The Economics of Domestic Violence: Evidence from Bangladesh

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1. INTRODUCTION
2. CONCEPTUAL FRAMEWORK
3. BEHAVIOR EXPERIMENT
4. SURVEY EXPERIMENT
Globally, Domestic Violence is Highly Prevalent and Costly

- 30% of ever-partnered women experienced physical or sexual violence by a partner in their lifetime (WHO, 2013).
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- Lifetime exposure to domestic violence is correlated with
  - Adverse economic and health outcomes in victims (Erten and Keskin 2018; Ellsberg et al. 2008; Campbell et al. 2002).
  - Poor developmental outcomes in children (Aizer 2011; Carrell and Hoekstra 2010; Koenen et al. 2003; Huth-Bocks et al. 2001).
DOMESTIC VIOLENCE IS NEGATIVELY CORRELATED WITH GDP

**Figure 1:** Source: World Bank
The Relationship Between Income and Violence Remains Poorly Understood

- Strong negative correlation between income and domestic violence, both across countries and within countries.
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- Evidence that income-support interventions aimed to alleviate household poverty and empower women may lead to increases in victimization (Green et al. 2015; Hidrobo and Fernald, 2013; Bajracharya and Amin 2013; Dalal et al. 2013; Ahmed 2005; Angelucci 2008).
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→ Did not consider social image concerns.
**Research Questions**

1. What is the relative importance of different motives explaining husbands’ use of violence?
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2. Which mechanisms explain the income gradient in the use of violence?
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2. Which mechanisms explain the income gradient in the use of violence?

→ First step towards identifying interventions that can reduce violence.
**Violence Pattern in Bangladesh**

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2. **Income gradient**: Low-income men are up to twice as violent.

3. **Disobedience dependence**: Violence increases in “disobedience”.
   - Low-income wives do not disobey more.
**Objectives:**

1. Assess relative importance of different motives for violence:
   - Idiosyncratic violence: Violence increases utility.
   - Deterrence violence: Threat of violence to reduce disobedience.
   - Reaction violence: Violence as a reaction to disobedience.

2. Understand mechanisms explaining income gradient in use of violence:
   - Differences in taste.
   - Differences in marginal utility: Consumption, social image.
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2. **Survey experiment:** Elicit beliefs and norms using vignettes.
1. INTRODUCTION

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4. SURVEY EXPERIMENT
**Set-Up**

- Full information extensive form game between wife $W$ and husband $H$.
- Husband born with exogenous income $I$. 
Set-Up

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- Husband commits to punishment $V(D)$.
- Wife chooses disobedience $D(V)$. 
**Set-Up**

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- Husband born with exogenous income $I$.
- Husband commits to punishment $V(D)$.
- Wife chooses disobedience $D(V)$.

Utility $W$ \((\text{disobedience, violence, consumption})\):

+ (disobedience) \quad - (violence) \quad + (consumption)

Utility $H$ \((\text{disobedience, violence, consumption, social image})\):

- (violence) \quad -/+ (social image) \quad + (consumption)
1. Motives for violence: IV-DV-RV

<table>
<thead>
<tr>
<th>Idiosyncratic Violence</th>
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</tr>
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<tbody>
<tr>
<td>( V \text{ increases utility:} )</td>
<td>( V \text{ deters } D: )</td>
<td>( V \text{ decreases utility cost of } D: )</td>
</tr>
<tr>
<td>( \bullet ) Taste for ( V )</td>
<td>( \bullet ) Distaste for ( D )</td>
<td>( \bullet ) Taste for punishment</td>
</tr>
<tr>
<td>( \bullet ) ( V ) increases social image</td>
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<td>( \bullet ) ( V ) restores social image</td>
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# 1. Motives for violence: $D \leftrightarrow V$

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Disobedience independent

Disobedience dependent
1. Motives for violence: Relative importance

![Graph showing the relationship between disobedience and violence.](image)

- Ante
- Post
- DV
- RV
- Equilibrium Deterrence
- Hot State
2. Mechanisms explaining income gradient: I ⇔ V

- Differences in taste.
2. **Mechanisms explaining income gradient:** I ⇔ V

1. Differences in taste.
2. Differences in marginal utility:
   - *Consumption:* Low-income men have higher MU from consumption.
   - *Social image:* Low-income men have higher MU from social image.
OBJECTIVE: i) Assess role of idiosyncratic, deterrence and reaction violence between men and women, ii) test for income differences.
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- **With small probability, man receives the other plate,** with large probability, also receives large plate.
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Woman chooses between small and large plate of rice for herself.

With small probability, man receives the other plate, with large probability, also receives large plate.

Disobedience: Woman gives herself the large plate.
1. **Motives for violence: IV-DV-RV**

- Man can punish wife for each choice by seconds of annoying sound he chooses on a slider (triggers sound on earphones without enumerator).

- Pays in terms of seconds he needs to listen himself.
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- **Not about female “disobedience”?** - Play i) men punish men, ii) women punish women, iii) women punish men.
- **Do men understand that disobedience is the efficient outcome?** - Men play against themselves.
- **Does hot-state violence matter?** - One-shot ex-post punishment.
2. Mechanisms explaining income gradient: I ⇔ V

**1. Differences in taste:** Low-income men punish more even for no disobedience.
2. Mechanisms explaining income gradient: I ⇔ V

1. **Differences in taste:** Low-income men punish more even for no disobedience.

2. **Differences in marginal utility:** Low-income men have higher consumption or social image concerns.
2. **Mechanisms explaining income gradient: Differences in marginal utility**

1. **Consumption**: Implement the wife’s choice with large probability.
2. **Mechanisms explaining income gradient:** Differences in marginal utility

1. **Consumption:** Implement the wife’s choice with large probability.

2. **Social image:** Public disobedience or punishment.
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Differences in marginal utility contribute to the income gradient if:

- IV: $V^A \uparrow$, $V^P \uparrow$
- DV: $V^A(D = 1) \uparrow$
- RV: $V^P(D = 1) \uparrow$
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- Show vignettes in which husband gives instruction, wife disobeys. Elicit:
  - **Deterrence:** How does the husband incentivize his wife to not disobey?
  - **Reaction:** Given disobedience, how does he punish?
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i) Self-report, ii) inferred valuation, iii) incentive to guess village mode:

1. **Beliefs**: How will the husband (re-)act?
2. **Social norms**: What is the socially desirable (re-)action?
Show vignettes portraying visibly low- or visibly high-income couple.
2. Mechanisms explaining income gradient: I ↔ V

- Show vignettes portraying **visibly low- or visibly high-income** couple.

- **Vary situation portrayed**: Husband instructs wife to avoid disobedience that is costly to i) consumption, ii) social image.

  
<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>
THE END
Cross-Country Relationship - top 50%

Figure 2: Source: World Bank
Figure 3: Source: World Bank
Figure 4: Source: WHO, 2013

*Regional prevalence rates are presented for each WHO region including low- and middle-income countries, with high-income countries analyzed separately.
The relationship between income and violence remains poorly understood.

Evidence
## Low-income Husbands Use more Violence

**Table 1:** Types of violence that husbands use against their wives, by income

<table>
<thead>
<tr>
<th></th>
<th>Low income (%)</th>
<th>High income (%)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>He destroys her belongings</td>
<td>13.149</td>
<td>9.147</td>
<td>4.002***</td>
</tr>
<tr>
<td>He forces her to have sex</td>
<td>27.912</td>
<td>21.172</td>
<td>6.741***</td>
</tr>
<tr>
<td>He kicks her</td>
<td>18.339</td>
<td>10.175</td>
<td>8.164***</td>
</tr>
<tr>
<td>He limits her contact with others</td>
<td>17.497</td>
<td>11.614</td>
<td>5.884***</td>
</tr>
<tr>
<td>He forces her to perform sexual acts</td>
<td>16.148</td>
<td>8.941</td>
<td>7.206***</td>
</tr>
<tr>
<td>He punches her</td>
<td>13.610</td>
<td>8.941</td>
<td>4.669***</td>
</tr>
<tr>
<td>He pushes her</td>
<td>17.532</td>
<td>11.716</td>
<td>5.815***</td>
</tr>
<tr>
<td>He slaps her</td>
<td>38.870</td>
<td>30.113</td>
<td>8.757***</td>
</tr>
<tr>
<td>He spites her</td>
<td>21.915</td>
<td>18.088</td>
<td>3.826**</td>
</tr>
<tr>
<td>He stomps her</td>
<td>20.761</td>
<td>11.922</td>
<td>8.839***</td>
</tr>
<tr>
<td>He twists her wrist</td>
<td>11.188</td>
<td>6.578</td>
<td>4.610***</td>
</tr>
</tbody>
</table>
Table 2: Disobedience, violence and income

<table>
<thead>
<tr>
<th></th>
<th>Outcome: Violence Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Disobedience Index</td>
<td>-0.010</td>
</tr>
<tr>
<td></td>
<td>(0.039)</td>
</tr>
<tr>
<td>Low Income</td>
<td>0.182***</td>
</tr>
<tr>
<td></td>
<td>(0.031)</td>
</tr>
<tr>
<td>Disobedience*Low Income</td>
<td>0.232***</td>
</tr>
<tr>
<td></td>
<td>(0.074)</td>
</tr>
<tr>
<td>Age</td>
<td>0.010</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
</tr>
<tr>
<td>Disobedience*Age</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Edu</td>
<td>-0.188***</td>
</tr>
<tr>
<td></td>
<td>(0.036)</td>
</tr>
<tr>
<td>Husband Age</td>
<td>0.006*</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
</tr>
<tr>
<td>Husband Secondary Edu</td>
<td>-0.162***</td>
</tr>
<tr>
<td></td>
<td>(0.036)</td>
</tr>
<tr>
<td>Observations</td>
<td>1840</td>
</tr>
</tbody>
</table>

OLS regressions with modified Huber-White SEs.
Disobedience by income

**Figure 5:** Without permission she...

**Figure 6:** It is justified to beat if...

Development Priority
Conceptual Framework - Wife's problem

Outside option

$\max_D \left\{ \begin{array}{l}
u(C_W) \\
 g(D, I) \\
 h(V(D), I)
\end{array} \right\}$

Consumption utility
Disobedience utility
Violence cost

$M = 0$

$M = 1$

$C_W = \alpha I$
\[
\max_{V, \alpha} \quad u(C_H) + \tilde{\theta}(D, V(D), I) + e(V(D), I) - f(D, V(D), I, \epsilon)
\]

Consumption utility \quad \text{Image utility} \quad \text{Violence utility} \quad \text{Disobedience cost}

\[C_H = (1 - \alpha)I - \lambda(D, I)\]

Material cost

\[C_W = \alpha I\]
**Table 3:** Costs of divorce to husbands and wives, by income

<table>
<thead>
<tr>
<th>Costs to husbands:</th>
<th>Low income</th>
<th>High income</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>Denmeher (USD)</td>
<td>2074.822</td>
<td>554</td>
<td>1827.005</td>
</tr>
<tr>
<td>Divorced</td>
<td>0.059</td>
<td>809</td>
<td>0.034</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>Currently working</td>
<td>0.331</td>
<td>1182</td>
<td>0.261</td>
</tr>
<tr>
<td>Total income</td>
<td>1059.604</td>
<td>1182</td>
<td>1687.091</td>
</tr>
<tr>
<td>She received money from parents</td>
<td>0.112</td>
<td>886</td>
<td>0.143</td>
</tr>
<tr>
<td>Money she sent parents last month (USD)</td>
<td>1.699</td>
<td>866</td>
<td>0.854</td>
</tr>
</tbody>
</table>

Two-sided t-tests.
Conceptual Framework
IV-DV-HS Predictions

Conceptual Framework