“L’économie turque
face au ralentissement brutal de la croissance mondiale”

Club de CEPII and *TÜSİAD*

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Overview of Turkish manufacturing sector

The relative performance of sectors

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Outline of the presentation

The focus of the presentation

The framework of the research

criteria, data structure and sectoral classification

Framework for sectoral analysis

The relative performance of the sectors

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The focus of the presentation

Displaying some facts about Turkish manufacturing sectors

These facts are based on the results of the project which is titled as "Turkish Industry: A Sectoral Overview" (*)

The presentation provides information about relative performance of sectors

*) Dogruel and Dogruel (2008).

The framework of the research

The research considers two different cases of Turkish manufacturing sectors

- The existing structures of the sectors, and
- The potentials of the manufacturing sectors

The criteria in order to examine the sectors are

- Employment capacity
- Export
- Openness ratio
- Regional distribution of sectors
- Current technological structure and capability of technological absorption
- Input-output coefficients of sectors

The framework of the research
data structure and sectoral classification

Data structure

A special database and an analytical framework have been prepared for the project.

The data source is TURKSTAD (Turkish Statistical Institute)

Sectoral classification for the manufacturing sectors is ISIC Rev.3

Framework for sectoral analysis

In order to compare sectors, following topics are discussed for each sector:

The relative share of sectors in the manufacturing sector

R&D expenditure and technology level

Domestic competition and market concentration ratio

Regulations

Environmental regulations

Global competition

Employment

Regional distributions of the sectors

- cluster capacity/possible role in the export and economic growth
- possible role in reducing regional disparities

The relative performance of the sectors

Scatter diagrams show the relative performance of the sectors.

Competition
Employment Performance
Export Performance
Output Performance

Indicator for Strength
Indicator for Potential

The reference lines in the figures correspond to the arithmetic means of related indicators.

The four panels which are divided by the reference lines reflect different performance of sectors.

Competition

Indicator for Strength:

$$\frac{\text{Exports (2004)}}{\text{Output (2004)}}$$

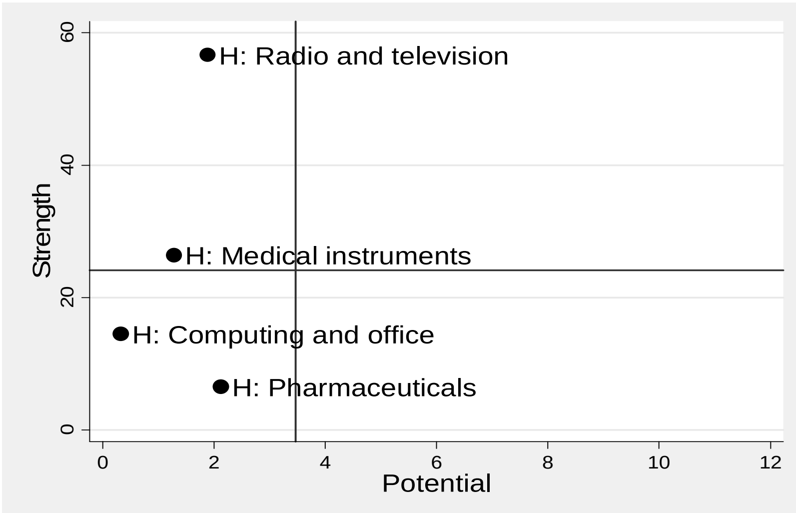
Indicator for Potential:

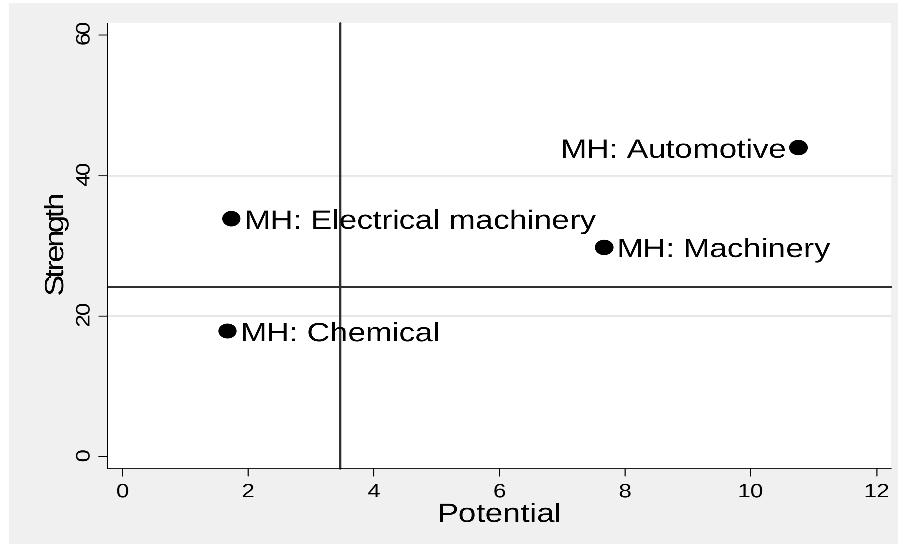
$$\frac{\left[\begin{array}{l}\text{Increase in exports from} \\ \text{1992 to 2006 } (1992 = 1)\end{array}\right]}{\left[\begin{array}{l}\text{Increase in output from} \\ \text{1992 to 2006 } (1992 = 1)\end{array}\right]}$$

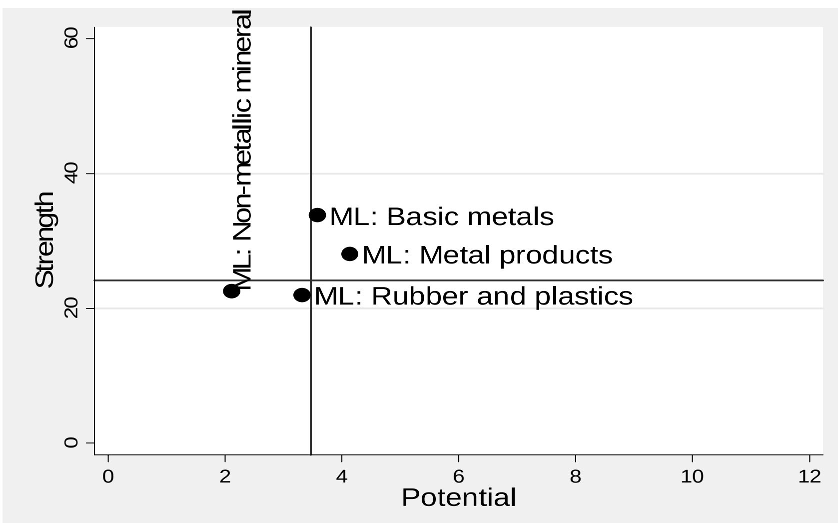
	Values for:	
Outlier Sector:	Strength	Potential
ML: Fuel products	14.67303	31.48412

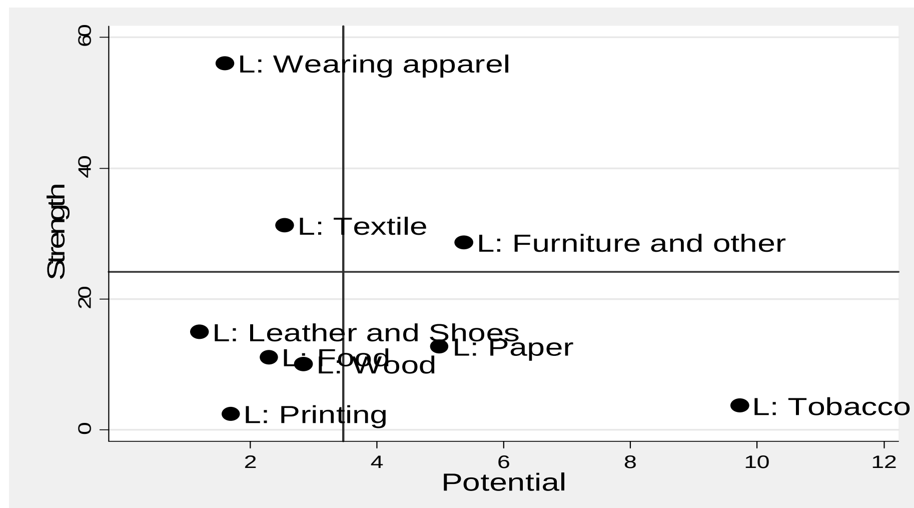
Omitted Sectors :
ML: Ships and boats
MH: Railway
H: Aircraft and spacecraft
MH: Other transportation

Competition









Employment Performance

Indicator for Strength:

Percentage share of the sector in total manufacturing employment (2006)

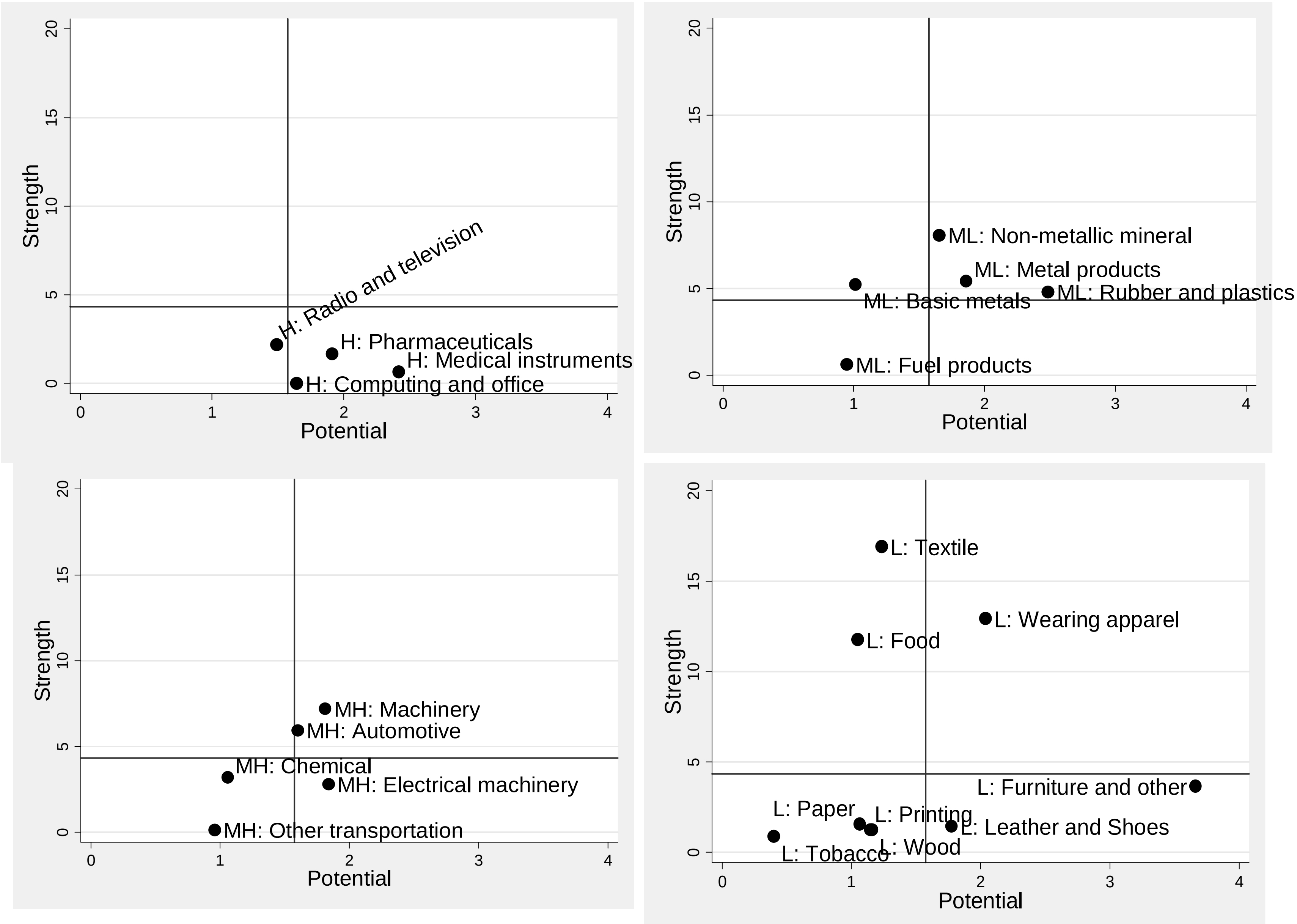
Indicator for Potential:

Increase in the employment of the sector from 1992 to 2007 (1992=1)

One outlier

Omitted Sectors :
ML: Ships and boats
MH: Railway
H: Aircraft and spacecraft

Employment



Strength
Potential
H: Radio and television
H: Pharmaceuticals
H: Medical instruments
H: Computing and office
ML: Non-metallic mineral
ML: Metal products
ML: Basic metals
ML: Rubber and plastics
ML: Fuel products
MH: Machinery
MH: Automotive
MH: Chemical
MH: Electrical machinery
MH: Other transportation
L: Textile
L: Wearing apparel
L: Food
L: Furniture and other
L: Paper
L: Printing
L: Leather and Shoes
L: Tobacco
L: Wood

Export performance

Indicator for Strength:

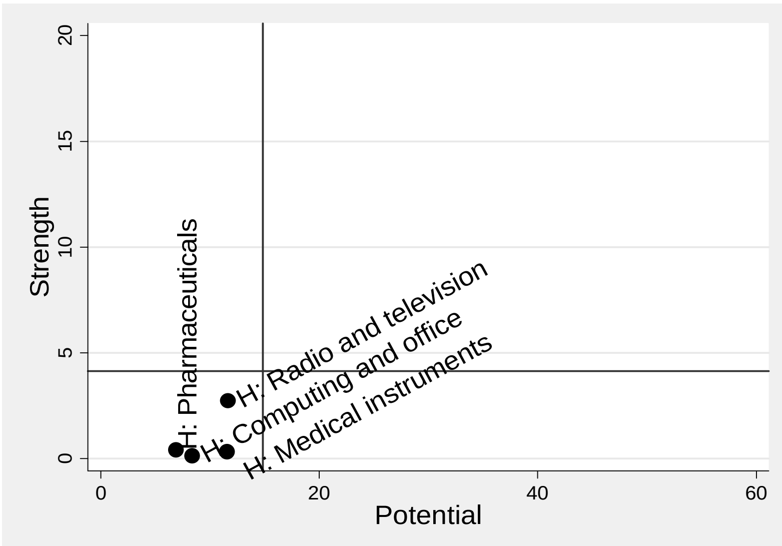
Percentage share of the sector in total exports (2007)

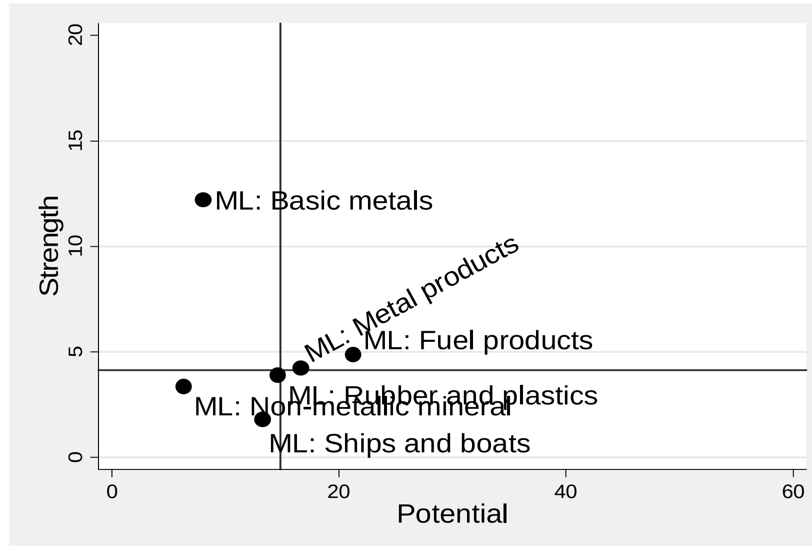
	Values for:	
Outlier Sector:	Strength	Potential
MH: Railway	0.009513	529.4533
H: Aircraft and spacecraft	0.808353	541.9115

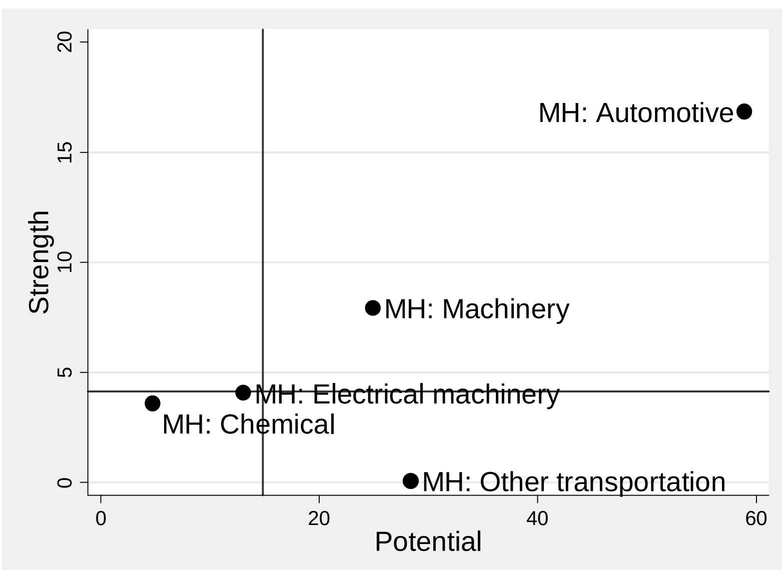
Indicator for Potential:

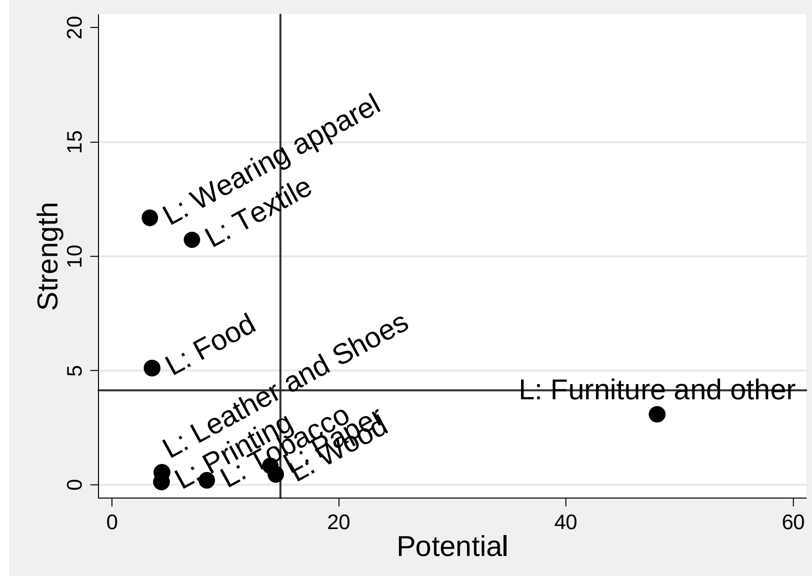
Increase in the exports of the sector from 1992 to 2007 (1992=1)

Export performance









Output Performance

Indicator for Strength:

Percentage share of the sector in total manufacturing output (2006)

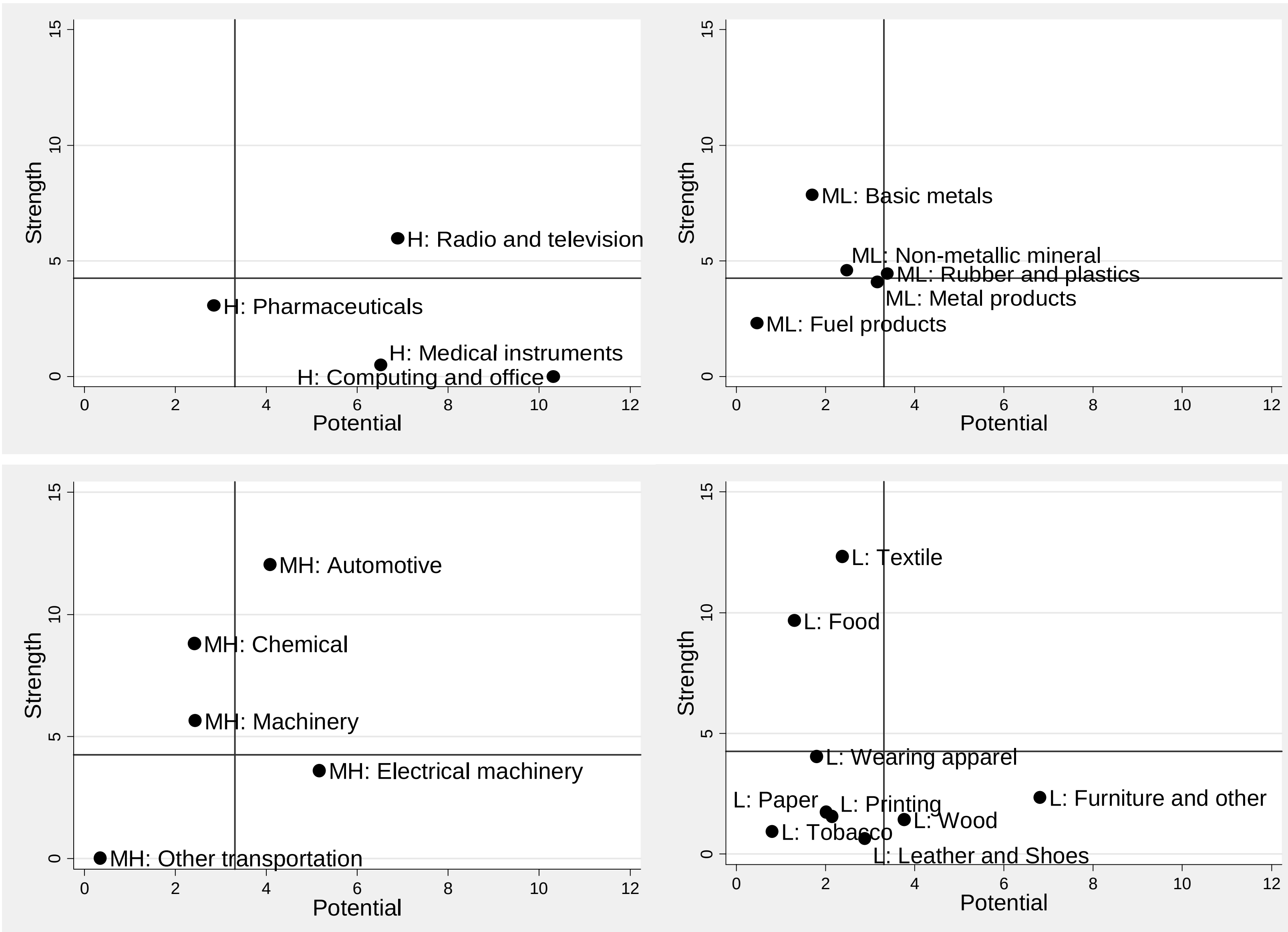
	Values for:	
Outlier Sector:	Strength	Potential
ML: Ships and boats	2.262264	29.71492

Indicator for Potential:

Increase in the output of the sector from 1992 to 2007 (1992=1)

Omitted Sectors:
MH: Railway
H: Aircraft and spacecraft

Output Performance



Some stylized facts of Turkish manufacturing sector

- Traditional sectors
- Intermediate sectors
- Fast developing sectors
- Exporting sectors
- Common problems shared by all sectors

Traditional sectors

Food (15), textile (17) and wearing apparel (18) still have large shares in total manufacturing output, export and especially employment.

These sectors are also crucial for the regional development.

Due to the large population and the regional disparities Turkey cannot abandon these traditional sectors easily .

Intermediate sectors

Paper and paper products (21), chemicals (24), rubber and plastics products (25) and manufacture of basic metals (27)

- The state has been producer of these basic goods
- These state enterprises have played important role in the Turkish industrial history
- The manufacturing sectors have backward linkages with the intermediate good producing sectors
- Privatization in these sectors has created shortages in some manufacturing industry

Energy requirement is high in these sectors. Energy prices and availability are critical for these sectors.

The costs of environmental protection affect chemicals (24), and rubber and plastics products (25).

Developed countries tend to impede chemicals (24), and rubber and plastics products. It may provide opportunities for the developing countries, including Turkey.

Turkey has export potential in these sectors, in spite of competition pressure of east Asian Countries.

Fast developing sectors

Manufacture of other non-metallic mineral products (cement, ceramic products and glass and glass products(26)

Manufacture of furniture (361) and manufacture of jewellery (3691)

Manufacture of other transport equipment (35)

- **Building and repairing of ships and boats (351) – This sector is abandoned partly in the developed countries.**
- Manufacture of aircraft (only some parts of aircrafts) (353) - The sector is not strong enough yet; however, it displays a significant improvement.
- Manufacture of railway and tramway locomotives? (growing cities and need for public transportation may create a demand for this sector).

Manufacture of pharmaceuticals (2423) – The sector is looking for a new strategy (model countries are Ireland and Singapore).

Exporting sectors

Motor vehicles (automotive industry)(34) has a significant success. Unfortunately, crises periods deeply affect the sector

Radio, television and communication equipment (32) has also significant success. However, insufficient R&D hinders the development of the sector.

Machinery and equipment (29) and manufacture of domestic appliances (293)

Manufacture of fabricated metal products (28)

Common problems shared by all sectors

High energy prices and shortages

Lack of skilled labor in some manufacturing sectors

Lack of transport for heavy transportation needs (e.g. automotive, cement, ceramic)

Insufficient R&D (both government and private firms)

Cost of environmental protection

Unregistered/Informal economy

Conclusion

The diversification of manufacturing sector is the strength of the Turkish economy.

However, manufacturing sector is dominated by low or medium-low technology industries. This is the weakness of the Turkish manufacturing.

Reference

The presentation is based on the following publication:

Dogruel, A. Suut and Fatma Dogruel, *Türkiye Sanayiine Sektörel Bakış* (*Turkish Industry: A Sectoral Overview)*, TUSIAD Publication, Istanbul, 2008 (In Turkish).