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# Accounting for Openness Dynamics in China's Industrial Shifts

Kejian GU

# Accounting for Openness Dynamics in China's Industrial Shifts



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China's exposure to ROW: A Striking Episode from the globalization

The Demand condition for industrial shifts: Evidence from Economy-LEVEL

Another side of Shinohara Criteria: The Changes in Comparative Advantage

GVC perspectives

The tide is turning

# China's exposure to ROW: A Striking Episode from the globalization



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China's openness policy specific to export led growth in retrospect

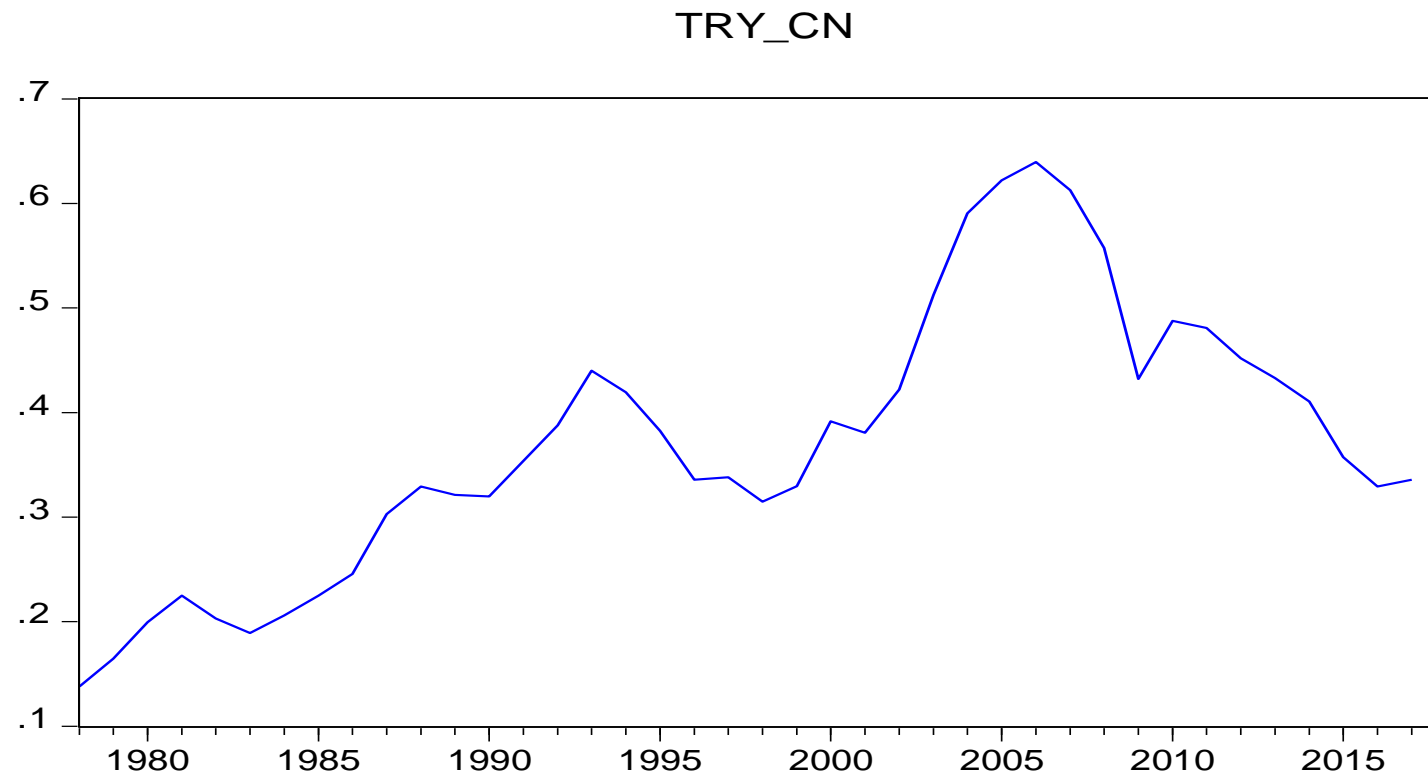
Policy implications of openness practice on China's industrial shifts

# The changes in China as trade powerhouses



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# Fundamentals learning from Alessandria-Choi Formula



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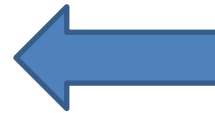
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## THE ongoing decomposition of Trade Balance.

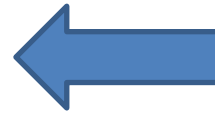
See, Alessandria, G., *et al*, The dynamics of  
the U.S. Trade Balance and Real Exchange  
Rate: the J Curve and Trade Cost? NBER  
WORKING PAPER 25563

## The my decomposition specific to TRY due to mathematic wisdom

Elasticity of TRY (TBTR, ALSO) to  
TBY=UNITARY



$$TBY = \frac{X + M}{Y} \frac{X - M}{X + M} = TRY \cdot TBTR$$



$$\ln TBY = \ln TRY + \ln TBTR$$

$$\frac{\partial \ln TBY}{\partial TBY} = \frac{\partial \ln TRY}{\partial TRY} + \frac{\partial \ln TBTR}{\partial TBTR}$$

# Decomposition specific to TRY due to mathematic wisdom: a Test from US data



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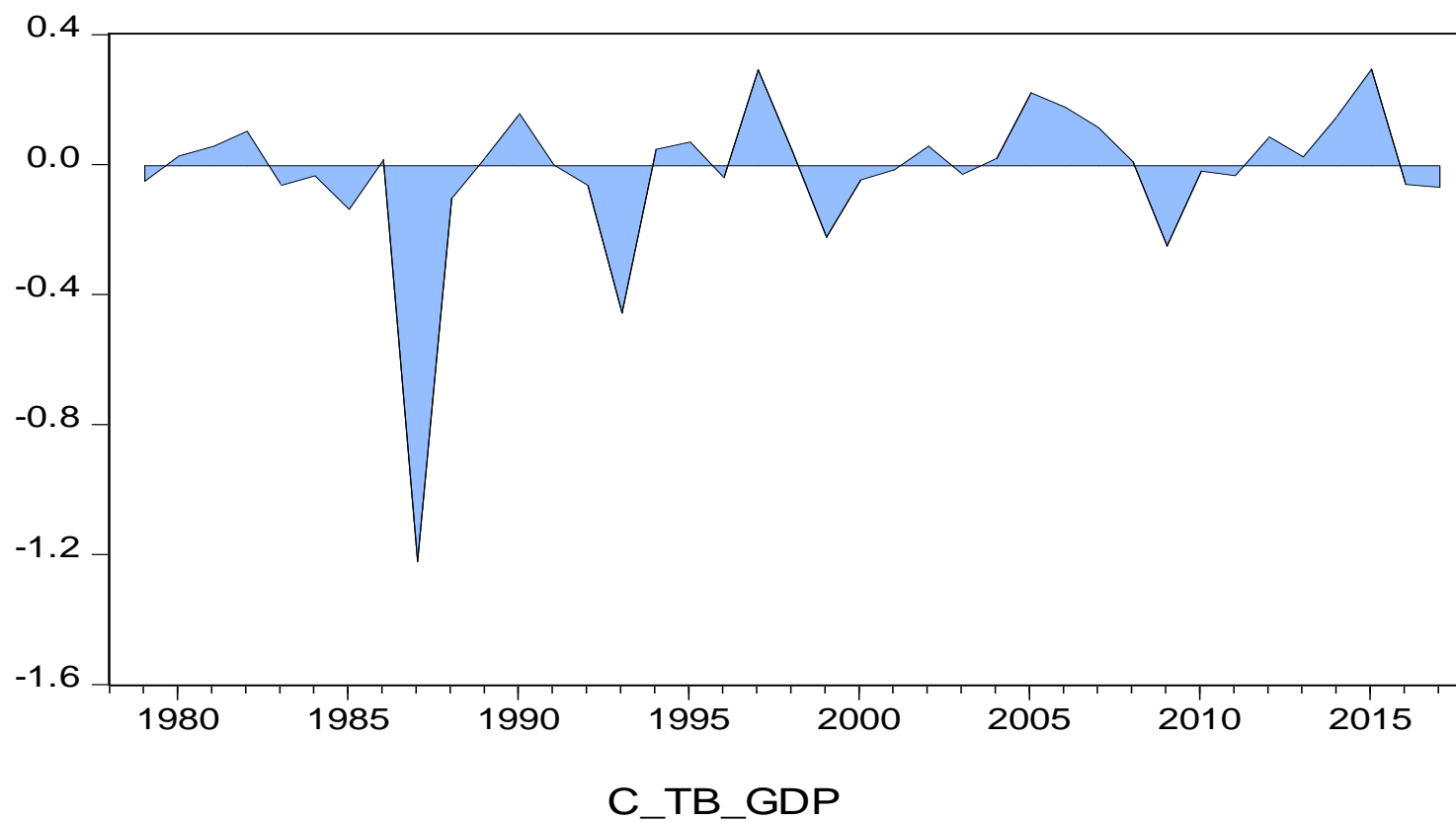
Dependent Variable: LOG(TBY\_US\_M)  
Method: Least Squares  
Date: 03/24/19 Time: 16:32  
Sample (adjusted): 1978 2017  
Included observations: 40 after adjustments

| Variable           | Coefficient | Std. Error         | t-Statistic | Prob.  |
|--------------------|-------------|--------------------|-------------|--------|
| C                  | 7.53E-14    | 1.22E-14           | 6.180226    | 0.0000 |
| LOG(TRY_US)        | 1.000000    | 8.59E-15           | 1.16E+14    | 0.0000 |
| LOG(TBTR_US_M)     | 1.000000    | 2.52E-15           | 3.96E+14    | 0.0000 |
| R-squared          | 1.000000    | Mean dependent var | -3.904040   |        |
| Adjusted R-squared | 1.000000    | S.D. dependent var | 0.748420    |        |
| S.E. of regression | 9.68E-15    | Sum squared resid  | 3.47E-27    |        |
| F-statistic        | 1.17E+29    | Durbin-Watson stat | 0.095971    |        |
| Prob(F-statistic)  | 0.000000    |                    |             |        |





The China's Contribution Share of Trade Balance to Growth



# Another side of Shinohara Criteria: The Changes in Comparative Advantage



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Productivity driving

Cost driving

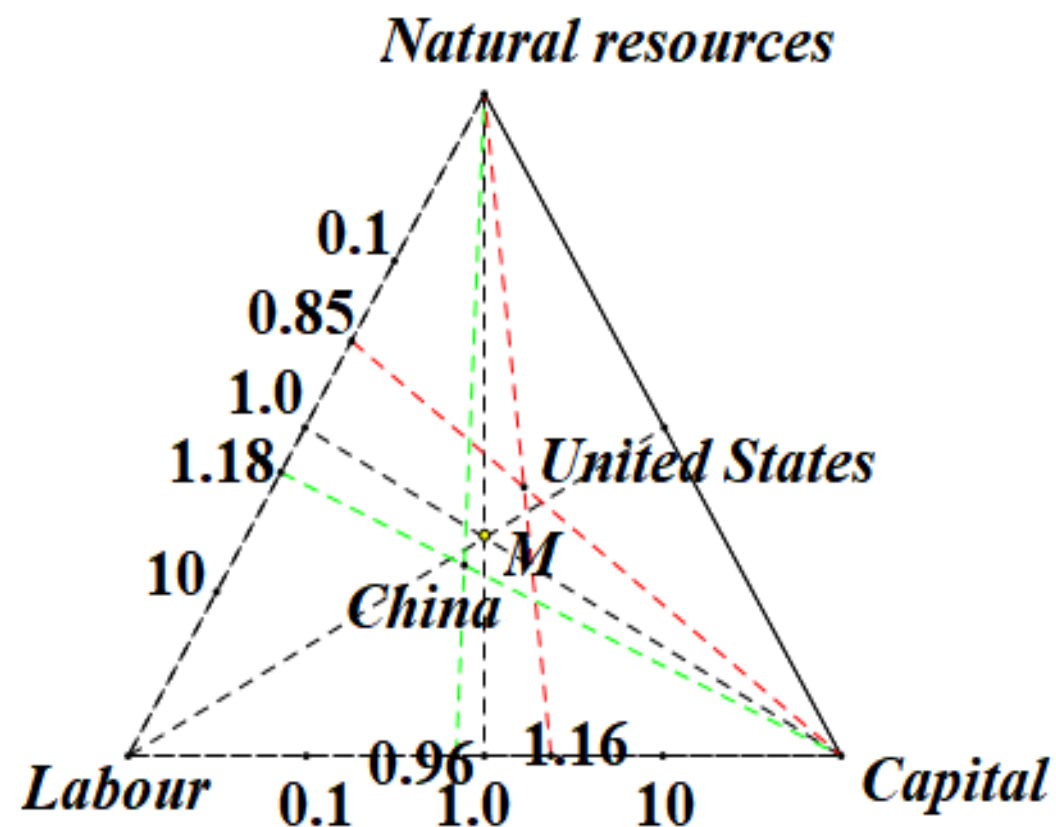
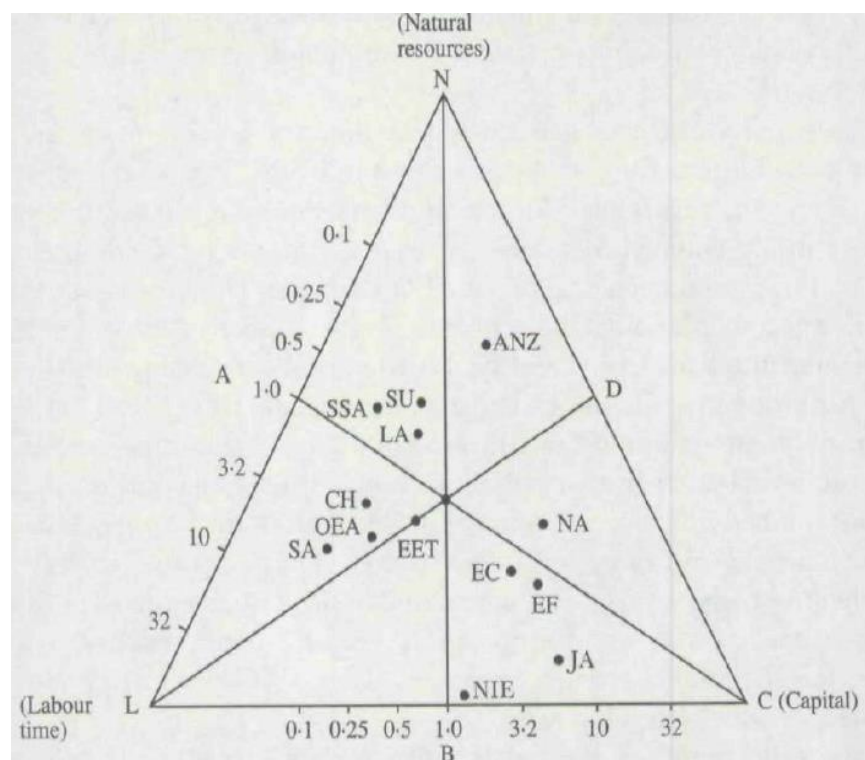


# Leamer's Triangle : Anderson's Perspective in 1989 vs. Gu's in 2017



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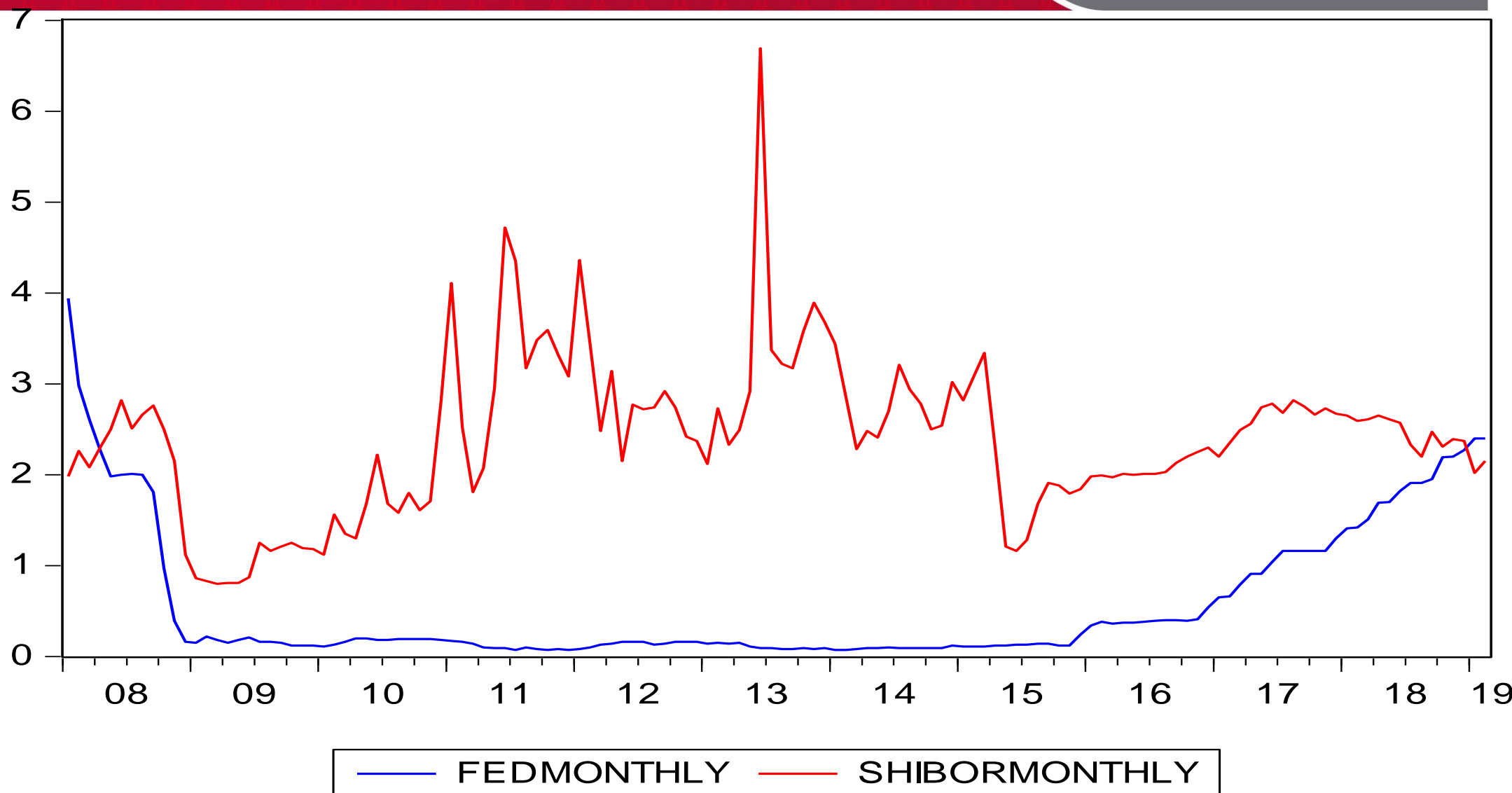


# Intuitively, Fed Fund Rate versus Shibor



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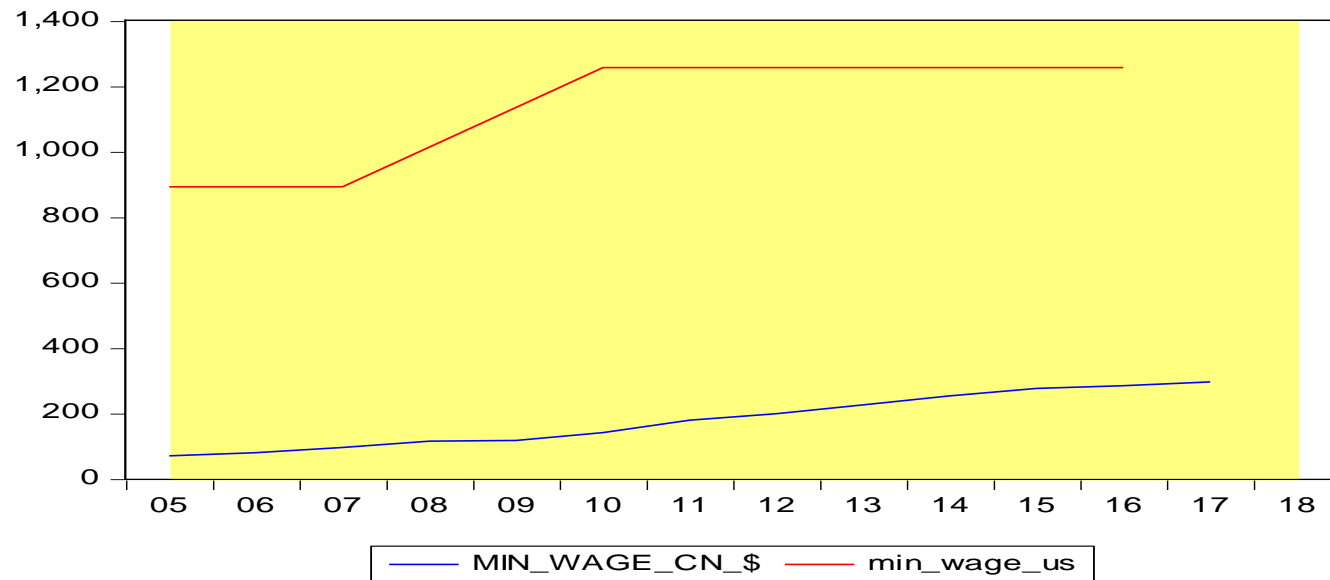


# Difference in minimum wage



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Popularity of GVC as surging in inbound FDI around China

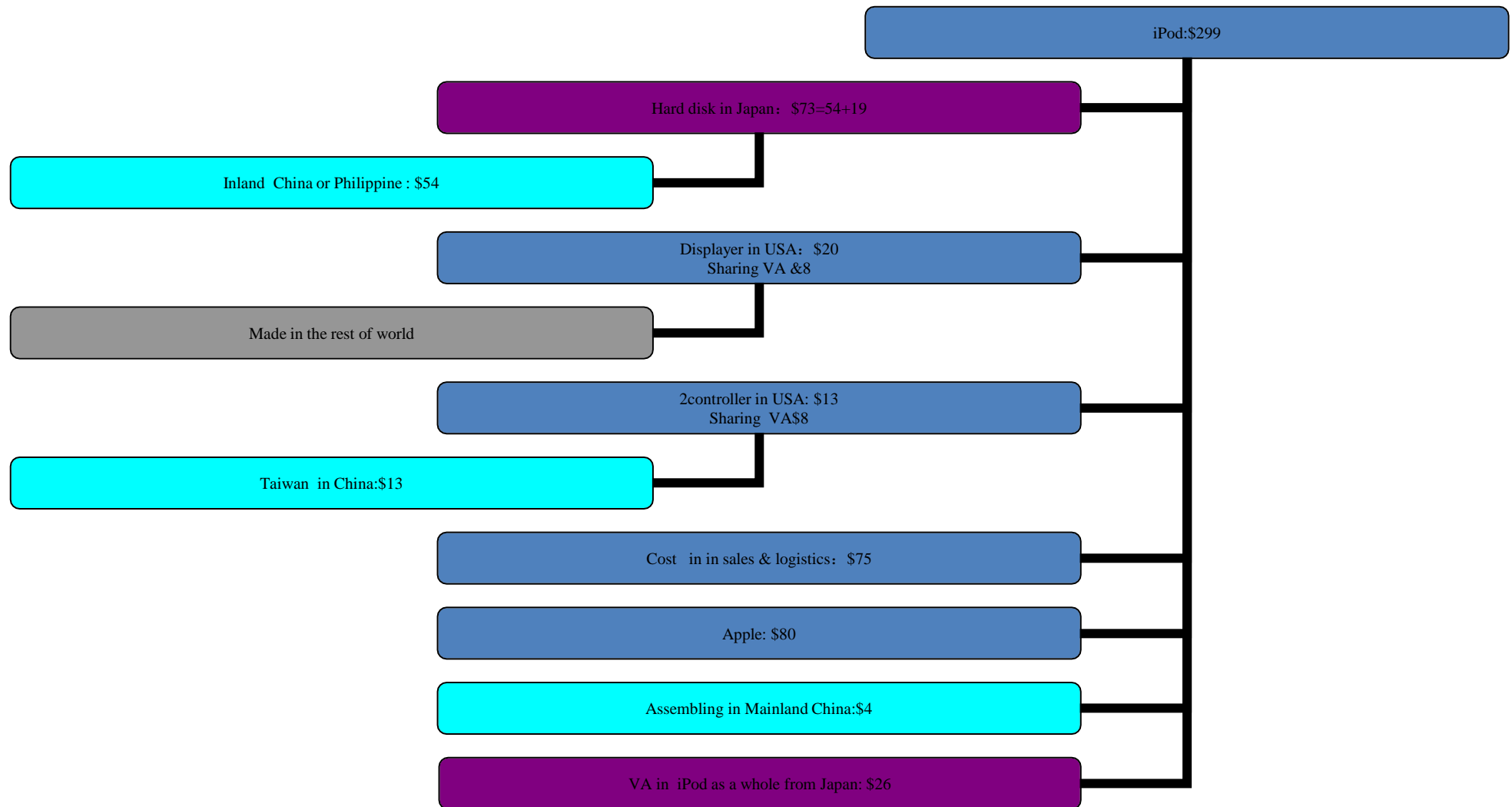
Impact on China's shifts in Industries

# What is reality in the process of iPod



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# The iPhone example (Xing and Detert, 2010)

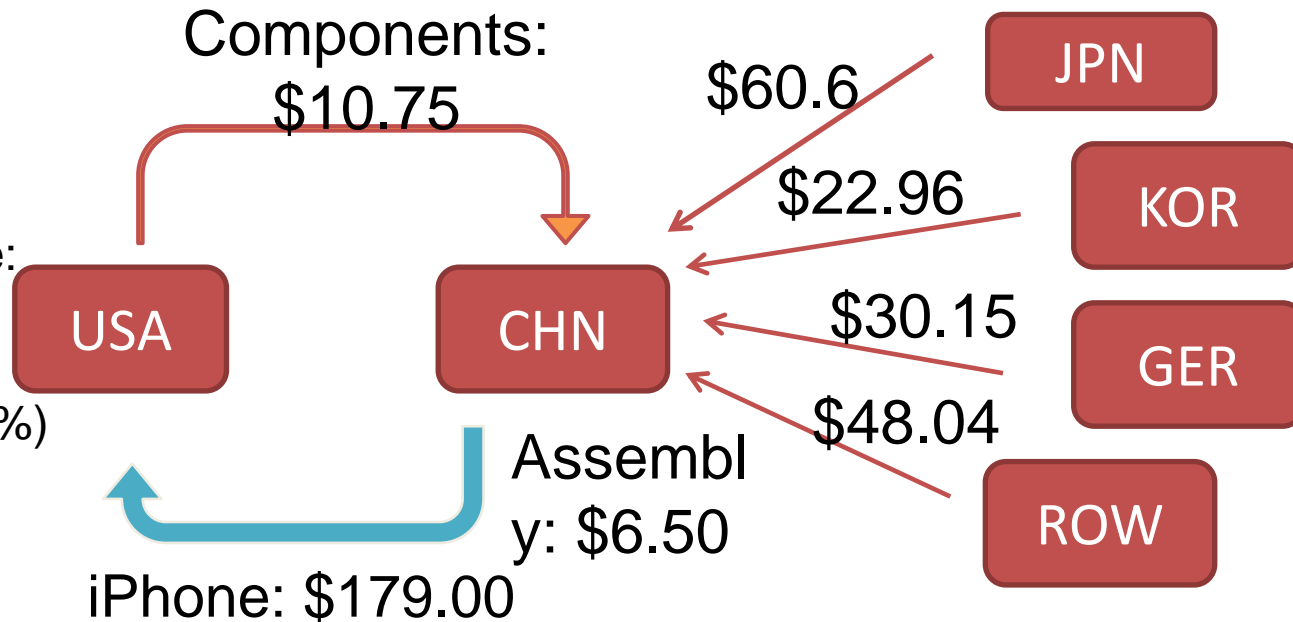


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Retail price:  
\$500.00  
(Profit  
margin: 64%)



Apple sold  
11.3 million  
iPhones in  
the US  
in 2009

| 2009 US trade<br>balance in iPhones<br>(mio USD) | CHN      | JPN    | KOR    | GER    | ROW    | World    |
|--|----------|--------|--------|--------|--------|----------|
| Gross  | -1,901.2 | 0      | 0      | 0      | 0      | -1,901.2 |
| Value added                                      | 48.1     | -684.8 | -259.4 | -340.7 | -542.9 | -1,901.2 |



# Heterogeneity of impact of net export on economic growth: regional evidence



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# Aggregate Impact of Net Export on China's Growth



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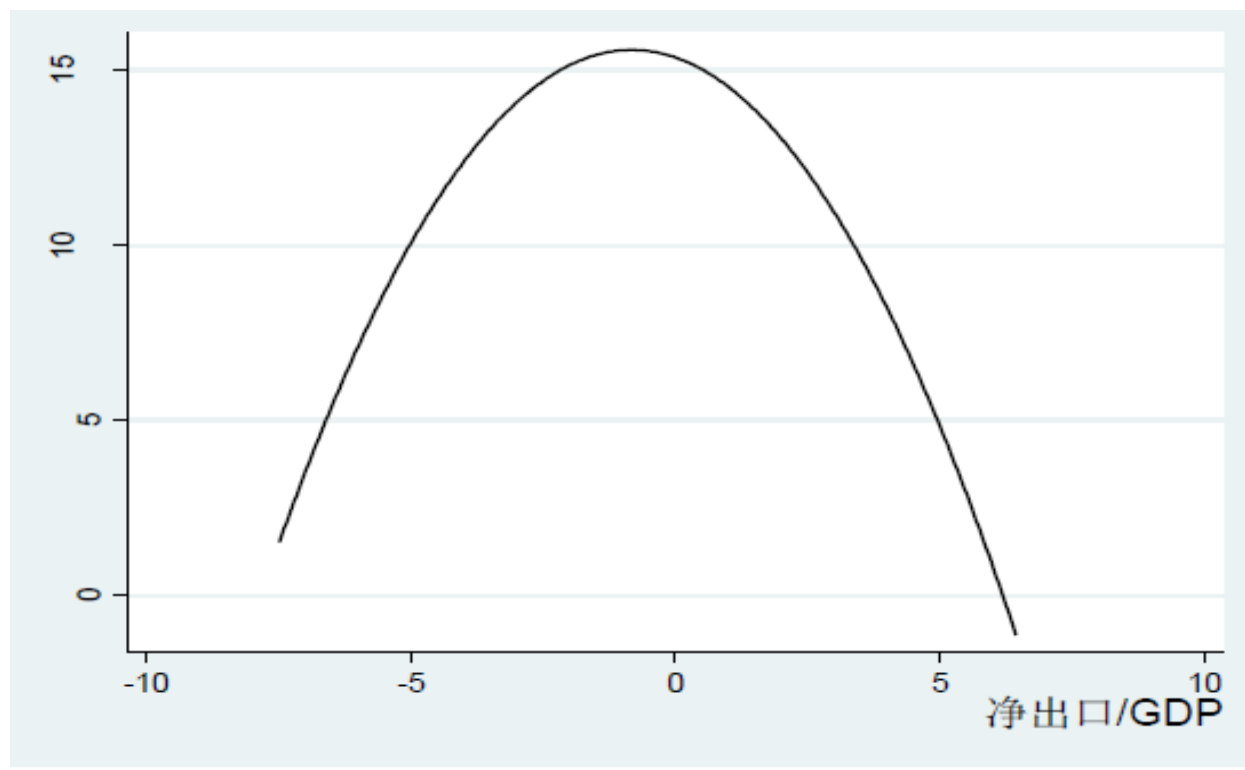


图 1 总体净出口对经济增长的影响（模型 3）

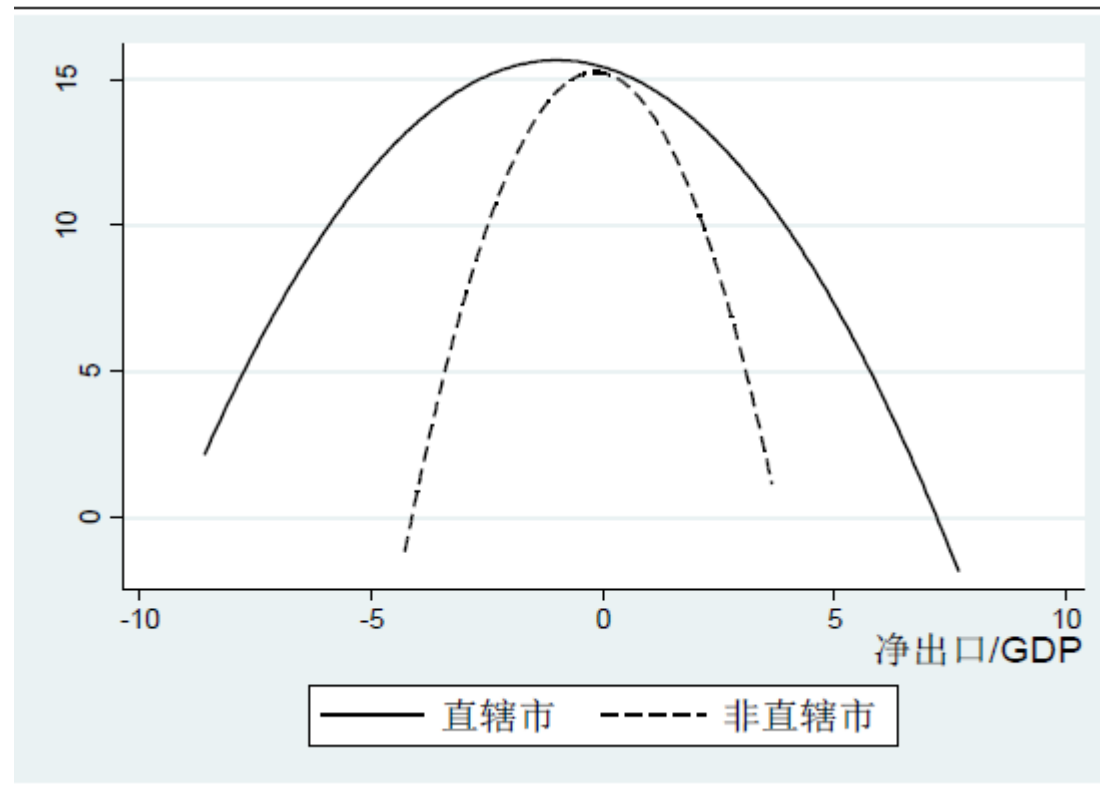
Aggregate Impact of Net Export on China's Growth

# Analysis of Heterogeneity : Municipalities under the Central Government vs The Rest of China



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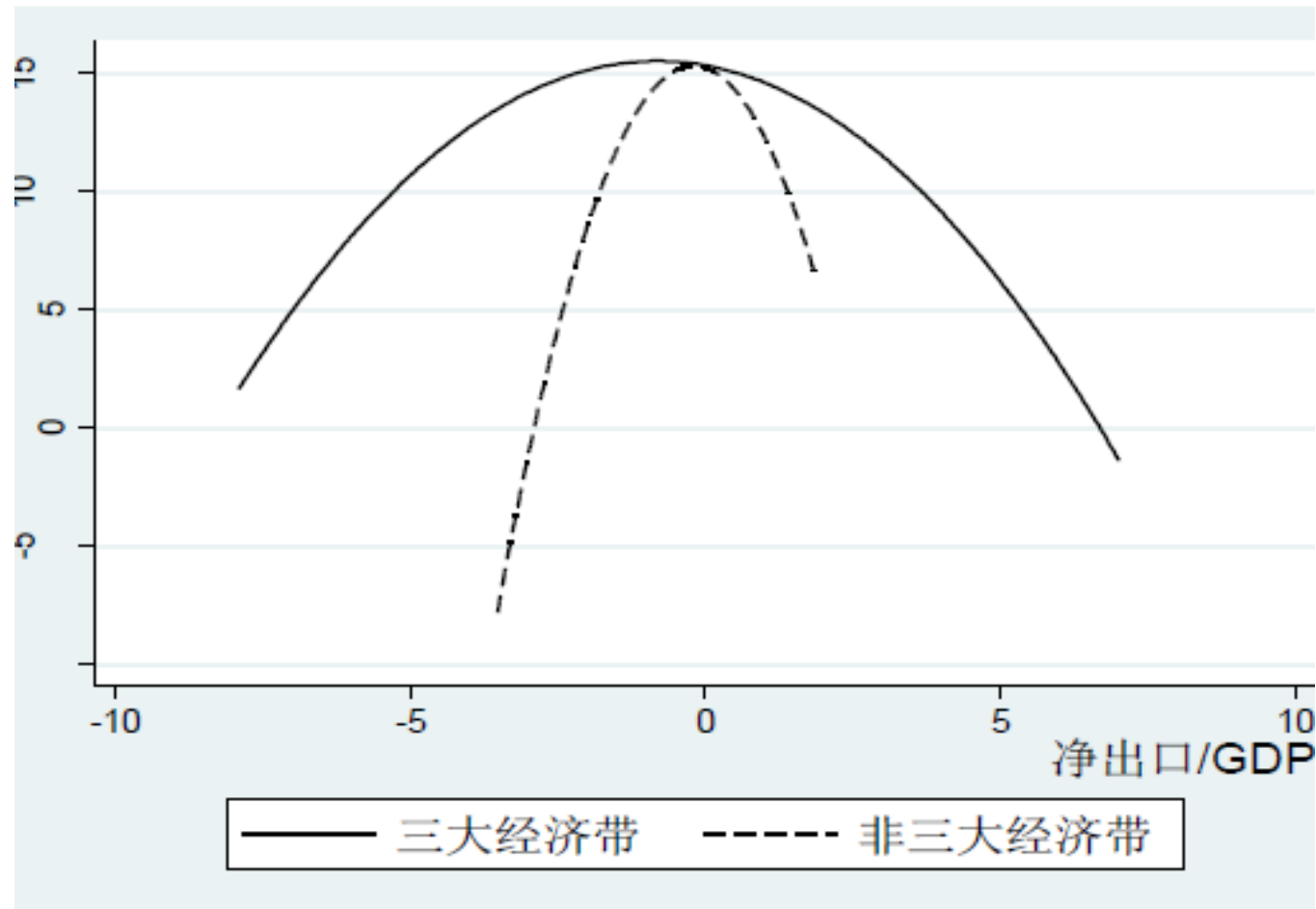
# Analysis of Heterogeneity :

## 3 Economic Belts vs The Rest of China



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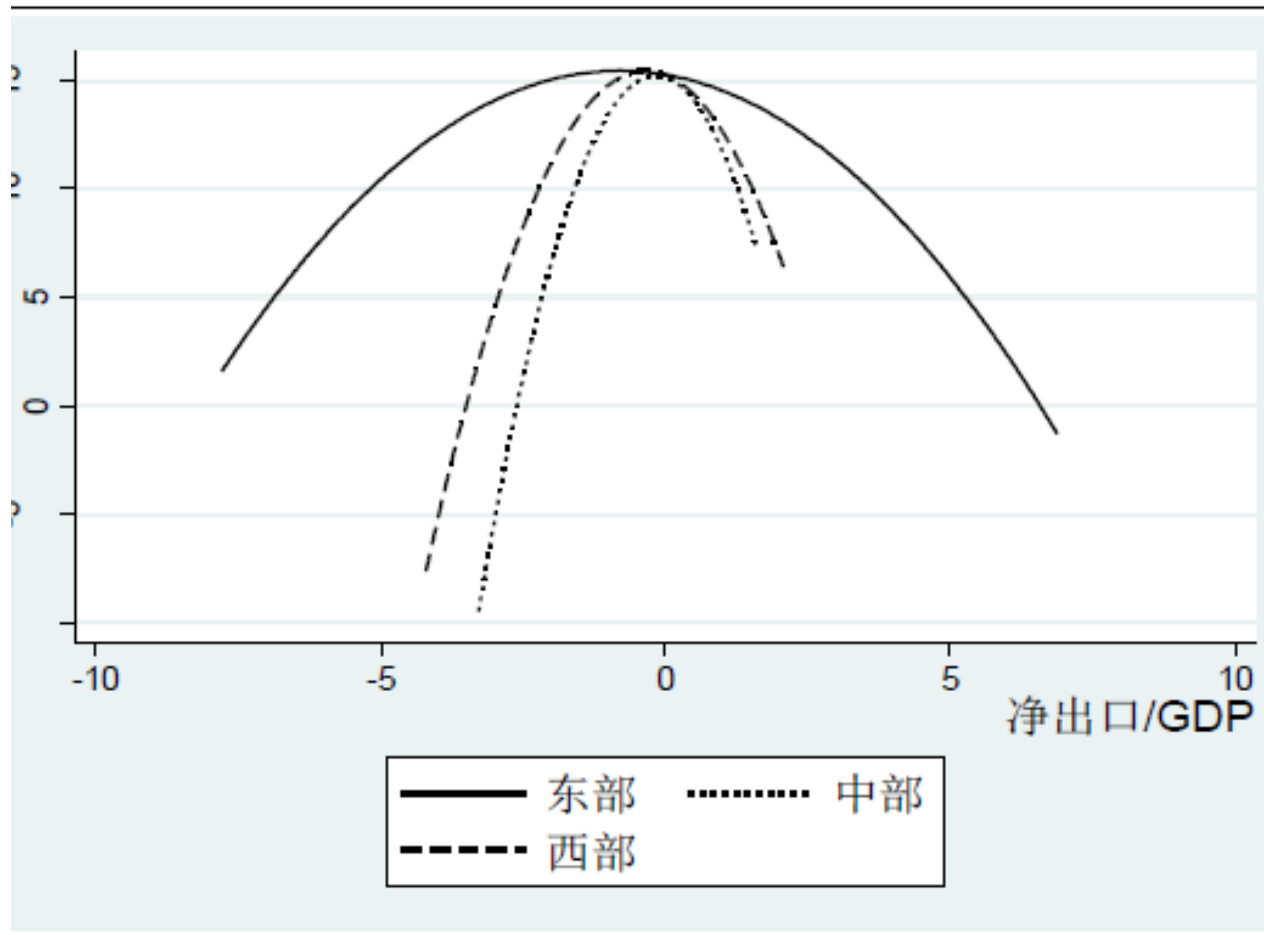
三大经济带vs非三大经济带

## Analysis of Heterogeneity : Cross Eastern, Central and Western Area



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区域异质性分析：东、中、西部

# The Tide is Turning



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The turning factor intensity

The Decreased role of China as an trade powerhouse

The changes in circumstance





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Address: Room\*\*\*, Mingde Business Building, No.59 Zhongguancun St.,

HaidianDist., Beijing 100872

Tel:

Email:

<http://www.rmbs.ruc.edu.cn>