



# **THE PRICES AND UTILIZATION OF BIRCH AND BEECH RAW WOOD IN THE CZECH REPUBLIC – A BIOECONOMIC DIMENSION**

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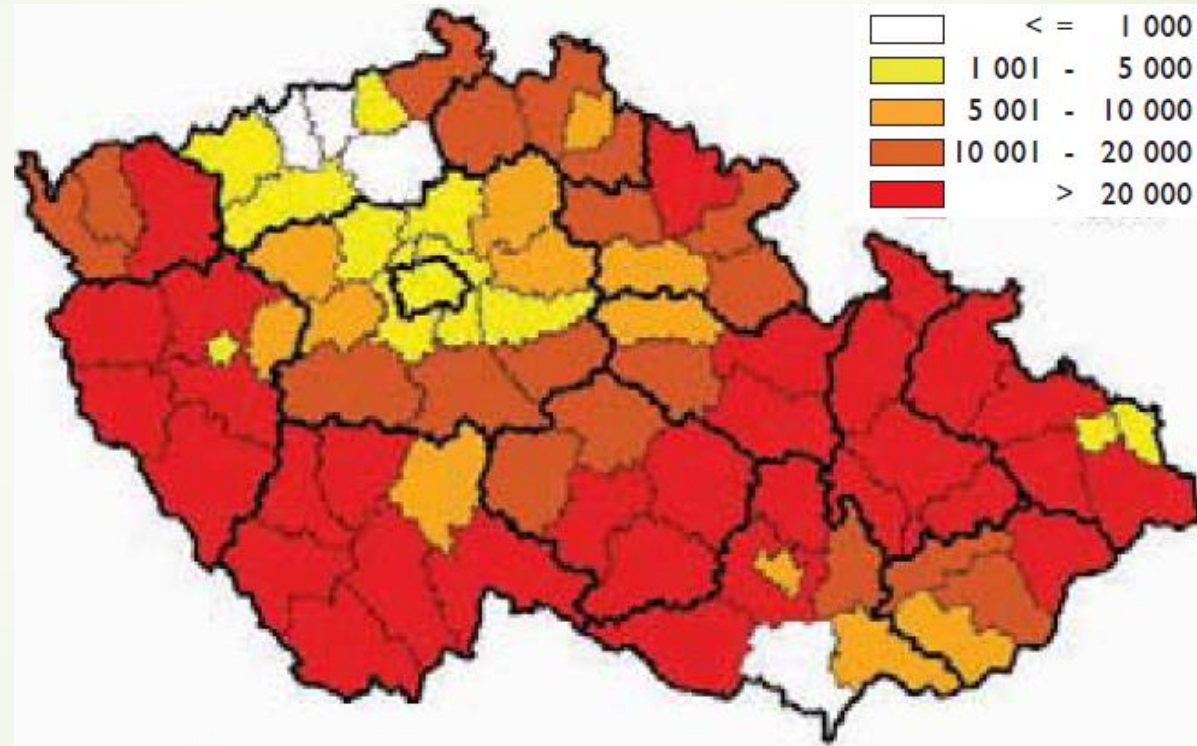
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# Introduction

- ▶ Czech forestry has been addressing an issue of spruce stands declining at lower and middle altitudes, especially in northern Moravia.
- ▶ 2015: volume of harvested timber 16.16 mil. m<sup>3</sup> (out of that 8.2 mil. m<sup>3</sup> salvage felling – 50.4%), the share of coniferous harvested timber in total volume of harvested timber: 89%.
- ▶ 2016: volume of harvested timber 17.61 mil. m<sup>3</sup> (out of that 9.4 mil. m<sup>3</sup> salvage felling – 53.4%), the share of coniferous harvested timber in total volume of harvested timber: 90%.

# Introduction

- The amount of bark beetle timber in the spruce stands in the Czech regions (in m<sup>3</sup> in 2016)



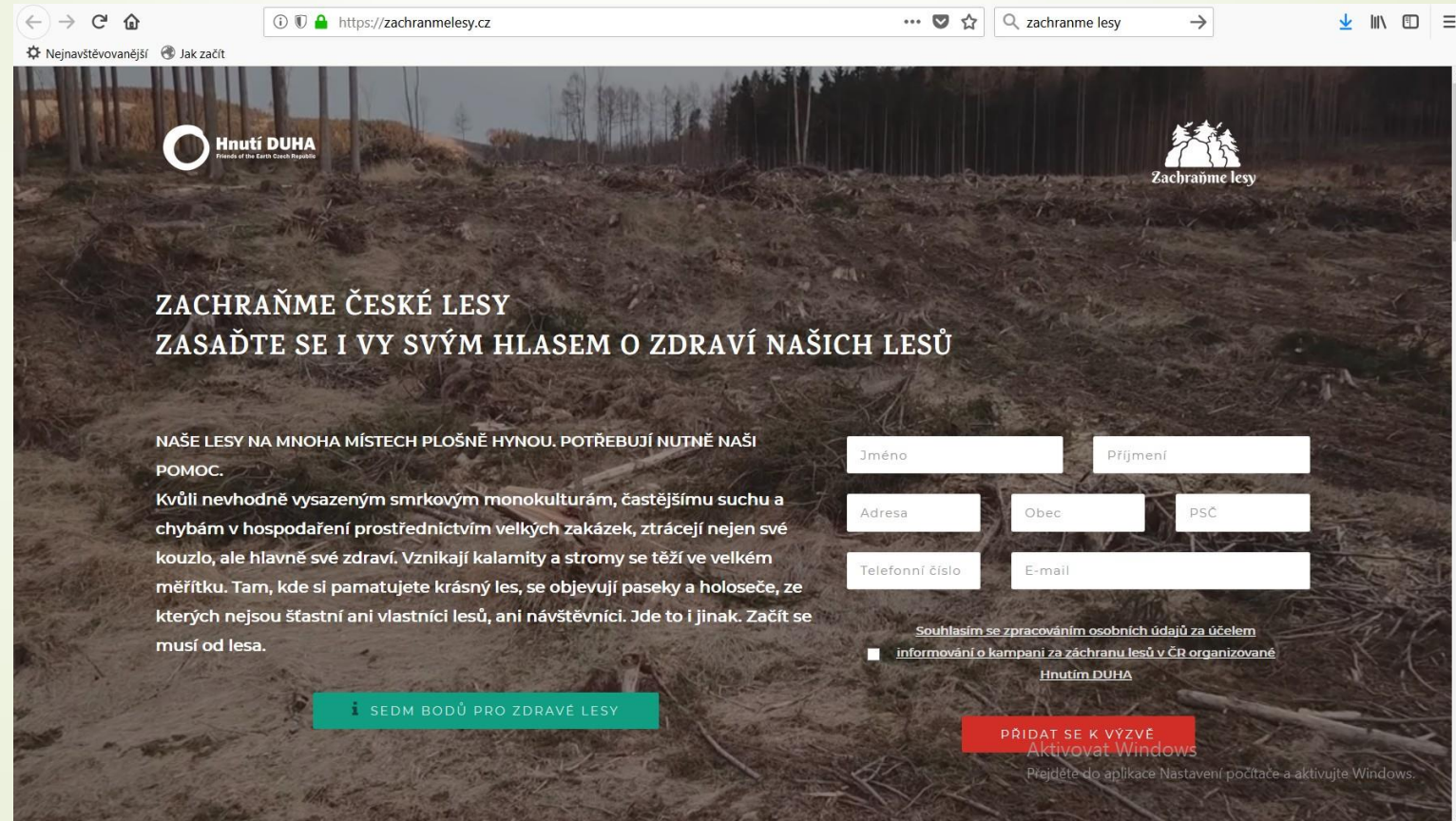
Source: Forestry and Game Management Research Institute, Czech Republic

# Introduction

- ▶ The reasons of high share of salvage felling in the spruce stands are:
  - ▶ Drought, or deficiency or unevenly decomposition of precipitation respectively.
  - ▶ Tree weakening caused by honey fungus.
  - ▶ Bark beetle (attacks).

# Introduction

## ► Publicizing of the situation



The screenshot shows a web browser displaying the website <https://zachranmelesy.cz>. The page features a dark background with a photograph of a forest floor covered in fallen branches and debris. The text on the page is in white and light green. At the top left, there is a logo for "Hnutí DUHA" (Friends of the Earth Czech Republic). At the top right, there is a logo for "Zachraňme lesy" (Save our forests). The main heading reads "ZACHRAŇME ČESKÉ LESY ZASAĎTE SE I VY SVÝM HLASEM O ZDRAVÍ NAŠICH LESŮ". Below this, there is a paragraph of text explaining the situation: "NAŠE LESY NA MNOHA MÍSTECH PLOŠNĚ HYNOU. POTŘEBUJÍ NUTNĚ NAŠI POMOC. Kvůli nevhodně vysazeným smrkovým monokulturám, častějšímu suchu a chybám v hospodaření prostřednictvím velkých zakázek, ztrácejí nejen své kouzlo, ale hlavně své zdraví. Vznikají kalamity a stromy se těží ve velkém měřítku. Tam, kde si pamatujete krásný les, se objevují paseky a holoseče, ze kterých nejsou šťastní ani vlastníci lesů, ani návštěvníci. Jde to i jinak. Začít se musí od lesa." To the right of the text is a registration form with fields for "Jméno" (Name), "Příjmení" (Surname), "Adresa" (Address), "Obec" (Municipality), "PSČ" (Postal code), "Telefonní číslo" (Phone number), and "E-mail". Below the form, there is a checkbox for "Souhlasím se zpracováním osobních údajů za účelem informování o kampani za záchranu lesů v ČR organizované Hnutím DUHA". At the bottom of the page, there is a green button labeled "i SEDM BODŮ PRO ZDRAVÉ LESY" and a red button labeled "PŘIDAT SE K VÝZVĚ Aktivovat Windows".

# Material and methods

- ▶ How to solve the consequences of salvage fellings, which leads to extensive forest openings in size of even tens of hectares?
- ▶ Such quickly spreading disaster areas are exposed to natural seeding of pioneer tree species, especially the birch (*Betula pendula* Roth).
- ▶ However, it is possible to use the “creative force of nature” and to regulate the self-seeded birch until its felling maturity.
- ▶ What are the possibilities of using birch wood in the Czech Republic?
- ▶ What are the differences between use of beech and birch wood?
- ▶ What are the prices of birch wood?

# Material and methods

- ▶ Changing the view of the birch from a “weed tree species” to “worthy” alternative production tree species was analysed within a project of the Grant Service of the Forests of the Czech Republic, state enterprise, called  
“Evaluation of Forest Functions Fulfilment in Birch Stands, Birch Management Economy and Proposed Conception of Birch Management in the Czech Republic”.

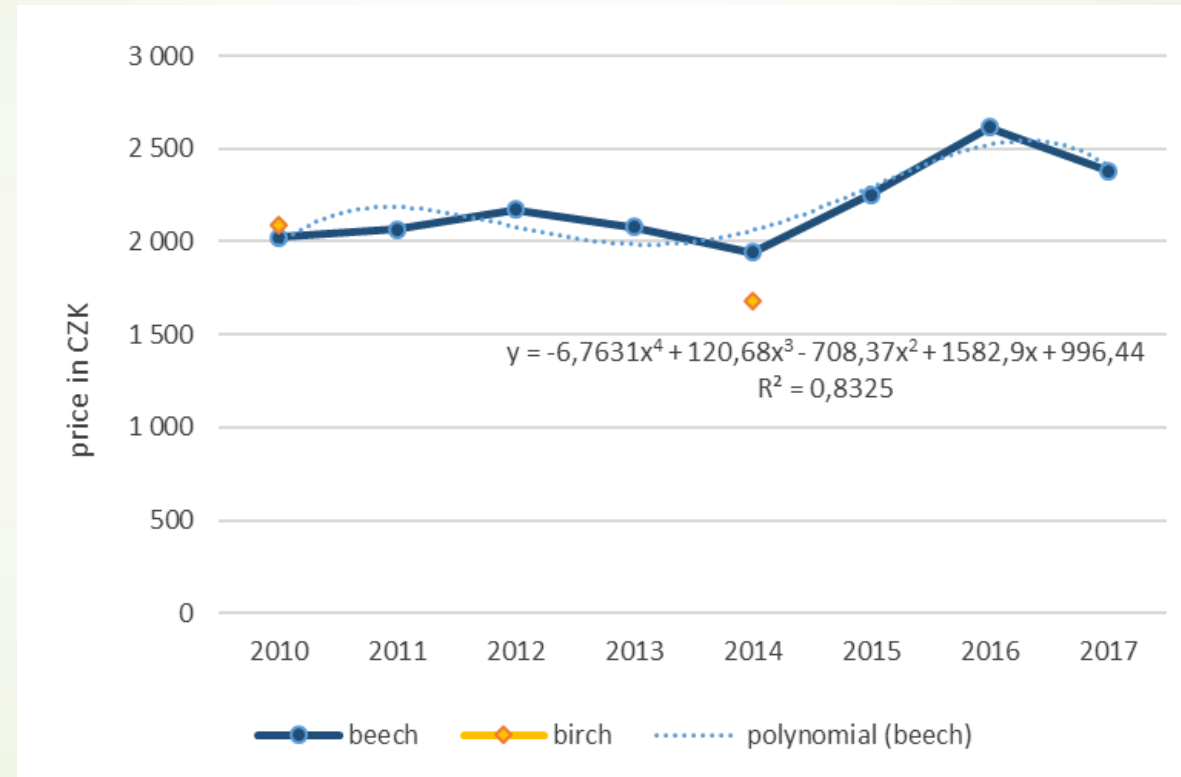
# Material and methods

- ▶ Prices of birch and beech timber were taken over from data publicized by the Czech Statistical Office in 2010-2017 (CZSO 2018) –prices represent current prices for 1 m<sup>3</sup> timber at the roadside and were not modified.
- ▶ Prices are mean annual prices of timber assortments (roundwood assortments of quality grades II, IIIA/B, IIIC and IIID) distinguishable for beech and birch.
- ▶ The trend of development of the monitored timber prices is expressed by the relevant equation and by the R<sup>2</sup> determination index.
- ▶ In the field of primarily used birch timber, an analysis was made of historic and current use in the Czech Republic.



# Results

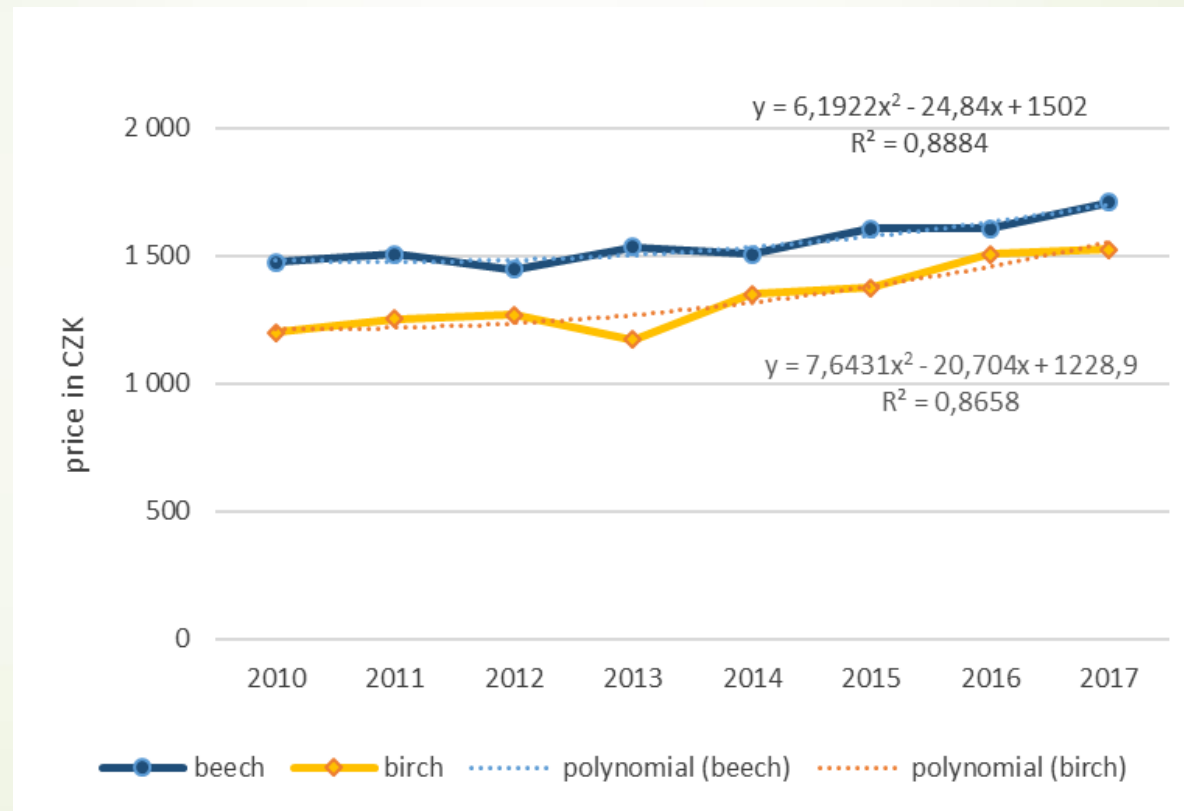
- Development of prices of the quality grade II timber assortments in the Czech Republic in 2010-2017



- Notice: EUR 1 = CZK 26.33 (CNB, 2017).

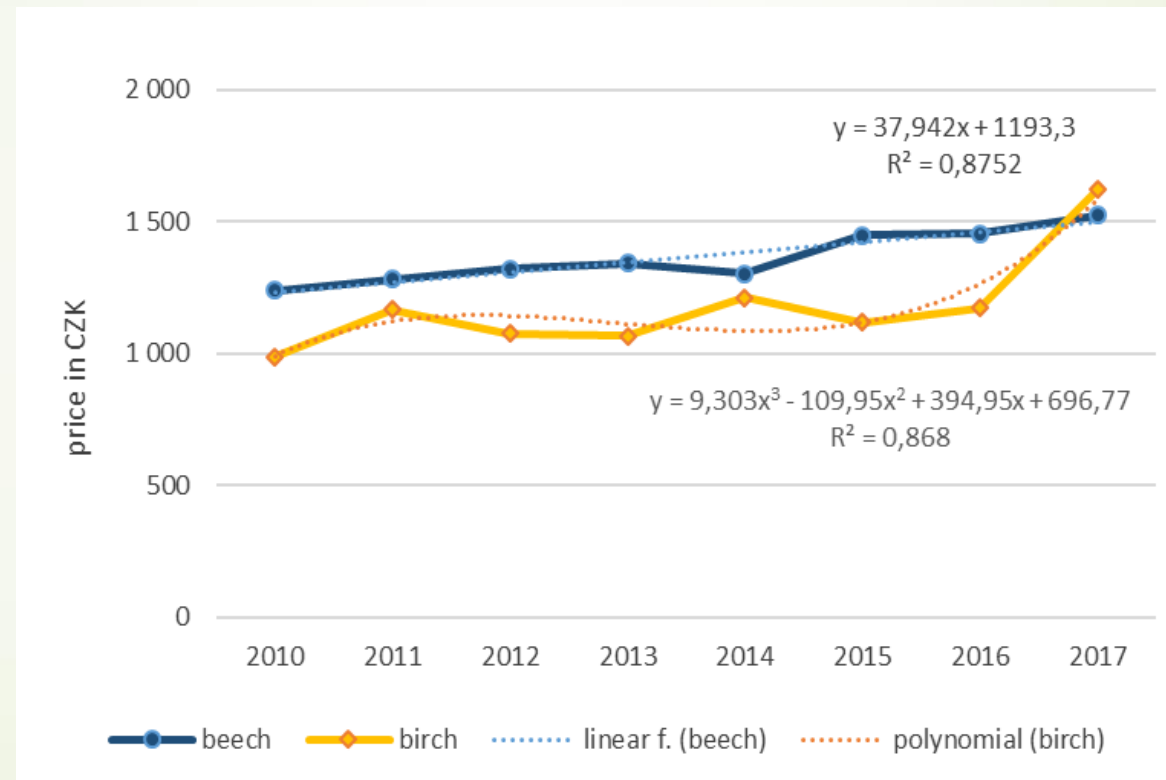
# Results

- Development of prices of the quality grade IIIA/B timber assortments in the Czech Republic in 2010-2017



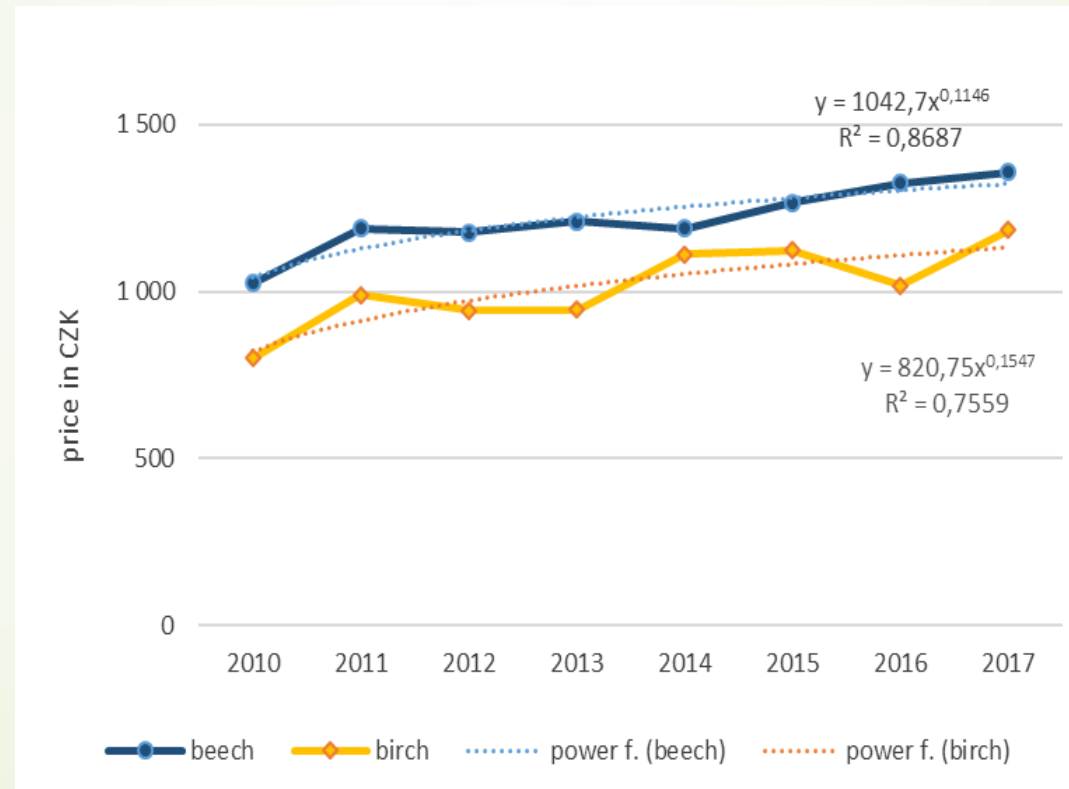
# Results

- Development of prices of the quality grade IIIA/C timber assortments in the Czech Republic in 2010-2017



# Results

- Development of prices of the quality grade IIIA/D timber assortments in the Czech Republic in 2010-2017



# Results

- ▶ The diagrams indicate that the long-term trend of the development of prices of listed birch and beech timber assortments is very similar.
- ▶ In the vast majority of cases, the prices of beech assortments are higher than the prices of birch for the given assortment.
- ▶ Differences in the prices of birch and beech assortments in the period under review ranged in the interval from 98.00 CZK in favour of birch (assortment of IIIC quality grade in 2017) up to 363.00 CZK in favour of beech (assortment of IIIA/B quality grade in 2013).
- ▶ The birch wood has a similar use as the beech wood.

# Discussion and conclusion

- ▶ A smaller amount of the broadleaved timber is introduced to the market compared with the coniferous timber, which entails a potentially lower informative value in the prices of broadleaved timber assortments because these are obtained from a smaller amount of sold timber.
- ▶ As to the assortments of birch wood, the situation is even worse because data about the prices of birch assortments relate only to the tenth volume of beech timber sold, i.e. the prices of beech timber are identified from approximately ten times higher volume of timber sold. This is also why the Czech Statistical Office publicized only two prices for the birch timber of quality grade II in the period under review.
- ▶ Still, the prices of birch assortments publicized by the CZSO provide a starting point for comparing the timber prices of other tree species. The trend in the development of birch and beech timber prices is comparable, being slightly growing.
- ▶ With its low price, the birch timber is interesting for the wood-processing industries in the Czech Republic.

Thank you for your attention.