Removals data collection case study: Germany

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20-21 May 2024
Considerable gap in felling statistics:

- under-recording of ca. 19 million m³ u.b. when comparing official statistics with results from last NFI period (2003-2012)

=> strong need to improve data on fellings and removals

Sources: BWI3/NFI3, Destatis
**Method: Re-calculation of removals and fellings**

**Fellings and Removals**

- **Removals** $R$: 
  \[ R_j = \sum_{i=1}^{n} U_{i,j} + X_j + S_j \]

- **Fellings** $F$: 
  \[ F_j = R_j - NDH_j + NVD_j \]

*Sources: BWI3/NFI3, Destatis, Jochem et al. (2015)*

*U = User of roundwood $i$ (by C and NC)*

*X = Net trade*

*S = Stock changes*

*NDH = Non-coarse wood*

*NVD = Non usable coarse wood*

*C = Coniferous*

*NC = Non-coniferous*

*j = Year*

Graph showing the comparison of official felling statistics with re-calculation results.
Removals data collection: German case

Method: Re-calculation of removals and fellings

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Sources: BWI3/NFI3, Destatis, Jochem et al. (2015)
Method: Re-calculation of removals and fellings

Roundwood supply

- Forestry
- Imports
- Stock decrease

Roundwood use

- Saw mills
- Wood-based panels
- Wood pulp
- Veneer, plywood
- Pellets, briquettes, wood charcoal
- Private households
- Wood combustion plants
- Exports
- Stock increase

Roundwood
- Forest residues
- Bark
- Waste wood
- Landscaping residues
- Sawmill by-products
- Other wood processing residues

Sources: Jochem et al. (2015), TI-WF, picture credits see last slide
Method: Data collection

Roundwood supply
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Gaps/missing data in official production statistics
- Empirical surveys where necessary:
  - every 2nd/3rd year, models for years in between
  - full survey or sample survey

Sources: Jochem et al. (2015), Ti-WF, Glasenapp et al. (2023)
Re-calculation of roundwood fellings and removals closes the gap to NFI considerably:

- > 1.9 million m³ or 2.5% compared to NFI period (2003-2012)
- > Data are used for JFSQ removals reporting from 1995 to the current reporting year
Data transfer to JFSQ structure

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**Product Code**

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<tbody>
<tr>
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<td>WOOD FUEL (INCLUDING WOOD FOR CHARCOAL)</td>
</tr>
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</tr>
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<td>1.1.NC</td>
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<tr>
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Sources: Jochem et al. (2015), TI-WF, JFSQ
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Sources: Jochem et al. (2015), TI-WF, JFSQ
Results & Comments (from German case)

Data are used for JFSQ removals reporting from 1995 to the current reporting year
- Data comprise also removals of non-coarse wood (⌀ below 7 cm, included in wood fuel)
- Removals of stemwood can be identified
- Wood fuel includes all wood from forest, also small diameters below 7 cm
- Wood fuel does not include wood from outside forests (so far, ≠ FAO-Definition)
- Removals include own-accounts of forest owners
- Wood chips from forests for energy purposes are included in wood fuel (not included in wood chips!)
- Roundwood for pellets, briquettes, charcoal is allocated to pulpwood (≠ FAO-Definition)
- Damaged wood from storms, pests etc. are included in removals (and fellings)

<table>
<thead>
<tr>
<th>Year</th>
<th>ROUNDWOOD</th>
<th>WOOD FUEL</th>
<th>INDUS-TRIAL ROUNDWOOD</th>
<th>SAWLOGS AND VENEER LOGS</th>
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<tr>
<td></td>
<td>1000 m³ u.b.</td>
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<tr>
<td>1995</td>
<td>46,085.0</td>
<td>33,963.7</td>
<td>12,121.3</td>
<td>8,275.9</td>
<td>3,353.1</td>
<td>4,740.8</td>
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<td>2018</td>
<td>73,737.2</td>
<td>55,220.0</td>
<td>18,517.2</td>
<td>21,987.0</td>
<td>8,900.3</td>
<td>13,086.7</td>
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<td>2019</td>
<td>73,829.3</td>
<td>56,602.9</td>
<td>17,226.5</td>
<td>20,815.1</td>
<td>8,369.1</td>
<td>12,446.0</td>
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<tr>
<td>2020</td>
<td>78,682.9</td>
<td>63,062.3</td>
<td>15,620.6</td>
<td>20,241.7</td>
<td>8,144.9</td>
<td>12,096.8</td>
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<td>2021</td>
<td>82,178.0</td>
<td>64,930.4</td>
<td>17,587.6</td>
<td>22,799.3</td>
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<td>2022</td>
<td>78,871.9</td>
<td>61,298.6</td>
<td>17,613.4</td>
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Thank you for your attention!
Sources


JFSQ: Joint Forest Sector Questionnaire by UNECE, FAO, Eurostat and ITTO.


Picture credits: