**Franklin Political Risk and Opportunity Index (FRISKOP)**

*Technical Report*

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The Franklin Political Risk and Opportunity Index (FRISKOP) is an initiative by Oliver Strijbis, Bernd Bucher, and Juliette Schwak, Professors of Political Science or Political Economy at Franklin University Switzerland (FUS). It is the first political risk index that combines quantitative measures of the probability of geopolitical events and an assessment of their potential economic impacts. This technical report describes the methodology of FRISKOP.

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1. **Introduction**

The Franklin Political Risk and Opportunity Index (FRISKOP) is an initiative by Oliver Strijbis, Bernd Bucher, and Juliette Schwak, Professors of Political Science or Political Economy at Franklin University Switzerland (FUS). It is the first political risk index that combines quantitative measures of the probability of geopolitical events and an assessment of their potential economic impacts. This technical report describes the methodology of FRISKOP. Political risk is generally understood as any political change or event that alters the expected value of a given economic action (Bremmer and Keat 2010; Gould-Davies 2019; McKellar 2017; Toksöz 2014). FRISKOP conceptualizes political risk more specifically as the combination of the probability of a political event happening and its potential impact on the economy. Here it is similar to best practice in the industry that also combines estimates of probabilities for political scenarios and their expected impact on the economy (e.g. EIU 2022; BlackRock 2022). However, in contrast to the available risk indices FRISKOP fully quantifies both the likelihood of geopolitical events, its potential economic impact, and – most importantly – its interaction.

This documentation is divided into three parts: First, it is described how the likelihood of events is estimated. Second, we make transparent how we measure the potential economic impact of these political events. Finally, we describe how we combine the two pieces of information into one index.

1. **Probability of political events**

FRISKOP bases its selection of events and the probability attached to it from *A Prediction Market with Integrated Algorithms (PREMIA)* – a research project at the University of Zurich (see [www.premia-forecasts.com](http://www.premia-forecasts.com)). Prediction markets are virtual stock markets, which use the information contained in market values to make forecasts. Prediction markets have proven themselves in the prediction of elections in the USA (Berg, Nelson, and Rietz 2003, 2008, Berg et al. 2008) and been widely used in Europe to predict election results where they have outperformed other forecasting models based on polls, expert panels, and economic indicators (Graefe 2017). Prediction markets have also been successfully applied to forecast the success of replication studies in social and behavioral science (Gordon et al. 2021) and to migration movements (Morgenstern and Strijbis, under review), among others.

FRISKOP accesses PREMIA’s prediction market on geopolitical events by choosing political events and derives their probability estimates from their website. FRISKOP does not cover all events, but selects events that would have a particularly strong impact on the global economy. The impact of the events, in case they materialize, on the global economy is estimated in two steps. In a first step, the authors select around 30 events that they judge to have the highest potential impact (positive and negative) on the global economy. Among the 30 events approximately 20 events with very strong potential negative effects are chosen and among 10 with potentially very positive effects. In a second step, they present this selection of events to an expert panel that rates the potential economic impact of the events (see section 2: Expert ratings on economic impact).

For its monthly FRISKOP ranking, it calculates the probability of the political events by averaging PREMIAs probability over the last week. FRISKOP might add new events at any time for its monthly updates. If probability estimates are not available over the last week, it will average the average the estimates over the last number of days for which the estimates are reported. The probability of the selected geopolitical events ranges between 0% and 100%. However, those events with high potential impact tend to be very unlikely consisting of the “fat tail” of possible geopolitical events (Bremmer and Keat 2010). Consequently, we can expect the events to have a mean probability that is clearly lower than 50%. Our estimate based on previous forecasts on geopolitical events is that the mean probability will be around 25%.

1. **Expert survey on the hypothetical economic impact**

In order to estimate the economic impact of the political events selected in the first stage (see above), we conduct an expert survey. Between 50 and 100 experts on political economy, international relations, and politics from academia, business, and state agencies are asked every six months to fill in a survey. The experts are selected based on the large professional networks of the authors. Expert surveys tend to have low response rate, but due to the personal contacts to the selected experts, response rate is expected to be around 50%. Hence, we expect to be able to count on the expertise of 25 to 50 experts for each survey. We will provide basic information about the experts (e.g. gender, industry, discipline) and list those that do not insist on remaining anonymous.

Experts engage in rating of paired comparisons of the political events that we have chosen in a first step (see section 1: Probability of political events). Experts are asked for ten pairs of events the question: “Which of two events impacts global economy more negatively? In the following, we will present you with ten pairs of political events. For each pair, we would like you to choose the event (should it take place) that would have the more negative (or less positive) overall effect on the global economy over the next year. By ‘global economy’, we refer in particular to central macroeconomic indicators such as gdp growth, unemployment, inflation, and sovereign debt. If you think that no clear answer is possible, please choose the event of which you think it would have a more negative effect on the S&P 500.” The experts receive ten pairs of descriptions of political events that are randomly chosen among a larger set of events. While political events can have positive effects on one set of indicators, they can at the same time have a negative impact on other indicators and thus cancel each other out. This is why we add the option to rely on its effect on the S&P 500 instead. Here we follow the idea that the state of the global economy is approximated by very general financial indices and are inspired by the empirical analysis in Caldara and Iacoviello (2022)

Based on the pair-wise comparisons, we calculate the relative frequency with which the events are rated as having a more negative effect relative to the comparison group. This gives us a standardized ranking from most positive effect (0) to most negative effect (1). Based from this distribution and our assumption about which events should have a positive impact on world economy, we recategorize the events in to such having strongly negative impact, negative impact, inconsequential, and positive impact. We categorize those as “strongly negative” that we have pre-selected as events with negative impact and that were among those also rated by the expert as having most negative effect. We draw the boundaries to events with (only) negative effect at around the upper 75% of the distribution. However, we take clusters into account: In case there is a group of events with similarly high values, we group them together even if the boundary results to be somewhat lower or higher than the 75th percentile. According to the same method, we rate the next group of events that cluster around the upper 50% to 75% of the distribution as (only) “negative” impact. The events that are around the lower 25% to 50% of the scale are categorized as “inconsequential”. Finally, we categorize the events that we have pre-categorized as opportunities and that receive scores that among the lowest 25% are rated as having a “positive” impact. Again, we do not draw a strict boundary at these intervals but also consider clusters around it.

In a final step, we assign the following scores to the categories:

* “strongly negative” = 0.5
* “negative” = 0.25
* “Inconsequential” = 0
* “positive” = -0.5

The values of these scores range between -0.5 and 0.5 because in practice most of the events covered will have probabilities lower than 50% and a mean probability of 25% is expected (see above). Hence, when multiplying the two scales with each other to combine them, the scale will receive about the same weight (without additional standardization) as the probability of the events.

1. **Combining event probability and expected impact**

FRISKOP conceptualizes political risk as the combination of the probability of a political event happening and its potential impact on the economy. Hence, in a final step we multiply the two dimensions in order to receive one risk and opportunity index. The final scores can theoretically range from -0.5 to 0.5. However, we expect the mean probability of an event happening to be around 25% (i.e. 0.25). Hence, we can expect the mean final score to be between 0.125 and 0.25 for risks and -0.25 for opportunities.

As a final step we transform these scores into four final categories:

* “high risk” ≥ 0.1
* “risk” 0.05 to 0.999
* “minimal” -0.049 to 0.049
* “opportunity” ≤ -0.05

This final scoring should do right to typical intuitions about political risk and opportunities. Table 1 shows the probabilities that events need to have in order to fall into one of the four categories based on the classification of their impacts. An event classified to have a very negative expected impact is considered a high risk if its probability is 20% or more. The same is true for events considered to have a negative impact if their probability is 40% or higher. Events considered highly negative are categorized as a risk if their probability is between 10% and 19.9%. The same is true for events considered negative if they have a probability of 20% to 40%. All other combinations with lower probabilities are categorized as minimal risks. An event is categorized as an opportunity if it is considered to have a positive impact and a probability to materialize of 10% or more.

Table 1: Critical values for FRISKOP categories

|  |  |  |  |
| --- | --- | --- | --- |
| Impact | Probability ranges | FRISKOP score | FRISKOP category |
| 0.5 | ≥ 0.2 | ≥ 0.1 | high risk |
| 0.25 | ≥ 0.4 | ≥ 0.1 | high risk |
| 0.5 | ≥ 0.1 | ≥ 0.05 | risk |
| 0.25 | ≥ 0.2 | ≥ 0.05 | risk |
| 0.5 | 0.001 to 0.099 | 0.001 to 0.0499 | small risk |
| 0.25 | 0.001 to 0.199 | 0.001 to 0.0499 | small risk |
| 0 | 0 to 1 | 0 | minimal |
| -0.5 | 0.001 to 0.099 | -0.001 to -0.0499 | minimal |
| -0.5 | ≥ 0.1 | ≤ -0.05 | opportunity |

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