Introduction to the
HASSLE FACTOR
A New Country Attractiveness Measure

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Research Motivation

- Previous research assumed that MNC location decisions are predominantly detached from personal managerial preferences.

- Having visited over 90 countries, we wondered whether the inconveniences experienced by business travelers within certain locales might influence this decision.

Research Outcome and Future

- We undertook a study "The Hassle Factor: An Explanation For Managerial Location Shunning" which was published in the Journal of International Business Studies in 2013.

- We also concluded that it would be very useful to have an ongoing measure of the "Hassle Factor."

- Seven years later, we now have a panel dataset for 11 indicators across 180 countries over 7 time periods between 2006 to 2018.

- We are committed to publishing updated scores on a biennial basis.

- It is available for free to everyone. Users only need to acknowledge the source.

Who Will Be Interested In This Measure?

- Existing and potential managers of foreign subsidiaries;

- Anyone contemplating working in or visiting a particular country;

- Business Scholars. Provides an easy-to-use control variable for research on foreign investment, international market entry, expatriate management and cross cultural issues;

- Public policy decision makers;

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Who Will Be Interested In This Measure?

- Other university departments which focus on international issues; and

- Students. Interactive maps and cobweb visualizations provide easy-to-use national summaries. These can be helpful for course projects, case analyses, etc.

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Using Hassle Factor Info in the Class Room

- Can be used in every course;

- Can bring all students into the conversation;

- Changes over time;

- Allows for comparison within and between countries; and

- Multi-level considerations: Country, Industry, Firm, Manager (all students are existing or future managers).

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Other Uses
of the Hassle Factor Info

- Student exchange programs;

- Student recruitment; and

- Useful to alumni.

Comparing the Hassle Factor Data Set With Other Data Sets - COVID -19

- Example, which of the following countries with comparable overall Hassle Factor Rankings scored particularly well on the COVID-19 pandemic response?

Country	2018 Rank	COVID-19 Deaths/1M pop*
United Kingdom	1	
Netherlands	2	
Denmark	3	
Sweden	4	
Luxembourg	5	
Germany	6	
Norway	7	
Switzerland	8	
Australia	9	
Belgium	10	
Finland	11	
New Zealand	13	
Ireland	14	
Austria	15	
USA	16	
France	17	
Canada	18	

Comparing the Hassle Factor Data Set With Other Data Sets - COVID -19

Country	2018 Rank	COVID-19 Deaths/1M pop*
United Kingdom	1	611
Netherlands	2	353
Denmark	3	103
Sweden	4	481
Luxembourg	5	176
Germany	6	106
Norway	7	45
Switzerland	8	224
Australia	9	4
Belgium	10	832
Finland	11	59
New Zealand	13	4
Ireland	14	346
Austria	15	75
USA	16	352
France	17	451
Canada	18	216

* Data from www.worldometers.info/coronavirus/#countries, as of 12 June 2020

Data

- Data is published on the project website at:
  www.ivey.uwo.ca/internationalbusiness/research/hasslefactor/

- We are continuing to update the website and will be adding videos that illustrate how to use the data visualization tools.

- The full data set, in an excel file, can be obtained by contacting the operations manager at: cvandenberg@ivey.ca
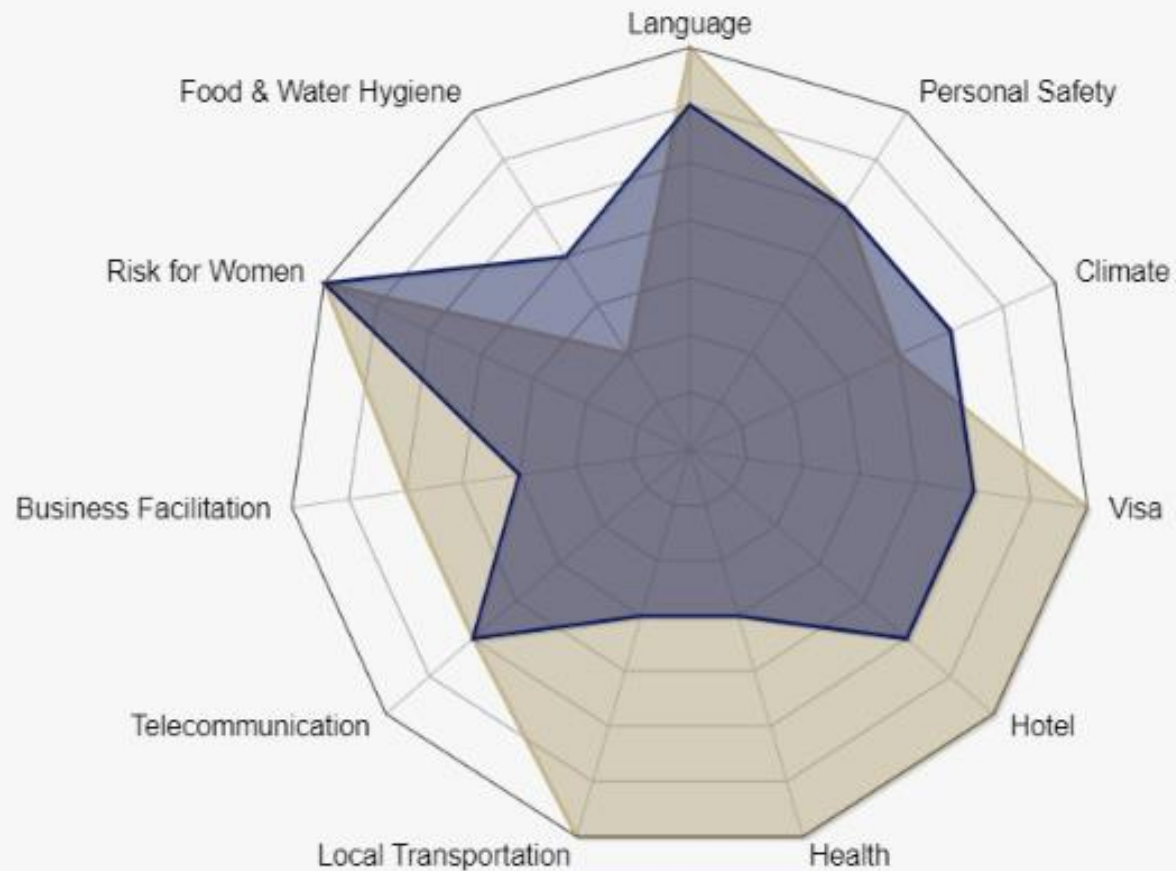
Data Visualization
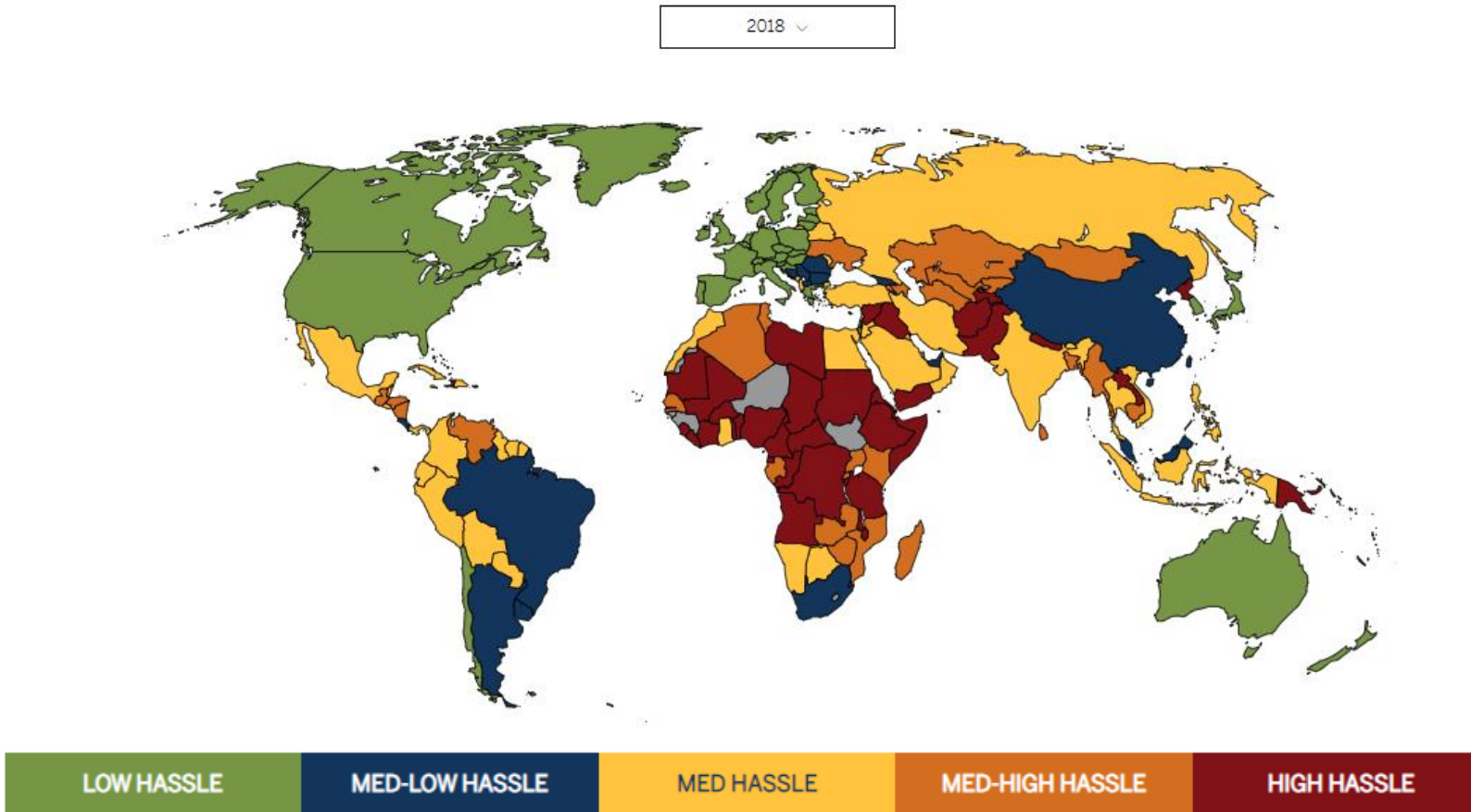
The live interactive map can be viewed at the following link:

www.ivey.uwo.ca/internationalbusiness/research/hasslefactor/

Between Years Comparison

Syria 2018 Indicator Cobweb

Language · Personal Safety · Climate · Visa · Hotel · Health · Local Transportation · Telecommunication · Business Facilitation · Risk for Women · Food & Water Hygiene
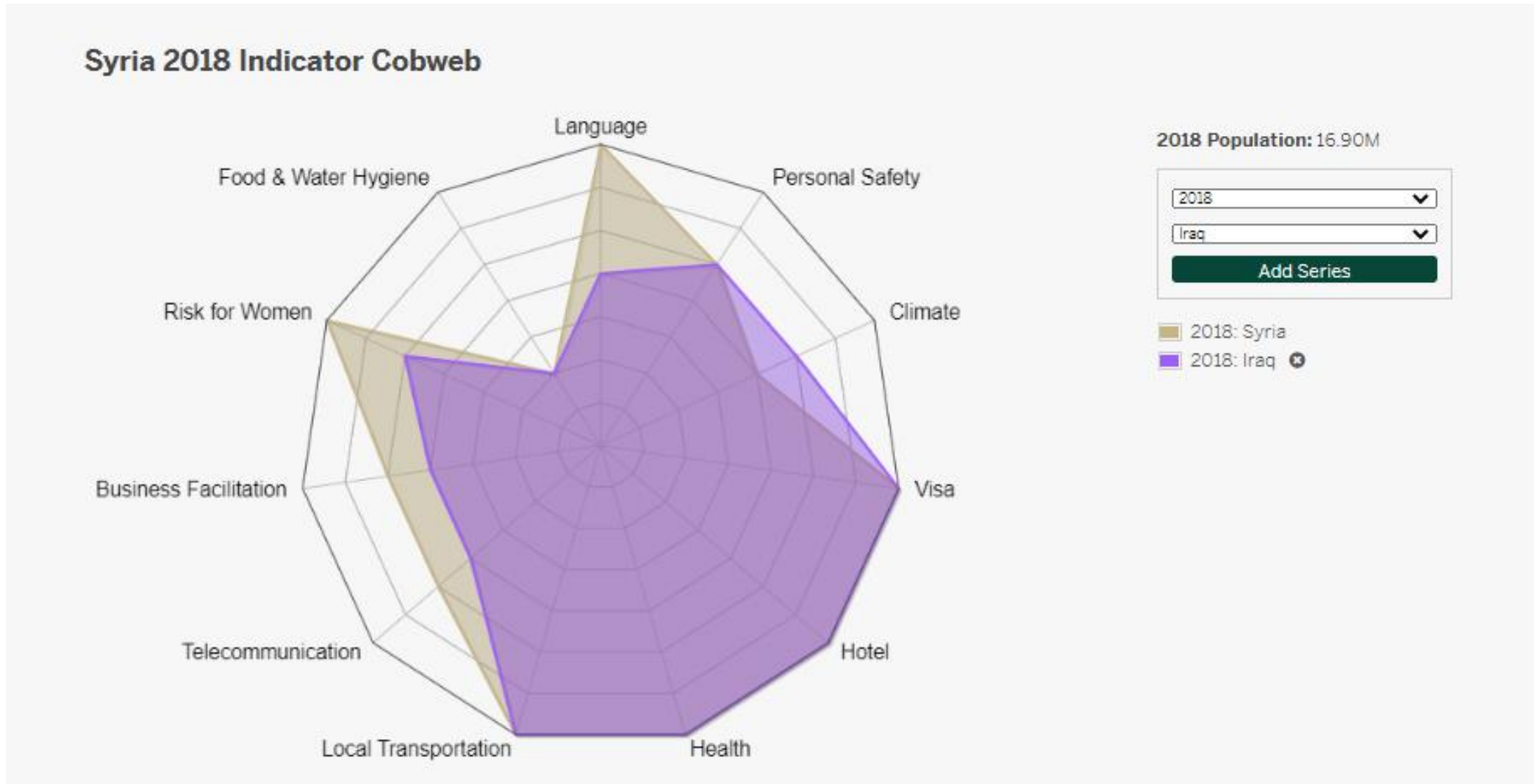
2018 Population: 16.90M

2008
Syria
Add Series

2018: Syria
2008: Syria

Cobwebs

The Hassle Factor Cobwebs provide a detailed visual representation of the individual hassle indicators per country on a 1 to 7 scale. The indicator values increase from the center (1) to the outer edge (7). The larger the value, the greater the observed hassle.

Between Country Comparison

Indicator Data

- Both the Hassle Factor scores and indicator scores are available in excel file format.

- Users can select the indicators they wish to include in their analyses or research projects.

Top of the Hassle Factor Rankings*

2008			2014			2018		
Country	Rank	Score	Country	Rank	Score	Country	Rank	Score
UK	1	1.18	Denmark	1	1.34	UK	1	1.08
Denmark	2	1.26	Sweden	2	1.35	Netherlands	2	1.08
Sweden	3	1.26	UK	3	1.37	Denmark	3	1.10
Netherlands	4	1.36	Belgium	4	1.42	Sweden	4	1.15
Austria	6	1.42	Germany	5	1.42	Germany	6	1.25
Belgium	7	1.42	Netherlands	6	1.47	Norway	7	1.26
Germany	8	1.42	Austria	7	1.50	Switzerland	8	1.27
Australia	9	1.43	Finland	8	1.52	Australia	9	1.32
Finland	10	1.43	Australia	9	1.52	Belgium	10	1.35
Canada	11	1.44	Norway	10	1.52	Finland	11	1.37
USA	12	1.53	USA	11	1.53	New Zealand	13	1.39
New Zealand	13	1.54	New Zealand	12	1.55	Ireland	14	1.39

*Includes economies with population greater than 1 million.

Bottom of the Hassle Factor Rankings*

2008 Country	Rank	Score	2014 Country	Rank	Score	2018 Country	Rank	Score
Sierra Leone	186	5.33	Togo	166	5.35	Togo	167	5.37
Angola	169	5.38	Sudan	168	5.44	Angola	169	5.40
Burundi	170	5.45	D.R. Congo	170	5.53	Burkina Faso	170	5.50
Togo	171	5.45	Syria	171	5.55	Burundi	171	5.50
D.R. Congo	172	5.48	Angola	172	5.60	Haiti	172	5.57
Burkina Faso	173	5.51	Burkina Faso	173	5.63	D.R. Congo	173	5.60
Eritrea	174	5.67	Burundi	174	5.71	Eritrea	174	5.67
Chad	175	5.80	Eritrea	175	5.75	Chad	175	5.74
Sudan	176	5.90	Chad	176	5.89	Syria	176	5.82
Yemen	177	5.98	Yemen	177	5.91	Yemen	177	5.94
Cen. African Rep.	178	6.00	Somalia	178	6.01	Somalia	178	5.94
Somalia	179	6.02	Cen. African Rep.	179	6.26	Cen. African Rep.	179	6.18
Afghanistan	180	6.15	Afghanistan	180	6.31	Afghanistan	180	6.23

*Includes economies with population greater than 1 million.

Ranking - Movement Up

Country	Score 08	Rank 08	Score 18	Rank 18	Rank Movement
Georgia	4.02	104	2.87	58	+46
Macedonia	4.04	106	3.00	62	+44
Romania	3.47	75	2.52	48	+27
Peru	4.32	119	3.77	92	+27
Azerbaijan	4.98	153	4.36	126	+27
Latvia	3.34	66	2.18	41	+25
UAE	3.42	69	2.26	44	+25
Turkmenistan	4.99	154	4.39	129	+25
Timor-Leste	5.09	156	4.50	131	+25
Mozambique	5.20	160	4.59	135	+25
Albania	4.11	112	3.71	90	+22
Lebanon	4.16	113	3.79	93	+20
Mexico	3.84	94	3.30	75	+19
Serbia	3.31	65	2.46	47	+18

Ranking - Movement Down

Country	Score 08	Rank 08	Score 18	Rank 18	Rank Movement
Syria	4.56	130	5.82	176	-46
Uganda	3.84	96	4.59	136	-40
Venezuela	3.61	79	4.16	117	-38
Haiti	4.72	134	5.57	172	-38
Guatemala	3.76	87	4.35	124	-37
Madagascar	4.05	107	4.74	142	-35
Tanzania	4.32	120	5.04	153	-33
Kosovo	3.38	67	3.87	99	-32
Ukraine	3.66	82	4.05	112	-30
Jordan	3.21	61	3.70	89	-28
Libya	4.49	127	5.08	155	-28
Tunisia	4.20	114	4.62	137	-23

Indicators Driving Ranking Movement

Lowest Hassle Economies		Highest Hassle Economies	
Indicator	**Average Change***	**Indicator**	**Average Change****
Risk to Female Executives	-1.22	Visa	+1.42
Hotel	-1.08	Health	+0.96
Food Water Safety	-0.93	Language	+0.54
Telecom	-0.70	Hotel	+0.45
Local Transportation	-0.67	Personal Safety	+0.39
Visa	-0.57	Climate	+0.34
Business Facilitation	-0.38	Local Transportation	+0.34
Health	-0.28	Telecom	+0.32
Personal Safety	-0.17	Business Facilitation	+0.32
Climate	-0.15	Risk to Female Executives	+0.24
Language	-0.14	Food Water Safety	+0.06

* Average indicator change for the economies with the greatest upward movement in the index between 2008 and 2018.

** Average indicator change for the economies with the greatest downward movement in the index between 2008 and 2018.

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Methodology

- Measures were constructed using a multi method design:
  - Indicators were selected based on a qualitative literature review and survey of executives;
  - Indicators were constructed using both quantitative and qualitative data; and
  - Analysis was conducted using quantitative methods.

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Methodology

- A detailed overview of the Hassle Factor methodology is available at www.ivey.uwo.ca/internationalbusiness/research/hasslefactor/methodology/

Indicator Selection

- The 11 indicators measured in the Hassle Factor index were selected following a detailed review of academic literature, newspaper articles, and magazines that focused on business travel as well as reports from 86 frequent business travelers and travel agents who specialize in business travel.

- Face validity was tested with a separate group of experts, including 10 executives and 2 independent relocation consultants.

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Indicator Definitions

Indicator	Definition
Business Facilitation	Rating of host nation's reliability and openness to foreign business.
Climate	Rating of local climate based on temperate weather conditions and climate risks in each country.
Food and Water Safety	Classification of health risks related to drinking water and food.
Health	Rating of health hazards, health care availability, and standards of healthcare for foreigners.
Hotel	Assessment of the quality and number of 3-star and better hotels in the main business capital.
Language	Ratio of non-English speakers relative to the total population.

Indicator Definitions

Indicator	Definition
Local Transportation	Rating of availability, safety, and standards of local transportation including bus, taxis, trains, water travel.
Personal Safety	Assessment of physical risks, including war, kidnapping, crime, social unrest, and natural disasters.
Risk to Female Executives	Assessment of risks faced by foreign female travelers.
Telecommunications	Availability and accessibility of telephone services, cell phone coverage, and internet services.
Visa	Requirements and difficulties in obtaining a business visitor visa, including processing time, references needed, access to consulate, cost, and duration of visa granted.

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Sub-Indicators & Measurements

Indicator	Sub-Indicators	Measurement
Business Facilitation	(n=6) Meeting reliability, reliably implement agreements, speed of decision making, access to the decision maker, openness to foreign businesspersons, negotiating attitude	Sub-indicators coded on a 3 point Likert scale and converted to 1-7 scales.
Climate	(n=4) Temperature, precipitation, humidity and major weather events	Sub-indicators measures were recorded on a multi item scale based on proximity to a baseline. The indicator score was calculated using the sum of the sub-indicators.
Food and Water Safety	(n=2) Water safety and food safety	Data was converted to a 1-7 scale.

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Sub-Indicators & Measurements

Indicator	Sub-Indicators	Measurement
Health	(n=4) Quality, accessibility, consistency and health hazards	Sub-indicators measures were recorded on a multi item scale and converted to a 1-7 scale.
Hotel	(n=1) Average number of hotels available from both sources within 5 km of the city center	Converted to a 1-7 scale.
Language	(n=2) Number of English speakers, and total population	Converted to a 1-7 scale.
Local Transportation	(n=6) Availability of safe and affordable: cars, taxis, trains subways, busses and water travel	Sub-indicators were coded on a 4 point Likert scale and converted to a 1-7 scale using.

Sub-Indicators & Measurements

Indicator	Sub-Indicators	Measurement
Personal Safety	-	Data comes from Control Risk in a 1-5 scale. We used ratings for business capital cities.
Risk to Female Executives	(n=2) Physical security of women (PSW) and travel risk (TR) PSW data comes in a 1-4 scale, TR data in a 1-5 scale	Data was converted to a 1-7 scale.
Telecommunications	(n=4) Access, usage, quality and affordability	Sub-indicators measures were recorded on 3 point scales based on proximity to a baseline. The indicator score was calculated using the (sum of the sub-indicators + 1)*0.75 (rounded to the nearest whole number).

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Sub-Indicators & Measurements

Indicator	Sub-Indicators	Measurement
Visa	(n=4) Number of countries exempt from visa requirements, number of documents required to obtain a short-term visa, travel health insurance requirement, moderator*	Sub-indicators were coded on a multi item scale and converted to a 1-7 scale.

* Moderator: assessment of the complexity in obtaining a visa when required. It considers: cost, processing time, number of foreign missions and the types of visa available: single/ multi-entry, etc. We used the moderator that combined these four items because data was incomplete and/or changed frequently for each of these items.

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Data Sources

Indicator	Data Type	Data Source
Business Facilitation	Qualitative	Global Road Warrior. Business Culture. http://www.globalroadwarrior.com
Climate	Quantitative	Weather Base. Monthly All Data. https://www.weatherbase.com/ Weather Spark. Historical Weather. https://weatherspark.com/
Risk to Female Executives	Quantitative	Control Risk. Risk Map. https://www.controlrisks.com/riskmap/analysts-picks-map?source=RMLP Womanstats Project. Scale #1: Physical Security of Women. http://www.womanstats.org/
Food and Water Safety	Quantitative	World Health Organization. Global Health Observatory Data Repository Food Safety http://apps.who.int/gho/data/view.main.IHRREG11v World Health Organization/UNICEF. Joint Monitoring Program for Water Supply Water. https://washdata.org/data/household#!/
Health	Qualitative	Center for Disease Control. Destinations. https://wwwnc.cdc.gov/travel/destinations/list Global Road Warrior. Health and Medical. http://www.globalroadwarrior.com Pacific Prime. https://www.pacificprime.com/

Data Sources

Indicator	Data Type	Data Source
Hotel	Quantitative	Hotels.com https://ca.hotels.com Hotels. https://expedia.com
Language	Quantitative	Telegraph Travel: https://telegraphtravel.carto.com/me/*
Local Transportation	Qualitative	Global Road Warrior. Health and Medical. http://www.globalroadwarrior.com
Personal Safety	Quantitative	Control Risk. Risk Map. https://www.controlrisks.com/riskmap/analysts-picks-map?source=RMLP
Telecommunications	Qualitative	World Bank. Little Data Books on Information and Communication Technology. https://data.worldbank.org/products/data-books/little-data-book-on-info-communication-tech
Visa	Quantitative	Global Road Warrior. Travel Essentials, Visa and Passport.. http://www.globalroadwarrior.com Welcoming Countries Rank. 2019. Passport Index https://www.passportindex.org/byWelcomingRank.php

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* A full list of language sources will be published in the methodology note

Constructing the Hassle Factor

- The Hassle Factor is calculated using confirmatory factor analysis. This analysis produces factor loadings for each indicator.

- Factor loadings estimate the relationship between the indicators and the Hassle Factor. They are interpreted as standardized regression coefficients to estimate the amount of variance each indicator shares with the underlying factor.

- Example: for 2018, the factor loading for business facilitation was 0.82. This is interpreted as business facilitation sharing 67% (0.82^2) variance with the Hassle Factor.

Constructing the Hassle Factor

- Factor loading are used to calculate the Hassle Factor score using the following formula

- The Hassle Factor scores are calculated as follows

(sum of each economy's indicator scores x that indicator's factor loading)

(sum of all indicator factor loadings)

Factor Loadings

Indicator	2006	2008	2010	2012	2014	2016	2018
Health	0.867	0.898	0.891	0.894	0.887	0.902	0.901
Local Transportation	0.899	0.867	0.871	0.875	0.881	0.885	0.880
Hotel	0.784	0.814	0.823	0.834	0.835	0.841	0.825
Business Facilitation	0.864	0.807	0.829	0.827	0.840	0.833	0.824
Telecom	0.788*	0.834	0.826	0.817	0.810	0.812	0.899
Female Risk	0.798*	0.787	0.810	0.808	0.796	0.791	0.772
Food Water Safety	0.854	0.771	0.792	0.795	0.736	0.751	0.709
Personal Safety	0.744	0.712	0.730	0.744	0.753	0.724	0.702
Visa	0.761	0.682	0.697	0.745	0.718	0.711	0.872
Climate	0.799*	0.650	0.632	0.659	0.668	0.615	0.553
Language	0.563	0.609	0.614	0.593	0.593	0.566	0.563

* Measure changed in subsequent years

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Status of the Project – Face Validity Testing

- Launching a beta test of the data to assess concept validity;

- Involves circulating the beta website to a select academic community to solicit feedback; and

- Multi phase testing
  - First phase was limited to scholars close to Ivey (complete)
  - Second phase expands to a wider IB academic community (ongoing)

Limitations

- Business capital cities*: due to the number of countries and variables included in the measures it was impractical to collect data from multiple locales within each country. As a result, we sometimes limited our data collection to each country's business capital city**.

- The use of specific locales as representative of a larger geographic area is similar to the method commonly used for calculating consumer price indexes.

*See our website for a list of business capitals

**Review our indicator methodology notes for measures that use data from a single locale

Limitations

- Data sources: In an effort to ensure our measure is truly global, we monitor 180 economies.

- While many quality data sources are available for between 100 and 130 economies we chose sources with data on at least 165 economies.

- In practice this means we often rely on raw data from primary sources such as the World Bank, World Health Organization and the United Nations.

- Examples of widely available indexes or data that we exclude due to limited country coverage include:
  - Global Food Security Index from the Economist;
  - Global Hotel Study from STR; and
  - Global Connectivity Index from Huawei.

Contact

- For more information or to request access to the data please contact Chris van den Berg at cvandenberg@ivey.ca