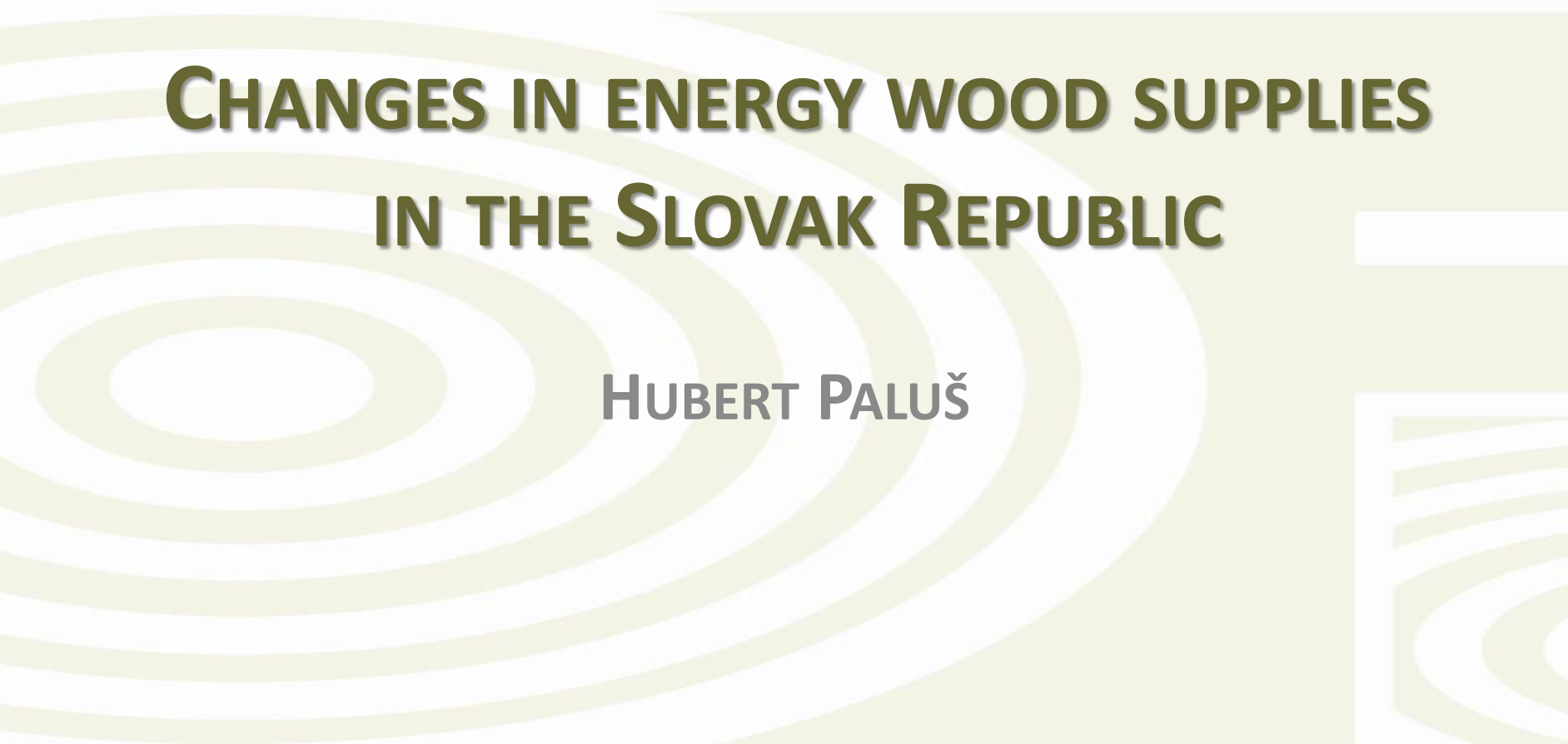




CHANGES IN ENERGY WOOD SUPPLIES IN THE SLOVAK REPUBLIC

HUBERT PALUŠ

FORESTRY FACTS

- 2 mil. ha forests
- 41% forest cover
- 60% broadleaved, 40% coniferous
- 475 mil. m³ standing volume
- 7,8 mil. m³ felling

ROUNDWOOD PRODUCTION

- STN 480055 Qualitative classification of softwood round timber
- STN 480056 Qualitative classification of hardwood round timber

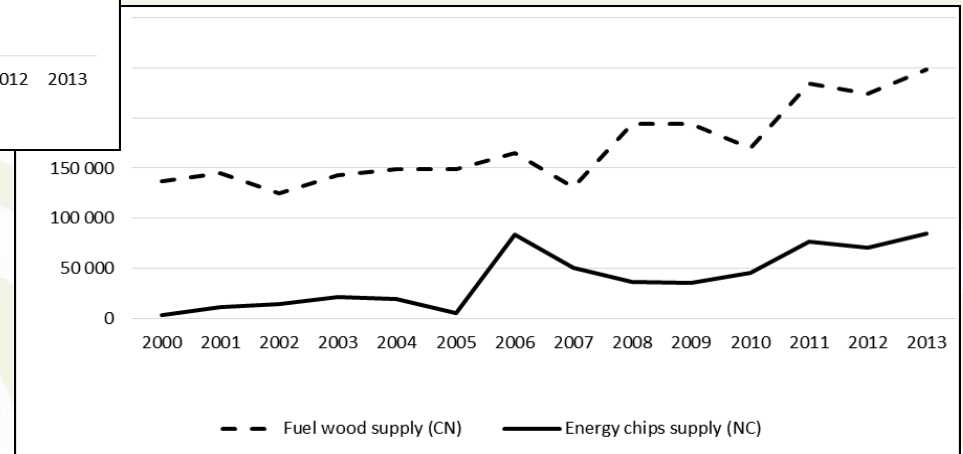
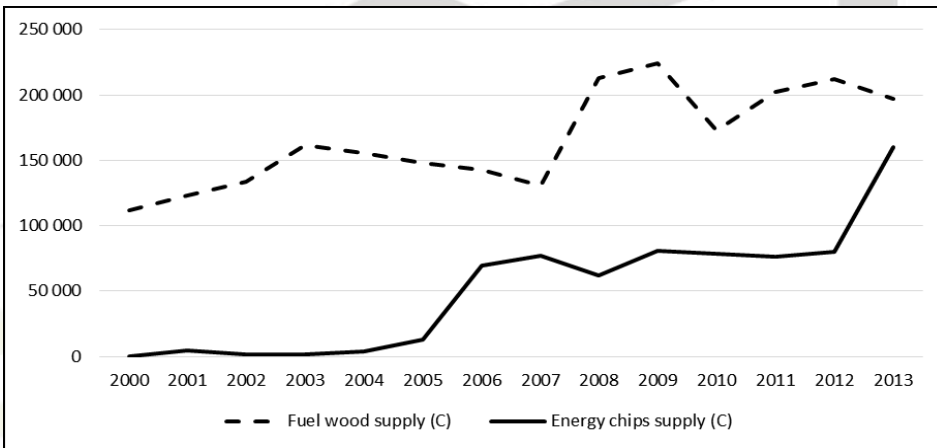
Quality class	Assortments
I.	veneer logs (used for production of sliced veneer)
II.	veneer logs (used for production of rotary cut veneer)
III.	Sawlogs
IV.	posts, pit props, poles
V.	pulpwood for chemical and mechanical processing
VI.	fuel wood

- whole lengths, standing timber, **forest (energy) chips**

ENERGY WOOD MARKET

- EU 2020 target: 20% energy from renewable resources
- Slovakia 2020 target: 14% energy from renewable resources
- no legislation in place to support systematic production and use of wood biomass
- National Action Plan for Energy from Renewable Forest Resources (2010)
- State Forest Enterprise – biomass center

ENERGY WOOD MARKET DEVELOPMENT



- share of coniferous and non-coniferous fuel wood, respectively, on total wood supplies was 3.8% and 5.4% showing an increasing trend in absolute volumes
- share of coniferous and non-coniferous energy chips on total wood supplies was approximately 1%; showing an increasing trend in absolute volumes

ENERGY WOOD MARKET FACTORS

- forest resources and assortment structure of production
- prices of assortments
- prices of fossil fuels, energy
- energy policy
- pulpwood and fuelwood – potential sources for energy chips production apart from harvesting residues

METHODOLOGY

- assumed substitution in inputs for energy wood production due to price or income shifters
- simple econometric model of supply created to reveal substitution/ complementarity relations
- coniferous and non-coniferous chips supply models
 - different markets for related goods
- prices and volumes of related goods (fuel wood, pulpwood) considered supply shifters
- linear and log-linear forms of models tested
- 2000-2013 data used

RESULTS

- **model of supply of non-coniferous energy chips (linear)**

Independent variable	Supply
Intercept	-149564.896
Non-coniferous chip price	***0.674 (4.57)
Non-coniferous fuelwood volume	***1.14 (7.74)
R ²	0.845 (29.3)
D	2.167
VN	2.334
S _u	26105.39

CONCLUSION

- significant forest resources available to produce sustain production of industrial and fuel wood on a long-term basis
- there is no effective system of support for the production of energy from renewable sources in place
- non-coniferous energy chips supplies increase with the price of chips (price inelastic supply)
- non-coniferous energy chips and fuel wood are complementary goods in terms of produced and supply volumes



THANK YOU FOR YOUR ATTENTION!

Now

YOU CAN ASK QUESTIONS! 😊

Assoc. prof. Hubert Paluš PhD.
Department of Marketing, Trade and World Forestry
Faculty of Wood Sciences and Technology
Technical University in Zvolen
Slovakia