



A Discussion on
*Monocentric Growth and Productivity Spillover:
The Case for Thailand*

Nakaran Amarase

Bank of Thailand

PIER Research Workshop: June 21-22, 2018

- To identify the geographical pattern of **monocentric growth** by jointly using *night time light data*, *ground surveys*, and *spatial statistical techniques*
- To quantitatively examine the association of monocentric growth and **productivity spillover** by using *spatial econometric methodology*

- The *Night Time Light (NTL)* data for 2011, transformed into a provincial index
- The *Official Industrial Survey* of 2012
- The *Governmental Budget* allocated to each province & the provincial *Minimum Wage*

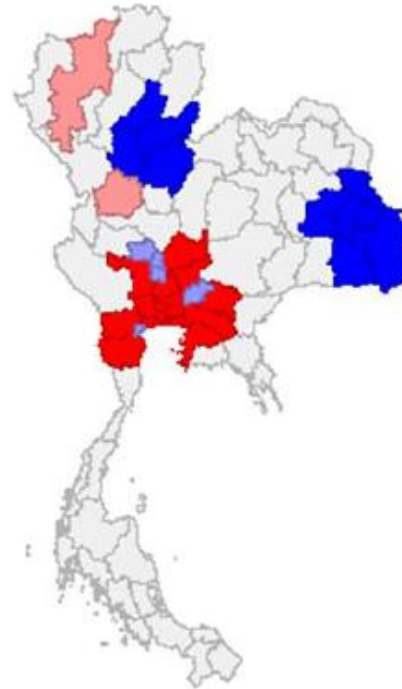
DMSP/OLS data for 2011



- Geographical pattern of monocentric growth & the **agglomeration in the Extended BMR**
- Positive contribution of **labor, capital, export involvement, age of firms, FDI & education of labor** on firms' productivity
- **Minimum wage & government expenditure** yielding no statistically significant impact.

Main Findings

Cluster map



Significance map (p value)



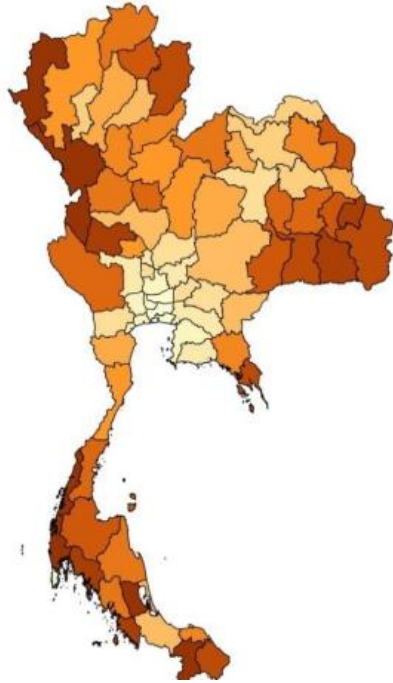
Discussion Point: Deeper or Longer Data

- The *NTL* data & *Official Industrial Survey* could be utilized deeper, e.g. **Amphoe** & **Tambon** levels instead of Province, allowing the author to compare spillovers **within district of interest** such as the Extended BMR to those in other districts.
- Otherwise, using *provincial macroeconomic data* such as **GPP** and **employment** may sacrifice firm specific information in exchange with the potential to have **balanced panel data**.

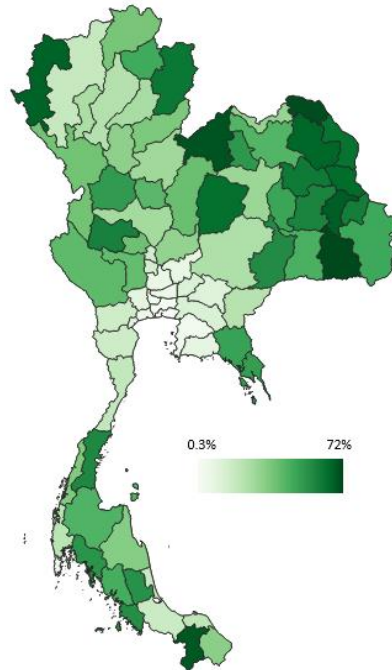
Discussion Point: Agricultural Country

Concentration in Agriculture may also contribute to Thai monocentric growth.

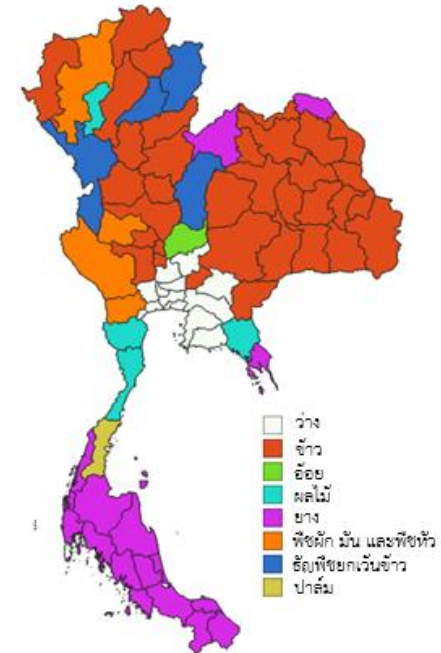
Provincial NLT Index



Concentration of Agricultural Workers



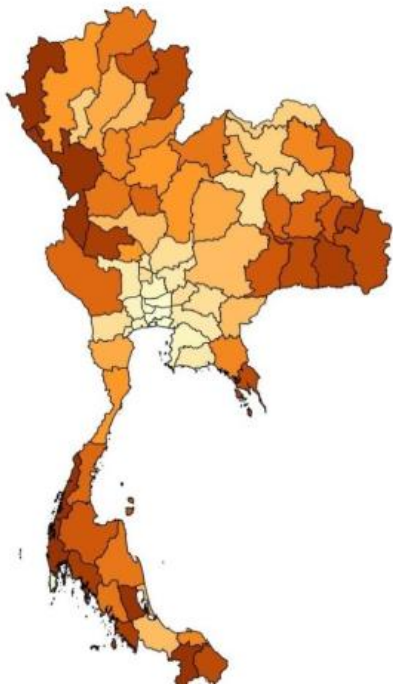
Concentration of Agricultural Products



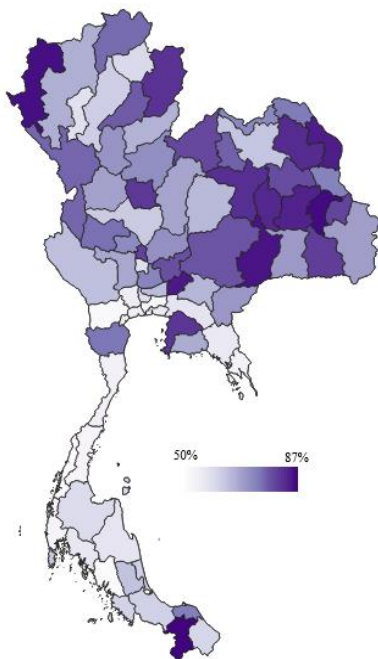
Discussion Point: Sister Dataset

This whole study can be applied to the *Business Trade and Services Survey* of 2012.

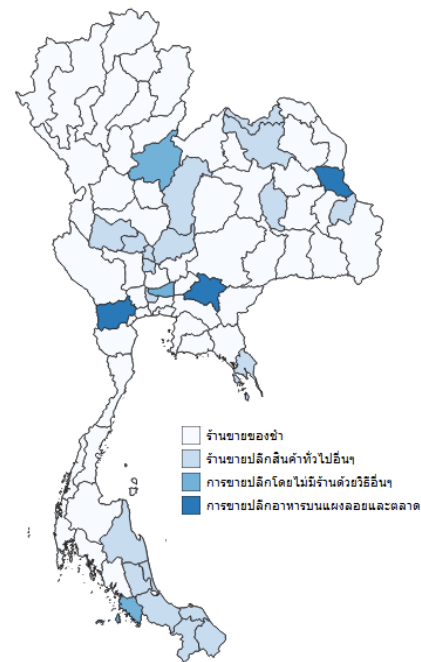
Provincial NLT Index



Concentration of Retail Trade Workers



Concentration of Retail Trade Shops



Discussion Point: Structural Path

Structural path analysis shows diverse spillovers across different sectors.

