

What Drives Specialization? A Century of Global Export Patterns

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Introduction

The world has been rapidly globalizing since the 1980s, but this is not the first time the world has experienced such a phenomenon. The first era of globalization peaked between 1890 and 1913 as the global division of labor reached new heights, resulting in both a larger quantity and greater variety of goods being traded. But globalization did not bestow equal benefits. Some nations succeeded in diversifying their exports, whereas much of Asia, Latin America, Oceania, and Africa were trapped as raw material exporters.

Globalization was halted by two world wars, ushering the world into an era of protectionism which only completely ended after a neoliberal push in the 1980s. Current globalization certainly looks different than it did 100 years ago - the share of primary goods in trade has fallen roughly 42 percentage points, whereas manufacturing has risen rapidly. But consistent with the previous era, poor nations are still stuck specializing in basic commodities and have not achieved the high degree of diversification wealthier nations have.

Research Question

The research question was: "To what extent are patterns of global exports path-dependent or path-defiant across the two eras of globalization?" The project aimed to reframe specialization as a historical process influenced by institutions, and to explore the policy implications of why some countries maintain constant trajectories and others exhibit path defiance.

Role of the Research Assistant

In January 2020, I was fortunate to begin working as a research assistant for Professor Isabella Weber after having taken her "History of Economic Thought" course the previous fall. A portion of the course focused on competing paradigms regarding international trade, which made me realize that the current debates over globalization have been raging for decades, and that we can gain insight into future policy by studying the patterns of the past. Because of my newfound interest in international trade, I applied to join Professor Weber's research team. Part of my work as a research assistant involved aiding in the construction of a database of global export patterns, by country, for that period. In addition to data collection, classification, and cleaning, I analyzed country-by-country specialization patterns over time, which allowed me to track whether or not nations were able to upgrade their exports. I learned how to read the historical export reports compiled for the British colonies, and was responsible for collecting and cleaning data in excel. I also learned how to use the US COMTRADE database in order to assign numerical classifications (called SITC codes) to commodities.

Data and Methods

The data used to construct the database was compiled from a variety of sources. For all British colonies, we used the export quantities listed in "Statistical Abstract of the Empire" documents or consular reports created by the British government during that time. Those documents were accessed on Proquest. The French also compiled documents called "Statistiques Coloniales" for their colonies, which were accessed through HathiTrust. For the other assorted nations, data could be found in trade reports from that period and Blue Books, which were accessible from sources including the British Library and the Qatar Digital Archives.

These historical documents were run through a text recognition software so they became a raw .csv file. A code was used to identify possible errors in the transcription, which I manually compared with the source material. Next, the products listed in these reports were given SITC code designations according to the UN COMTRADE database, and the data was finally ready to be put in the database. Our database was then compared to the Federico-Tena World Trade Historical Database, which is the most current aggregate export database. Calculations were run to see how well our numbers matched.

Using our data, countries could be ranked according to their level of diversification. To do this, the average number of Revealed Comparative Advantages (RCAs) above a certain threshold for each country was calculated, and the countries were then ranked for each period. RCAs are calculated by comparing the share of a commodity in a country's export basket to the share of that commodity in total world exports. Figure 1, in the results section below, displays the diversification rankings and trajectories.

Results

Figure 1

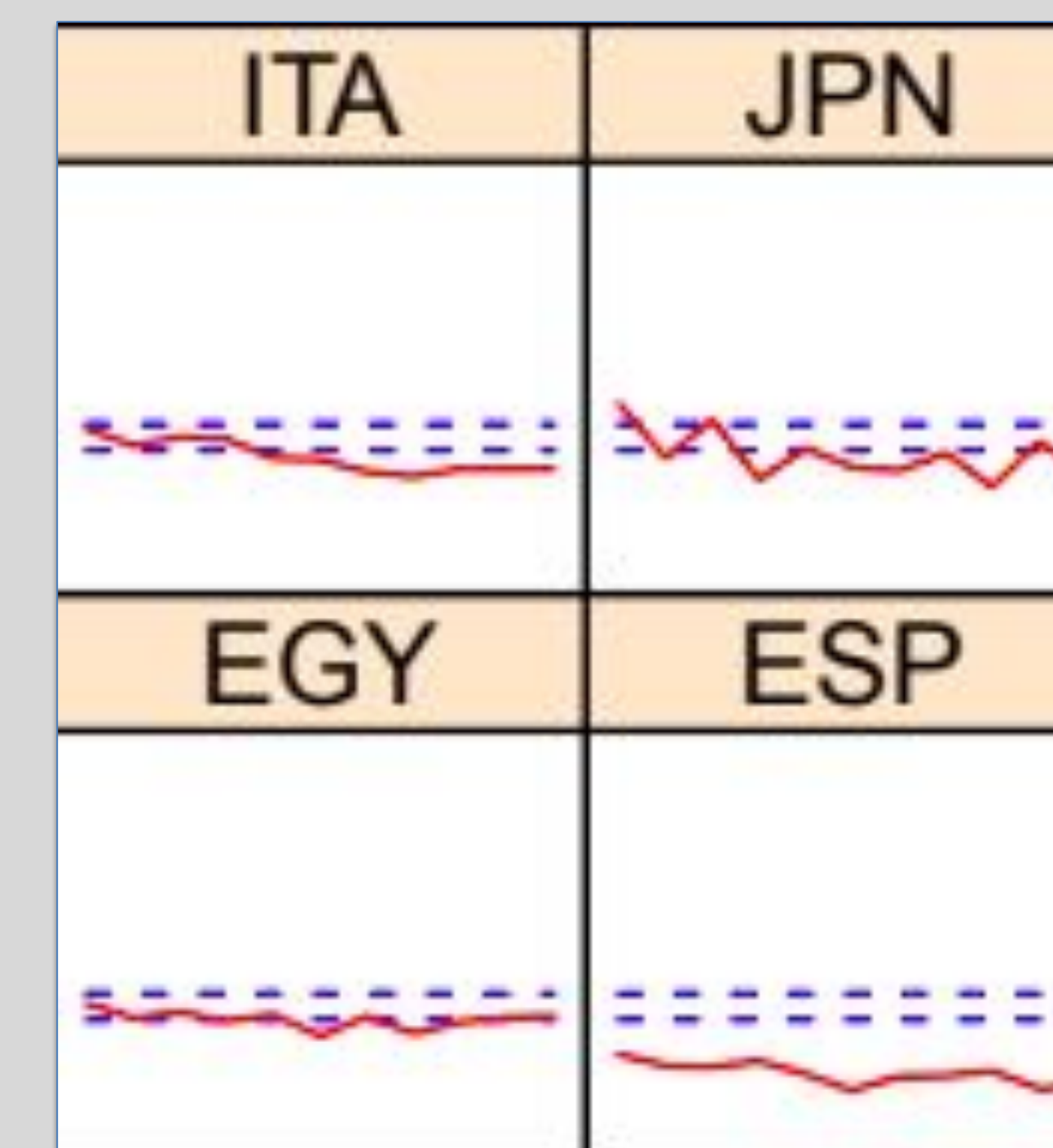
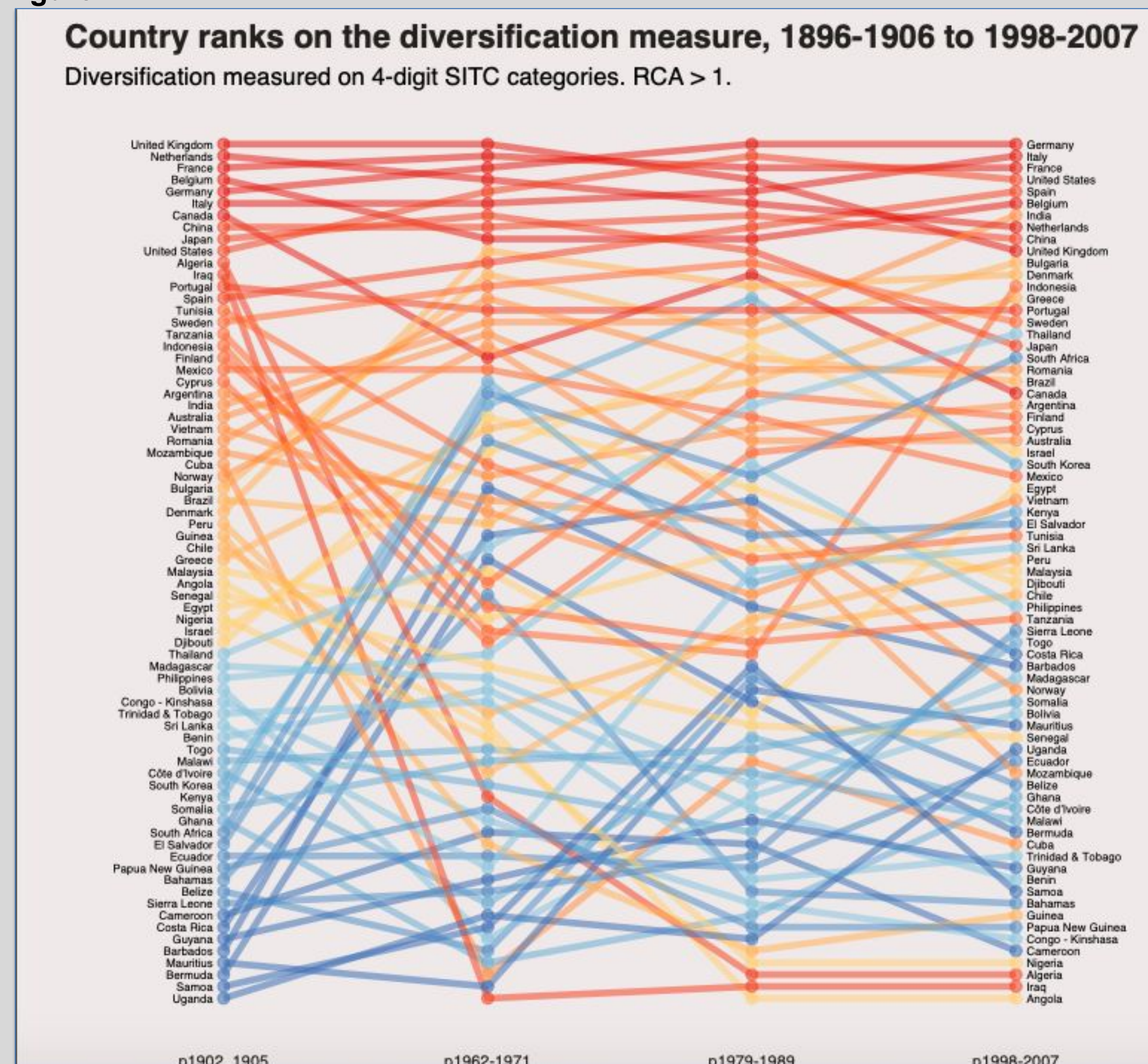


Figure 2

Figure 2 is a graphical comparison of our database compared to the Federico-Tena (FT) Database, shown here for four countries. The x axis represents the time interval for which our database includes export information. The y-axis represents the percentage difference in export quantities between our database and the FT database. The dotted blue lines represent 10% deviation from FT. As illustrated, the red line, depicting the actual deviation, mostly falls between the two blue lines.

Discussion

As can be seen at the top of the table, the countries in red, which were the wealthiest and most diversified at the turn of the 20th century, have largely retained their position in the modern era, indicating a high degree of path dependency. Some of the most least diversified countries in the 1902-1905 period also exhibited path dependency, though some defied the path and improved their ranking.

Conclusion

We concluded that while there are several cases of path defiance, it appears that diversification across two eras of globalization is largely path dependent, especially for nations which were already highly diversified and wealth in the 1902-1905 period and remain that way today. In the future, it would be useful to dive more deeply into the cases of the countries who defied their path, becoming either greatly more or less diversified over time relative to other nations. This way, we can analyze what changes took place to alter that nation's trajectory. Additionally, more work can be done on the database to investigate discrepancies between our numbers and those in the Federico-Tena World Trade Historical Database.

References

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