Location Patterns of Manufacturing Industries in Tunisia
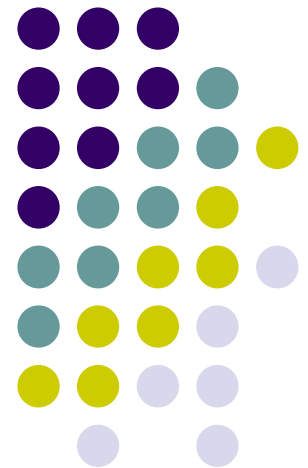
Wided Mattoussi

WIDER development conference:
Think development – Think WIDER
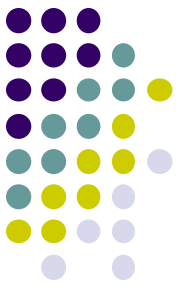
Parallel session

"Made in Africa"

Motivation

- Firms enjoy positive externalities from concentration in a particular region.

- In most countries concentration is too great to be random.

Causes of industrial location: Three categories

1. First nature causes: Natural cost advantages;

2. Second nature causes: Home market effect;

3. The in-between category: Economic infrastructure.

Agglomeration economies:

♦ It can be divided into localization and Urbanization effects.

-**Localization effects**: Externalities of specialization;

-**Urbanization effects**: Externalities of diversity.

♦ Localization and Urbanization effects can be divided into static and dynamic externalities.

♦Static and dynamic externalities explain existing industrial structure, but only dynamic externalities account for economic growth.

Presentation outlines

Main purpose: Presentation of broad spatial location patterns of manufacturing industries in Tunisia.

● Investigation:

♦ Three empirical studies (Karray and Driss, 2009; Amara and Thabet, 2012; and Ayadi and Mattoussi, 2014).

♦ General informations about the characteristics of the various cities and manufacturing industries.

Issues to be tackled

1. Are manufacturing firms geographically concentrated?

2. Identifying the main factors accounting for specialization patterns.

3. Suggesting some facts about urbanization patterns.

Empirical studies

♦ Data on Tunisian costal governorates and delegations.

♦ Manufacturing industries (two-digit industries):

-Mature sectors: Textile industries, Leather and Shoes industries and Agrofood industries.

-Knowledge intensive sectors: Chemical industries, Electric and Electronic industries and Mechanical and Metallurgical industries.

Geographic concentration of manufacturing industries in Tunisia

1. Mature industries

- Leather and Shoes industries are concentrated in the northeast: Bizerte and Nabeul.

- Textile industries are concentrated in the center east: Monastir.

- Agrofood industries are concentrated in the northeast (Nabeul) and the center east (Sfax).

2. Knowledge intensive industries

- Concentrated in the northeast: Ben Arous (one the governorates of the Great Tunis).

Specialization patterns

Mature industries

1. Textile industries

Sector characteristics:

- A sector less dependent upon local resources;

- One of the most exporting sectors;

- Specialization reinforced by FDI.
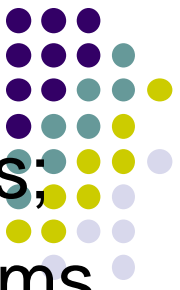
Governorate characteristics:

- Skilled labor force specialized in textile;

- Good transport networks;

- Research infrastructure: A competitiveness center specialized in Textile.

Broad assessment of knowledge spillovers

- Empirical evidence about knowledge spillovers;

- Monastir is ranked the third in terms of new firms creation (empirical evidence);

- Most of new firms are created in textile industries.
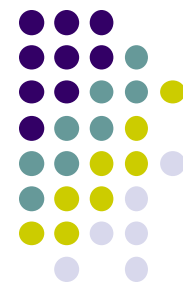
Likely important knowledge spillovers.

Conclusion:

Concentration of textile industries is mainly attributable to:

♦ Skilled labor;

♦ Strong forward linkages (related to large foreign demand);

♦ Likely important knowledge spillovers.

2. Leather and Shoes industries

Sector characteristics:

- Input-intensive sector: Tanneries is a crucial segment in the industry;

- Specialization is largely impulsed by FDI (70%);

- Production is largely linked to the international market.

Governorates characteristics:

- Proximity to tanneries (input suppliers) and to important ports (reducing shipping goods to foreign consumers).

Question: Why FDI does not favor the location of Sfax, though it exhibits similar characteristics as Bizerte and Nabeul?

Answer: Attractiveness of the governorates of Bizerte and Nabeul + Weak attractiveness of Sfax to FDI.

Conclusion:

Concentration of Leather and Shoes industries in the governorates of Bizerte and Nabeul is mainly attributable to:

♦ Input sharing;

♦ Strong forward linkages (related to large foreign demand);

♦ Physical geography (attractiveness of the city);

♦ Environment (quality of life);

♦ Knowledge spillovers (empirical evidence).

3. Agrofood industries

Sector characteristics:

● A resource-intensive sector;

● Serves mainly the local market.

Governorates characteristics:

1. Nabeul

● Natural cost advantages: (climate conditions + land) favorable for growing high value farm goods.

● Factor endowments: skilled labor force + availability of water resources (transferred from

the Northwest through the Medjerda Cap Bon canal 120 km).

- Proximity to a technology park specialized in plant biotechnology, water and environment.
- Large market size and large local demand (including large seasonal touristic demand).

Conclusion

Concentration of Agrofood industries in the governorate of Nabeul is mainly attributable to:

♦ Natural cost advantages (climate conditions+ land);

♦ Factor endowments (skilled labor + availability of water resources);

♦ Important pecuniary externalities related to demand and cost linkages;
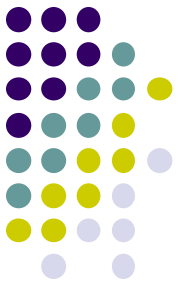
♦ Knowledge spillovers (empirical evidence).

2. Sfax

- Factor endowments: skilled labor + important financial capacities (allowing Sfax to specialize in the cattle farming sector despite its poor grazing land).

- Large market size and large local demand (more than 80% of its firms serve the local market).

Conclusion

Concentration of Agrofood industries in the governorate of Sfax mainly attributable to:

♦ Factor endowments (skilled labor + large financial capacities);

♦ Strong agglomerations forces via goods;

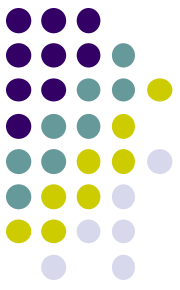♦ Knowledge spillovers (empirical evidence).

Knowledge intensive industries
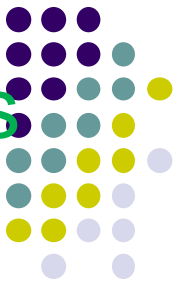
Sectors characteristics:

- One of these sectors (Electric and Electronic industries) is the most exporting sector in Tunisia.

Governorate characteristics:

- Skilled labor with high human capital (related to important research infrastructure);

- Well designed industrial zones (Ben Arous is the oldest industrial area in Tunisia).

Broad assessment of knowledge spillovers

● Proximity of Ben Arous to the first Central Business District (CBD), Tunis.

⬇

Quite large land and housing prices

⬇

Knowledge spillovers large enough to overcome the high costs

Conclusion:

Concentration of knowledge intensive industries in the governorate of Ben Arous is mainly attributable to:

♦ Industry-specific spillovers (mostly knowledge spillovers);

♦ Factor endowments (skilled labor + industrial zones);

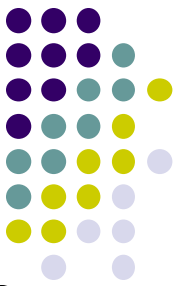♦ To a lesser extent to forward linkages (related to foreign demand) for Electric and Electronic industries.

Urbanization patterns

1. **Stylized Fact 1:** New firms generally locate in diverse environment.

♦ In Tunisia, the largest portions of new firms are created in the two CBD,Tunis and Sfax (Ayadi and Mattoussi, 2014).
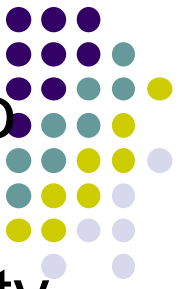
Tunis (empirical evidence) and Sfax are diversified.

2. Stylized Fact 2: Though larger cities tend to be more diversified, there is however a weak correspondence between city size and diversity.

♦ Ben Arous and Tunis (large cities) are the most diversified.

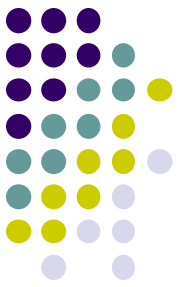♦ Ben Arous is more diversified and smaller than Tunis.

Conclusions

1. The main manufacturing industries are all concentrated.

2. Labor market pooling is the most important agglomeration mechanism at work for both mature and knowledge intensive industries: Industries (partly) locate in specialized economic environments to share a common pool of specialized workers.

3. Localization and urbanization effects are high in knowledge-intensive industries:

♦ Ben Arous the most diversified governorate is also the most specialized in knowledge intensive industries.

4. There are no clear patterns for the correspondence between city size and specialization:
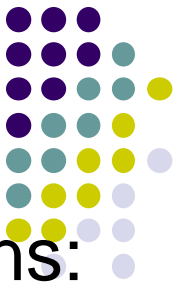
♦ Medium-sized cities (Bizerte) and large cities (Monastir) are specialized more in mature industries and less in knowledge intensive industries.

♦ Large cities (Ben Arous) are specialized more in knowledge intensive industries and less in mature industries.

♦ Medium-sized cities (Sfax) and large cities (Nabeul) are specialized in both mature and knowledge intensive industries.

5. Urbanization effects are high in CBD.

♦ The two CBD, Tunis and Sfax are diversified, but they exhibit different agglomeration patterns:

- Sfax is both specialized and diversified;

- Tunis has no single dominant manufacturing industry (this might not be the case if we consider service industries).

Thank you for your attention!

Comments are most welcome!