

# PROJECT PLAN: TRADE ASSOCIATION NETWORKS AND GLOBAL NTM TRADE POLICY FORMATION

## ABSTRACT

*This project examines factors that explain the global surge in non-tariff measures (NTMs) after 2000. In particular, the project combines industry-level trade association data with industry-level data on NTMs to test whether sectors with dense trade associations experience earlier or more intense NTM proliferation and whether NTMs cluster in supply chain bottleneck industries.*

## 1 INTRODUCTION

The goal of this project is to evaluate the relationship between the concentration of non-tariff measures (NTMs) over time in certain industries and the concentration of trade associations in those industries. NTMs describe policy measures, outside of tariffs, that potentially have an economic effect on international trade in goods. These policy measures can be implemented in a variety of ways which allows researchers to classify NTMs by type, an important dimension of data when measuring the implementation of NTMs by industry and by country.

Data on NTMs is tracked by the World Integrated Trade Solution (WITS) database, a collaboration between the World Bank and the United Nations Conference on Trade and Development. An important feature of this data is that the WITS NTM data includes information on the country that has introduced the NTM and the country that the NTM targets, if specified.

Data for trade associations comes from the World Guide to Trade Associations, a book the Kansas Data Science Consortium has worked to digitize and scrape text data, before

structuring the trade associations by country and industry.

Using this data, the analysis will examine the trends in use of NTMs, with particular attention to whether NTMs cluster within certain industries and whether trade association density in one country and trade association paucity in another country can explain the application of NTMs between countries.

**2 BASELINE OR INITIAL ANALYSIS**

The key elements from the NTM data include an harmonized system (HS) product code, which identifies the product to which each NTM applies. Because the data is historical, the product code nomenclature changes based on the year in which the NTM is created. A summary of the frequency is given below:

<u>Nomenclature Code</u>	<u>Frequency</u>	<u>Percent</u>
H2	1,305,346	2.91
H3	6,371,635	14.22
H4	26,572,041	59.32
H5	10,545,215	23.54

The trade association data is recorded using International System Industrial Classification (ISIC) codes, and so initial work will need to be done to attach ISIC codes to each NTM in the

WITS data. This can be done using [concordance tables](#), also called crosswalks, and those are prepared by WITS. The ISIC revision used should be ISIC Rev 3. The concordance tables to use should be H2 to ISIC Rev 3, H3 to ISIC Rev 3, H4 to ISIC Rev 3, and H5 to H4 to ISIC Rev 3.

Once the NTM data has the appropriate ISIC Rev 3 codes attached to each row, the data can be merged with the trade association data. The merge should be 1-to-1 on country and ISIC Rev 3 code. This means you will need to collapse and sum the trade association data by country and ISIC Rev 3 code. Once the data are merged, produce a set of summary statistics and visualizations that describe the data and the patterns therein.

### **3 FINAL ANALYSIS**

The final analysis should evaluate whether sectors with dense trade associations experience earlier or more intense NTM proliferation in the categories of interest identified in the initial analysis. This analysis should be done in the context of trade policy substitution: as countries reduce tariff levels in accordance with World Trade Organization policy, they may consider substituting tariff measures with non-tariff measures. Research on trade policy formation indicates that industries with powerful lobbies may capture some trade policy formation for the benefit of their industries. Trade associations can act as powerful lobbies for industries in their countries and may be able to influence whether non-tariff measures are implemented to provide some protection for domestic producers against international competition. The final analysis of this project should test to see whether there is empirical evidence in the data to support the hypothesis across many countries that trade associations are able to shape trade policy formation. The analysis should use a variety of regression techniques, where trade associations are the explanatory variable and NTM presence and intensity is the outcome of interest. A reach goal of this analysis would

incorporate other industry-specific characteristics as covariates like number of employees, number of establishments, gross fixed capital formation, value added, wages and salaries, as well as output.

#### 4 FINAL GOALS & EVALUATION

The final goal of this project is a report and slide deck that summarizes the data work, the exploratory analysis, and the final statistical analysis to establish whether a relationship exists between trade association density and NTM density by country and industry. The analysis should be presented at the Kansas Data Science Consortium conference on May 2<sup>nd</sup>, in Manhattan, KS. The project report and accompanying script files and should be sent to the project sponsors at the completion of the semester.

#### 5 RELATED WORK

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## 6 DATA & TECHNICAL REQUIREMENTS

Analysis should be done in Stata, R, or Python and code should be stored in script/do files.

The analysis should be “full stack” in that the script files load in a working data set and produces a set of output such as figures and tables. Each do file should accomplish a defined and contained task (e.g. data construction or table 1 creation, etc).

**Appendix A: Figures**

