

Dong GUO  
UNIDO Statistics  
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Beirut, Lebanon




# INDUSTRIAL STATISTICS: POLICY-MAKING ORIENTED




# Outline

- Expectations from policy making and users
- Industrial statistics
  - Concept
  - Data source
- Policymaking-oriented: Indicators for industrial performance
  - Productivity
  - Structural change
  - Competitiveness
- Challenges in the times of globalization
- Conclusion



# Expectations by users in policymaking bodies of an international data source

- Synthesized data on world development trends
  - Internationally comparable data to assess the growth and structure of one region in the world vis-à-vis others
  - A complete set of data on their field of interest to avoid measurement discrepancies
  - Regular data production to update/correct policy measures
- 

# Users and demands: for details

- I am focusing my studies on various manufacturing sectors of Indonesia, especially to compare the aircraft manufacturing (ISIC 3530) with the electronic machinery industry for 1985 - 1997. Therefore, I would be most grateful if you had data on these sector's value added / output...

ManaYamawaki  
The London School of Economics and Political Science

- I'm contacting you from just-style.com, an online publication for the global apparel industry, and am seeking clarification on the latest quarterly report of UNIDO on manufacturing output. Can you tell me what unit of measurement was used for wearing apparel?

Leonie Barrie  
Managing Editor




# Users and demands: for aggregates

- I have used your figures and those from other international sources... Manufacturing productivity in [developed] countries was 9 times higher in 2000 than in [developing] nations. But for 2010 the difference is only about 4.7. You probably have experience in dealing with data of this sort and so I 'd be very grateful for any enlightenment on this, as well as on any other thoughts on the figures...

Peter Marsh  
Financial Times, London

- I am working with DESA and have been drafting the Secretary General's overview report on sustainable industrial development. For this report, I need data for the top 10 countries in terms of industrial output and the latest ranking by share of output...



Samina Anwar

Policy Integration and Analysis  
Division for Sustainable Development, UN DESA

# Industrial statistics: scope

- In general, industrial statistics are statistics reflecting characteristics and economic activities of the units engaged in a class of industrial activities that are defined in terms of the International Standard Industrial Classification of All Economic Activities (ISIC) (IRIS 2008)

## ISIC Rev. 3


- C - Mining and quarrying
- D – Manufacturing
- E - Electricity, gas and water supply

## ISIC Rev. 4

- B - Mining and quarrying
- C - Manufacturing
- D - Electricity, gas, steam and air conditioning supply
- E - Water supply; sewerage, waste management and remediation activities



# Industrial statistics: data source

- Gross output
  - Value added
  - Employment
  - Compensation of employees
  - Gross fixed capital formation
  - Index of industrial production
- 

# Data source: else

- Trade-related:
  - Exports
  - Imports
- For country as a whole:
  - Population
  - Gross domestic product (GDP)
  - Manufacturing value added (MVA)



# Statistical databases maintained by UNIDO

Databases	Time series	Country coverage	Description
1. INDSTAT <sub>2</sub>	1963 to most recent year (2009)	162	Longest time series data compiled from ISIC rev-2 and rev-3 databases. Includes IIP data.
2. INDSTAT <sub>4</sub>	Around 1990 to current year	126	Detailed business structure data at 3 and 4-digit level of ISIC by country. It has the largest number of users among knowledge institutions.
3. IDSB	1990 to most recent year	84	Combination of production and external trade data, very popular among business associations.
4. MVA database	1990 to current year	192	Data collected from secondary sources. Includes GDP and MVA at current and constant prices and population.



# Type of performance indicators:

## Productivity

- MVA per capita
- Value added per employee
- Value added per hour worked
- Value added per unit of capital
- Capital per employee
- Multifactor productivity index
- Value added output ratio


# Type of performance indicators: **structural changes**

- Changes in sector share
- Coefficient of absolute structural change
- Coefficient of relative structural change
- Integral coefficient of structural change
- Coefficient of diversification
- Regional disparity index
- Position of manufacturing in an economy:  
share of MVA in GDP

# Type of performance indicators:

## Competitiveness

- Apparent consumption:
  - $\text{Output} + \text{Imports} - \text{Exports}$
- Exports ratio in output
- Exports per capita
- Sector shares in manufactures exports
- Export concentration index



# Classifications of economic activities at higher level

- Data presented by ISIC (Rev.3) at the 4-digit level comprise 151 manufacturing sectors and sub-sectors, which are highly heterogeneous
- They can be combined into a smaller number of homogenous groups based on specific and **policy-relevant** criteria
- Regrouping and aggregation addresses one of the key elements of industrial performance – structural transformation
- Structural change indicators intend to measure the performance of a country in terms of diversification – especially the shift towards high-technology and more productive industries

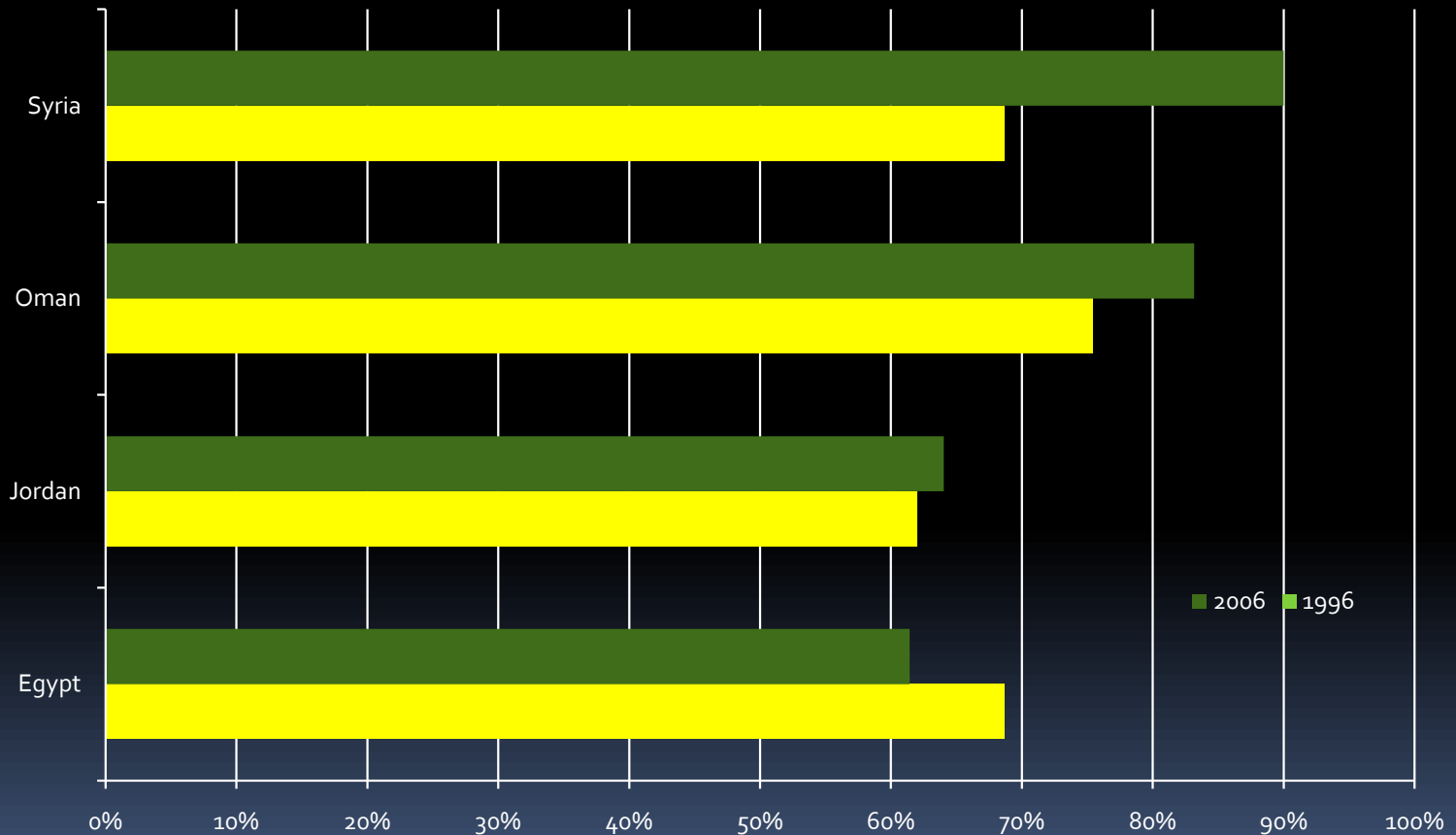
# Resource-based industry

- This group comprises industries based on **agricultural resources**, such as **food and textiles**, and **mineral resources, petroleum products and basic metals**
- Its performance depends more on the **local availability of resources** than on competitive advantage
- In most of these sectors innovation of technology takes place on the supplier's side, especially in the production of efficient machinery
- The share of these sectors in total manufacturing output steadily decreases as the country industrializes

## Divisions by ISIC Rev.3

- 15 manufacture of food products and beverages
- 16 manufacture of tobacco products
- 17 manufacture of textiles
- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddler, harness and footwear
- 20 manufacture of wood and wood products
- 21 manufacture of paper and paper products
- 23 manufacture of coke, refined petroleum products
- 251 manufacture of rubber products
- 26 manufacture of other non-metallic mineral products
- 27 manufacture of basic metals

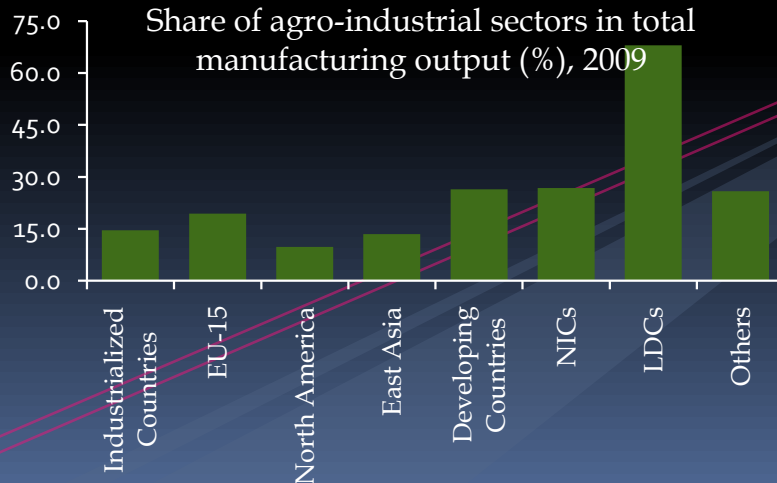
# Share of resource-based sectors in selected Arab countries



Note: Syria 1995 and 2002

# Agro-based sectors

- ✓ Sub-set of resource-based industry, excluding the processing of mineral resources
- ✓ Lower technological innovation, labour intensive
- ✓ Share of agro-based sectors falls as industry diversifies and moves towards high-technology sectors



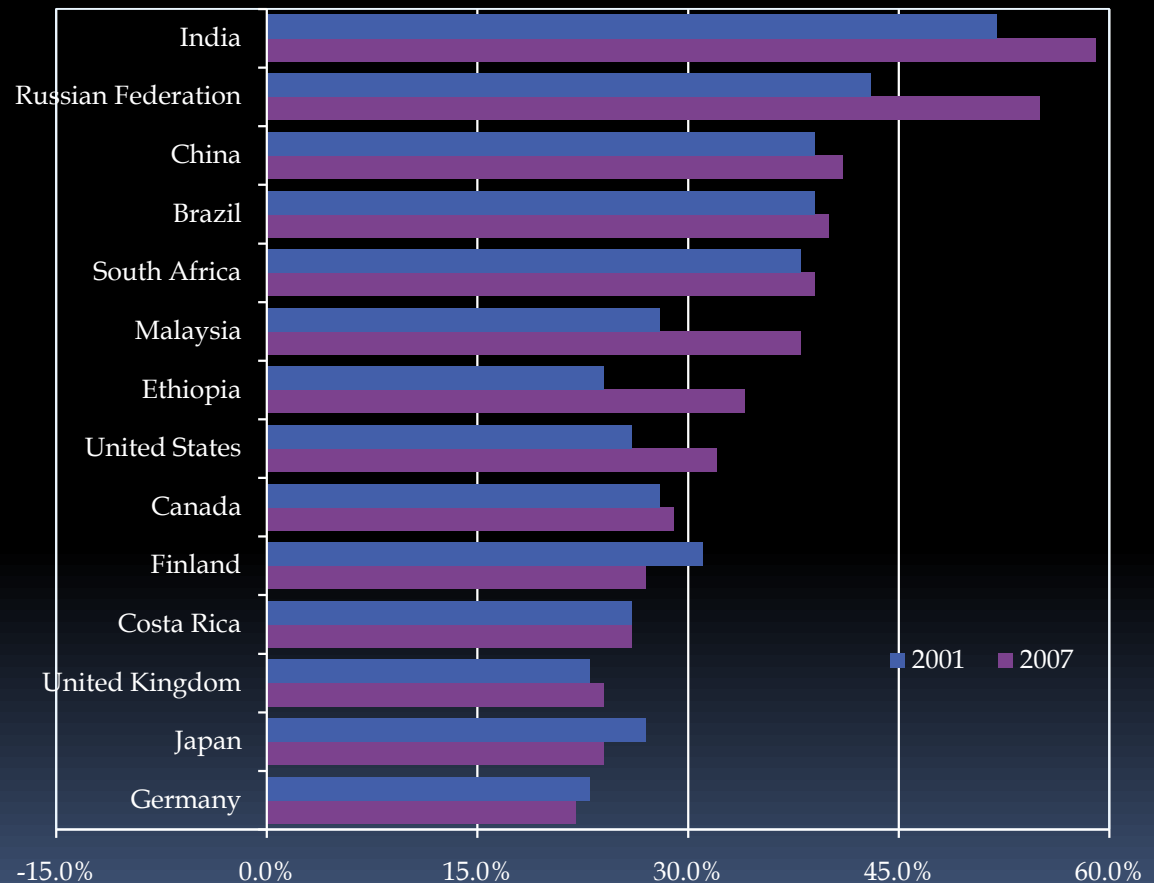
- 15 manufacture of food products and beverages
- 16 manufacture of tobacco products
- 17 manufacture of textiles
- 18 manufacture of wearing apparel; dressing and dyeing of fur
- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddler, harness and footwear
- 20 manufacture of wood and wood products
- 21 manufacture of paper and paper products
- 251 manufacture of rubber products



# Manufacturing branches by intensity of energy consumption

	ISIC	Description of activities
High energy-intensive	17	Manufacture of textiles
	21	Paper and paper products
	23	Coke and refined petroleum products
	24	Chemical products
	26	Non-metallic mineral products
	27	Manufacture of basic metals
Moderate energy-intensive	15	Food products and beverages
	18	Wearing apparel; dressing and dyeing
	19	Manufacture of leather products
	20	Wood and wood products
	22	Printing and publishing
	25	Rubber and plastic products
	28	Fabricated metal products
Low energy-intensive	16	Tobacco products
	29	Machinery and equipment n.e.c.
	30	Office, accounting and computing machinery
	31	Electrical machinery and apparatus n.e.c.
	32	Radio, TV and communication equipment
	33	Medical, precision and optical instruments
	34	Motor vehicles, trailers and semi-trailers
	35	Other transport equipment
	36	Furniture and other manufacturing n.e.c.
	37	Recycling

# MVA share of high energy-intensive sectors in selected countries



# Challenges of Globalization

- A cross-country comparison of indicators and derived industry groups is essential.
- Geography matters: Integrating geographical information into industrial statistics
  - Geography is a very important dimension of information - exploratory *spatial* data analysis
- International trade
  - What and How much produced using imports are exported, and to where: input-output table
  - OECD: input-output
  - EuroStat: enterprise survey on this matter



بينما تدخل الأزمة الليبية أسبوعها الخامس يستمر العنف في الجزء الغربي من البلاد بينما تقوم قوى التحالف بتنفيذ الحظر الجوي. لا يزال الوصول إلى المناطق حيث يستمر القتال صعبا مما يشكل تحديا لإجراء التقديرات عن حجم المساعدات الإنسانية وتقديمها.

## المجموع

FA1AAA

70,833

عَنْ رَوَّادِ بْنِ أَبِي نَضْرَةَ عَنْ أَبِي بَرْزَاءَ عَنِ النَّبِيِّ ﷺ أَنَّهُ قَالَ: «مَنْ جَاءَ بِمَنْفَعَةٍ لِقَوْمٍ مِنْ أُمَّةٍ أَوْ لِقَوْمٍ مِنْ أُمَّةٍ أُخْرَىٰ فَلَهُ أَجْرٌ يَوْمَ الْقِيَامَةِ»

١٧ شباط/فبراير: مواجهات بين القوات والأمن والمظاهرات المعارضين، أسفرت عن انتشار هجوم مسلح ضد المحتجين. وقد لقي

١٩ آذار/مارس: بدأ التحالف الدولي في تطبيق الحظر الجوي وشن هجمات جوية على قوات الحكومة الليبية.

٢٣ آذار/ مارس: وصول تقارير عن استمرار أعمال العنف في مصراتة، واجداليا والزنتان.

٢٦ شياطين فيراير: فرض مجلس الأمن حظر على الأسلحة والمفر وتجميد أرصدة العقيد القذافي وآخرين في نظامه.

٧ آذار / مارس : أطلق نداء إقليمي يطلب بمائة وستون مليون دولار لمدة ثلاثة أشهر من أجل مساعدة أربع مائة ألف شخص تركوا البلاد وستمائة ألف شخص داخل ليبيا قد يحتاجون لمساعدات إنسانية.

١٧ آذار/مارس: أقر مجلس الأمن التابع للأمم المتحدة حظر جوي يمجبه على الدول الأعضاء القيام بالخطوات اللازمة لحماية المدنيين.

الحدود والأسماء والتسميات المستعملة في كل الحرائط لا تعني التأييد الرسمي أو الموافقة والقبول لها من قبل الأمم المتحدة.

تاریخ الاسناد : ۷۸ جزو ۷۰۹۱

Glide:  
OT-2011-000025-LBY  
UNCS, مصادر المعلومات  
Libya, IOM, UNOSAT  
Government, Crisis Map  
OCHA, of Libya

المصادر:

<sup>1</sup>UN, Regional Flash

### Appeal for the Libyan

Crisis, 7 Mar 2011

COM, 22 Mar 2011

Government of Egypt

**ملحق:**

romenaca@un.org

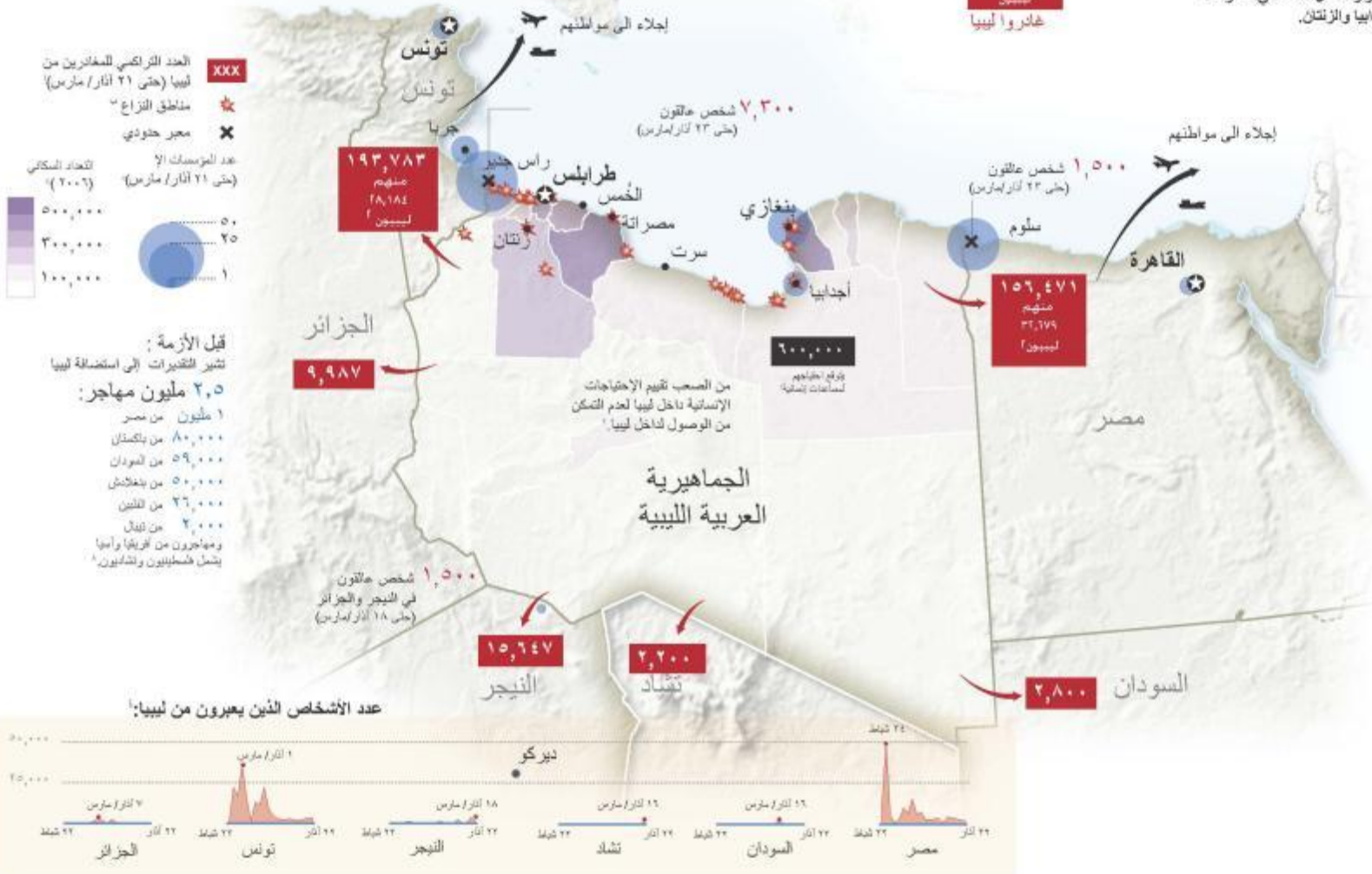
<http://ochaonline.un.org>  
[www.un.org/press/](http://www.un.org/press/)

www.researchweb.in  
http://northafrica.humanitar

(a) response info

**Non-responders**  
 10/10/2004

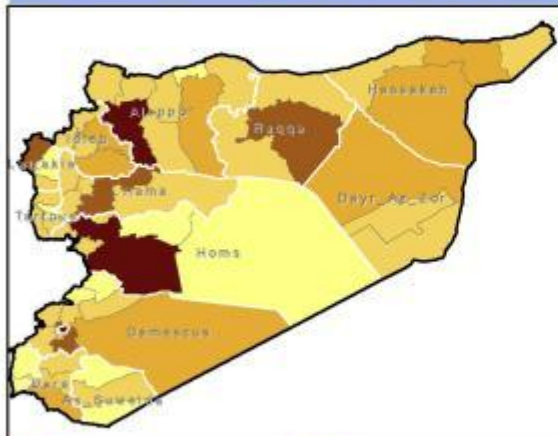
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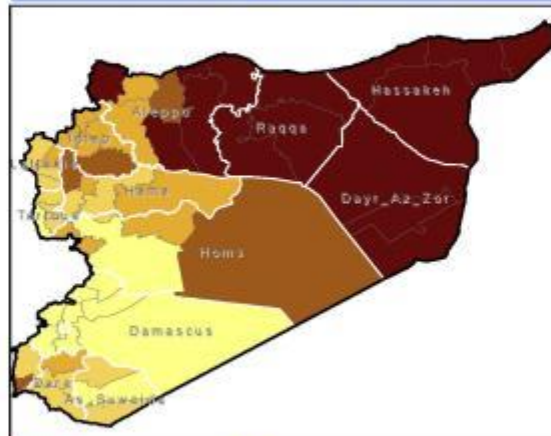


# Vulnerability Mapping based 2004 Census

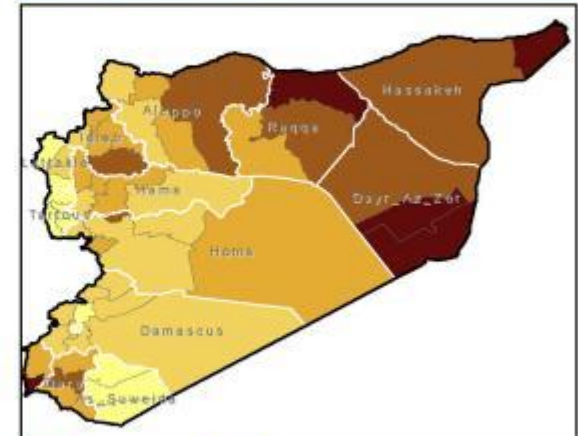
Population density by admin level 2



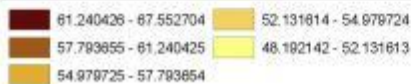
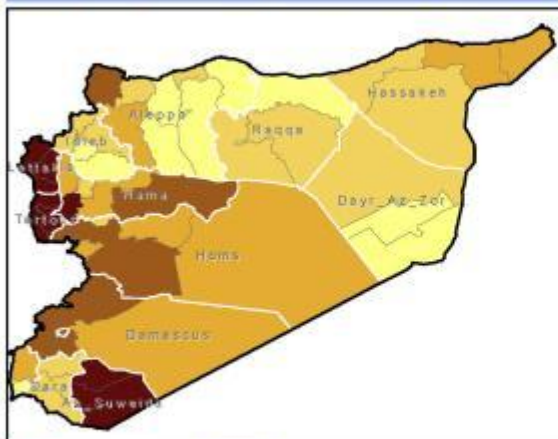
% of Illiteracy 15 years & above



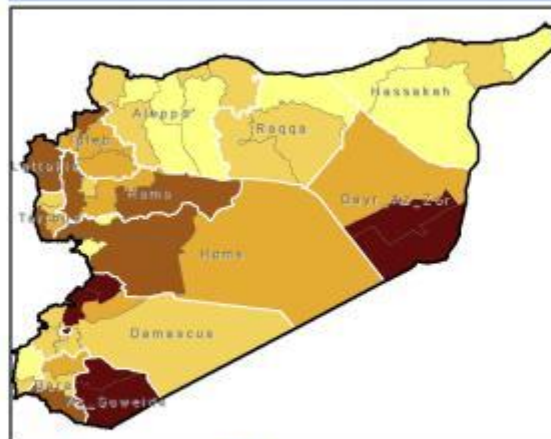
Average Family Size



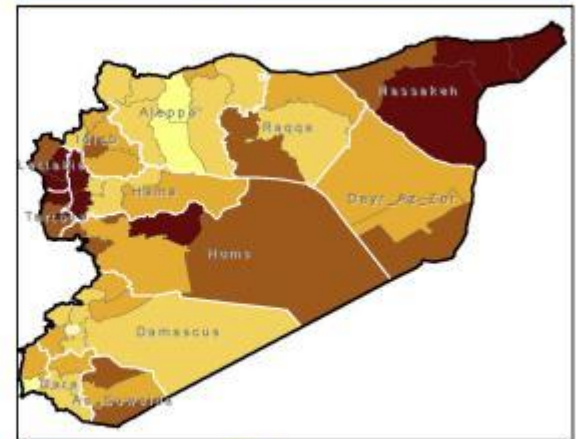
% of population age 15 to 64 years



% of households headed by women



% of unemployment 15 years & above





# Conclusion

- Industrial statistics can provide a wide range of indicators to foster the evidence-based policy making.
  - Synthesizing the large volume of data to a single piece of information that policymakers can use for corrective measures
  - A small number of indicators or a composite index to reflect several development aspects in one figure
  - Aggregated classifications derived from an existing standard industry classification to represent economic activities
- Challenges of globalization
  - a cross-country comparison of indicators and derived industry groups is essential
  - Integrating geographical information in industrial statistics to let industrial statistics talk geographically.
  - International trade matters as to answer the question of “what and how much produced using imports are exported, and to where”

Thank you for your attention

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