

ASSIGNMENT #1

EE464: URBAN ECONOMICS

EE562: SELECTED TOPICS IN DEVELOPMENT ECONOMICS 2

SEMESTER 1 / 2020

FACULTY OF ECONOMICS, THAMMASAT UNIVERSITY

Assignment 1.1: Employment Multipliers

- Impacts on Employment

Assignment 1.2: Expected Wage

- Harris-Todaro and Rural-Urban Migration in Thailand

Assignment 1.3: GIS & Agglomeration Economies

- Urbanization and GPP
- Urbanization and Household's Income
- Urbanization and Variety of Occupations

Assignment 1.1: Employment Multipliers (30 points)

- **Task #1:** Construct the model, which the multiplication of $L*B*F$ matrices.
- **Task #2:** Compute the impacts on employment when the demand for the following sectors in [Bangkok](#) is increased by 100.

3_Food Manufacturing
4_Textile Industry
5_Saw Mills and Wood Products
6_Paper and Paper Products
7_Printing and Publishing
8_Chemical Industries
9_Petroleum Refineries
10_Rubber and Plastic Products
11_Non-metallic Products

12_Basic Metal
13_Fabricated Metal Products
14_Electrical Machinery and Apparatus
15_Industrial Machinery
16_Motor Vehicle
20_Construction
21_Trade and Transport, Communication
22_Accommodation and food service activities
23_Banking and Insurance

Note: please apply the shock of 100 increase in demand for each sector. Thus, you have to conduct 18 computations.

- **Task #3:** Repeat the same computations in Task #2 by using the Input-Output table of [Chonburi](#).
- **Task #4:** Compare the results of both provinces. In the case of economic stimulus, what should be the targeted sectors in each province?

Assignment 1.2: Harris-Todaro and Rural-Urban Migration in Thailand (30 points)

- There are two sets of time series, 2001-2013 and 2014-2020, have been distributed via course's website.
 - Monthly wage in agriculture and non-agriculture sectors
 - Monthly employment in agriculture and non-agriculture sectors
- **Task #1:** For each set of time series, compute the
 - Proportion of agri and non-agri employment per total employment
 - Monthly expected wage
 - Monthly switching cost
- **Task #2:** Explain the mechanism of rural-urban migration based on this Harris-Todaro equation.
- **Task #3:** Compare the results obtained from both time series. Are they different? Why?

Assignment 1.3: GIS & Agglomeration Economies (40 points)

- The following provincial data of 2010 and 2015 have been distributed via course's website.
 - Nighttime-Light (NTL) index
 - Gross Provincial Production (GPP) obtained from NESDC
 - Average household's income obtained from NSO's Social Economic Survey (SES)
 - Number of occupation obtained from NSO's Labor Force Survey (LFS)
- **Task #1:** Merge all data to the provincial map of Thailand by using QGIS
- **Task #2:** Use GeoDA to examine the correlation among four variables
 - Are all four variables positively correlated?
 - How these results are related to the theory of agglomeration economies?
 - Is the result of 2015 different from that of 2010? Why?

Submission Requirement

- Please submit all **graphical** and **verbal** answers in **the format of PowerPoint (& PDF)**. There is **no limitation** on the **number of page**.
- Please submit the **result** and **answer specifically relevant** to **each task** and **each question**. Incomplete answer will lead to the partial credits.
- The answer file (in both PowerPoint and PDF formats) must be submitted to nattapong@econ.tu.ac.th by **8.00pm of October 9, 2020**.
- Due to the constraint of class schedule, the **presentation is cancelled**. The submission of **answer file is sufficient**.