**Methodology**

**Purpose of IFC project**

The IFC developed the “Inspection Reform” project to ensure high quality in future business inspections in Jordan. There are a few reasons why the quality of an inspection could be in question. The three biggest ones are that the inspectors are biased, there is an unequal distribution between surprise and planned visits and that there are inspections that are either excessive or redundant.

**Purpose of this study**

The original objective of the study project were to assess the results of the IFC project, i.e., whether the reforms supported by the project helped improve the performance of the inspections and determine areas in which further improvement is needed. This analysis takes it a step further and examines potential relationships between independent models as well as using logistic regression to create prediction models.

There are a few reasons why the Jordanian government might have questions about the quality of inspections. These reasons include the level of awareness that the employees and/or inspectors have about inspection procedures or legal rights of the businesses inspected and whether there was a lack of planning or coordination between different agencies. The latter could be an intriguing factor to evaluate as companies could become more disgruntled as the number of inspections, surprise or not, increases over time. This study was designed to assess where the private sector is getting it right when it comes to inspections and where they can improve.

**Methodological considerations**

The first step on the analysis process was to remove all the rows that contained blank data. Then, I ran a correlation analysis of the GAM and aggregate dataset to reveal any significant relationships between variables. This would help because I can always relate the prediction results and difference to the results.

Once I ran the correlation chart to get a baseline understanding of the relationship between factors, on R, I ran code to determine the best models split by the number of independent factors. I, then, used several prediction criteria to determine which models should be run via a logistic regression.

After I picked the best three or four linear models, according to the linear model summary data, I ran a logistic regression on all of them. This allowed me to develop which model was the best to use for predictions. Here, the criteria were that each p-value, including the intercept, would be less than 0.05.

The final step was to use the logistic model chosen to create predictions and then, determine whether the model was a good one by comparing it to the actual dataset.

**Data collection**

A study was carried out in 2011 to develop a baseline for future studies on the inspection quality. This allows a comparison over time.

This study used a combination of qualitative and quantitative data gathering methods to assess the quality of inspections and satisfaction of the private sector with the inspection process. In addition to desk research and interviews with the IFC project team, there were two main ways in which the data was collected: surveys and Key Informant Interviews (KII). 155 businesses from 12 sectors were surveyed using a structured questionnaire. The sample was selected from a list of businesses maintained by the firm that carried out the study along with some businesses surveyed during the baseline study. The questions covered the level of awareness that both the business and the inspectors had about the inspection procedures and legal rights, the time and resources spent for each inspection, the distribution of surprise/planned visits, and whether the quality of the inspections changed over time. The surveys were taking place concurrently with Key Informant Interviews (KII). These interviews were designed to create a qualitative understanding of the inspection process in different agencies. The questions for these interviews were determined based on a good understanding of the inspection processes and issues in different sectors. The interviews covered 17 government officials from different ministries and agencies that carry out inspections and 30 businesses representing 13 sectors. The study team used an iterative approach, where data was continually built upon to derive results and close any data gaps.

**Nature of quantitative data collected**

The quantitative data collected through the survey were of three types: ordinal results that captured perceptions of change over time (1-3), binary results that were yes (1) or no (0), and discrete numbers that described the frequency of visits and number of employees involved. The study was not longitudinal because the data were collected during one period. However, some questions captured changes over time.

The findings have been reported in two formats: a qualitative discussion based on the KIIs and quantitative tables based on the survey data. The quantitative results are simple summary statistics showing percentage distribution and averages. A further study could be done by using decision trees to create a better prediction model than the one shown in the study.