Long Run Analysis of Regional Economy: Shift Share Method

Course No.- PLAN-434
Course Title: Regional Planning Studio

Submitted by-

Group: 2

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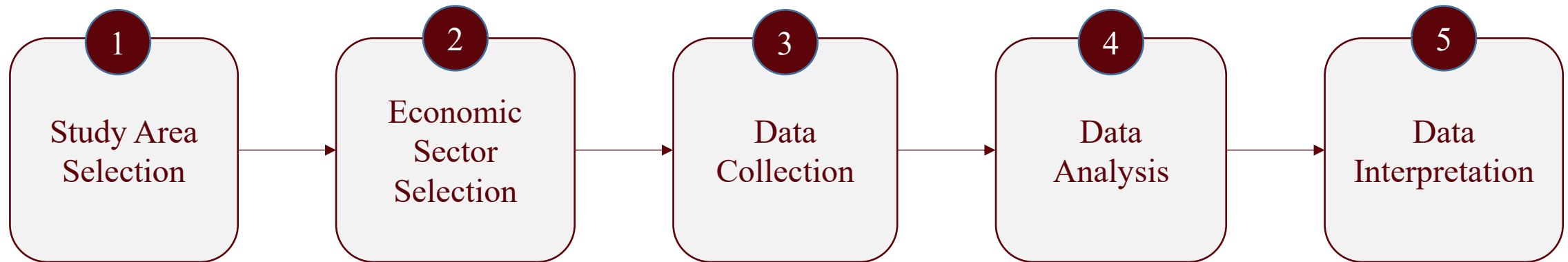
Level-4/Term-1

Submitted to

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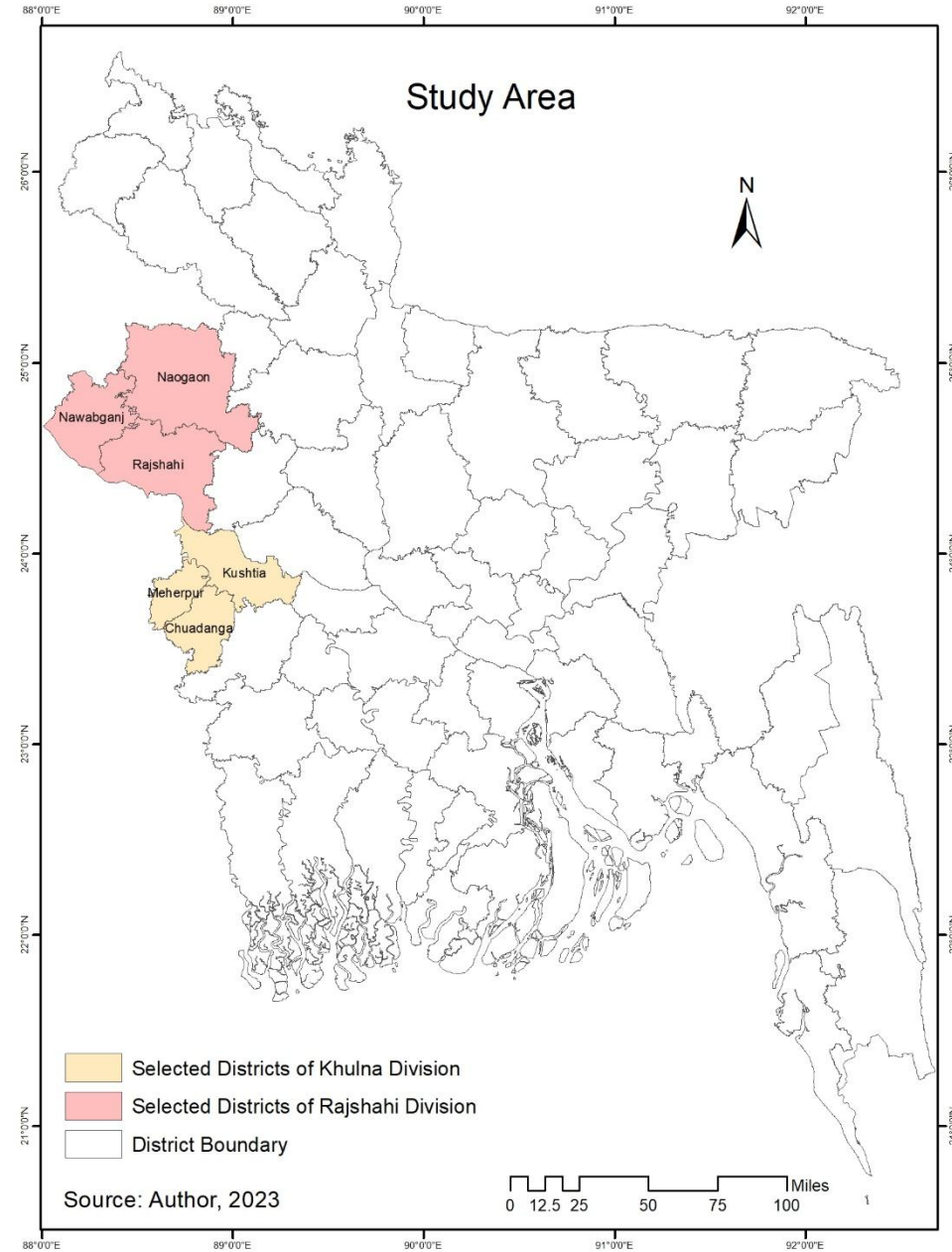Dr. Dipita Hossain, Assistant Professor

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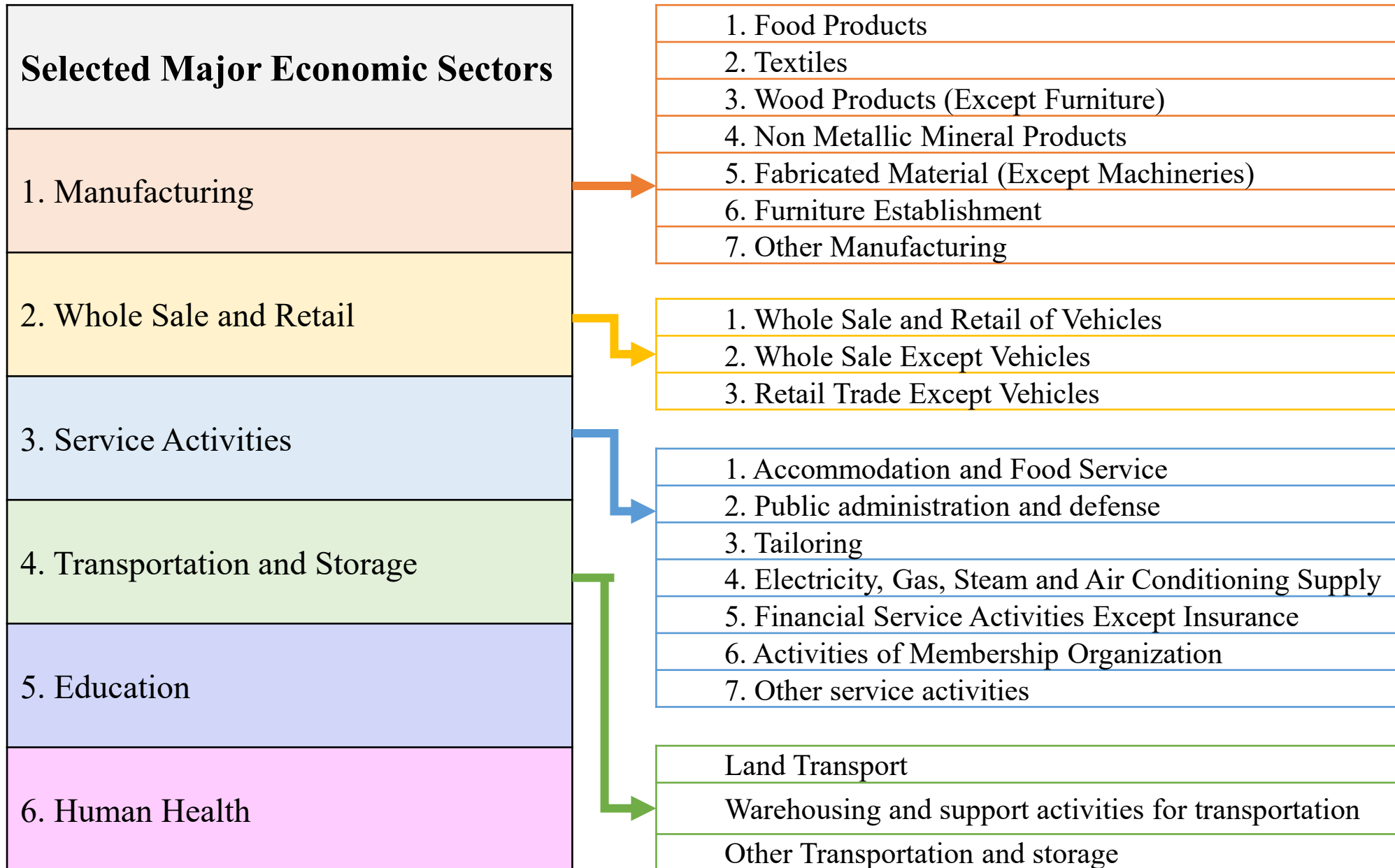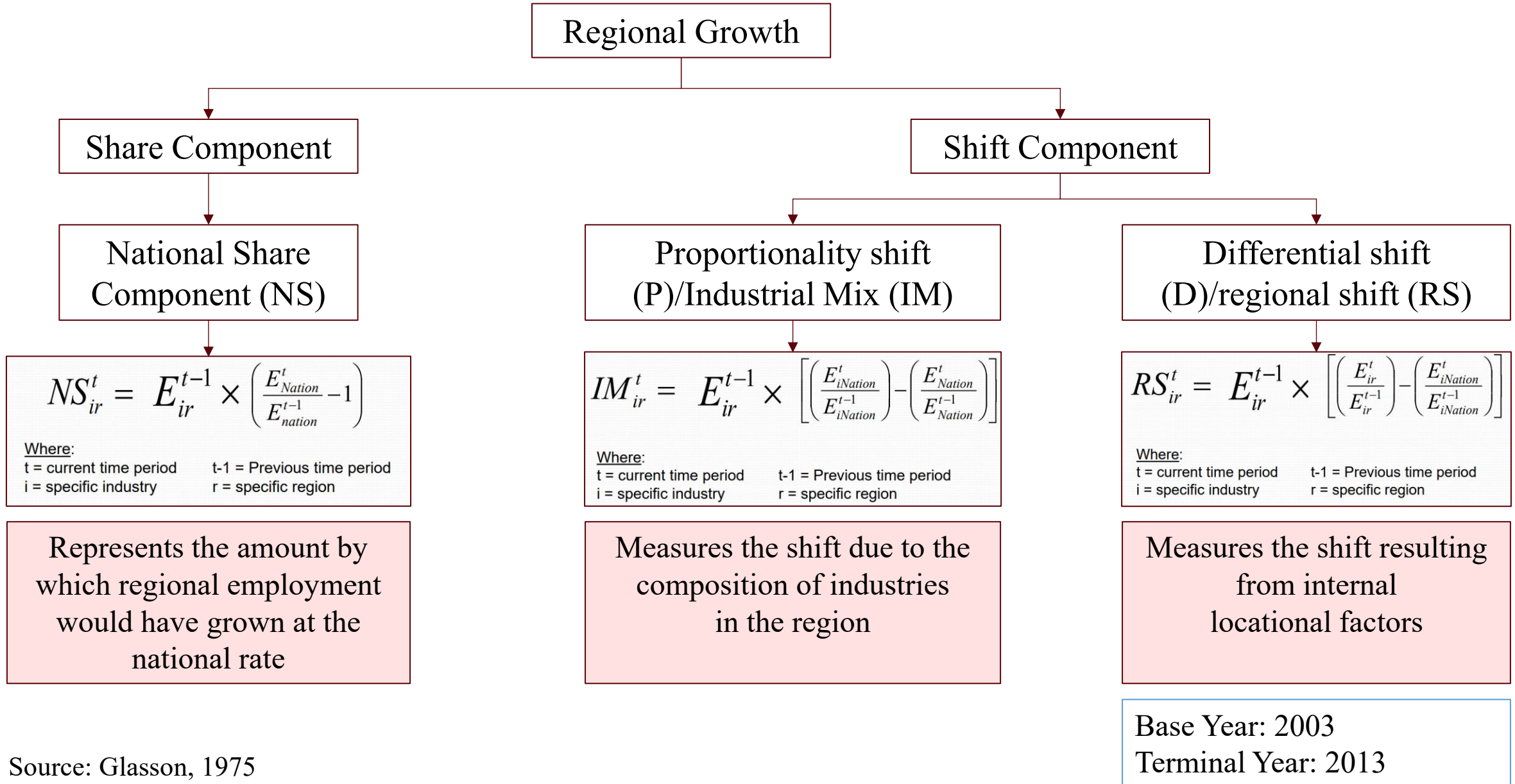
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Methodology

Major Economic Sectors

Selected Major Economic Sectors		1. Food Products
		2. Textiles
1. Manufacturing	→	3. Wood Products (Except Furniture)
		4. Non Metallic Mineral Products
		5. Fabricated Material (Except Machineries)
		6. Furniture Establishment
		7. Other Manufacturing

2. Whole Sale and Retail →

1. Whole Sale and Retail of Vehicles
2. Whole Sale Except Vehicles
3. Retail Trade Except Vehicles

3. Service Activities →

1. Accommodation and Food Service
2. Public administration and defense
3. Tailoring
4. Electricity, Gas, Steam and Air Conditioning Supply
5. Financial Service Activities Except Insurance
6. Activities of Membership Organization
7. Other service activities

4. Transportation and Storage →

Land Transport
Warehousing and support activities for transportation
Other Transportation and storage

5. Education

6. Human Health

Shift Share Analysis

Regional Growth

Share Component

Shift Component

National Share Component (NS)

Proportionality shift (P)/Industrial Mix (IM)

Differential shift (D)/regional shift (RS)

$$NS_{ir}^t = E_{ir}^{t-1} \times \left(\frac{E_{Nation}^t}{E_{nation}^{t-1}} - 1 \right)$$

Where:
t = current time period   t-1 = Previous time period
i = specific industry   r = specific region

$$IM_{ir}^t = E_{ir}^{t-1} \times \left[\left(\frac{E_{iNation}^t}{E_{iNation}^{t-1}} \right) - \left(\frac{E_{Nation}^t}{E_{Nation}^{t-1}} \right) \right]$$

Where:
t = current time period   t-1 = Previous time period
i = specific industry   r = specific region

$$RS_{ir}^t = E_{ir}^{t-1} \times \left[\left(\frac{E_{ir}^t}{E_{ir}^{t-1}} \right) - \left(\frac{E_{iNation}^t}{E_{iNation}^{t-1}} \right) \right]$$

Where:
t = current time period   t-1 = Previous time period
i = specific industry   r = specific region

Represents the amount by which regional employment would have grown at the national rate

Measures the shift due to the composition of industries in the region

Measures the shift resulting from internal locational factors

Base Year: 2003
Terminal Year: 2013
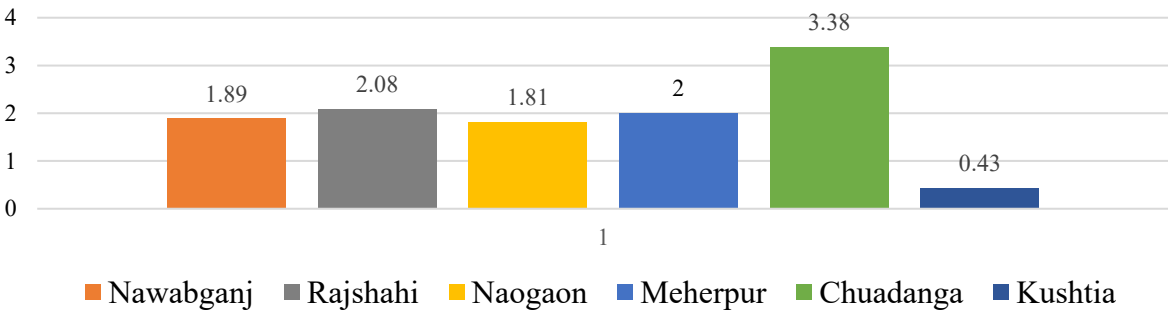
Source: Glasson, 1975

Comparison between National Growth and Regional Growth Rate

Regional Growth vs National Growth


National Growth Rate

- 69.14165237
- 162.9566503
- 179.0912536
- 155.7012671
- 172.3492554
- 290.9263149
- 36.90200763

Growth rate
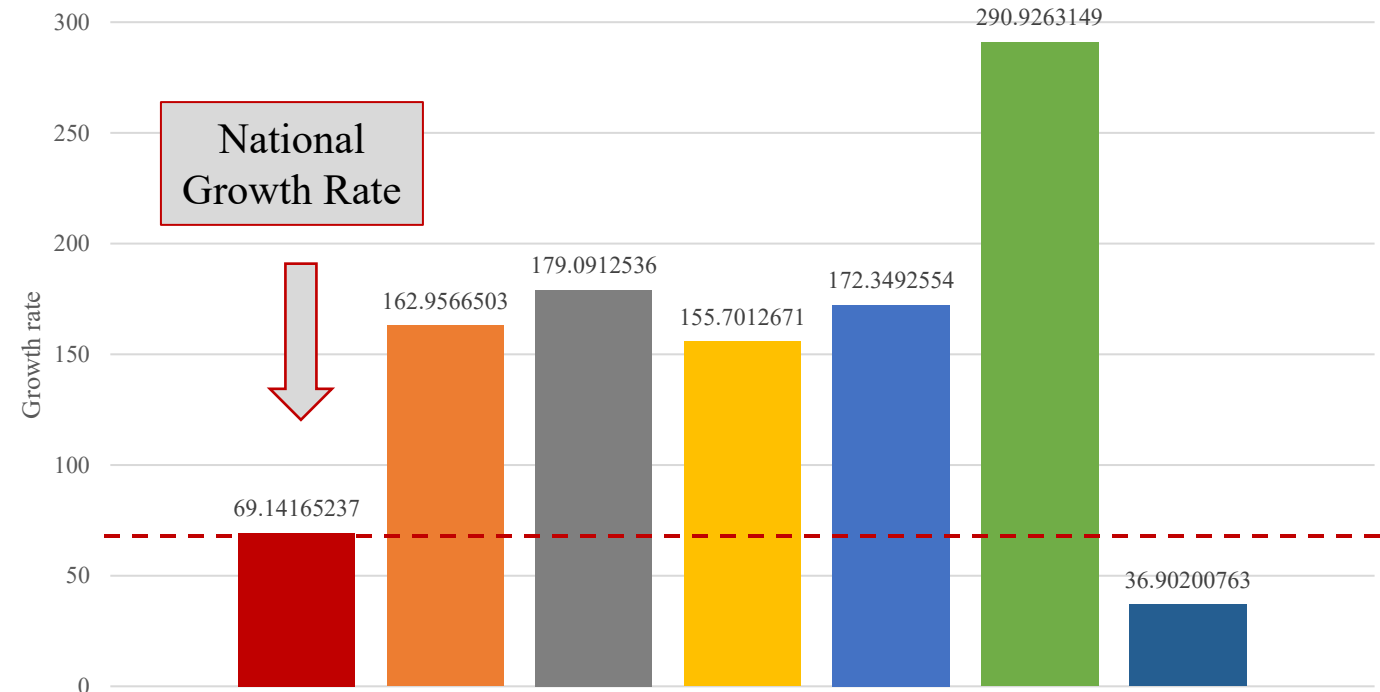
Contribution of Districts in National Growth

- 1.89
- 2.08
- 1.81
- 2
- 3.38
- 0.43

■ Nawabganj ■ Rajshahi ■ Naogaon ■ Meherpur ■ Chuadanga ■ Kushtia

Pattern of Regional Growth with Camparsion to National Growth

Developed
Less Developed
Most Developed

Source: author, 2023
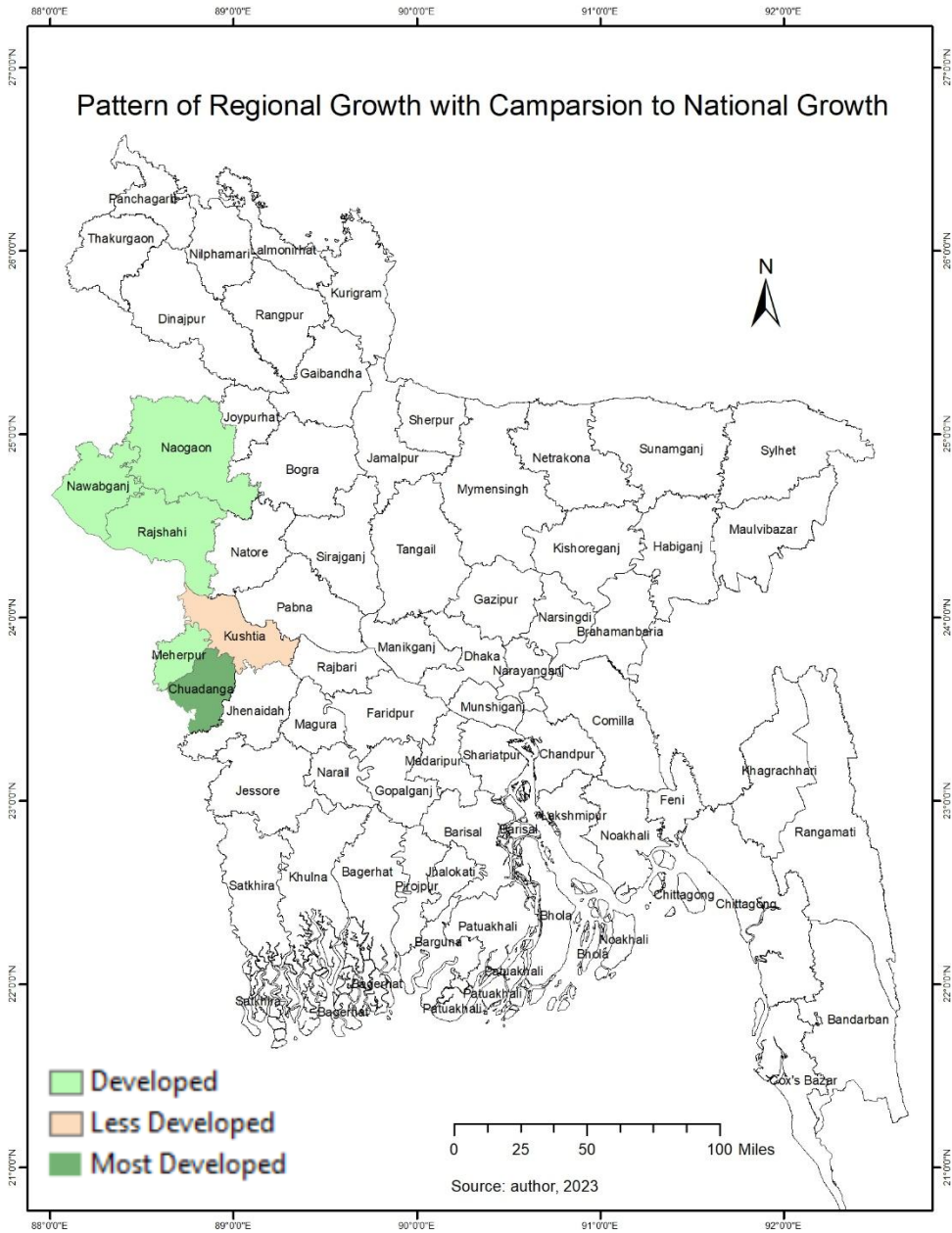
Contribution of Subsectors in Regional Growth of the Districts
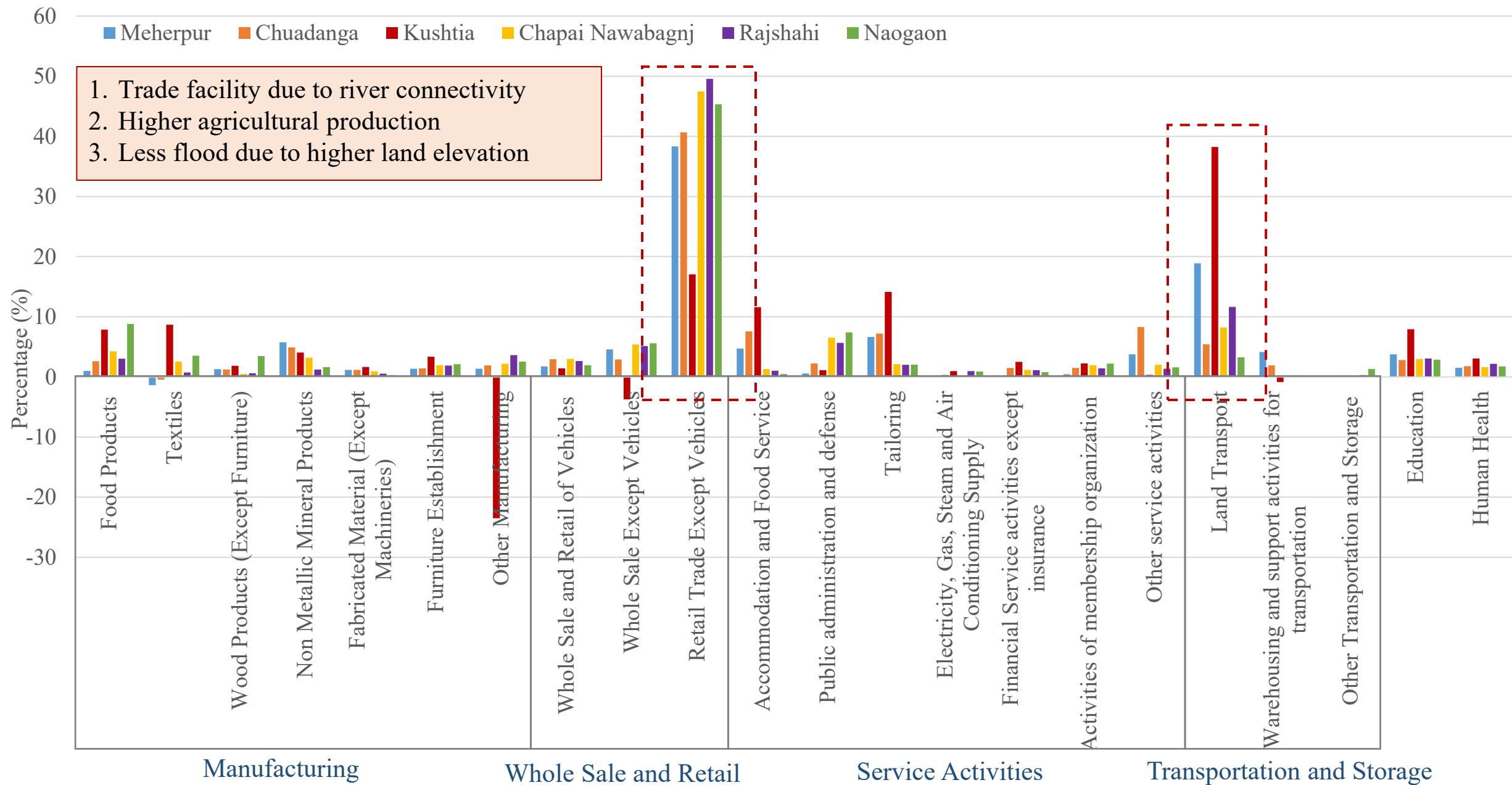
Comparison of NS, IM and RS of Meherpur District
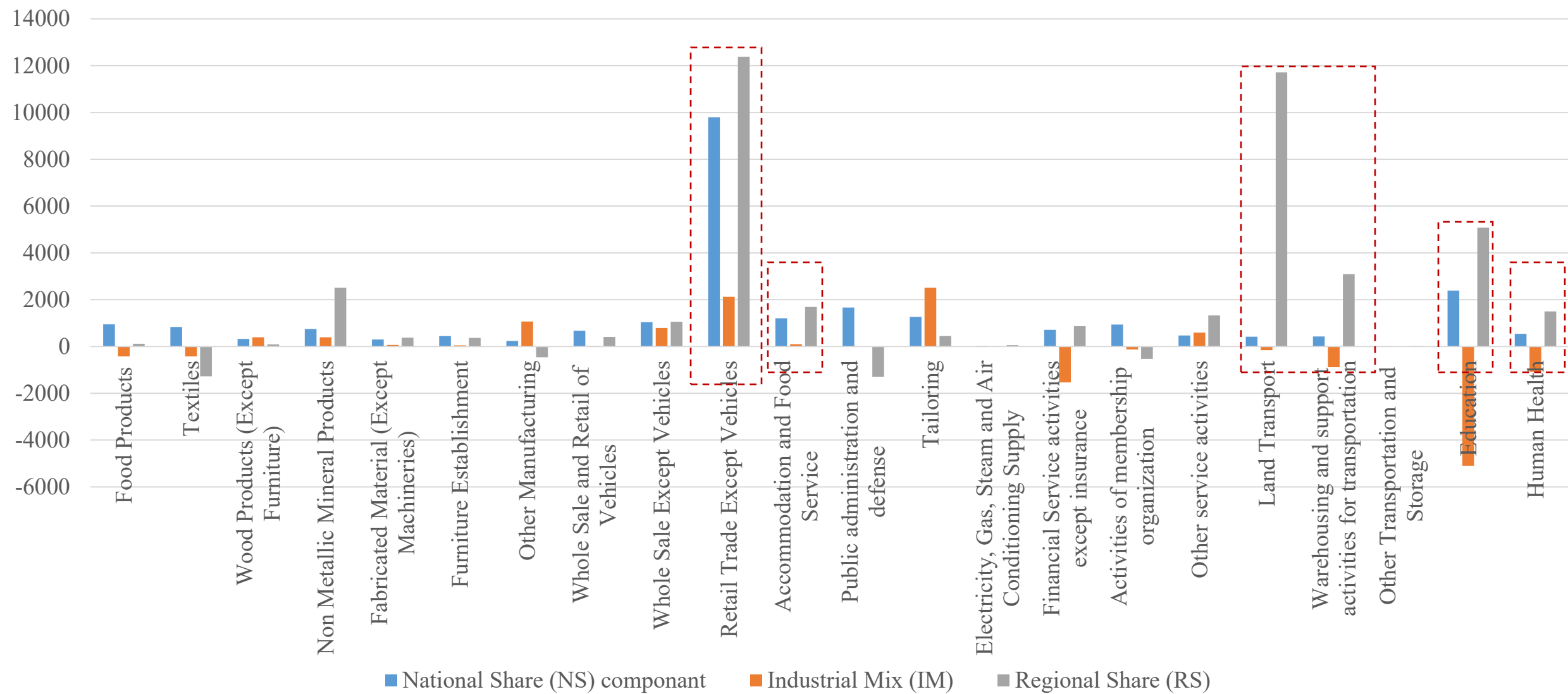
RS>IM Retail trade, Accommodation and food service, Transportation and storage, Education and Health

Legend: National Share (NS) componant, Industrial Mix (IM), Regional Share (RS)

Comparison of NS, IM and RS of Chuadanga District

Legend: ■ National Share (NS) componant ■ Industrial Mix(IM) ■ Regional Share (RS)
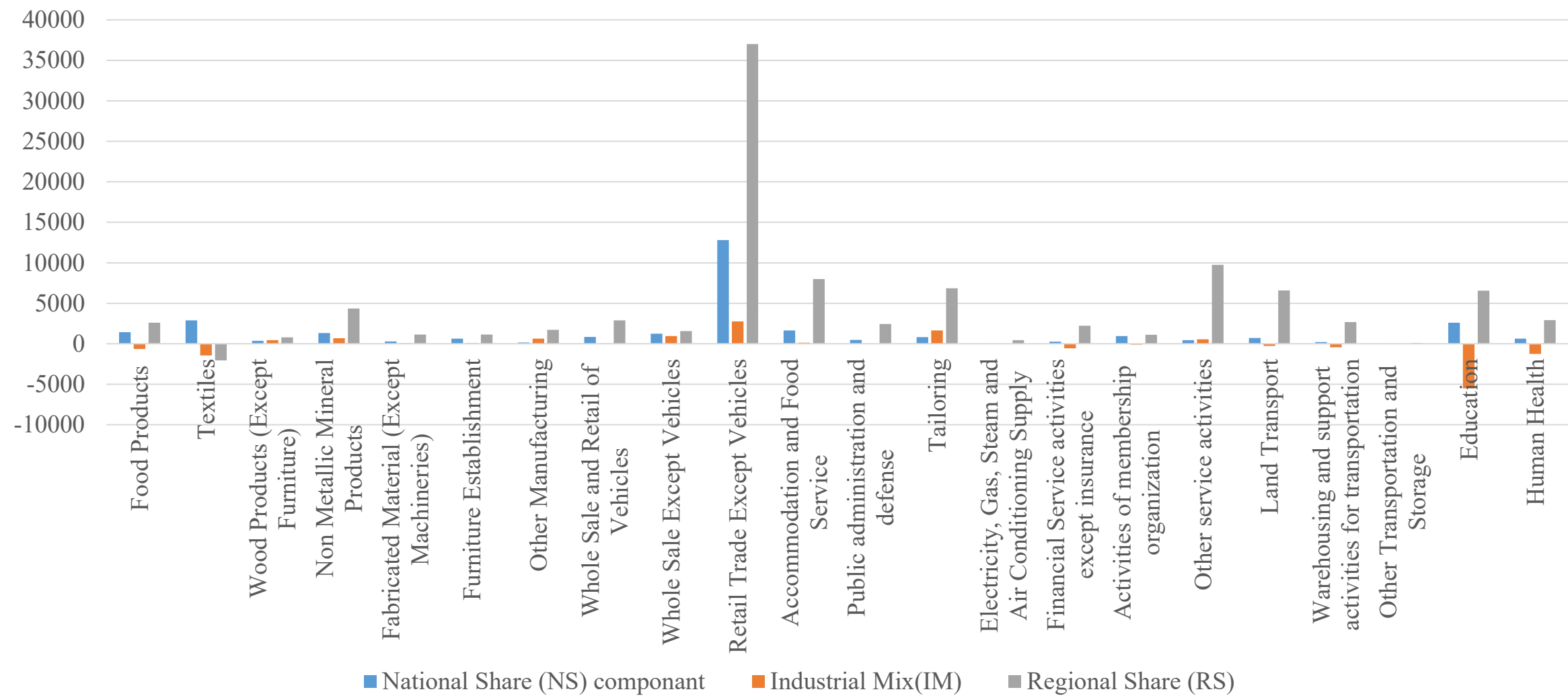
For Chuadanga district, majority of the sectors have higher RS value than IM, highlighting more locational advantage in this region.
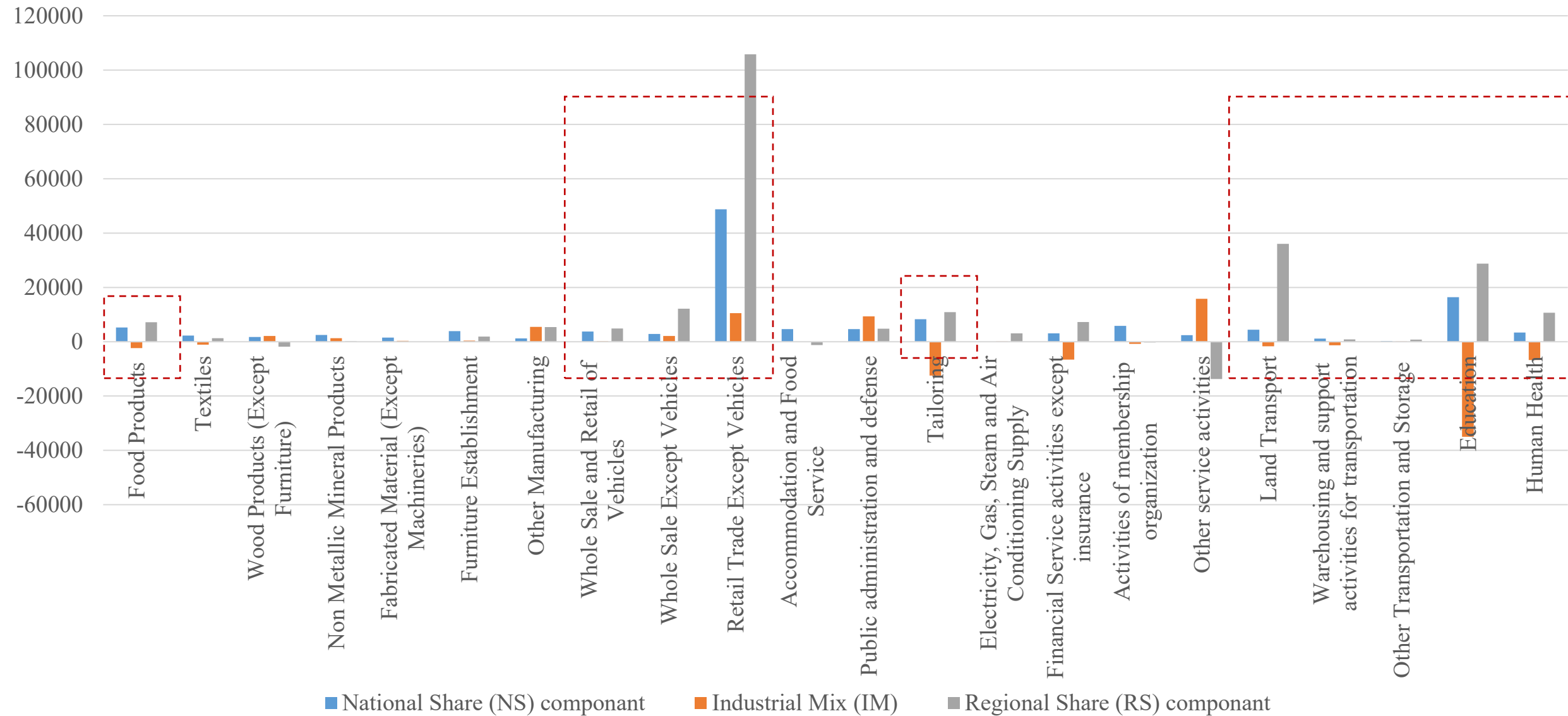
Comparison of NS, IM and RS of Kushtia District

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Comparison of NS, IM and RS of Chapai Nawabganj District
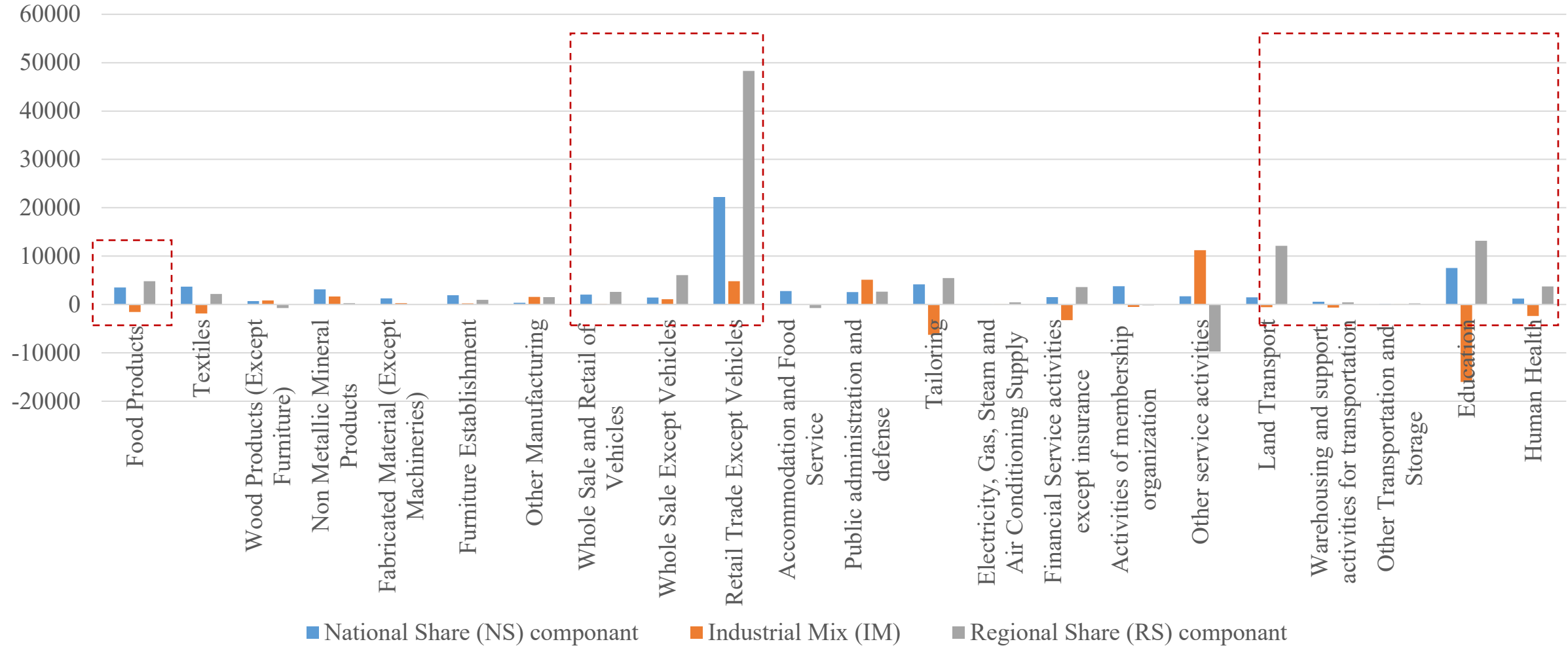
Legend: ■ National Share (NS) componant ■ Industrial Mix (IM) ■ Regional Share (RS) componant

RS>IM Manufacturing of food products, Whole sale and retail, Transport, Education and Health

Comparison of NS, IM and RS of Rajshahi District

■ National Share (NS) componant　　■ Industrial Mix (IM)　　■ Regional Share (RS) componant

RS>IM　Manufacturing of food products, Whole sale and retail, Tailoring Service, Transport, Education and Health

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Comparison of NS, IM and RS of Naogaon District
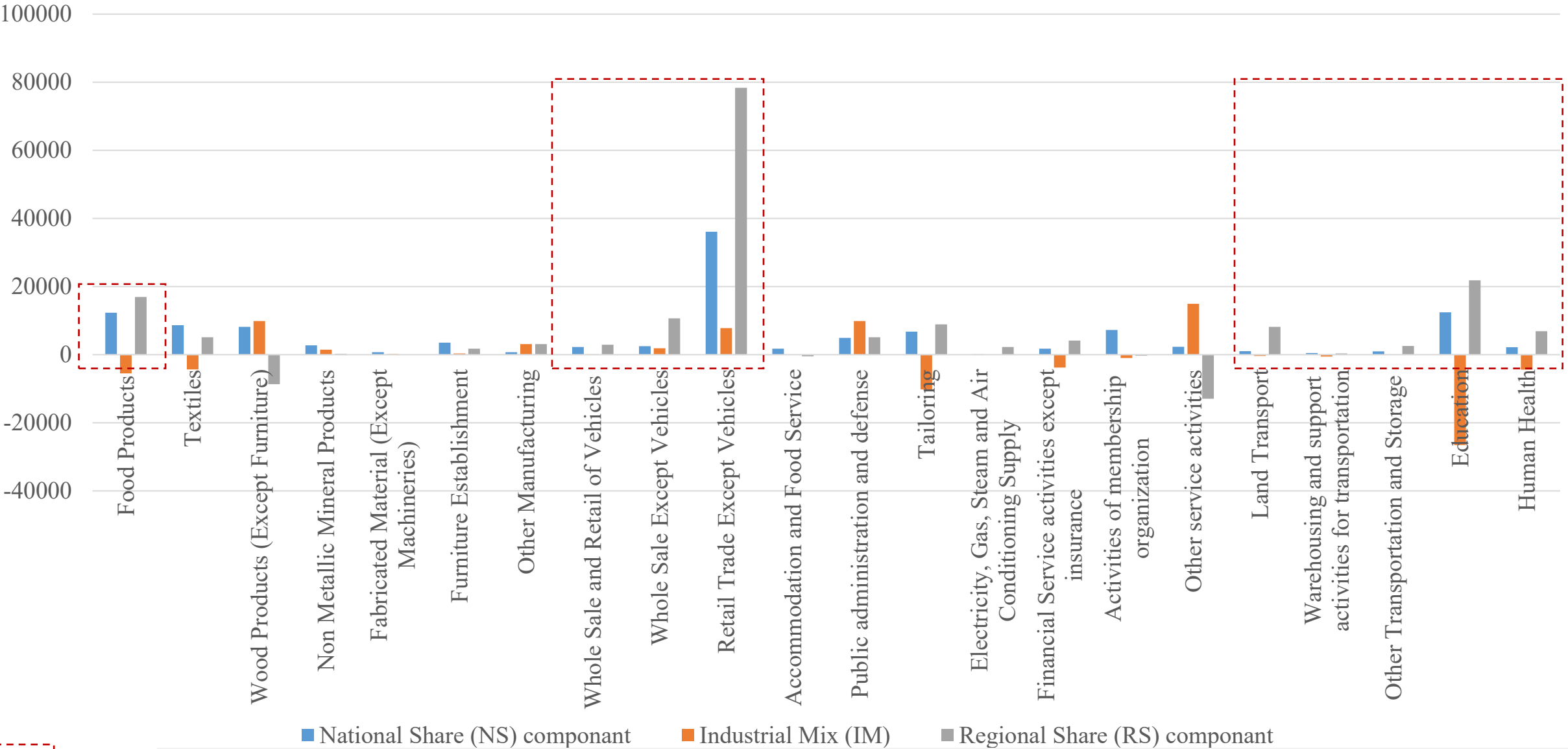
Legend: National Share (NS) componant, Industrial Mix (IM), Regional Share (RS) componant

RS>IM Manufacturing of food products, Whole sale and retail, Transport, Education and Health

Intra Regional Assessment Based on IM, RS, Net Shift Component: Meherpur

	IM(+)	IM(-)	Key findings
RS(+)	1. Manufacturing of wood Products (Except furniture) 2. Non metallic mineral products 3. Fabricated material (Except machineries) 4. Furniture, establishment 5. Wholesale of vehicles 6. Wholesale (Except vehicles) 7. Retail trade except vehicles 8. Accommodation and food service 9. Tailoring 10. Electricity, Gas, steam and air conditioning supply	1. Manufacturing of food products 2. Land transport 3. Warehousing and support activities for transportation 4. Education 5. Human Health 6. Financial service activities (except insurance)	Manufacturing of wood Products - The **homestead forests** are the most highly productive forest and meet most of the demand of timber and fuel wood in the country (Hossain et al., 2017)
RS(-)	1. Other manufacturing	1. Textiles 2. Public administration and defense 3. Activities of membership organization	Public administration and defense- **Left wing extremism** had been active for a long time in Meherpur (SATP, 2003)

■ Net Shift Negative   ■ Net Shift Positive

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Intra Regional Assessment Based on IM, RS, Net Shift Component: Chuadanga

	IM(+)	IM(-)	Key findings
RS(+)	1. Manufacturing of wood Products (Except furniture) 2. Other manufacturing 3. Non metallic mineral products 4. Fabricated material (Except machineries) 5. Furniture, establishment 6. Wholesale of vehicles 7. Wholesale (Except vehicles) 8. Retail trade except vehicles 9. Accommodation and food service 10. Tailoring 11. Electricity, Gas, steam and air conditioning supply	1. Manufacturing of food products 2. Public administration and defense 3. Land transport 4. Warehousing and support activities for transportation 5. Education 6. Human Health 7. Financial service activities (except insurance) 8. Activities of membership organization	The net shift value of **Major economic sectors** (manufacturing, wholesale and retail, service activities) is **positive** due to **locational advantage**. • West administrative boundary is surrounded by Mathabhanga river. • National Highway passed through the core of the city.
RS(-)	1. Other manufacturing	1. Textiles	Textile- Global recession, unfavorable trade policies, high cost of production due to increase of energy cost (Islam et al., 2013)

<div style="text-align:center">
🟥 Net Shift Negative   🟩 Net Shift Positive
</div>

Intra Regional Assessment Based on IM, RS, Net Shift Component: Kushtia

	IM(+)	IM(-)	Key findings
RS(+)	1. Accommodation and food service (Hotel and Restaurants) 2. Electricity, Gas, steam and air conditioning supply	1. Manufacturing of food products 2. Land transport 3. Warehousing and support activities for transportation 4. Education 5. Human Health	Accommodation and food service- **more tourism significance** due to Rabindranath Tagore's residence in Kuthibari (BBS, 2011). Manufacturing of food products **produce a large number of rice** in Khajanagor by Auto rice mills (BBS,2011) and It has also a big commercial area named BISIC SHILPONOGORY, (BBS,2011) Human Health lack government funds, qualified doctors and supply of medicines (Sobuj, 2022).
RS(-)	1. Manufacturing of wood Products (Except furniture) 2. Non metallic mineral products 3. Fabricated material (Except machineries) 4. Furniture, establishment 5. Wholesale of vehicles 6. Wholesale (Except vehicles) 7. Retail trade except vehicles 8. Tailoring	1. Textiles 2. Public administration and defense 3. Activities of membership organization	Textiles-**Drastic fall of handloom** industry due to high price of textile yarn in Kushtia and lack of transporting facilities of goods. Craftsmen have migrated to bigger cities for economic opportunities. (Chowdhury, 2015)

Net Shift Negative   Net Shift Positive

Intra Regional Assessment Based on IM, RS, Net Shift Component: Chapai-Nawabganj

	IM(+)	IM(-)	Key findings
RS(+)	1. Non metallic mineral products 2. Furniture, establishment 3. Wholesale of vehicles 4. Wholesale (Except vehicles) 5. Retail trade except vehicles 6. Public administration and defense 7. Accommodation and food service 8. Tailoring 9. Electricity, Gas, steam and air conditioning supply	1. Manufacturing of food products 2. Land transport 3. Warehousing and support activities for transportation 4. Education 5. Human Health 6. Financial service activities (except insurance) 7. Manufacturing of wood Products (Except furniture)	Manufacturing of food products- Connectivity with Rajshahi is disrupted due to the affected regional highway (R680) (Quium and Hoque, 2002)
RS(-)	1. Fabricated material (Except machineries) 2. Other service activities	1. Textiles 2. Public administration and defense 3. Activities of membership organization	Public administration and defense- (13.6%) militants came from the Bangladeshi border district of Chapai Nawabganj, which runs a smuggling corridor with Indian district of Malda in West Bengal state (Ashraf and Islam , 2021)

🟥 Net Shift Negative   🟩 Net Shift Positive

Intra Regional Assessment Based on IM, RS, Net Shift Component: Rajshahi

	IM(+)	IM(-)	Key findings
RS(+)	1. Public administration and defense 2. Other manufacturing 3. Non metallic mineral products 4. Furniture, establishment 5. Wholesale of vehicles 6. Wholesale (Except vehicles) 7. Retail trade except vehicles 8. Tailoring 9. Electricity, Gas, steam and air conditioning supply	1. Manufacturing of food products 2. Textiles 3. Land transport 4. Warehousing and support activities for transportation 5. Education 6. Human Health 7. Financial service activities (except insurance)	Textiles- Due to the **sericulture of Rajshahi**, companies like Sopura Silk Mills Ltd. Are running their operations countrywide generating **15000** different kinds of jobs (Wadud, 2018)
RS(-)	1. Manufacturing of wood Products (Except furniture) 2. Fabricated material (Except machineries)	1. Accommodation and food service (Hotel and Restaurants) 2. Activities of membership organization	Accommodation and food service (Hotel and Restaurants)- No significant tourism activities.

🟥 Net Shift Negative   🟩 Net Shift Positive

Intra Regional Assessment Based on IM, RS, Net Shift Component: Naogaon

	IM(+)	IM(-)	Key findings
RS(+)	1. Non metallic mineral products 2. Furniture, establishment 3. Wholesale of vehicles 4. Wholesale (Except vehicles) 5. Retail trade except vehicles 6. Public administration and defense 7. Electricity, Gas, steam and air conditioning supply 8. Other manufacturing	1. Manufacturing of food products 2. Textiles 3. Tailoring 4. Land transport 5. Warehousing and support activities for transportation 6. Education 7. Human Health 8. Financial service activities (except insurance)	Textiles-Naogaon is appraised for their water quality for using in industrial usage which eventually lower the production cost of the textiles (Rahman et al., 2005)
RS(-)	1. Manufacturing of wood Products (Except furniture) 2. Fabricated material (Except machineries) 3. Other service activities	1. Accommodation and food service (Hotel and Restaurants) 2. Activities of membership organization	Hotel and Restaurants-Visitors' satisfaction depends on safety and securtity, destinations' attraction, food, required cost, favorable environment in Naogaon. Some of these factors are not up to the mark (Sardar et al., 2020)

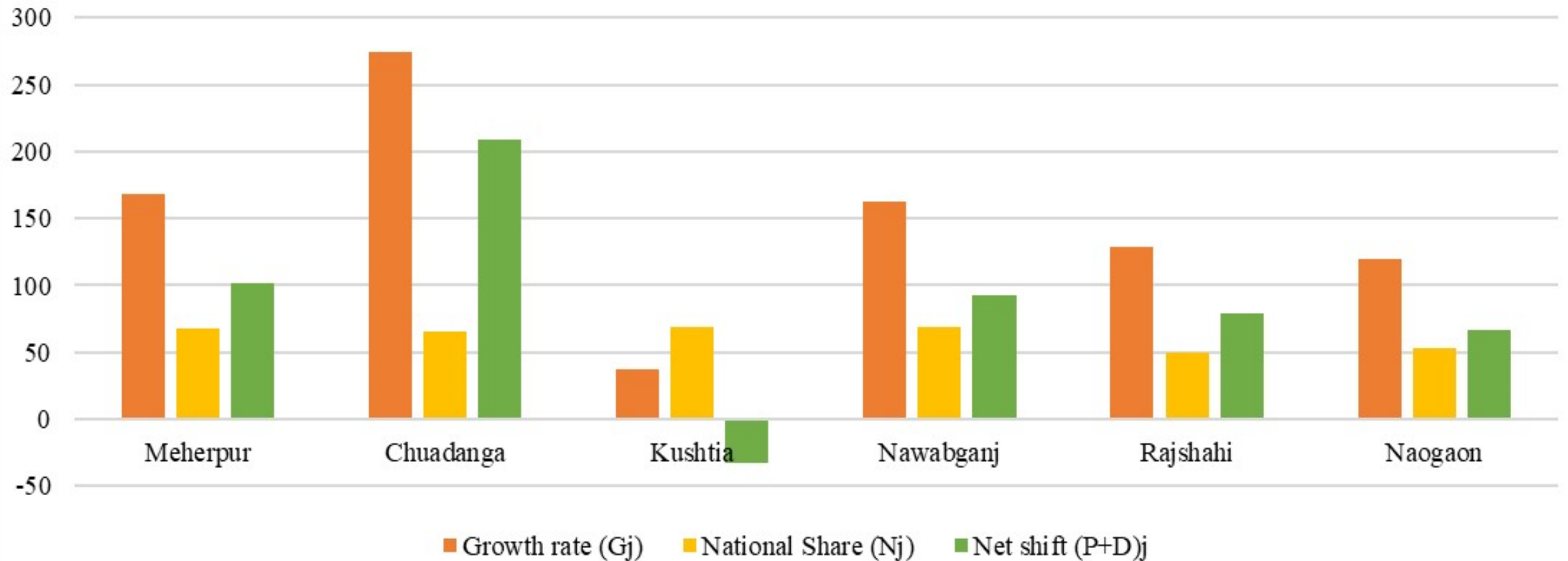■ Net Shift Negative   ■ Net Shift Positive   19

Intra regional Analysis

❑ Identification of Leading and Lagging Industries in the Districts Based on Regional Shift (RS) Component

Major Sector	Sub category	Meherpur	Chuadanga	Kushtia	Chapainawabganj	Rajshahi	Naogaon
Manufacturing	Food Products	Leading	Leading	Leading	Leading	Leading	Leading
	Textiles	Lagging	Lagging	Lagging	Leading	Leading	Leading
	Wood Products (Except Furniture)	Leading	Leading	Lagging	Lagging	Lagging	Lagging
	Non Metallic Mineral Products	Leading	Leading	Lagging	Leading	Leading	Leading
	Fabricated Material (Except Machineries)	Leading	Leading	Lagging	Lagging	Lagging	Lagging
	Furniture Establishment	Leading	Leading	Leading	Leading	Leading	Leading
	Other Manufacturing	Lagging	Leading	Lagging	Leading	Leading	Leading
Wholesale and Retail	Whole Sale and Retail of Vehicles	Leading	Leading	Lagging	Leading	Leading	Leading
	Whole Sale Except Vehicles	Leading	Leading	Lagging	Leading	Leading	Leading
	Retail Trade Except Vehicles	Leading	Leading	Lagging	Leading	Leading	Leading
Service	Accommodation and Food Service	Leading	Leading	Leading	Lagging	Lagging	Leading
	Public administration and defense	Lagging	Leading	Lagging	Leading	Leading	Leading
	Tailoring	Leading	Leading	Lagging	Leading	Leading	Leading
	Electricity, Gas, Steam and Air Conditioning Supply	Leading	Leading	Leading	Leading	Leading	Leading
	Financial Service activities except insurance	Leading	Leading	Leading	Leading	Leading	Leading
	Activities of membership organization	Lagging	Leading	Lagging	Lagging	Lagging	Leading
	Other service activities	Leading	Leading	Lagging	Leading	Lagging	Leading
Transportation and Storage	Land Transport	Leading	Leading	Leading	Leading	Leading	Leading
	Warehousing and support activities for transportation	Leading	Leading	Leading	Leading	Leading	Leading
	Other Transportation and Storage	Leading	Leading	Lagging	Leading	Leading	Leading
Education		Leading	Leading	Leading	Leading	Leading	Leading
Human Health		Leading	Leading	Leading	Leading	Leading	Leading

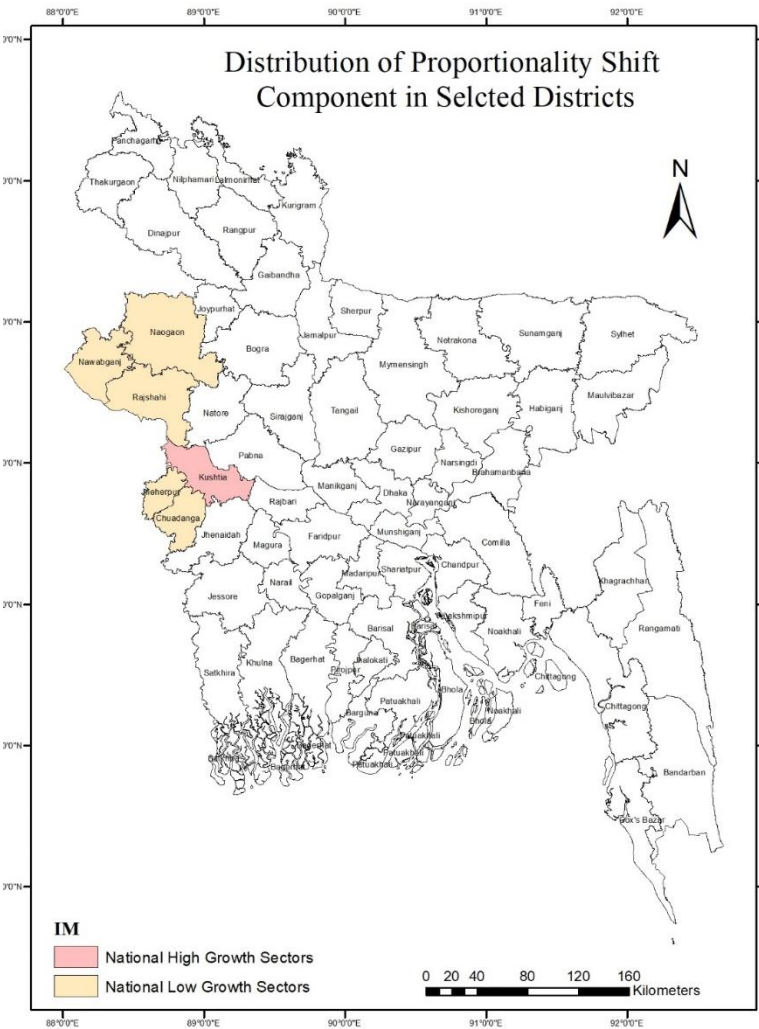|	
Leading (green)	Leading Industry
Lagging (pink)	Lagging Industry

Comparison Among Disricts on the Basis of Nj , Gj and (P+D)j

Comparison among Districts on Basis of Proportionality Shift, Differential shitt and Net Shift Component
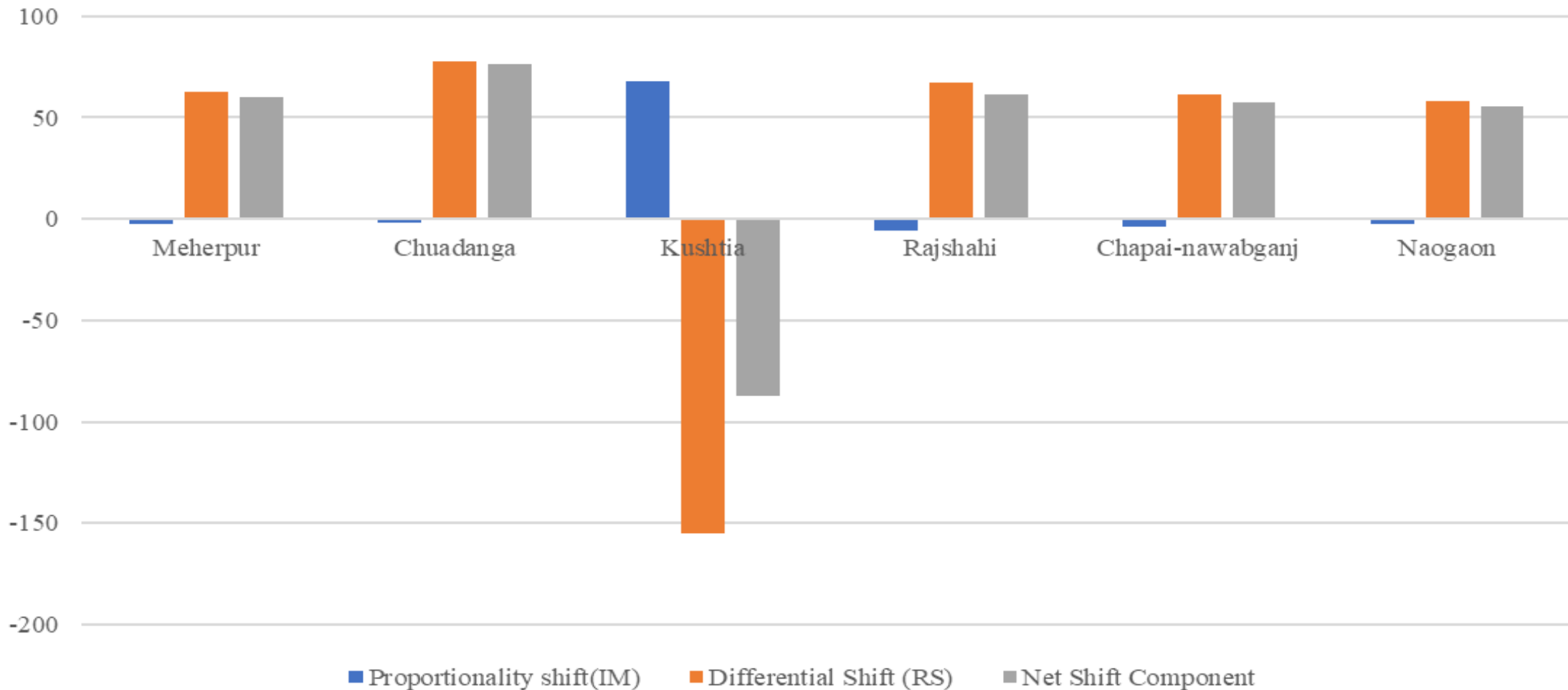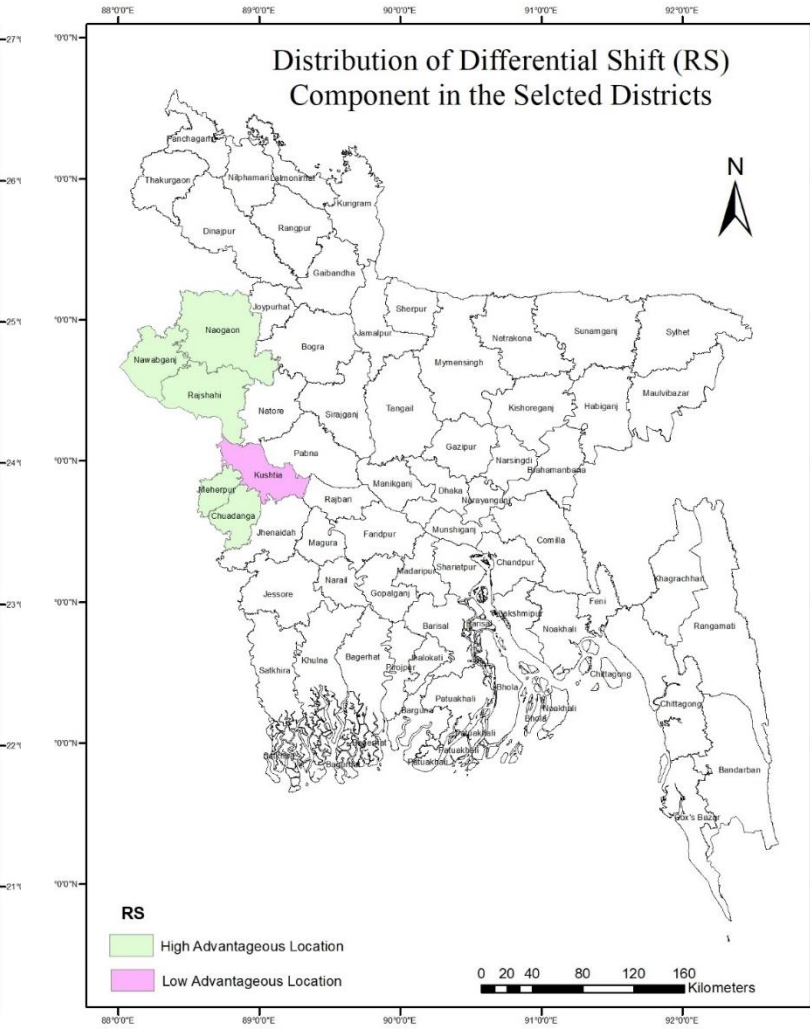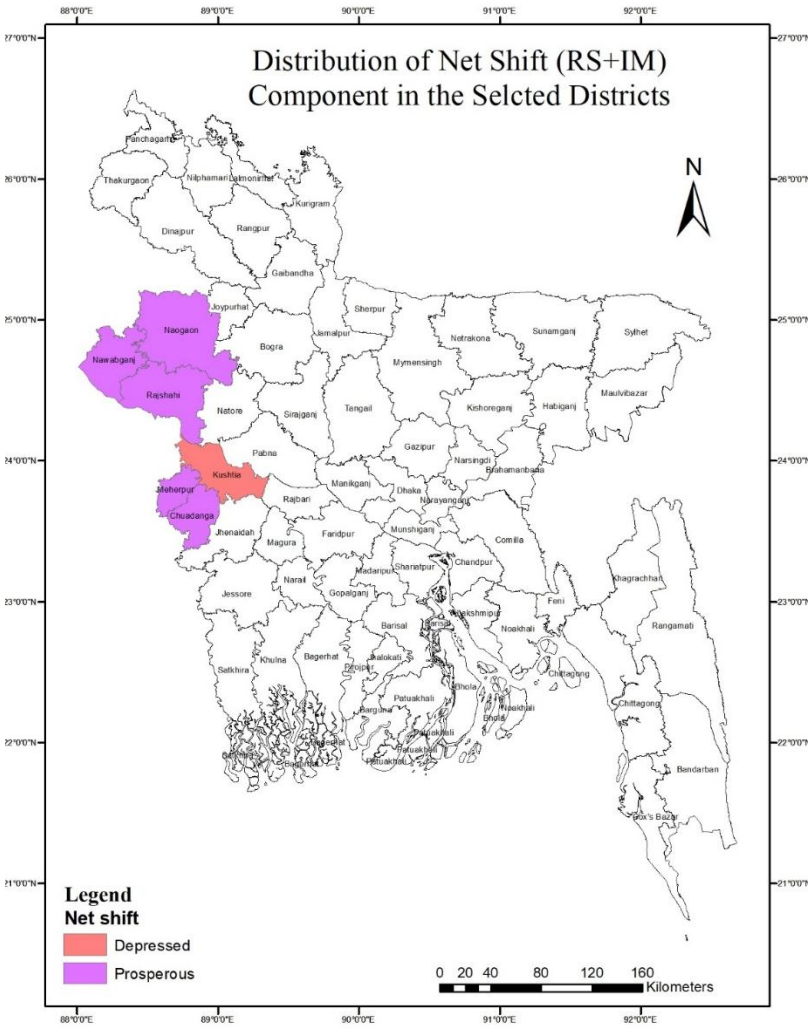
Inter Regional Analysis

Identification of Districts with Nationally Growing Sectors

Identification of Districts with Advantageous Location

Identification of Districts with Prosperous Sectors

Recommendation

Sector	Recommendations	Districts
Public administration and defense	Need to be more well organized and rapid action efficiency	Meherpur, Kushtia, Chapai-nawabganj
Textiles	Favorable trade policies and subsidies for the input materials of textiles.	Meherpur, Kushtia, Chapainawabganj, Chuadanga
Accommodation and food service (Hotel and Restaurants)	Facilities need to be enhanced for flourishing the tourism sector	Rajshahi and Naogaon
Land Transport	Regional connectivity should be well developed to support economic activities.	Chapai Nawabganj, Rajshahi, Naogaon, Meherpur
Human Health	Government fund should be increased for health facilities.	Kushtia
Education	More budget allocation for educational institutions.	Meherpur, Kushtia, Chapainawabganj, Naogaon

Reference

Ashraf, A. A., & Islam, M. S. (2020). Islamist militant groups and crime-terror nexus in Bangladesh. Studies in Conflict & Terrorism, 1-21.

BANGLADESH BUREAU OF STATISTICS (BBS). (2011a). District Statistics 2011 Chapai Nawabganj. BANGLADESH BUREAU OF STATISTICS (BBS). http://www.bbs.gov.bd/site/page/2888a55d-d686-4736-bad0-54b70462afda/DistrictStatistics

BANGLADESH BUREAU OF STATISTICS (BBS). (2011b). District Statistics 2011 Meherpur. http://www.bbs.gov.bd/site/page/2888a55d-d686-4736-bad0- 54b70462afda/District-Statistics

Bangladesh Bureau of Statistics (BBS) (2003). District Wise Report of Economic Census 2003.

Bangladesh Bureau of Statistics (BBS) (2011). POPULATION & HOUSING CENSUS 2011 (Zila Series & Community Series). Retrieved from https://tinyurl.com/25f77nva
Bangladesh Bureau of Statistics (BBS) (2013). District Wise Report of Economic Census 2013.Retrieved from https://tinyurl.com/35k8bxeaBangladesh National Portal (2022). Retrieved from https://bangladesh.gov.bd/site/view/district-list/District-List

Glasson, J. (1975). An Introduction to Regional Planning - Concepts, Theory and Practice. London: Hutchinson & Co (Publishers) Ltd.

Hosain, M. S., & Rakkibu, M. G. Structure, species composition and utilization of homestead forests in Gangni Upazila of Meherpur district, Bangladesh. *Research Journal of Agriculture and Forestry Sciences ISSN, 2320*, 6063.

Islam, M. M., Khan, A. M., & Islam, M. M. (2013). Textile industries in Bangladesh and challenges of growth. Research Journal of Engineering Sciences, 2278, 9472

Rahman, M. M., Hoque, S. M., Jesmin, S., Rahman, M. S., & Kim, J. E. (2005). Assessment of groundwater quality for irrigation and agro-based industrial usage in selected aquifers of Bangladesh. Korean Journal of Environmental Agriculture, 24(2), 98-105

Sardar, S., Hossain, M. E., Hossain, M. I., & Islam, M. S. (2020). Factors affecting visitor's satisfaction: an empirical study on the Paharpur Buddha Vihara, Naogaon, Rajshahi. Int. J. Manag. Account, 2(4), 61-73.

South Asia Terrorism Portal (SATP). 2003. Purba Bangla Communist Party (PBPC) Extremist Group in Bangladesh, South Asia Terrorism Portal (SATP), www.satep.org.

Quium, A. S. M. A., & Hoque, S. A. M. A. (2002). The completeness and vulnerability of road network in Bangladesh. Engineering concerns of flood, 1, 59-75.

Wadud, N. (2018). The Uses of Rajshahi Silk in Current Fashion Trend in Bangladesh. life, 11(01).
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