**Product space and employment growth in the US**

In this research class, the research I would like to conduct is about the relationship between product space and employment growth in the US. Product space is a network based data visualization tools (). It provides an ability to connect related products and potentially create an improvement of growth on related or relatively similar product. This will create an economic effect for a country. For example, the main production of a country is banana, if government wants to choose second option to boost economic, the better choice will be a similar production such as mangoes [1]. If government choose to go with steel production, it might not seems optimal choice for the country. Hence, it is important to look into the spillover effect for potential production. Most of the countries, included well-developed nations are always concern about employment growth and keeping low unemployment rate. This study will emphasize on the relationship between product growth and employment rate.

Research question: Which product has positive relationship with employment growth?

Sub-question: What is the related sector has significant growth compare among the related sector?

The goal of this study is to explore the relationship of product space and employment growth. The product space has present the connection between the homogenous products. At the same time, it also showed the heterogeneous product as well. In product space has divided into core product and peripheral product. In core products, it has provide more opportunity to connect to varieties of products. Whereas, the peripheral product is less likely to connect to other product. The measurement for this is revealed comparative advantage (RCA). The RCA is a measurement of products is effective exporter, given the comparison for two different product.

Hypothesis: The changes in RCA probability higher will change the employment growth.

With the hypothesis, this study is expecting a positive relationship in between product growth and employment growth. The increase in product growth, it will increase the rate of employment. In general, product space network increase, it will increase the employment growth as well. Perhaps, this study will look changes from the last 20 years. The dependent variable is employment growth and the independent variable is growth of product and product space network for the related product. However, there is yet to be explore on the sector to focus in this study.

This study is a regression model study, it will explain the probability of employment growth based on specific product growth for the last 20 years. Hence, this is a time-series data modeling. It will require to use the data from World Bank’s World Development Indicators and United Nation Comtrade. At the same time, it also using Harvard Atlas of economic complexity to look for the product growth. On the other hand, job growth will based on the US Bureau of Labor Statistics (BLS) [2].

The procedure to compute the relationship of the product growth and employment growth. It will be classified based on the Standardized International Trade Code (SITC) at 4-level to provide the product code, and the BLS will based on standard occupational classification (SOC) to classified the job. It will assign the job and product accordingly before analyzing the relationship between

The implication of this study is it able to provide a potential policy space for government. It allows government to decide the sector should be encourage in the market to boost the economic. At the same time, it also possible to allow private sector, which is firm can make decision to put investment into sector that has better potential growth. In other words, government could have a better budget planning to provide better benefit for the society. In addition, it will help a country on structural transform to a different sector if necessary. It will allow private firm to align with country’s goal to achieve a better and efficient economic boost. In the next page will provide the references for this study, and I will try my best to follow IEEE format in the future paper.

Reference

[1] C.A. Hildago R, B. Klinger, A.L. Barabasi, R. Hausmann. “The Product Space Conditions the Development of Nations,” *Science*, vol.317, issues 5837, pp. 482-487, July. 2007, doi: 10.1126/science.1144581.

[2] A. Abdon, J. Felipe, “The Product Space: What Does It Say About the Opportunities for Growth and Structural Transformation of Sub-Saharan Africa?” Levy Institute. http://www.levyinstitute.org/pubs/wp\_670.pdf (accessed January 25, 2020).

Atlas of economic complexity, ”Country profiles” (n.d). Distributed by Atlas of economic complexity, http://atlas.cid.harvard.edu/countries/231 (accessed January 26, 2020).