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Abstract of Diploma Thesis

**Economic analysis of natural resources of the Czech
Republic**

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Ekonomická analýza přírodních zdrojů České republiky

Economic analysis of natural resources of the Czech Republic

Souhrn

Cílem této práce je seznámit čtenáře s hlavními charakteristikami přírodních zdrojů energie v České republice a definovat jejich ekonomickou roli na trhu. Vliv a hlavní ekonomické atributy budou analyzovány a detailně vysvětleny.

Práce je složena ze dvou částí. Teoretická část obsahuje informace o přírodních zdrojích v ekonomickém kontextu, definuje jejich cenění, tržní funkce a jejich hlavní vlastnosti při ekonomické analýze. Přírodní zdroje jsou v této práci rozděleny na dvě části, obnovitelné a neobnovitelné. Tyto dvě skupiny přírodních zdrojů jsou následně definovány a jejich současný stav v kontextu přírodního bohatství České republiky je popsáno.

Analytická část této práce se zabývá obchodováním s přírodními zdroji, jejich obchodní bilance je zhodnocena a vysvětlena. Stejně tak i domácí materiálová spotřeba, na kterou navazuje materiálová produktivita, je znázorněna v grafickém pojetí a jejich výsledky jsou detailně popsány. Vliv přírodních zdrojů a jejich podíl na konečné celkové spotřebě energie v České republice je také graficky zpracován. V této souvislosti se také práce zabývá závislostí České republiky na dodávkách energie ze zahraničí. Tato analytická část je pak zakončena SWOT analýzou, která zhodnocuje využití přírodních zdrojů energie v České republice.

Klíčová slova: Česká republika, Evropská unie, ekonomická analýza, obnovitelné zdroje energie, neobnovitelné zdroje energie, životní prostředí, hrubý domácí produkt

Summary

The goal of this Thesis is to provide readers with main characteristics of natural energy resources of the Czech Republic and their economic role in the market. The influence and main economic features are to be analysed and described in details.

The Thesis consists of two parts. The theoretical part includes information about natural resources in the economic context. Their appraisal, function while trading with them and the main characteristics when evaluating from economic point of view. Also main energetic natural resources are split into two categories, such as renewable and non-renewable natural resources. These are then described in order to put the current state of the country's natural wealth.

Second part of the Thesis provides readers with analysis of trading with natural resources, their domestic consumption and productivity. The contribution of renewable natural resources are also a significant issue of this Thesis and their input in the final energy consumption will be analysed. In this context, the dependency of the Czech Republic on energy supply from abroad will be described and finally, SWOT analysis will provide overall view on the situation of using natural energy resources within the Czech Republic.

Keywords: The Czech Republic, the European Union, Economic Analysis, Renewable Energy Resources, Non-renewable Energy Resources, Environment, GDP

Thesis Objectives and Methodology

Objectives

Objectives of this Thesis are to state the position of natural resources providing energy in the context of national economy of the Czech Republic. As this thesis is focused on natural energy resources, the aim of the thesis is to analyse economic activities of given commodities and analyse it. Such a process will contribute to the overall explanation of natural resources economic situation within the Czech Republic.

Particular steps to fulfil Thesis objectives:

- Find out how the Czech Republic trades with natural resources and assess the level of dependency to energy supply of the Czech Republic
- Analyse the consumption and productivity regarding natural resources in the Czech Republic and compare the situation of the country with the rest of the European Union
- Verify contribution of renewable natural resources in the Czech economic activity, analyse their share in final energy consumption and how taxes from environmental activities contribute to the state's budget.

Methodology

The analytical part of the Thesis is composed from the qualitative analysis providing evaluation about Trade Balance of natural resources in the Czech Republic and its dependency on supply from abroad. Those are followed by consumption of natural resources and resource productivity. Results of these analysis are compared with the situation in the European Union, since the Czech Republic is a part of it. The important contribution of renewable natural energy resources in final energy consumption is also analysed and result interpreted. All of these chapters are based on comparative and descriptive analysis, whereas data are processed by using Microsoft Excel and its statistical functions. The forecasts and prediction of trends are based on linear regression method. Statistical program Gretl and its Simple Regression method is used in order to assess the impact of environmental tax revenues on the Czech GDP. Finally, the qualitative SWOT analysis, evaluating external and internal influences regarding natural resources economic situation within the Czech Republic, is implied.

Conclusion

In this Thesis, natural energy resources are defined and their role in the economy of the Czech Republic is analysed.

Balance of trade of natural resources, is among one of the most important economic features, analysed and the results are described. The negative trade balance is a current situation, as well as it is predicted to the future, unfortunately. Most imported and exported natural resources are represented over a certain period of time and the overall trade balance is expressed as well and reflects also the current situation of the Czech economy. As a significant factor, regarding economic analysis of natural resources, Domestic Material Consumption indicator was analysed and outcome were explained. From DMC indicator, dependency of the state's economy on material supply, can be deducted. Data analysed proved that the situation in the CR has been stable until 2004. Year 2009 and 2012 reflects economic recession in the country. After processing data from DMC indicator, Resource Productivity factor was evaluated. In case of the Czech Republic, Resource Productivity increases constantly and was not influenced by world economic crisis too much. The Czech Republic reflects economic development in the European Union, in this situation.

For the purpose of analysing the role of renewable energy resources in the Czech economy, the Share of renewables in final energy consumption was presented. AS the country has its commitments in the European Union (13% share of renewables up to 2020), the data were analysed and outcome proves that the Czech Republic will be able to fulfil its commitments. Regarding usage of renewables, one of the reason of such an interest is in the independency in energy supply form abroad. The Czech Republic, however, is doing well, in comparison with other EU states. It is form approximately 75% self-sufficient. Environmental taxes are a important topic regarding manipulation and trading with natural resources. Via statistical program Gretl it has been analysed that there is a significant dependency on the Czech Gross Domestic Product.

Finally, the SWOT analyses has been processed in order to evaluate overall economic activity of natural energy resources within the economy of the Czech Republic.

Resources

BOOK SOURCES:

- Barbier, E. B., Natural Resources and Economic Development, Cambridge University Press, 2005, ISBN: 978-0-521-70651-3
- Dvořák, A. and collective, Kapitoly z ekonomie přírodních zdrojů a oceňování životního prostředí, Prague, Oeconomica, 2007, ISBN 978-80-245-1253-2
- Hackett, S., Environmental and Natural Resource Economics, New York – USA, Routledge, 2011, ISBN 978-0-7656-2494-9
- Henn, C., The World Trade Report, Geneva, World Trade Organisation, 2014, ISBN 978-92-870-3912-5
- Pearce, D. and Turner K., Economics of Natural Resources and the Environment, Baltimore – Maryland, John Hopkins University Press, 1990, ISBN 0-8018-3987-4
- Seják, J. and collective, Oceňování pozemků a přírodních zdrojů, Prague, Grada Publishing s.r.o, 1999, ISBN: 80-7169-393-6
- Seják, J. and collective, Základy udržitelné ekonomie přírodních zdrojů a životního prostředí, Ústí nad Labem, Univerzita J.E. Purkyně, 2005, ISBN 80-7044-758-3
- Seják, J., Syntéza ekonomik přírodních zdrojů a životního prostředí, Prague, Univerzita J.E. Purkyně, 2001, ISBN 80-7044-343-X
- Sweeney, J. and collective, Fundamentals of Business Statistics, Mason, USA, 2009, ISBN 978-0-324-65423-3

ONLINE SOURCES:

- Eurostat, available at: <http://ec.europa.eu/eurostat>
- The Czech Ministry of Environment, available at: <http://www.mzp.cz/>
- The Czech Ministry of Industry and Trade, available at: <http://www.mpo.cz/>
- The Czech Statistical Office, available at: <https://www.czso.cz/>
- World Data Bank, available at: <http://data.worldbank.org/>