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Interdependence, issue importance, and the 2009 Russia-Ukraine gas conflict

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ABSTRACT

The primary aim of this paper is to explain the 2009 Russia-Ukraine gas conflict. In particular, it attempts to identify the causal mechanisms between their interdependence in the gas sphere and the gas conflict. The paper first shows that existing theories in the study of international relations have limitations in accounting for that conflict. Therefore, a theoretical framework drawing insights from Armstrong's model on dependence-political compliance and Crescenzi's exit model is proposed to explain it. Relying on this framework, this paper demonstrates that the 2009 Russia-Ukraine gas conflict took place through two critical causal mechanisms. In the contexts of the 2008 global financial crisis and Ukraine's anti-Russian policy, Russia and Ukraine both considered issues involved in the gas trade such as debts, prices, transit tariffs, and Ukraine's pipeline system to be very important. Therefore, when Russia issued demands with economic threats, Ukraine refused to comply.

1. Introduction

Many theorists in the field of international relations have provided three different hypotheses regarding the causal link between interdependence and conflict. Liberals argue that interdependence inhibits conflict because it increases the opportunity costs of severing the interdependent relationship (Angell, 1911; Doyle, 1986; Rosecrance, 1986). In contrast, some realists counter this argument by asserting that interdependence stimulates conflict because states in an anarchic international system seek to reduce their vulnerability by using force (Waltz, 1979; Mearsheimer, 1990), whereas other realists maintain that interdependence has little effect on conflict, which is instead caused by politico-strategic considerations (Buzan, 1984; Gilpin, 1987). In this debate, no clear winner has yet emerged. To be sure, the majority of empirical studies supports the argument of liberalism (Polachek, 1980; Mansfield, 1994; Oneal and Russett, 1999; Gartzke et al., 2001; Dorussen, 2006; Maoz, 2009). Nevertheless, a minority of empirical studies demonstrates that interdependence breeds conflict or has no deterrent impact on it (Barbieri, 1996; Ripsman and Blanchard, 1996/97; Keshk et al., 2004). The absence of any consensus regarding the causal link probably explains why Levy (2003, p. 129) points out that it is still “an empirical question.”

In this respect, the 2009 Russia-Ukraine gas conflict is an excellent empirical case to test these three hypotheses, especially because their relations in the gas sphere were interdependent. At that time, Russia supplied approximately 70% of Ukraine's gas consumption. This implied that Ukraine depended heavily on Russia. This dependence, however, was not limited to Ukraine. Russia's state company Gazprom had to rely on Ukraine's pipeline system to export roughly 80% of its gas to the most lucrative European market (Pirani, 2009a, p. 2; Rodova and Bor, 2008).[1]

Before testing the three hypotheses, this paper first clarifies the nature of the 2009 Russia-Ukraine gas conflict. This digression is necessary because one may question the validity of testing these hypotheses by pointing out that they are primarily aimed at identifying the impact of interdependence on high-level conflicts such as the use of armed forces and full-blown war rather than on low-level conflicts such as trade disputes and economic sanctions. This question can be easily defended in the case of liberalism because if the logic of the opportunity costs applies to a high-level conflict, it should also apply to a low-level conflict (Stein, 2003, pp. 114-115). In other words, states in the world of liberalism should be constrained in initiating any type of conflict because it increases the opportunity costs.

In the case of realism, however, we need another justification. This study applies this theory to the Russia-Ukraine gas conflict because even though no military force was involved in this conflict, it contained important features of high-level conflict. In the first place, the prominent realist Morgenthau (2006, pp. 128-129) suggested after the first oil shock of 1973 that utilization of indispensable raw materials as weapons should be considered as a crucial feature of modern warfare. As I will demonstrate later, Russia used its gas as a weapon in the conflict. Moreover, the 2009 Russia-Ukraine gas conflict

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[1] Gazprom earned roughly two thirds of its revenue from its gas sales in Europe (Chow and Elkind, 2009, p. 78).

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brought about more significant consequences such as severe economic damage and humanitarian crisis than most militarized interstate disputes (MIDs), which many existing empirical studies regard as an indication of high-level conflict. In fact, most MIDS are inconsequential: a third end in less than a week, over two-thirds incur no battle-related deaths, and only four percent develop into war (Levy, 2003, p. 130)

All three hypotheses have limitations in explaining the 2009 Russia-Ukraine gas conflict. Liberalism obviously cannot explain the gas conflict because their interdependent gas relationship did not prevent it. Realism has its own problems in explaining the 2009 Russia-Ukraine gas conflict. One variant of realism is certainly right in that interdependence in the gas sphere did not prevent the conflict. However, the condition under which it took place does not support the causal mechanism of this realism. If its hypothesis that states initiate conflict to lessen their vulnerability is true, then the most serious Russia-Ukraine gas conflict should have taken place in the 1990s when the dependence of the former on the latter's pipeline system was higher (Fredholm, 2008, p. 7).[2] Another variant of realism may shed important light on the conflict. In fact, several observers maintain that politico-strategic factors such as Ukraine's efforts to join NATO and its support for Georgia in the war against Russia explain the conflict (Berry, 2009b; RFE/RL, 2009a; Newnham, 2011, pp. 134 and 140; Andres and Kofman, 2011, p. 7). However, this explanation alone has deficiencies. In particular, it has difficulty in accounting for Russia's initial concession in its gas negotiations with Ukraine in early October 2008, approximately two months after the Russia-Georgia war. At that time, Russia's Prime Minister V. Putin and Ukraine's Prime Minister Y. Tymoshenko signed a framework agreement, in accordance with which Russia would gradually raise its gas prices to the European level within three years with the proviso that Ukraine paid back its outstanding gas debts (Interfax, 2008e). [3] Yafimava (2011, p. 177) interpreted this agreement as "a Tymoshenko victory," particularly given the fact that Russia agreed to pay European prices for Central Asian gas starting in 2009.

Then how can the 2009 Russia-Ukraine gas conflict be explained? This study attempts to explain it by relying on a theoretical framework that draws its insights from Armstrong's (1981) model on dependence-political compliance and Crescenzi's (2003) exit model. The remainder of this paper is organized as follows. The second section elaborates on the theoretical framework and discusses the data sources. The third section applies this framework for analyzing the gas conflict. The final section summarizes the main findings and discusses the policy implications.

2. Methods

2.1. Theoretical framework

Despite enriching our understanding of the relationship between interdependence and conflict, existing studies have limitations. In particular, they offer few hypotheses regarding when interdependence causes conflict/cooperation (McMillan, 1997, pp. 53–54; Mansfield and Pollins, 2001, p. 844; Crescenzi, 2003, p. 810). In this regard, Armstrong's model on dependence-political compliance offers useful insights. It must be stressed at this point, though, that Armstrong's main purpose is not to identify the link between interdependence and conflict. Rather, she focuses on demonstrating how dependence affects political compliance. Armstrong defines dependence as "a condition of asymmetrical interdependence." In her words, "If we view interdependence as a condition where A and B rely on each other equally, then dependence can be seen as a condition of asymmetrical interdependence" (p. 402).

Table 1
Armstrong's model on dependence-political compliance.
Source: Armstrong (1981, p. 406).

		State B (Dependent state)	
	Issue importance	Low	High
State A	Low	implicit use of power by state A (1)	economic power not used by state A (2)
(Dominant state)	High	implicit, possibly explicit use of power by state A (3)	explicit use of power by state A (4)

Armstrong assumes four possible situations that dominant state A and dependent state B may face depending on the issue importance. She then shows that A employs varying strategies in four different situations (see Table 1). For example, in cell two where A considers the issue importance low and B regards it high, she points out that the former is not likely to employ economic power against the latter. But in cell four where both A and B consider the issue importance high, the former is inclined to use economic power against the latter. Among these four cells, Armstrong hypothesizes that the degree of compliance would be arranged from lowest to highest in the order of cell two, cell four, cell one, and cell three. In this way, Armstrong identifies how asymmetrical interdependence determines political compliance depending on the issue importance.

My theoretical framework builds on this insight and goes further by positing the likelihood of conflict in the four different cells. Here Crescenzi's exit model sheds important light. The model analyzes a causal link between economic interdependence and conflict relying on two basic premises. The first premise is that conflict in a dyadic relationship takes place when state A makes a demand with an economic threat or a military threat and state B refuses to comply. The second premise is that an intermediate stage of low-level conflict exists between status quo and high-level conflict. In other words, Crescenzi presupposes three possible scenarios in a dyadic relationship: status quo, low-level conflict, and high-level conflict. Status quo arises when A does not make any demand from B. Low-level conflict takes place when A makes a demand with an economic threat and B refuses to comply. High-level conflict arises when A, while implementing its economic threat, issues a demand with a military threat and B refuses to comply.

My theoretical framework combines Armstrong's insight with these premises and posits the likelihood of conflict in the four different cells (see Table 2). The likelihood of conflict is lowest in cell three because the degree of compliance by B is highest. The likelihood of conflict in cells one and two is expected to be low for different reasons. In cell one, it is low because the probability of compliance by B is relatively high. In cell two, however, it is low because, despite the lowest probability of compliance by B, A is not likely to use its economic power. On the other hand, the likelihood of conflict is high in cell four because A is inclined to employ economic power and the degree of compliance by B is relatively low. It must be stressed that the most important element of my theoretical framework is to identify the actors' perceptions of the issue importance because they determine A's action and B's response. These perceptions, however, do not take place in a vacuum. Rather, actors perceive the issue importance in certain contexts. Therefore, my theoretical framework incorporates the contexts under which gas negotiations led up to the conflict.

Relying on the framework, this study demonstrates that the 2009 Russia–Ukraine gas conflict occurred through two critical causal mechanisms. In the contexts of the 2008 global financial crisis and Ukraine's anti-Russian policy, Russia and Ukraine both perceived the

[2] Russia was approximately 93% dependent on the Ukrainian pipeline system between 1991 and 2000 (Chyong, 2014b, p. 2). The construction of pipelines bypassing Ukraine such as Blue Stream and Yamal-Europe was completed in 2002 and 2006, respectively (Mitrova et al., 2009, pp. 420–425).

[3] For details on the framework agreement, see Yafimava (2011), pp. 177–180.

Table 2
Likelihood of conflict between states A and B.
Source: Author

		State B (Dependent state)	
	Issue importance	Low	High
State A	Low	likelihood of conflict is low (1)	likelihood of conflict is low (2)
(Dominant state)	High	likelihood of conflict is lowest (3)	likelihood of conflict is high (4)

importance of the issues involved in the gas trade to be high. Therefore, when Russia issued demands with economic threats, Ukraine refused to comply.

2.2. Data

This paper is a qualitative case study. As noted above, the most important task of this study is to analyze how Russia and Ukraine considered the importance of the issues involved in the gas trade. To do this, I have to get inside the heads of the key policymakers. But this is a formidable task. Therefore, this study relies on indirect methods to infer the key policymakers' perceptions. Here the most important data are the public statements and published interview transcripts of the policymakers. Accordingly, this study first investigates the data from such diverse sources as newspaper articles, electronic materials, working papers, academic journals, and books. This investigation carries a risk of misinterpretation largely because of the strategic role of deception in rhetoric. To alleviate this problem, this study cites experts' opinions in the diverse sources to verify what these key policymakers said. If some of the public statements and published interview are unavailable, it utilizes experts' assessments in the sources to draw the key policymakers' perceptions.

3. Results and discussion

This section first starts with a discussion regarding why this study selects the 2009 Russia-Ukraine gas conflict. It then illustrates the interdependence between Russia and Ukraine in the gas sphere. Here I maintain that this interdependence was asymmetrical in favor of Russia. The section goes on to identify four main issues involved in the gas trade between these two states: gas debts, gas prices, transit tariffs, and Ukraine's gas pipeline system. It then shows that Russia and Ukraine considered each of these issues to be very important. Therefore, when Moscow made demands with economic threats, Kiev refused to comply. This paper argues that this explains the gas conflict.

3.1. Why the 2009 Russia-Ukraine gas conflict?

Russia and Ukraine experienced numerous gas confrontations after the collapse of the Soviet Union (Pirani et al., 2009, p. 5; Hafner, 2012, p. 3). Among these confrontations, this paper selects the 2009 Russia-Ukraine conflict as a case study because it is the most serious one. This conflict differs from others in one important respect. In the case of the other conflicts, Russia usually reduced the amount of gas intended for Ukraine while continuing to provide gas supplies to Europe. This affected Europe instead of Ukraine, though, because the latter siphoned off the gas transiting to the former. The 2009 conflict initially developed like this, but Russia later undertook the unprecedented move of cutting off the gas supplies completely. Therefore, the conflict had the most profound impact, affecting many European countries as well as Ukraine (Westphal, 2009, p. 5; Stulberg, 2015, p. 117). Commenting on the 2009 conflict, Pirani et al. (2009, p. 35) stated that all other conflicts "pale into insignificance in comparison with the January 2009 events."

3.2. Interdependence between Russia and Ukraine

The origin of the interdependence in the gas sphere between Russia and Ukraine dates back to the Soviet period. Soviet Ukraine played a critical role in the early stages of gas development. For instance, western Ukrainian fields produced almost half the total Soviet gas output of 5–6 bcm in the 1950s, and most of this gas was supplied to major cities such as Kiev and Moscow. Moreover, the huge Shebelinka field in central Ukraine, which commenced production in 1956, became increasingly important for the Soviet Union because it not only supplied the heavily industrializing regions around Dnepropetrovsk and Kharkov, but also strengthened gas supply in Moscow and several cities en route (Pirani, 2010; Högselius, 2013, pp. 13–14 and p. 21). Furthermore, the gas produced in Ukrainian fields was exported to Czechoslovakia and Austria when the Brotherhood gas pipeline linking these fields to those two countries began operation in the late 1960s (Kramer, 1985, p. 34; Victor and Victor, 2006, p. 131).[4]

However, several important changes shifted the role of Ukraine from an important source of gas production to a crucial export route. In the 1970s, Ukrainian gas production began to decline and the center of Soviet gas production moved eastward (Stern, 1990, p. 28). Around the same time, the Soviet Union began to export gas in substantially large volumes to member states of the Council for Mutual Economic Assistance (CMEA) and Western Europe. In so doing, it sought to accomplish several aims. In the case of CMEA countries, for example, Moscow wanted to replace its oil exports with gas exports primarily because of its declining rate of oil production and desire to export more oil to Western Europe (Gustafson, 1981/82, p. 74; Stern, 1990, p. 167). In the case of Western Europe, the Soviet Union attempted to reap not only economic benefits such as hard currency and advanced technology, but also geopolitical dividends such as the weakening cohesion between the U.S. and Western Europe (Kramer, 1985, p. 38; Stern, 1990, pp. 99, 167, and 174; Stein, 1983, p. 81; Adamson, 1985, p. 17). These changes were accompanied by expanding the existing pipeline network and building new pipelines crossing Ukraine (Kramer, 1985, p. 34; Stern, 1990, pp. 77–78). As a result, nearly all Soviet gas was exported through the present Ukraine-Slovakia border (Högselius, 2013, p. 212; Wyciszkiewicz, 2009, pp. 38–39).[5]

In the meantime, the Ukrainian economy became more gas-intensive. Ukraine's gas consumption more than doubled from 49.6 bcm in 1970 to 118.8 bcm in 1990 (Stern, 1990, p. 57; Pirani, 2010). On the contrary, the Ukrainian gas production decreased by more than 50% from 61 bcm to 28.7 bcm in the same period (Stern, 1990, p. 28; Stern, 1993, p. 14). Naturally, Ukraine became increasingly dependent on gas imports from Russia and Central Asia.[6]

Therefore, after the demise of the Soviet Union, Russia and Ukraine suddenly found themselves dependent on each other in the gas sphere. These situations did not change much in the 2000 s (Szeptycki, 2009, p. 89). In 2008, as noted above, Russia needed to rely on Ukraine's pipeline system to export approximately 80% of its gas to Europe.

[4] The Brotherhood pipeline was first linked to Czechoslovakia in 1967 and a year later extended to Austria. During this time, the volume of Soviet gas exports to these two states was relatively small. In 1970, for example, Soviet gas exports to Czechoslovakia and Austria amounted to 1.4 bcm and 1 bcm, respectively (Stern, 1990, pp. 58–59).

[5] The Northern Lights gas pipeline, starting from the mega-giant Urengoy gas fields in northwestern Siberia, might have slightly changed the map of the Soviet gas pipeline network because a straight-line route to West Germany would cross Belarus and Poland. However, in the midst of Poland's martial law against the Solidarity movement in the 1980s, the Soviet Union, which relied on Western financing and technology, had to change the route. Therefore, the route made a sudden turn to the south close to the Belarusian-Polish border and then ran through some portion of the Ukrainian territory before crossing the Soviet border (Victor and Victor, 2006, p. 155). The Soviet government designed all these gas export routes without expecting that the country would collapse in 1991 (Pirani et al., 2009, p. 5).

[6] All Central Asian gas was transported through the pipeline network crossing the Russian territory. The proportion of imports in Ukraine's gas balance amounted to 81% in 1992, its first year of independence (Pirani, 2010).

Table 3
Ukraine's gas balance (Bcm), 2006–2008.
Sources: Fuel and Energy Ministry statistics cited in Pirani (2010).

	2006	2007	2008
Total Consumption	75.2	70.8	67.3
Ukraine's Production	20.7	20.7	20.1
Total Import	54.5	50.1	47.2

Meanwhile, Ukraine was dependent on gas imports from Russia for roughly 70% of its supply (see Table 3).[7]

These interdependent gas relations between Russia and Ukraine need more elaboration. Keohane and Nye (2012, pp. 10–14) point out that interdependence entails two dimensions: sensitivity and vulnerability.[8] Sensitivity represents the mutual effects of the interdependent relationship, whereas vulnerability means the opportunity costs of severing that relationship. One example most clearly illustrates this distinction. Suppose that state A imports 50% of its oil from state B. If oil supplies from B are suddenly disrupted, this affects both A and B. A's economy suffers because of the shortage of oil and B loses some portion of its oil revenue. This is sensitivity. By contrast, adaptation costs determine vulnerability. Therefore, if B adjusts with less cost than A, then the former is less vulnerable than the latter.

The gas relations between Russia and Ukraine entailed both sensitivity and vulnerability. In terms of sensitivity, if Russia cut off the gas supplies to Ukraine, this would have mutual effects. For example, Russia would lose some portion of its gas revenue and Ukraine's economy would suffer because of the shortage of gas (Andres and Kofman, 2011, p. 5). Likewise, the refusal of Ukraine to transit Russia's gas would affect both states. Ukraine would lose its transit revenue, while Russia would not only suffer financially because it could not export most of its gas to Europe, it would also have to deal with technical problems of excess gas because of a lack of alternative gas export options and limited gas storage capacity (Ericson, 2009, pp. 39–40).

In terms of vulnerability, the opportunity costs of abandoning Ukraine's pipeline system would be high for Russia. Russia, for instance, should build alternative gas transportation routes bypassing Ukraine (Pirani et al., 2009, p. 57). However, building these facilities would take considerable time and require heavy investment. The two alternative pipelines of Nord Stream and South Stream best exemplified this. Although framework agreements to construct these pipelines had been signed in September 2005 and June 2007, respectively, by late 2008, neither showed any sign of being built in the near future (Łoskot-Strachota, 2009, p. 12; Pirani, 2009a, p. 4).[9] The opportunity costs would also be high for Ukraine because the country must take measures such as developing its own gas fields and diversifying its sources of gas, necessitating a similar temporal and financial investment (Pirani, 2009b, pp. 108–109). Indeed, Ukraine had attempted to take these measures since the 1990s, but no real progress was made before 2009 (Chow and Elkind, 2009, pp. 85–86; Hafner, 2012, p. 5).

3.3. Symmetrical interdependence or asymmetrical interdependence?

Here it is necessary to discuss whether the interdependent gas relations between Russia and Ukraine are symmetrical or asymmetrical, because Armstrong's model is applicable to the latter. Measuring the precise degree of interdependence is extremely challenging, especially due to the difficulty of measuring certain costs (e.g., political and psychological) as well as the lack of information about a counterfactual situation (Baldwin, 1980, p. 503; Mansfield and Pollins, 2001, p. 847).

Nevertheless, several experts suggested that the interdependent gas relations between Russia and Ukraine were asymmetrical in favor of the former (Ebel, 2009, p. 13; Westphal, 2009, p. 19; Yafimava, 2011, p. 40). This is true especially in the long run because Ukraine's gas storage system could change the dynamics of the interdependent gas relations in the short term. If Ukraine filled its gas storage facilities, this would allow it to offset a gas supply interruption for months. In fact, the country possessed 16 bcm of gas in these facilities prior to the 2009 Russia-Ukraine conflict, which was around 46% of their full capacity and equal to two months' supply.[10]

In the long run, however, the physical lack of gas would have a more devastating impact on the economy as a whole than the loss of gas revenue. A simple simulation illustrates this. In 2008, Ukraine's exports constituted 46.9% of its GDP, and its metal and chemical industries, which consumed around 27% of its total gas demand, generated almost a half of all export revenue (The World Bank Website, 2016a; Chyong, 2014a). Hence, if Russia's gas supplies to Ukraine were disrupted for a long time, this would have ravaged the Ukrainian economy. This is so especially if we assume that most of Ukraine's domestically produced gas was used for its power sector, district heating sector, and residential and public sector.[11] In contrast, in 2008, Russia's exports accounted for 31.3% of its GDP, and 80% of Russia's gas export revenue in Europe amounted to roughly 10.5% of its total exports (The World Bank Website, 2016b; Vavilov and Trofimov, 2015, p. 166).[12] Thus, the impact of a loss of gas revenue on the Russian economy would be much less severe than that of the physical lack of gas on the Ukrainian economy.

3.4. Issues involved in gas negotiations between Russia and Ukraine

Gas negotiations between Russia and Ukraine primarily dealt with four issues: debts, prices, transit fees, and Ukraine's pipeline system. This section analyzes how Russia and Ukraine considered the importance of these four issues. It parcels the first three issues of debts, prices, and transit fees together, largely because they are monetary in nature. As this paper will discuss later, however, these issues have significant political implications. The section then examines the last issue of the Ukrainian pipeline network. It must be stressed, though, that all four issues were closely related, especially in the sense that Russia and Ukraine often pursued the strategy of issue linkage. For example, Russia demanded that unless Ukraine pays its debts, it should pay higher gas prices. Similarly, Ukraine indicated that it would consider paying market prices for gas, if Russia pays higher transit fees.

3.4.1. Monetary issues: debts, prices, and transit fees

One of the most important contexts under which gas negotiations between Russia and Ukraine took place was the 2008 global financial crisis. This context heavily influenced how Russia and Ukraine perceived the monetary issues such as debts, prices, and transit fees. In the midst of the global financial crisis, for example, oil prices began to drop in July. As Fig. 1 shows, the average monthly price of Brent oil decreased from $132.72 per barrel in July to $71.58 in October and further to $39.95 in December. This significant drop in oil prices implied an eventual decrease in gas prices since the latter is linked to

[7] From 2006, Russia began to buy gas from Central Asia and re-export it to Ukraine.
[8] Other theorists also provide a similar definition of interdependence (Waltz, 1970; Baldwin, 1980).
[9] For example, Putin stated at a conference in November 2008 that "Europe has to decide: if they need [Nord Stream] or not. If not, we will renounce the project..." (Gnedina and Emerson, 2009, p. 2).
[10] This does not necessarily mean, though, that Ukraine would not suffer at all. For example, gas supplies would be cut off in some regions because of the technical difficulties involved in reversing the gas flow from the storage facilities mostly located in the west to the east (Pirani et al., 2009, pp. 39–40).
[11] In 2008, Ukraine gas production was extremely insufficient to cover the needs of its power sector, district heating sector, and residential and public sector. While Ukraine produced 20.1 bcm, these three sectors consumed around 40 bcm (Pirani, 2010).
[12] In 2008, Russia's total export revenue was approximately $519.9 billion and Russia's gas export revenue in Europe amounted to $68.3 billion.

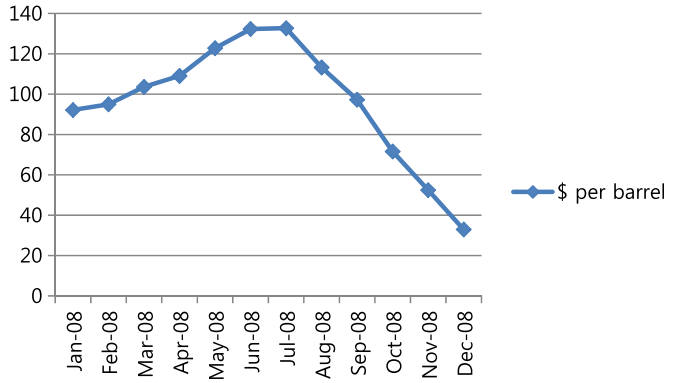

Fig. 1. Average monthly price of Brent oil from January 2008 to December 2008. Source: EIA website.

the former with an average six to nine months lag. The European gas price reached its highest point of around $500 per thousand cubic meters in the winter of 2008, but it was expected to dramatically drop later. Gazprom reckoned that its European gas price would fall to as low as $280 in the near future (Kramer, 2009; Torbakov, 2009). The company also forecasted in mid-December 2008 that its sales revenue in Europe in 2009 would decrease by one third in comparison with the current year (Russian Oil and Gas Report, 2008).[13]

These situations did not bode well for Russia's economy that relied heavily on oil and gas exports. Its stock market best illustrated this. The RTS, Russia's main index of shares, nosedived from about 2,500 in May 2008 to 692 by November 25 (Zarakhovich, 2008). In the midst of this stock-market collapse, Gazprom's market capitalization precipitously decreased from the highest value of $367 billion in May 2008 to $98 billion in mid-December (Interfax, 2008a; EURASIANET.org, 2015). Russia's foreign currency reserves also rapidly dropped from its peak of $600 billion in August 2008 to $453.5 billion by November 14. The Russian government spent a large portion of these reserves to bail out the ailing financial sector and support the ruble (Zarakhovich, 2008). Furthermore, Russia's Finance Minister A. Kudrin said in late November that the government would spend approximately $36 billion from its Reserve Fund to cover the federal and regional budget shortfalls.[14] This decision, according to Medetsky (2008a), indicated that the economic outlook had rapidly deteriorated. As recently as October 16, only two weeks after the signing of the gas agreement between Putin and Tymoshenko, the Finance Ministry expected the oil price of $95 per barrel for 2009 and had no plan to spend the fund. Worse still, the future economic outlook was grim. Russia expected that oil prices would not recover in the near future (Interfax, 2008b). Leading Western banks such as Goldman Sachs and Citigroup forecasted in December that the ruble would lose as much as 25% of its value over the next year because low oil prices would wipe out Russia's $91.2 billion current account surplus (Neftegaz.RU Press, 2008).[15]

The global financial crisis impacted Ukraine's economy even more adversely. Indeed, Ukraine was one of the countries hardest hit by the crisis. For instance, the steel industry, which made up 40% of Ukraine's export revenue and 25% of the country's industrial production, experienced a significant downturn. As a result, Ukraine's industrial production in October, November, and December dropped 19.8%, 28.6%, and 26.6%, respectively, in comparison with the same period in 2007 (The Economist, 2008; Åslund, 2009, pp. 371, 379; Pirani et al., 2009, p. 40). This deteriorating economic situation dramatically decreased the value of Ukraine's currency against the dollar by around 63% between the first week of August and the third week of December (National Bank of Ukraine Website, 2015). Because of all these problems, Ukraine's economy teetered on the brink of bankruptcy despite the fact that the IMF agreed in November 2008 to provide $16.4 billion stand-by credit (Westphal, 2009, p. 8).

It was under these circumstances that Russia and Ukraine viewed the monetary issues of debts, prices, and transit fees. Naturally, Moscow and Kiev attached crucial importance to these monetary issues. According to Torbakov (2009), one primary reason for the highest severity of the 2009 conflict was that Russia and Ukraine acted "out of utter desperation." For example, debts had been recurring problems between Russia and Ukraine after the collapse of the Soviet Union (Hafner, 2012, p. 3). Balmaceda (2009, p. 22) implicitly suggested that Moscow considered the issue of debts to be less important in the 1990s by stating that it "provided Russia with a kind of 'rain-check' it could make use of when necessary, to be exchanged for political or economic concessions – as it did in 1997 when it persuaded Ukraine to give up most of the Black Sea Fleet in exchange for gas debt forgiveness." However, this was not the case in late 2008. The Efficient Policy Foundation President G. Pavlovsky excellently explained the situation regarding the debt issue. Saying that this issue was "fundamentally important" for Russia, he commented that "Now... the entire world is facing a financial crisis, Russia cannot pat [Ukraine's President V.] Yushchenko on the shoulder and say, 'Do not worry, buddy, I will wait'. The debt for gas is quite serious money.... If Russia does not make a resolute attempt to get its money back, it will not get it in the future, either. Ukraine's debt will evolve into a bad debt..." (Interfax, 2008d). Similarly, Pirani (2009a, p. 3) pointed out that Gazprom was not willing "to give up a single kopeck."

Indeed, Russia indicated that it considered this issue important, especially given the dire economic situations. This was most clearly evidenced during the meeting between Russian President D. Medvedev and Gazprom CEO A. Miller on November 20, 2008. When Medvedev asked Miller about the Ukrainian gas debt issue, the latter responded that the debt had increased to $2.4 billion. Medvedev then stated that $2.4 billion is "big money for any state, for any company, Gazprom included," stressing the importance of recovering it especially given the financial pressure on Russia (BBC Newsfile, 2008b).

Likewise, the importance of the price issue was also high for Russia. In particular, Gazprom could compensate for its decreasing revenue in Europe by charging high prices to Ukraine's state company Naftogaz (Closson and Perovic, 2009; RIA Novosti, 2008c; Westphal, 2009, p. 8; The Economist Intelligence Unit, 2009; Balmaceda, 2013, p. 39). As Table 4 shows, Ukraine purchased the largest amount of gas from Russia, amounting to roughly 35% of Russia's total gas exports to Europe based on the 2008 volume (Gazprom website, 2015a, 2015b). Therefore, if Gazprom charged European prices to Naftogaz, this would alleviate the impact of the declining revenue from Europe. Simple math demonstrates this. As noted above, Gazprom reckoned that its sales revenue in Europe would decline by one third in 2009, equivalent to $20 billion (Vavilov and Trofimov, 2015, p. 166). Accordingly, if Gazprom could charge its initial offer price of $400 per thousand cubic meters to Naftogaz, it would earn roughly $12.39 billion more based on the 2008 volume.[16] If Gazprom charged its lowest offer price of $250 to Naftogaz, it would earn around $3.95 billion more.[17] These additional revenues could compensate for approximately 62% and 20% of the drop in sales revenue in Europe, respectively.

One crucial factor, namely, the mechanism thorough which Russia exported its gas to Ukraine, further increased the importance of the price issue. Starting in 2006, Russia began buying gas from Central

[13] In fact, Gazprom's forecast was not way off the mark. Its sales revenue in Europe decreased from $68.3 billion in 2008 to $44 billion in 2009 (Vavilov and Trofimov, 2015, p. 166).

[14] $36 billion constitutes about 33% of the Reserves Fund.

[15] The value of ruble against dollar had already decreased by 18% in December since the beginning of August.

[16] Unless otherwise specified, the 2008 volume of Ukraine's gas import is based on Gazprom's data.

[17] Commenting on the price of $250, Putin said that it was tantamount to "humanitarian aid" to "fraternal" Ukrainian people (RIA Novosti, 2009c).

Table 4
Russia's top 10 gas export markets, 2008.
Sources: Gazprom website (2015a, 2015b).

Country	Gas Export (bcm)
Ukraine	56.2
Germany	37.9
Turkey	23.8
Italy	22.4
Belarus	21.1
France	10.4
Hungary	8.9
Czech Rep.	7.9
Poland	7.9
UK	7.7

Table 5
Central Asian export prices, Ukrainian import prices, and European import prices, 2006–2008.
Sources: Pirani (2012, p. 78).

	Central Asian export prices ($/mcm)	Ukrainian import prices ($/mcm)	European import prices ($/mcm)
2006	65 (Turkmen gas) 60–95 (Uzbek gas) 100 (Kazakh gas)	95	285.2
2007	100 (Turkmen gas) 100 (Uzbek gas) 100 (Kazakh gas)	130	294.1
2008	1st half/2nd half		
	130/ 150 (Turkmen gas) 130/160 (Uzbek gas) 180/180 (Kazakh gas)	179.5	418.9

Asian countries and resold it to Ukraine. This did not put economic burden on Russia between 2006 and 2008 because the prices of most Central Asian gas were below the prices Russia charged to Ukraine (see Table 5). However, this would change in 2009. In July 2008, for example, Gazprom agreed to pay the European netback prices for gas from its largest gas exporting country Turkmenistan starting in 2009 (Lee, 2014, p. 334).[18] This suggests that if Russia did not charge market prices to Ukraine, it should shoulder the burden of loss (Mitrova et al., 2009, p. 407).

Russia also considered the issue of transit fees important because it would have the effect of offsetting the increase in gas prices. Russia paid roughly $2.3 billion in transit fees to Ukraine in 2008 when the price of transit was $1.70 per 1,000 m^3 per 100 km (mcm/00 km) (Interfax, 2008d; Closson and Perovic, 2009). But if the price increased to $4, as in the Czech Republic, then Russia would have to pay about $5.4 billion based on the 2008 volume (RIA Novosti, 2008e). This means that the country would pay an additional $3.1 billion, which would partially offset the gains from the increase in gas prices. Therefore, Russia sought to freeze the transit fees. Its scheme of advance payment for Ukraine's future transit service was a case in point. Russia proposed this scheme in late November 2008 on the condition that the transit tariff of $1.70 would remain unchanged (Yafimava, 2011, p. 180).

The importance of all these monetary issues was further increased because of their political implications. In the first place, these issues were related to Russia's political stability. *A* Ukrainian analyst Y. Mostova excellently explained this point. In her words,

> .... Revenues to the Russian budget are falling, among other reasons because of the collapse of oil prices. But... the policy proposed by the Russian authorities to the people and adopted by the majority of the country's population consists of exchanging civil liberties for an annual rise in the standard of living. An empty treasury will not be in a state to provide the declared growth. Thereby the bases of the unvoiced pact between the Kremlin and the people led by it are being undermined. Consequently, there is a need to scrape the bottom of the barrel. The rise in the price of gas for Ukraine...has to be accelerated. This will make it possible to get additional money... (BBC International Reports, 2008b).

More importantly, the monetary issues would allow Russia to further its foreign policy objectives. According to D. Trenin, director of the Carnegie Moscow Center, Russia had considered these monetary issues less important in the past because it had hoped that it could maintain its sphere of influence over Ukraine in exchange for subsidized gas prices. However, with Ukraine's anti-Russian policy such as efforts to join NATO and support for Georgia in the war against Russia, Moscow saw less need to "give Ukraine a break" (Birch, 2009). Instead, Russia could exploit the monetary issues to punish Ukraine, especially its pro-Western political leadership (Torbakov, 2009; Pirani, 2009b, p. 99).

Ukraine, like Russia, considered the monetary issues very important. In fact, these issues were a matter of its economic survival. For example, the gas debt of $2.4 billion for the three months of September, October, and November alone would account for roughly 15% of the $16.4 billion IMF loan.[19] This probably explains why W. Bernotat, head of German energy company E.ON, pointed out in December 2008 that Ukraine had little money to pay off its debts (Interfax, 2008c). Likewise, the issue of prices was also important for Ukraine. As First Deputy Secretary of the Ukrainian National Security and Defense Council S. Gavrish said in November, the price of $400, for example, "may have unpredictable consequences for economic planning of 2009" (ITAR-TASS, 2008a). A simple simulation best illustrates this. If Ukraine paid $400 per thousand cubic meters instead of its offer price of $201, it would cost roughly $11.18 billion more based on the 2008 volume. This extra cost would decrease to around $2.75 billion if Ukraine paid $250, a preferential price that Russia proposed almost at the end of 2008. These additional burdens would constitute approximately 68.1% and 16.8% of the IMF loan, respectively. Therefore, several commentators pointed out that Ukraine was incapable of paying even $250 (Baev, 2009; Pan, 2009).

Ukraine's addiction to cheap gas made this issue of prices more important.[20] Ukraine was one of the most energy inefficient countries in the world. Its energy intensity, that is, energy consumption in relation to gross domestic product (GDP), best exemplified this. It was twice as high as that in Poland (Chow and Elkind, 2009, p. 81). Accordingly, a price increase would have many implications. For example, it would make the Ukrainian metal and chemical industries, which relied heavily on gas, uncompetitive in world markets.[21] According to Ukraine's Minister of Industrial Policy, the country's chemical fertilizer producers, who use gas as a raw material, would make a loss, if the gas prices rose above $200 per thousand cubic meters (Pirani et al., 2009, p. 40). Moreover, a price increase would create discontent among the population who expected continued low heating costs, which would likely deal a blow to the political leadership.

[18] Gazprom also agreed to pay European netback prices to Uzbekistan and Kazakhstan.

[19] $2.4 billon also includes around $250 million fines for late payment (ITAR-TASS, 2008b).

[20] Natural gas constitutes 47% of Ukraine's total primary energy supply, whereas coal, nuclear, and oil accounts for 23.6%, 16.2%, and 12.4%, respectively (Pirani, 2010).

[21] This largely explains why a price increase would have a different impact on Ukraine's varying regions. It would have a more negative impact on regions situated in the eastern part of the country such as Dnepropetrovsk, Donetsk, and Luhansk where most heavy industries are located. These regions consumed more gas than regions situated in the western part of the country and contributed more to the country's GDP (Chyong, 2014b, p. 5).

For this reason, the political leadership would be reluctant to increase the gas price for the population. This would in turn cause problems of Naftogaz's increasing loss and the government's mounting budget deficit.

Ukraine also considered the issue of transit fees important because it reckoned that it could employ this issue to offset the impact of paying higher prices for Russian gas. Indeed, responding to Russia's demand for higher prices, Ukrainian President Yushchenko called for a review of transit fees in November 2008 (Grib et al., 2008). Shortly thereafter, Naftogaz head O. Dubina was more specific about transit fees during gas negotiations. He said that if Russia insisted on a gas price of $400 per thousand cubic meters, Ukraine would "bring up the issue of increasing the cost of transit to $3.98 per 1,000 cu m per 100 km, as in Slovakia or to $4 as in the Czech Republic" (RIA Novosti, 2008e). Kiev further raised its asking price for the transit tariff to $9.84 when Russia demanded that Ukraine pay $450 in early January 2009 (RIA Novosti, 2009b). Ukraine obviously believed that additional revenue from the increase in transit fees would ameliorate the difficulty of paying higher gas prices.

3.4.2. Ukraine's gas pipeline system

Ukraine inherited one of the longest gas pipeline networks in the world in 1991. Russia considered this network with an annual output capacity of 175 bcm to be very important. In fact, one of the most critical strategic goals of the country was to ensure the security of gas flows to solvent customers (Hafner, 2012, p. 1). As noted above, Russia made most of its revenue from selling gas to Europe and approximately 80% of this gas transited through the Ukrainian pipeline system in 2008. Nevertheless, it had no control over this facility. This dependence has other implications. In particular, it constrained Russia's room for maneuver in pursuing its policy toward Ukraine (Szeptycki, 2009, p. 96). This explains why it, according to Andres and Kofman (2011, p. 5), was "a continual source of frustration to Russia and a threat to its reputation as a major power." Therefore, Russia continuously sought to gain at least partial control over the Ukrainian pipeline system. The idea of creating an international consortium to manage the system in 2002 was a case in point. However, it became evident in 2005 that this idea would not be realized (Stern, 2006, pp. 36–37 and 40). Ukraine even made its future realization extremely difficult by making a law in 2007 that forbids the privatization of the pipeline system.[22] The law also included a provision stipulating that "Naftohaz may not be declared bankrupt, an ultimate safeguard against Russian debt collection through the takeover of assets" (Socor, 2009).

However, this did not prevent Russia from seeking to gain control over the pipeline system. For example, Russia's President Medvedev stated in Germany in June 2008 that the country was "ready to consider a possibility to establish international consortiums, which would operate transit pipelines together with the companies from Russia, the EU and transit states" (Gnedina and Emerson, 2009, p. 7). Putin also reportedly sought to gain a stake in Ukraine's pipeline system during his meeting with Tymoshenko in October 2008 (Platts International Gas Report, 2008). Furthermore, Moscow continued to air the suggestion that Ukraine, like Belarus, should concede its control over the pipeline system in exchange for Russia's preferential monetary offer (Torbakov, 2009).

Ukraine also highly valued its own pipeline system as one of its most important assets. Ukraine derived not only economic benefits from transporting Russia's gas. It also viewed the pipeline system as a crucial source of power against Russia. Naturally, it perceived that any loss of control over the system would significantly lessen its autonomy from Russia (Szeptycki, 2009, p. 90; Westphal, 2009, p. 18; Hafner, 2012, p. 13). This largely explains why Ukraine considered it an issue of sovereignty (Orttung and Overland, 2011, p. 82). Putin's comments excellently explained Ukraine's position on its pipeline system. He noted in January 2009 that Kiev considered it a national resource "that came from heaven above and therefore is not subject to privatization" (RIA Novosti, 2009a). Naturally, any Ukrainian politician was hesitant to sell it to Gazprom because the day of selling would be "the last day of his (her) political career" (Hafner, 2012, p. 14).

3.5. The 2009 Russia-Ukraine gas conflict

Russia and Ukraine considered all the issues involved in the gas trade very important and the two countries' position on these issues differed completely. Russia sought to receive every penny of debts, raise prices, freeze transit fees, and acquire control over the Ukrainian pipeline system. In contrast, Ukraine sought to delay the payment of its debts, prolong the rise of prices, increase transit fees, and keep its own pipeline system. These situations produced fertile grounds for conflict. Russia, while often pursuing the strategy of issue linkage, made demands with economic threats. Ukraine, however, declined to comply, often pursuing its own strategy of issue linkage. This led to conflict.

For example, two days after Medvedev instructed Miller to recover the gas debt of $2.4 billion from Ukraine on November 20, 2008, Gazprom spokesman S. Kupriyanov noted that Ukraine was obliged to pay off its outstanding debt in accordance with the agreement signed in October between Putin and Tymoshenko. He then threatened to cut off gas supplies to Ukraine if it did not pay back its debt (Osipovich, 2008). Russia's demand was not limited to the issue of debts. It also sought to raise the gas price by linking this issue of prices with that of debts. Kupriyanov stated that if Ukraine did not pay off its debt, Gazprom would have no obligation to sell gas at a discount and would raise the gas price to $400 per thousand cubic meters (The Moscow Times, 2008). Moreover, as discussed above, Russia also linked the issue of debts with that of transit fees by proposing the scheme of advance payment for future transit across Ukraine. This scheme was contingent on the conditions that Ukraine would use this money to pay off gas debts and freeze transit fees (BBC Newsfile, 2008c).

Furthermore, Russia reportedly linked the issue of debts with that of Ukraine's pipeline system. According to several analysts, a primary reason Russia took hardline stance on the issue of debts was that it sought to gain control over the pipeline system (Socor, 2009; Torbakov, 2009). Ukraine also perceived that Russia's motive for the hardline stance was closely related to its efforts to acquire a stake over the pipeline network (Russian Oil and Gas Report, 2009a; Korduban, 2009). The comments of R. Zhukovskiy, head of Ukraine's President Yushchenko's office, best illustrated this. Noting that Ukraine was looking for ways to pay off its gas debt of around $2 billion to avoid the possible transfer of its gas pipeline network to Gazprom, he said that "The gas pipeline network is the most attractive among Ukraine's national assets.... So, it's logical to assume that the debt may be aimed at being paid through the transfer of the gas transportation network to their management..." (Rodova and Bor, 2008).[23]

In response, Ukraine refused to comply with Russia's demands. In terms of debts, for example, it initially attempted to dispute technical aspects such as the amount of debt and the identity of the creditor. Naftogaz said that it owed $1.26–1.27 billion to RosUkrEnergo, the intermediary in the gas trade between Russia and Ukraine, instead of Gazprom (ITAR-TASS, 2008a; Yafimava, 2011, p. 180). Ukraine also sought to put off the payment of its debt. Shortly after Russia

[22] 430 deputies, with no vote against, in the 450-seat Ukrainian parliament passed the law. The law prohibits "any deals that would involve the sale, transfer, merger, concession, lease, collateralization, entry into joint venture, joint or trust management, mortgaging, or any change in the status of ownership or control of Ukraine's gas transit system and other Naftohaz assets" (Socor, 2009).

[23] This perception turned out to be largely true, after all. In an article titled "Russian's objectives in the gas war with Ukraine," Russian newspaper Nezavismaya Gazeta carried Putin's interview with German broadcasting company ARD on January 11, 2009, saying that Ukraine should privatize its gas transit network and Russia would be interested in taking part in this privatization (Russian Oil and Gas Report, 2009b).

threatened to cut off the gas supplies, Tymoshenko stated that she would ask Russia to defer the payment of gas in underground storage until Ukrainians consumed this gas.[24] In terms of prices, Ukraine indicated that it would not pay $400 per thousand cubic meters, demanding that the gas price be decreased especially given the significant drop in oil prices (ITAR-TASS, 2008a). In addition, it did not accept Russia's scheme of advance payment for future transit service (BBC International Reports, 2008a). Moreover, Ukraine completely ruled out any possibility that it would concede control over its pipeline network in exchange for Russia's cancellation of gas debts (Pirani, 2009a, p. 4).

These irreconcilable positions between Russia and Ukraine appeared to be partially resolved during gas negotiations on November 25 when Naftogaz promised to pay off its debt for September and part of October by December 1 (Medetsky, 2008c). However, Naftogaz did not keep its promise. On December 2, it, while paying only $268.7 million of the $550 million, asked Gazprom to defer the deadline for repayment of debt (RIA Novosti, 2008d). Thereafter, Russia's threat to cut off the gas supplies became more frequent. Shortly after Ukraine failed to pay off its debts, Putin himself, the ultimate decision-maker in gas issues, warned in a live televised Q & A session that if Ukraine did not pay off its debts, Russia would reduce the gas supplies to Ukraine (RIA Novosti, 2008b).

In response, Ukraine paid off a portion of its debt, $800 million, in the third week of December, but the country insisted that it would not pay off any more debt at least until the end of 2008. Commenting on this payment, Yushchenko noted at a news briefing that “For the time being, this issue [of debt] has been resolved.... And a line can be drawn under this” (Interfax, 2008g). This partial payment, however, did not soften Russia's stance. Gazprom spokesman Kupriyanov announced that the $800 million would only cover gas supplies for October and added that Ukraine had to pay $2.1 billion for the November and December gas deliveries, including penalties. He then stressed that the company would cut gas supplies to Ukraine if it did not fully pay off its debt (Medetsky, 2008b; Interfax, 2008 h).

This crisis could be resolved if Ukraine followed the Belarusian model of selling its stake in the pipeline system in return for Russia's preferential monetary offer. As a matter of fact, a Gazprom source raised this hope in mid-December by saying that Ukraine's selling of its stake in the pipeline system would be another way of resolving the crisis (Nefte Compass, 2008). Likewise, Russia's First Deputy Foreign Minister A. Denisov stated at a press conference on December 29 that "I am convinced that a formula for a resolution exists. At the end of the day, it could even be found 15 minutes before New Year, just like in the case of Belarus..." (BBC Newsfile, 2008a). However, Ukraine showed no sign of following the Belarusian model.

It was against this background that Russia issued direr warnings. For example, Medvedev stated on December 30 that “... if Ukraine fails to pay, we will use the entire arsenal of opportunities. That is absolutely apparent and there should be no illusions here” (Interfax, 2008d). On the same day, Gazprom established a special action group to begin preparation to cut off gas deliveries to Ukraine (RIA Novosti, 2008a). Thereafter on the same day, Naftogaz spokesman V. Zemlyanskiy announced that the company would pay off its debt of $1.5 billion for November and December within two or three hours. However, Gazprom spokesman Kupriyanov stated that “We have not received the money, and it is premature to say the debt has been repaid” (RIA Novosti, 2008 f).[25] Gazprom head Miller also said on January 1, 2009 that the company had not received the money. Moreover, the amount of money Ukraine claimed it transferred fell short of 2.1 billion because it did not pay the fines accumulated for late payment (Berry, 2009a).[26]

Other issues of prices and transit fees closely linked with this debt issue were not resolved either. Almost at the end of December, Russia offered a preferential price of $250 per thousand cubic meters to Ukraine while demanding a price freeze of transit fees. However, Ukraine rejected this offer. In a joint statement dated December 31, 2008, Yushchenko and Tymoshenko announced that “According to our calculations based on the memorandum, in the early 2009 the price of Russian natural gas on the Ukrainian-Russian border should be 201 dollars per 1,000 cu.m., and the price of the transit of gas via Ukraine should be no less than 2 dollars per 1,000 cu.m. per 100 km...” (BBC International Reports, 2009).[27] Worse still, Naftogaz sent a letter to Gazprom on the final day of 2008 saying that if no new contract for 2009 was signed, it would confiscate Russian gas bound for Europe after January 1 (Vasilyeva, 2008).

Under these circumstances, Russia implemented its threat of cutting off gas supplies to Ukraine at 10:00 AM on January 1, 2009. In response, Ukraine carried out its threat of confiscating some portion of Russian gas transiting to Europe. This implies that Russia's sanction did not actually affect Ukraine and instead it led to the disruption of gas supplies to Europe.

Even in the midst of this crisis, Russia and Ukraine could not resolve their differences. For example, Gazprom, probably out of exasperation, demanded a higher gas price of $450 from Naftogaz on January 4. Gazprom CEO Miller stated that

> Naftogaz rejected the Gazprom offer of 250 US dollars per 1,000 m^3 of gas and unilaterally withdrew from the negotiations. The offer to sell Central Asian gas at 370 dollars per 1,000 m^3 did not bring them back to the negotiations, the same as the medium European price of 418 dollars per 1,000 m^3.... Let us hope that the offer to supply Ukraine with gas in January at 450 dollars per 1,000 m^3... will soon bring Naftogaz back to the negotiating table (ITAR-TASS, 2009c).

In response, Naftogaz spokesman Zemlyansky linked the issue of gas prices with that of transit fees by saying that if Russia raised the gas price to $450, Ukraine would demand a transit fee of $9.84 (RIA Novosti, 2009b). Moreover, Russia requested that Ukraine pay off its remaining debt of $614 million. But Ukraine refused to comply, insisting that this issue should be settled in arbitration courts (ITAR-TASS, 2009a).

These differences aggravated the conflict. Gazprom further lowered gas supplies to Ukraine on January 5, reduced them more on January 6 and then completely halted them on January 7, accusing it of diverting Russian gas bound for Europe. On the evening of January 7, Medvedev laid down the terms for a resumption of Russian gas deliveries in his telephone conversation with his Ukraine's counterpart Yushchenko. The crucial terms were that Ukraine must pay a market gas price, pay the remaining debt (late payment penalties), and allow a “control mechanism” involving EU observers to monitor gas flows across its territory (Thuburn, 2009).

The conflict ended on January 19 when Russia and Ukraine signed an agreement more advantageous to the former. In particular, the agreement stipulated that Ukraine, while freezing its transit fees, would pay the European price for Russian gas with a 20% discount in 2009.[28] In addition, the base price assumed for European price levels was set

[24] In the words of Tymoshenko, “We would like to delay the payment for gas stored in underground facilities and as yet unconsumed by Ukrainian clients for a small period, just a few months, until we start to consume this gas” (Interfax, 2008f).

[25] Naftogaz indicated that it would discuss the payment of penalty after the contract expired as of January 1 (ITAR-TASS, 2008c).

[26] On January 2, Kupriyanov said that the transferred money of $1.5 billion would reach Gazprom's bank account on January 11 due to New Year's holidays (ITAR-TASS, 2009b).

[27] Yushchenko and Tymoshenko issued this joint statement after Tymoshenko cancelled her flight to Moscow (BBC Newsfile, 2008d, 2009; Reuters News, 2008). Gazprom believed that if Tymoshenko had made the trip to Moscow, this could have prevented the Russia-Ukraine gas conflict (Pirani et al., 2009, p. 31).

[28] The agreement also provided that from 2010, Ukraine would pay the full European price for Russian gas while Russia would pay the market price for Ukraine's transit (RFE/RL, 2009b).

very high in the price formula so Ukraine would pay more than it should. Moreover, the agreement entailed a provision of take-or-pay guarantees that would allow Gazprom to impose severe penalties in the case of Naftogaz's failure to purchase the agreed volumes in any given month. On the contrary, it did not contain a clause of ship-or-pay guarantees preventing Gazprom from reducing its transit volumes with impunity (Pirani, 2010; Yafimava, 2011, pp. 191–194).

4. Conclusions and policy implications

The 2009 Russia-Ukraine gas conflict is an excellent empirical case to examine the causal link between interdependence and conflict. Yet, few studies have examined this case from the perspective of international relations theories. Most existing studies, while improving our understanding of the conflict, lack any theoretical analysis. This study has sought to address this limitation by relying on the theoretical framework that draws its insights from international relations theories such as Armstrong's model on dependence-political compliance and Crescenzi's exit model. It then has illustrated that the Russia-Ukraine gas conflict took place through two crucial causal mechanisms. In the contexts of the 2008 global financial crisis and Ukraine's anti-Russian policy, Russia and Ukraine considered the issues involved in the gas trade very important. Therefore, when Russia issued demands with economic threats, Ukraine refused to comply.

The theoretical framework presented here has performed better in explaining the 2009 conflict than the three existing hypotheses in the study of international relations largely because it has considered the contexts under which gas negotiations took place and the perceptions of Russia and Ukraine. Because of this advantage, for example, it can explain why gas conflicts in the 1990s or 2014 were not as serious as the 2009 conflict. In the case of gas conflicts in the 1990s, the importance of the gas issues was not so high primarily because Russia sought to maintain its sphere of influence over Ukraine in exchange for cheap gas and had to deal with other urgent problems such as market reforms and political disarray. In the case of the 2014 gas conflict, Russia and Ukraine did not consider the importance of gas issues as a priority in the midst of the Russian annexation of Crimea and the ongoing war in Eastern Ukraine. This largely explains why the 2014 conflict was less serious than the 2009 conflict (Stulberg, 2015, p. 117).

If the theoretical framework is valid, it provides two policy recommendations for lowering the likelihood of future gas conflicts regardless of the contexts under which gas trade takes place. The first recommendation is diversification. In the case of the Russia-Ukraine gas relations, diversification would decrease the importance of the issues involved in the gas trade for these two states. This is likely to reduce the probability of Russia making demands with economic threats and Ukraine refusing to comply. In fact, Russia and Ukraine significantly decreased their level of interdependence in the gas sphere with their diversification efforts. For example, Russia completed building the Nord Stream bypassing Ukraine in 2012, which has allowed the former to reduce its dependence on the latter's pipeline system from approximately 80% in 2008 to about 50% (Kohlmann, 2015). Similarly, Ukraine now buys gas from Europe relying on reverse pipelines.[29] Moreover, the country has lowered its gas consumption owing to several factors such as the loss of territory in the east, economic recession, and efficiency moves. As a result, Ukraine's dependence on Russia's gas has decreased from 70% in 2008 to 34% (BP, 2015). Under these circumstances, the importance of the issues involved in the gas trade has decreased for Russia and Ukraine. This also partially explains why the 2014 Russia–Ukraine gas conflict was less serious than the 2009 gas conflict.

The second recommendation is to instigate a gas trade based on market-based commercial principles. Such trade would eradicate the problem of making monetary issues involved in the gas trade a matter of political compliance. The case study here has shown that the monetary issues between Russia and Ukraine were a matter of political compliance because they were determined by political negotiations. As such, a market-oriented gas trade would allow little room for politicians to make demands with economic threats and eliminate the problem of their partners' political compliance. This in turn would contribute to decreasing the likelihood of future conflict.

[29] Most gas that Ukraine buys from Europe originates from Russia. Therefore, if Russia cuts off the gas supplies, Ukraine cannot buy gas from Europe (Stern et al., 2015, p. 10).

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