



Kai L. Chan, PhD

GENDER PROGRESS INDEX

*"Society progresses when all its
members are able to achieve more."*

GENDER PROGRESS INDEX

Mao Zedong once remarked that “women hold up half the sky.” Yet in many countries today women are not fulfilling their potential due to cultural, legal and social impediments. But just as society loses when women fall short, so too when men are stifled. Although obstacles to men are less frequent (and perhaps even self-imposed), it is increasingly becoming more relevant (e.g. females outnumber males in tertiary education in many countries; men are much more likely to engage in dangerous activities; etc). Regardless, society progresses when all its members are able to achieve more.

Hitherto most measures of gender issues have acknowledged only female shortfalls. Furthermore, they have invariably taken one-dimensional views of gender differences by focusing on just the gap or just the level. Moreover, such measures seldom control for factors that can explain differences in outcomes.

To help societies to better reach the full potential of both sexes, and to facilitate international comparisons to reflect both levels and ratios, a measure is needed that captures gender issues on multiple dimensions and without prejudice on the gender of outcomes. This is not just an academic exercise, but rather it will enable policy makers to better understand the problems within society and where effort should be placed in ensuring that their nation’s full potential is realised.

The Gender Progress Index (GPI) takes a holistic view on gender issues. First, levels are important as a country where people are equally under-utilised is not ideal. Secondly, gaps within a country matter and equality (of opportunity) should be lauded and targeted. Finally, the index considers the relative performance of men versus women with no *a priori* distinction between the two; i.e. male under-performance of female outcomes is equal to the inverse.

Differences in outcome by gender are not always nefarious. Cultural, social and biological reasons may explain some of the discrepancies in outcomes. Also, men and women may simply choose different paths because of personal preferences. For this and other reasons the index tries to avoid normative positions on particular outcomes but is more focused on equality of opportunity. However, the index does highlight differences in outcomes, and through such a spotlight it is hoped will steer society in a direction towards equal gender rights and opportunities. Moreover, variables are calibrated against the population or its segments when relevant to account for the natural pipeline in certain outcomes. For example, the gender composition of corporate boards is calibrated against the gender composition of the labour force.

METHODOLOGY

The GPI consists of five dimensions: (1) education; (2) health; (3) labour; (4) politics and power (P&P); and (5) society. Within each of these dimensions are a set of indicators, ranging from a low of 3 to a high of 5. In total there are 20 indicators, each of which are tracked at the level of gender (female and male).

Table 1: Gender Progress Index methodology

#	EDUCATION (20%)	HEALTH (20%)	LABOUR (20%)	POLITICS & POWER (20%)	SOCIETY (20%)
1	Schooling years	Obesity rate	Labour participation	Parliament*	Suicide rate
2	Tertiary ER	Life expectancy	Unemployment rate	Cabinet*	Leisure time
3	Avg PISA score	Adult mortality rate	Senior jobs*	Board seats*	Parental leave
4	Science degrees	Tobacco use	Unpaid work hours		GNI per capita
5					Population*

* Indicators expressed as shares that sum up to 100%; their level scores are undefined but are taken as 1 for the pair calculation. Female outperformance indicators: tertiary ER, PISA, life expectancy, adult mortality rate, tobacco use, suicide rate, and leave.

Kai L. Chan, PhD

Distinguished Fellow, INSEAD

E: Kai.Chan@INSEAD.edu W: www.KaiLChan.ca

The index is constructed using both the levels of and the ratios of the female and male indicator values. For the levels, the indicator values are transformed into unit-free measures by subtracting the worst value and then dividing by the sample range. This is done at the female-male aggregated level. For the ratio, the female indicator value is divided by the male value unless the latter is larger. That is,

$$s_L = \frac{(x_f+x_m)-\min\{x_f+x_m\}}{\max\{x_f+x_m\}-\min\{x_f+x_m\}}; s_R = x_f/x_m \text{ if } x_f \leq x_m \text{ and } s_R = x_m/x_f \text{ if } x_f > x_m$$

where s_L is the level score¹ and s_R is the ratio. Both scores fall in the range [0, 1]. The level-ratio indicator pair is then assigned a value equal to the geometric average of the two scores:²

$$y = s_L^{1/2} s_R^{1/2} = \sqrt{s_L s_R}$$

The GPI score is a weighted sum of the 20 indicator level-ratio scores and so its value also lies in [0, 1].

The Index is robust in that there is a tradeoff between levels and ratios: A country cannot improve on the index by merely having one of the gender-level indicators regress. Likewise, it allows comparisons across countries on two dimensions: (1) How they are doing in absolute progress; and (2) How they are faring internally between the sexes.

Full details on the methodology (normalisation, missing values, weights, etc.) and indicators (definition, source, etc.) can be found [here](#).

RESULTS (TOP 10)

Which countries are best at reaching the full potential of their population? Table 2 below lists the top ten countries that achieve both high absolute (level) and relative (ratio) outcomes for the two sexes. Columns 4 and 5 (level and ratio) show country performance on the level of progress of men and women as a whole, and the relative performance between the two, respectively.

The top country is Norway. In fact, the top-performing countries are all from north Europe; Scandinavian nations dominate the list. The only non-European nations represented in the top 10 are New Zealand (6) and Canada (9). The top-performing non-Occidental country is Singapore (19). Costa Rica (29) is the top country in Latin America, while Tunisia (59) is the best amongst Arab nations, and Ghana (67) leads Sub-Saharan Africa. Full results (122 countries are assessed) [here](#).

Table 2: Gender Progress Index results (top-10 countries)

Top-10 GPI countries			Sub-index ranks		GPI dimension ranks				
RANK	COUNTRY	SCORE	LEVEL	RATIO	EDU	HEALTH	LABOUR	P&P	SOCIETY
1	Norway	0.698	1	2	22	2	12	1	1
2	Sweden	0.685	12	1	33	1	4	2	4
3	Netherlands	0.659	4	8	11	3	46	7	12
4	Denmark	0.649	3	10	8	4	36	21	8
5	Finland	0.648	14	6	8	18	33	3	19
6	New Zealand	0.646	6	12	7	8	16	25	20
7	Iceland	0.645	11	3	26	6	10	22	11
8	Germany	0.642	10	7	3	16	54	23	7
9	Canada	0.638	5	14	17	9	15	33	17
10	France	0.637	24	4	23	15	65	5	18

¹ If the variable is a “bad” then the **min** and the **max** operators are swapped.

² This is equivalent to a Cobb-Douglas utility function with constant returns to scale parameters and $\alpha = 1/2$.