Frequently Asked Questions Concerning the TRACE Matrix

1. What does the TRACE Matrix measure?

The TRACE Matrix allows companies to gauge the risk of encountering business/commercial bribery in a particular country.

The Matrix provides an overall risk score and risk scores in four domains deemed to be indicators of potential business bribery risk:

1) Business Interactions with Government;
2) Anti-Bribery Laws and Enforcement;
3) Government and Civil Service Transparency; and
4) Capacity for Civil Society Oversight.

The first domain, “business interactions with government,” includes the subdomains of “contact with government,” “expectation of paying bribes,” and “regulatory burden.” These indicators capture aspects of the “touches with government” that regulatory and business interviews conducted as part of our research identified as very important for business bribery.

The second domain identifies both the anti-corruption laws enacted by a country and information about enforcement of those laws.

The third domain, which addresses government and civil service transparency, includes indicators concerning whether government budgets are publicly available and whether there are regulations addressing conflicts of interest for civil servants.

The fourth domain captures information concerning the extent of state-owned media and access to media, both of which serve as indicators of a robust civil society that can provide government oversight.

2. How does the TRACE Matrix measure bribery risk?

The TRACE Matrix provides a balanced and objective view of business bribery risk by gathering information for multiple subdomains which are then aggregated into the four domains.

The nine subdomains are:

1) Contact with Government;
2) Expectation of Paying Bribes;
3) Regulatory Burden;
4) De Jure Anti-Bribery Laws;
5) De Facto Anti-Bribery Enforcement;
6) Transparency of Government Regulatory Functions;
7) Transparency and Health of the Civil Service Sector;
8) Quality and Freedom of Media; and
9) Human Capital and Social Development.

Each subdomain is composed of data from a variety of sources. The procedure for calculating a total risk score was as follows: first, we standardized every indicator (to standard deviation one, and mean zero) and then calculated the average score for all items within a subdomain for each country to give subdomain scores. We then re-standardized subdomain scores and found the average for all scores in all four domains. We calculated the weighted average of the domain scores, plus a variance penalty score, to obtain a total risk score. The variance penalty penalizes countries that have large discrepancies between domains. A country with a high score in one domain is assessed to be riskier than a country with even risk scores even if the overall risk scores for both countries are the same.

$$\text{Total risk score} = \text{domain}_1 \times 0.450 + \text{domain}_2 \times 0.079 + \text{domain}_1 \times 0.238 + \text{domain}_1 \times 0.238 + \text{variance penalty}$$

3. How is the TRACE Matrix different from other corruption and government metrics?
The main difference between the TRACE Matrix and other commonly used measures is that it focuses on business bribery risk. Other indices of corruption risk tend to focus on general corruption issues, and they are often based on perceptions, either from experts or the general population. While there are limitations to all types of corruption measurement, purely perception-based measures can be inadequate indicators of business bribery risk.

In addition, the TRACE Matrix is based on a conceptual framework of business bribery, which is then quantified using a range of data that reflect the underlying risk factors for business bribery risk.

4. How can businesses use the TRACE Matrix to reduce risk of bribery overseas?
Businesses can use the TRACE Matrix to understand the overall risk of business bribery in a country and along what domain the risk lies. This information can be used to compare countries and also to understand if the business is vulnerable along a particular risk domain.

For example, if the business is one that has to have many interactions across many government offices, then a country with a high risk in this domain would be of particular concern.
5. **Does the TRACE Matrix only reflect the chance that a firm may be asked to pay a bribe?**

   Not necessarily. The domains represent areas that can set the conditions for bribery, although a specific bribe can be initiated by either party and the risk can be mitigated by actions a firm takes. A high risk score in a domain means that the conditions in that country are likely to support or encourage bribery activity. Other factors may intervene to mitigate the risk that an agent will request a bribe, including protective measures by the firm.

6. **How should a business interpret the overall risk score? Is this all I need to look at?**

   The overall risk score provides a general, high level way to compare countries and a way to group countries according to overall risk. However, the distinguishing characteristic of the TRACE Matrix is the availability of additional information on the risk factors within a given country. Therefore, a user should examine the domain and sub-domain scores, assessing those scores in the context of the firm’s own characteristics and activities. In addition, businesses may want to collect additional information when making an investment decision for a particular country.

7. **Why does the TRACE Matrix include domain and sub-domain scores, and how should I interpret those?**

   One of the primary goals of the TRACE Matrix was to identify and quantify different factors of bribery risk. The domains represent the broad categories of bribery risk. These can be further broken down into subcomponents of risk, which we designate as our subdomains.

8. **Country ______ has a higher/lower score than I expected. Why is that?**

   The TRACE Matrix uses a range of data sources to provide an overall measure of business bribery risk, but users may have views about bribery risk that depend on other data sources or their own experience. Reviewing the domain and sub-domain scores and how they are weighted will provide insights into how the TRACE Matrix arrives at the overall country score and can help explain why each country receives it overall score.

   In addition, the weights for the total risk score were determined based on inputs from subject matter experts. A firm’s own assessment of the relative weighting will help explain the discrepancy between the expected and reported risk score.

9. **How do data in the TRACE Matrix get aggregated, and why that approach?**

   The information that is used to calculate the TRACE Matrix scores comes from a range of measures which have very different scales. To ensure that the measures are on comparable scales, we standardize all scores (to mean - , standard deviation 1), before combining them by calculating the average score for each country.
10. **How does the TRACE Matrix deal with uncertainty?**

We assume that the data we have is measured without uncertainty, as the bulk of the measures are objective and not subject to bias or measurement error. However, uncertainty arises because of missing indicators for some countries. We handle this through the use of a statistical technique known as multiple imputation (a similar approach is used to handle uncertainty for the US Census). We estimate the scores for countries which have missing indicators, based on other countries with similar scores, and we estimate the extent to which this missing data has introduced uncertainty into the scores.

11. **In the future, can TRACE Matrix scores be compared over time? Will the index tell me if a country is becoming more or less risky?**

The TRACE Matrix methodology as it is currently designed will be able to track the relative change in countries - that is, if a country is become more or less risky relative to other countries. (This occurs due to the aggregation approach, see (9)). It is possible that in future developments we will alter the methodology to track absolute, as well as relative, changes.

12. **If I want to explore the TRACE Matrix and the underlying data in detail, can I do that?**

Yes. The data used for the TRACE Matrix is all publicly available. The actual dataset we used to construct the TRACE Matrix will also be made available online at [http://www.TRACEinternational.org/trace-matrix](http://www.TRACEinternational.org/trace-matrix) along with the programming language used in the R statistical software package.

13. **How often is the TRACE Matrix updated? Why did you choose this timeframe?**

The Matrix will be updated every two years. This is partially due to the availability of specific data sources. Appendix B of the RAND Bribery Risk Assessment report, available on [http://www.RAND.org](http://www.RAND.org), lists all the data sources and the year the data was gathered. Some sources update data every year, others do not, by updating the TRACE Matrix every two there is greater availability of new data.

14. **Can a country submit documentation to change their score?**

No, RAND and TRACE recognize that no scoring scheme is perfect, and we will continue to endeavor to improve the method and data used. However, the objectivity of the approach would be compromised if individual countries were allowed to influence the score.