



# National activity classifications and ISIC

United Nations Statistics Division



# Purpose of ISIC

- Since its creation in 1948, ISIC had two goals:
  - Provide a tool for international comparison
  - Provide guidance to countries for a national activity classification structure
  
- ISIC periodically updated to keep it relevant with economic developments.
  - Side effect: Increasing need for detailed data has lead to more detailed versions of ISIC



# National classifications

- How can national classifications be structured?
- 1. Using ISIC as a starting point
- 2. Based on historical national versions
- 3. Starting completely from scratch



# Using ISIC as a basis

- Countries that use ISIC as a basis for their national classification, can do this to varying degrees:
  1. Adopt ISIC “as-is”
  2. Use the complete ISIC and add subdivisions to reflect nationally important industries (but maintain the ISIC coding structure) – “numerically truncated” back to ISIC
  3. As above, but with changes of the coding structure (example: NACE) – requires correspondence table
  4. Elevating lower level ISIC categories to higher national levels, (e.g. combine ISIC categories at 2- or 3-digit level)



ISIC Rev.4		National classification	
2310	Manufacture of glass and glass products	23101	Manufacture of flat glass
		23102	Shaping and processing of flat glass
		23103	Manufacture of hollow glass
		23104	Manufacture of glass fibres
		23109	Manufacture and processing of other glass, including technical glassware
2391	Manufacture of refractory products	23910	Manufacture of refractory products
2392	Manufacture of clay building materials	23921	Manufacture of ceramic tiles and flags
		23922	Manufacture of bricks, tiles and construction products, in baked clay



# Country example: France

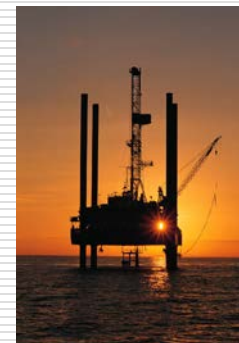
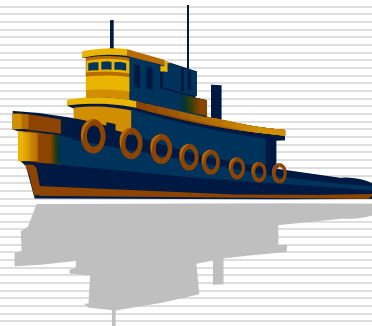
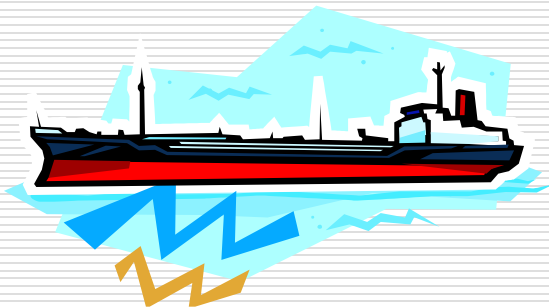
ISIC Rev.4 / NACE Rev. 2		CPF rév. 2, 2008	
0126	Growing of oleaginous fruit	01.26.1	Olive
		01.26.2	Coconut
		01.26.9	Other





# Country example: Norway

ISIC Rev.4 / NACE Rev. 2		SN 2007	
5012 / 50.20	Sea and coastal freight water transport	50.201	Sea and coastal freight water transport, foreign
		50.202	Sea and coastal freight water transport, domestic
		50.203	Tugboats
		50,204	Supply and other sea transport services for offshore installations





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		2312	Shaping and processing of flat glass
		2313	Manufacture of hollow glass
		2314	Manufacture of glass fibres
		2319	Manufacture and processing of other glass, including technical glassware
2391	Manufacture of refractory products	2320	Manufacture of refractory products
2392	Manufacture of clay building materials	2331	Manufacture of ceramic tiles and flags
		2332	Manufacture of bricks, tiles and construction products, in baked clay



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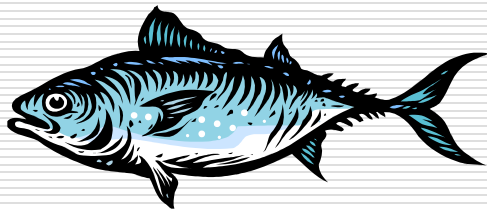


ISIC Rev. 4		National classification	
2310	Manufacture of glass and glass products	2311	Manufacture of flat glass
		2319	Manufacture and processing of other glass, including technical glassware
2391	Manufacture of refractory products	2390	Manufacture of refractory products and clay building materials
2392	Manufacture of clay building materials		



# Country example: Singapore

ISIC Rev.4		SSIC 2005	
<b>031</b>	<b>Fishing</b>	<b>031</b>	<b>Fishing</b>
0311	Marine fishing	0310	Fishing
0312	Freshwater fishing		
<b>032</b>	<b>Aquaculture</b>	<b>032</b>	<b>Operation of fish hatcheries and fish farms</b>
0321	Marine aquaculture	0320	Fish farming
0322	Freshwater aquaculture		





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**FULL COMPARABILITY WITH  
ISIC AT ALL LEVELS**

**COMPARABILITY WITH ISIC  
AT HIGHER LEVELS ONLY**



# Using historical national classifications as a basis

- Using non-ISCO based classifications always creates difficulties for international comparison
  - Correspondence tables are necessary
    - May limit data conversion due to splits
- Efforts are encouraged to line the historical versions up to ISIC
  - At detailed level (without considering aggregation structures) or
  - By lining up individual sections



# What detail should be considered?

- ❑ The United Nations Statistical Commission recommends that detailed categories of a national classification can be rearranged and aggregated so that they correspond with the 2-digit level of ISIC *without loss of data*.
- ❑ However, most statistics and users will require more
- ❑ Countries might want to *add detail* for industries of particular importance to the national economy.
- ❑ Countries might want to *remove detail* for reasons involving size and relevance, confidentiality or homogeneity



# What detail should be considered?

- Classification for collection may be more detailed than for distribution of data
  - Using more detail for collection allows for future adjustments if individual industries are growing
  - Level of detail for publishing depends on type of statistics anyway
- No fixed guidelines exist for the proper choice of detail





# ISIC

United Nations Statistics Division

## Possible approaches

**“Formal approach”**

### Based on variables like:

- # of statistical units
- # of employees
- value added

With chosen variable, compute ratio  $R$  between what is found within a category and average among “siblings”:

- $R < 0.5 \Rightarrow$  delete
- $R \in [0.5, 1.5] \Rightarrow$  keep
- $R > 1.5 \Rightarrow$  split

### Drawbacks:

- Hard to define levels/weights
- Level of detail influence outcome
- Ignore dynamic aspects

**Homogeneity based**

### Based on:

Homogeneity ratios (as described in ISIC Rev. 3)

Compress or expand classification based the value of these ratios

### Drawbacks:

- Not enough usable data
- No definitive and mutually exclusive definition of activities by products

**“Pragmatic approach”**

### Based on:

- Input from data users
- Special concerns (confidentiality, extra burden, growing industries)

- New subclasses only created if user demand
- Data users must justify their needs for splits, and estimate number of affected units and turnovers
- Take confidentiality and extra burden into account in advance
- No strict thresholds

### Drawbacks:

- Challenging and intense discussions, not all user needs can be met



# Options to consider or avoid (1)

- ISIC structure and definition are based on few criteria (input, process, output, use of outputs)
- Should other criteria be added for national purposes, such as private vs. public entity, manufacturing by hand (crafts) vs. manufacturing by machines?
  - What are the applications?



# Options to consider or avoid (2)

- ☐ Generally, avoid unnecessary addition of detail
  - Does the intended form of specialization exist?
- ☐ This is extremely important for consistent coding and resulting data



# Options to consider or avoid (3)

- When following the ISIC structure and coding system, don't renumber codes if you want to skip a code number
  - Regardless of legality, size or other concerns, it is still within conceptual scope, and must be accounted for in the SNA.
  - Renumbering makes the ISIC link less intuitive



# Rules for good housekeeping

- ❑ If a category at level  $n$  is not further subdivided, the code at level  $n+1$  should be the same code with a "0" appended
- ❑ Use digit "9" for residual categories