



# Forest Accounting at the national level: a comparative assessment of issues and approaches at the example of Austria and Bosnia and Herzegovina

Walter Sekot  
Boro Kovacevic



**Universität für Bodenkultur Wien**  
Department für Wirtschafts- und  
Sozialwissenschaften

# IEEAF: The European Framework for Integrated Environmental and Economic Accounting for Forests

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- Non-compulsory, sector-specific satellite account
- Origin in the 1990-ies; data collection by EUROSTAT since 2005
- Repeated revisions; still work in progress
- Focus on income generated by timber production
- Differentiation between ‘forestry’ and ‘logging’
- Documentation of wooded land and standing timber

# Frame conditions and basic approaches for establishing the IEAAF



| item                                       | Austria  | Bosnia and Herzegovina  |
|--|--|---|
| ownership (% of area)                      | ~ 80 % private   | ~ 80 % public   |
| enterprises (% of area, n)                 | ~ 50 %; 144000 small-scale forests (< 200 ha)  | ~ 80 %; 10 + 1 big state forest organisations   |
| responsibility                             | 1 national statistical office  | 1 national and 2 sub-national statistical offices   |
| aggregation of national results (3c/B1)    | across categories (farm forestry, enterprises, National Forests, tree nurseries, contractors, consultants) | across 11 regional units  |
| mode of data collection (3c/B1)            | national accounts; sector statistics; accounting networks; expert opinion                                  | questionnaire in the structure of table B1 addressing 10 + 1 state forest organisations and 142 + 106 private companies |
| valuation of increment and standing timber | stumpage value   | stumpage value  |

# Results derived from table 3c (B1) of the IEEAF for 2013



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| item  | Austria | Bosnia and Herzegovina |
|---|---------|------------------------|
| Compensation of employees in % of factor income | 23.0    | 40.3                   |
| Value added in relation to output               | 0.5     | 0.6                    |
| Output per annual working unit (€)              | 151701  | 38201                  |
| Wages per annual working unit (€)               | 13898   | 8144                   |
| Share of wood in the rough on total output (%)  | 53.2    | 36.9                   |
| Share of increment on total output (%)          | 34.2    | 52.2                   |
| Net increment in % of increment                 | 10.6    | 54.5                   |

# Typical problems associated with the economic aggregates of forest and logging industry (Table B1 / 3c)



***Heterogeneity of data sources:*** *shortcomings in terms of availability and/or quality of data may require expert opinion or mere 'guesstimates' in order to avoid gaps*

***Comprehensiveness and consistency of sector statistics:*** *it may be practically impossible to establish, whether and to what extent all forestry activities are in fact captured comprehensively. Extensions (like the recent one in regard to forestry-specific consulting) trigger additional data requirements and inconsistent time series*

***Segregation of forestry:*** *the concept of 'local Kind of Activity Units' may be applied differently, resulting in 'inseparable non-forestry secondary activities' affecting the accounts*

# Challenges associated with the valuation of increment and growing stock



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## I. Physical data:

availability of data from national forest inventory

→ *updating, smoothing, corrections in hindsight*

splitting up into assortments

→ *special procedures for determining the volume of (potential) assortments*

## II. Valuation:

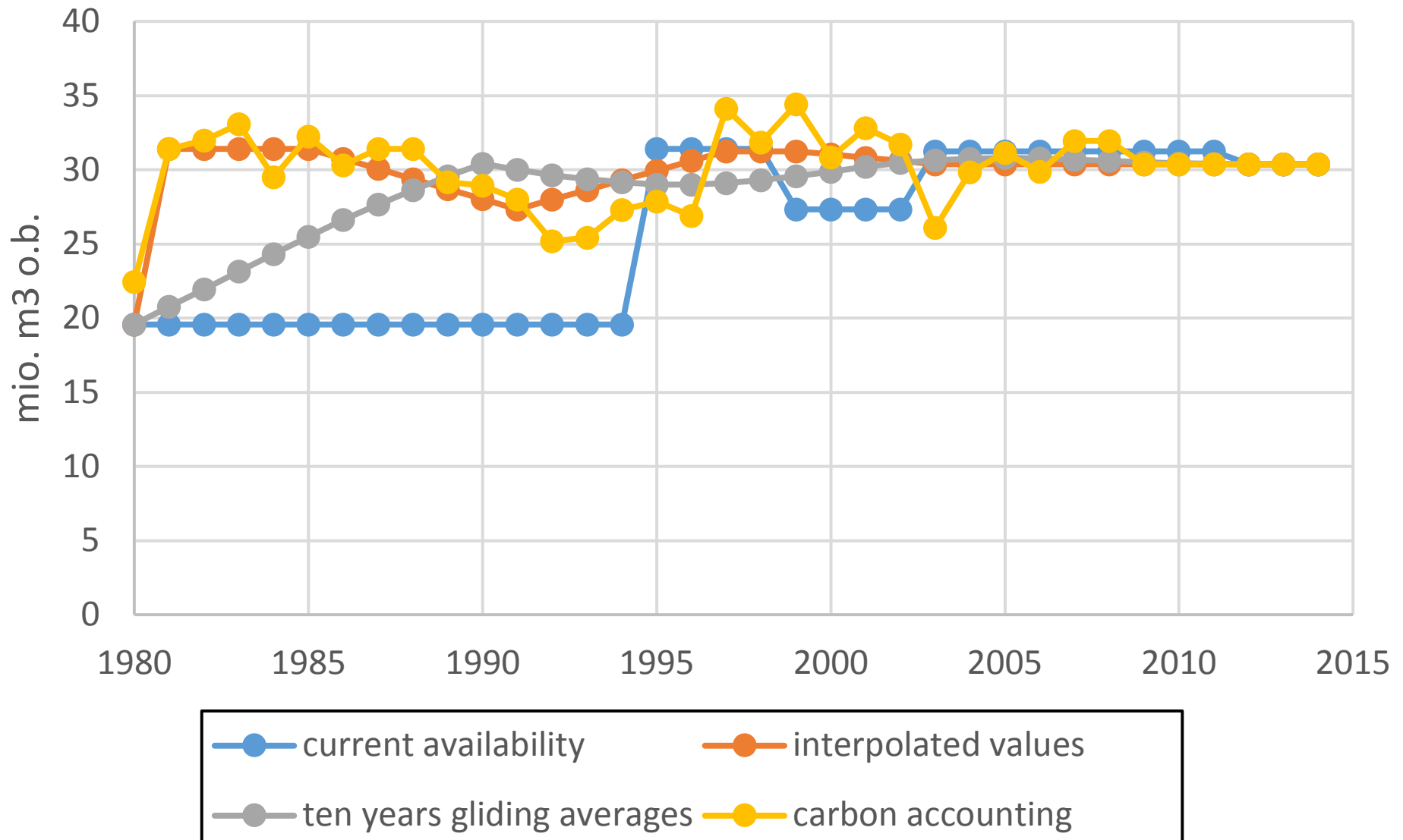
assessing the degree of completion and the costs of production

→ *stumpage value at current market prices as surrogate*

adjoining of harvesting costs to the different assortments (joint-product production)

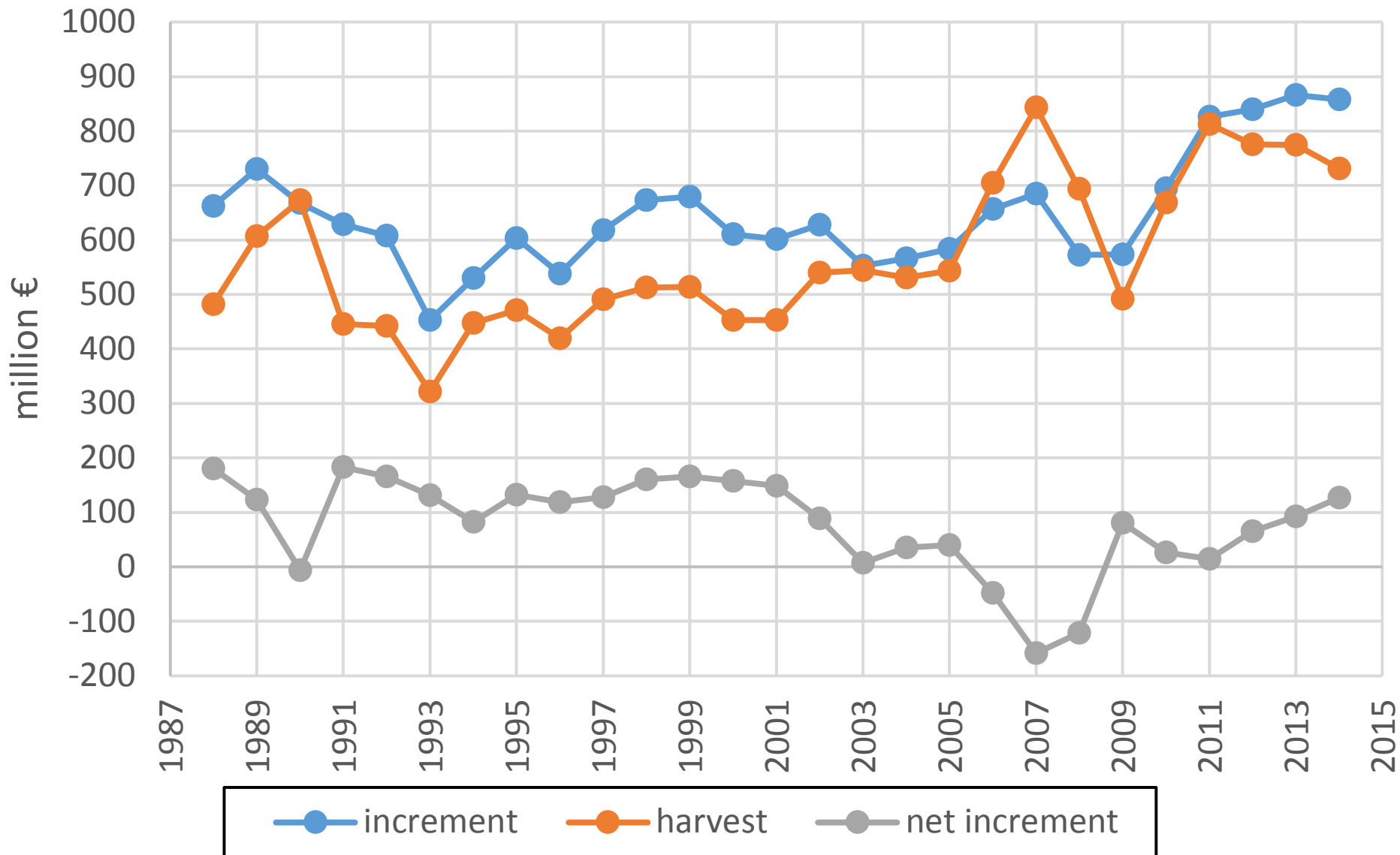
→ *average unit costs of harvesting equal for all assortments*

# Increment: currently available information versus approximation and smoothing of period-specific figures in hindsight – comparison for Austria



# Changes in stocks of work-in-progress

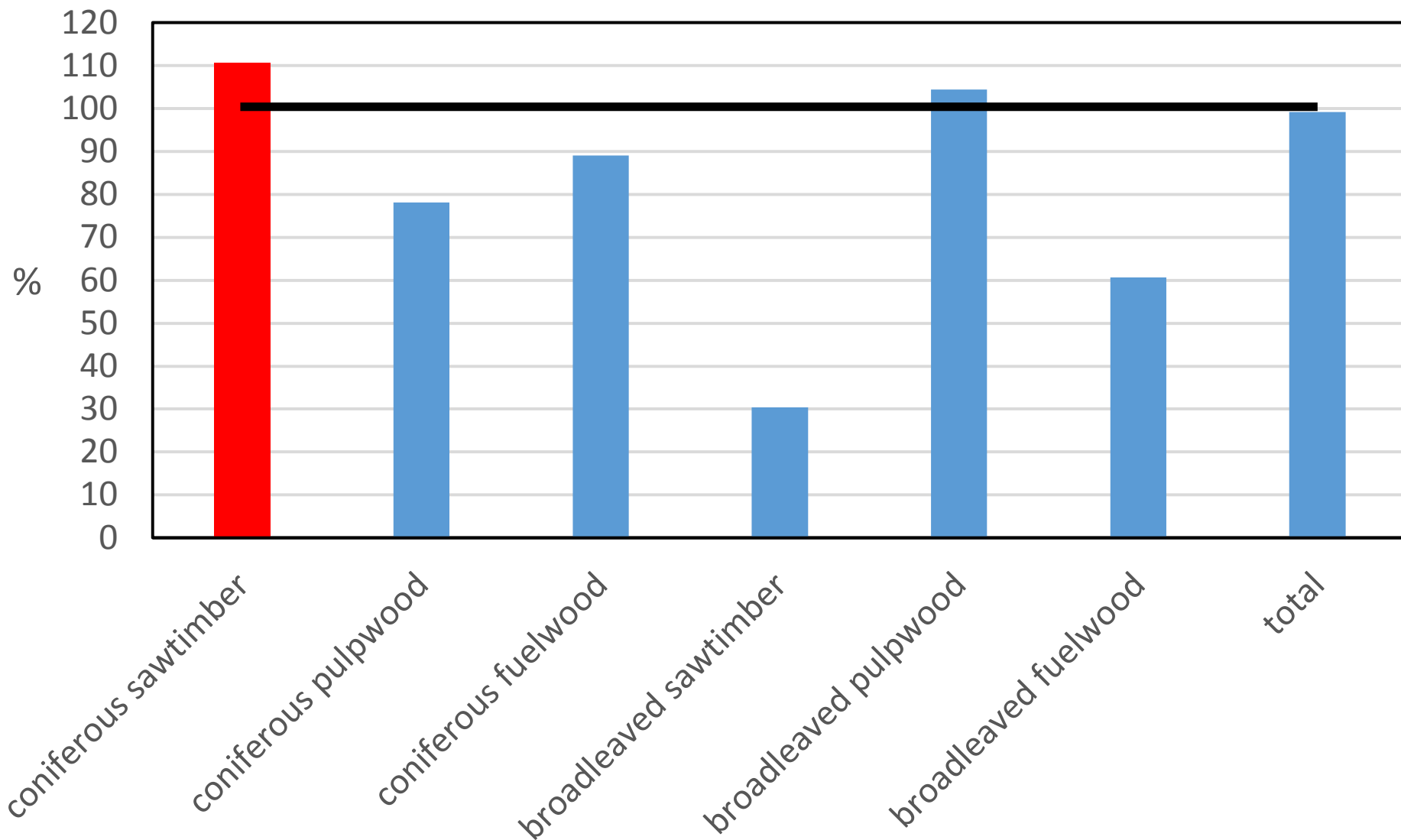
(Austria, nominal values)





# Harvest in % of increment by assortments

(Austria, averages for monetary values 2005-2014)



# Conclusions as to the valuation of increment and standing timber

- The IEEAF provides no stringent rules. Hence, international comparability may never be achieved
- In any case, physical as well as monetary data are associated with a bulk of assumptions
- Without national standards the results will remain highly ambiguous and of little significance
- Valuation should strictly stick to pragmatic approaches
- Carbon reporting may provide the required annual, physical data

# General conclusions in regard to IEEAF



- There is a considerable potential for biases, double counting and omissions
- International comparisons are hampered by the different availability of basic data and the use of different methods as well as surrogates, the compatibility of documented results being by no means guaranteed
- A comprehensive documentation as well as the revision of whole time series are decisive for the consistency and hence also for the relevance of national results
- Clearly defined interfaces with other sectors of the economy (esp. agriculture), the national accounts and other related statistics (like e.g. carbon reporting) are of utmost importance for smoothly fitting the forestry satellite accounts into the general statistical framework at the national level



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**Thank you very much  
for your attention and interest!**