

The background of the slide is a green-tinted collage. It features a large crowd of people at the top, a modern building with 'INSEAD' signage on the right, and silhouettes of students in a classroom or meeting at the bottom left.

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Kai L. Chan  
Distinguished Fellow

**International Women's Day (Abu Dhabi) / 08 Mar 2017**

# Gender Progress Index



International Women's Day

# Thank you: INSEAD, guests, and the UAE

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INTERNATIONAL WOMEN'S DAY - INSPIRE IMPACT IMPOWER

8 MARCH 2017  
INSEAD MIDDLE EAST CAMPUS IN ABU DHABI

REGISTER

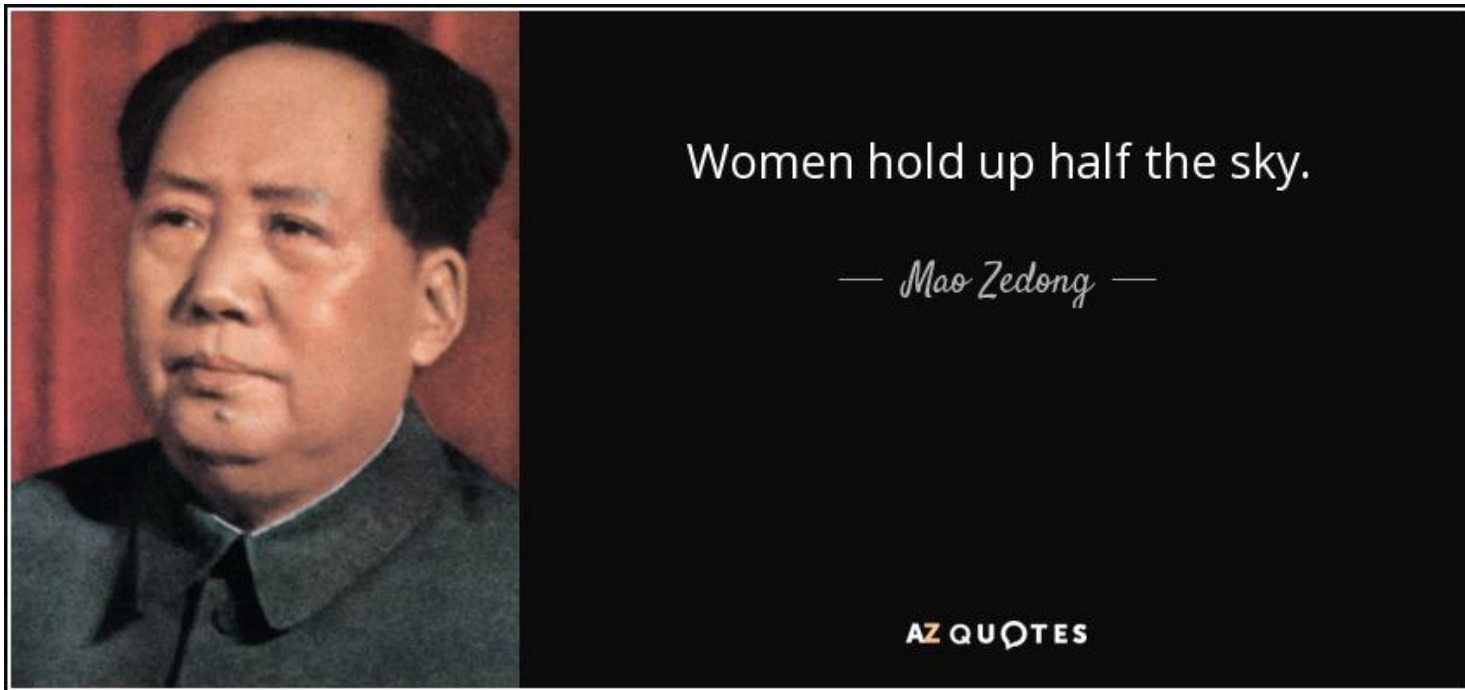


- > AGENDA
- > SPEAKERS
- > CONTACT US

- 08:30 Registration and Networking over light breakfast
- 09:00 **Welcome**  
**Miguel Sousa Lobo**, Associate Professor of Decision Sciences, Director of the Middle East Campus, INSEAD
- 09:05 **Opening Remarks: Gender Progress Index**  
**Dr. Kai L. Chan**, Distinguished Fellow, Innovation & Policy Initiative, INSEAD
- 10:00 **Dialogue and Debate**  
Stories of Women Leaders who INSPIRE IMPACT IMPOWER
- 12:30 Summary and Closing
- 13:00 Lunch

# « Women hold up half the sky » Mao Zedong (ca. 1968)

## 婦女能頂半邊天

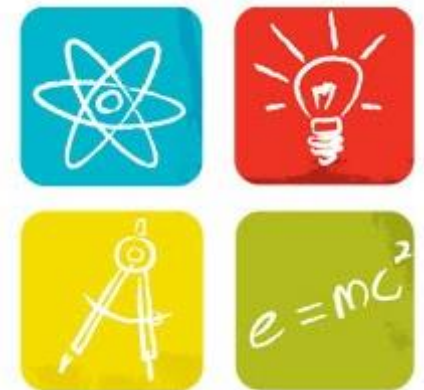
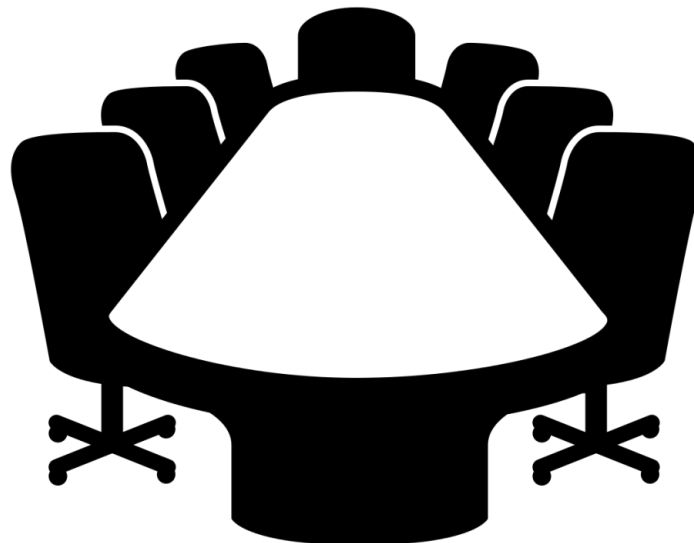
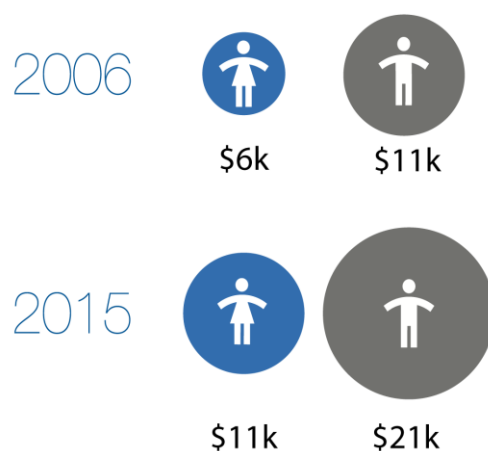


Yet in many countries today when are not fulfilling their potential due to cultural, legal and social impediments

# Lost opportunity: Markets undervalue female work

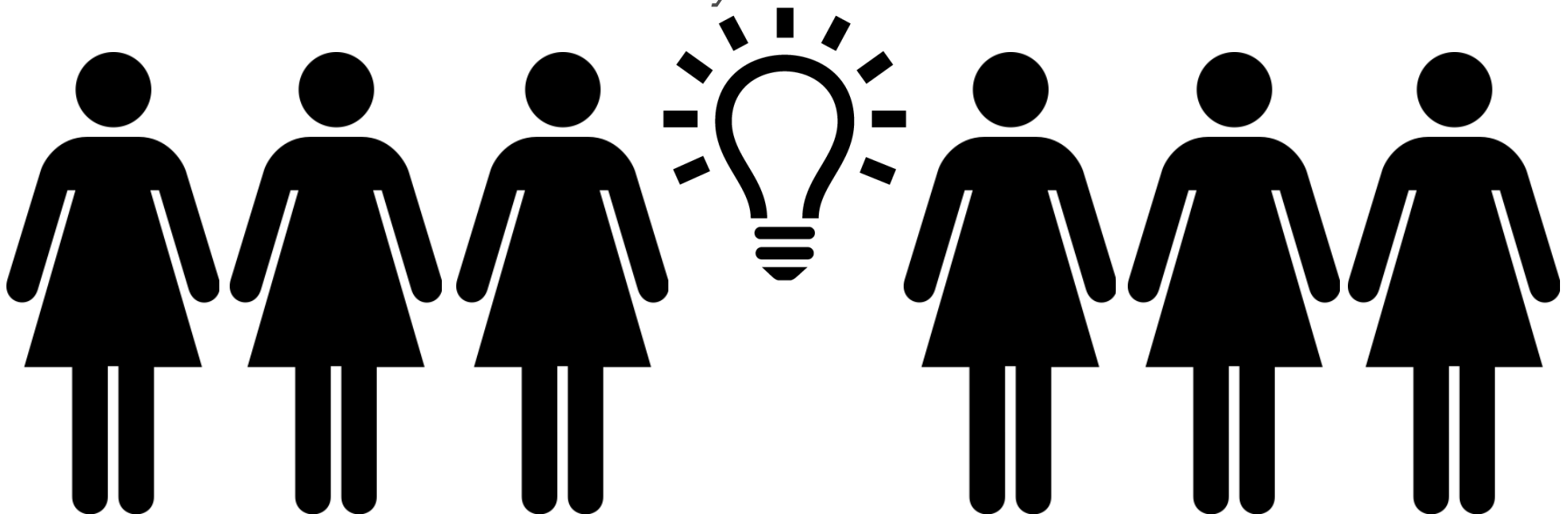
- Global GDP would increase by \$28 trillion if female labour force participation rate caught up with male rate (McKinsey, 2015)
- Companies with women executives “are associated with unusually strong firm performance.” (Peterson Institute, 2014)
- But we also need to get more women into fields that will be in demand in the knowledge economy (esp. STEM)
- Women spend more time on unpaid work – true also for those employed

Global average, annual earnings



# Wrong perspective: Women should be benchmark

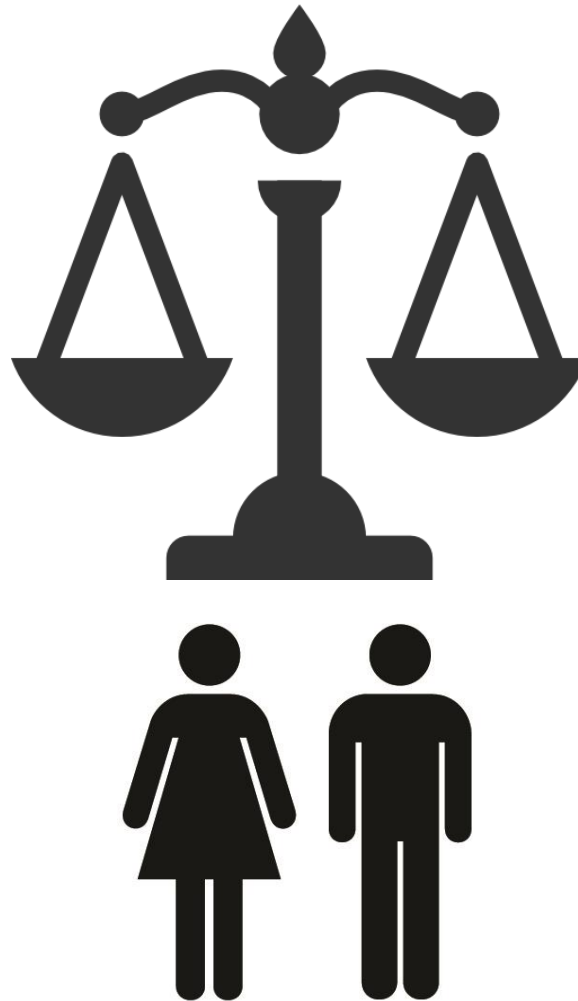
- Instead of viewing women as lagging men, we should think of the many ways they are leading men:
  - Lower violent crime rate
  - Lower rates of drug and alcohol abuse
  - Higher prioritization of family
- *How much better off would society be if men were more like women?*



# What is gender equality?

## Are we framing it correctly?

- Should men and women perform equally across all statistical measures?
- Should men and women seek the same goals and careers?
- Should we strive to have as many female garbage collectors as men?
- Should we have as many men seeking employment as nurses and teachers?



- Men have shorter life expectancies and higher mortality rates
- In many advanced countries women outnumber men in institutions of higher education
- Men are more likely to engage in risky activities
- How to consider “wage gap” when sexes choose different occupations, etc.?



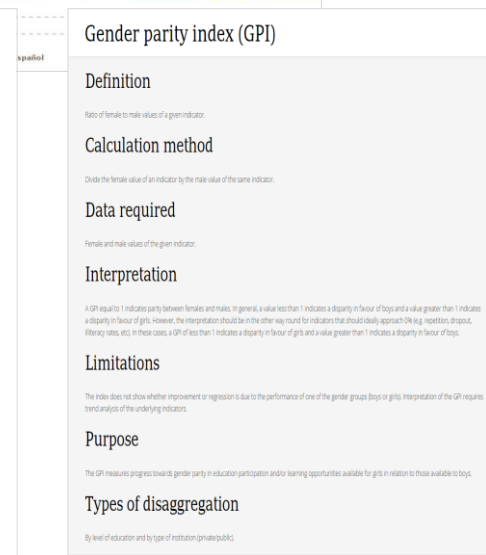
# Women in MENA: Even more barriers

- A lot of diversity in MENA region and thus a vast array of challenges for women across the region
- Women in the region utilizing education as a means to overcome systemic barriers and gain independence
- Social stigma associated with employment for women in the region
- Laws impede the ability of women to work even as women in the region outperform men in many facets of human capital accumulation



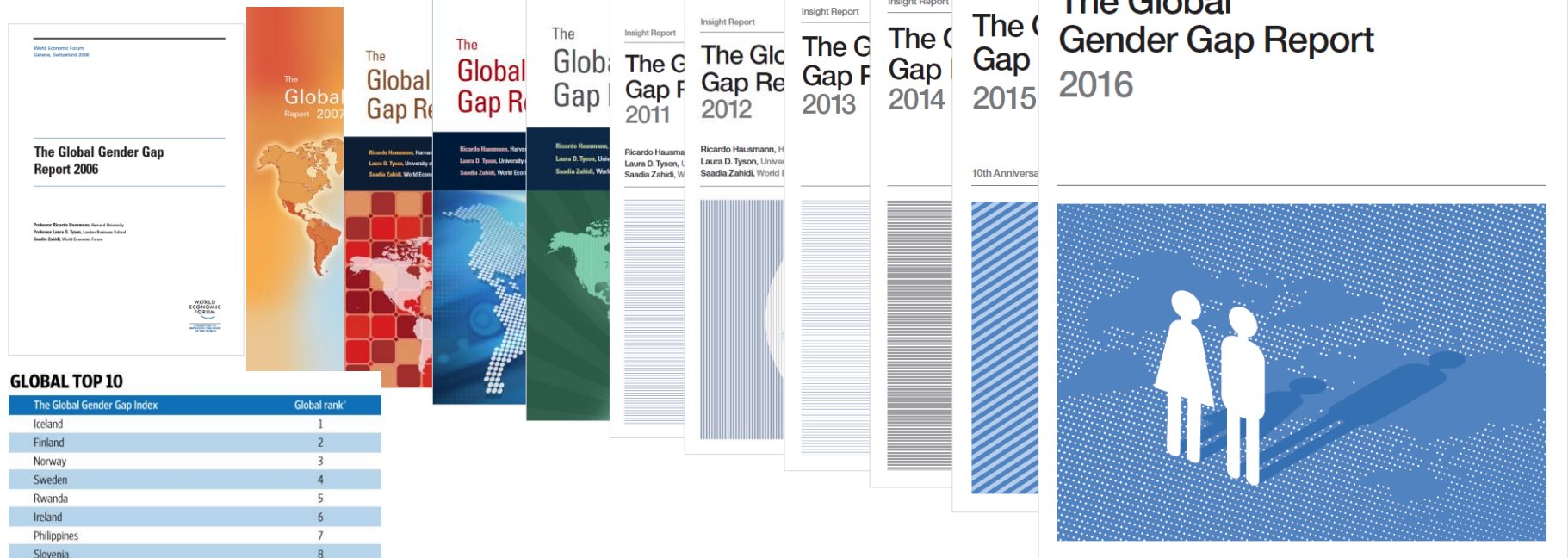


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# WEF Gender Gap Report: The flagship gender index (but...)

- “[A] framework for capturing the magnitude of gender-biased disparities and tracking their progress over time.”
- “The index benchmarks national **gender gaps** on economic, education, health and political criteria...”



## GLOBAL TOP 10

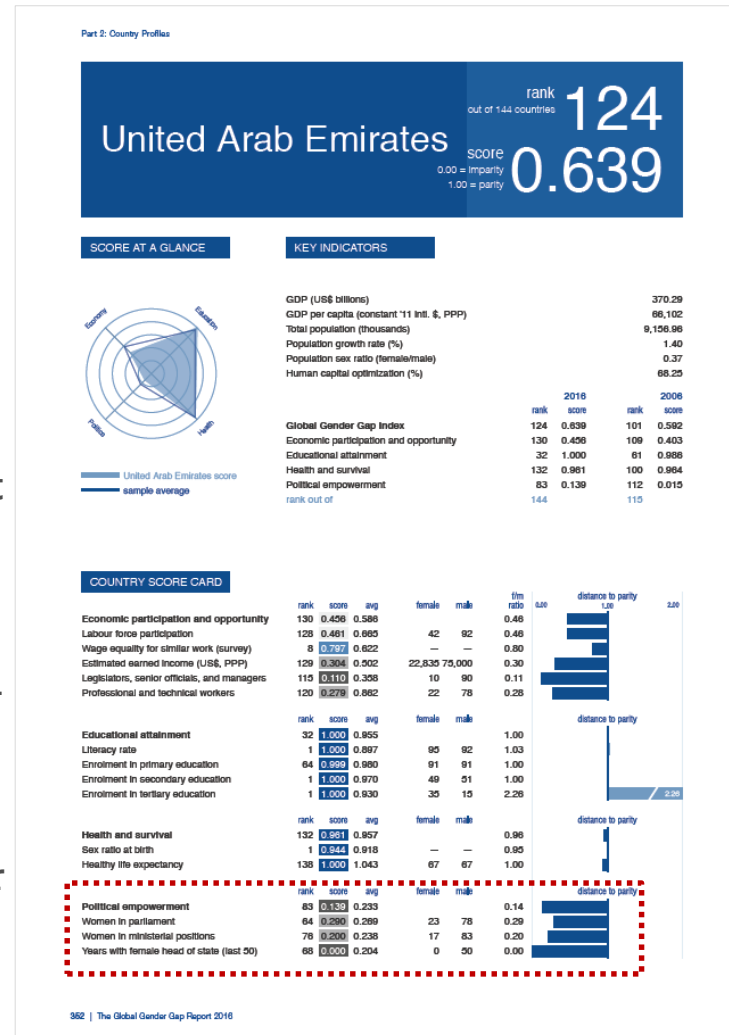
The Global Gender Gap Index	Global rank <sup>1</sup>
Iceland	1
Finland	2
Norway	3
Sweden	4
Rwanda	5
Ireland	6
Philippines	7
Slovenia	8
New Zealand	9
Nicaragua	10

Note: <sup>1</sup>2016 rank out of 144 countries

Source: The Global Gender Gap Report 2016

# UAE performace: Low standing despite wealth

- UAE is ranked 124 in the 2016 GGR
- Performance over time has slipped
- UAE weakest in political empowerment
- Big losses also in economic participation and opportunity
- Near-perfect scores for educational attainment and health & survival



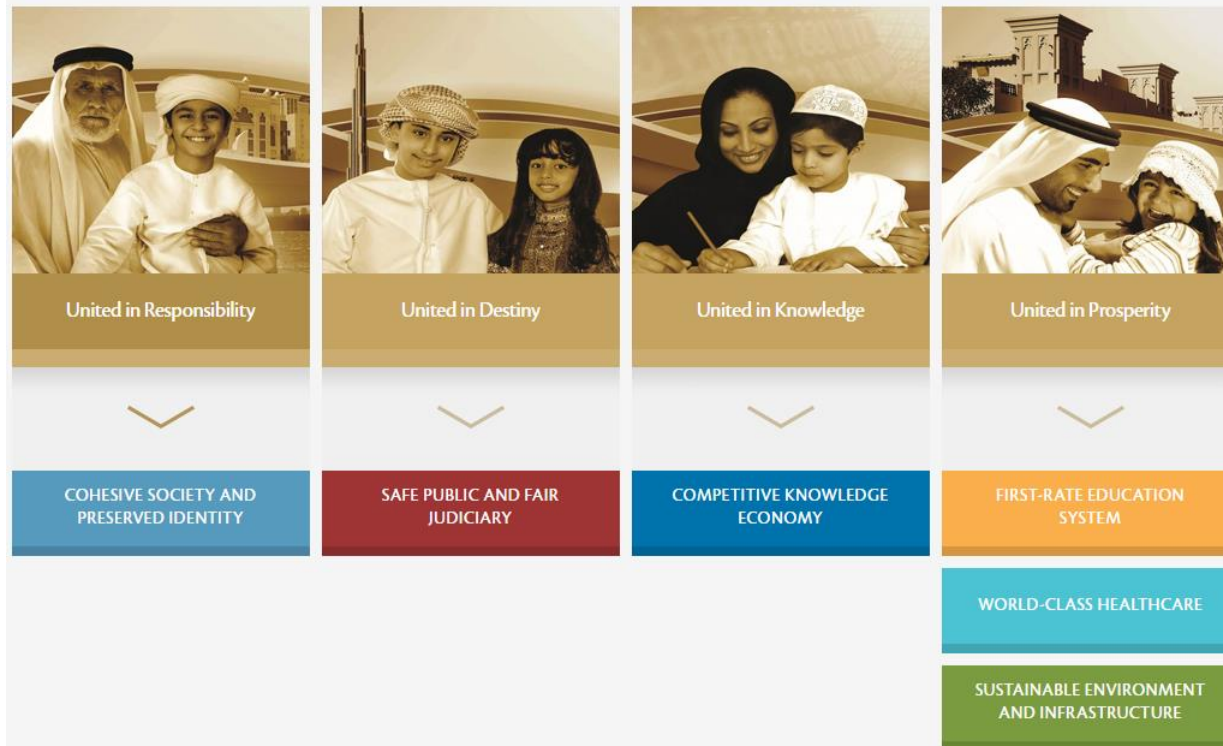


# UAE policy priorities: National Agenda KPIs

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## OUR VISION



- UAE has made gender progress a priority
- Gender Balance Council created by Sheikh Mohammed bin Rashid Al Maktoum
- However, gender targets remain on the outside of the National Agenda goals
- This is partly because of the non-robustness of the gender indices



### MOHAMMED BIN RASHID ATTENDS FIRST MEETING FOR UAE GENDER BALANCE COUNCIL, APPROVES GENDER BALANCE INDEX

Vice President and Prime Minister and Ruler of Dubai, His Highness Sheikh Mohammed bin Rashid Al Maktoum, has affirmed that the UAE will spare no effort to create a supportive environment for women to fulfill their roles as key partners in building the future of the nation.



### MOHAMMED BIN RASHID ASSIGNS THE UAE GENDER BALANCE COUNCIL TO OVERSEE THE IMPLEMENTATION OF THE 'GENDER INEQUALITY INDEX'

His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, has assigned the UAE Gender Balance Council to support the implementation of the 'Gender Inequality Index', which is issued annually by the United Nations Development

Programme (UNDP).

# The gap in looking at gaps: « Progress » by regression



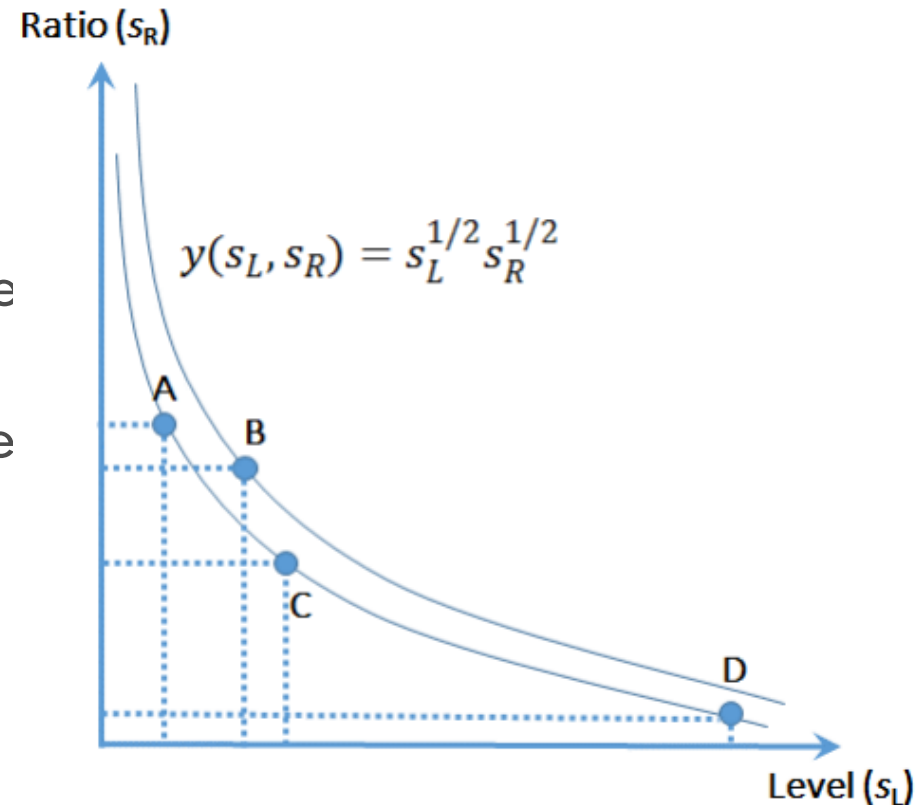
- Why does the UAE fare so poorly in the Gender Gap Report?
  - By focusing only on gaps it ignores progress (level) as a whole
  - Choice of variables not robust for region
  - Variables not calibrated to population pyramid
- GGR measures gap in female achievement (ratio of female variable to male variable)
- Thus a country where men and women are both equally and fully illiterate is considered to be equal to a country where they are equally and fully literate
- GGR rewards countries that are equal but equally underachieving

# Gap vs level:

## Can have both with C-D function

- Better as a female to live in a poor society that is gender equal, or to live in a rich society that is gender biased?
- WEF only considers the gender bias without considering the level of development (and WEF truncates female over-performance)
- So GGR can increase by worsening male outcomes
- Cobb-Douglas function can consider tradeoffs between the two, and is robust to imbalances in progress
- C-D robust to extremes:  
 $(1, 0) = (0, 1) < (0.5, 0.5)$

Figure 2: Cobb-Douglas utility function in level and ratio

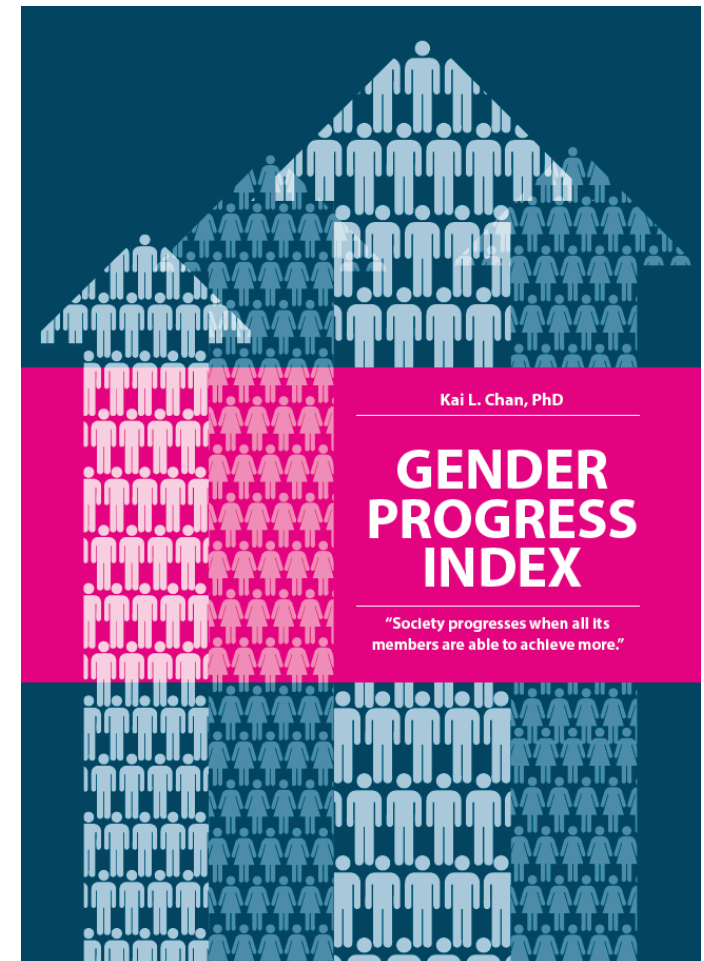


# More robust tool: Gender Progress Index

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- The Gender Progress Index is a tool that allows countries to assess their overall performance in gender progress
- Uses Cobb-Douglas function to incorporate tradeoff between gap and level
  - It eliminates the false progress made by regression
- It is agnostic on which gender is lagging – it promotes both sexes to achieve their best
  - Society progresses when all its members are able to achieve more
- Calibrates indicators to population structure
- Does not reward countries for missing data





# Indicators and coverage:

## 20 indicators across 5 domains



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

- Male and female values for all indicators (difficult to find)
- 197 countries/states are assessed
- Only those with 12 or more indicators (of 20) are included
- 122 ranked in final index

# Methodology:

## Normalisation & aggregation, etc.

- Level values are transformed into  $[0,1]$  range by a modified distance-to-frontier function
- Ratio values are transformed into  $[0,1]$  range by taking ratio with denominator set as the stronger variable (per country)
- Missing values are interpolated using min value of geographic region
- Cobb-Douglas function aggregates level and ratio values into one score
- Index is weighted average of the CD scores

$$S_L = \frac{(x_f + x_m) - \min\{x_f + x_m\}}{\max\{x_f + x_m\} - \min\{x_f + x_m\}}$$

$$S_R = \begin{cases} x_f/x_m & x_m \leq x_f \\ x_m/x_f & x_m > x_f \end{cases}$$

$$y = S_L^{1/2} S_R^{1-1/2} = \sqrt{S_L S_R}$$



$$I = \sum_{i=1}^{20} \omega_i y_i(S_L, S_R)$$

# Example 1:

## Countries with equal levels

- Consider three countries that have the same overall level of development (e.g. total literacy rate of 50%) but different dynamics between gender:
  - First country is biased against women
  - Second country is egalitarian
  - Third country is biased against men

GGR treats as same (only measures female gaps)

Country	Overall	Female	Male
Country A	50%	0%	100%
Country B	50%	50%	50%
Country C	50%	100%	0%





WORLD ECONOMIC FORUM

Country	Level	Ratio	C-D = (Level · Ratio) <sup>0.5</sup>
Country A	0.500	0/100 = 0.000	$\sqrt{0.500 \times 0.000} = 0.000$
Country B	0.500	50/50 = 1.000	$\sqrt{0.500 \times 1.000} = 0.707$
Country C	0.500	0/100 = 0.000	$\sqrt{0.500 \times 0.000} = 0.000$

# Example 2:

## Equally poor vs richer but biased

- Consider four countries with the following data on literacy rates
  - First is equal but underdeveloped
  - Second has higher overall development but large gender bias
  - Third has higher overall development and moderate gender bias
  - Fourth is higher development and equal

	Country	Overall	Female	Male
	Country D	25%	25%	25%
	Country E	50%	10%	90%
	Country F	50%	35%	65%
	Country G	50%	50%	50%

WORLD  
ECONOMIC  
FORUM

NB: Country F Pareto better than Country D, but Country E **not** Pareto better than Country D.

Country	Level	Ratio	C-D = (Level · Ratio) <sup>0.5</sup>
Country D	0.250	25/25 = 1.000	$\sqrt{0.250 \times 0.250} = 0.250$
Country E	0.500	10/90 = 0.111	$\sqrt{0.500 \times 0.111} = 0.236$
Country F	0.500	35/65 = 0.538	$\sqrt{0.500 \times 0.538} = 0.519$
Country G	0.500	50/50 = 1.000	$\sqrt{0.500 \times 1.000} = 0.707$

# Gender-bias of indicators: Where each gender is strong

FEMALE INDICATORS	% COUNTRIES WOMEN LEADING	MALE INDICATORS	% COUNTRIES MEN LEADING
Tertiary enrolment ratio	66%	School years	61%
Average PISA score	79%	Science degrees	83%
Life expectancy	99%	Obesity rate	82%
Adult mortality rate	100%	Labour participation rate	98%
Tobacco use	99%	Unemployment rate	73%
Suicide rate	96%	Senior jobs	99%
Parental leave	90%	Unpaid hours	100%
Population	62%	Share of parliament	98%
		Share of Cabinet	98%
		Corporate boards	100%
		Leisure time	99%
		GNI per capita	100%

# Policy and indices: GPI gives clearer signals

- GPI more robust for policy makers
  - It values both genders equally -- but it recognizes that women generally face more hurdles in our modern societies
- It challenges governments to enact laws and set priorities that help elevate the entire population
  - Encourages healthy competition to strive for better (regardless of gender)
- Does not send bad signal by setting inappropriate benchmarks
  - Leading countries should be those that others should strive to emulate



# Results:

## Best-performing countries

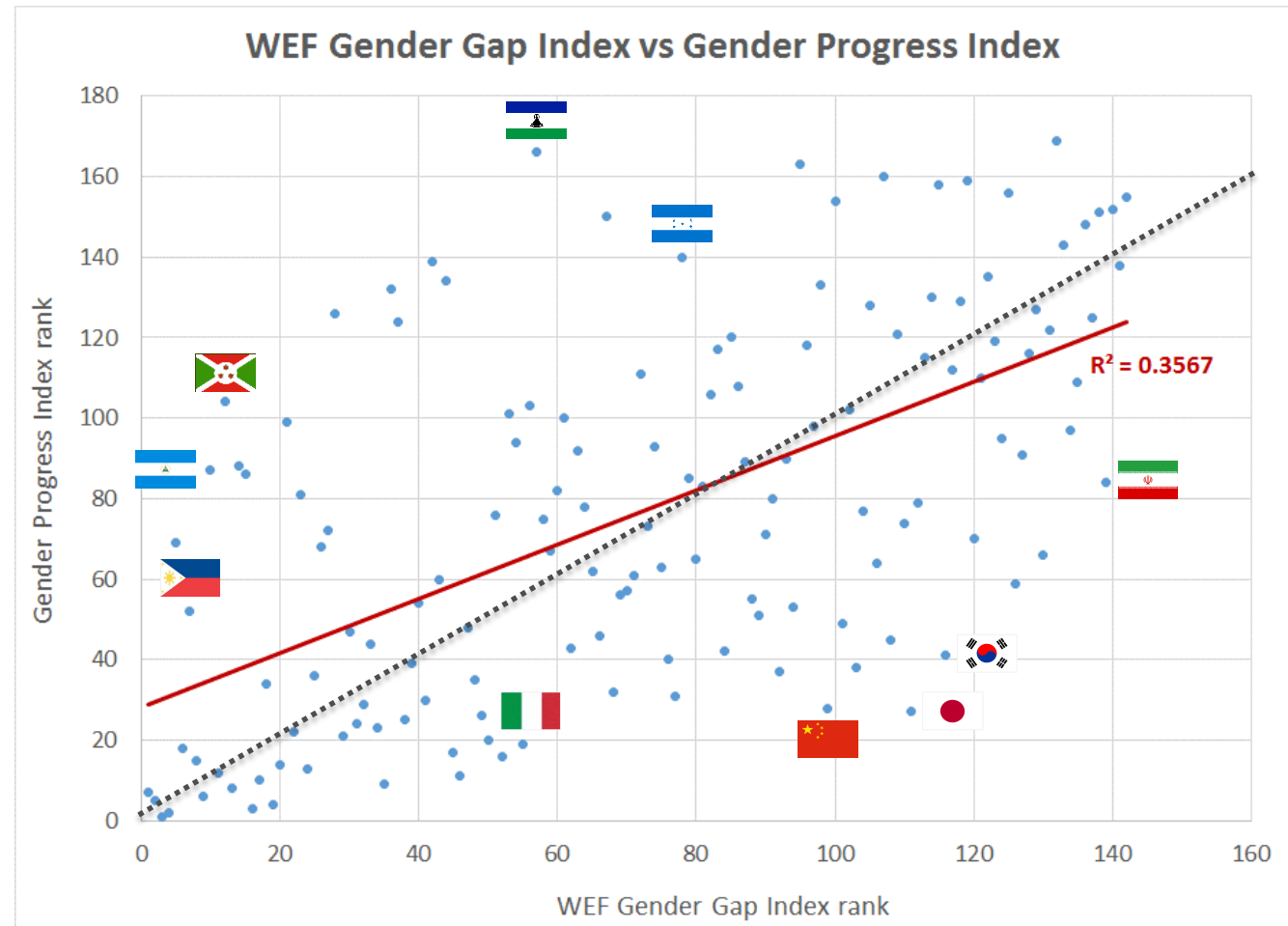
RANK	COUNTRY	SCORE	LEVEL (RANK)	RATIO (RANK)
1	Norway	0.698	1	2
2	Sweden	0.685	12	1
3	Netherlands	0.659	4	8
4	Denmark	0.649	3	9
5	Finland	0.648	14	6
6	New Zealand	0.646	6	11
7	Iceland	0.645	11	3
8	Germany	0.642	10	7
9	Canada	0.638	5	13
10	France	0.637	24	4





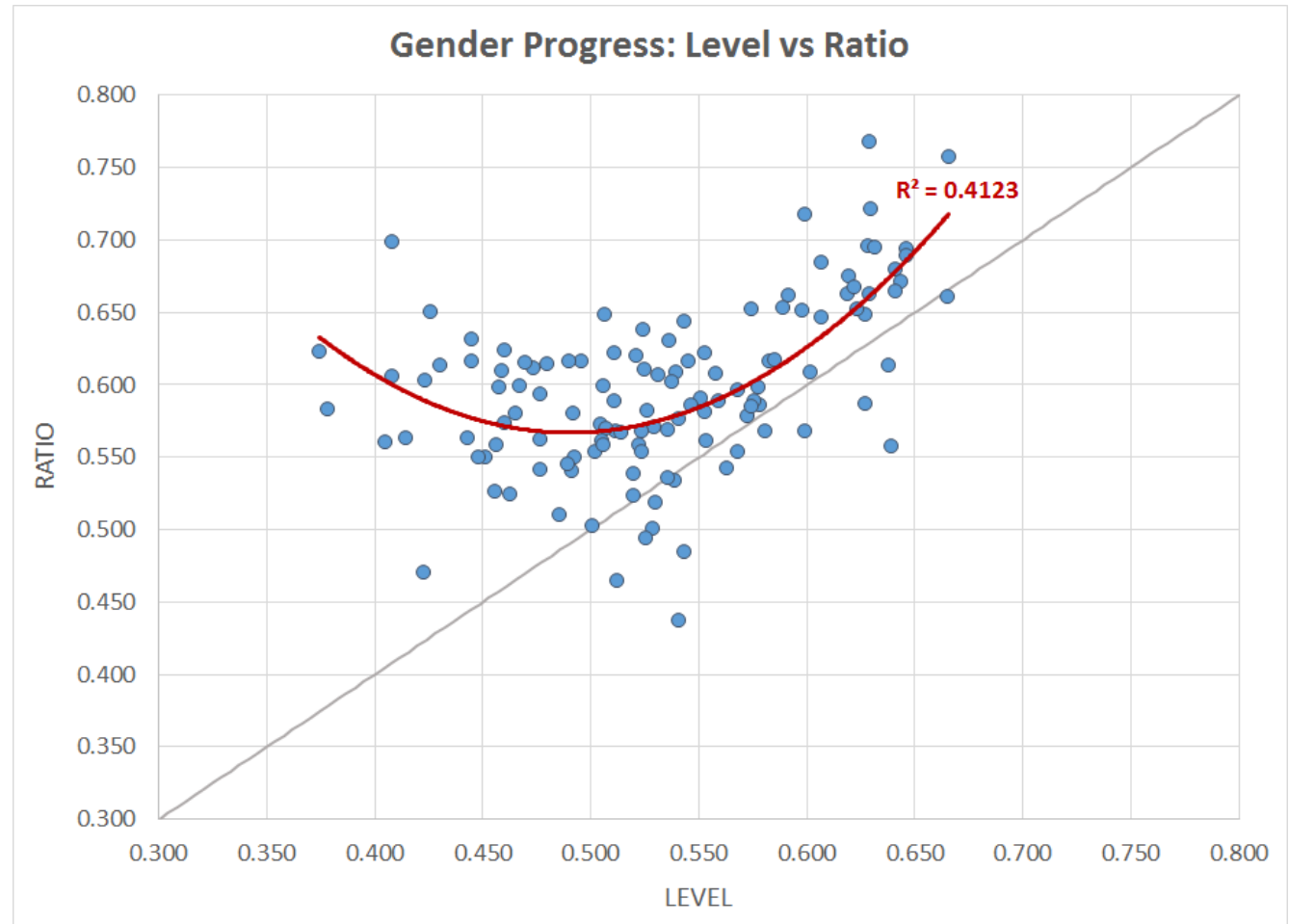
# Comparison with WEF GGR: Penalise equal underachievement

- R-square between GPI and GGR at 0.357
- GGR top-10 includes ratio-strong-level-weak countries such as Nicaragua and Philippines
- GPI rewards countries that are balanced in both overall societal progress and equality between the sexes (in either direction)
- Significant difference vs GGR (see chart)



# Gender progress and income: Kuznet curve in gender progress

- Might gender progress be dependent on overall development?
- GPI shows u-shaped relationship between development (level) and equity (ratio)
- As countries grow from low base, markets tend to reward male work more, but education matters more as countries grow richer

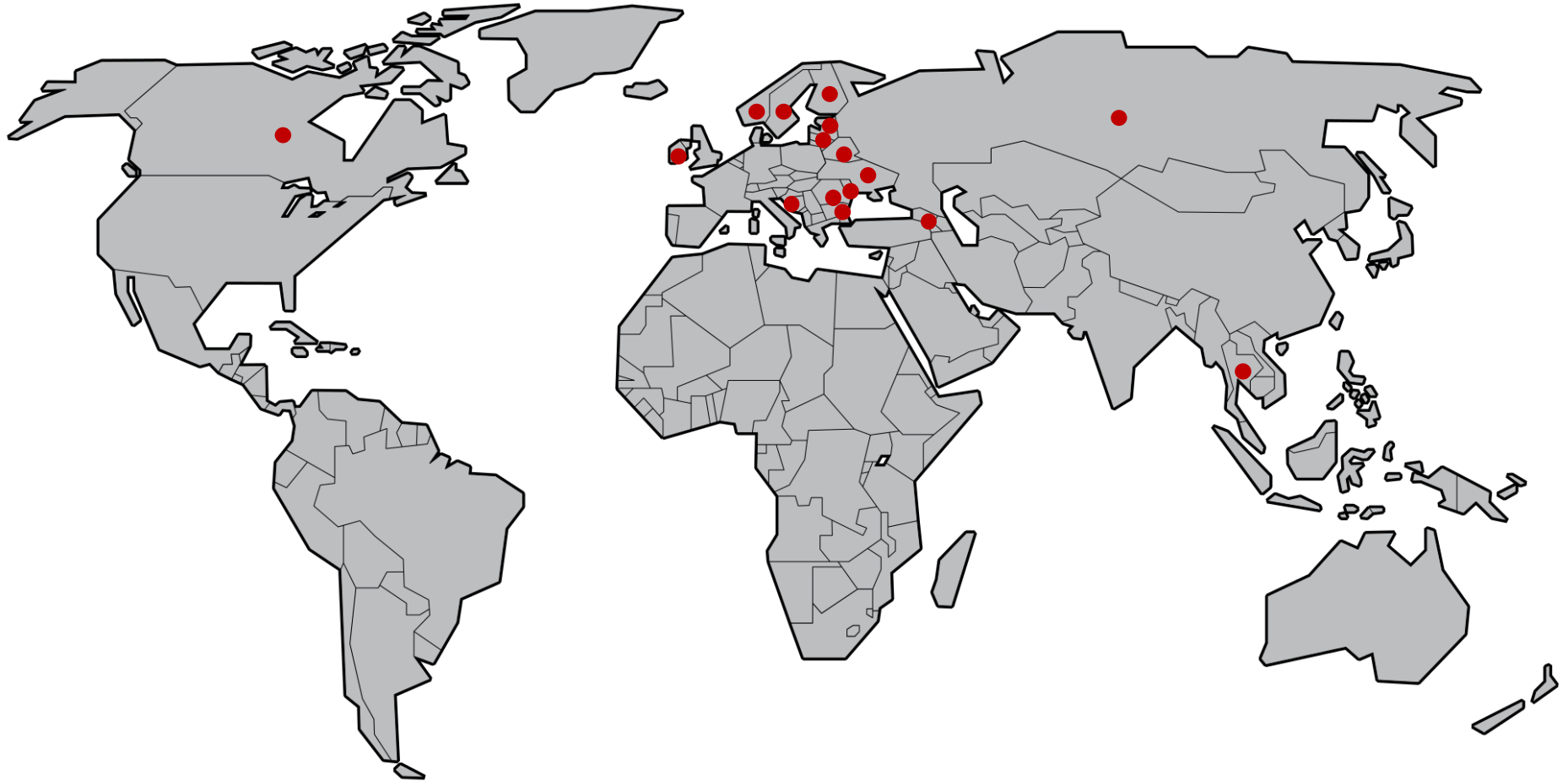


# Female outperformance: Countries where female $\geq$ male

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In a handful of countries, women are equal to or outperform men on the GPI indicators. However, GPI rewards balance – best when both genders are equally performing.



# Results:

## Leading countries in Asia

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RANK	COUNTRY	SCORE	LEVEL (RANK)	RATIO (RANK)
19	Singapore	0.605	2	19
27	Japan	0.564	9	45
28	China	0.561	22	27
37	Brunei	0.542	15	67
40	Korea	0.537	8	97
49	Philippines	0.513	55	56
52	Indonesia	0.507	52	77
56	Laos	0.498	79	26
57	Thailand	0.498	31	86
58	Vietnam	0.498	35	70



# Results:

## Leading countries in Latin America

RANK	COUNTRY	SCORE	LEVEL (RANK)	RATIO (RANK)
29	Costa Rica	0.560	38	61
38	Colombia	0.541	34	66
43	Argentina	0.530	65	48
45	Mexico	0.524	59	53
47	Panama	0.521	42	52
51	Ecuador	0.510	47	69
54	Chile	0.502	77	65
61	Peru	0.487	63	72
67	Cuba	0.480	102	32
85	El Salvador	0.452	82	92



# Results:

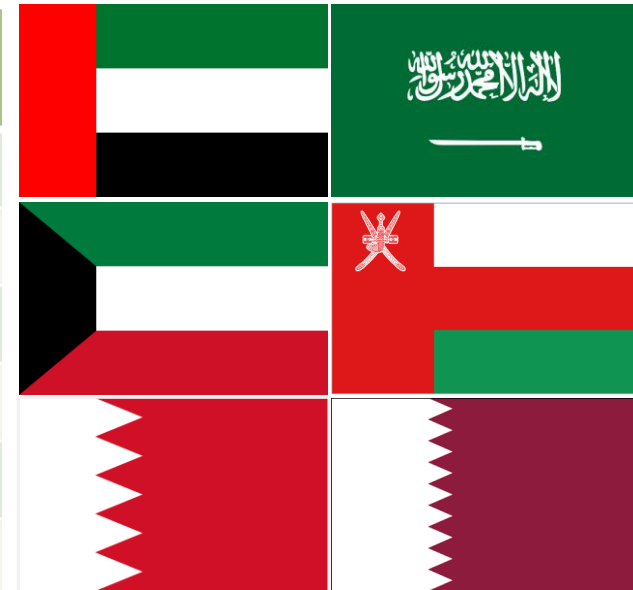
## MENA (excl. GCC)

RANK	COUNTRY	SCORE	LEVEL (RANK)	RATIO (RANK)
55	Tunisia	0.499	75	84
62	Turkey	0.486	54	110
65	Algeria	0.481	89	107
66	Georgia	0.481	58	109
78	Iran	0.465	60	114
86	Jordan	0.451	115	55
95	Lebanon	0.444	94	90
97	Iraq	0.440	117	89
104	Morocco	0.430	96	106
122	Egypt	0.355	120	70



# Results: GCC

RANK	COUNTRY	SCORE	LEVEL (RANK)	RATIO (RANK)
85	UAE	0.452	71	113
99	Kuwait	0.439	72	108
103	Bahrain	0.431	85	116
110	Saudi Arabia	0.417	64	118
113	Oman	0.412	92	115
117	Qatar	0.385	51	122





# Sheikh Mohammed on women: UAE women leading the region

- “Our job is to provide an environment that unlocks women’s potential – one that protects their dignity and femininity, helps them create the necessary balance in their lives, and values their talents and potential. Given this environment, I am confident that women will perform nothing short of miracles.”
- “I have said it loud and clear: Beware, men, lest women deprive you of all the leadership positions in the country.”



# Result:

## UAE (improvement vis-à-vis GGR)

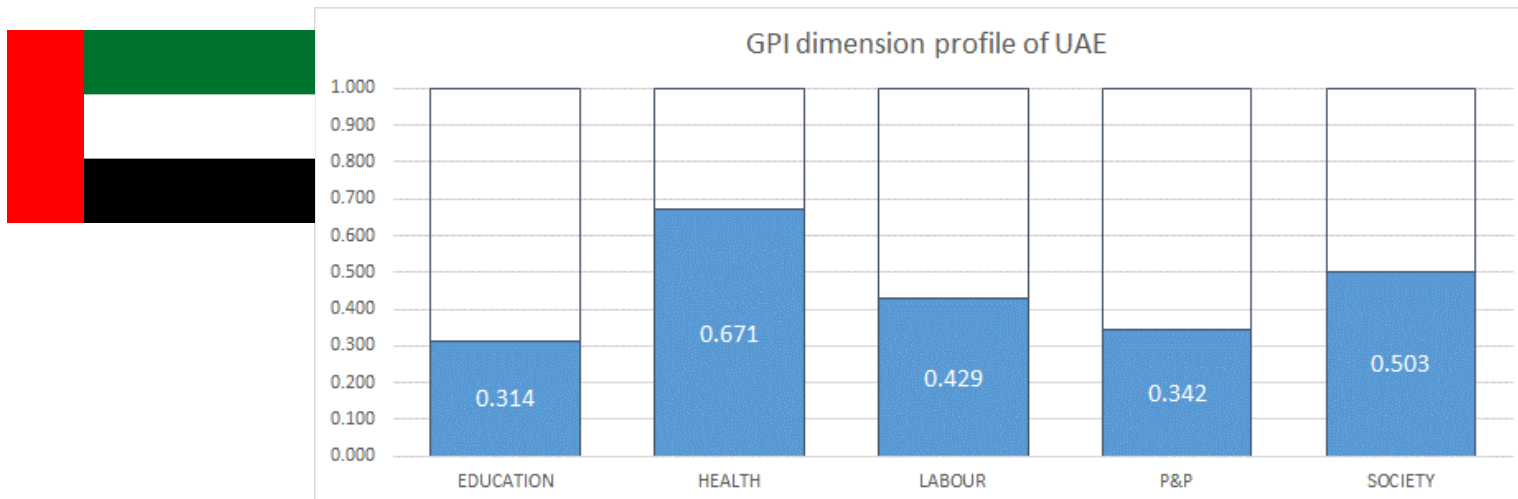
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IND #	INDICATOR	VALUE			IND #	INDICATOR	VALUE	
1	EDUCATION	F	M		4	POLITICS & POWER	F	M
1.1	Schooling years	11.9	10.7		4.1	Share of parliament*	17.5	82.5
1.2	Tertiary enrolment rate	n/a	n/a		4.2	Share of Cabinet posts*	17	83
1.3	Average PISA score	446	414		4.3	Share of corporate boards*	1.1	98.9
1.4	Science degrees	7.9	8.1					
					5	SOCIETY	F	M
2	HEALTH	F	M		5.1	Suicide rate	1.7	3.9
2.1	Obesity rate (> 30 BMI)	33.2	27.1		5.2	Leisure & socialising time	n/a	n/a
2.2	Life expectancy at birth	78.5	76.3		5.3	Parental leave (weeks equiv.)	n/a	n/a
2.3	Adult mortality rate	59	84		5.4	GNI per capita	22,391	77,300
2.4	Tobacco use	n/a	n/a		5.5	Population share*	27.1	72.9
3	LABOUR	F	M		DIM #	DIMENSION	RANK	
3.1	Labour participation rate	46.5	92.0		1	Education	96	
3.2	Unemployment rate	8.8	2.9		2	Health	51	
3.3	Senior jobs*	10	90		3	Labour	109	
3.4	Unpaid work hours (% total)	83	38		4	Politics & power	58	
					5	Society	58	

# Advice for the UAE: Capture full potential of both sexes

- Having head in the oven and feet in the freezer does not make someone, on average, comfortable
- Elevate education outcomes – male performance needs to catch up
- Health issues are critical – work to lower obesity and tobacco consumption rates\*
- Balance population structure to promote healthy social dynamics
- (Result is for UAE as a whole; phase 2 should examine subpopulations)



# Women in the UAE: Leading the region in progress

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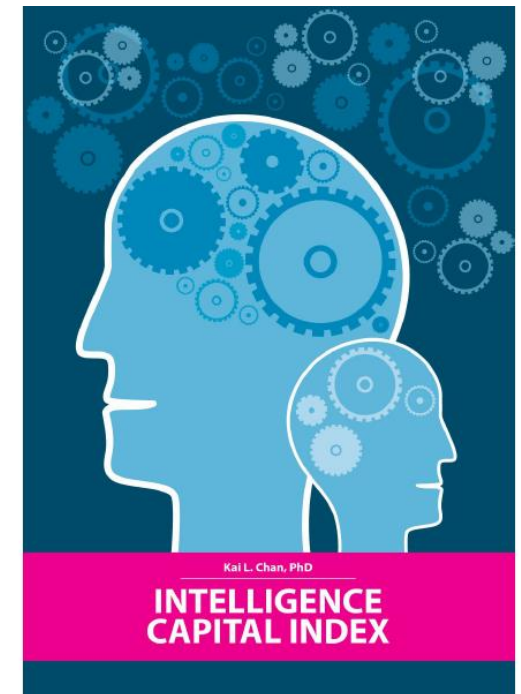
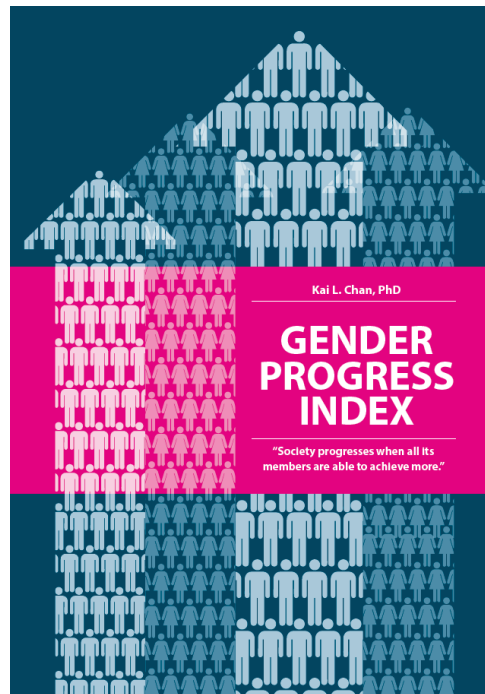
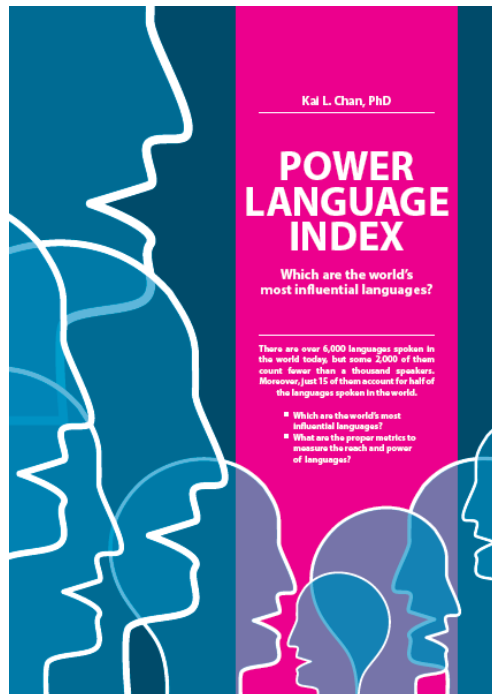
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# Thank you & Q&A

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