IAS (International Accounting Standard) Fair Value and Forest Evaluation on Farm Forestry

by

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FADN ORGANISATION (data)

Farms
Population 75 000 farms (field of survey 45 000)
Target 1300, of which 150 horticultural farms

Rural Advisory centres
Association of Rural Advisory Centres
Organisations of Horticultural producers

MTT Economic research
Unit of Accountancy (Liaison Agency)

National FADN - Committee
Average results

Ministry of Agriculture and Forestry

Data users (research)

EU Commission (DG AGRI)
Profitability Bookkeeping
From taxation bookkeeping to accounts

Closing of books

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<th>Cash basis</th>
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<td>REVENUES / TURNOVER (-/+) Change in product inventories</td>
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<td>CASH</td>
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<td>PURCHASE EXP. (+/-) Change in purchase inventories</td>
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IAS 41: evaluation of biological property

- IAS 41: biological property based on the 'fair value' according to market prices — the costs of the sales
- If the value can (a) or cannot (b) be measured reliably:
  a) stand ready for final felling: felling value sales — costs
  b) Market prices of plantings, young or middle-aged stands NOT conform present state of the property
  Their fair value, 'present value of the expected net cash flow from the asset' (IFRIC 2003).
- Market interest rate before the impact of taxation discounting interest
- The IAS brings (+) transparency, especially, comparability
- The impact of market fluctuations on profit remains a problem (-)
- The expenditure-revenue theory of the local accounting practice, i.e. P/L focused
- but IAS means US B/S property accounting
Forest evaluation alternatives

- Auxiliary tables of the sum-value method, three categories
- P/L based on the comparison between the planned fellings (FMP) and the actual fellings; B/S and property evaluation ignored
- Dualistic value change of property: (i) a dynamic portion, i.e. the value change based on the volumes, (ii) an economic cycle portion, the value change based on stumpage prices
- The value of the growing stock and the annual timber balance estimated using the stand measurements of the FMPs as such
- The growing stock for each year: an update of the growing stock stand data of the FMPs (actual measurements)
- FMP SW (MELA) the growth can simulate years ahead. The simulation is based on the growth models, which present the state-of-the-art, and even simulates fellings and other forestry activities
- Forest land can be evaluated with help of the FMP SW (MELA) using also the bare land evaluation (Faustmann formula)
- CAPM based valuation implemented
- Option theory approach in test phase

Forest value in B/S and P/L statements

- The growing stock (GS): product & production machinery
- B/S: Merchantable GS to Current assets / Inventories
- B/S: The plantings, young and middle-aged stands to Fixed assets / Tangible assets
- This split according to the law with the allowable cut calculation of the FMP SW (MELA)
- The allowable cut calculation: a ten-year calculation period, and the outturn is placed in the middle of the period.
- When the allowable cut is maximized, the net incomes of the future periods are taken into consideration and not
- P/L: The annual change in value of the growing stock included in 'changes in inventories and finished goods'
- Growing stock value change can, however, the dominant part of the operating profit, if small amounts of wood sold
- Timber sales and prices impact on annual P/L statements
The calculation methods:

- *no cuttings* = the MELA calculation of the value of the growing stock is performed and based only on the FMP

- *MELA RSU* = the MELA calculation is based on the FMP and the *ACTUAL* updated information consisting of harvested amounts and estimated basal areas

- *MELA SMU* = the MELA has an *IMPLIED* activity control, that has decided and performed harvesting and other silvicultural activities, and these harvested amounts of wood and calculated basal areas

- *Sum-value* = the sum-value method has been applied without any cuttings

The calculation methods have been grouped according to different allowable cut calculations so that method:
- 'A' maximizes the PV of the net incomes and
- 'B' maximizes the net income of only the first 10 year planning period.

The value of the growing stock

The value of the growing stock in 2002 divided into the allowable cut and the remaining growing stock in 2002
Change in the value of the growing stock with different methods

The value change of the growing stock divided into stumpage price change and volume change impacts

Summary

Different methods provide really variable results
• MELA no-cuttings only for comparison purposes
• ACTUAL felling info (RSU): basal areas etc. too hard
• IMPLIED fellings and other activities (SMU) accurate enough

• The traditional sum-method only for comparison purposes
• Can be implemented into production when fellings and other activities based on IMPLIED calculations, no measurements
• Local law, other IAS requirements, EU accounting requirements and accounting theory conformity?
• CAPM and option theory applicability and conformity?
• Additional case farms and additional FMPs
Appendix I: Net profit components

- Net profit consists:

  (i) the realized net income - the difference between felling incomes and expenditures required to produce them,

  (ii) timber balance change, i.e. the volume change evaluated by prices, and

  (iii) the value change of the opening volumes caused by changes in stumpage prices.

Note! This split reasonable also when using ROI, ROE, ROA, ROCA etc.

Appendix II: Adjusted Income Statement

Selling proceed
+ subsidies
= Turnover
+/- changes in stocks (own products and livestock)
+ other incomes
= Gross return
- cost of material and supplies
- permanent costs
- opportunity cost of farm family work (wage claim)
- depreciation
- interest paid
= Net result
- opportunity cost of net worth, interest claim
= Entrepreneurial profit (including income taxes)
Appendix III: Financial ratios

Net result

+ Opportunity cost of farm family work
  (=wage claim)

= Family Farm Income

Family Farm Income

------------------------------------ = Profitability coefficient
Wage claim + Interest claim