The Gender Inequality Index alongside alternative Gender Measures: Pros & Cons and the Debate

*Oxford Human Development Course on “Concepts, Measurement and Policy Implications*

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Debate

• What are we trying to measure?

• Methodologies

• Choice of Indicators
What are we Trying to Measure?

• Measurement methodologies and the choice of indicators should be based on what we want to measure *(policy exercise)*
  – Inequality across Gender
    • How unequal is the achievement across gender?
  – Women’s disadvantage relative to men
    • How difficult is the women’s achievements vis-à-vis men?
  – Women’s status across societies
    • How well women are doing in women-specific indicators?
Differences

The following assumption is a crucial difference between an *index of inequality* and an *index of women’s disadvantage*.

*Anonymity* – we should not identify anyone based on their identity.
What does Anonymity Imply?

Example

<table>
<thead>
<tr>
<th>Group</th>
<th>Years of Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Situation I</td>
</tr>
<tr>
<td>Male</td>
<td>12</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
</tr>
</tbody>
</table>

Any *inequality index* will treat these two situations as identical.

What about an index measuring *women’s disadvantage compared to men*?
A Measure of Inequality Vs. A Measure of Disadvantage

- **Example A**

<table>
<thead>
<tr>
<th>Group</th>
<th>Years of Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
<tr>
<td>Male</td>
<td>12</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
</tr>
</tbody>
</table>

Both inequality and relative disadvantage increases.

- **Example B**

<table>
<thead>
<tr>
<th>Group</th>
<th>Years of Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Situation I</td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
</tr>
</tbody>
</table>

Inequality increases but not the relative disadvantage.
Measures of Women’s Relative Disadvantage

- Relative Status of Women Index (RSWI) [Dijkstra and Hammer, 2000]
  - Uses the same three dimensions as in the HDI
  - The measure can be written as

\[
\text{RSWI} = \frac{H_F/H_M + E_F/E_M + L_F/L_M}{3}
\]

F = Female and M = Male
Measures of Women’s Relative Disadvantage

• Relative Status of Women Index (RSWI) [Dijkstra and Hammer, 2000)
  – The index does not satisfy anonymity
  – If women performs worse in all three dimensions, then RSWI < 1
  – If women performs better in all three dimensions, then RSWI > 1
  – This measure is conceptually simple and easy to understand
Measures of Women’s Relative Disadvantage

- Relative Status of Women Index (RSWI) [Dijkstra and Hammer, 2000]
  - What is the shortcoming in policy analysis?

**Example**

<table>
<thead>
<tr>
<th></th>
<th>Hel</th>
<th>Edu</th>
<th>Liv Std</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.70</td>
<td>0.65</td>
<td>0.75</td>
</tr>
<tr>
<td>Male</td>
<td>0.74</td>
<td>0.56</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Are women in a relatively disadvantageous position?

The answer is in fact **no** according to this measure.
Measures of Women’s Relative Disadvantage

- **Gender Gap Index (GGI)** [World Econ. Forum; 2006, 2007]
  - Uses four dimensions: *economic participation and opportunity*, *educational attainment*, *political empowerment* and *health and survival* and 14 indicators
  - A female/male ratio is calculated for each indicator
  - Each indicator is truncated at the equality point
  - Weighted average of indicators are used to construct the sub-indices
  - Simple average is taken to construct the overall index
Measures of Women’s Relative Disadvantage

• Gender Gap Index (GGI) [World Econ. Forum; 2006, 2007]
  – What are the shortcomings in policy analysis?
  – Due to the unweighted average to create the sub-indices, results are not comparable over time
  – This index also relies on HDRO’s estimated earned incomes which suffer from large imputation error
Measures of Women’s Relative Disadvantage

• Social Institutions and Gender Index (SIGI) [OECD]
  – Instead of gender outcomes, it focuses on societal norms and institutions which affect how women fare -- using family code, physical integrity, son preference, civil liberties and ownership rights
  – There are 12 indicators
  – Each indicator was scaled between zero and one
Measures of Women’s Relative Disadvantage

• Social Institutions and Gender Index (SIGI) [OECD]

• Dimensions and Indicators
  – Family Code: Early marriage, Polygamy, Parental Authority, Inheritance
  – Physical Integrity: Female genital mutilation, Violence against women
  – Son Preference: missing women
  – Civil Liberties: Freedom of movement, Freedom of dress
  – Ownership Right: Access to Land, Access to Bank Loans, Access to Property
Measures of Women’s Relative Disadvantage

• Klasen and Schüler (2010)
  – This index is highly similar to the RSWI but uses geometric mean instead of arithematic mean
  – The index can be written as

\[
\left[ \left( \frac{H_F}{H_M} \right) \times \left( \frac{E_F}{E_M} \right) \times \left( \frac{L_F}{L_M} \right) \right]^{1/3}
\]
Measures of Women’s Relative Disadvantage

• Klasen and Schüler (2010)
  – What are the shortcomings in policy analysis?
  – Even if there are inequalities within dimension, the overall result may mislead

Example A:

<table>
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<th>Liv Std</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.70</td>
<td>0.75</td>
<td>0.7</td>
</tr>
<tr>
<td>Male</td>
<td>0.75</td>
<td>0.7</td>
<td>0.7</td>
</tr>
</tbody>
</table>

According to this measure, there is no overall inequality across Gender
Measures of Women’s Relative Disadvantage

- Klasen and Schüler (2010)

**Example B:**

<table>
<thead>
<tr>
<th></th>
<th>Hel</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Case I</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.70</td>
<td>0.75</td>
<td>0.70</td>
</tr>
<tr>
<td>Male</td>
<td>0.75</td>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td><strong>Case II</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.55</td>
<td><strong>0.90</strong></td>
<td>0.70</td>
</tr>
<tr>
<td>Male</td>
<td><strong>0.90</strong></td>
<td>0.55</td>
<td>0.70</td>
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A policy maker may not have any incentive to differentiate these two cases as both have the same overall inequality.
Measuring Gender Inequality

• Gender Inequality Index (GII) [UNDP]
  – Uses three dimensions and five indicators

Cons
  – All five indicators are not compatible with the concept of inequality
    • The MMR and AFR indicators do not contain men’s achievement
Measuring Gender Inequality

• Gender Inequality Index (GII) [UNDP]

Inequality in three dimensions
Measuring Gender Inequality

• Gender Inequality Index (GII) [UNDP]
  – It shows that the loss of inequality in reproductive health is massive
  – However, this inequality is artificially generated by the selection of these two indicators
    • The interpretation of the index becomes misleading due to the first two indicators
Measuring Gender Inequality

• Gender Inequality Index (GII) [UNDP]
  – The index may not differentiate these two situations

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<tbody>
<tr>
<td></td>
<td>Hel</td>
<td>Edu</td>
<td>Liv</td>
<td>Std</td>
<td>Hel</td>
<td>Edu</td>
</tr>
<tr>
<td>Female</td>
<td>0.72</td>
<td>0.75</td>
<td>0.70</td>
<td></td>
<td>0.75</td>
<td>0.60</td>
</tr>
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  – The reason is that unlike the indices for women’s relative disadvantage the index satisfies *anonymity* principle
Measuring Gender Inequality

- Gender Inequality Index (GII) [UNDP]
  - There are certain advantages of the methodology used for creating the index
  - The measure is able to differentiate these two situations

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- The second situation is more unequal than the first
Measuring Gender Inequality

• Gender Inequality Index (GII) [UNDP]
  – Why?
    – The GII is the gap between the maximum possible overall achievement and the actual overall achievement, which is different between two cases

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– The female/male ratio based measures may fail to catch this point
Measuring Gender Inequality: Going Beyond two Groups

- Gender Inequality Index (GII) [UNDP]
  - Sometime we need to go beyond two groups and understand the source of inequality
    - For example – is the inequality originated mostly due to the differences across gender groups or due to across ethnic, religious or other groups?
    - The female/male ratio based indices are not enough for this purpose
    - An inequality measure is able to provide some guidance in this situation
Choice of Indicators: A Crucial Exercise

• Indicators for inequality and relative disadvantage of women should have achievements for both men and women

• Indicators such as the MMR and AFR should rather be used to construct measures that compare the status of women relative to a benchmark (and not relative to men)
Conclusion

• Human development by nature is multidimensional and so multidimensional indices are crucial

• The selection of index is very crucial and should be able to guide public policies

• Gender measures are no exception and need to be designed accordingly
Conclusion

• Different measures influence and address policies differently and so it may not be a good idea to use one measure for everything

• The measures should be theoretically grounded and its properties should be examined thoroughly to prevent wrong policy implication

• Advise – the inequality index and the index for women’s disadvantage should be used together to have better and more accurate policies