

CRITICAL GAPS IN ENVIRONMENTAL PERFORMANCE OF THE SLOVAK REPUBLIC

Boris Dziura¹⁷⁶

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Abstract. *Current paper contributes to better understanding of the gaps in environmental performance of the Slovak Republic as one of the smallest economies of the EU and outlining their impacts on economic development of the country. Outlining gaps in environmental performance of Slovak Republic allows researching their impact in terms of specific indicators of environmental performance on economic development of the country. There have been defined the most problematic aspects of environmental performance of the Slovak Republic, in particular, not sufficient waste water management, low efficiency of the use of energy resources, low rate of decline of the emissions of basic pollutants from growing sectors, low efficiency of waste management, lack of coordination of climate and environmental policies.*

Keywords: *environmental performance, environmental policy*

1. INTRODUCTION

The links between the economy and the environment are twofold: the environment supplies resources to the economy and at the same time it operates as a sink for pollution. Natural resources are significant inputs for production for many sectors, while production and consumption result in pollution. Poor environmental quality in turn affects economic growth and wealth by diminishing the quantity and quality of resources or because of health impacts. In this context, environmental policies can limit the negative feedbacks from the economy on the environment and vice-versa. Current paper contributes to better understanding of the gaps in environmental performance of the Slovak Republic as one of the smallest economies of the EU and outlining their impacts on economic development of the country.

2. THE IMPACT OF ENVIRONMENTAL PERFORMANCE ON ECONOMIC DEVELOPMENT

Although the primary purpose of environmental policy is linked to the necessity of improving environmental indicators in the country, its contribution to the economic development of the country is also important [1]. Many authors have researched the relationship between Environmental Performance Index (EPI) of the countries and their economic development. There has been found positive strong association between economic growth and the values of EPI [2, 3]. It is, thus, important to support eco-related exports, employment in eco-industries, eco-innovations, enhance energy efficiency [4, 5]. Kai Quan Zhang and Hsing Hung Chen [6] have found that environmental performance can cause extra financial burden in the short run, but will improve stakeholder relations and profitability in the long run. When testing Environmental Kuznets Curve hypothesis, Almeida, Cruz, Barata, & García-Sánchez [7] have

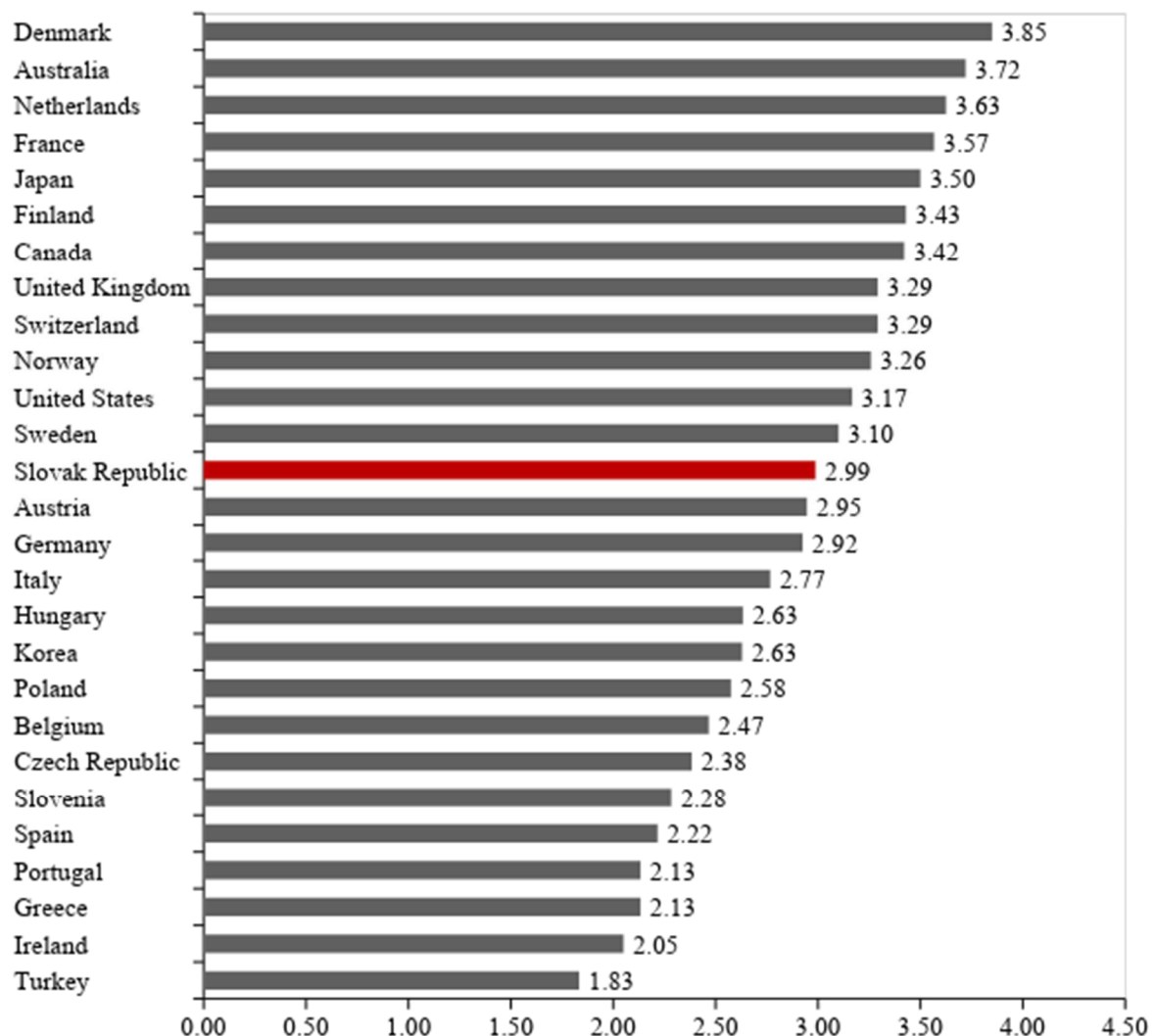
¹⁷⁶ International Relations Faculty, University of Economics in Bratislava, Dolnozemskácesta 1, 852 35 Bratislava, Slovak Republic

revealed that the hypothesis is not proved. The authors have concluded that creating a consistent, coherent and efficient environmental policy framework is essential for improving environmental quality that supports wellbeing and enables long-term economic growth. Other impacts of environmental policy have been researched by Chen, Shieh, & Chang [8]. The authors have conducted comparative analysis in terms of the effectiveness of the emission tax and public abatement. Their findings have shown that these two specific environmental policies result in different levels of economic performance when households can internalize the change in health status by optimally allocating the time spent on leisure, labor and health care.

3. ENVIRONMENTAL PERFORMANCE GAPS IN SLOVAKIA

According to the last available data for all OECD countries for the indicator of stringency of environmental regulation, Slovakia is ranked as a country with middle environmental regulation (figure 1).

Figure 1: Environmental Policy Stringency Index in OECD countries, 2012.

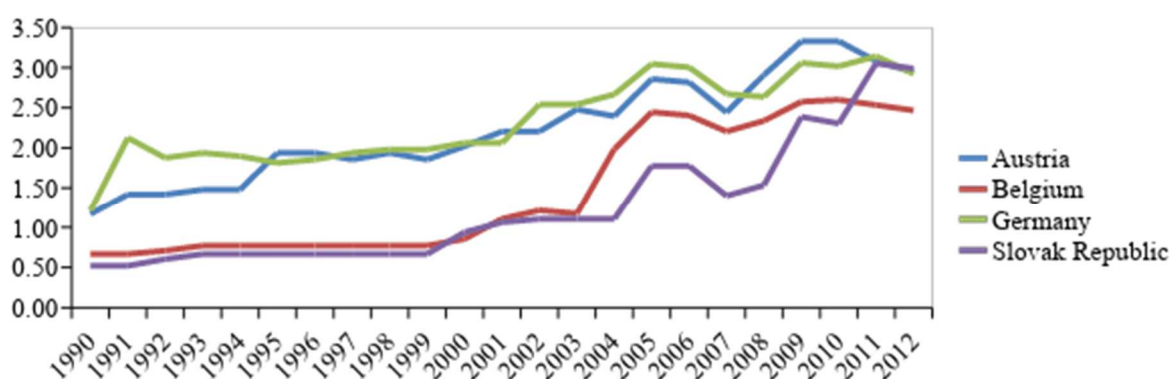


Source: constructed by author on the base of OECD, 2018 [9]

Slovakia according to OECD Environmental Policy Stringency Index leaves behind Germany, Austria and Belgium which are perceived as highly regulated countries [10]. Slovakia has

significantly increased the stringency of environmental policy comparing to the countries with high environmental standards (figure 2). There have been developed effective policy measures towards the development of circular and eco-innovative economy in Slovakia. In particular, in the field of R&D funding there has been developed Research and Innovation Strategy for Smart Specialization of the Slovak Republic (RIS3) and R&D funds from the Operational Programmes of Structural funds as well. There are also Tailored training courses for companies and entrepreneurs, in particular, BUILD Up Skills initiative has one SK ongoing project (STAVEDU) and one Horizon 2020 construction skills project (iNgRes), Advise/consulting for start-ups, companies and entrepreneurs, in particular, Slovak Innovation and Energy Agency provides support/consulting; competence centres, clusters, science-technology parks. There have been developed regulations, targets, cap and trade schemes, in particular, performance standards, labelling, certification, “green“ public procurement of goods and services, demand subsidies (e.g. eco-vouchers, consumer subsidies), awareness raising and information provision [11]. It should be noted that the last is crucial for the development of innovative cooperation in Slovakia [12]. But there is still a row of challenges which should be addressed.

Figure 2: Evolution of Environmental Policy Stringency Index in selected countries



Source: constructed by author on the base of OECD, 2018 [9]

Previous studies have shown that in many cases there is relationship between indicators of environmental performance or environmental policy on economic development of the countries. Outlining gaps in environmental performance of Slovak Republic allows researching their impact in terms of specific indicators of environmental performance on economic development of the country.

We have distinguished the following weaknesses of environmental performance of Slovak Republic:

- The wastewater management is still one of the main challenges in environmental performance of the Slovak Republic. Investments in public sewers and water supply systems caused a growth in the share of the population related to public water supply system from 85% in 2007 to 88.6% in 2016, and to a growth in the share of the population related to investments in public sewers from 54% to 66.4% during the same period, but this figure remains below the average in international comparison. For economic growth effective wastewater management plays important role. According to the World Bank infrastructure for sanitation can return investment fivefold, whereas poor sanitation can draw off up to 7% of GDP each year [13]. Wastewater management is an important process for mitigating the hazards of industrial, agricultural, municipal

by-products as well. Thus, resource potential of wastewater management should be recognized for sustainable economic development;

- Low efficiency of the use of energy resources. Slovakia represents one of the most energy intensive economies in the European Union. In 2015, the country's energy intensity was 80% higher than the member states average. In the power sector, most of the electricity production from coal power plants was replaced by nuclear power generation, thereby diminishing emissions and energy intensity. But the rest of the economy, however, is considerably energy- and emissions-intensive. At the same time energy tax in Slovakia is the second lowest in the EU and less than half if compared to the average value in Europe. Increasing of environmental taxes will contribute to enhancing the efficiency of the use of energy sources. It should be noted that energy is a significant element of production, thus, it is interrelated with the other elements of the economic system as well as environmental and social aspects [14];
- Low rate of decline of the emissions of basic pollutants from growing sectors, in particular, from residential heating and transport. In 2015 compared to 2014 there was a decline in the emissions of NOX and CO but there was a growth in the emissions of PM2,5 and PM10 and considerable growth of SO2 emissions. It should be noted that air pollution is one of the most serious environmental risks, in particular, for big cities and highly populated territories where it causes strong negative impacts on human health, that, in turn, increases health expenditures and lowers labor productivity due to absence from work for illness [15];
- Low efficiency of waste management. In Slovak Republic the fee for the storage of municipal waste at the landfill is one of the lowest in the EU. At the same time Slovakia demonstrates a low recycling rate (23% in 2016) and high level of landfill (66% in 2016). For economic growth waste management plays important role, as it contributes to more efficient energy use, in particular, through energy generation from landfill via methane extraction or thermal treatment and separation of recyclable materials from the landfills [16];
- Lack of coordination of climate and environmental policies. In terms of climate vulnerability, Slovakia could be compared to South-Eastern Europe, but the country is more exposed to climate impacts than its Central European neighbor states. Slovakia is progressively noticing the impacts of a changing climate through a rising number of droughts and floods. The south of the country is suffering from a gradual desertification, and accessible water sources are falling. Fresh water runoff is projected to decline by 29% by 2030 in the lowlands and by 35% in south of the country. It also should be noted that according to polls, 47% of Slovaks are worried about shortages of drinking water, compared to an EU average of 27% [17]. To respond to the climate challenge, Slovakia adopted National Adaptation Strategy in 2014, which introduced policies in the areas of biodiversity, agriculture, forestry, water and health. But there are often opposite views on climate concerns. There were made efforts for enhancing co-ordinate but they did not really work in practice [18]. Effective coordination of climate policy is on the agenda of Horizon 2020 and sustainable development goals. Climate policy remains one of the most important spheres of the focus as energy use, agriculture, human health and the nature are affected by the weather. Furthermore, climate change is long-term problem as greenhouse gases have very long atmospheric life-time, of thousands of years, and a small amount of carbon dioxide will remain in the atmosphere practically forever.

4. CONCLUSIONS

Considered above mentioned weaknesses of environmental performance of the Slovak Republic point to the need to conduct a comprehensive assessment of the current gap in sanitation infrastructure and water supply, measures required to meet waste management objectives, their cost as well. Realistic strategy for meeting the EU objectives for the water management, in particular, for wastewater treatment, including comprehensible priorities, proper financial planning is needed. Further institutional reform of the water management sector will help to coordinate measures to increase connections between water and wastewater network. There is also need in the development of infrastructure for increasing the number of the inhabitants which could be served. It should be noted that for achieving wastewater efficiency a targeted information campaign should be implemented, for instance, in form of environmental education. Motivation for waste minimization, diversion and recovery is possible through the development of effective economic instruments. Review of the effectiveness and efficiency of environmental taxes for achieving their environmental goals is also needed, as well as their consistency to other economic instruments. For reducing emissions from growing sectors, in particular, from residential heating and transport and for reducing potential health impacts in urban areas cost-effective measures should be developed. Finally, consolidation of the inter-institutional partnership platform and expanding its activities to the strategic model of the development of climate policy and evaluating climate change, consistent to energy and transport policies, enhancing the system of monitoring greenhouse gas emissions in relation to financial and economic costs considerably contribute to shrinking gaps in environmental performance of the Slovak Republic.

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