

FIG

FIG WORKING WEEK 2017

Helsinki Finland

29 May - 2 June 2017

Presented at the FIG Working Week 2017,
May 29 - June 2, 2017 in Helsinki, Finland

Market based income approach for forest valuation

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Finland

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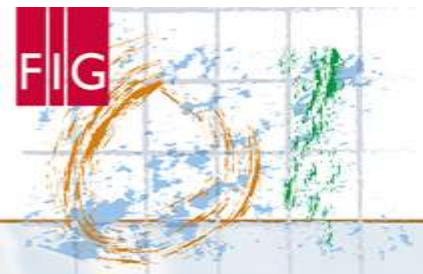


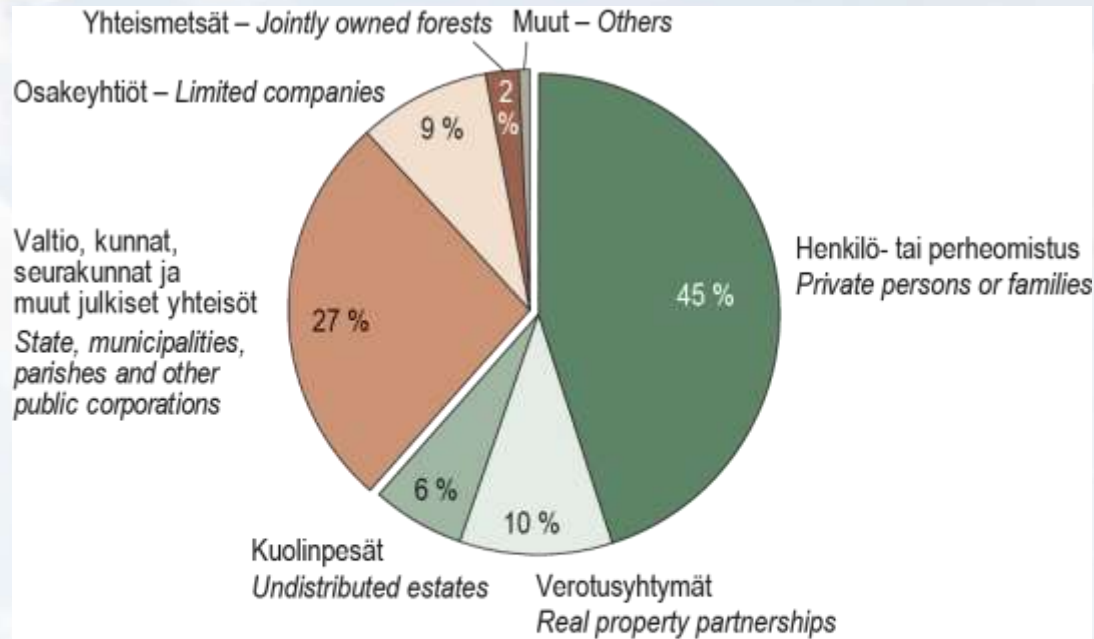
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WHY FOREST VALUATION IS IMPORTANT?



Lähde: Verohallinto – Source: Tax Administration

Metsämaan pinta-alaosuudet omistajaryhmittäin 2012
Proportion of forest land area by forest ownership category, 2012

Metsätilastollinen vuosikirja 2014



Forest area in Finland according to FAO Forest Resources Assessment (Source: Natural Resource Institute Finland)



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STUDY

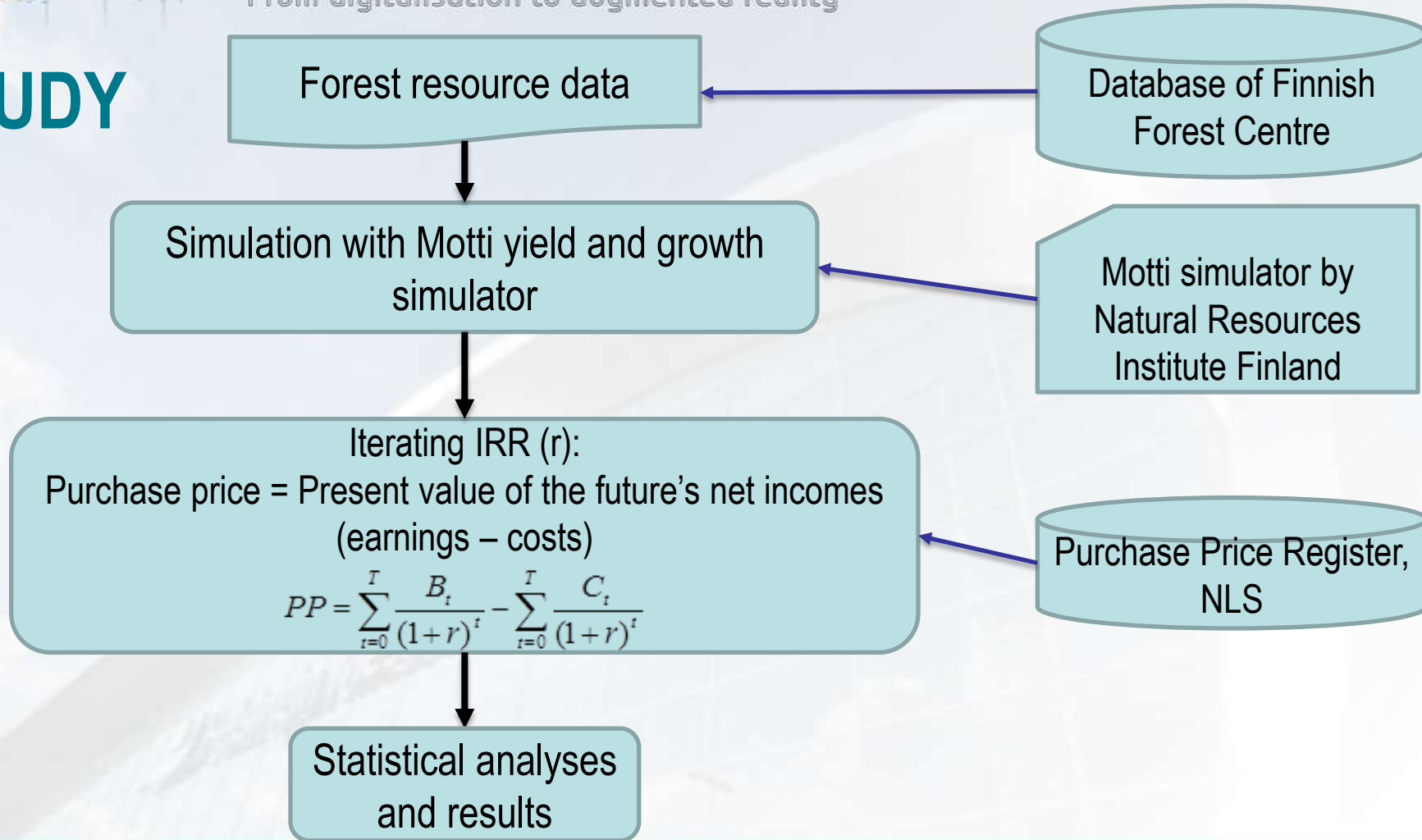




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FOREST RESOURCE DATA

- Includes stand characteristics and timber assortment volumes
 - species, height, diameter, age, stem number, volume of the trees and site index
- Is based on remote sensing
 - Orthophotos
 - Area based ALS (Airborne laser scanning)
 - Low density data: Estimation is based on canopy height distribution



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RESULTS, PRE-TAX IRR

- Mean 4,7% and median 4,5%
- Lower quartile 3,7% and upper quartile 5,4%
- IRR depends on:
 - average growing stock volume
 - location (temperature sum)
 - proportion of the mineral soils (in the middle Finland)
- Forest resource data is usable for this kind of mass study



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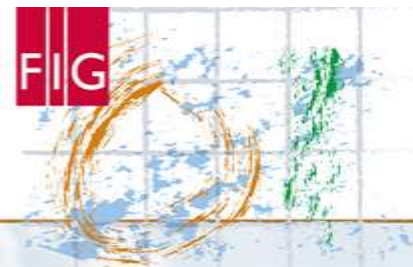
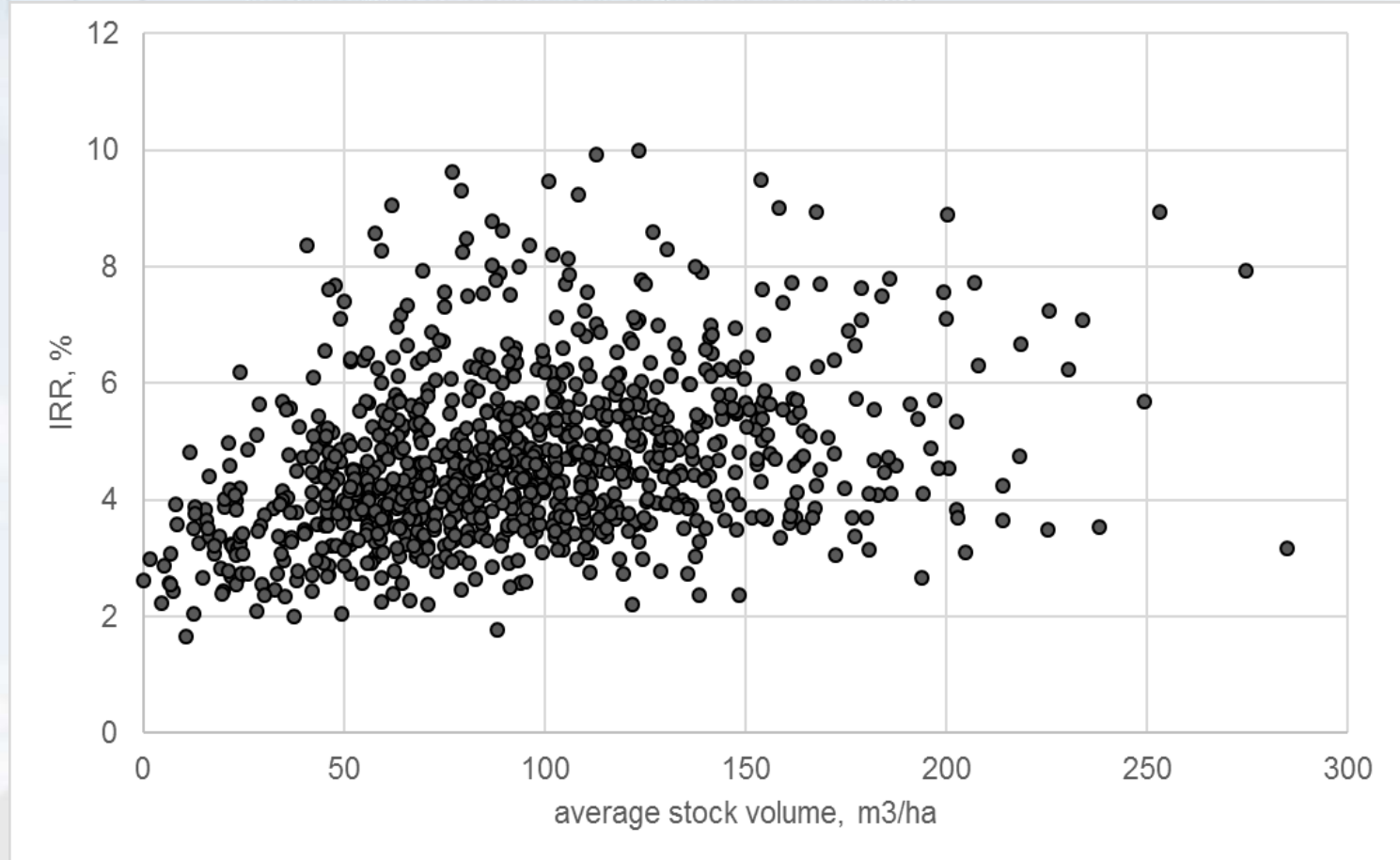


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IRR as the function of the average growing stock volume



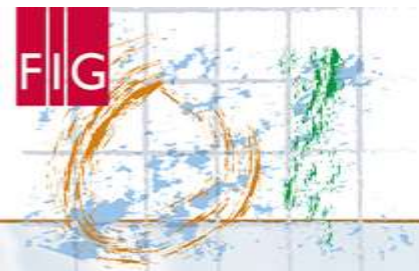


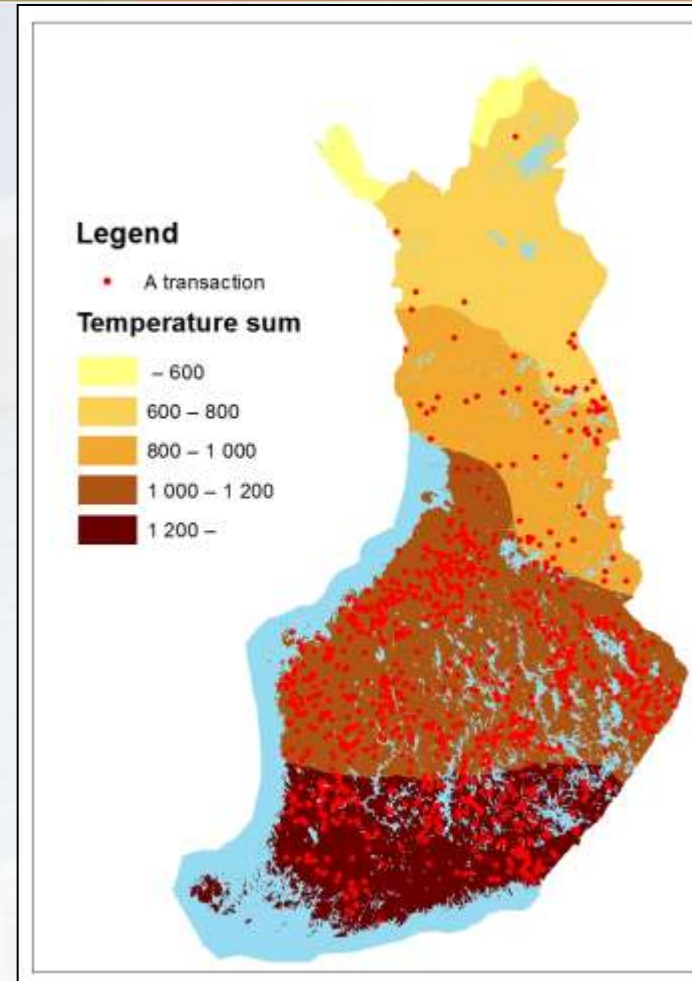
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Avg. stock volume (m3/ha)	N=973	Median	Mean	Std dev
under 40	91	3,38	3,51	0,93
40-79	313	4,20	4,44	1,28
80-119	321	4,67	4,84	1,30
120-159	169	5,08	5,16	1,35
160-199	58	4,74	5,12	1,43
over 200	21	5,36	5,53	1,88



Temperature sum in Finland and locations of transactions in the study



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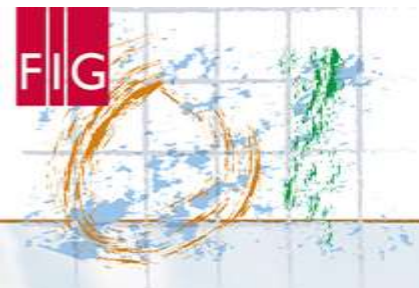


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THANK YOU!

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