and education expenditure. Another alternative is to introduce a violence module into Living Standards Measure Study (as in Tanzania) or into Expenditure and Consumption Surveys that most low- and middle-income countries implement on a regular basis (potentially on a bi-annual basis). The latter is particularly useful to consider given that sex disaggregated on consumption or savings is not widely available in developing countries. Such data collection would enable measurement of consumption loss. An interesting method used in the 2004 Australian study is the estimation of consumption loss based on the probability that women are less likely to be in co-habitation relationship subsequent to experience of violence. This is possible to estimate in developing countries by applying equivalent household disposable measure to household income data derived from the expenditure and consumption surveys.

With the UN Secretary-General's call in 2006 for more comprehensive data collection on violence against women, governments are willing to invest resources in data collection. The UN Statistical Commission has developed a set of indicators on violence against women and also produced (2013) a set of guidelines for collection of statistical data. The guidelines

¹³ WHO is leading an assessment of global burden of health 2013 and Prof. Charlotte Watts of LSHTM is chairing the Expert Working Group to assess the global burden of inter-personal violence

standardize statistics and provide national statistical offices with guidance for collecting, processing, analyzing, and disseminating data on violence against women. The guidelines focus on the use of dedicated sample surveys and provide detailed information on how to produce the list of core indicators (UN Statistical Commission, 2012). Regular data on the core indicators will contribute to building a global database and trend data, which is currently a big gap in the data requirements.

8. RECOMMENDATIONS

The discussion elaborated in this paper establishes the significant impact IPV has on an economy's GDP, and potentially on its economic growth. While we could not definitively establish empirically the magnitude of the impact on economic growth, the sectoral analysis does point to the potential drag on the economy due to IPV. The discussion also suggests that in the process of economic development as women's labor force participation increases and structural shifts in the economy occur, IPV can indeed have even an accelerated drag effect. There needs to more systematic exploration of the interaction between prevalence of IPV and economic development that expand opportunities, voice and agency for women and girls to fully capture the dynamics of the interrelationship.

While the focus in this paper has been on IPV given the availability of research and data, the economic impacts identified are likely to be similarly in nature for the multiple forms of violence (such as early marriage, sexual violence by non-intimates, female genital mutilation/cutting) that, together with IPV, constitute violence against women and girls. Overall, the discussion highlights the economic costs of inaction and the urgent need for systemic response by national governments in addressing violence against women.

The key recommendations for national governments, with support of World Bank, include:

Enhance capacity of policymakers, administrative officials, and program stakeholders to recognize VAWG, including IPV, as a priority development issue—Too often national policymakers, government officials, and program stakeholders perceive violence against women as a cultural and social issue that is adequately addressed through legislative action. While a legislative framework is central to conveying the non-acceptability of violence against women and girls, there is a need to have clear understanding of the economic and development implications of violence to develop a comprehensive response that is integrated into poverty reduction strategies, education, justice, health and social welfare sectoral plans, and overall development policies and programs. National and local policy dialogue on the economic costs and development implications of VAWG, including IPV, should be held to

develop capacity of policymakers, administrative officials, and program stakeholders. A policy toolkit should be developed to assist integration of IPV/VAWG into sectoral development plans and budgets.

Establish dedicated budget for addressing VAWG, including IPV—Given the enormous economic costs of inaction, a dedicated budget addressing VAWG is required to fund a comprehensive response. Currently, in many countries, funding for programs is spread across sectors with efforts to address violence competing with other equally important sectoral objectives. Moreover, the funding for services to support women and girl survivors of violence often falls short of the level required to have a network of integrated services that are available, accessible, and affordable. While costs of prevention programs and support services can be quite high (for example, 12 percent of the health budget in Brazil), equally effective prevention and support interventions reducing prevalence can achieve significant potential gains. As highlighted earlier, the estimated output loss in Vietnam, Bangladesh, and Uganda was equivalent to between one quarter and half of the existing education budget; in other words, savings from preventing violence could potentially enhance resources available for critical investments in health and education, essential for sustained growth and development. The budget would comprise contributions from all relevant ministries to ensure mainstreaming of attention to VAWG/IPV across all sectors.

Implement a multi-sectoral and inter-ministerial response to IPV/VAWG—As outlined in this discussion paper, IPV/VAWG has varied impacts and consequences including reduced health status of women and children, productivity loss, potential reduction in welfare or consumption, and lower human capital formation. To address these multiple impacts a coordinated response involving multiple sectors and ministries is required. As a first step, commitment to a national action plan on violence against women and girls that is adequately resourced is required to implement a multi-sector response across different ministries. However, effective implementation requires establishing mechanisms for coordination and accountability—various options such as a national inter-ministerial committee focused on IPV/VAWG or establishing a leadership role with mandate for monitoring accountability within a specific ministry should be explored.

Strengthen capacity of national statistics office in data collection on IPV/VAWG—National governments must prioritize systematic and regular data collection on VAWG, including IPV. Trend data on prevalence of violence as well as data on health and economic impacts of violence is essential to develop more robust estimates of costs of violence and impacts on

economic growth. Expertise of national statistics offices to build and manage a unified data system on IPV/VAWG should be strengthened, and this could be part of the UN Statistical Office efforts to collect data on a core set of indicators on violence against women. This would include developing knowledge of the national statistics office staff on research of IPV/VAWG, the types of surveys and information systems that are possible, and the ethical considerations involved. This would lay the basis for careful consideration of the possibilities and pitfalls of integrating specific questions on IPV/VAWG in ongoing data collections efforts such as Living Standards survey or national employment surveys.

Another possibility is to introduce an annual or biannual national survey on crimes modeled on the annual survey of crimes in the United States and the United Kingdom. Both the US and UK annual surveys, which are anonymous self-filled questionnaires, explore specifically the economic consequences of violence. There would of course be difficulties in adopting methodology of self-filled questionnaires in context with low literacy and hard to reach populations. However innovative methods have been used in gathering HIV data that could be potentially applied to IPV/VAWG.

Additionally technical assistance should be provided to national statistics office on maintaining and analyzing IPV/VAWG databases, and to national service departments (health, police, judiciary, social services) on creating management systems for data on incidence and costs.

Strengthen capacity of frontline service provider—Support for strengthening capacity of service providers across sectors (justice, law enforcement, health, social services) to record and maintain updated databases is critical. One of the biggest gaps in establishing robust estimates of service provision is the fragmentary data available with frontline service providers. There is equally a need to establish national guidelines and good practices as well as provide IPV/VAWG awareness training for staff at all levels in each frontline sector. Both are essential to provide a sensitive response to women to come forward to seek services as needed, and for sectors to monitor services and establish required budgets aligned to needs.

Scale up investments in primary prevention—Preventing IPV/VAWG is a key step to reducing the high cost of IPV/VAWG to women, their families and communities, and nations as a whole. Moreover effective prevention of IPV could have impact on reducing other forms of VAWG such as early marriage, sexual harassment in schools and workplaces, and rape.

National governments must build on ongoing prevention efforts that focus on building knowledge and awareness to reach all levels of society that IPV/VAWG is a fundamental human rights violation and impedes the economic development of households, communities, and society at large. Assessment of interventions and campaigns should be undertaken to identify those most effective and suitable for national scale-up. The costs of inaction highlighted in this paper make the case for an urgent scale-up to ensure that prevalence of IPV/VAWG is effectively reduced, which would facilitate economic development that promotes opportunities, voice and agency for women and girls.

Recommendations for the World Bank include the following:

Integrate IPV/VAWG into lending priorities of the Bank—The analysis points to the potential significant implications for economic growth and economic development. To achieve the Bank's twin priorities of eradicating extreme poverty and boosting shared prosperity, the drag effect of IPV needs to be addressed within the development programs supported by the World Bank. This requires firstly supporting sectoral interventions in health, law enforcement, and justice sectors. It also requires that attention to IPV/VAWG is integrated into all loan portfolios (for example infrastructural loans) by requiring that: a) gender assessment of all loan portfolios details the potential impacts of the loan programs on IPV/VAWG, b) monitoring and evaluation frameworks incorporate specific indicators on violence, and c) unintended consequences in terms of IPV/VAWG are regularly monitored.

Ensure dedicated funding to IPV/VAWG sectoral and regional funding streams of the World Bank—The economic gains from addressing violence and reducing its prevalence has been clearly established in this paper. There is a significant business case for addressing violence that the Bank should act upon in order to realize sustained economic development. A dedicated funding stream would ensure that adequate resources are available to implement interventions, conduct research and strengthen data collection systems that are required to address violence, deepen knowledge of the complex dynamics of violence, and support monitoring of cost and consequences of violence.

Prioritize multi-sectoral interventions that integrate expansion of support services and enhance women and girls' economic empowerment and autonomy—The capacity of women and girls to negotiate violence depends on professional support services to mediate the short- and long-term impact of violence, which affect their health status, human capital formation and productivity. Equally women and girls require economic interventions that

enhance their livelihood security, reduce the risk of poverty consequent to violence, and support rebuilding their lives.

Enhance capacity of Bank staff to address IPV/VAWG—Regular sharing of new information and knowledge on IPV/VAWG to all technical and operational staff should be a focus in efforts to mainstream violence into the planning and programming of the Bank.

Support research on psychological/emotional violence—Both research and program interventions focus primarily on physical and sexual violence for which there is widespread consensus on measurement. Moreover, both have clear impacts mediated by trauma on physical and mental health undermining productivity and long-term human capital formation. On the other hand measurement of psychological violence is perceived as more problematic and no consensus exists on standard measurement, though advances have been made in standardizing the set of behaviors that constitute psychological violence. New longitudinal studies indicate that psychological violence affects mental health independently of physical and sexual violence and is a predictor of depression affecting employment stability and unemployment. Given that psychological violence is often more pervasive than either physical or sexual violence, deeper understanding of its impacts should be explored. This is particularly important in developing contexts where mental health and its impacts are stigmatized.

Leverage key opportunities on the international development policy environment to raise visibility of IPV/VAWG—The Bank should use its leadership role to advocate on the need to mainstream attention to violence against women and girls in development discourse and programmatic efforts. Some important opportunities for this increased advocacy are on the horizon:

- The first is the Post-2015 discussions, which are now accelerating as the current MDG framework draws to a close. The World Bank should use this opportunity to lead this discussion and convene a consultation for developing a robust set of indicators on violence against women that could be used in the framing of post-2015 development goals.
- The second is the UN General Assembly commitment for data collection on a core set of indicators on violence against women. These indicators are a starting point for a robust global database on violence against women. However, the guidance and the surveys that were finalized represent a missed opportunity to collect information on the economic implications of violence. The World Bank can play a leadership role to advocate for inclusion of two to three key questions that would allow for some basic analysis of economic consequences.

- Third is the Safe Cities Initiative, which is raising the visibility of violence against women at a municipal level. The Safe Cities Initiative and World Alliance of Cities Against Poverty are important vehicles to gather attention to the economic consequences of violence at the local level. It is critical that local policymakers—including elected officials and urban planners—as well as local businesses and civil society organizations understand and act upon the economic costs of violence against women. The World Bank, through its theme of Social Accountability and Demand for Good Governance, should promote attention to the economic consequences of violence against women.

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APPENDIX 1: Studies Estimating Economic Costs of Violence (1990 to 2013)

Author and Date of Publication/Region/Country	Costs/year & Conclusions	Data used including sample size	Cost Categories
Leonard and Cox Distaff Associates, 1991; Australia Type of violence: intimate partner violence	\$AUST 1.5 billion Costs covered	<ul style="list-style-type: none"> -Prevalence based on police call-outs -Records of service providing agencies -Survey of service providing agencies to create case study templates to be used when no data exists. <p>Not clear where per unit costs originate</p>	<p>Deaths</p> <p>Business: absenteeism, loss of productivity</p> <p>Personal: accommodation, legal, medical, lost income, lost work time</p> <p>Government: healthcare, welfare delivery, accommodation, income, police, courts, victim compensation, interpreters</p>
Blumel 1993; Australia Type of violence: intimate partner violence and rape/sexual assault	\$AUST 620 million .	<ul style="list-style-type: none"> -Original survey of 50 women – 10 victims of physical violence and 40 victims of rape or sexual assault 	<p>Personal: legal, accommodation, courts, emergency services, police, health, counseling, referral, vehicle and personal effects, lost earnings</p>
KPMG 1994; Australia Type of Violence: domestic violence	\$AUST 4 million for 40 women (\$17.67 million for state of Tasmania but not a representative sample)	<ul style="list-style-type: none"> -Original survey, 40 respondents -Survey of community agencies to provide unit costs 	<p>Personal: loss of property, sick leave, bad debts, change of schools, security measures, legal costs re custody and access</p> <p>Government: crisis lines, police, shelter, ambulance, crisis support services, referral services, housing services</p>

<p>Snively, 1994; New Zealand</p> <p>Type of Violence: domestic violence, including child abuse</p>	<p>NZ\$ 1.2 to \$1.4 billion</p>	<ul style="list-style-type: none"> -Survey of service providing agencies Typical template of services created Base scenario – prevalence equal to police call-outs Five-times base scenario – multiplies base case by 5 Income foregone scenario – adds lost earnings Includes family violence with child victims -Government documents -prior research 	<p>Personal: medical care, drugs, refuge, relocation, legal costs, dental care</p> <p>Lost earnings,</p> <p>Deaths</p> <p>Government: justice, social welfare, shelters and crisis agencies, income support, police, courts</p>
<p>Day, 1995; Canada</p> <p>Type of violence: Violence against women</p>	<p>\$CDN 1.5 billion Data used (including sample sizes)</p>	<ul style="list-style-type: none"> -Violence Against Women Survey VAWS -National statistical agency publications -Government budgets -Provincial health survey -Crime victimization survey -Other research results 	<p>Short run and long run: Medical, dental, lost time at paid and unpaid work, psychiatry, drug and alcohol abuse, shelters, crisis lines, volunteer time, government support services.</p>

<p>Greaves, et.al, 1995: Canada</p> <p>Type of violence: violence against women, focus on partner violence, child sexual abuse</p>	<p>\$CDN 4.2 billion</p>	<ul style="list-style-type: none"> -VAWS – 12,300 sample -Government statistics -Prior research results -Expert opinion 	<p>Personal: lost earnings and unpaid work, accommodation, relocation, self-defense Deaths</p> <p>Government: lost tax revenues, courts, incarceration, police, legal aid, victim compensation, medical, shelters, counselling, public awareness, research, volunteer</p>
<p>Kerr and McClean, 1996; Canada</p> <p>Type of Violence: intimate partner violence</p>	<p>\$CDN 385 million</p>	<ul style="list-style-type: none"> -VAWS -Provincial government ministry budgets -National crime survey 	<p>Policing, corrections, compensation, social programs for victims and perpetrators, mental health, alcohol and drug treatment, shelters, loss of paid and unpaid worktime.</p>

<p>Miller, et.al, 1996; US</p> <p>Type of violence: all crime including violence against women</p>	<p>Cost for all crime - \$US 105 billion tangible, \$450 billion including intangibles Data used (including sample sizes)</p>	<ul style="list-style-type: none"> -FBI Uniform Crime Reports (UCR) -National Crime Victimization Survey (NCVS) -Other nationally representative sample surveys -Prior research 	<p>Property damage and loss, medical care for injuries, insurance, victim services, lost earnings and housework Pain and suffering, and death</p>
<p>Korf et al.; 1997; Netherlands</p> <p>Type of violence: Domestic violence against women by a partner: threatened or actual acts of physical and psychological violence</p>	<ul style="list-style-type: none"> - €151 million - €9.2 per capita. - Social security expenditures of €62 million and the costs of psychosocial care at €35.6 million yielding the highest cost categories. The cost to the criminal justice sector was estimated at €31; €13 million are due to sick leave from paid and unpaid employment, €7 million can be attributed to the medical care sector, and another €2 million accrue to police activities. 	<ul style="list-style-type: none"> - Based on 1996-1997 data from different agencies and service providers. - The estimates are very likely underestimates, as only women who suffered domestic violence as reported by shelters and registered institutions were included in the database. 	<ul style="list-style-type: none"> - Medical care (GP and hospitals). - Psychosocial care. - Law enforcement (criminal justice sector and police). - Employment (sick leave). - Social security (benefit payments/rent rebate).

Stanko, et. al. 1998; England Type of violence: partner violence	7.5 million pounds for Hackney 278 million for Greater London Data used (including sample sizes) Costs covered	<ul style="list-style-type: none"> -Original survey of 107 service providers 26 case studies, composites Prevalence found from trawling key agency files to find % of caseload resulting from violence -Original survey of 129 women in a Doctor's office waiting room. -Results from other research, specifically McGibbons 	From service providers: police, courts, legal costs, divorce, public-sector housing, shelter, social workers, physicians, emergency ward, health office
Folley, et. al. 1999; USA Type of violence: partner violence, including physical and sexual violence	\$US 250 million— least cost, 1994 dollars for US ARMY	Original survey, 2079 respondents including males and females US Army budgetary documents	Productivity loss, absenteeism, separation, replacement, transfer, and other

<p>Yodanis and Godenzi, 1999; Switzerland</p> <p>Type of violence: Domestic violence: physical, psychological and sexual violence by a man against his female partner</p>	<ul style="list-style-type: none"> - €260 million and €35 per capita because of domestic violence. - The most expensive categories were the criminal justice sector (including police, prison and courts) with almost €122 million and the health sector (including hospital care, physician care and medication) with €52 million. - The social sector included telephone help lines, counseling and shelters, and amounted to costs of €5.8 million. - The lowest costs were victim assistance, shelters, crisis support and research. Thus direct support for victims is the most economical kind of intervention, and if effective, carries a high potential for reducing the social costs in the more expensive areas. 	<ul style="list-style-type: none"> - National survey and official statistical data from various sources. - Used a 12-month prevalence rate of 11.3 percent for an approximation of the number of incidents per year. 	<ul style="list-style-type: none"> - Medical care. - Support and counselling. - Victim-orientated financial support. - Criminal justice sector. - Research
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Morrison and Orlando, 1999; Chile and Nicaragua Type of violence: Domestic violence including physical and sexual violence defined as moderate and severe	Chile: Reduced earning of US\$1.56 billion Nicaragua: Reduced earnings of US\$2.95 million	Survey of 310 (Santiago) and 378 (Managua) women Stratified random sample	Employment, health and children's education impacts
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Henderson & Assoc, 2000; Australia Type of violence: intimate partner violence	\$AUST 1.5 billion	-Extrapolations from relevant Australian and international research findings -Consultations with relevant organizations and individuals -Prior research findings	Business sector Direct: absenteeism, turnover, lost productivity Indirect: tax share of relevant government services, foregone profits from lost income and changes in expenditure patterns of victims, perpetrators and others
M. Heiskanen and M. Piispa; 2001; Finland Type of violence: Violence against women, focus on partner violence	For 1998: €101 million, €19.3 per capita Direct costs: €50 million: - Health sector: €7 million - Social sector: €15 million - Justice sector: €27 million Indirect costs: €56 million.	Refers to survey of 7,000 women undertaken for earlier study "Faith, Hope and Battering" by same authors. Statistics from government databases and agency budgets, activity reports, etc. -Interviews with experts to obtain percentage of service use attributable to violence against women. -Includes 2 case studies	-Direct: Health including physician visits, hospital care and medication. Shelters, crisis services, social work, therapy, Police, trial, prison. - Indirect: deaths, using human capital approach.

M. Heiskanen and M. Piispa; 2002; Finland Type of violence: Violence against women, focus on partner violence	€1.2 million (for the city) or €27 per capita. -the social sector producing the highest costs: €660,000. – the health-care sector: €240,000. - the criminal justice sector €340,000. - €91 million (national level)	"The unit of data collection and analysis was the client contact; thus one and the same client might have more than one contact in the course of one month."	Social sector: shelters, home service, services of child welfare, school authority, crisis aid, social work of church, family counselling clinic. - Health-care sector: including hospital and ambulance, patient transport and psychiatric and psychological treatment in health-care centres. - Criminal justice sector: police, trial, prison, prosecution, legal aid office, mediation
National Center for Injury Prevention and Control; 2003; United States of America Type of violence: Intimate partner violence; rape, physical assault and stalking	"The costs of intimate partner rape, physical assault, and stalking exceed \$5.8 billion each year, nearly \$4.1 billion of which is for direct medical and mental health care services."	- National Violence Against Women Survey, sample size 8,000 (only women who were injured were considered). – Medical Expenditure Panel — Survey. – Medicare file	- Medical costs from injuries only. – Lost time at paid and unpaid work

<p>Accesss Economics, 2004; Australia</p> <p>Type of Violence: domestic violence regardless of the sex of the victim or perpetrator.</p> <p>Includes the costs of children witnessing adult violence</p>	<p>\$AUST 8.1 billion</p>	<p>Women's Safety Survey</p> <ul style="list-style-type: none"> -Australian longitudinal study on Women's Health – created a profile of conditions associated with domestic violence since data didn't have victims separated out -Results from prior research 	<p>Includes pain and suffering, and death</p> <p>Government: Health, justice, education community services, accommodation,</p> <p>Personal: property replacement and bad debts, lost time at paid and unpaid work</p> <p>Business costs of lost productivity, search and hiring, etc.</p> <p>Includes lost economies of scale in households</p>
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Ribero and Sanchez, 2004; Colombia Type of Violence: domestic violence – physical and emotional abuse of women and children	Col\$8.8 trillion (2003) equals to 3.93% of GDP: 0.062 % of GDP in health costs, 2.431% in lost earnings and unemployment.	Original Survey in 2003 of 2,293 women in 3 locations Questions based on Revised Conflict Tactics Scale	Costs of service provision through accounting method: Medical costs, policing, legal costs, social services Employment and earnings through PSM: lost time, lost earnings
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<p>E. Envall and A. Eriksson, 2006; Sweden Type of violence: Intimate partner violence against women</p>	<ul style="list-style-type: none"> - The information applies to the year 2004. - The socio-economic costs of intimate partner violence are estimated at between SEK 2 695 million and SEK 3 300 million a year. 	<ul style="list-style-type: none"> - Official criminal statistics maintained by the Swedish National Council for Crime Prevention (Brå). - Victim of crime surveys. - Annual reports from central government agencies or for activities financed or co-financed by local governments. - National Board of Health and Welfare's own register within the Centre of Epidemiology with regard to the number of treatments and information from the Swedish Association of Local Authorities and Regions' database on Cost per patient, CPP, with regard to the costs of the identified treatments. - Questionnaires for women's refuges and crisis centres and local authorities. 	<ul style="list-style-type: none"> - "Society's costs for health and medical care, police, public prosecutors, courts, prison services and social services as well as costs to the civil society (women's refuges and other volunteer organizations) and costs to the business sector/employers". - "Costs to central government agencies for reducing the effects of the violence and trying to counteract it, as well as all preventive measures". - "The individual woman herself, her children and all those close to her are affected by costs in connection with the violence and in the future". However, they have not been able to calculate these costs to the same extent as other costs. - Indirect costs due to a decrease in productivity. - Transfers, i.e. flows of resources: sickness benefit insurance, social assistance and crime victim compensation that the violence induces. - Costs for dental services, medicines, mental health care, damage to children, pain and suffering were not calculated for this study.
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Gancheva et al., 2006; Macedonia	Cost of Direct Service Provision €425,000 to €553,700 annually	Data from interviews (service providers and 50 victims) National statistical and budget data to cost/case Estimate costs for 3 scenarios of state response (light, moderate, complex)	Costs to social work and NGOs (shelter, counseling, legal advice, help lines, awareness campaigns); criminal justice (policing, prosecution, court costs)
Type of Violence: Physical, sexual, and psychological violence by present or former intimate or family partner			

<p>Psytel; 2006; EU25</p> <p>Type of violence: Intimate partner violence: physical, psychological and sexual violence.</p>	<ul style="list-style-type: none"> - Domestic violence costs in EU25 total €16 billion for 2006 or €33 per capita in Europe and €1 million every 1/2 hours. - The study shows that by increasing the budget of intimate partner prevention policies by €1 we can save €87 in total costs, out of which €30 in direct costs. 	<ul style="list-style-type: none"> - Critical analysis of national studies estimating the cost of domestic violence in different member states. - Expert interviews. 	<ul style="list-style-type: none"> - Direct medical costs resulting from direct harm to physical and mental health, visits to the ER, hospital stays, care in general medicine and psychiatry wards, medicine. - Non-medical direct costs corresponding to non-medical goods and services directly related to domestic violence: civil justice, criminal justice, prison administration, judicial protection of youth, law enforcement activities. - Costs of direct social consequences related to collateral damage: emergency shelter, housing, various allowances, and sick leave payments. - Costs of indirect effects (economic costs + human costs) that correspond to lost productivity caused by illness and premature mortality due to violence: production losses due to deaths, work stoppages, absenteeism and incarceration, and finally, the costs of rape and serious injuries.
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<p>S. Walby; 2009; United Kingdom Type of violence: Domestic violence (physical, psychological and sexual violence between current or former partners in an intimate relationship</p>	<p>For 2001: £22,869 million in services, economic output and human and emotional costs. For 2008: £15,730 million in services, economic output and human and emotional costs. Conclusions: “Reduction of costs since 2001 due to a decrease in domestic violence rate due to increased utilization of services ex: higher rates of reporting. The investment in public services to reduce DV has been cost effective for the country as a whole; even if costs linked to services increased; overall there was a decrease in total domestic violence costs. The report concentrates on domestic violence but if other forms of violence against were included costs would rise.”</p>	<p>-Amount of domestic violence: National Crime Survey including intimate partner violence (BCS IPV): 40,000 sample. – Department of Transport reports on accidents and injuries. – Service-providing agency reports that include information on the extent of use of services by those who suffer domestic violence as well as the cost (per unit) of these services. – Prior research findings</p>	<p>- Services: criminal justice (police, prosecution services, courts, probation and prisons), health care (physical and mental health), social services (costs linked to children), housing and refuges (cost of emergency local authority housing and refuges), and civil legal costs (costs of solicitors, and of injunctions). – Loss of productivity and earnings to employers and employees: e.g. time off work due to injuries linked to domestic violence. – Pain and suffering: based on the notion that people would pay something in order not to suffer human and emotional costs of being injured. Does not take into account additional losses to productivity as a result of stress and reduced performance and the long term effects on children</p>
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<p>International Center for Research on Women (ICRW) and United Nations Population Fund (UNFPA); 2009; Bangladesh, Morocco and Uganda Type of violence: Intimate partner violence.</p>	<p>“Three-country study in Bangladesh, Morocco and Uganda to estimate the economic costs of intimate partner violence at the household and community levels, where its impact is most direct and immediate.” Several results: Please refer to page 9-10 of the study.</p>	<p>- Survey on one eligible woman per household. “The eligibility criteria for women was age (15+ in Morocco and Uganda; 15-49 in Bangladesh) and having been in a co-habiting relationship at the time or during the 12 months prior to the study. The sample size was 2,003 in Bangladesh, 2,122 in Morocco and 1,272 in Uganda.” - Questionnaires and expert interviews with service providers in health, criminal justice social and legal sectors. “Women were asked whether they experienced physical, emotional or sexual intimate partner violence in the 12 months prior to the study, what the outcomes of each incident were, what services, if any, they used, and the amount of money they spent to access these services.</p>	<p>This information was used to calculate the average total out-of-pocket cost of using any of these services due to intimate partner violence.” - Direct costs of intimate partner violence for households and communities (actual expenditures and the value of services used in responding to intimate partner violence). E.g.: medical and social services as well as services provided by the police and the criminal justice system; at the household level, the expenditures on goods and fees for services, transportation costs; at the community level provider costs linked to human resources, supplies/infrastructure used during service provision. - Indirect costs of intimate partner violence on households (lost earnings and productivity because of injury).</p>
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<p>E. Villagómez; 2010; Spain (Andalucia) Type of violence: Domestic violence against women by an intimate partner or ex-partner</p>	<p>Domestic violence against women by partners or ex-partners has an annual cost of €2.356,8 million in Andalucia. Annual labor market costs: 30% of the total cost (€707 million). Costs associated to physical and mental health of women: €371 million per year (16% of the total). Judicial costs: €60.7 million (3% of the total costs). The distribution of cost by type of actors shows that “the victims themselves carry the major part of the costs (€1,000 million, 43% of the cost). Family and friends carry an estimated cost of €18.4 million (1% of the total cost). The costs carried by firms and employers are estimated at €385.3 annually (16% of the total cost).” “The estimated cost to the public sector is approximately €947 million annually (40% of the total cost)”. “The costs borne by the third sector (NGOs) is estimated at €0.6 million (0.02% of the total cost).” “The direct annual costs per victim (women and their children) is estimated at €835. The direct cost per household is €2,764 per year.”</p>	<ul style="list-style-type: none"> - Survey carried out on 300 women victims of violence by their partner or ex-partner. - Developed a system of indicators on domestic violence which covers over 100 indicators, structured around six blocks: severity and prevalence, impact on victims, risk factors, institutional and social response, access and use of victim-oriented services, and perception and social attitudes. 	<ul style="list-style-type: none"> - Annual costs: direct costs (resources used by victims) as well as part of the indirect costs (the value of goods and services that are foregone due to violence, the loss
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<p>K. Helweg-Larsen et al., 2010; Denmark</p> <p>Type of violence: Violence against women, including domestic violence against women</p>	<p>- Violence against women costs the Danish society approximately DKK ½ billion (about €70 million) each year. “This corresponds to an annual cost to society of approximately DKK 65,000 per violence-stricken women, who has either reported the violence to the police or contacted an emergency department because of violence.</p> <p>The annual costs are nearly DKK 280 (€40) per woman in the age group 16-64 years in the Danish population.”</p> <p>“A national expenditure of approximately DKK 21 million per year covering public compensation to victims of violence is not included. This expenditure is a transfer of money to violence victims that does not result in any costs to society.”</p>	<p>The study includes two different population samples of violence-exposed women: 1) “From register-based data a population of 20,482 different women aged 16-64 years is identified, who in the period 2002-2005 reported violence to the police, died as a result of violence, and/or contacted an emergency department following an assault. This also includes women that stay in shelters, report to the police or contacted an emergency department.” 2) “The nationwide Danish Health and Morbidity Surveys 2000 and 2005 included questions about violence exposure within the last 12 months.” A total of 323 women self-reported violence exposure and are included in the study.</p> <ul style="list-style-type: none"> - Data on the socioeconomic conditions, contacts with the healthcare and selected labor market consequences of the two samples. - Data registered by central social services. 	<p>- Judicial system costs of police reported violence against women: time consumption within the police, the prosecution and courts combined with specific salary and court imposts, as well as costs of imprisonment and court fees.</p> <ul style="list-style-type: none"> - Costs of crisis centers: shelter rates and number of stays per year. - Costs to society: include the national budget for a number of initiatives started under the Danish national action plans to fight violence against women, 2002-2009. - Estimates of personal costs are included, but they depend greatly on a number of known and unknown psychosocial factors. - Estimates of average impact on women’s health-related quality of life, years of healthy life lost and mortality. <p>“Long-term costs to society as a result of premature death and loss of health-related quality of life are not included in the total costs of violence.” “The total costs do not include the substantial funding support granted to research on violence against women in recent years, nor do they include the costs of government departments and local administration of transfers to shelters and other disbursements, which can be related to violence against women”</p>
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M. Nectoux et al., 2010; France Type of violence: Intimate partner violence against women	<p>Results apply to 2009. “The total cost of intimate partner violence in France is estimated at €2.5 billion per year (between €1.7 and €3.5 billion). The total cost of intimate partner violence includes healthcare costs (€483 million), social and justice services (€355 million), production losses as a result of deaths, imprisonments and absenteeism (€1099 million), and the human costs of rape and prejudice (€535 million).”</p>	<p>Analysis of direct costs at three levels: “The micro-level analysis was based on expert interviews (responsible for childcare and accommodation, telephone helplines, departmental observatory to fight intimate partner violence) allowing understanding of the individual life course of victims.”</p> <p>“The meso-level analysis used data from national medical facilities, social, administrative and legal (institutional reports, national registers) and allowed the realization of a national estimate of costs.”</p> <p>The macro level exploited national and international economic databases (public expenditure budgets by function, health, justice and police, social services, economic cost and GDP, taken from EUROSTAT).”</p> <p>“Cost estimates of life loss are based on the value attributed to life but also on the link between longevity and wealth. Benefits of survival are estimated by the willingness-to-pay individuals for every additional year of life.”</p>	<ul style="list-style-type: none"> - Loss of social utility generated by violence. - Costs to the health care system: The direct medical costs (drug consumption, consultations, etc.). - “Costs for the medico-legal and social sector: use of police and justice (budget of the prison administration, the police, and criminal proceedings related to convictions); use of social services (costs related to shelters when a couple separates, the housing aids, benefits for single parents, costs linked to work stoppages directly attributable to intimate partner violence).” - “Loss of productivity: production losses due to deaths, incarcerations and absenteeism.” - “Loss of quality of life: psychological and human costs, human costs of rape and injury (the phenomenon of impaired daily quality of life of women victims who experience mood disorders, intense fatigue, sleeping problems, costs of indirect effects through a decrease in future revenues due to declining productivity (disability, death), costs related to the decline in living standards resulting from the separation and intangible costs).”
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<p>The National Council to Reduce Violence against Women and their Children; 2009; Australia Type of violence: Violence against women and their children, domestic violence against women</p>	<p>AUS\$13.6 billion in 2009 for violence against women and their children. “Without appropriate action to address violence against women and their children, an estimated three-quarters of a million Australian women will experience and report violence in the period of 2021-2022, costing the Australian economy an estimated \$15.6 billion.”</p>	<ul style="list-style-type: none"> - Australian Bureau of Statistics (ABS) Personal Safety Survey (PSS) data. - unreported violence is not included 	<ul style="list-style-type: none"> - pain, suffering and premature mortality costs associated with the victims/survivors experience of violence - health costs include public and private health system costs associated with treating the effects of violence against women - production-related costs, including the cost of being absent from work, and employer administrative costs (for example, employee replacement) - consumption-related costs, including replacing damaged property, defaulting on bad debts, and the costs of moving - second generation costs are the costs of children witnessing and living with violence, including child protection services and increased juvenile and adult crime - administrative and other costs, including police, incarceration, court system costs, counseling, and violence prevention programs - transfer costs, which are the inefficiencies associated with the payment of government benefits. <p>“The costs are allocated across eight groups within society which bear the costs of violence. These are: victims/survivors; perpetrators; children; friends and family; employers; federal, state/territory and local government; and the rest of the community/society (non-government).”</p>
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C. Varcoe et al., 2011; Canada Type of violence: Intimate partner violence against women	<p>“Total annual estimated costs of selected public- and private-sector expenditures attributable to violence were \$13,162.39 per woman. This translates to a national annual cost of \$6.9 billion for women aged 19–65 who have left abusive partners; \$3.1 billion for those experiencing violence within the past three years. Results indicate that costs continue long after leaving, and call for recognition in policy that leaving does not coincide with ending violence.” Conclusions: ““Leaving” may decrease, but does not end, the costs of violence to the system. Results indicate that costs continue long after leaving, and call for recognition in policy that leaving does not coincide with ending violence.”</p>	<p>- “Costs estimated for a community sample of 309 Canadian women who left abusive male partners on average 20 months previously.” - “Data used in this analysis were collected in 2004–2005 using structured interviews. The women were asked only about services they had used in the previous month.”</p>	<p>“Inclusion of a comprehensive range of cost categories to calculate both public and private costs of violence, with emphasis on health-related costs. Obtained women’s self-reports of health, legal and social service use, and costs related to violence in terms of lost wages and days of school because of health problems, and transportation and daycare required to access services. Health service use included both publicly funded services such as physician and hospital visits, and privately paid services (e.g., physiotherapy).” (For a detailed list of categories refer to Table 3 of the article, page 367). “Costs include costs directly attributable to violence (abuse/help lines, sexual assault/rape crisis services, shelters, second stage housing, advocacy/counseling for violence, and victims’ services) and costs partially attributable to violence (legal aid, social assistance, unemployment insurance, addiction counseling, and visits to a child protection worker, calls to the police).”</p>
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T. K. Logan et al., 2012; United States of America Type of violence: Partner violence against women by men	<p>“Overall, including changes in quality of life, protective orders were estimated to have saved taxpayers in one small state US\$85 million in a 1-year period (2006-2007)”</p>	<p>- Interviews with 213 women having obtained a protective order against a male abusive partner. “Most estimates of the costs of partner violence are made at the aggregate level rather than the individual level. Estimating costs at the individual level allows for a wider range of costs of partner violence to be considered. This study is one of the first to examine a wide range of economic costs of partner violence and to examine the economic costs and cost-benefits of civil protective orders.”</p>	<p>Costs included: - “health service utilization for doctor visits, dental visits, emergency room visits, urgent treatment care, hospital use, ambulance, physical therapy visits each month, visits to mental health counselors, psychiatrists, marriage counselors, ministerial counselors, and participation in group therapy for mental health or substance abuse and residential substance-abuse treatment, use of victim advocate, crisis line, in-person crisis counselor, and nights in a domestic violence shelter or a homeless shelter, use of legal services including private attorneys and legal aid attorneys”.</p> <p>“The overall goal of this article was to examine the economic impact of POs after accounting for the costs associated with protection orders (POs). Specifically, this article describes, (a) a wide range of costs associated with partner violence 6 months before and 6 months after the PO was obtained; (b) the average differences in costs associated with partner violence before and after the PO; (c) avoided costs of partner violence relative to PO intervention costs (i.e., benefits or cost savings of POs); and, (d) estimates of the statewide impact of avoided costs relative to the costs of a PO.”</p>
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Duvvury, et al., 2012, Vietnam Type of violence: Physical, sexual and psychological violence against women by current/former intimate partner	Household: out of pocket costs for accessing services came to 21% of average monthly income of women; foregone earnings due to missed work was 13.4% of monthly household income National: Out of pocket expenses, lost earnings, and missed housework—\$1.41 billion, or 1.41% of GDP; Productivity loss - \$2.26 billion or 1.78% of GD	Survey of 1053 women across 7 provinces; 10 qualitative interviews with women survivors; interviews with service providers	Out of pocket expenditures for accessing services: medical, police, court, shelter, legal aid Foregone earnings due to missed paid and unpaid work Productivity impact
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CARE 2013; Bangladesh			
Type of Violence: Domestic violence including physical	<p>Household: Direct monetary costs Taka (1 dollar = 68 taka) 57.8 million including: 14.3 million for medical treatment of women, 19.7 million for court hearings (including food and transport);</p> <p>Fines paid by perpetrator—38 million Taka</p> <p>National: Total costs \$1.8 billion or 2.05% of GDP</p>	<p>Survey of 500 rural households from low-income population Sunamganj, Dinajpur, and Tangail districts where CARE is active.</p>	<p>Direct monetary costs for accessing services—medical treatment and court hearings, costs associated with leaving home, costs of fines paid by perpetrator</p>

Source: (Compiled from Council of Europe, 2012; Day, et al., 2005; Duvvury, et al., 2004 and Wilman, A. 2009).