



Network Analysis and Global Supply Chain

EE406 Contemporary Economic Issues (Semester 1/2021)

Introduction & Background



• **Taiwan (TSCM)**

The world's
largest foundry

• **China (SMIC)**

Aiming to compete at the
cutting edge with big
companies

Background & Motivation

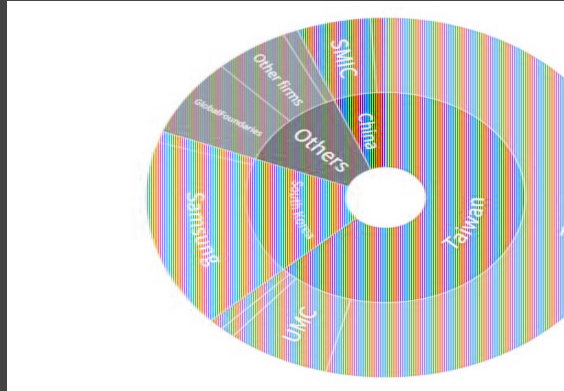


Figure 1 Semiconductor contract manufacturers by market share
Source: TrendForce (March, 2021)

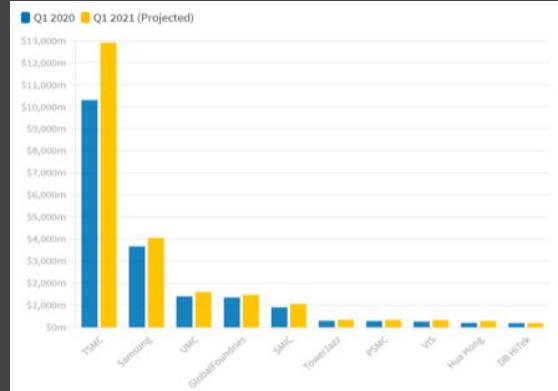


Figure 2 Top Semiconductor foundries by revenue
Source: TrendForce (February, 2021)



SMIC by China tries to boost their own output. However, there were some limitations

Sources of Data

Secondary Data



TrendForce



WIOD



MS Excel



Gephi

Brief of Analytical Methodologies

Phase 1

Define the
Objective



Phase 2

World Input-Output
Database (WIOD)



Phase 3

Gephi



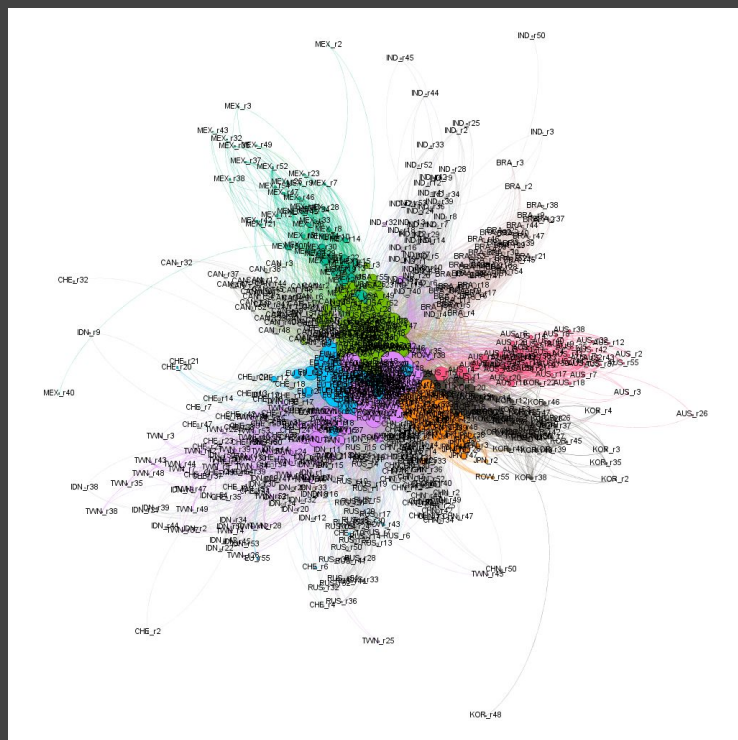
Phase 4

Excel

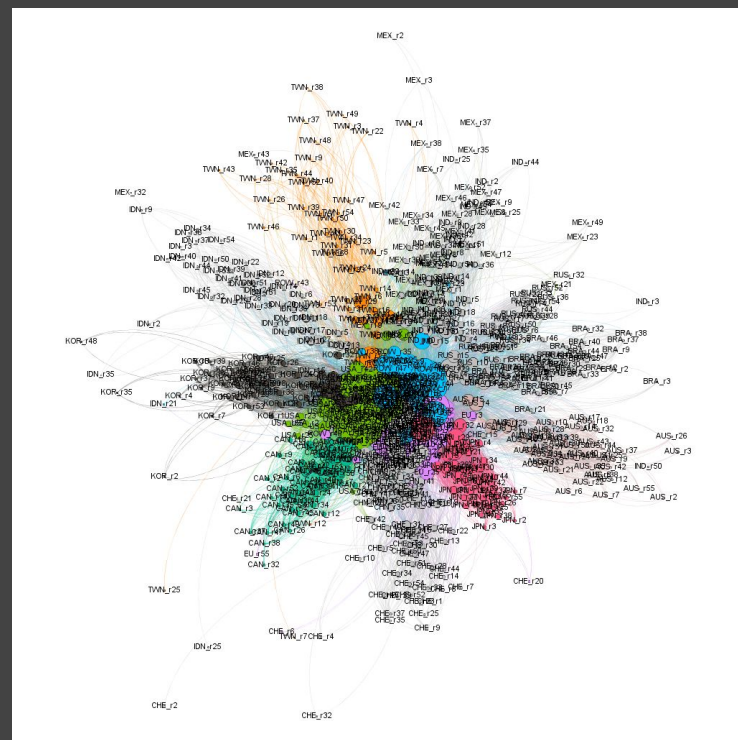


Comparison of Network diagrams

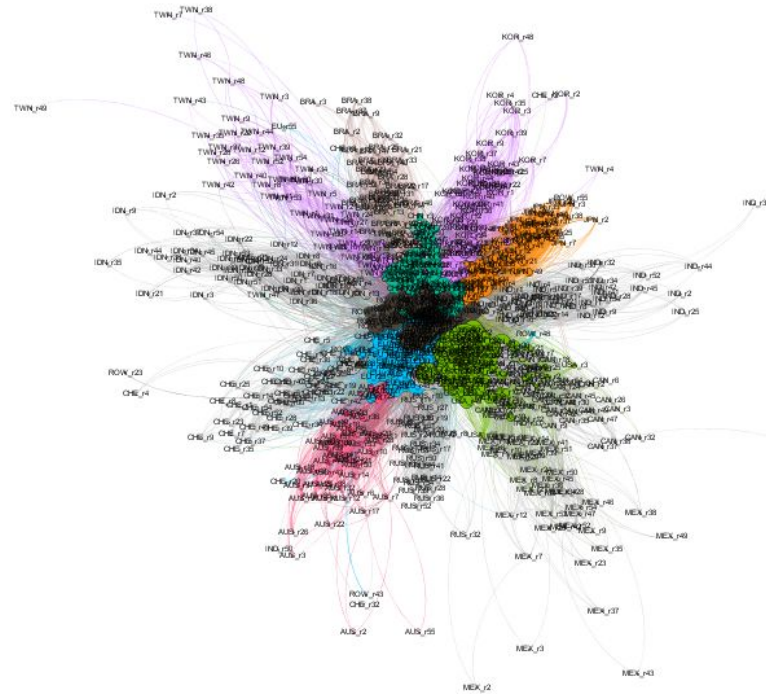
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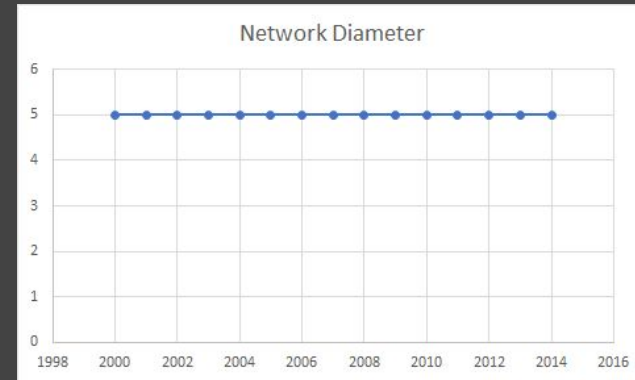
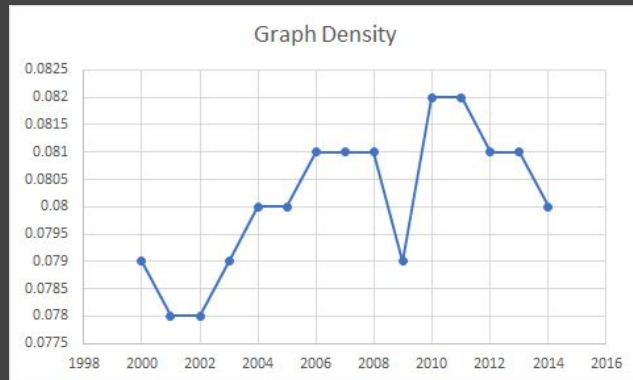
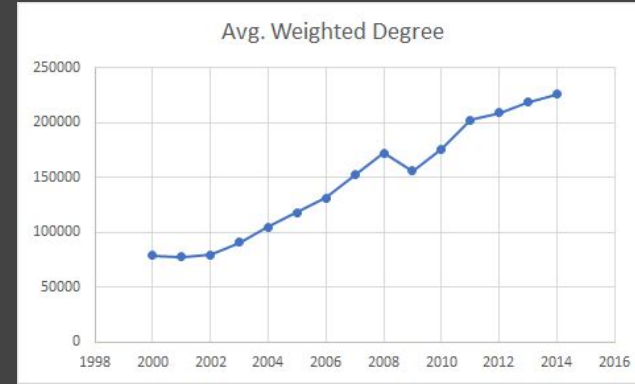
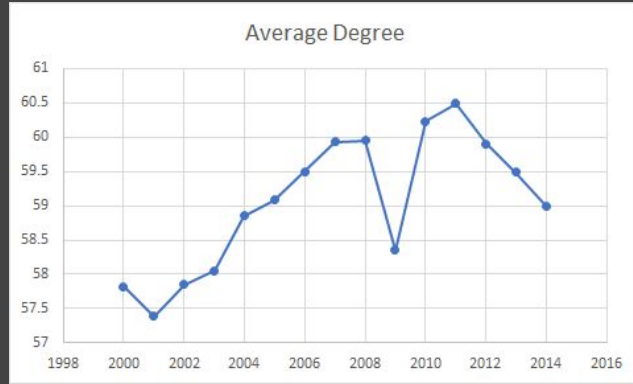
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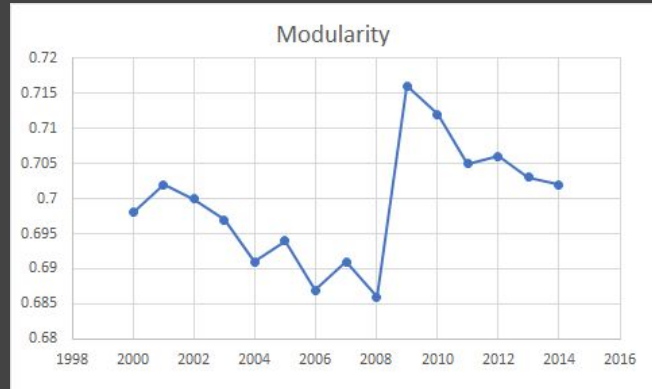
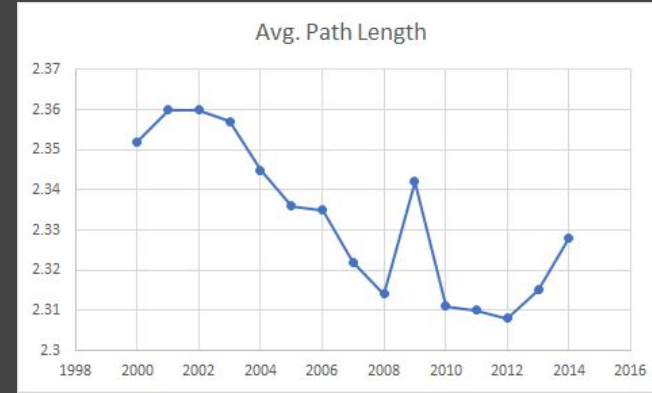
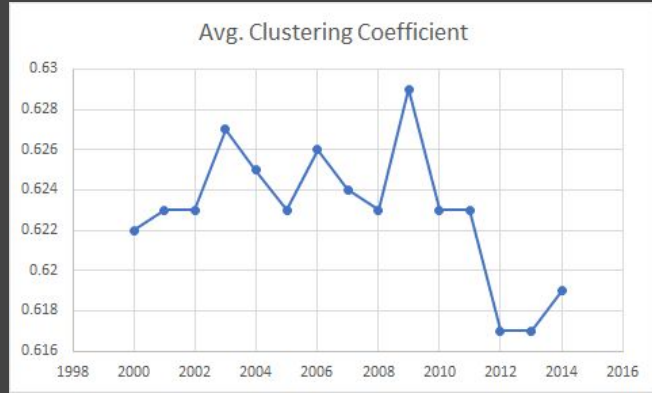
2014



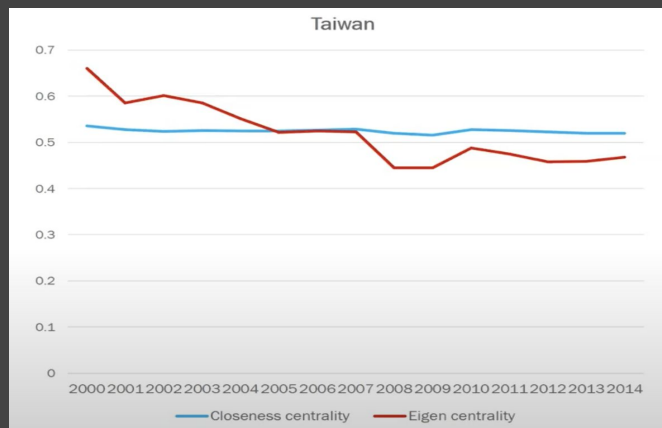
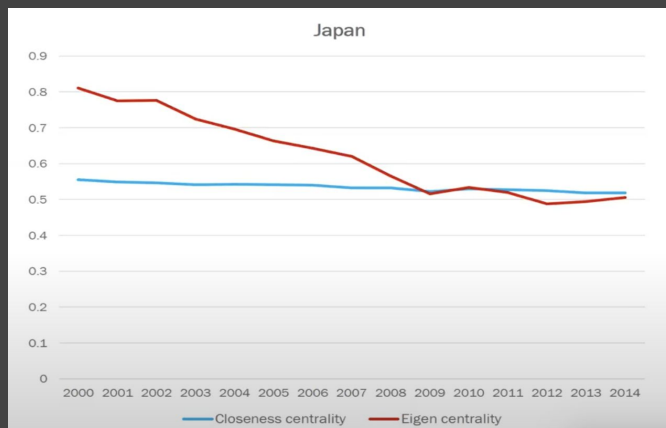
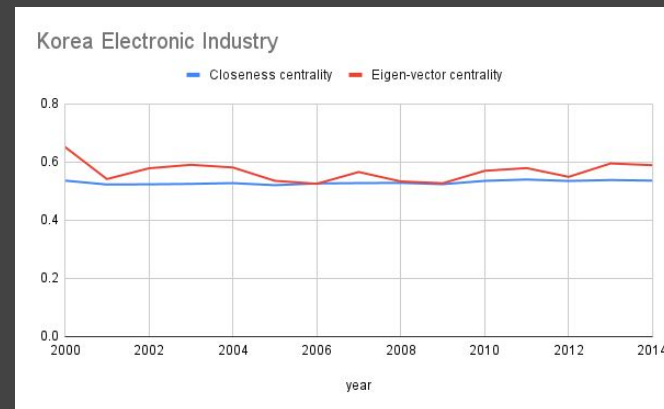
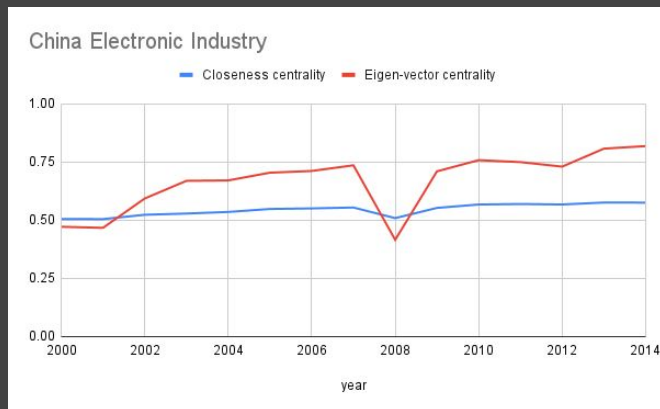
Comparison of Main Network Indicators



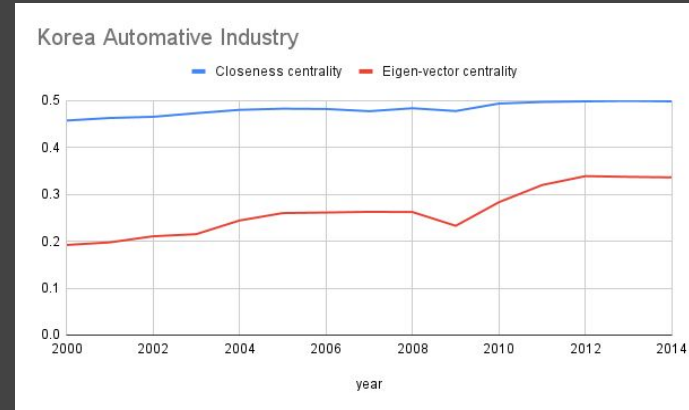
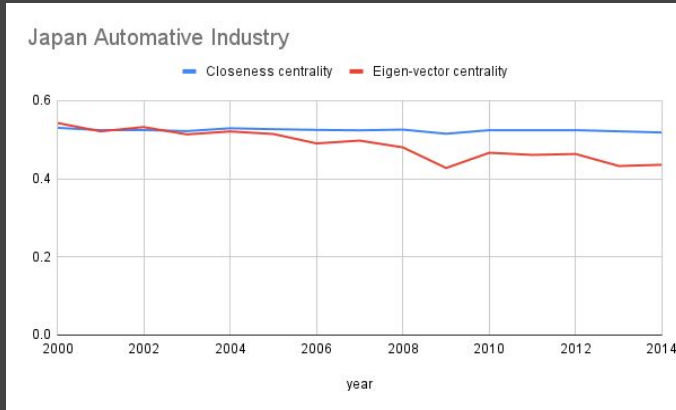
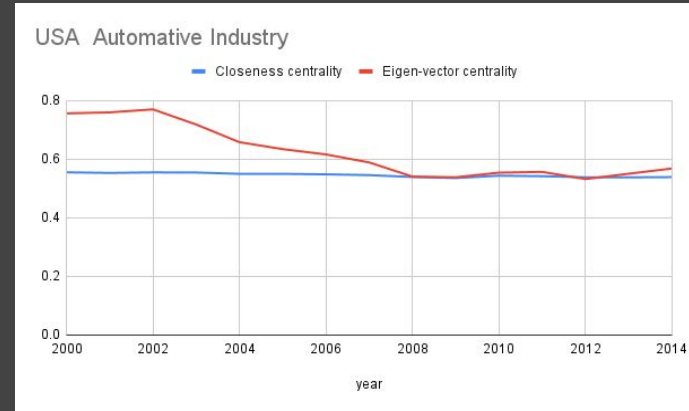
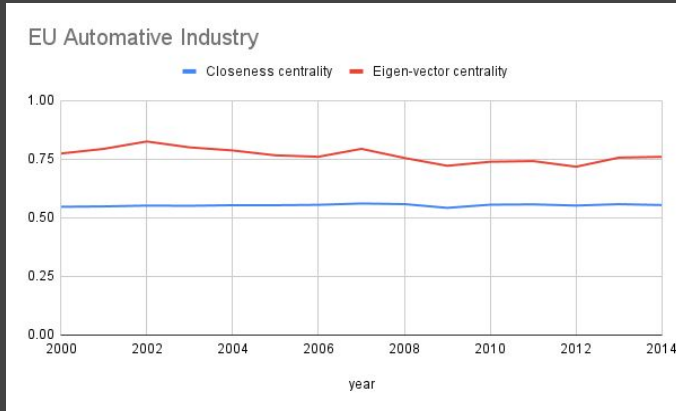
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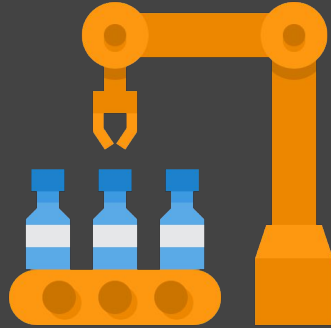
Comparison of Centrality Indices of Electronic Industry



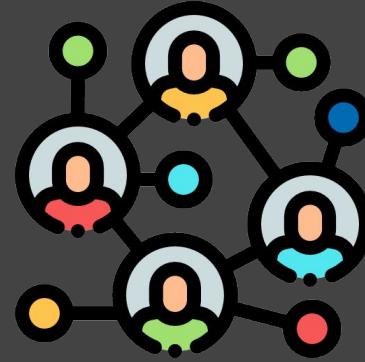
Comparison of Centrality Indices of Automotive Industry



Policy Recommendations



Manufacturing
Expansion



Using Network
Analysis



Thank You