

**THE IRONY OF STATE STRENGTH REVISITED:  
COMPARATIVE RESPONSES TO GAS SUPPLY AND  
PRICE SHOCKS IN THE 2000'S IN CENTRAL AND  
EASTERN EUROPE**

By  
Andras Szirko

Submitted to  
Central European University  
Department of Political Science

In partial fulfilment of the requirements for the degree of  
Master of Arts in Political Science

Supervisor: Professor Matteo Fumagalli

Budapest, Hungary

2014

## **ABSTRACT**

The thesis presents an analysis of divergent responses of the Czech Republic, Poland and Hungary to the shared challenge of gas supply and price shocks of the 2000's through the focused comparison of their state capacities, drawing on the international political economy literature that analysed adjustment strategies of industrialised states to the oil price shocks in the 1970's. The varied adjustment policies of the Czech Republic, Poland and Hungary are traced to the structural divergence stemming from the distribution of policy instruments available for state action. The adjustments of industrialised countries to the oil shocks are compared with state responses of Czech Republic, Poland and Hungary to the gas crises, approximating the statist, corporatist and market-based types identified in the literature on oil crises to describe adjustments to gas crises in Central and Eastern Europe. The comparative analysis shows that Poland followed a statist type adjustment throughout the period, the Czech response could be characterised as market-based, while Hungary undertook a corporatist strategy between 2006 and 2010, but then switched to the statist one by changing the available policy instruments of state action. Finally, the usefulness of such state-centred perspective on adjustment is substantiated by highlighting the lack of a common European response to gas supply security and price shocks. In a broader context, this perspective also informs the reader about longer term national policy choices and energy transitions.

# TABLE OF CONTENTS

List of Tables and Figures.....	iv
Chapter 1 – Introduction .....	1
1.1 Puzzle and case selection .....	3
1.2 Research question and methodology .....	4
1.3 Hypothesis and structure .....	5
Chapter 2 – Literature review .....	7
2.1 The usual suspects: explaining exposure to gas crises in CEE .....	7
2.2 State capacity and energy in political economy literature.....	12
2.3 Oil and gas crises compared: adapting the framework of analysis .....	16
Chapter 3 – Transitions to crisis mode .....	20
3.1 From plan to market: natural gas in CEE .....	20
3.2 Transnationalization of energy policies and markets .....	23
3.3 Gas supply and price shocks: the litmus test of dependence.....	27
Chapter 4 – Spaces, strategies and structures of state action .....	31
4.1 International crises: transnational or national adjustments? .....	31
4.2 Adjustments compared: Poland, Czech Republic and Hungary .....	35
4.3 State capacities compared: Poland, Czech Republic and Hungary .....	43
4.3.1. Organisational instrument.....	45
4.3.2. Credit instrument .....	46
4.3.3. Spending instrument .....	47
4.3.4. Market instrument.....	48
Chapter 5 – Crisis as opportunity or crisis as opportunism? .....	51
5.1 The irony of state strength revisited .....	51
5.2 Towards a transnational adjustment in the EU?.....	54
5.3 Energy crises and energy transitions .....	55
Chapter 6 – Conclusions .....	57
References.....	60

## LIST OF TABLES AND FIGURES

<b>Table 1. Instruments of foreign economic policy .....</b>	<b>14</b>
<b>Table 2. Energy adjustment strategies to the 1970's oil shocks.....</b>	<b>15</b>
<b>Table 3. Policy instruments available to states.....</b>	<b>19</b>
<b>Table 4. Milestones of EU gas market development.....</b>	<b>25</b>
<b>Table 5. Impact of gas crises on selected EU member states .....</b>	<b>28</b>
<b>Table 6. EEPR funds granted to selected countries.....</b>	<b>33</b>
<b>Table 7. Share of selected fuels in domestic energy production (%).....</b>	<b>36</b>
<b>Table 8. Share of selected fuels in final energy consumption (%).....</b>	<b>36</b>
<b>Table 9. Energy dependence indicators related to the trade dimension .....</b>	<b>42</b>
<b>Table 10. List of Polish, Czech and Hungarian governments, 2006-2014 .....</b>	<b>44</b>
<b>Table 11. Comparison of state adjustment to energy crises.....</b>	<b>52</b>
<b>Table 12. Crude oil imports as percentage of total energy requirements.....</b>	<b>56</b>
<b>Figure 1. Product market regulation indicator for natural gas.....</b>	<b>22</b>
<b>Figure 2. Crude oil and natural gas prices in Europe .....</b>	<b>24</b>
<b>Figure 3. CEE gas import prices 2008-2010 .....</b>	<b>29</b>
<b>Figure 4. CEE gas import prices 2009-2012 .....</b>	<b>30</b>
<b>Figure 5. Real GDP growth rates in selected countries .....</b>	<b>37</b>
<b>Figure 6. Natural gas consumption in selected countries .....</b>	<b>37</b>
<b>Figure 7. Annual Gazprom export volumes to selected countries and their share in total European exports of Gazprom, 2000-2013 .....</b>	<b>38</b>
<b>Figure 8. Gas prices for industrial consumers (without taxes) .....</b>	<b>41</b>
<b>Figure 9. Gas prices for household consumers (without taxes) .....</b>	<b>41</b>

## CHAPTER 1 – INTRODUCTION

The first decade of the 21<sup>st</sup> century brought both great opportunities and significant challenges to the former socialist countries of Central and Eastern Europe (CEE). While accession to the European Union (EU) topped the agenda in the first half of the decade and served as a basis of optimistic expectations, the global economic crisis of 2008/09 has stifled the growth prospects of the region and called into question the possibility of rapid convergence with the West. Similarly, in the field of energy, the relative calm and price stability in the beginning of the decade slowly unravelled, followed by a new oil price shock concurrent with the economic crisis that had wide-ranging repercussions for the pricing of other commodities, especially natural gas. Supply crises in 2006 and 2009 following contractual disputes between Russia and Ukraine added a security dimension to the problem of affordability. The countries of CEE have found themselves particularly exposed to these changes.

The complex challenges facing the CEE energy sector were apparent and explicitly spelled out in the beginning of the transition period: high energy intensity, distorted prices, Russia as the dominant supplier, break-up of integrated networks, unsafe nuclear reactors, extensive use of high-polluting coal, household reliance on coal and district heating (Gray 1995, 1-3). Although the transition to market institutions was largely successful by the time of EU accession (von Hirschhausen and Waelde 2001, 107), the degree of sectoral reform varied greatly throughout the region. “Unlike other parts of the economy, where private capital has been overwhelmingly present for a considerable time, the energy domain displays a real patchwork of public and private ownership across the post-socialist space” (Bouzarovski 2009, 460). There were also persistent differences in the extent of import dependence on a single supplier (i.e. Russia), which became especially apparent after the Russian-Ukrainian gas crises of 2006 and 2009 (Stern 2006, Pirani et al 2009). The economic and energy supply crises of

the late 2000's prompted adjustments by the import-dependent CEE states, leading to divergent policies despite a common threat and general macro-institutional similarities.

However, energy crises combined or followed by economic downturns and the need for state responses to them are not unprecedented. In the case of crude oil, it has been a cyclical phenomenon, with the most notable examples of the 1973 and 1979 shocks. The most affected oil importers of the capitalist West adopted various strategies to counter the effects of these crises on supply security and the economy, which were thoroughly analysed in the subsequent decades (Turner 1974, Katzenstein 1978, Lieber 1979, Kohl 1982, Lieber 1983, Ikenberry 1986, Jentleson 1986, Clark 1990, Yergin 1992). From an analytical point of view, the energy crises of the 1970's and 2000's are also fundamentally similar. "In both periods, the profile of energy rose from being a rather technical issue handled largely by the energy industries themselves and specialist civil servants to being one with serious diplomatic and geopolitical consequences which involved political leaders in debates about the strategic implications of how energy is produced, supplied and consumed" (McGowan 2011, 487). However, it is difficult to assess the effectiveness of such political responses based solely on the degree of state intervention. The "irony of state strength", as proposed by Ikenberry in 1986 when analysing the adjustments of United States, West Germany, Japan and France to the 1970's oil shocks, lies exactly in this ambiguity. "If a government intervenes in the economy to protect an existing industry, either by tariff or through subsidized loans, is its action an indication of state strength? If a government withholds action and allows a non-competitive industry to decline, does it thereby indicate weakness?" (Ikenberry 1986, 135). Revisiting this perspective for the cases of CEE countries today can serve as a valuable vantage point for the re-assessment of their energy policies in both a national and European context.

In this thesis, my aim is to uncover and compare the adjustments of CEE countries to the gas supply and price shocks of the last decade, based on insights gained from analysing

state responses to the oil shocks of the 1970's. I will argue that the varied adjustments of these countries stem from structural differences between their sector-specific state capacities, contesting alternative explanations that focus solely on internal and external determinants of foreign and economic policy (relations with Russia) or European energy policy (diversification, regionalisation and market integration).

### **1.1 Puzzle and case selection**

The puzzle that drives this research lies in the fact that although the countries of the CEE region were the ones most affected by the gas supply crises and gas import price increases, this common threat led to varied responses on the national level, despite joint EU and regional initiatives to tackle the problems. While some countries sought multilateral solutions by promoting market integration with neighbours (eg. Czech Republic, Slovakia, Baltic states), others pursued purely domestic solutions for increasing security of supply by diversification (eg. Poland), strategic storage capacity (eg. Hungary) or revising the terms of bilateral contracts with Russia (eg. Bulgaria). Thus, while all the countries would have benefitted from a unified response to the gas crises and price shocks, the actual adjustment policies were concentrated on the national level and multilateral cooperation was scarce or shallow.

Considering both supply and price shocks, the universe of possible cases for this research consists of all the post-socialist EU members dependent on Russian gas imports, from the Baltics to the Balkans. In order to compare the most similar group of countries, the three cases selected for the research are Poland, the Czech Republic and Hungary, based on their shared institutional and political affiliations (OECD, NATO, EU, Visegrad Group members), geographical proximity to Western Europe (shared borders, unlike Baltics and Eastern Balkans), and the availability of comparable data<sup>1</sup>. Their overall state capacities are also

---

<sup>1</sup> The case of Slovakia could also be considered for this research, but is excluded due to its expected institutional similarity to the Czech Republic (i.e. legacies of Czechoslovakia), smaller economy and gas market size.

similar, based on which they are frequently analysed together, among others in the political economy literature (eg. Nölke and Vliegenthart 2009; Drahokoupil 2009; Bohle and Greskovits 2012, 138-181; Muraközy 2012, 252-257). Besides, all three countries have recently undertaken the presidency of the European Council (Czech Republic: January-June 2009, Hungary: January-June 2011, Poland: July-December 2011). However, despite all the parallels that can be drawn between these three countries, their adjustment to the gas supply and price shocks followed markedly different paths.

## **1.2 Research question and methodology**

Similarly to the main question of the literature analysing state adjustments after the oil crises of the 1970's – “Why does a common challenge, such as the oil crisis, elicit different national responses in the international political economy?” (Katzenstein 1978, 3) – my aim in the thesis is to uncover structural differences between state capacities of countries that could be the cause for variation. Thus, my research question is the following: What explains the variation in adjustment strategies of Central and Eastern European countries to the gas supply and price shocks between 2006 and 2013? Although I will be only comparing and analysing the cases of Poland, Czech Republic and Hungary in detail, my research will be aimed at uncovering patterns in state strategies that can be generalised further, to explain energy transitions following external shocks.

Since the interchangeable terms “state response” and “state adjustment” are rather vague, some clarification is in order to delineate the types of activities that will be categorised as such concerning the time frame, the actors, and the instruments. The starting point of the examined period is the first gas supply crisis of 2006, while the gas price increases materialise after the oil price spike of 2008 and the second gas supply shock of 2009 brings about most of the activities that try to mitigate the effects of gas crises. Therefore, the responses considered are short to mid-term, ranging from immediate measures to actions that bear fruit within five



years. The actors that initiate or in any way contribute to the responses are the official institutions of states, or state-controlled market players. Therefore, the instruments that can be considered for state action are limited to the means that states can control or influence directly or indirectly. Therefore, adjustments are understood as the use of these instruments following a major disruption in economic and political conditions that affect national competitiveness and security of energy supply.

The methodology of the research follows the one used in Ikenberry (1986), a focused comparison of state structures and adjustments in selected countries, with the goal of hypothesis-testing and classification (Landman 2008, 5-9). The research is based on the review of primary and secondary sources such as the annual reports of energy regulators detailing the major events and changes in the given natural gas markets, analyses of natural gas industries and energy policies by country and industry experts, and reports by the European Commission. Descriptive statistics of economic performance as well as natural gas production, consumption, imports and prices are used to illustrate the different longer term trends in the selected cases. The data for these comparisons is drawn from international organisations such as the International Energy Agency (IEA) and the Organisation for Economic Co-operation and Development (OECD), the statistical service of the European Commission (Eurostat), as well as public company reports and the widely used BP Statistical Review of World Energy.

### ***1.3 Hypothesis and structure***

As previously indicated, the explanation put forward in the thesis will be primarily based on a state capacity perspective. I will borrow the conceptualisation of state capacity from Ikenberry (1986), where it is defined as “the ability of states to assert control over political outcomes” (133), and operationalised as the distribution of policy instruments, with the following analytic dimensions: organizational, credit, spending and market instruments. Comparing the three cases along these dimensions, I expect to find the basis for the different

policies enacted to counter the effects of the gas crises. Thus, my hypothesis is the following: The varied national-level adjustments to the gas crises can be traced to structural divergence in the distribution of policy instruments available at the time of the crisis.

In the first part of the thesis I will review the existing literature on the exposure of CEE countries to the gas crises and highlight their limitations, which will justify the choice of the theoretical approach based on comparing the adjustment to oil and gas crises. The framework of analysis used by Ikenberry (1986) will then be adapted to the current research. In the second part, the context of gas crises will be drawn up by describing the transition from centrally planned economies to market economy in the energy sector, the embeddedness of CEE states in the EU and transnational markets, and the direct consequences of the crises themselves. The third part will contain the actual comparative analysis of adjustments that will aim to substantiate the hypothesis and show the various strategies undertaken by Poland, Czech Republic and Hungary. In the final part of the thesis, my aim will be to see whether the resulting adjustment types of the selected cases can be approximated to the ones described by Ikenberry (statist, corporatist and market-based). The irony of state strength is expected to manifest itself in the re-assessment of interventions and non-interventions by the state and the unexpected differences between countries that are otherwise deemed similar regarding their overall state capacities. State responses will then be evaluated in the light of responses of non-state actors (EU, multinational energy firms) to the crises. Finally, conclusions will be drawn on the usefulness of comparing the oil and gas crises concerning the long-term process of energy transition.

## CHAPTER 2 – LITERATURE REVIEW

*“Fortune has decreed that, as I do not know how to reason either about the art of silk or about the art of wool, either about profits or about losses, it befits me to reason about the state”*

(Niccolo Machiavelli<sup>2</sup>)

The aim of this chapter is to review the most prevalent existing explanations of the exposure of CEE to the gas crises and their underlying gas import dependence. By highlighting the deficiencies of these explanations, I will argue for a new explanation based on state capacity, various aspects of which had already been present in the international political economy literature. I will then review the different approaches to state capacity with relation to energy, and the theoretical framework selected for the thesis that satisfies the questions not covered by the usual explanations. Finally, this framework will be adapted to the comparison of the responses of CEE countries to the gas crises of 2000's.

### **2.1 The usual suspects: explaining exposure to gas crises in CEE**

The first and most widespread explanation is focused on the role of Russia as a supplier with a political agenda. Needless to say, nearly all analyses of European natural gas markets mention Russia at some point due to its significant share in the import mix of the EU. But for some, Russia is rather the root of the problem than part of the solution for gas supply security. Szemerényi (2007) traces the current dependence of CEE on Russian gas to the Cold War era and the start of East-West oil and gas trade, when the satellite states of the Soviet Union in the CEE provided both a secure transit route for hydrocarbon exports to Western Europe and captive markets where Moscow settled the prices at whim. Despite the end of the Cold War, the one-sided dependence remained as a salient feature of gas markets in CEE. Moreover, Szemerényi claims that had it not been for Soviet dominance in CEE, energy imports in the region would have been much better diversified today, similarly to Western Europe (43). As

---

<sup>2</sup> Quoted in Hirschman (1945/1980, xv).

energy policies can only be changed very slowly, over decades, the current gas import dependence of CEE is the long shadow cast by the Soviet Union and the times of the Cold War. Thus, the exposure of CEE to gas crises is based on a deep, historical, path-dependent import structure. However, this exposure has also been reinforced after the dissolution of the Soviet Union, by modern-day Russia, as it seeks to expand its economic and political influence through energy investments, according to Orbán (2008). Orbán argues, from a neoclassical realist international relations perspective, that Russia is strategically expanding its foreign policy influence in former Soviet satellite states of CEE by acquiring their energy companies. This expansion is expected when Russian domestic resources (accumulated tax and export revenues, termed “state power”) are sufficient to fund such an offensive and the Russian leadership’s perception about Russian influence in the world is low (24-32). In the period from 2000 to 2008, when “state power” was high, Russia pursued this strategy and was most of the time successful when the host governments in the target countries were friendly to these investments, more so in Slovakia and Hungary than in Poland (170-174). This way, the historical dependence of CEE on Russia as the successor of Soviet Union only deepened before the gas crises struck. The theme of CEE governments’ perception of Russia is further developed by Nosko (2013), seeking to explain why and when energy security is prioritised in CEE, namely Czech Republic, Slovakia and Hungary. According to Nosko, this prioritisation occurs under the following conditions: the domestic population sees the energy supplier (Russia) as a threat; former Communist elites with personal links with Russia are removed from power; and the concentration and influence of incumbent industrial interests is low (218). Obviously, when energy security is a priority, diversification away from Russia is promoted, otherwise the exposure and dependence remains, and Russia-friendly countries (i.e. Slovakia) are hit the hardest during gas crises, paying the price of complacency. Thus, the Russia-focused explanations of the exposure of CEE to Russian gas imports and the inherent risks are rather

deterministic and stress the role of the dominant supplier in shaping outcomes. The possible responses of domestic players as representatives of the state are dichotomous: they can either resist or acquiesce to Russian plans. States therefore differ mainly along the lines of friendliness towards Russia, while their responses to the gas crises can be either to suffer or avoid them.

A second line of explanation is a critique of the Visegrad Group (V4, consisting of Poland, Czech Republic, Slovakia and Hungary) as a shallow collaboration, where the states are complacent or competing actors, undermining their chances of escaping Russian import dependence by regional cooperation. Writing before the 2006 gas crisis, Deák (2005) presents the V4 as a group plagued by archaic perceptions of Russia, still identifying it with the Soviet Union (149). Although there are fears of renewed domination, the inherited dependence is not seen as problematic as “supplies have not been disrupted” (151). Competing industrial interests are also undermining meaningful cooperation. However, once the precedent of supply disruption has been set, criticism for the lack of pre-emptive steps appears. “Most of the Central and East European countries did very little to lessen their energy dependence on Russia. They have had plenty of time since the collapse of Communism in 1989-91. [But only after 2006] did these governments appreciate their vulnerability – and also that neither NATO nor the EU provides energy security” (Bartuska 2008, 57). Bartuska also stresses the need for unilateral state action regardless of the costs and notwithstanding common European initiatives. Indeed, there was no meaningful cooperation on energy in the V4 until the next crisis hit, as shown by Mišík (2012). The second gas crisis served as a catalyst for initiating interconnections between natural gas transmission networks of the V4, but the actual implementation is still contingent on the financial support of the EU. Despite joint declarations and common will after 2009, the V4 were unable to create a strong and independent regional cooperation for mitigating gas import dependence. Therefore, the V4 as a group format could have had the potential for decreasing the exposure to possible supply disruptions and dependence, but did not live up to

its promise as the constituent states were preoccupied with other, sometimes conflicting priorities.

By 2006, most of the CEE countries were EU members, with the obligations of adopting EU legislation, but also with the possibility of shaping it. The third line of explanations of exposure to gas crises considers the role of the EU as a driver of market integration, including the move towards a common market in gas and electricity. From this perspective, the gas crises were sign of market failure, as the old member states could not mitigate the supply disruptions in new member states due to lack of interconnections and reverse flow, while the political handling of the crises was increasingly becoming a task for Brussels. The European Commission actually used the problem of import dependence in CEE as a “policy window” to take over ever more competencies in the internal and external dimensions of energy policy (Maltby 2013), but the primary sovereignty and political responsibility over these areas remained with member states. Even before the 2009 gas crisis, Noël (2008) argued that Russia is not the problem. It is the missing integrated European energy market that poses the risk for both old and new member states. When a competitive European gas market with cross-border trading materialises through regulatory reform, natural gas procurement could become depoliticised. In its assessment of supply security after the 2009 crisis, the Commission explicitly blamed member states for the lack of integration: “Member States have defined the roles for their market players in a different way, which created a distortion for security of gas supply at the European internal gas markets. (...) Only few market players have mentioned specifically in the national legislation the obligation to cooperate with other countries’ market players (e.g. TSO in Estonia). This ‘national only support’ contributes to the fragmentation of the internal gas market” (European Commission 2009b, 12-13). The solution to these inconsistencies was obviously “more Europe”, namely the adoption of Regulation 994/2010 on gas supply security, directly applicable in all member states. However, the implementation of this legislation was

patchy, as analysed by Zeniewski and Bolado-Levin (2012), especially in adopting regulations for emergency situations. Interestingly, the authors found that some states still exert significant influence over outcomes: “The tools available to market players also vary depending on the extent to which the national gas market is sufficiently competitive and liquid. Where the market is concentrated and dominated by single vertically-integrated players, the extent of government intervention to meet security of supply standards is usually more substantial” (660). Thus, the market failure explanations call for more integration, and blame the member states for not ceding control over their national gas markets.

In all three types of explanations, the state takes on a passive role in meeting the dependency challenge and responding to crises. According to the Russia-focused arguments, the dominant supplier subverts possibilities for diversification and exposes even acquiescing governments to the risks of supply disruptions. In the V4-focused explanations, states are too divided and complacent to muster a joint defence, while the proponents of the market failure argument blame EU member states for the insufficient degree of integration. Therefore, these approaches are insufficient to explain variations in adjustment strategies and could be termed as “backward-looking”: focused on legacies and power relations, victimisation and inaction. In order to explain divergence in response to crises, we need an approach that takes into account domestic state structures and the links of the state to the international environment. The politics of energy are inherently complex, as “there is no single government policy tool (akin to tariffs) that functions as a focal point for interest groups; energy is an important input into most economic activity in modern societies; and energy often has important environmental and security externalities” (Hughes and Lipsky 2013, 452). In order to address the issue of state responses, we need a “forward-looking” explanation, focused on the tools available for the state in times of crisis and the way they are applied. Therefore, in the remaining part of this chapter I will argue for a state capacity perspective to understand adjustments.

## **2.2 State capacity and energy in political economy literature**

The analysis of states as autonomous actors in the political economy literature dates back to the early 1980's, when scholars recognised the need “to improve conceptualizations of the structures and capacities of states, (...) and to explore in many settings how states affect societies through their interventions – or abstentions – and through their relationships with social groups” (Evans et al 1985, vii). More recently, Schmidt (2009) argued for bringing the state back in to political economy yet again as it “enables us to recognize the significance of state action in terms of political economy, policy, polity, and politics” (538-539). There are also numerous examples of state-centred explanations of energy-related research questions in the international political economy literature. Before turning to the analyses of the 1970's oil crises that will inform my present research topic, I will highlight a few works where state capacity and the energy sector are interrelated. Although these examples are connected to capacities of states that produce natural resources, they illustrate important cases where a state-centred explanation can be successfully applied with regards to energy. On the other hand, the literature on adjustments to the 1970's oil crises will show the value of this approach in countries that are net importers of natural resources.

The first two examples of the producer perspective are focusing largely on developing non-Western countries where reliance on resource exports, the so-called “resource curse”, contributes to weak state capacity. Shafer (1994) investigates the variations in economic performance of developing countries caused by the leading export sector. His main argument is that the number of firms, barriers of entry and asset-specificity of the leading export sector will influence the institutional capacity and the autonomy of state. For instance, in the case of mineral exports, this highly concentrated and inflexible sector and the state that receives the revenues from it will develop close ties, and as a result constrain the progress of other, non-leading sectors. Thereby, the leading export sector captures and ties to itself the capacities of



the state. Karl (1997) puts a similar explanation forward that accounts for the stagnation of petro-states, with a detailed case study of Venezuela. In her account, dependence on oil revenues results in rent seeking, degeneration of governance, increased public spending and the weakening of state capacity. The third example also deals with oil-exporting countries, although closer to the cases examined in this thesis. Jones Luong and Weinthal (2010) examine fiscal arrangements in post-Soviet oil exporting countries (Azerbaijan, Kazakhstan, Russia, Turkmenistan, and Uzbekistan), arguing that oil is not always a curse, as its developmental impacts are related to the type of ownership structure for the sector chosen after transition. Subsequently, the capacity of the states to tax is determined by the chosen ownership structures. Thus, for natural resource producers, reliance on exports results in the narrowing and concentration of state capacities.

From the net energy importer and consumer perspective, state capacity also matters, but instead of absorbing surplus revenues, the task of states during energy crises was how to manage supply and price shocks without undermining the competitiveness of their economies. Analysing the aftermath of the 1973 oil shock, the central puzzle for Katzenstein (1978) lies in divergence of national responses of Western states who are part of a seemingly US-led, increasingly interdependent economic and political post-war order based on the Bretton Woods system. The common threat of the oil shock exacerbates differences in managing this interdependence that are becoming more and more pronounced as the Bretton Woods system unravels. Responses to the 1973 oil shock reveal differences in domestic structures that explain the divergence in foreign economic policies (297). In order to uncover the differences in domestic structures, Katzenstein distinguishes policy objectives and policy instruments as an analytical tool. I will briefly present the distribution of policy instruments, as this aspect will be important for comparative purposes later on. Based on the instruments available to states (see *Table 1*), Katzenstein distinguishes two polar types of adjustment, the Anglo-Saxon liberal

type (in the US and Britain) where market forces predominate and policy makers are restricted in their choices, and the neo-mercantilist type (Japan), where policy makers can directly intervene in particular sectors or firms with a variety of instruments. European states are in between these types, with West Germany and Italy being more liberal and France being more neo-mercantilist (297). The choice of policy instruments is also conditioned by the centralization of state and society, both of which is high in Japan, while low in the US, with the rest of the countries in a midway position.

**Table 1. Instruments of foreign economic policy**

<i>Liberal</i>		<i>Intermediary</i>		<i>Neo-mercantilist</i>	
<b>United States</b>	<b>Britain</b>	<b>West Germany</b>	<b>Italy</b>	<b>France</b>	<b>Japan</b>
<ul style="list-style-type: none"> <li>• Appeal to anti-Communist ideology</li> <li>• Shift institutional arena</li> <li>• “voluntary” bilateral arrangements</li> </ul>	<ul style="list-style-type: none"> <li>• Consensus ideology</li> <li>• Institutional innovation</li> <li>• Macro-economic policy (fiscal and monetary)</li> </ul>	<ul style="list-style-type: none"> <li>• Export ideology</li> <li>• Deflationary macro policy (monetary)</li> <li>• Defend undervalued currency</li> </ul>	<ul style="list-style-type: none"> <li>• Nationalised industries</li> <li>• Macro policy (monetary)</li> <li>• Improvisation by key individuals</li> </ul>	<ul style="list-style-type: none"> <li>• Sectoral policy</li> <li>• Administrative regulation</li> <li>• Extract resources from international institutions</li> </ul>	<ul style="list-style-type: none"> <li>• Sectoral policy</li> <li>• Administrative regulation</li> </ul>

*(Katzenstein 1978, 307)*

Writing after the second oil shock of the 1970's, Ikenberry (1986) analyses cross-national differences between almost the same group of countries, excluding Britain and Italy. The article is contributing to the research agenda put forward in Evans et al (1985) on “bringing the state back in,” as explicitly acknowledged by Ikenberry (1986, 106, fn4). His explanation of adjustment divergence is more directly tied to the distribution of domestic policy instruments, without references to historical developments of state and society centralisation as in the case of Katzenstein. In Ikenberry's account, the capacity of states to respond to oil crises is conditional on the distribution of organizational, credit, spending and market instruments available to the policy makers at the time of the crises. Based on the comparative

analysis of the distribution of these policy instruments, Ikenberry also distinguished between three types of adjustment (see *Table 2*). In his case, these categories are more clear-cut than Katzenstein's, although they broadly correspond to the ones developed earlier. Since the first oil shock, France has moved firmly into the neo-mercantilist category, while Japan adopted a corporatist adjustment closer to West Germany. The US has remained committed to market-based responses. Obviously, these "ideal types" are presented in order to highlight the most important variations, with the usual caveats. "Layering of policy problems and options confounds the simple specification, but the three categories capture significant differences in emphasis and approach" (Ikenberry 1986, 111).

*Table 2. Energy adjustment strategies to the 1970's oil shocks*

	<i>Policy</i>	<i>Government instruments and structures</i>	<i>Role of the state</i>
<b>Neo-mercantilist response</b>	Energy firm nationalisation	<i>Instruments</i> (FR): government-owned enterprises in petroleum and nuclear	State as producer
	Negotiated state-to-state energy contracts		
	<i>France</i> : civilian nuclear power policy & long-term government supply contracts	<i>Structure</i> : central planning and high levels of government organisational capacity	
<b>Competitive accelerated adjustment</b>	Intersector industrial adjustment	<i>Instruments</i> (JP&FRG): financial and guidance mechanisms	State as negotiator
	Industrial policy		
	<i>Japan and Germany</i> : phasing down and in various industries, trade offensive, efficiency initiatives	<i>Structure</i> : loose corporatist bargaining arrangements, centralised industrial organisation	
<b>Defensive market response</b>	Price mechanism to shape production and consumption decisions	<i>Instruments</i> (US): regulatory decontrol & budget expenditures	State as facilitator
	Let domestic prices rise to international level		
	<i>United States</i> : petroleum decontrol, windfall profit tax, spending programs	<i>Structure</i> : requires little government planning or organizational capacity	

(Ikenberry 1986, 112)

As already indicated in the *Introduction*, Ikenberry takes a cautious approach to categorising one or the other type of adjustment as more successful. “The problem of a priori judgement is that state capacities result in both action and inaction, intervention and non-intervention” (135). The irony of state strength stems from the observation that the efficiency of adjustment policies is independent from the perceived strength of the state: deliberate non-intervention in market processes and public ownership of entire industries can be equally effective tools. Nevertheless, according to Ikenberry, the state-centred approach is more adept at explaining adjustment strategies than societal accounts focusing on interest group politics or resource-based notions stressing the role of natural endowments, as neither looks at the “instrumental and institutional resources of government that channelled policy in one direction or another” (120).

Lastly, Ikenberry also observes an important consequence of these divergent state strategies. “Where the state has the means to pursue a mercantilist strategy, as France had in energy, fewer incentives exist for it to cooperate with other industrial importing nations. (...) Where these instrumental capacities are missing, as in the United States, their absence provides incentives to collaborate and re-establish a stable energy regime” (137). Therefore, the state capacity perspective of net energy importer countries enables us to dissect the structural differences affecting divergent responses to energy crises, but also makes it possible to predict the degree of support for multilateral crisis mitigation measures.

### **2.3 Oil and gas crises compared: adapting the framework of analysis**

Parallels between 1970’s and 2000’s energy crises have already been drawn in a European context by McGowan (2011), who analysed the responses of the European Community and later the European Union from the viewpoint of energy security. McGowan highlights important similarities between the two energy crises as “energy supplies were disrupted at a time when energy markets were tightening, the disruptions were politically

motivated (or were perceived to be) and the immediate crises reinforced concerns of future vulnerability, triggering attempts to coordinate joint responses” (487). His comparative analysis shows that while in the 1970’s the nascent European integration project and its emerging institutions could not play a major coordinating role in crisis management and strategy creation, the European Commission and the Presidency of the Council were at the centre of action at the time of the gas crises of 2006/2009. While the member states in general supported joint responses during and after the gas crises, it was far from unanimous. On one hand, the member states of the enlarged EU of 25 and 27 were more diverse in their exposure and subsequently the perceived importance of energy security. “The differing perceptions of the crises tended to reflect important divergences in the perspectives of member states which in turn reflected a mix of economic and geopolitical interests” (McGowan 2011, 498). On the other hand, the member states also differed along the structure of the energy sectors and the role of state-owned enterprises that were focal to their national energy strategies. “A number of member states (working with energy companies closely tied to those countries) have sought to maintain their own relationships with exporting countries and have generally been less enthusiastic to transfer too much responsibility to the European level on these matters” (505).

Another crucial similarity of the two energy crises is the adverse macroeconomic environment that characterised both periods for countries dependent on energy imports. The oil shocks of the 1970’s compounded “problems of energy security, economic adjustment, and industrial competitiveness” (Ikenberry 1986, 105) for the oil-importing advanced economies. Similarly, the Great Recession and the concurrent rise of the oil price levels at the end of the last decade intensified the effects of the gas supply and price shocks in European states. As a result, all three pillars of EU energy policy (competitiveness, security of supply and sustainability) were affected, and most recently, “competitiveness” as a common policy objective for all member states has been explicitly defined as “reducing the energy bill for

households and businesses” (European Commission 2013a, 1). Despite the growing strength of EU institutions, the member states have tackled this common problem in various ways and the European response to the gas crises was far from united. Therefore, a closer look at member state adjustment policies would allow us to uncover the internal divisions regarding EU energy policy.

Adjustments by the state to the energy crises can also be understood as government interventions in the economy. In his comprehensive account of the governments versus markets debate, Tanzi (2011) distinguishes between various the instruments available for states to play an increasingly important role in the economy: fiscal tools (government expenditures, taxes, public debt and public loans, and their maturity); regulatory tools (regulations and authorizations); and other tools such as power of conscription, ownership, contingent liabilities, nudging or cajolment (205-223). These options of state intervention largely correspond to the analytic dimensions of state capacity (termed “policy instruments”) that are employed by Ikenberry (1986). His conceptualisation of state capacity as “the ability of states to assert control over political outcomes” (133) builds on the classic definition of “infrastructural power” developed by Michael Mann as “the capacity of the state to actually penetrate civil society, and to implement logistically political decisions throughout the realm” (1984, 189). Moreover, the state capacity perspective of Ikenberry lends itself extremely well to the comparative study of changes in national energy policies induced by sudden and unexpected shocks, since “the policy instruments and institutional resources available to government elites form the most important determinants of adjustment policy when crisis presents new challenges to government” (1986, 106). As shown in the previous section, state capacity is operationalised as the distribution of policy instruments (*Table 3*). In my analysis, I will also rely on this analytical framework, describing and comparing the policy instruments available to the states

of CEE following the gas crises of 2006 and 2009, such as public ownership, price and market regulation, market opening, energy taxes and energy subsidies.

*Table 3. Policy instruments available to states*

<b>Organisational instrument</b>	<b>Credit instrument</b>	<b>Spending instrument</b>	<b>Market instrument</b>
<ul style="list-style-type: none"> <li>• State-owned enterprise</li> <li>• Joint ownership</li> <li>• Stock ownership</li> <li>• Regulation</li> </ul>	<ul style="list-style-type: none"> <li>• State-controlled banks</li> <li>• Selective credit policy</li> <li>• Government finance corporation</li> </ul>	<ul style="list-style-type: none"> <li>• Direct subsidies</li> <li>• R&amp;D expenditures</li> <li>• Tax incentives</li> </ul>	<ul style="list-style-type: none"> <li>• Market-sharing</li> <li>• Tariffs</li> <li>• Decontrol</li> <li>• Divestiture, antitrust</li> </ul>

*(Ikenberry 1986, 122)*

However, before we can turn to the analysis of state responses in the Czech Republic, Poland and Hungary, it is necessary to highlight a number of significant constraints put on state action by the preceding processes of transformation from a centrally planned to a market economy, the Europeanization of energy policies and the creation of a common EU energy market.

## CHAPTER 3 – TRANSITIONS TO CRISIS MODE

In order to fully understand the economic and political context of state action addressing the gas crises of the 2000's, it is necessary to briefly reflect on the constraints put on state capacities in CEE resulting from the transition to a market economy and the liberalisation of European energy markets. In this section, I will outline the transformation of the natural gas industries in CEE after the end of the state socialist period, paying special attention to the market liberalisation and integration process of the EU. Then, I will describe the challenge of the gas supply and price shocks that confronted the countries of CEE after 2006. Based on this background information, state responses will be analysed in *Chapter 4*.

### **3.1 From plan to market: natural gas in CEE**

The 40-year period of Soviet-style centrally planned economy and autarchy left many negative legacies behind, particularly in the energy sector: high energy intensity, distorted prices, environmental degradation and the position of one dominant supplier, Soviet Union and later Russia (Bradshaw 2014, 86-90). The dominant narrative of energy sector reforms in CEE was liberalisation and privatisation, aimed at increasing energy efficiency and energy conservation, and facilitating foreign investment (Bouzarovski 2009, 458). However, the speed and scope of such momentous transformation was limited at first. “In the context of transition in Eastern Europe, the energy sector stands out as having been the most 'socialist' of all sectors, in the sense that it had to serve ideological, geopolitical, social, and other purposes before everything else” (von Hirschhausen and Waelde 2001, 94). Security of supply and price stability for domestic industries and households could have well been obstacles to the full marketisation and liberalisation of energy supply. “One of the socially most problematic aspects of the transition to a market economy in the energy sector is the lifting of energy subsidies, and thus increasing energy prices. Since this process results in significant social stress, social and financial buffers need to be introduced” (Ürge-Vorsatz et al 2006, 2286).



Nevertheless, the new democratic leadership of post-socialist countries took on the challenge and saw great opportunities in reducing state participation in the energy sector, despite losing some political control over strategic assets.

For the newly elected governments, the assertion of sovereignty through political and economic independence and diversification of fuel imports were issues of paramount and immediate importance. So were the issues of privatization and foreign investment, both to raise much-needed revenues and to demonstrate to electorates and international funding agencies that capitalism and the market economy had been seriously embraced. (Stern 1998, 7)

Thus, the transition to capitalism in CEE implied a gradual withdrawal of the state in order to counter the excessiveness of intervention and control during the decades of state socialism.

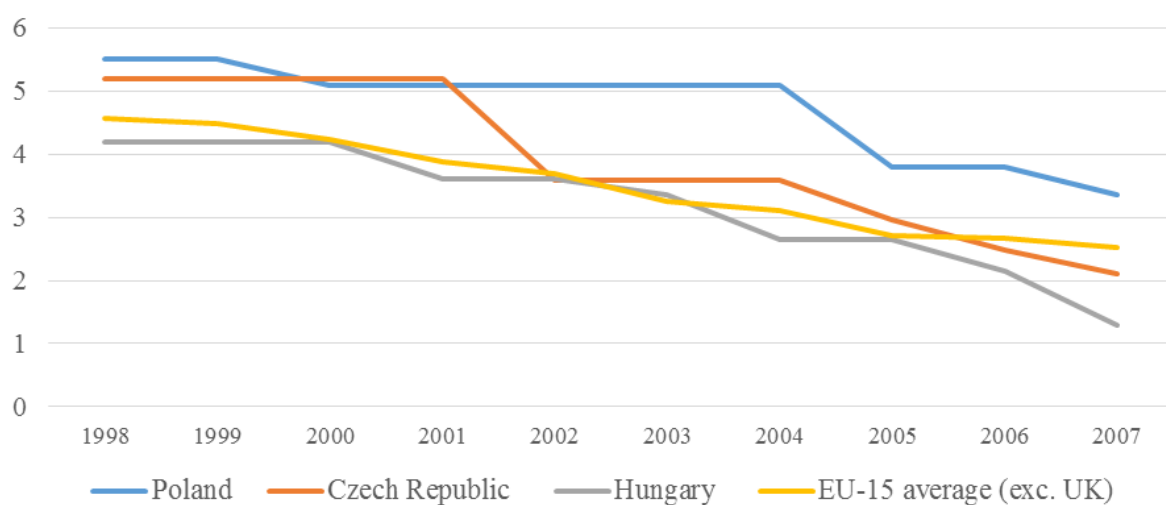
In order to illustrate the extent of liberalisation of the natural gas sector in the selected cases before the gas crises, I will turn to the aggregate natural gas regulation indicators from the dataset on regulation in energy, transport and communications (ETCR) of the OECD's Product Market Regulation Database<sup>3</sup> (OECD 2011). This aggregate indicator combines measures of market entry, public ownership, market structure and vertical integration in the natural gas sector of a given OECD member state to examine the extent to which policy settings promote or inhibit competition. The indicators range from 6 (fully regulated) to 0 (fully liberalised) and are available for 10 years (from 1998 to 2007) for OECD countries. Since comparable data exists for the Czech Republic, Poland and Hungary, as well as older EU member states<sup>4</sup>, it is possible to assess the trends of natural gas industry liberalisation across the EU. As *Figure 1* shows, Poland was the slowest mover on liberalisation, while the Czech Republic and Hungary have achieved levels of deregulation that surpass the EU-15 average by the end of the examined period, most importantly by fully privatising their dominant gas importer and wholesaler companies over 2002-2006 (see section 3.2 for more details).

---

<sup>3</sup> I use the data of the 2011 edition of the OECD PMR database. The most recent version (2014) of the PMR database is only available for the years 1998, 2003, 2008 and 2013, and does not include indicators for Poland.

<sup>4</sup> The UK is excluded from this comparison as it had fully liberalised its gas market before 1998.

**Figure 1. Product market regulation indicator for natural gas**



(OECD 2011)

The trends indicated above clearly confirm the insights of von Hirschhausen and Waelde (2001), who categorised the reforming CEE countries as coming closest to adopting the institutions of a market economy for their energy sectors among all post-communist states, while the post-Soviet mixed economies (Russia, Ukraine, Belarus) partially liberalised and the Caspian state economies (Azerbaijan, Turkmenistan, Uzbekistan) not at all (von Hirschhausen and Waelde 2001, 103). However, in all post-communist energy transitions, the dominant “ideal type” was the same. “Most surprisingly, and contrary to what an evolutionary perspective might predict, the institutional reforms of transition countries’ energy sectors have been largely based, at least on paper, on the liberal Anglo-Saxon model” (97). With some hindsight, this is less striking, as it was symptomatic of broader developments that were being felt in all economic sectors worldwide. “The era of energy liberalisation has been a significant manifestation of the general trend towards liberalisation of the economy” (Pollitt 2012, 135). In fact, the EU candidate states of CEE automatically became part of the single energy market creation process from the late 1990’s that was largely influenced by the Anglo-Saxon model. Besides the decisive moves towards privatising their natural gas sectors, EU market integration and the Europeanization of energy policies became the other two important factors

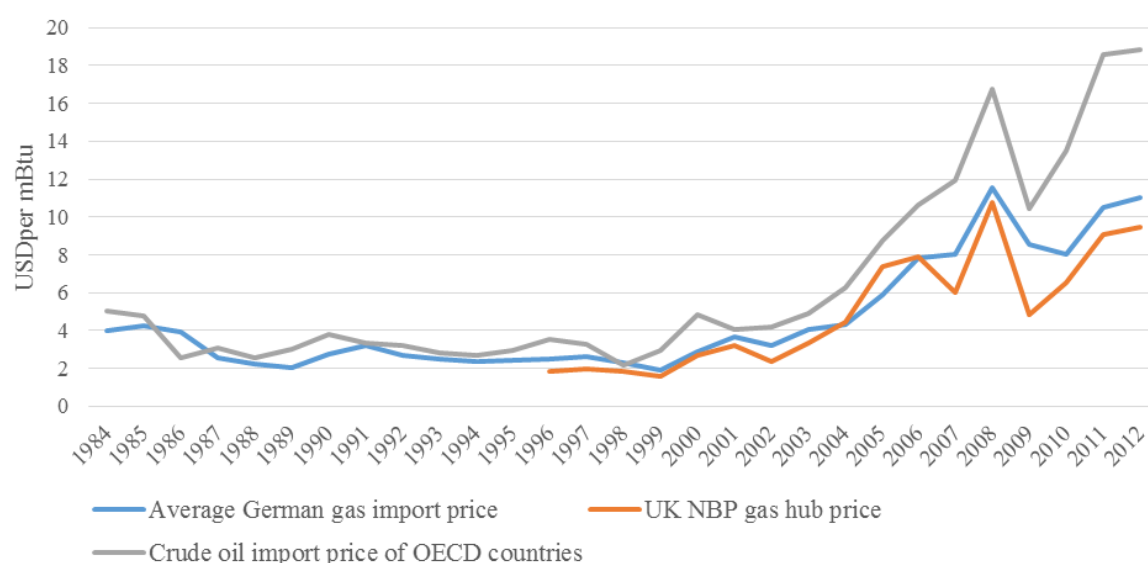
undermining the sector-specific state capacities, i.e. narrowing the available policy instruments of CEE countries.

### **3.2 Transnationalization of energy policies and markets**

The drive for the integration and liberalisation of heretofore fragmented national gas markets in the EU started in the early 1990's as the lower international oil price environment eased concerns over energy security and shifted attention towards issues of competitiveness (Stern 1998, 6). The examples of liberal energy market reforms in the USA and Britain provided templates for action, while increased availability and diversity of gas supplies to Europe from the North Sea, Soviet Union/Russia and Algeria served as a growing base of supply (IEA 2008, 20). Learning from the oil crises of the 1970's, Western Europe lessened its reliance on crude oil in favour of natural gas and nuclear power. The share of crude in the fuel mix decreased from 57% in 1970 to 44% in 1986, while the share of gas rose from 6% to 15% and nuclear from 1% to 11% over the same period (Clark 1990, 232).

For about two decades, from 1984 to 2004, the price of oil and the price of natural gas that was indexed to oil products as alternative fuels (IEA 2008, 41) remained relatively stable (see *Figure 2*). The appeal of an abundant and affordable energy import source led to initiatives to create a single market for gas in the EU. "Not only did oil and gas seem to have become plentiful, but they were cheap in comparison to the post-1973 period. It was therefore increasingly important for governments to ensure that consumers – and because of competitiveness particularly industrial consumers – saw the benefits of these price reductions" (Stern 1998, 8). Thus, after negotiations between EU institutions, member states and industry stakeholders during the last decade of the 20<sup>th</sup> century, the first directive on common rules for European gas markets was adopted in 1998 (IEA 2008, 24).

**Figure 2. Crude oil and natural gas prices in Europe**



(BP 2013)

The creation of a single energy market in network industries (gas and electricity) proceeded in three main stages that can be tied to the adopted EU legislation gradually broadening and deepening the scope of market integration (see *Table 4*). The main goals of these reforms were to break up national monopolies, separate gas infrastructure and gas trading, and allow customers (first industrial, then households) to switch suppliers and benefit from price competition. Another important element was the introduction of independent energy regulators and in the final phase an EU-wide regulatory body overseeing the integrated energy market. The start of the market integration project and the preparation of the Eastern enlargement of the EU overlapped, so the candidate countries of CEE, including the Czech Republic, Poland and Hungary, were obliged to participate despite the fact that until the accession year of 2004, when the first two regulatory stages had already been approved, they had no institutional means to influence the process. However, “as the accession to the EU was a political priority for these countries, the prerequisite of adopting the Gas and Electricity Directives was almost viewed as a formality among many (of 31 chapters in discussion during pre-accession, energy was but one)” (IEA 2008, 23).

**Table 4. Milestones of EU gas market development**

Regulatory stages	Key implications for industry
First Gas Directive (1998)	<ul style="list-style-type: none"> <li>• Gradual market opening (industrial consumers)</li> <li>• Regulated or negotiated third party access to transmission pipelines</li> <li>• Accounting unbundling of transmission and trade</li> <li>• Independent regulation by national authorities</li> </ul>
Second Gas Directive (2003)	<ul style="list-style-type: none"> <li>• Gas and electricity, transit and transport treated equally</li> <li>• Regulated third party access to transmission, LNG and storage</li> <li>• Complete market opening from 2007</li> <li>• Legal unbundling of transmission and trade</li> </ul>
Third Energy Package (2009)	<ul style="list-style-type: none"> <li>• Goal of an integrated single gas market in the EU</li> <li>• Common rules for transmission, supply and storage</li> <li>• Ownership separation of transmission from trade, or independent system operator alternative</li> <li>• Establishment of the European Agency for the Cooperation of Energy Regulators (ACER) to assist national regulatory authorities</li> </ul>

(IEA 2008, 28; Bohne 2011, 255-256)

Although the market integration project started in a benign energy price environment with the hopes of transferring the benefits of cheaper oil and gas towards consumers, the global energy industry experienced a series of major shifts starting around 2004 that fundamentally altered both fundamentals and expectations. Strong economic growth in Asia, and especially in China, has driven global oil demand and prices upwards, while geopolitical events such as the 2003 war in Iraq tightened the market, and crude oil as a commodity became a financial instrument (Yergin 2011, 157-188). As a result, the oil price peaked in 2008 and entered a phase of renewed volatility, followed by changes in gas prices (see *Figure 2*). Despite these adverse market conditions, the EU pushed on with the market integration. If we accept that the introduction of competition and liberalisation in the natural gas sector served as “means to achieve the aim of lower prices” (Stern 1998, 9), what explains the continuation of these reforms?

Jabko (2004) argues that the creation of integrated markets in various sectors of the EU was not just motivated by competitiveness concerns, but was in fact a political project of the European Commission, akin to Karl Polanyi's notion of market creation by political forces (Polanyi 1957), enforcing European regulatory reforms which would not have been possible on national level. "European integration went furthest not in the sectors where the market was a fact of life, but precisely in those sectors where it was necessary to build and exert power in order to obtain otherwise unlikely market-oriented reforms" (Jabko 2004, 211). While the special case of UK energy market liberalisation, which also provided an inspiration for EU market reforms, could somewhat undermine the overall validity of this claim, it is nevertheless convincing for continental member states, "where incumbent public utilities, often in a monopolistic position, were important political actors and able to wage a political fight against reform." (Jabko 2004, 206). Besides overcoming particularistic opposition by domestic or transnational interest groups, the actions led by the European Commission also limited the state capacities of member states in important ways. "While public officials in the member states are still concerned about national sovereignty and *their capacity to influence outcomes*<sup>5</sup>, the new centrality of EU institutions changes the very nature of sovereignty and the parameters of public action in Europe" (215).

The market integration did not only provide expanding powers to EU institutions, but also investment and expansion opportunities for Western European energy firms, aided by the post-socialist market restructuring in CEE. "Privatisation of state assets wasn't required by the European acquis. But privatisation of their assets gave these governments vital cash injections as well as helped them to quickly establish a new economic system" (IEA 2008, 33-34). At the same time the interest of Western investors and host governments coincided, as some countries

---

<sup>5</sup> Emphasis added. Note the similarity with Ikenberry's definition of state capacity: "the ability of states to assert control over political outcomes" (1986, 133).

were more than willing to transfer the investment and market risks in their gas sectors to private actors, and Western utilities were aiming to compensate the loss of market share in their home markets by expanding to the East. Thus, the main gas importer, wholesaler and transmission system operator in the Czech Republic, Transgas, was privatised and sold to the German company RWE in 2002 (Vlček and Černoch 2013, 45), while the gas import and wholesale unit of Hungary's MOL was sold to another German company, E.ON Ruhrgas, in 2006 (HEO 2007, 7). In both cases, the long-term gas supply contracts with Russia were transferred to the investors as part of the transaction. Gas distribution companies have also been mostly privatised prior to EU accession in CEE – with the notable exception of Poland, – which offered further opportunities to establish economies of scale for the mainly German, French and Italian investors (LaBelle 2009, 4674). Thus, privatisation and market integration fundamentally altered the ownership and governance structures of natural gas markets in CEE. The independent energy regulators set up as a requirement of EU legislation, were nominally independent of the state, overseeing a largely privatised natural gas sector. Poland remained the great exception for this trend by retaining state ownership over its gas industry and delaying full liberalisation.

### ***3.3 Gas supply and price shocks: the litmus test of dependence***

As discussed in the previous two sections, the transformation from central planning to capitalism and the EU market integration process significantly altered the state capacities of CEE countries with regards to their natural gas sectors. Integrating their energy markets with the rest of the continent held the promise of breaking down historical legacies of inefficiency and dependence, but quite soon after their accession, external events proved that the EU is no panacea in this respect. From an EU perspective, the gas supply disruptions of 2006 and 2009 came as a shock both to the industry and the political sphere. “The relative significance of security issues in energy policy diminished over the latter part of the 1980’s and much of the

1990's thanks to lower energy prices and the increased availability of resources" (McGowan 2011, 494). For Western Europe, Soviet/Russian gas imports were historically predictable and not perceived as a source of vulnerability. At least at the time when Eastern gas imports were launched, Western Europeans contended that "the safety net measures they have been developing would limit their vulnerability sufficiently in the event of a politically motivated gas embargo" (Jentleson 1986, 222). It is debatable whether the supply disruption in 2006 and 2009 were politically motivated or commercial disputes, but the challenge posed by these crises is much clearer. In the 1970's, oil supply disruptions and price hikes were the results of political moves, but they highlighted the one-sided dependence of Europe on Middle Eastern oil. In the 2000's, the gas crises did the same for natural gas, especially in CEE. The supply affected Western Europe too, but the underlying dependence levels were generally higher for CEE (see *Table 5*).

*Table 5. Impact of gas crises on selected EU member states*

	Share of Russian gas in total gas imports (2006)	Supply reduction, January 2006 crisis	Supply reduction, January 2009 crisis
<i>Western Europe</i>			
Austria	82%	20-33%	66%
Germany	44%	6%	60% (in the south), 10% (total)
France	16%	25-30%	15%
Italy	30%	15-25%	25%
<i>CEE</i>			
Czech Republic	73.9%	20%	71%
Hungary	80%	40%	45%
Poland	68.84%	10-14%	33%

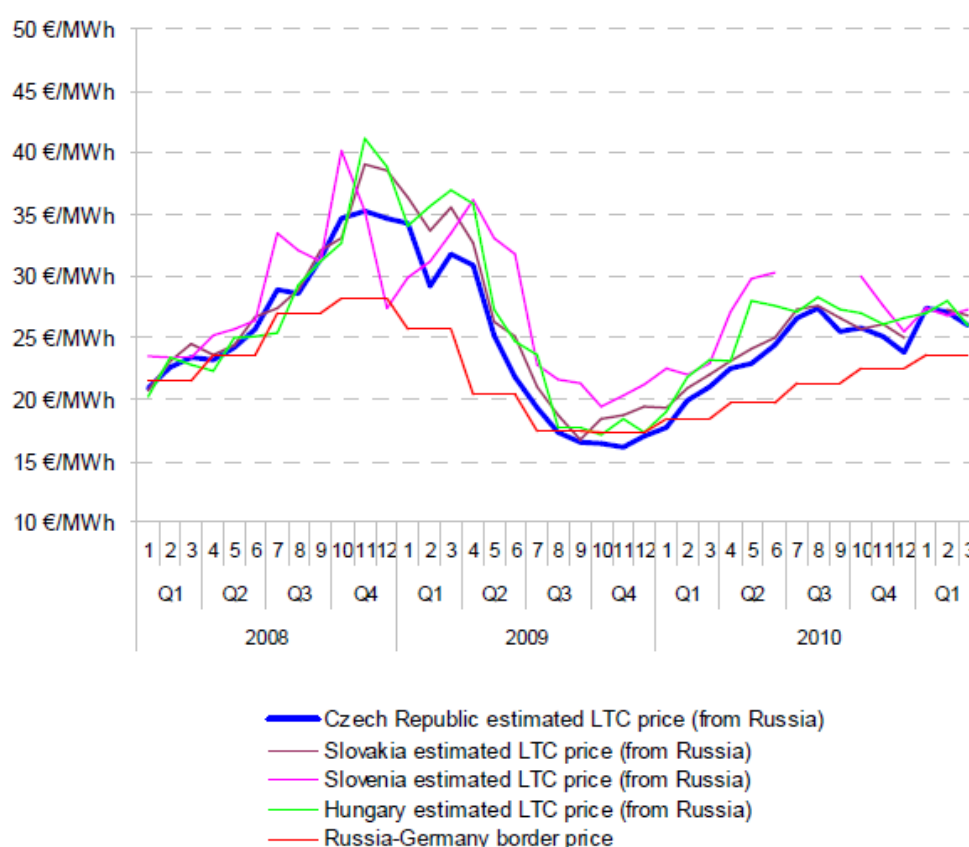
(*Stern* 2006, 8; *Pirani et al* 2009, 54; *European Commission* 2009b, 16; *Schmidt-Felzmann* 2011, 577)

The gas supply disruptions were not the direct causes of rising gas prices, as was the case with the oil price hikes following the oil embargo and supply shortages of the 1970's. Rather, they were part of the general trend of the commodity boom at the end of the 2000's



(see *Figure 2*), increasing with the oil price due to price formation that linked gas with oil product prices, especially in CEE (Stern 2012, 64). Due to lack of alternative suppliers and traded gas markets, the countries of CEE experienced a higher import price increase than Western European ones with a diversified supply structure and traded gas markets with competitive spot prices. Measured against the gas import price at the German border as a benchmark, Czech and Hungarian long-term contract gas import prices increased to a higher level throughout the two years following the 2008 oil price hike (*Figure 3*).

**Figure 3. CEE gas import prices 2008-2010**

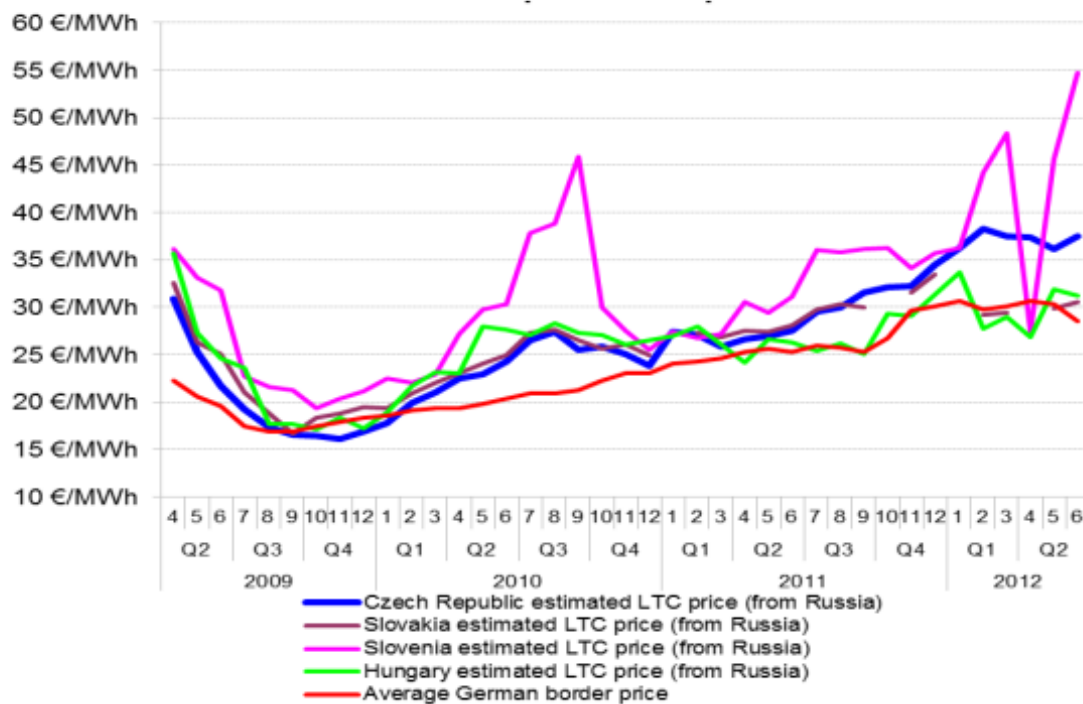


(European Commission 2011, 14)

During 2010-12, the spread between the German and the Czech and Hungarian prices somewhat decreased (*Figure 4*), most probably reflecting the successful renegotiations or arbitrations between Gazprom and its major European partners RWE and E.ON in the Czech and Hungarian case (see section 4.1 for a more detailed account on private responses to the gas

price shocks). The European Commission estimate for the Polish long-term contract gas import price for 2011 and 2012 was 28.8 and 29 euros per MWh, just below the Hungarian levels, but still above German and Western European levels (European Commission 2012b, 18).

*Figure 4. CEE gas import prices 2009-2012*



(European Commission 2012a, 24)

Thus, both the physical supply disruptions and the ensuing high import prices underlined the adverse effects of the one-sided import dependence of CEE, while the capacities of the individual countries were limited by the transfer of responsibilities to EU institutions and transnational private actors. Although the immediate mitigation of supply disruptions was handled well by the gas industry (European Commission 2009a, 9), the gas crises posed a serious challenge for the national economies of these countries. In the remaining part of the thesis, I will focus on the national responses and the drivers of adjustment that stem from the differences in state capacities.

## CHAPTER 4 – SPACES, STRATEGIES AND STRUCTURES OF STATE ACTION

In this chapter I will assess responses and adjustments to the gas supply and price shocks. First, I will focus on the steps taken by transnational actors: the EU, the Visegrad Group and European energy companies, in order to demarcate the space left for individual state action. Then, I will describe and compare the market developments and adjustments of the Czech Republic, Poland and Hungary to see the main differences in the strategies pursued. Finally, I will analyse the distribution of available policy instruments that would explain this divergence.

### ***4.1 International crises: transnational or national adjustments?***

The January 2006 gas crisis lasted for only four days, while the January 2009 one took two weeks to resolve, resulting in a significant disruption of gas deliveries to Europe. Although EU member states were affected disproportionately, the 2009 crisis altogether disrupted 20% of gas supplies and 30% of imports (European Commission 2009a, 7). The European Commission took on an especially active role in EU energy policy after the gas crises, described by Maltby (2013) as “policy entrepreneurship” that aimed to expand its power vis-à-vis the member states in the internal and external dimensions of energy policy. At the time of the supply disruption, the aim of the Commission was to mediate between Ukraine and Russia to resume supplies as soon as possible, as well as dispatching a monitoring mission staffed by representatives of European utility companies to Ukraine. However, all in all the Commission “played a rather minor role in the settlement of the dispute” (Pirani et al 2009, 49).

Following the resumption of gas flows, the Commission prepared a detailed analysis of the crises which highlighted a number of deficiencies in infrastructure and information sharing (European Commission 2009a) and initiated the update of an existing directive on gas supply security. As a result, a binding regulation in security of gas supplies was adopted in 2010, although its effectiveness was later questioned by both EU insiders and independent experts (Zeniewski and Bolado-Levin 2012, Noël 2013). The crisis also added some urgency to the

adoption of the third internal energy market package in June 2009 (Maltby 2013, 439), although this could be seen as a continuation of previous market reforms and liberalisation (see section 3.2, *Table 4*).

In order to incentivise this gradual process, especially infrastructure investments, the EU has also pushed for additional financial instruments to support interconnections between national networks. There was a number of financing schemes for energy infrastructure before the gas crises, such as the Trans-European Networks for energy infrastructure (TEN-E), the European Regional Development Fund (ERDF), European Investment Bank (EIB) loans and loan guarantees, and project financing by the European Bank for Reconstruction and Development (EBRD). However, these were mainly used for feasibility studies and encouraged market-based financing solutions (European Commission 2009b, 35-38). In 2009, a new crisis fund (European Energy Programme for Recovery, EEPR) was opened up for directly co-financing energy infrastructure, especially gas and electricity interconnections, up to 50% of total costs. This financial support had a major effect on speeding up and completing investments in regional gas infrastructure. Although the projects involving the Czech Republic, Poland and Hungary altogether received only 20% of the grants, they were more successful in actually using these funds, as shown by the higher payment ratio compared to all EU projects, and completed over half the projects in the space of five years (see *Table 6*).

The Commission also made significant forays into external energy policy, gaining a mandate to negotiate on behalf of the EU with Azerbaijan and Turkmenistan to build a Trans-Caspian gas pipeline system, and also signalled its willingness to participate in negotiations over gas supply contracts between member states and third countries, i.e. Russia (Maltby 2013, 440-441). However, these initiatives brought scant tangible results over the past years, unlike infrastructural investments.

**Table 6. EEPR funds granted to selected countries**

<b>Project</b>	<b>Grants awarded (€)</b>	<b>Cumulative payments (€)</b>	<b>Payment ratio</b>	<b>Status (June 2013)</b>
Hungary-Romania interconnector	16,093,470	12,173,531	76%	completed
Hungary-Croatia interconnector	20,000,000	20,000,000	100%	completed
Poland gas transmission upgrade related to LNG terminal	50,000,000	17,845,000	36%	ongoing
Expansion of Czech gas storage capacity	35,000,000	18,647,999	53%	completed
Polish LNG terminal	79,561,868	23,868,506	30%	ongoing
Hungary-Slovakia interconnector	30,000,000	8,017,433	27%	ongoing
Austria-Hungary reverse flow	1,854,000	1,093,860	59%	completed
Czech transmission capacity upgrade	3,675,000	2,292,586	62%	completed
Hungary transmission capacity upgrade	8,078,500	2,400,000	30%	completed
Czech-Polish interconnector	14,000,000	9,536,254	68%	completed
Czech storage and transmission capacity upgrade	2,300,000	690,000	30%	ongoing
Polish transmission system upgrade	14,405,248	6,243,501	43%	ongoing
Total for CZ, PL, HU	274,968,086	122,808,670	45%	-
Total EU gas infrastructure projects	1,363,000,000	300,697,246	22%	-
Share of CZ, PL, HU	20%	41%	-	-

*(European Commission 2013c)*

Besides the physical security of supply and diversification, the Commission has also tried to address gas pricing issues in the CEE, utilizing its powers as a competition authority over the internal EU market. After conducting unannounced inspections, so-called “dawn raids,” at Gazprom companies and some of its contracting parties in CEE in 2011, the Directorate-General for Competition initiated an antitrust case against Gazprom in 2012 (Riley 2012). The case will examine allegations of resale obligations, suppression of alternative competition and unfair pricing under EU competition law. Although the case might take years to investigate and complete, its launch has shown the willingness of the Commission to address the problem of higher gas import prices in CEE (see section 3.3, *Figure 3* and *Figure 4*).

Changes in market conditions and higher prices prompted not only the Commission to respond by administrative and legal means, but the business partners of Gazprom to seek a commercial way of altering the prices of import contracts. The demand slump caused by the Great Recession, the concurrent rise of traded gas markets in Western Europe and the increasing global availability of Liquefied Natural Gas (LNG) imports put pressure on oil-linked gas prices in Europe, leading to renegotiations between major importers, such as Germany's RWE and E.ON, France's GDF Suez and EdF, and Italy's ENI, and exporters from Norway (Statoil), Algeria (Sonatrach) as well as Russia's Gazprom (Melling 2010, Stern and Rogers 2011). Through bilateral re-negotiations, as well as arbitrations, European companies sought and achieved price and volume concessions, resulting in the most immediate adjustment of gas import price levels, albeit mainly in Western European markets. The major European utilities could also be seen as a powerful lobby supporting a special relationship with Russia and treating the 2006 and 2009 supply disruptions as purely commercial disputes due to their commercial interests with Gazprom, as argued by Abdelal (2013), but they were quick to take on Gazprom and adjust the terms of their contracts after the oil and gas price shocks.

Thus, the EU as a transnational actor addressed the gas supply and price shocks through legislative means and financial incentives, while European energy companies resorted to commercial means. Before we examine national level responses, we also need to briefly touch upon regional initiatives. After the 2006 crisis, Poland proposed a European Energy Security Treaty, a sort of "Energy NATO," where member states would pool their energy resources and the violation of the energy security of one member would entail a threat to all others (Geden et al 2006, 24). This proposal was supported by the other countries of the Visegrad Group, but at the time the Western European member states were against such an explicitly anti-Russian cooperation. In the wake of the 2009 crisis, the Visegrad Group has again exhibited strong mutual interests, this time with a regional focus, proposing the strategic concept of a "North–

South Gas Corridor” connecting gas infrastructure from the Baltic Sea to the Adriatic Sea (Cwiek-Karpowicz and Kalan 2013, 11). The concept was laid down in a political declaration at the 2010 V4 summit in Budapest, followed by similar declarations at summits in Bratislava (2011) and Warsaw (2013). This time, the concept gained support at EU level and was included in the official regional gas development plan, as well as incentivised through the EEPR. However, as I will show in the following section, the North-South concept was actually an aggregation of national projects addressing security of supply and lacked a truly transnational dimension.

#### ***4.2 Adjustments compared: Poland, Czech Republic and Hungary***

As we have seen in section 3.3, the gas crises presented the challenge of supply security and prices shocks, especially for the countries of CEE who were more dependent on Russian gas supplies and experienced steeper price increases than their Western counterparts. At the time of supply disruptions, individual states were able to restrict industrial consumption, switch to other fuels and rely on alternative supply routes or use their gas storages to counteract the temporary drop in imports. Short term trading agreements and swaps between companies of neighbouring markets, capacities permitting, offered some relief but highlighted a lack of functioning gas markets in the CEE region. The analysis of the European Commission found no price reactions to the supply cuts in 2009 in Eastern member states, while in the UK and Belgium, increased European demand pushed up spot gas prices by 10 to 25% (European Commission 2009a, 8). Thus, individual countries could rely on their own industry players to manage the disruptions, with the immediate national policies focused on securing supplies for domestic consumers, primarily households. Although short term crisis management policies were successful, the question of how to diversify both gas import routes and sources loomed larger than ever, especially in the light of diminishing domestic sources of energy.

The share of natural gas in the energy mix of Czech Republic, Poland and Hungary varied, but it still represented a significant part of energy consumption and could not be substituted by other energy sources, domestic or imported, in the short run (see *Table 7* and *Table 8*). The Czech and Polish energy systems traditionally relied on domestic coal reserves, but coal production and consumption has been in decline, due partly to environmental concerns. Hungary's gas reserves were rapidly depleting, while the share of gas in the energy mix did not lose its importance. A steady increase in the share of natural gas in consumption was also witnessed in the Czech and Polish case. Nuclear energy was certainly an important source for the Czech and Hungarian systems, but completely missing from the Polish one<sup>6</sup>.

*Table 7. Share of selected fuels in domestic energy production (%)*

	Czech Republic				Hungary				Poland			
	1995	2000	2005	2010	1995	2000	2005	2010	1995	2000	2005	2010
Solid fuels (inc. coal)	66.2	60.5	52.1	46.2	12.5	11.5	6.1	6.2	91.1	79.4	74.0	54.4
Petroleum and products (inc. oil)	0.7	1.0	1.3	0.7	8.7	6.7	5.1	4.6	0.4	1.0	1.2	1.2
<b>Natural gas</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>	<b>0.4</b>	<b>14.4</b>	<b>9.9</b>	<b>8.3</b>	<b>8.5</b>	<b>3.2</b>	<b>3.7</b>	<b>4.2</b>	<b>3.6</b>
Nuclear	7.7	8.5	14.1	16.1	13.7	14.6	13.0	15.8	0.0	0.0	0.0	0.0
Renewables	2.9	3.1	4.4	6.5	3.4	3.2	4.3	7.3	3.9	4.2	4.8	6.8

(European Commission 2013b)

*Table 8. Share of selected fuels in final energy consumption (%)*

	Czech Republic				Hungary				Poland			
	1995	2000	2005	2010	1995	2000	2005	2010	1995	2000	2005	2010
Solid fuels (inc. coal)	54	52	45	41	17	15	11	10	70	63	59	54
Petroleum and products (inc. oil)	19	19	22	21	30	28	26	27	16	22	24	26
<b>Natural gas</b>	<b>16</b>	<b>18</b>	<b>17</b>	<b>18</b>	<b>35</b>	<b>38</b>	<b>44</b>	<b>38</b>	<b>9</b>	<b>11</b>	<b>13</b>	<b>13</b>
Nuclear	8	8	14	16	14	15	13	16	0	0	0	0
Renewables	3	3	4	6	3	3	4	8	4	4	5	7

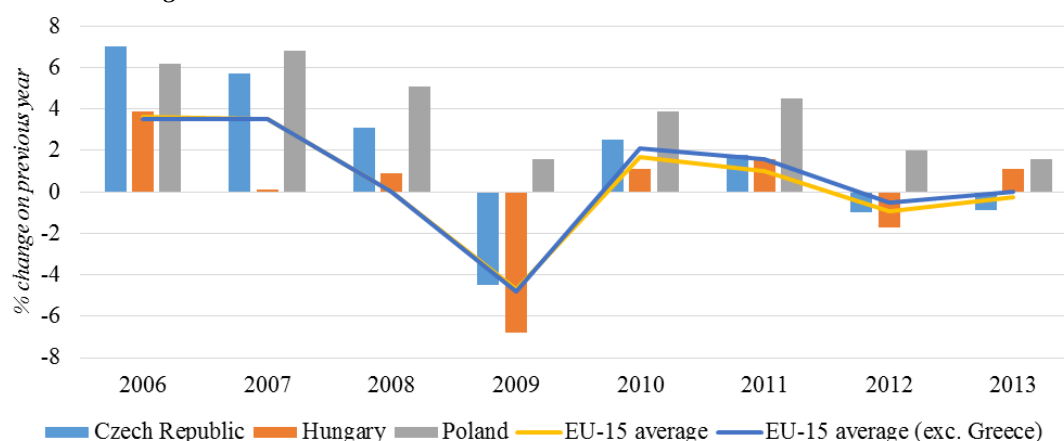
(European Commission 2013b)

<sup>6</sup> Currently Poland has no nuclear power plants, although it plans to install a number of nuclear units between 2022 and 2030 to diversify its domestic energy production sources and reduce carbon emissions (IEA 2011a, 13).



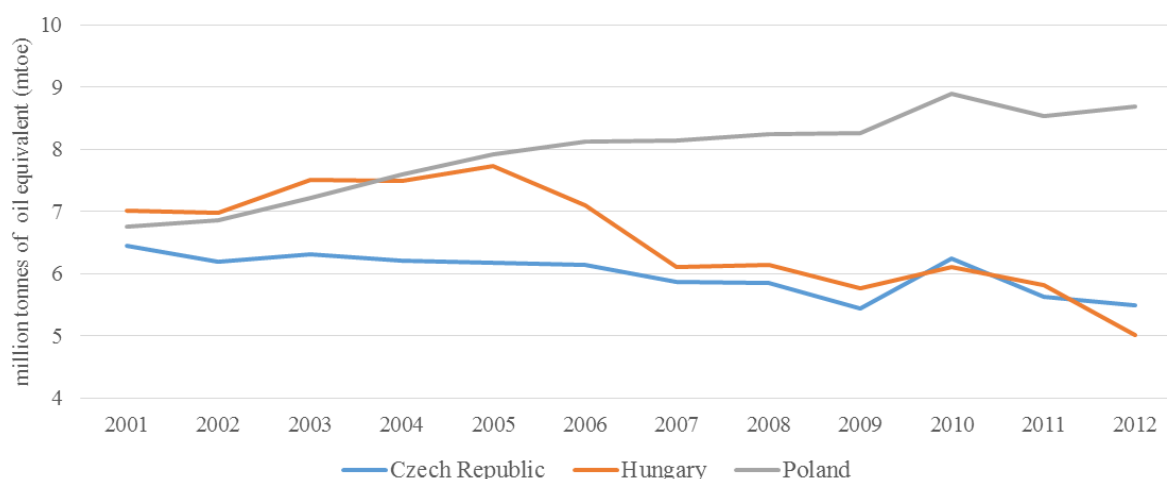
While the share of natural gas in the energy mix could not be reduced, the level of gas consumption experienced significant changes in the years following the gas crises. As a result of the Great Recession, the rates of economic growth suffered a steep decline in Hungary and the Czech Republic, while Poland saw only a moderation of its growth rate and survived the global crisis without entering a recession (*Figure 5*). Subsequently, natural gas consumption fell most significantly in Hungary and stagnated in the Czech Republic, while volumes grew in Poland (*Figure 6*). Viewed over a longer time horizon, the change in Hungarian consumption trends is noteworthy. Until the middle of the first decade of the 2000's, Hungary's levels were on par with Polish ones despite the differences in size and population, while in the last few years its gas consumption fell below that of the similarly sized Czech Republic.

**Figure 5. Real GDP growth rates in selected countries**



(Eurostat 2014)

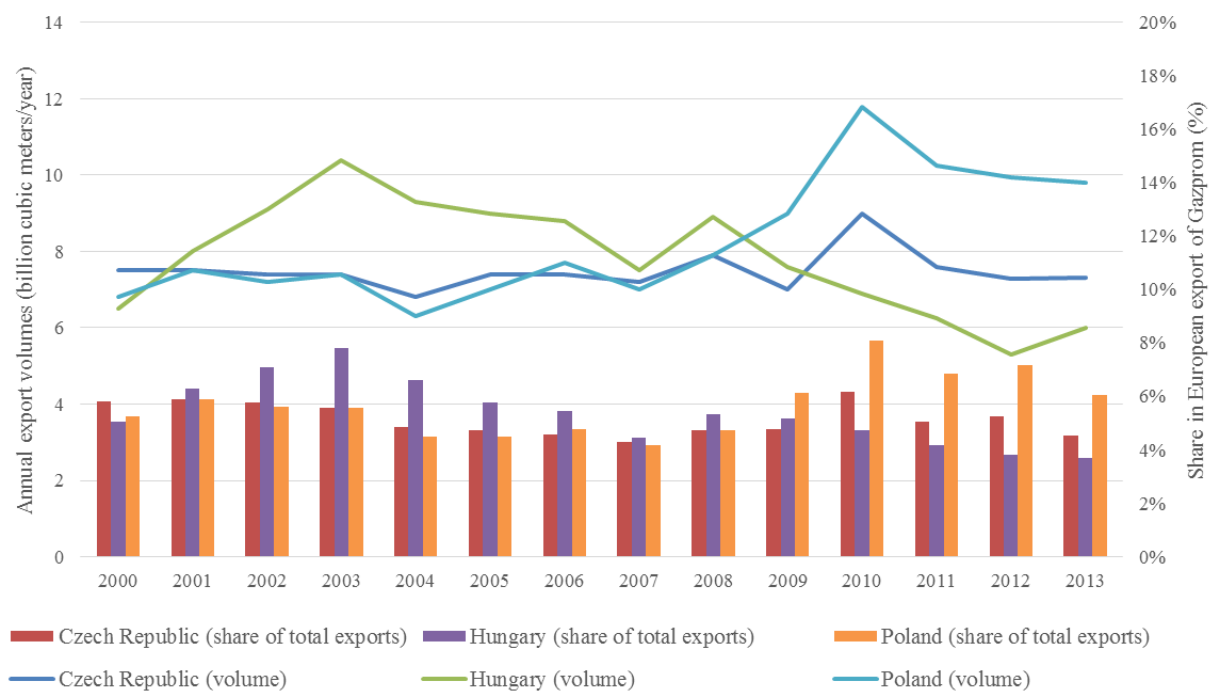
**Figure 6. Natural gas consumption in selected countries**



(Eurostat 2014)

Although these consumption trends were not directly influenced by the states, their implications for national energy policies are clear, as Poland now faces the challenge of growing gas dependence, while Hungary is confronted by managing a shrinking national gas market. Consequently, the importance of each market for Russian gas exports has changed dramatically (*Figure 7*). During the first half of the past decade, Hungary's share in Gazprom's European exports (which include the EU, Switzerland and Turkey) almost reached 8%, but then fell rapidly throughout the next ten years and halved by 2013. Poland, on the other hand, joined the league of the top five European customers of Gazprom (along with Germany, Turkey, Italy and Great Britain, not shown on the graph) in the past years, while the share of Czech Republic remained relatively stable around 5%. The export volumes also reflect the shrinking gas market in Hungary, with growth in the Polish and stagnation in the Czech one.<sup>7</sup>

**Figure 7. Annual Gazprom export volumes to selected countries and their share in total European exports of Gazprom, 2000-2013**



(Gazprom Export 2014)

<sup>7</sup> European natural gas consumption and Russian gas exports to Europe peaked in 2010 due to extreme weather in the form of an exceptionally cold winter. Overall, European gas demand has witnessed a declining trend over the past decade due to slow economic growth, high prices and increasing share of renewables (Corbeau 2013). The growing gas consumption and imports of Poland are especially noteworthy in light of these trends.

Right after the 2006 gas crisis, Poland took steps to diversify its gas supply routes (and potentially sources) by constructing an LNG import terminal in Świnoujście, at the Baltic Sea, with the initial technical capacity of 2.5 billion cubic meters per year (bcm/y), covering approximately 20% of its annual demand, and the possibility of extension to 5-7.5bcm/y, covering 40-50% of demand. Besides, the extension of storage capacity was decided, as well as the construction of interconnecting pipelines to Germany and Lithuania (ERO 2007, 61-62). In 2009, an initial agreement was reached between Poland's PGNiG and the Qatari national gas company for LNG supplies starting from 2014 (PGNiG 2009, 10), while in 2010 PGNiG began exploration projects for domestic shale gas resources which have the potential to increase indigenous gas supply (PGNiG 2010, 33). By 2011, the Polish transmission system operator completed the German interconnector and constructed one with the Czech Republic. (Gawlikowska-Fyk and Kalan 2013, 29), while the next year it opened an interconnector supplying gas to Ukraine (ERO 2013, 55). In the same year, following an arbitration against Gazprom, the pricing and volume terms of the Russian import contract were amended, securing a 10% price reduction (PGNiG 2012, 15). Thus, over the past years, Poland substantially improved its security of supply, as well as addressing pricing issues with Gazprom.

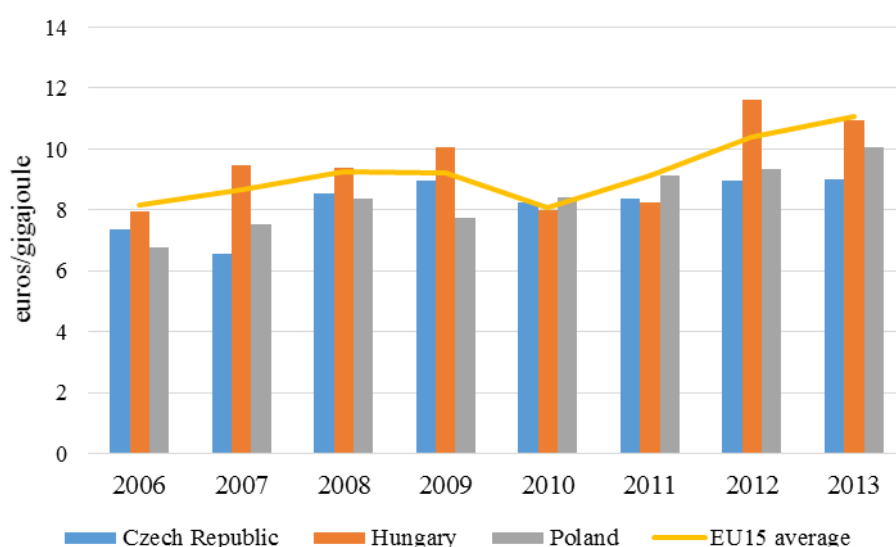
The Czech Republic took the decision to diversify its gas imports well before the gas crises, signing a contract with Norwegian suppliers in 1997 for 3 bcm/y, around 35% of its annual consumption. However, these gas supplies are mostly based on swaps for Russian gas under normal conditions, with actual flows of Norwegian gas through Germany only materialising in the case of supply disruptions, as happened in January 2009 (Vlček and Černoch 2013, 113). The supply security of the Czech Republic was achieved by close integration with the German gas transmission system. With the launch of the Russian-German Nord Stream pipeline 2011, the country became insured against disruptions through the Ukrainian transit (IEA 2010, 73). After the 2009 crisis, the Czech system started to provide

reverse flow possibility to Slovakia, and in 2011 it became connected to Poland as well. Further projects planned by the Czech transmission system operator include a direct interconnection with the Austrian system. Lastly, the country's main gas importer, RWE Transgas, member of the German RWE Group, won an arbitration case against Gazprom in 2012, reducing its contractual volume obligations (Gorshkova et al 2012). Due to its geographical proximity to Germany, the Czech Republic initially enjoyed higher level of gas supply security, which was only reinforced with investments in the past years.

Although both Poland and the Czech Republic expanded their underground gas storages to secure supplies during a potential gas crisis, Hungary made the biggest investment in this regard by deciding to build a strategic storage facility. In 2006, the Hungarian Parliament passed a law prescribing the establishment of a strategic gas storage facility until 2010 with the capacity to supply sufficient national consumption levels for the duration of 45 days in case of supply disruption. The law also mandated a minimal security storage levels in existing commercial facilities until the strategic storage is completed (HEO 2007, 51). The gas volumes of the strategic storage are owned by Hungarian Hydrocarbon Stockpiling Association (MSZKSZ 2011), an organisation consisting of industry players and government representatives, while the withdrawal of these volumes is approved by the government in case of emergency. Besides storages, Hungary was actively promoting a regional gas market by constructing interconnectors with Romania and Croatia, as well as initiating one with Slovakia. Unlike Poland (Yamal pipeline) or the Czech Republic (Brotherhood pipeline), Hungary was not a transit state for gas supplies, therefore it sought participation in both the planned Nabucco and South Stream pipelines (Deák 2013, 22). Since 2010, the focus of Hungarian energy policy shifted inwards, focusing on domestic price regulation and renationalising its gas industry (24). Since the security of supply in case of disruptions was achieved by the strategic storage, countering the price increases became the major challenge for Hungarian governments.

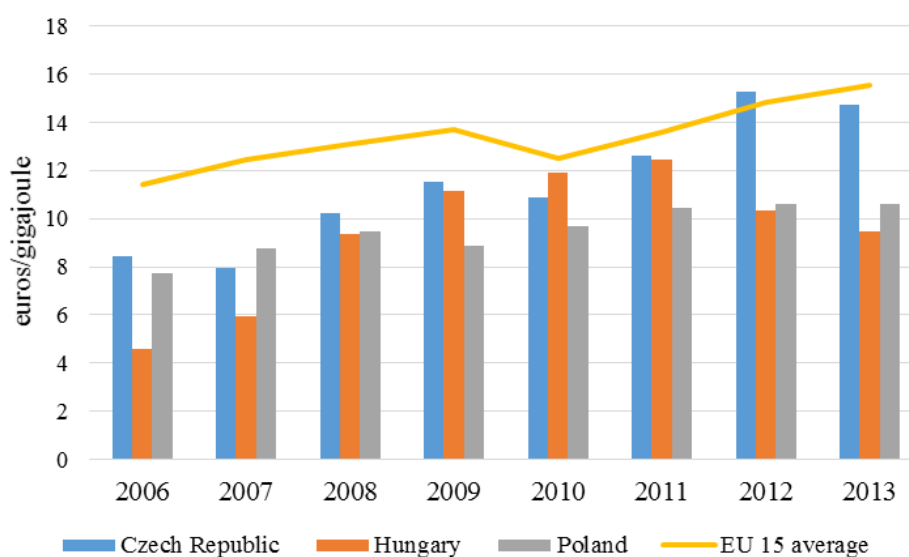
Regarding gas price developments for domestic consumers, Hungary witnessed the highest increase in prices for industry, therefore putting the adjustment burden on this group of consumers, while administratively cutting gas prices for households. In stark contrast, the Czech state let its unregulated household prices rise to EU levels, while Poland retained regulated gas prices for industry and households throughout the period (see *Figure 8* and *Figure 9*).

**Figure 8. Gas prices for industrial consumers (without taxes)**



(Eurostat 2014)

**Figure 9. Gas prices for household consumers (without taxes)**



(Eurostat 2014)

Finally, the adjustments to energy price increases could be analysed through the trade dimension, looking at whether states could compensate for their energy trade deficit – the transfer of income to their energy-suppliers – through a shift in terms of trade by securing a trade surplus for other product categories (*Table 9*). Although Hungary has the highest share of energy imports, and specifically gas, in its total trade, the bigger size of its overall international trade in relation to the size of its economy (macro trade openness) resulted in more modest current account deficits than the Czech Republic or Poland following the gas crises.

**Table 9. Energy dependence indicators related to the trade dimension**

	Trade balance of energy products (% of GDP)			Current account balance (% of GDP)	Relative energy trade balance (%)	Share of energy in total trade (%)	Macro trade openness (% of GDP)
	Petroleum products	Gas	Total				
	2007-2011	2007-2011	2007-2011	2007-2011	2011	2011	2011
Czech Republic	-2.8	-1.5	-3.6	-3.1	-42.2	6.7	145.5
Hungary	-2.5	-2.5	-5.4	-2.4	-51.3	7.7	153.5
Poland	-2.9	-0.3	-2.8	-5.1	-48.4	9	76.7
EU 27	-1.8	-0.7	-2.6	-1	-39.6	8.8	93.4

(European Commission 2013d, 41)

As we can see from this overview of adjustments, national gas markets and the relevant private and public actors reacted in various ways to the gas shocks in the short term, with the Great Recession playing a big part in reducing demand and imports, while the share of natural gas in total energy consumption could not be changed significantly. Counterfactually, some of these adjustments, especially relating to shrinking consumption, would have been made even in the absence the gas supply disruptions, which were countered by infrastructural investments. Nevertheless, the major economic and political impact of price increases that resulted from the global commodity boom were exogenous to importers and exporters alike in the CEE region.

### **4.3 State capacities compared: Poland, Czech Republic and Hungary**

Despite variations in the level of gas market liberalisation, the importance of natural gas for the domestic economy and the structure of energy production and consumption, the state has the overall responsibility for security of gas supply. Legislatively, the primary responsibility is assigned to the ministry of economy in Poland, to the transmission system operator in the Czech Republic and to the gas suppliers in Hungary (European Commission 2009b, 8). In addition, the security of supply situation is constantly monitored by the energy regulator in Poland in cooperation with the ministry (ERO 2013, 65), while the Czech transmission operator is mandated to work together with the Ministry of Industry, the energy regulator, the State Energy Inspection and industry players (Vlček and Černoch 2013, 122), and in Hungary the government may order emergency actions in case of a major supply disruption that market players are unable to counteract on their own (HEO 2011, 41). But what are the policy instruments available for states under “normal” conditions to address long-term challenges to supply security, such as diversification of energy import sources and routes?

In the previous section (4.2) I have already provided an overview of the national consumption patterns and strategies of the three CEE countries, in some cases specifying the national gas companies, the main gas importers or transmission system operators as actors who undertook investments or other steps in order to address the complex challenges presented by the gas crises. Now, I will elaborate in more detail on the role and actions of the state and its agencies in each case, highlighting the tools that state officials were able to utilise. As presented in section 2.3, I will rely on the analytic dimensions of state capacity introduced by Ikenberry (1986), namely the distribution of policy instruments (*Table 3*). The array of these instruments ranges from the most direct forms of state control over the energy sector by state-owned enterprises and regulation to indirect forms of influencing market actors, with credit and spending policies in between. By comparing the distribution of policy instruments in the cases

of Poland, the Czech Republic and Hungary, my goal will be to substantiate the hypothesis that the varied national-level adjustments to the gas crises can be traced to structural divergence stemming from this distribution.

Although this comparative analysis is focusing on the policy instruments available to political decision makers rather than the role or influence of specific governments or their ideological predispositions, it is nevertheless informative to briefly reflect on the actual changes of governments in the selected countries. As can be seen from *Table 10*, Poland has witnessed the longest period of continuity in governments since 2006, while changes in governments were more frequent in the Czech Republic, and one major change in government occurred in Hungary in 2010.

**Table 10. List of Polish, Czech and Hungarian governments, 2006-2014**

*Prime minister (governing party/coalition)*

	<b>Poland</b>	<b>Czech Republic</b>	<b>Hungary</b>
<b>2006</b>	Kazimierz Marcinkiewicz (PiS)	Jiri Paroubek (CSSD-KDU CSL-US DEU)	Ferenc Gyurcsany (I) (MSZP-SZDSZ)
<b>2007</b>	Jaroslav Kaczynski (PiS-SRP-LPR)	Mirek Topolánek (I) (ODS)	
<b>2008</b>		Mirek Topolánek (II) (ODS-KDU CSL-SZ)	Ferenc Gyurcsany (II) (MSZP-SZDSZ)
<b>2009</b>	Donald Tusk (I) (PO-PSL)	Jan Fischer (caretaker government)	Gordon Bajnai (caretaker government)
<b>2010</b>			
<b>2011</b>		Petr Nečas (ODS-TOP 9-VV/LIDEM)	
<b>2012</b>	Donald Tusk (II) (PO-PSL)		Viktor Orban (FIDESZ-KDNP)
<b>2013</b>		Jiri Rusnok (caretaker government)	
<b>2014</b>		Bohuslav Sobotka (CSSD)	

*(compiled by the author from various sources)*



All the governments confronted with the challenges posed by the gas crises could rely on immediately available policy tools, but over years they are also able to alter them, which will be illustrated by the Hungarian example. As Ikenberry acknowledges, “state structures are indeed subject to change, often at the instigation of state officials, but these changes are neither frequent nor simple expressions of state policy. (...) Crisis may also open opportunities for basic changes in political institutions and government responsibilities” (1986, 123). Such opportunity was undeniably presented by the Great Recession concurrent with the gas supply and price shocks. Now, let us see how the existing state capacities influenced adjustment policies by reviewing the distribution of organisational, credit, spending and market instruments.

#### **4.3.1. Organisational instrument**

As Poland lagged behind on privatisation and liberalisation of its gas market (see section 3.1, *Figure 1*), the major gas import, wholesale, distribution companies as well as the transmission system operator have been majority state owned, providing the Polish state with the most direct policy instrument in the natural gas sector (IEA 2011a, 102). Major infrastructural investments, new bilateral contracts and the renegotiations of existing ones are executed by state-owned companies, therefore natural gas imports can be considered a state monopoly. The gas sector is overseen by the Ministry of Economy, while both household and industrial prices and tariffs are regulated by the Energy Regulatory Office due to the centralised gas market structure (ERO 2013, 62). Although several steps have been taken to liberalise the Polish gas market and allow for competitive domestic sales (Gawlikowska-Fyk and Kalan 2013, 29), gas imports from foreign sources are firmly under state control. The Czech Republic represents the other end of the spectrum by its lack of any direct organisational instruments, as it privatised its main gas import, wholesale and transmission company in 2002 (Vlček and Černoch 2013, 45), and deregulated energy prices in 2007 (IEA 2010, 69). Hungary followed

a similar path by the privatisation of its gas import and wholesale business in 2006 (HEO 2007, 7), and gradual price liberalisation, but reversed its policy course after the crisis. In an attempt to decrease domestic household gas price levels, the government mandated the use of a new tariff calculation formula in 2009, taking into account Western European traded market prices to counteract rising import price levels under the Russian long term import contract (HEO 2011, 44). After the government change in 2010, Hungary returned to full price regulation by ministerial decree, and subsequently resorted to price regulation by legislative means without taking into considerations the actual wholesale cost of gas supplies, pushing the adjustment burden on gas suppliers (ACER-CEER 2013, 53, 166). In 2013, the government also decided to acquire the formerly privatised gas import and wholesale business, effectively creating a new national energy champion on the basis of the state-owned electricity utility company MVM (Deák 2013, 24). Thus, by the end of the examined period, the organisational instruments of the Hungarian state were greatly expanded, allowing for more direct state intervention in the sector instead of reliance on market mechanisms and responses by private market players. In addition, as the existing Hungarian long-term import contract with Gazprom is due to expire in 2015, this expansion of state instruments allows for bilateral renegotiations, as in the case of Poland.

#### **4.3.2. Credit instrument**

Capital-intensive investments in new gas infrastructure in CEE benefitted substantially from EU financial support through the EEPR (see section 4.1, *Table 6*), complementing commercial and state funding. The partly state-owned Polish PKO Bank supported the construction of the LNG terminal, along with the European Investment Bank and the European Bank for Reconstruction and Development (GAZ-SYSTEM 2012, 48). Infrastructure investments by the Czech transmission system operator were financed by its own funds and EEPR (NET4GAS 2013, 24-25), therefore the credit instrument was not utilized by the Czech

state. Gas infrastructure development in Hungary until 2010-11 was mostly funded by the transmission system operator, owned by the private Hungarian oil company MOL, attracting commercial financing, and promoting an interconnected regional gas network by involving other market players (Deák 2013, 22; IEA 2011b, 61). Furthermore, in 2007 MOL won the tender for the construction of the strategic underground gas storage (HEO 2007, 51), subsequently becoming the majority shareholder of the company operating the facility. However, due the fall in market demand and the more active involvement of the state in the gas sector, the latest investment in the interconnector with Slovakia was made by MVM, along with the state-owned MFB Hungarian Development Bank (Deák 2013, 24). The Bank has also acquire the majority stake in the strategic storage operator from MOL, and at the initial phase of project development was the joint-venture partner of Gazprom in the project company responsible for the Hungarian section of the planned South Stream pipeline (MFB 2012, 47). Thus, the Hungarian state began using the credit instrument more actively after 2010.

#### **4.3.3. Spending instrument**

The use of specific spending programs, subsidies or tax incentives for the natural gas sector was obviously limited due to the general scarcity of government funds in times of an economic crisis. On the contrary, taxes had to be raised to cover debt servicing and expenditures, as in the case of Hungary, which introduced a special crisis tax “on the annual net revenues of energy companies and extended a temporary 8% tax on the profits paid by energy suppliers and traders” (IEA 2011b, 98) in 2010. Concerning subsidies, one element of Hungarian price regulation could also be considered as an indirect subsidy for security of supply. From the beginning of 2010, a new element of household natural gas prices appeared, a fee for strategic storage services, so that consumers could see the specific amount of their monthly gas bill that subsidised the operations of the strategic storage facility (HEO 2011, 45-48). Payment of this fee was discontinued for households in 2013, but not for industrial

consumers, therefore pushing the burden of adjustment to higher prices and the cost of security of supply to the private sector. The Czech Republic does not make use of any subsidies, while the persistent regulation of end-user prices in Poland could be regarded as a form of subsidizing consumption (IEA 2011a, 110).

Regarding public funding for energy-related research and development, the Hungarian state spent 5.48 million euros in 2010, the third lowest among member countries of the International Energy Agency on per GDP basis (126-127). In comparison, Czech government expenditure in the same period was comparable to German and Austrian funding. While Hungarian energy R&D was concentrated mostly on renewables (primarily biomass and waste projects for transport, heat and electricity) and fossil fuels (enhanced research on oil and gas production), the Czech state divided its funds more evenly between renewables (bioenergy and solar), nuclear (fission) and energy systems analysis (IEA 2011b, 126-127; EIA 2010, 130-131). Similar comparable data was not collected by the Polish state, although various state institutions were funding R&D programs related to new clean coal technologies (IEA 2011a 129, 151).

#### **4.3.4. Market instrument**

The Czech Republic, an early adopter of EU market reforms in its natural gas sector, could not rely on direct public interventions through state-owned firms or price decrees. The relevant state institutions, the Ministry of Industry and Trade and the Ministry of Environment, as well as the independent energy regulator were carrying out the tasks of market monitoring, facilitating competition and approval of development plans (Vlček and Černoch 2013, 113 Černoch and Osička 2013, 16). As the report of the Czech regulator notes, “the Ministry of Industry and Trade, which grants authorisations for construction in the form of the State’s consent under the Energy Act, plays the role of the regulatory authority for the development of the gas system” (ERU 2010, 13). This non-interventionist approach can also explain why the

privately owned transmission system operator is tasked with primary responsibility for ensuring security of supply, as mentioned earlier<sup>8</sup>. The reliance on market mechanisms also means that the interests of the Czech Republic lie in further market liberalisation of neighbouring countries and the creation of a regional market where it could play a new transit role between the German and Austrian gas trading venues, instead of the traditional East-West gas transit. Prior to 2010, Hungary also relied on the market instrument to drive its energy adjustment, as exemplified by the involvement of market players in supply security mitigation via the Hungarian Hydrocarbon Stockpiling Association and announcing a public tender for the construction of the strategic gas storage in 2006 (HEO 2007, 51), as opposed to creating a specialised state agency for this task. The gradual liberalisation resulted in “a relatively flourishing and open gas market, one in which cross-border bottlenecks constituted the biggest constraint” (Deák 2013, 24). However, the market instrument did not prove effective in mitigating price increases, especially in the residential sector overly reliant on individual heating systems, “resulting in sluggish demand adjustments to price shocks and a populist political context to household gas prices” (20).

Overall, the policy instruments available to the states of CEE were far from evenly distributed, although the initial distribution could be altered by governments. The Polish state relied most heavily on the organisational and credit instrument through its state owned companies pursuing new investments and bilateral deals with energy exporters. The Hungarian state at first relied on the market instrument by legislatively incentivising market players to contribute to construction of the strategic underground storage facility. Then, with the change

---

<sup>8</sup> Although there are no national champions in the gas industry, they are present in the domestic coal sector. “In support of coal is a strong lobby of traditional coal companies (such as KKCG), utilities (most important, CEZ) and a rather powerful heating industry, which operates the lignite-based central heating system” (Černoch and Osička 2013, 16).

of government in 2010, it gradually switched to the credit and organisational instruments through price regulation, and increasing state participation in the natural gas sector through direct ownership and financial contributions. In the case of Hungary, the policy instruments were actively redistributed by the government after 2010 to reflect a new energy policy. Analysing the political motivations for this shift falls outside the scope of this study, but importantly for our framework, the new government did focus on changing the instruments in order to achieve the desired adjustment policy. Finally, the Czech state exemplified the active abstention from state intervention, facilitating market activities by private actors. By comparing the distribution of policy instruments in the cases of the Czech Republic, Poland and Hungary, we can see that the varied national-level adjustments to the gas crises were contingent on the available state resources and changed accordingly.

## CHAPTER 5 – CRISIS AS OPPORTUNITY OR CRISIS AS OPPORTUNISM?

*“All too often energy security issues are being addressed at national level without taking fully into account the interdependence between Member States and the added value of a more collective approach at regional and European levels, in particular for coordinating networks and opening up markets.”*

(Jose Manuel Barroso, President of the European Commission, 21 May 2014<sup>9</sup>)

In this chapter my aim is to connect the findings of the literature on the 1970's oil shocks with the conclusions of my comparative analysis on responses to the gas crises in CEE. First, I will show that the responses of the Czech Republic, Poland and Hungary can be approximated to the adjustment types described by Ikenberry (1986). Then, I will briefly touch upon the challenges of creating and implementing a common EU energy policy due to diverging member state interests. Finally, I will shortly elaborate on the role of energy crises in energy transitions, revisiting the countries analysed by Ikenberry with regards to their diversification from oil imports and highlighting the prospects of CEE for lessening their dependence on Russian gas in the broader process of global energy challenges.

### ***5.1 The irony of state strength revisited***

My primary motivation for this research was the apparent similarity between the challenges faced by the industrialised Western states following the oil shocks of the 1970's and the countries of CEE after the gas supply and price shocks in the 2000's. Both groups of countries were overly dependent on one specific energy import source (Middle Eastern oil for the West, Russian gas for the CEE) and experienced a sudden need to adjust their economies after major supply disruptions and import price hikes, against the backdrop of an economic crisis. The added value of revisiting the comparative analysis of Ikenberry (1986) lay in its systematic categorisation of state responses and the focus on state action, which was so far missing from the literature on CEE gas dependence that focused on outside influence,

---

<sup>9</sup> Barroso (2014)

weaknesses of regionalism and market failure. Considering their responses to the gas crises and their ensuing energy security challenges, the responses of the Czech Republic, Poland and Hungary can actually be approximated to the adjustment types described by Ikenberry (see *Table 11*).

*Table 11. Comparison of state adjustment to energy crises*

	<i>1970's oil shocks</i>	<i>2000's gas crises</i>
<b>Neo-mercantilist response (statist)</b>	<b>France</b> (nationalisation, nuclear programme, bilateral long-term contracts with suppliers)	<b>Poland</b> (reliance on state-owned firms, bilateral contract renegotiation, LNG terminal and supply contract)  <b>Hungary (2010-14)</b> (renationalisation of gas industry, administrative price regulation)
<b>Competitive accelerated adjustment (corporatist)</b>	<b>Germany, Japan</b> (inter-sectoral adjustment, industrial policy, efficiency incentives)	<b>Hungary (2006-10)</b> (strategic gas storage as a joint effort of government and industry players, market-based price regulation, export-led trade adjustment)
<b>Defensive market response (market-based)</b>	<b>U.S.</b> (decontrol, letting domestic prices rise to international levels, tax and spending programs)	<b>Czech Republic</b> (reliance on transnational firms, deregulated prices, energy R&D, support EU-wide market integration and liberalisation)

*(based on Ikenberry 1986 and author's own analysis)*

During both energy crisis periods, the distribution of policy instruments available to states predicated the adjustment paths followed. Due to the significant role of the state in its gas sector, Poland's response is closest to the “neo-mercantilist” type, similarly to France after the 1970's, where state energy firms were the main drivers of adjustment, pursuing self-reliance and bilateralism. Hungary's response to the gas crisis followed the “corporatist” type between 2006 and 2010, placing the adjustment burden on industry and compensating the energy trade deficit by exports, while the state and gas market players worked together to enhance national supply security. Although the export possibilities of Hungary cannot be compared to those of



Germany and Japan, the role of the state in this period was structurally similar to the one played by the state as negotiator in the German and Japanese cases. However, competitive adjustments were not sufficient in reducing prices due to shrinking national demand and market size, so after 2010 the Hungarian state turned towards a “neo-mercantilist” strategy through administrative price regulation and renationalising the main gas importer<sup>10</sup>. Finally, the Czech approach resembles most the “defensive market” type practiced by the United States after the oil shocks, whereas the lack of any direct involvement of the state in the industry leaves it no other option but to rely on market players and consumers to adjust to the new security and price environment, while financing energy R&D and supporting international market integration.

The irony of state strength, as proposed by Ikenberry, lay in the fact that the deliberate absence of state intervention and state activism could both be equally effective ways to respond to the energy crises. “What appears to be a minimalist state strategy that involves enforcing market processes may be as efficacious as the juggernaut of extensive and systematic direct intervention” (1986, 137). This irony is not lost on the cases of CEE states either. Since market reforms were primarily aimed at breaking up national monopolies and restricting state interference in market regulation, both nationally and regionally, the resurgence of direct state activism in the energy sector runs contrary to expectations. Similarly to Ikenberry, I will refrain from judging one or the other type of adjustment as more successful, or putting the state capacities of the three cases on a scale running from weak to strong. It is impossible to change the structure of a national energy industry or overall energy mix overnight, either by force or cajolment. But looking at state structures as the distribution of policy instruments available

---

<sup>10</sup> Hungary’s recent decision to expand its nuclear power plant from 2023 and replace existing reactors also points towards a “neo-mercantilist” strategy, similar to the nuclear policy of France, but with reliance on Russian loans. However, at the time of writing there was a lack of sufficient information regarding the details of this project to include it in the analysis.

for state action can aid our understanding of why certain states respond to energy crises the way they do.

## **5.2 Towards a transnational adjustment in the EU?**

An additional important implication of the divergence of national adjustment strategies after the 1970's oil shocks was the varying support for multilateral initiatives and joint actions in the field of energy. When states pursue neo-mercantilist/statist policies, there are less incentives for cooperating with other import-dependent states, whereas the lack of statist instrumental capacities makes support for collaboration more likely (Ikenberry 1986, 137). This insight is also relevant in the context of an integrated energy market in the EU. Although all member states are required to adopt market opening policies, there are significant differences in the speed and extent of liberalisation of each country, which could be explained by the structural differences in state capacities. Considering our cases, a recent public disagreement between Poland and Czech Republic reflects on the sources of divergence described in my comparative analysis. In April 2014, the Polish prime minister proposed the creation of an Energy Union through joint purchases of Russian gas based on standardized agreements and unified negotiations led by the European Commission, instead of secretive bilateral contracts (Tusk 2014). This proposal was met with scepticism by the Czech government because it would interfere with the workings of a competitive market and disrupt existing contractual relations, and would not necessarily bring about lower prices. The Czech position is in support of further market integration through infrastructural investments, and opening the possibility of voluntary joint gas purchases for private actors (Gotev and Denkova 2014). As the comparative analysis of their state capacities showed, Poland traditionally relies on centralised solutions for meeting its energy policy objectives, while the Czechs are seeing this approach as an actual obstacle to a competitive and integrated energy market.

Due to the plurality of actors and interests in European energy policy, there are numerous obstacles and tensions on the path of a transnational adjustment to energy import dependence. The European Commission favours an integrated market with an increasingly Europeanised regulatory oversight, while private actors opt for commercial responses shunning over-regulation, and member states fight for retaining national competency over choosing their energy mix. Thus, the opportunity for cooperation presented by the gas crises is rather transformed into opportunism to expand powers by the various actors. While EU institutions might have gotten better at managing energy security since the oil shocks (McGowan 2011), the energy policy activism of the European Commission is viewed with suspicion by a number of member states (Maltby 2013). The liberalising efforts championed by the Commission over the past 15 years proved disruptive for both states and companies, shifting the underlying power relations. “Implementation of these reforms has stimulated corporate concentration, helping to consolidate the power of a core oligopoly comprised of a select group of large pan-European companies operating in segmented markets and no longer subject to the relational power formerly exercised by national governments” (Fernandez and Palazuelos 2014, 509). In addition, the chosen market integration path implies an excessively long period of harmonisation of national markets instead of simpler regulatory changes, as criticised by Noël (2013). Thus, focusing on state adjustments to gas crises can also be justified by the implausibility of a common EU response in the foreseeable future.

### ***5.3 Energy crises and energy transitions***

Lastly, comparative responses to the oil and gas crises can shed light on broader processes of energy transitions. Considering the countries analysed by Ikenberry, immediate reductions in oil imports after the 1970's crises were not necessarily followed by reducing total reliance on this energy source in the longer term, which was achieved only in France (*Table 12*). However, shifts in domestic energy production profiles such as shale gas in the United

States, renewables in Germany, and nuclear in France and Japan (until the Fukushima disaster) could counteract import dependence. Notably, these domestic policy shifts do reflect variations in state capacities. To take the two most well-known examples, the shale gas revolution in the US was market-driven through innovations by independent gas companies (Yergin 2011, 325-332), while the *Energiewende* (energy transition) reforms in Germany promoting renewables and energy efficiency was brought forward by an advocacy coalition between political and private actors (Jacobsson and Lauber 2006).

*Table 12. Crude oil imports as percentage of total energy requirements*

	1973	1979	1981	1991	2001	2011
United States	10	19	14	26	35	36
France	75	65	49	50	51	39
Germany	42	39	31	38	45	41
Japan	74	66	57	68	61	57

*(Ikenberry 1986, 108; IEA Country Statistics)*

The three countries compared in this thesis also took some steps towards diversifying their energy mix, such as shale gas exploration in Poland, the planned nuclear expansion in Hungary, or continuing reliance on coal in both the Czech and Polish cases. Inevitably, this diversification will be a decade-long process, but the existing state capacities will probably steer Poland and Hungary towards a statist approach to energy transition. Notwithstanding the type of adjustment policies chosen, the relative importance of post-socialist legacies will become less important, as new challenges related to climate change mitigation come into play, displacing inherited import dependence as the primary concern (Bradshaw 2014, 117-119). The success of the overall EU energy policy also hinges on natural gas sector reforms and political will, as “the limited progress in integrating Western and Eastern Europe[an gas markets] contributes to entrenching East-Central European governments’ resistance to the EU climate change policy” (Noël 2013, 14). Thus, the gas crises of the 2000’s can serve as an added, but not the only, impetus for modernising the CEE energy sectors.

## CHAPTER 6 – CONCLUSIONS

*“Why isn't Gazprom a problem in Germany but is a problem in Poland?  
Because the Polish state is weak.”*

*(The Economist, 9 December 2004<sup>11</sup>)*

In my thesis I attempted to explain the varied responses of the Czech Republic, Poland and Hungary to the gas supply and price shocks of the 2000's through the comparative analysis of their state capacities, drawing on the international political economy literature that analysed adjustment strategies of industrialised states to the oil price shocks in the 1970's. By reviewing alternative explanation for the exposure of import dependent CEE countries to the 2006 and 2009 gas supply disruptions caused by disputes between Russia and Ukraine, I have found that the role of the state is missing from these accounts. Then, I identified the most fitting theoretical perspective for explaining state adjustments to energy crises in the literature explaining responses to oil shocks in terms of state structure. This theoretical framework was adapted for comparing the three selected cases from CEE.

The two major developments influencing the natural gas sectors of these countries in the past two decades were the transformation from centrally planned to market economies, along with the concurrent process of European energy market liberalisation. The gas crises and the subsequent increases in import prices highlighted the deficiencies of gas market development in CEE and the continuing one-sided import dependence from Russia, in the context of limited sector-specific state capacities. The gas crises prompted responses from the EU and major European energy companies as transnational actors, but also necessitated adjustments by the states with regard to a higher price environment and security of supply. By comparing state capacities as the distribution of policy instruments available for state action, I

---

<sup>11</sup> “Russian energy firms” (2004)

could trace the varied adjustment policies of the Czech Republic, Poland and Hungary to the structural divergence stemming from this distribution.

Lastly, I have compared the adjustments of industrialised countries to the oil shocks of the 1970's and state responses of CEE countries to the gas crises of the 2000's, finding that the statist, corporatist and market-based types identified in the literature can be well approximated to describe adjustments today. Poland followed statist type adjustment throughout the period, the Czech response could be characterised as market-based, while Hungary undertook a corporatist strategy between 2006 and 2010, but then switched to the statist strategy by changing the available policy instruments of state action. The usefulness of such state-centred perspective on adjustment could be further substantiated by the lack of a common European response to gas supply security and price shocks. In a broader context, focusing on state capacities can also inform us about longer term national policy choices and energy transitions.

Surprisingly, despite the many commonalities in their political, economic and social structures, the Czech Republic, Poland and Hungary exhibit significant differences in their energy sector-specific state capacities. This calls into question the often used analytical categorisation of V4 as a homogenous group. As mentioned in the last chapter, socialist legacies play less of a role after the end of transition, highlighting the underlying structural differences between the energy sectors of these countries. Obviously, the focused comparison undertaken in this thesis comes short of uncovering all relevant aspects of divergence, as it is based largely on secondary data analysis. Further research could be done involving qualitative data collection, especially interviews with decision makers in the public and private sectors that would clarify the processes behind certain strategic decisions or state interventions. On the surface, I assumed that state-owned enterprises are direct tools for governments, but the power relations between them could run both ways, resulting in state interventions inspired by particularistic interests. In addition, public enterprises and state regulations were lumped

together into one policy instrument, while the role of national energy regulators is much more complex in the European context today, which could be a further avenue for investigation.

As my research has focused on fairly recent political and economic developments, it is difficult to offer final conclusions. The question of how to manage energy import dependency in CEE has become even more acute with the latest political and security crisis in Ukraine, although transit risks for CEE might actually be reduced by the gradual bypassing of Ukraine as a transit corridor for Russian gas (Noël 2013, 15-18). But the issue of Russia as the dominant energy supplier remains, along with its security and political consequences. Theoretically, the analysis of “political dimensions and side effects of foreign trade and investment” (Hirschman 1945/1980, vii) is a long-standing area of research in political economy. Invoking the concept of “influence” used by Hirschman, Abdelal (2013) draws our attention to the possibility of major Western European energy firms shaping national and EU energy policies, driven by their bilateral economic relations with Gazprom, which calls for a research agenda in political economy that focuses on relations between firms and governments (446-447). However, in the case of CEE, the increasing activity of state actors in the energy sector should probably be the focus of further research. As the opening quote of this chapter from *The Economist* suggests, domestic state capacities can be more important in case of foreign investments and trade relations than the nationality of capital. EU accession was hoped for to change these for the better in new member states of CEE. “In the short term, EU entry may have emboldened them to voice their fears about Russia, making relations temporarily worse. But in the longer term, with luck, EU membership will strengthen them internally to the point at which such fears will no longer hold sway” (“Russian energy firms”, 2004). The increasingly statist approach in national adjustment policies to the gas crises witnessed over the past years in Poland and Hungary could ironically signal this strengthening of the state called for a decade ago.

## REFERENCES

- Abdelal, R. (2013) "The profits of power: Commerce and realpolitik in Eurasia" *Review of International Political Economy* 20(3): 421-456.
- ACER-CEER (2013) *Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2012*. Lubljana-Brussels: ACER-CEER. Available at: [http://www.ceer.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/NATIONAL\\_REPORTS/National%20Reporting%202012](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/National%20Reporting%202012)
- Barroso, J. M. D. (2014, May 21) *Speech by President Barroso at the Conference "Paving the way for a European Energy Security Strategy*. EC: Brussels. Available at: [http://europa.eu/rapid/press-release\\_SPEECH-14-400\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-14-400_en.htm)
- Bartuska, V. (2008) "First responsibility, then solidarity" In: Barysch, K. (ed.) *Pipelines, Politics and Power: The Future of EU-Russia energy relations*. London: Centre for European Reform. pp. 57-59.
- Bohle, D. and Greskovits, B. (2012) *Capitalist Diversity on Europe's Periphery*. Ithaca: Cornell University Press.
- Bohne, E. (2011) "Conflicts between national regulatory cultures and EU energy regulations" *Utilities Policy* 19: 255-269.
- Bouzarovski, S. (2009) "East-Central Europe's changing energy landscapes: a place for geography" *Area* 41 (4): 452-463.
- BP (2013) *Statistical Review of World Energy 2013*. Available at: <http://www.bp.com/en/global/corporate/about-bp/energy-economics/statistical-review-of-world-energy-2013.html>
- Bradshaw, M. (2014) *Global Energy Dilemmas: Energy Security, Globalisation and Climate Change*. Cambridge: Polity Press.
- Černoch, F. and Osička, J. (2013) "The Czech Republic: Bringing the Rest Closer to the West?" In: Cwiek-Karpowicz, J. and Kalan, D. (eds.) *North-South Gas Corridor: Geopolitical Breakthrough in Central Europe*. Warsaw: The Polish Institute of International Affairs. pp. 15-19.
- Clark, J. G. (1990) *The Political Economy of World Energy: A Twentieth-Century Perspective*. Exeter: Harvester Wheatsheaf.
- Corbeau, A-S. (2013) "European Gas: A Lost Decade?" *iea energy – The Journal of the International Energy Agency*. Issue 4. p32. Available at: <http://www.iea.org/ieaenergy/>
- Cwiek-Karpowicz, J. and Kalan, D., eds. (2013) *North-South Gas Corridor: Geopolitical*



- Breakthrough in Central Europe*. Warsaw: The Polish Institute of International Affairs.
- ERO [Polish Energy Regulatory Office] (2007) National Report of the President of the Energy Regulatory Office in Poland. Warsaw: ERO. Available at: [http://www.ceer.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/NATIONAL\\_REPORTS/NR\\_2007](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2007)
- ERU [Czech Energy Regulator] (2007) *The Czech Republic's National Report on the Electricity and Gas Industries for 2006*. Prague: ERU. Available at: [http://www.ceer.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/NATIONAL\\_REPORTS/NR\\_2007](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2007)
- ERU [Czech Energy Regulator] (2010) *The Czech Republic's National Report on the Electricity and Gas Industries for 2009*. Prague: ERU. Available at: [http://www.ceer.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/NATIONAL\\_REPORTS/NR\\_2010](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2010)
- Deák A. (2005) "EU-Russia policies and the Visegrad Group" *Foreign Policy Review* 3(1-2):142-167.
- Deák A. (2013) "Hungary: Collecting the First Dividends of Interconnectivity?" In: Cwiek-Karpowicz, J. and Kalan, D. (eds.) *North-South Gas Corridor: Geopolitical Breakthrough in Central Europe*. Warsaw: The Polish Institute of International Affairs. pp. 20-25.
- Drahokoupil, J. (2009) "The Politics of the Competition State: The Agents and Mechanisms of State Transnationalization in Central and Eastern Europe" In: Bruszt, L. and Holzhacker, R. (eds.) *The Transnationalization of Economies, States and Civil Societies*. New York: Springer.
- European Commission (2009a) *The January 2009 Gas Supply Disruption to the EU: an Assessment*. Commission Staff Working Document SEC(2009) 977. Brussels: EC.
- European Commission (2009b) *Assessment Report of Directive 2004/67/EC on Security of Gas Supply*. Commission Staff Working Document SEC(2009) 978. Brussels: EC.
- European Commission (2011) *Quarterly Report of EU Energy Markets*. 4(1). DG Energy. EC: Brussels. Available at: [http://ec.europa.eu/energy/observatory/gas/gas\\_en.htm](http://ec.europa.eu/energy/observatory/gas/gas_en.htm)
- European Commission (2012a) *Quarterly Report of EU Energy Markets*. 5(2-3). DG Energy. EC: Brussels. Available at: [http://ec.europa.eu/energy/observatory/gas/gas\\_en.htm](http://ec.europa.eu/energy/observatory/gas/gas_en.htm)
- European Commission (2012b) *Quarterly Report of EU Energy Markets*. 5(4). DG Energy. EC: Brussels. Available at: [http://ec.europa.eu/energy/observatory/gas/gas\\_en.htm](http://ec.europa.eu/energy/observatory/gas/gas_en.htm)
- European Commission (2013a) *Energy challenges and policy. Commission contribution to*

- the European Council of 22 May 2013. Brussels: EC. Available at: [http://ec.europa.eu/energy/council/2013\\_en.htm](http://ec.europa.eu/energy/council/2013_en.htm)
- European Commission (2013b) *EU Energy in Figures. Statistical Pocketbook 2013*. Brussels: EC. Available at: [http://ec.europa.eu/energy/observatory/statistics/statistics\\_en.htm](http://ec.europa.eu/energy/observatory/statistics/statistics_en.htm)
- European Commission (2013c) *Data on the budgetary and technical implementation of the European energy Programme for Recovery*. Commission Staff Working Document 458. Brussels: EC. Available at: [http://ec.europa.eu/energy/eepr/index\\_en.htm](http://ec.europa.eu/energy/eepr/index_en.htm)
- European Commission (2013d) *Member states' energy dependence: an indicator-based assessment*. European Economy Occasional Papers 145. Directorate-General for Economic and Financial Affairs. EC: Brussels. Available at: [http://ec.europa.eu/economy\\_finance/publications/occasional\\_paper/2013/op145\\_en.htm](http://ec.europa.eu/economy_finance/publications/occasional_paper/2013/op145_en.htm)
- Eurostat (2014) *European Union Statistics Database*. Available at: <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home>
- Evans, P. B., Rueschemeyer, D. and Skocpol, T., eds. (1985) *Bringing the State Back In*. New York: Cambridge University Press.
- Fernandez, R. and Palazuelos, E. (2014) "A Political Economy Approach to the European Union Gas Model: Continuities and Changes" *Journal of Common Market Studies* 52(3): 495-511.
- Gawlikowska-Fyk, A. and Kalan, D. (2013) "Poland: Northern Wishes, Southern Promises" In: Cwiek-Karpowicz, J. and Kalan, D. (eds.) *North-South Gas Corridor: Geopolitical Breakthrough in Central Europe*. Warsaw: The Polish Institute of International Affairs. pp. 20-25.
- Gazprom Export (2014) *Facts and figures*. Downloaded from: <http://www.gazpromexport.ru/>
- GAZ-SYSTEM (2012) *Annual Report 2012*. Available at: <http://en.gaz-system.pl/centrum-prasowe/biblioteka-wydawnictw/>
- Geden, O., Marcelis, C. and Maurer, A. (2006) *Perspectives for the European Union's External Energy Policy: Discourse, Ideas and Interests in Germany, the UK, Poland and France*. SWP Working Paper FG 1. Berlin: German Institute for International and Security Affairs. Available at: [http://www.swp-berlin.org/fileadmin/contents/products/arbeitspapiere/External\\_KS\\_Energy\\_Policy\\_Dez\\_OG.pdf](http://www.swp-berlin.org/fileadmin/contents/products/arbeitspapiere/External_KS_Energy_Policy_Dez_OG.pdf)
- Gorshkova, A., Novikov, A. and Davies, S. (2012, October 24) "Gazprom loses take-or-pay arbitration against RWE Transgas" *Interfax Natural Gas Daily*. p4.

- Gotev, G. and Denkova, A. (2014, May 22) "Prague breaks ranks on energy policy towards Russia" *EurActiv.com* Available at: [http://www.euractiv.com/sections/energy/prague-breaks-ranks-eu-energy-policy-towards-russia-302294?fb\\_action\\_ids=10152245591734442&fb\\_action\\_types=og.likes](http://www.euractiv.com/sections/energy/prague-breaks-ranks-eu-energy-policy-towards-russia-302294?fb_action_ids=10152245591734442&fb_action_types=og.likes)
- Gray, D. (1995) *Reforming the energy sector in transition economies: selected experience and lessons*. Washington DC: World Bank.
- Hirschman, A. O. (1945/1980) *National Power and the Structure of Foreign Trade*. Berkeley: University of California Press.
- Hughes, L. and Lipsky P. Y. (2013) "The Politics of Energy" *Annual Review of Political Science* 16: 449-469.
- HEO [Hungarian Energy Office] (2007) *Annual Report 2006 for the European Commission*. Budapest: HEO. Available at: [http://www.ceer.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/NATIONAL\\_REPORTS/NR\\_2007](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2007)
- HEO [Hungarian Energy Office] (2011) *Annual Report 2011 for the European Commission*. Budapest: HEO. Available at: [http://www.ceer.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/NATIONAL\\_REPORTS/NR\\_2011](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/NATIONAL_REPORTS/NR_2011)
- IEA [International Energy Agency] (2010) *Energy Policies of IEA Countries: The Czech Republic. 2010 Review*. Paris: IEA. Available at: <http://www.iea.org/countries/membercountries/czechrepublic/>
- IEA [International Energy Agency] (2011a) *Energy Policies of IEA Countries: Poland. 2011 Review*. Paris: IEA. Available at: <http://www.iea.org/countries/membercountries/poland/>
- IEA [International Energy Agency] (2011b) *Energy Policies of IEA Countries: Hungary. 2011 Review*. Paris: IEA. Available at: <http://www.iea.org/countries/membercountries/hungary/>
- Ikenberry, G. J. (1986) "The irony of state strength: comparative responses to the oil shocks in the 1970s." *International Organization* 40(1):105-137.
- Jabko, N. (2004) "The political foundations of the European regulatory state" In: Jordana, J. and Levi-Faur, D., (eds) *The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance*. Cheltenham: Edward Elgar.
- Jacobsson, S. and Lauber, V. (2006) "The politics and policy of energy system transformation – explaining the German diffusion of renewable energy technology" *Energy Policy*

- 34(3): 256-276.
- Jentleson, B. W. (1986) *Pipeline Politics: The complex political economy of East-West energy trade*. Ithaca: Cornell University Press.
- Jones Luong, P. and Weinthal, E. (2010) *Oil is not a curse: ownership structure and institutions in Soviet successor states*. New York: Cambridge University Press.
- Karl, T. L. (1997) *The paradox of plenty: oil booms and petro-states*. Berkeley: University of California Press.
- Katzenstein, P. (1978) "Conclusion: Domestic Structures and Strategies of Foreign Economic Policy" In: Katzenstein, P., (ed.) *Between Power and Plenty: Foreign Economic Policies of Advanced Industrial States*. Madison: The University of Wisconsin Press. pp. 295-336.
- Kohl, W. L., ed. (1982) *After the Second Oil Crisis: Energy Policies in Europe, America and Japan*. Lexington: Lexington Books.
- LaBelle, M. (2009) "Expanding opportunities: Strategic buying of utilities in new EU member states" *Energy Policy* 37: 4672-4678.
- Landman, T. (2008) *Issues and methods in comparative politics: an introduction*. London: Routledge.
- Lieber, R. J. (1979) "Europe and America in the World Energy Crisis" *International Affairs* 55(4): 531-545.
- Lieber, R. J., ed. (1983) *Will Europe fight for oil? Energy relations in the Atlantic area*. New York: Praeger.
- Maltby, T. (2013) "European Union energy policy integration: A case of European Commission policy entrepreneurship and increasing supranationalism" *Energy Policy* 55:435-444.
- Mann M. (1984) "The autonomous power of the state: its origins, mechanisms and results" *European Journal of Sociology* 25(2): 185–213.
- McGowan, F. (2011) "Putting Energy Insecurity into Historical Context: European Responses to the Energy Crises of the 1970s and 2000s" *Geopolitics* 16:485-511.
- Melling, A. J. (2010) *Natural Gas Pricing and Its Future: Europe as the Battleground*. Washington, D.C.: Carnegie Endowment for International Peace.
- Mišík, M. (2012) "Crisis as remedy? The 2009 gas crisis and its influence on the increase of energy security within Visegrad Group countries" *International Issues & Slovak Foreign Policy Affairs* 21(1–2):56–72.
- MSZKSZ [Hungarian Hydrocarbon Stockpiling Association] (2011) *Energiahordozók*

- tárolásáról* (On the storage of energy carriers). <http://www.husa.hu/bemutakozas/energiahordozoktarolasarol/> Accessed: December 2, 2013.
- Muraközy, L. (2012) *Államok kora: Az európai modell* (Age of states: The European model) Budapest: Akadémiai Kiadó.
- NET4GAS (2013) *Annual Report 2013*. Downloaded from: <http://www.net4gas.cz/en/annual-report/>
- Noël, P. (2008) *Beyond dependence: how to deal with Russian gas*. ECFR Policy Brief. London: ECFR. Downloaded on 18 December 2008 from: [http://ecfr.3cdn.net/c2ab0bed62962b5479\\_ggm6banc4.pdf](http://ecfr.3cdn.net/c2ab0bed62962b5479_ggm6banc4.pdf)
- Noël, P. (2013) *EU Gas Supply Security: Unfinished Business*. EPRG Working Paper 1308. Cambridge Working Paper in Economics 1312. Cambridge: EPRG. University of Cambridge. Available at: <http://www.eprg.group.cam.ac.uk/eprg-1308/>
- Nölke, A. and Vliegenthart, A. (2009) “Enlarging the Varieties of Capitalism: The Emergence of Dependent Market Economies in East Central Europe” *World Politics* 61(4): 670-702.
- Nosko, A. (2013) *Energy Security in Transition: Coping with Energy Import Dependence in the Czech Republic, Slovakia and Hungary*. (Doctoral dissertation) Central European University. Retrieved from CEU ETD.
- OECD (2011) *Product Market Regulation Database: Regulations in energy, transport and communication dataset*. Downloaded on 19 November 2013 from: [www.oecd.org/economy/pmr](http://www.oecd.org/economy/pmr)
- Orbán, A. (2008) *Power, energy, and the new Russian imperialism*. Westport: Praeger Security International.
- PGNiG (2009) *Annual Report 2009*. Available at: <http://www.pgnig.pl/pgnig/ri/838/>
- PGNiG (2010) *Annual Report 2010*. Available at: <http://www.pgnig.pl/pgnig/ri/838/>
- PGNiG (2012) *Annual Report 2012*. Available at: <http://www.pgnig.pl/pgnig/ri/838/>
- Polanyi, K. (1957) *The Great Transformation*. Boston: Beacon Press.
- Pollitt, M.G. (2012) “The role of policy in energy transitions: Lessons from the energy liberalisation era” *Energy Policy* 50: 128–137.
- Pirani, S., Stern, J. and Yafimava, K. (2009) *The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment*. Oxford Institute for Energy Studies, Oxford. <http://www.oxfordenergy.org/pdfs/NG27.pdf> Downloaded: March 20, 2009.
- Riley, A. (2012) *Commission v. Gazprom: The antitrust clash of the decade?* CEPS Policy

- Brief. No. 285. Available at: <http://www.ceps.eu/book/commission-v-gazprom-antitrust-clash-decade>
- “Russian energy firms: Ivan at the pipe” (2004, December 4). *The Economist*. Retrieved from [www.economist.com](http://www.economist.com) Downloaded: February 23, 2014.
- Schmidt, V. A. (2009) “Putting the Political Back into Political Economy by Bringing the State Back in yet Again” *World Politics* 61(3): 516-546.
- Schmidt-Felzmann, A. (2011) “EU member-states’ energy relations with Russia: conflicting approaches to securing natural gas supplies” *Geopolitics* 16: 574-599.
- Shafer, M. (1994) *Winners and Losers. How Sectors Shape the Developmental Prospects of States*. Ithaca & London: Cornell University Press.
- Stern, J. P. (1990) *European Gas Markets: Challenge and Opportunity in the 1990’s*. Dartmouth: The Royal Institute of International Affairs.
- Stern, J. P. (1998) *Competition and Liberalization in European Gas Markets: A Diversity of Models*. London: The Royal Institute of International Affairs.
- Stern, J. P. (2006) *The Russian-Ukrainian gas crisis of January 2006*. Oxford Institute for Energy Studies, Oxford. [http://www.oxfordenergy.org/pdfs/comment\\_0106.pdf](http://www.oxfordenergy.org/pdfs/comment_0106.pdf) Downloaded: October 11, 2008.
- Stern, J. P. (2012) “Pricing of Gas in International Trade – An Historical Survey” In: Stern, J.P., (ed) *The Pricing of Internationally Traded Gas*. Oxford: The Oxford Institute for Energy Studies.
- Stern, J.P. and Rogers H. (2011) *The Transition to Hub-Based Gas Pricing in Continental Europe*. OIES Working Paper NG 49. Available at: <https://www.oxfordenergy.org/2011/03/the-transition-to-hub-based-gas-pricing-in-continental-europe/>
- Szemerényi, R (2007) “Túlélő múlt? A hidegháború velünk élő energiabiztonsági tapasztalatai” [The past lives on? The persistent energy security experiences of the cold war] *Külügyi Szemle* 2007(1).34-52.
- Tanzi, V. (2011) *Government versus Markets: The Changing Economic Role of the State*. New York: Cambridge University Press.
- Turner, L. (1974) “The European Community: Factors of Disintegration. Politics of the Energy Crisis” *International Affairs* 50(3): 404-415.
- Tusk, D. (2014, April 21) “A united Europe can end Russia’s energy stranglehold” *Financial Times*. Retrieved from: <http://www.ft.com/intl/cms/s/0/91508464-c661-11e3-ba0e-00144feabdc0.html#axzz34FS2bY1G>

- Ürge-Vorsatz D., Miladinova, G., and Paizs L. (2006) “Energy in transition: From the iron curtain to the European Union” *Energy Policy* 34: 2279–2297.
- Vlček, T. and Černoch, F. (2013) *The Energy Sector and Energy Policy of the Czech Republic*. Brno: Masaryk University.
- von Hirschhausen, C. and Waelde, T.W. (2001) “The end of transition: an institutional interpretation of energy sector reform in Eastern Europe and the CIS” *MOST: Economic Policy in Transitional Economies* 11: 91-108.
- Yergin, D. (1992) *The Prize: the Epic Quest for Oil, Money and Power*. New York: Free Press.
- Yergin, D. (2011) *The Quest: Energy, Security and the Remaking of the Modern World*. New York: Penguin Press.
- Zeniewski, P. and Bolado-Levin, R. (2012) “A review of national gas emergency plans in the European Union” *Energy Policy* 49:652–662.