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Can market forces balance out geopolitics?**

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Summary

This article analyses the economic risk associated with the dominant position of the Russian vendor in the European market, with a view to assessing the relevance of possible responses by European nations or the EU. It considers various aspects of the Russian vendor's dependence on the European market, before turning to the risks that Gazprom exerts market power on the European market. It concludes by considering the relevance of the possible responses open to the EU and member states to limit any risks by creating a gas single buyer or more simply by encouraging the development of a denser pan-European network, with additional sources of supply and increased market integration.

1. Introduction

A great deal has been written recently on relations between European Union countries and Russia with respect to gas. Alarmed by the fears stirred up by the supply cuts following the gas dispute between Russia and Ukraine in January 2006, European states are increasingly concerned about their growing dependence on Russian gas (40% of imports) and the strategy of the quasi-public company Gazprom, which aims to take control of some major gas companies in certain countries without offering anything very substantial in return. Politicians and the media are putting about an excessively gloomy picture of relations between the EU and Russia, hinging on a geopolitical power struggle. Unfortunately this view has spilled over into analysis of the economic risks associated with Gazprom's dominant position.

The economists and political commentators who seize on the question tend to project the political risk typically associated with a position of dependence onto business relations, highlighting the risk of market power resulting from an alleged monopoly. The list of possible economic risks associated, wrongly or rightly, with growing Russian gas exports to Europe is long: manipulation of the European spot market; scope for unilateral termination of contracts; deliberately inadequate investment in increased capacity to justify long-term high prices; encircling of the European market by building northern (Nordstream or North European Gas Pipe-Line) and southern (Blue Stream) supply routes; agreement with Turkey to discourage the construction of direct supply lines for Caspian gas to the European market; moves to reach agreement with major distributors, in particular Sonatrach, or even the takeover of distributors with a dominant position in specific national markets to partition markets. There are fears that by refusing to bring the regulations governing its gas market in line with Europe's free-market legislation and to sign the European Energy Charter, which would harmonise legislation, Russia is taking undue advantage of trade with Europe without accepting the rules of the game. Having achieved a monopoly Russia would be able to raise prices in the market, particularly as it will increasingly be in a position to oblige the European market to compete with Asian and North American markets.

But there is no certainty that this interpretation of the economic risk is particularly helpful in the search for a compromise, with stable rules governing trade in gas between Russia and the EU. However it is this interpretation that is currently guiding politicians, the media and many of the analysts advising governments, such as D. Clark (2006), a former advisor to the British government. Other reputable analysts, in particular J. Stern (2005, 2006), propose a much less dramatic interpretation of the Russian government's political and economic strategy on exploitation of its gas resources and sales to Europe. But little attention is paid to such views. Adopting the more alarmist line some member states, and the European Commission in its March 2006 Green Paper (EC, 2006), are advocating a widespread campaign to force Russia to sign the European Energy Charter and set up a common negotiating authority by setting up a "single buyer" for all contracts to be signed with the external vendors, Russian vendor in the

front. These proposals, which seek to counter-balance Gazprom's market power, go hand-in-hand with others designed directly to limit the political risks associated with the security of short-term supplies. The second category of measures aims to organise a mutual support system for storage, in a quite understandable attempt to deal with the issue of collective security. But the economic risk does not require such a direct response by states, but rather measures to facilitate trade in gas and competition between major exporters of gas to EU markets. But to be able to reach this conclusion, it is first necessary to stop confusing Europe's current dependence on gas with the broader issue of energy security.

The aim of this article is to analyse the interdependent relationship between Russia and the EU with regard to gas, with a distinction between the risks associated with Gazprom's market power and the issue of short-term security, all too often confused. The objective is to gauge the economic risk associated with the dominant position of the Russian vendor in the European market, with a view to assessing the relevance of possible responses by European nations or the EU. The paper starts by emphasising the fundamentally different nature of Russia and the EU, and the role that energy resources play in affirming the political power of Russia. Then it analyses various aspects of the Russian vendor's dependence on the European market, before turning to the risks that Gazprom exerts market power on the European market. It concludes by considering the relevance of the possible responses open to the EU and member states to limit any risks by encouraging the development of a denser pan-European network, with additional sources of supply and market integration.

2. Two opposing worlds

The history of international and regional energy markets clearly shows that the state of the world as a whole is a key factor in what happens in the global oil and gas industry (J.G. Clarke, 1990). In our particular field it is impossible to understand gas-related relations between Russia and the EU without taking into account Russia's past and the nature of the Russian state, when it emerged from the Soviet era. It begs the question of whether a state, that is rebuilding itself and attempting to regain its former influence, can be rapidly integrated into a multilateral regime that regulates access to its infrastructures and energy resources. On the other hand the EU is not a conventional state, lacking any real diplomatic or military power. In the international arena, it tends to see itself mainly as a force promoting multilateral integration systems.

2.1. Russia, a proclaimed "energy superpower"

After a decade during which Russia's state apparatus disintegrated and its international position was undermined, the current regime intends to use the country's oil and gas resources to reaffirm its power. The aim for Russia is to become an "energy superpower" and play a key geopolitical role, by positioning itself as an essential supplier for major regional energy markets, and by organising competition between countries and regions to boost its importance.

This power game is based on an organisation of the hydrocarbons industry involving a few large companies, in which the state holds a majority stake. The companies represent the state's main way of controlling oil and gas revenue to feed the state budget and fund economic development. They also underpin foreign policy goals and their action is not restricted exclusively to Russian resources and the national market. Their action includes Russia's "near abroad", where they are seeking to control recently exploited reserves and exports. It also includes rich European countries where they are keen to play a part in downstream activities,

to tighten their hold on energy revenues on all the value chain. The Russian state does not hesitate to pre-empt companies to secure the country's energy resources and ensure they are properly exploited. The shake-up in the oil and gas industries since 2001 has enabled the development of production, transport and exploitation resources to be reorganised under direct control of the state.¹ Private companies still play a part, in some cases in partnership with foreign companies trying to maintain their position – BP through the TNK-BP joint venture, and Conoco through Lukoil (in which it holds a 20% share). But the public or semi-public sector now has the upper hand and can shape institutional rules at its convenience to keep control over resources, replace private or foreign investments with public-private partnerships, and pursue the goals decided by the political executive. As a result the perimeter of the publicly owned industry will only be stabilised when the Russian state has regained direct or indirect control over resources developed by international companies, as demonstrated by the threats to firms exploiting the Sakhalin gas fields in autumn 2006. Neither market rules nor international law will guarantee foreign investments, only the president's agreement.

The choice of this model reflects the weakness of Russian institutions (Tompson, 2006). A powerful state and a strong legal system would be needed to control, within the framework of private enterprise, a sector yielding substantial revenue and involving a small number of extremely powerful players, the only ones capable of funding and developing production. But because the capacity of the state in Russia is limited, with little respect for the law and a poor sense of political responsibility, the most effective way of exploiting resources with a view to developing the nation's political and economic power is (quasi-) nationalisation. The disadvantage with this institutional context is the lack of transparency in the decision-making process and management of the system. This trend is consistent with increasing centralisation of power and the authoritarian nature of the Russian political system since 2001. At an international level this goes hand in hand with a policy of reaffirming Russian power and for countries within its immediate sphere of influence a style of diplomacy of power (Gomart, 2006).

Gazprom is the best example of a major corporation serving the Russian state's objectives of political and economic power. Putin has strengthened its control as a vertically integrated gas monopoly. With a 51% share held by the Russian state, Gazprom is also the most international company, capable of competing with top oil companies in terms of reserves and output. It ranks third worldwide for its stock market value and is in a position to take control of other large oil or gas companies. In the world oil market and regional gas markets it is set to occupy positions further downstream in rich countries – as is already the case for Russian oil companies – cornering a larger share of oil and gas revenue derived from distribution, storage and sales. At home it is trying to take control of privately owned production by purchasing the producer Northgas as well as a 20% share in Novatek, two companies exclusively involved in gas production (Stern, 2006). Lastly it has established a partnership with Lukoil (and also Rosneft) covering its gas production. It is also diversifying into the oil business, with the purchase of Sibneft, and into upstream (equipment and construction industry) and downstream activities (electricity, petrochemicals). In 2003-5 it allocated €14bn, a third of its investments, to these activities. Gazprom could also use its riches to

¹ Semi-state control has taken the place of the free market ideas that once prevailed. The free marketeers tried several times to reform energy prices, deregulate access to the gas and electricity network and organise competition in sales to industry, in keeping with the recommendations of international and EU bodies.

modernise the electricity industry and fund new nuclear reactors, as the government demanded in 2005.

Gazprom controls gas purchases by countries in the Russian sphere of influence. Russia wants to keep tight control over how gas from the Caspian is sold to Europe and Asia, to restrict political and economic competition from the former Soviet republics of Central Asia and the Caucasus. Gazprom's strategy abroad should consequently be seen in the larger context of Russian foreign policy. This type of semi-public company provides a way of making Russia's presence felt in strategic or priority areas. In the case of Gazprom this means that the Putin government is encouraging it to invest in central Asia and to redefine preferential terms for gas sales to countries in its sphere of influence. The aim is to reassert its political influence through close economic integration but also to regain control over countries attempting to distance themselves from Moscow (Ukraine, Georgia, etc.) by suddenly ending preferential tariffs. Thanks to Gazprom and Lukoil and their increasing international importance, the state is using hydrocarbons to organise its relations with its main partners and its integration in the international arena (Boussena and al, 2005; Locatelli, 2005). More broadly Russia wants to establish a position of leadership and ensure that it is a key player with control over the terms of sale in the various markets.

2.2. The European Union, a de facto world power without geopolitical means

European Union and member states contrast with Russia by their comparative lack of energy, and particularly gas, resources, and the resulting position of dependence, and by a multilateral conception of international relations. According to European Commission forecasts up to 2030, energy dependence (for all categories of energy) will rise from 52% in 2004 to about 75% in 2030 (EC Green Paper, 2006). Gas output, which covered 43% of demand in 2005, will only cover 25% by 2030, with Russian production playing a key role in imports by European countries. Within the institutional framework created by European treaties, management of gas and oil resources has always remained within the competence of states. The European Treaty does not give the EU any direct control over energy policy. The International Energy Agency (IEA) is responsible for the security of short-term oil supplies, through coordination of strategic reserves. There is no collective approach to the problem for gas. Each country developed its own gas market, relying on a national monopoly or a market leader to take charge of negotiating contracts for imports. This body was under an obligation to share out imports between several seller countries and to build up operational reserves. Member states still rely on these incumbent operators to keep the risk of gas dependence as low as possible and develop supplies.

So what can the EU do? Lacking substantial diplomatic or military resources it cannot pursue a very significant foreign policy. The interests and ideas of member states often diverge, and with the arrival of new members differences have increased. In a world that is still organised in terms of a geopolitical balance of power, based on diplomatic and military power, the EU is trying to be a de facto super-state with the traditional attributes of power, despite the fact that it lacks the means to enforce its own sovereignty. To make up for this shortcoming in its dealings with other world powers, Europe resorts to "soft power" conceptualising its dependence in terms of interdependence (Laïdi, 2006). It tries to influence reality "by trying to deploy on as large a scale as possible standards capable of organising the world, bringing discipline to the market place, and making behaviour more predictable (...)" (Laïdi, 2006). It projects onto its relations with other states the type of inter-state relations that its own members have succeeded in setting up with one another in an attempt to achieve integration

through the market, which, as Majone (1993) points out, is the only way of achieving greater political integration in Europe.

In the energy sector the European Commission wants the EU to have a joint foreign policy to speak and negotiate with a single voice, on behalf of European governments and companies, with energy-producing countries and the companies they control. This approach is outlined in the March 2006 Green Paper (EC, 2006). The need for a joint energy policy has become all the more pressing since 10 new members joined the Union in May 2004 (and Bulgaria and Romania in January 2007), because they depend almost exclusively on Russia for their gas supplies. The crisis in Russian gas supplies in January 2006, due to a stoppage in deliveries to Ukraine, exacerbated these concerns.

The EU finds itself obliged to manage the growing energy dependence of its member states without a joint foreign policy on energy, lacking the institutional and geopolitical means. It has some power within the framework of the TransEuropean Networks policy to assist financially the setting up of major transit and import facilities that contribute to greater diversification, justifying a coordinating role for this issue. Otherwise it acts by exerting influence on the institutions of other countries. The EU is also trying to promote a joint regulatory space.

At the beginning of the 1990s the EU took the initiative of setting up the European Energy Charter to promote harmonisation of laws on investment in the energy sector in former-Soviet bloc countries, in particular Russia. The EU's implicit objective was Europe's long-term energy security. This was to be achieved by facilitating the installation of foreign companies, securing investments, and organising trade in energy products by liberalising access to transport networks. Unfortunately, after lengthy negotiations and despite ratification by 46 countries, the Russian government is still refusing to let parliament ratify this international agreement, in order to retain the greatest possible margin for manoeuvre in the hydrocarbons sector (Walde, 1995 ; Locatelli, 2005). In general the EU sets conditions for partnership and cooperation agreements with third countries, requiring gradual changes in their legislation to bring them into line with the rules in force within the European community. In the energy sector this space already includes Norway, and countries in southeastern Europe that have applied to join the EU and through which the gas transits. It may soon include countries along the southern coast of the Mediterranean. The EU has also launched a Neighbourhood Policy which concerns transit countries such as Ukraine, with action plans concerning the energy sector. The Commission sees the policy as a possible way of regulating the conditions affecting the flow of gas into Europe.

The limits to the effectiveness of this international approach are all too apparent with a country such as Russia which is still a traditional power, deploys diplomacy backed by force to reassert its influence in its "near abroad" and is determined to use its energy resources to exert geopolitical influence. Russia does not accept the idea of aligning its legislation with the market rules advocated by the EU and other international bodies such as the International Monetary Fund. The parties are completely at cross purposes, when Russia demands complete freedom to take control of gas companies in European countries and the Commission replies that such takeovers would be entirely acceptable providing Russia brought the rules governing its gas industry into line with the principles for open access to its infrastructures and resources, and ratified the Energy Charter². Things are no better when Russia emphasises the

² See the letter from the European Commission, dated 2 May 2006, to the Russian minister of economy quoted in *Financial Times*, 4 May 2006.

merits of mutualising the interests of the various parties by exchanging distribution assets in Europe for gas production assets on a bilateral basis, as it has done with various European companies.

Given Russia's refusal to accept this multilateral regime the dominant position in the European market of a company controlled by the Russian state inevitably makes supplies from Russia a political issue, prompting fears as to the instability of long-term contracts. Political tension is exacerbated by the fact that the break-up of the Soviet Union increased the number of transit countries and raised the political and commercial risks involved in purchasing gas from this part of the world. To make matters worse the transit countries that have not yet been integrated in the EU are not in a position to make any credible commitments and run the risk of conflict with Moscow.

The Russian idea that it can use its energy riches to achieve power is an integral part of a world primarily based on a balance of diplomatic and military power, in which American unilateralism holds sway, and political and regional blocks compete (Correlje and van der Linde, 2006). It is a world that will make it difficult for integrated world markets to emerge or maintain themselves. It is a world that leaves little room for the European approach based on integration through the market and a multilateral attitude to international relations. It is a world in which national and international security issues and military conflicts, bilateralism and excessive regionalism prevent international economic integration rooted in overall regulation of the flow of goods, capital and labour. Russia is trying to take advantage of, and even encourage, this international power game in pursuance of its imperial past. In the gas market it is adopting this approach to European countries by refusing multilateralism. It is easy for it to play on the weaknesses of the EU, a power without any real diplomatic or military resources. It can adopt a bilateral approach, dealing directly with dominant European states and major national companies. Understandably, the question that the EU is asking is whether it should not be setting up a real supranational power to govern energy relations, and primarily to balance the market power of the Russian seller and jointly negotiate gas contracts. But to find an answer we need to establish how real the threat of market power is for the European gas market.

3. Russian dependence on exports to Europe

Russia is the main supplier of Europe and more particularly the European Union. In 2005 its exports to this zone (excluding CIS and Baltic countries) amounted to 154 Bcm per year (Giga or billion cubic metres] of which 126 Bcm for the EU (excluding Baltic countries), or nearly 90% of its total gas exports. Given the current state of its infrastructure and the terms of sale for its gas on the various markets (Russia, CIS and Europe) between now and 2020, Europe will remain Russia's main, perhaps only export market, a situation reflected in the main targets it has set for its gas exports. According to the long-term Energy Plan of 2003 (Mintopenergo, 2003), total exports will rise from 217 Bcm in 2000, of which 60% for Europe, to 245-275 Bcm by 2010, of which 71% for Europe, then 270-275 Bcm by 2020, of which 74% for Europe.

3.1. The economic stakes for sales to the European market

Thanks to its monopoly of the network and export, Gazprom is the only operator handling gas exports to Europe. Its control over exports in Europe is essential due to the terms affecting

domestic tariffs. The high cost of developing exports to other markets limits its prospects of diversification. Exports account for almost 70% of Gazprom revenue, whereas they represented just under 30% of production. Similarly they are a vital source of funding for the Russian state budget. Exports are an essential factor in Gazprom's profitability and its ability to fund investments in line with its various objectives: diversification into oil, international growth, and, of course, development of production and transport infrastructure. Revenue from sales to a largely administered domestic market (with regulated prices and quotas) is not sufficient to generate the cashflow required to develop production and infrastructure. Despite increases in recent years domestic gas prices are still under-valued compared with Gazprom's estimated production costs and they are important cross subsidies from export revenues to the Russian consumers. Despite a significant drop in the number of unpaid gas bills, compared with the 1990s³, various segments of the domestic market are still not profitable (Tarr et Thomson, 2004 ; Ahrend et Tompson, 2004). The difference between domestic and export prices is considerable: the relative level of Russian domestic prices (€40 to €50 per 1,000 m³ in 2005 and 2006 for industry, and much less for households) was five or six times lower than export prices in 2006 due to the steep rise in the price of exported gas from €150 to €250 per 1,000 m³, because gas prices are linked to oil prices in export contracts.

- *The constraints affecting diversification into other regional markets*

Gazprom and the Russian government make no secret of their plans to diversify into exports to various countries in eastern Asia and the United States, thus putting an end to dependence on the European market. This determination, which would coincide with a shift in production to the east fits into the framework of future development of the international gas market characterised by the gradual emergence of China and India as major importers. The US would also be part of this trend. It is already faced with declining output and imports 20% of the gas it consumes. The Russian government aims to direct a third of exports to the Asian market by 2010, but this can only be a long-term strategy given the constraints affecting development of new gas fields and installation of the infrastructure required to serve new markets. The first step in this new departure is development of production on the Sakhalin 1 and 2 fields in the Russian far-east, scheduled to start in 2007. Output will be directed (in the form of liquid natural gas in the case of Sakhalin 2) to markets in Japan, South Korea and perhaps China. The project started 10 years ago, without Gazprom, as part of agreements to share production with the large foreign companies (Shell, Exxon) who have the necessary technology. But this prompted Gazprom to try to buy its way into Sakhalin 2 and Zapolarnoye fields, through an exchange of equity between Shell and Gazprom. The Russian government exerted pressure to promote this move, querying licence agreements on the grounds of failure to comply with environmental rules. In December Shell has sold 27.5 % to Gazprom. The percentage is 12.5 % for Mitsui and 10 % for Mitsubishi. A very similar plan emerged to gain a foothold in the Kovykta field in central Siberia, currently under development by TNK-BP. This time pressure took the form of allegations of tax evasion.

For the strategy of expansion into Asian markets to be effective, several conditions need to be fulfilled. First, gas pipelines will need to be developed to cover very long distances from the fields in eastern Siberia and the far-east. For operations targeting China and perhaps South Korea, the most suitable sequence would be to start by developing the Kovykta field, near Irkutsk, then, further northeast, the fields in the Sakha Republic (Chayandinskoye, Talakanskoye), which could be connected to the gas pipeline scheduled to be built from

³ Non-payments for domestic sales have dropped steeply compared with 1999, when monetary payments only represented 18.5% of Gazprom's domestic sales.

central Siberia to China (Boussena et alii, chap. 4, 2006). However the fact that Gazprom was not currently involved in the development of the gas fields of eastern Siberia could encourage the development of a pipeline from the gas fields of western Siberia (Altai project)⁴. But, as recent events have shown, Gazprom is clearly keen to increase its margin for manoeuvre. Secondly, this strategy involves substantial, risk-prone financial commitments, given the considerable uncertainty still affecting the development of gas consumption in China⁵. Lastly, in any realistic scenario, the constraints associated with building the pipelines and developing the gas fields associated with the first major contract would push back the first deliveries to beyond 2020, always assuming a positive outcome to negotiations before 2010 (Stern, 2005, p.168). This will undoubtedly be the case for completion of the letter of intention signed in March 2006 by the Russian and Chinese governments, covering the delivery of 30 to 40 Bcm a year of Russian gas from the fields of western Siberia, there still being many details, in particular gas tariffs, that need to be settled (PIW, 27 mars 2006).

The development of LNG exports, as yet absent from Gazprom policy, is the only way of really achieving the objective of market diversification in the medium term. This was what was planned for exports to the US market from the giant Shtokman field in the Barents Sea, but in October 2006 Gazprom fell back on a project involving exports via a gas pipeline to the European market. However, developing sales of LNG means deploying technology that demands considerable investment, added to which it is a new departure for Gazprom and time-consuming to deploy. It necessitates a partnership with large companies capable of providing the technology and capital to develop the field itself and the infrastructure. Gazprom planned to do this by forming a consortium, with US (ConocoPhillips and Chevron), Norwegian (Norsk Hydro and Statoil) and French (Total) firms competing to join.

3.2. Adapting to the priority of European sales

The priority given to European sales obliged Gazprom to escape the transit monopoly of the Ukraine transit route and adopt a different approach to sales, hitherto covered only by long-term contracts with national gas companies. The change of approach was due to liberalisation of the European market, opening up new sales opportunities. The importance of European sales also prompted Gazprom to adopt a more flexible approach to the development of new production ventures, marking a departure from the Soviet tendency to maximise volume.

- *Adapting export and transit infrastructure to suit the European priority*

The importance of the European market justified a major drive to secure export routes. Dislocation of the Soviet Union and the Comecon⁶ upset the operation of the export system (Soyuz and Euro-Siberian gas pipelines), which all passed through Ukraine in 1989, before entering what was then Czechoslovakia. The Soviet republics have gained their independence since, and the Comecon countries, some of which were, or have become, transit countries (Slovakia, which concentrated all the gas passing through Ukraine, the Czech Republic and Poland), are no longer part of the Russian sphere of influence. Russia quickly doubled up the transit routes to Europe with the Yamal 1 gas pipeline which crosses Belarus and Poland. Gazprom is still increasing transport capacity (currently about 145 Gm³ per year) by

⁴ Development licenses for gas fields in Eastern Siberia are currently controlled by Russian oil companies, in particular BP-TNK, as regards the Kovykta field.

⁵ Such development is limited, in industry by prices that give coal the advantage, and in households by the inadequacy of the urban distribution network, unable to support sustained market penetration by natural gas.

⁶ The Comecon (Council for Mutual Economic Assistance) organised the Soviet Union's economic relations with countries with control economies in central and eastern Europe.

diversifying export channels. This process has been consolidated with the commissioning of the Blue Stream pipeline under the Black Sea to Turkey. Plans for an extension into southern Europe, Greece and Italy are taking shape. The last element in the diversification process will be completed by 2010, with the Nordstream (former North European Gas Pipeline) under the Baltic to Germany⁷. It follows an agreement signed in 2005 between Gazprom, BASF and E.ON and will be the first direct channel to Europe, doing without the need to pass through other countries. Mention should also be made of the Yamal 2 project, which will double up Yamal 1, enabling Russia to increase transport capacity from 66 to 77 Bcm per year. In Belarus and Ukraine, where the stakes are high with relations subject to considerable political pressure, Gazprom has tried to negotiate cancellation of debts incurred for past gas purchases, in exchange for a majority share in the pipeline operator. It achieved partially this end in its dispute with Belarus in 2004, but failed in the case of Ukraine in 2005 and 2006⁸ (Stern, 2006).

- *A strategy of downstream diversification*

To maintain its outlets in national markets now open to competition and take a larger share of gas revenue, Gazprom has consolidated the strategy of downstream diversification, which it has been developing since the 1990s (Locatelli and Quast, 1997). This strategy is based on setting up marketing subsidiaries, purchasing shares in local companies and forming joint ventures with national partners in transport, distribution and trading. In the middle of the 1990s Gazprom started Wingas in Germany, a joint venture with BASF-Wintershall, to transport gas and sell it directly. This enabled it to take a 13% share of the wholesale market.

Table 1: Main Gazprom acquisitions in downstream activities in the various European markets

Table 1 bis: Continued downstream diversification by Gazprom through framework agreements signed in 2006

Since then Gazprom has moved into the new EU member states – former Soviet republics (Baltic countries) or ex-Comecon (Poland, Hungary, Czech and Slovak Republics) – taking advantage of privatisation of the gas industry. Its objective is clearly to maintain its outlets in countries that are heavily dependent on its gas. It is now using the same strategy to attack the large European markets, attempting to gain control of major national or regional distributors, as demonstrated by its interest in Centrica or Scottish Power in the United Kingdom in 2006. It may be interested in taking a share in Distrigaz, of Belgium, and strengthening its position in Germany, by buying out local distributors. It is building alliances by swapping assets in sales or distribution, on the one hand, and production, on the other. For instance, the agreement signed in 2006 between BASF and Gazprom will give the former a 25% share in

⁷ The cost of this route, almost twice that of land-based options (Yamal 2, refurbishing and enlarging the gas pipeline through Ukraine) is the price to pay for independence. To build the pipeline Gazprom, BASF and E.ON set up a joint venture, 51% of which is owned by Gazprom. Gasunie will also be taking a share. The first 27 Bcm a year slice should open in 2010. The pipeline should carry a third of Russian exports to Europe, with capacity culminating at 55 Bcm a year by 2015.

⁸ Agreement on a consortium involving Gazprom and the Ukrainian state company Naftogaz with possible participation by German companies to manage and refurbish the gas network crossing Ukraine was reached before the Orange revolution, but has been queried since, constituting a major factor in the dispute between Russia and Ukraine in late 2005 and early 2006.

the large Yuzhno-Russkoye gas field in exchange for consolidation of the latter's position in Wingas (share rising from 35% to 50%) and in a marketing company, WIEH. Gazprom is pursuing similar ends through its framework agreement with E.ON-Ruhrigas of July 2006 and the agreement with ENI which provides for direct sales of 3 Bcm per year by 2010, and scope for Gazprom eventually to take a 10% share in ENIpower.

- *An adaptable production strategy in line with the European priority*

Consumer countries, and in particular the International Energy Agency (IEA, 2006), have questioned Russia and Gazprom about future growth in gas production and its ability, beyond 2010, to fulfil its export commitments at the level announced in the long-term Energy Plan of 2003. Russian production alone might not be sufficient to cover the contracts signed for exports to Europe and the CIS after 2010. Its reserves are not in doubt, but Gazprom seems to be dragging its feet before developing new gas fields, in particularly the Yamal field, whereas the three large reserves of Medevhze, Urengoy and Yamburg, which entered production under the Soviet Union are reaching their peak and will soon start to decline. Independent producers currently account for 14% of production (90 Bcm), but there is little incentive for them to invest, with no prospect of adequate profits. Existing legislation, including Gazprom's export monopoly, excludes them from direct access to foreign markets. Similarly Gazprom's monopoly of the transport network prevents them from selling to the domestic market because of the discretionary conditions of access to networks for third party. They consequently have no option but to sell their production to Gazprom, at regulated domestic tariffs. The only alternative is to negotiate with Gazprom for use of the transport network, selling their production on the "free" gas markets where the tariffs are in any case lower than on the export market.

The problem for the development of production may consequently be summarised as follows. Three new fields – Zaporlarnoye, Pestovoye and Tarkosalinskoye – have already been developed. As satellites of the three "super-giants" they can easily be connected to the existing infrastructure. Up to 2009-10 the new fields will compensate for the projected decline in output from the super-giants. But beyond that date the prospects are less clear. If Gazprom wants to maintain its current level of production (547 Bcm), it will need to add new production capacity equivalent to 70 Bcm by 2015, and 180 Bcm by 2020 (Stern, 2005). At present Gazprom is only allocating 30% of its investments to developing production⁹. The company has recently provided a timetable for the start of production on the Yamal fields only for Bovanenkovskoe in 2011 (Gas Matters, November 2006).

Gazprom has cited contingent uncertainties to explain its delay investing in the development of gas fields earmarked to supply the European market. The first type of uncertainty, which is debatable given the means at Gazprom's disposal, relates to liberalisation of its main export market. The long-term contracts signed in the 1980s are drawing to an end, whereas market liberalisation in Europe is, it claims, creating more instability regarding outlets. The liberalisation implies short contracts. And if spot market prices become the base price for these contracts, the price clause would provide less scope for risk management than with the current arrangement under which prices are linked to oil prices. Gazprom will undoubtedly succeed in signing new long-term contracts with the big national operators, along the lines of the contract signed with E.ON, ENI and GDF at the end of 2006. But it still considers that on

⁹ According to data provided by Gazprom, the proportion of its investments devoted to production actually dropped from 31% in 2002 to 28% in 2004.

the whole liberalisation is reducing the guarantee of long-term outlets and, by the same token, predictable prices.

The second type of uncertainty concerns the prospects for demand by the domestic market, which will depend on future reforms. As explained above the domestic market remains largely subject to the ruling of a command economy, governed by controlled low gas prices. It is consequently necessary to manage supplies on the basis of quotas negotiated directly between Gazprom and major consumers. A significant increase in domestic prices could substantially slow growth in demand and provide additional capacity for exports without a massive increase in production. Furthermore higher domestic prices could encourage independent producers and Russian oil companies with significant reserves to boost output. Taking just the oil companies, gas production could reach 150 to 270 Bcm by 2020, according to Gazprom quoted by IEA, 2004. If this was the case, in the medium term, the large-scale development of provinces such as Yamal might not be justified, to prevent creating a gas glut.

However Gazprom's decision to delay investment could be interpreted as a display of dominant market power. With respect to the European markets, to run up against the limits of what it is capable of exporting to Europe, due to insufficient investment, would make it easier to maintain high prices on the spot markets and in new contracts. We shall discuss below the effectiveness of such a strategy, assuming it is intentional.

But is it intentional? Gazprom has at its disposal two variables on which it can play to meet its contractual commitments with regard to the European market and to attempt to boost sales: it can resort to cheap supplies from countries in Central Asia; and it can restrict deliveries to domestic markets, either by raising its prices or by limiting supplies on a basis negotiated with large consumers.

In the first case Gazprom has opted to make massive purchases of cheap gas from the countries of Central Asia (Kazakhstan, Turkmenistan, Uzbekistan), partly to cater for domestic demand, partly to meet its contractual commitments to the export market. By maintaining its monopoly control over its transport network, it can also keep its monopoly over purchases for resale to countries wishing to buy gas directly from Central Asian countries. In 2003, to sell less Russian gas to Ukraine, Gazprom allowed the latter to make an agreement with Turkmenistan, with the gas company acting as a go-between for purchase and resale. The subsequent contract, agreed with Turkmenistan in 2005, marks the start of this strategy. Imports from this zone are set to grow very fast, climbing from 19 Bcm in 2005 to 90 Bcm in 2007. The other two countries (Kazakhstan, Uzbekistan) could soon be exporting the same amount to Russia (Hubert and Ikonnikova, 2003). Purchases of 150 Bcm by Russia in 2010, an estimate provided by J.Stern (2005) are close to the current level of exports to Europe¹⁰. They could enable the start of production on new gas fields demanding considerable investment to be deferred. For this strategy to succeed, Gazprom must retain its

¹⁰ It may be noted in passing that alongside this strategy of supporting production in the Caspian area to maintain and expand sales to European markets, Gazprom is developing a new strategy of alliances with other companies in gas producing countries to develop gas fields there with a view to supplying European markets that are particularly far from Russia. This is one of the objectives of the framework agreement signed in August 2006 by Gazprom and Sonatrach. It provides for joint or separate development of gas fields in Algeria, as permitted by new legislation introduced there in 2004. The aim would be honour Gazprom's contractual commitments for instance for eventual sales to large buyers in Spain, which is the country furthest from Russia. In October 2006 Gazprom signed a protocol of agreement with the Spanish oil company Repsol, covering joint developments outside Spain, with the same objective.

monopoly control over access to its transport and transit network, and over the export routes from Central Asia, maintaining its monopoly of the purchase and resale of Caspian gas. However the projected Nabucco scheme, with a pipeline running from the border of Turkmenistan, through Turkey, and into the Balkans and Central Europe threatens this monopoly. The same is true of the South Caucasus Pipeline (SCP), crossing Azerbaijan, Georgia and Turkey (Erzerum), which would link up with the projected TransCaspian Gas Pipeline (under the Caspian). Russian foreign policy is seeking closer economic ties with these countries on account of the stakes for gas and energy. Russian diplomacy and Gazprom have not neglected Turkey either, in the hope of persuading it not to build alternative infrastructure for the transit of gas exports from the Caspian to Europe. This may culminate in the project to increase the capacity of the Blue Stream gas pipeline under the Black Sea. However Gazprom's strategy of relying, for the long term, on purchases of cheap gas from the Central Asian republics involves economic risks. The countries themselves may try to achieve revenue comparable to what Gazprom earns from its exports to the EU and, increasingly, to the CIS. In July 2006 Kazakhstan succeeded in obtaining a tariff of \$140 per 1,000 m³ for its deliveries, and since October 2006 Turkmenistan has been demanding a similar tariff (Stern, 2006).

The second way Gazprom can gain greater margin for manoeuvre is by playing on the amounts it delivers to the domestic market. So far it has always refused to arbitrate against the interests of its home market, which it considers a priority. However, as J.Stern (2006) points out, setting aside households, Gazprom could make a number of adjustments for supplies to large industrial buyers and the electricity sector, if this was necessary to fulfil its contractual commitments. The low price of gas on the domestic market (\$43 per 1,000 m³ in 2005) encourages low efficiency and sustained growth in demand, particularly for electricity production. Gazprom should develop a policy of negotiated rationing to control the amounts delivered and encourage large buyers to obtain supplies from the small free market, at much higher prices.

4. The risk of Gazprom's market power for the European market

Liberalisation of the European gas market also makes it easier for gas and oil companies in third countries to increase their market share – just as true for Sonatrach and Statoil as for Gazprom. Liberalisation gives them direct access to spot markets and the electricity generation market, to large industrial consumers and distributors. Gas and oil companies may also try to take control of, or purchase a share in, national and regional distributors, with a view to developing direct sales, as Russian oil companies are doing in distribution. Gazprom is trying to develop its position downstream to gain access to end users, in particular in the United Kingdom, Belgium and Sweden, where it had no contracts with the national gas company. It is proceeding along similar lines in France, Italy and Austria, despite its links with the national company, with large contracts either already in force or currently being renegotiated¹¹. One of its objectives is to corner a larger share of gas revenues.

But Gazprom's dominant position on the European gas market, amplified by its monopoly over sales in countries close to Russia, is giving rise to concern. The Ukrainian crisis at the beginning of 2006 scared governments, highlighting the political risk of energy dependence. They are now concerned about the risk of Gazprom controlling prices throughout the

¹¹ In the United Kingdom Gazprom is targeting more than 10% direct share of the market by 2010, rising to 20% by 2015.

European market and the additional risk associated with the Russian conglomerate's downstream diversification through direct sales or the purchase of distributors. Their concern is fuelled by Gazprom's one-sided approach and its refusal to comply with free-market regulations, opening access to the Gazprom network and independent producers. The asymmetry has become all the more apparent since the start of the shake-up in the oil and gas industry in 2005 and the threat of expropriation affecting gas assets belonging to international firms in Russia. We shall start by looking in greater detail at various aspects of the risks associated with Gazprom's market power, as highlighted by European critics, and then discuss them one by one.

4.1. The dominant view of the risk associated with Russian gas

Gazprom already occupies a dominant position in EU markets with a 33% share of imports and a 25% share of total consumption in 2005 (EC, Green Paper, 2006). It enjoys a quasi-monopoly in Finland and ex-Comecon countries. Its market share is likely to increase in the future. European forecasts indicate that its share of imports will have risen to 50% by 2020, with a 35% share of consumption. Growth in Russian supplies is necessary to satisfy rising demand in the EU, alongside scope for growth in sales of Norwegian and Algerian gas, each expected to expand by 40 Bcm (Boussena et al., 2006), and the arrival of new supplies of LNG from other parts of Europe. The capacity of the LNG terminals that could be built and commissioned by 2012 is estimated to amount to 110 Bcm (Chabrelié, 2006).

Table 2: Degree of Russian gas dependence of European Union countries in 2005

There are two levels to the analysis of the economic risk presented by Gazprom's market power: first, the risk of it using its monopoly position to reduce supply in the short and long term; second, the risk of an industrial strategy to encircle and partition the European market.

- *Monopoly strategies*

Forecasts of how Gazprom will use its market power are based on an idealised picture of the future European market, organised around short-term markets in which Gazprom would be able to raise its prices by cutting back supply. The equilibrium structure of the market would be dominated by spot purchases on gas exchanges accounting for more than 20% of physical sales and by short or medium-term contracts, with a maximum duration of 10 years, rather than the present-day 20 to 25-year contracts¹². On account of its particular liquidity, the price on the spot market would be the indexation price in forward contracts. The spot market would be organised around a few well developed hubs in northern and southern Europe (the NBP in the UK, Zeebrugge in Belgium, Emdem on the border between Holland and Germany, etc.). Much as the Organisation of Petroleum Exporting Countries can control the price of oil by controlling output, in the short term, Gazprom will be able to do the same, in coordination with the other major sellers, by cutting the short-term supply (see, for example, Sagen et Tsygankova, 2006). In the longer term its hesitation before developing super-giant gas fields and the threat of developing the means to export production to other potentially large markets

¹² This is the view defended by the European Commission, many consultants and a majority of academics in their analysis of the consequences of Gazprom's market power, presenting various models of an oligopoly (see for instance Golombek, 1995; Boots and al., 2003 ; Newmann and Hirschausen, 2004 ; Sagen and Tsygankova, 2006). At first sight this view is understandable, corresponding to what has occurred in North American and British markets. Their experience of liberalisation showed that existing contracts were queried and that contractual prices were indexed on spot market prices, in keeping with a rationale of gas-to-gas competition, the spot markets being sufficiently liquid to limit the volatility of prices and keep spot and future price trends legible.

brandished by the Russian market clearly reflects plans to control prices. The Russian government is refusing to adopt free-market regulations because it wants to be able to control independent producers and prevent European and other foreign firms from becoming involved in production. It can thus retain control over production and exports.

- *Encircling and partitioning national markets*

According to the dominant view of the risk associated with Gazprom's market power, the closer links between seller countries that the firm instigated in 2000, under the name of Forum of Gas Exporters Countries represents the threat of the various parties forming a cartel with economic clout comparable to that of OPEC. Gazprom could act as a swing producer keeping prices at a particular level by reducing supply, as Saudi Arabia does for oil. In this respect the alliance with Sonatrach that Gazprom sealed in August 2006 and confirmed in January 2007 may be seen as the start of a cartel involving the EU's two main foreign sellers (33% and 15% of European imports, respectively), even if its content is vague and the projected ventures cover very limited stakes, much as those involving large international oil companies. In the same vein, there will be greater scope for Gazprom to use its market power if it can increase direct involvement in national markets and break the European market into separate units. This strategy would enable it to control output to isolated markets, pushing industrial prices up on markets in which it enjoys a dominant position. The most alarmist commentators suggest that Gazprom could take advantage of its monopoly to terminate contracts unilaterally and impose more favourable terms for tariffs and volumes. A case in point is its treatment of CIS countries where, since 2005, it has drastically increased prices, first in Ukraine and Georgia, then in other countries, threatening on each occasion to stop deliveries.

According to this analysis, the Russian government is in a position to dictate its own rules to European countries, enabling it to develop its downstream activities by purchasing distribution and sales assets, while refusing deregulated access to Gazprom's gas resources and networks. Moscow is promoting an unbalanced situation, on the one hand protecting its outlets by taking control of distribution and sales assets in European countries, and on the other hand ceasing shares in developing gas fields in an apparently balanced deal, while it will entirely control their rate of development. Similarly European countries may be seen to be reducing their bargaining power by leaving the large national gas firms to negotiate with Gazprom, one by one.

4.2. Finding a balance between Gazprom's market power and effective competitive forces

We shall discuss these different aspects by distinguishing between the risk associated with Gazprom's short-term market power and the long-term risk associated with a strategy of restricting investment in order to create scarcity.

- *The short-term risk associated with market power*

The analysis which identifies the risk that Gazprom might easily exercise its market power by controlling supply on the short-term market is based on the assumption that the European market is going to be dominated by spot sales or short-term transactions. Logically therefore, Gazprom would have to develop its spot transactions in order to gain more effective control over prices. But this assumption is debatable and largely ignores the forms of long term competition that prevail and will prevail on the European gas market, despite the fact that the 1998 and 2003 directives on gas market liberalisation are bringing changes to regulations that will encourage shorter, more flexible contracts and the development of short-term spot market transactions.

But to date there has been no rapid expansion of spot markets, with the exception of the UK market. Spot trading accounts for only 4 to 5% of physical transactions on the continental market. There are first of all historical reasons for this, namely the existence of long-term contracts signed before the reforms and the extremely small proportion of non-contracted or free-market gas. Even though the contracts signed in Europe since the directives were implemented include agreements drawn up for periods of five to eight years, these agreements concern production capacity that is already in place (Neumann et Hirschausen, 2004 ; Finon, 2004). The European Commission, aiming for effective competition based on a large spot market and short-term transactions at prices aligned with spot prices, wanted to limit the duration of contracts as well as rectify existing long-term contracts, which are regarded as barriers to entry, even in the case of contracts with sellers outside the European regulatory space. A lengthy debate ensued between the European Commission on one side and Russia and Algeria on the other. A compromise was reached solely on the removal of the final destination clause.

Behind the desire to preserve contracts, there is another decisive factor in the form of the constraints affecting any large-scale operations to develop reserves and create transmission infrastructures, which cannot be undertaken without the protection of long-term contracts where the risks are shared between the parties. New import operations are in fact quite necessarily conducted within a framework of contracts lasting at least 15 to 20 years, since investors are unwilling to invest without the guarantee of the outlets and prices provided by such contracts. The European market is and will continue to be dominated by long-term contracts, while spot transactions and short-term contracts of one or two years will remain ways of adjustment of commercial flows.

Box 1: Long-term contracts: preferred form of gas marketing

In the past, gas has generally been sold in the framework of long-term contracts linked to the development of particular reserves and their associated transit infrastructures. Through clauses that share the risks equally between buyer and seller, these contracts have provided the Russian vendor with the guarantee of stable gas revenues enabling it to make massive investments in developing deposits in western Siberia and in building a network of long-distance gas pipelines to Europe.

The Take or Pay clause guarantees payment for a particular volume of gas, irrespective of whether or not it is delivered to the buyer.

The price indexation clause aligns the price with that of rival petroleum products according to the netback principle and indexes changes to the price of petroleum products on the buyer's market. It is therefore producers who bear the price risk. Remember that the price paid by the importing company at the border is calculated by subtracting transportation and transit costs from the final market value of the gas on that particular import market. The border price of Russian gas sold under long-term contracts is thus country-specific, justifying why it should not be resold on markets in transit countries.

A final destination clause is added restricting the right of the buyer to resell any of the contracted gas in transit countries or on other national markets.

The most likely scenario, given the limited number of producers and the diminishing resources of the EU countries, is that spot markets will continue to play a minor role and gas sales will be dominated by long-term contracts with prices calculated and indexed on the basis of the price of crude oil and petroleum products, with very few exceptions. Given the insufficient liquidity of spot markets, it is unlikely that spot prices will be used in the foreseeable future as a benchmark for pricing contracted gas. It is reckoned that spot trading would have to account for 20% of physical transactions negotiated on this market before spot

prices can be used as a reference for setting contract prices, as happened in the US and the United Kingdom (IEA, 2002).

It is against the backdrop of this future scenario that Gazprom's contract sales strategy for the coming years should be considered. The classic dilemma of a dominant seller is to find the right balance between prices and volumes. A strategy of capturing market shares through spot trading and direct sales might be likely to pull spot prices downwards. Gazprom may be interested in spot sales or short-term sales such as those negotiated on the UK market in 2003 (for close to 4 billion m³). But such transactions are motivated more by a desire to seize the opportunity of selling when prices are more favourable, for example when spot prices are higher than contract prices. They cannot be used as the main basis of a strategy. First, such sales can only concern production capacity in place (Stern, 2004). Second, if Gazprom's short-term sales are too high, they could upset the current balance between marginal spot markets and long-term contracts by encouraging the consolidation of European spot trading and the credibilisation of hubs as reference markets. Such transactions could also pull spot prices down and lead to renegotiation of contracted oil-indexed prices, bearing in mind that oil prices are likely to remain high over the next few decades (IEA, World Energy Outlook, 2005). Furthermore, new contracts would be drawn up by taking the short-term price as the base price and abandoning the oil price indexation clause that currently enable producers to anticipate revenues and better manage their risks.

An analysis of Gazprom's contract strategy reveals that the Russian producer's priority is to maintain its current long-term contracts and sign new ones, while making no attempt to capitalise on the new characteristics of the market by aggressively pursuing short-term sales (Komarov, 2004). Direct sales are only a secondary element in its overall strategy. Gazprom's managers have on numerous occasions reiterated their preference for long-term contracts and defended existing contracts queried by the European Commission. In the future, most of Gazprom's exports will continue to be sold through long-term contracts, most probably of shorter duration than in the past (for example 15 years instead of 25), even though in 2006 a number of national operators (E.ON-Ruhrigas, OMV, ENI, GDF) did not hesitate to enter into 30-year agreements with the Russian giant.

It can be deduced that the risk of Gazprom using current contracts as an instrument of blackmail is very limited and that the risk of exercising market power in short-term sales will be reduced. For the first type of risk, if the Russian vendor starts to query its long-term contracts in order to obtain better prices without respecting the renegotiation conditions normally provided for in the contracts or to retaliate on behalf of the Russian state against a particular country, its credibility as a contracting party will be totally lost to the advantage of its competitors. However, there are no instances of the (formerly Soviet) Russian party forcing the renegotiation of European contracts or intentionally disrupting deliveries to western European markets since the Russian producer is fully aware that it is not in its interest to jeopardise its contractual credibility on these markets.

For the second type of risk, as demonstrated in the theoretical literature concerning the relation between contract types and collusion (see in particular Allaz and Vila, 1993), forward trading alongside spot trading enhances market competition for two reasons. First, the less producers operate through direct sales on the spot market, the less they are tempted to cut back production to push spot prices upwards and the less likelihood there will be of excessive price volatility. Second, knowing that oil prices are destined to remain high for some considerable time, the major sellers have nothing to gain from collusion. Strategies to restrict

short-term supply would hardly provide them with any additional advantages. Furthermore, if the Russian giant were to play a role of swing producer in the sellers' oligopoly by restricting supplies to the European market to force up spot and contract prices, it would quickly be called to order by the threat of competition, in particular from LNG projects backed by gas and oil companies and from gas made available thanks to the projected pipelines from the Caspian basin.

- *Risk of market power in direct sales*

The aim of Gazprom's direct sales strategy is to capture the profit margins that go to retailers downstream. Gas sold to a large operator at a border price of €200-230 /1,000 m³, which was the price in 2006, would be bought by an industrial consumer from this operator for €400-450 /1,000m³. There are two reasons for this price difference: first, the high transmission, distribution and storage costs, which are often regulated somewhat generously by the regulator to encourage investment; and second, ultimate final margins which depend on the intensity of competition on the market in question¹³.

A foreign producer who does not have transmission, distribution or storage assets should not underestimate the cost of transporting, storing and distributing gas. For example, in Germany the estimated average price for transmission and distribution paid by a gas marketer to the transporter and distributor is between €100 and €130 /1,000m³ for a delivery of 0.1 million m³ to a commercial customer and up to 38€1,000 m³ for an annual delivery of 25 million m³ to an industrial customer (EC, Benchmarking 2004, p.48). Foreign producers therefore have a lot more to gain by taking over or forming alliances with existing suppliers and distributors. They can then extract value from gas transmission and distribution, which are regulated activities with guaranteed profits and an aspect of the value chain that should not be under-estimated. Through such strategies foreign producers can also benefit from the very limited local competition in direct sales to industrial and residential consumers, given that demand is less sensitive to price fluctuations in this market.

Gazprom's experience in selling directly on the German market is interesting. Initially, the company's revenues dropped for equivalent volumes sold, due to falling wholesale prices with the introduction of competition. But this loss was more than offset by profits made from retail sales to industry and from transmission activities¹⁴. Subsequently, profits increased when Wingas shared the market with other regional sellers under the demarcation agreements that legally governed the German gas industry until 2000. After the opening-up of the German market in 1988, foreclosure resulting from high access charges practised by the major regional transport and retail companies dissuaded foreign sellers from entering the market and made it easier to keep selling prices high.

¹³ Certain intensely competitive national markets likely to be coveted by Gazprom, such as the UK market, are less profitable than others such as Germany and Italy in the industrial segment, as shown in the European Commission's recent survey of profit margins.

¹⁴ Wingas was created in 1994 to build long-distance gas pipelines (investment of €2.5 billion) and branches to transport Russian gas to Germany and sell it directly to local distributors and certain large industrial customers. The entry of this joint venture onto the market did not have any profound effect on Ruhrgas which purchased 40% of its gas from Russia. Its market share remained unchanged since Wingas initially supplied buyers, mainly distributors on the new East German market. In order to capture market shares Wingas had to reduce the wholesale prices charged to distributors and consequently prices charged by Gazprom to Wingas had to be lowered.

This experience suggests that Gazprom's direct involvement in a market can have the opposite effect to what might be feared. There could then be a return to the earlier situation of collusion - but this is where the energy regulator should step in. Gazprom's direct presence should in fact present less risk of market power in sales to end users than current situations where markets are dominated by incumbent suppliers. Nevertheless, this beneficial effect on competition will only be felt if Gazprom's partner or the company it is taking over is not the dominant operator. Gazprom certainly cannot shut its competitors out of the German market with the 13% share of the market held by Wingas. It would be quite a different story if Gazprom entered a market by taking over the dominant national operator. The risk of monopoly power developing on the markets concerned would certainly not be negligible, given that Gazprom could benefit from its vertical integration to deter others from entering.

- *The risk of agreement between producing countries*

If we imagine a gas market structured in such a way that prices could be controlled by volume in the short and long term, a policy to cut back production would be more costly to implement than in the oil sector, since the gas industry has higher fixed costs. Consequently, if Russia wants to become the swing producer in the European gas market following the example of Saudi Arabia in OPEC it will not have the same room to manoeuvre on gas costs as Saudi Arabia does on its oil production costs. Such an eventuality is therefore highly unlikely.

Furthermore, the possibility of reaching agreement on volumes and prices is considerably limited by the widely varying interests of the major sellers (companies in gas producing countries, oil companies). Norway fully subscribes to the competitive rules of the EU in its economic partnership agreement, its public export monopoly having been abolished. Algeria has just adopted a law liberalising access to the country's resources and pipelines that necessarily limits its control over gas exports to foreign markets. The international gas and oil companies operating in the gas sector in countries that export to Europe (Egypt, Nigeria, Qatar, Trinidad, etc.) would have to be party to any agreement to form a cartel in order to guarantee its effectiveness. But they would never subject their long-term gas strategies to the decisions made in the context of agreements managed by producer states.

- *The risk of restricting investment in increased capacity for the European market*

The theoretical literature on market power exercised by restricting the development of capacity shows how, through a two-stage process involving a decision to invest followed by a decision to produce a specific capacity, companies can be better off developing less capacity, despite having fewer outlets due to reduced demand caused by higher prices (Murphy et Smeers, 2005). In the European gas market, questions might indeed be raised about Gazprom's cautious approach to investing in the development of giant gas fields. Aside from the concrete explanations outlined above (uncertainty regarding outlets in the face of competition, the threat from Caspian gas, and possible cuts in gas delivery quotas), some commentators believe that Gazprom's strategy of caution is aimed at keeping export market prices high (IEA, 2006). Following this same line of reasoning, Gazprom could play off projects to supply the large Asian and North American markets against European supply projects, as it threatened to do early in 2006 when certain European governments were reluctant to allow it to purchase national companies¹⁵. This possibility certainly cannot be ruled out, particularly since one of its options for developing exports to the Chinese market is to link up the eastern and western Siberian gas fields to the future export pipelines to China

¹⁵.D. Medvedev, Moscow Times, June 23, 2006

and to Gazprom's western pipeline system. But this threat is merely potential. In the next fifteen years, projects to supply the European market will no doubt bring a more rapid and more secure return on investment than any other projects, since the European infrastructures are in place and the demand is already there (PIW, March 23 2006).

Nevertheless, as any reliable economics textbook will tell us, a strategy of high prices requires two conditions in order to be viable: the existence of entry barriers and a monopoly position. If the entry barriers are low, the dominant producer must show restraint and not allow prices to exceed entry costs in the long term, according to the theory of contestable markets (Baumol et al., 1986). If there is a dominant seller with a competitive fringe, there must at the very least be a tacit agreement with the minority sellers in the market. These sellers must agree to keep their prices in line with those determined by the dominant company without attempting to boost their market share. They would agree to this provided they were able to benefit sufficiently from high prices. Let us imagine the situation on the European gas market if Gazprom, or Gazprom and Sonatrach, the two largest suppliers, decided to restrict volumes and long-term capacity.

The entry barriers are not so high for Gazprom's major rivals. The Norwegian producers (Statoil, Norsk Hydro, international gas and oil firms) are a competitive force that could counter-balance the Russian vendor's strategies. Norway still has significant production development potential and its current exports of 60 Bcm could reach 100 Bcm by 2020 (Boussena and al., 2006, p.106). Furthermore, there is effective competition from the gas and oil companies that play an essential role in the European market. These companies work on the principle of quickly "monetizing" newly discovered fields in order to obtain a rapid return on their investment. Their strategy is to seek production sharing agreements in the countries that own the resources and partnerships with major buyers to install LNG chains or international gas pipelines. The cost of an LNG chain is between €2bn and €3bn and within the means of such partnerships. Projects of this type are very attractive to large operators such as Gaz de France, Centrica, E.ON-Ruhrgas, Distrigas, ENIPower (formerly SNAM), and Gas Natural. These operators are also looking to get involved in production and transmission activities in gas producing countries in order to gain greater control over supply costs. In this competitive framework, fears that the Russian producer will wield market power by controlling volume and prices - fears currently fuelled by Russia's practices and powerful rhetoric - are resulting in the implementation of rival projects. There is indeed no shortage of alternative supply sources, even though costly transmission infrastructures would have to be built before they can be exploited.

Thus, since 2005, numerous LNG and gas pipeline import projects planned as far back as 2000 have resurfaced and in some cases are already under way¹⁶. The projected Nabucco pipeline linking the Caspian basin to Europe via Turkey will open up opportunities for significant diversification of supplies from Central Asia and Iran. According to the exhaustive study carried out by the Observatoire Méditerranéen de l'Energie in 2002 these projects are profitable at prices below \$3.5/MBtu. Many of them could be implemented in the event of sustained high prices or heightened geopolitical risks, examples being the new projects to import LNG from Nigeria, Trinidad, Qatar, Yemen and even Australia. Other projects to develop several gas terminals in northern European countries that as yet have no such facilities open up significant opportunities for diversification, both for these countries and for the landlocked countries of Central Europe, which are extremely dependent on Russian gas

¹⁶ Energy Business Review, January 16, 2006

and which could connect to the structures, increasing the number of entry points in the European gas supply system. These projects will create opportunities for competition while at the same time helping to secure supply. Furthermore, they will contribute to the development of LNG trade and increase the weight of Africa and the Middle East in the gas supply market to the southern as well as the northern countries of the EU. They will also provide short-term flexibility in European supply in the event of technical problems or policies affecting gas transmission from various sources.

Table 3: Principal projects under study or being developed to supply gas to European markets

Obviously the attempts by Russia and Gazprom to deter construction of the proposed gas pipelines from the Caspian can be cited as a manifestation of Gazprom's ambition to assume a dominant position in the European market. Dissuasion is undoubtedly the aim of the 2006 framework agreement between Gazprom and Turkey aimed at boosting gas exports to Southern Europe by extending the Blue Stream pipeline and constructing the Turkey-Greece gas pipeline, in which Gazprom is seeking a stake. Gazprom's acquisition of stakes in MOL's storage and distribution systems in Hungary, which is the arrival point of the rival Nabucco pipeline, is also seen as a move to encourage connection to the Blue Stream pipeline. But this may also be considered healthy geo-economic competition. The promoters of LNG projects or rival international gas pipelines need only have a clear picture of their long-term economic interests in order to actively seek support from the governments concerned and see their projects through. The EU can also play a role by offering financial incentives to create import infrastructures (gas pipelines, LNG terminals) and diversify entry points in the pan-European gas system, which will help create and sustain the contestability of national markets. The cost of diversifying supply routes and entry points is in fact offset by the advantages for consumers obtained by limiting the monopoly power of the major sellers.

5. Response to Russian economic risk: interests and limitations of European coordination

The response of the member-states of Europe and the European Union to the economic risk associated with the Russian producer's market dominance must be based on a realistic analysis of what makes up this risk. What is the real risk of market power? And how credible are Gazprom's contractual commitments? Any response must also take into account the fundamentally different nature of the Russian state and the European Union. The EU has no power to intervene in inter-state relations in issues concerning energy, if member states do not concede some on a specific issue.

Since the European Community came into being, member states have been unwilling to give up their sovereignty in energy matters, considering the stakes to be too high with respect to their national interests in the area of energy dependence and control of their resources. The larger states have traditionally relied on national firms, most often public utilities, to take charge of their oil and gas supplies and reduce dependence by promoting independent external energy supply technologies such as nuclear power. A certain number of states (France, Italy, Spain) require their energy companies to diversify their foreign gas purchases among several supply sources. The privatisation and liberalisation of electricity and gas markets has not fundamentally called into question this policy of states to rely on their leading national firms to secure long-term energy supplies, which they have been able to do thanks to their

contracting power and their significant investment capacity. For their part, these firms skilfully exploit this implicit role to defend their dominant position when their market power is questioned by the European authorities and to justify mergers and acquisitions when challenged by national competition authorities or the European Commission. Major operators in the gas sector have pointed to the need to counter-balance Gazprom's bargaining power to restrict liberalisation measures and justify their mergers, as the managers of E.ON opportunely did when the company took over Ruhrgas in Germany in 2003 and as the management of GDF and Suez did in France in 2006 (Mestrallet, 2006). These operators see themselves as guardians of their national markets, or "gatekeepers" to use the words of J. Stern (1998), rather than national champions that are protected at home but encouraged to secure shares in markets abroad. Their role is based on their bargaining capability in dealings with major foreign sellers or the big gas and oil companies and their financial capacity to enter into large long-term contracts and partnerships to develop transport infrastructures.

However, member states have been criticised for protecting their national companies both by advocates of European market competition and integration and by those in favour of European coordination of negotiations with Gazprom. The former would prefer to see the creation of giant European multi-nationals rather than national champions. Governments are criticised for shutting competitors out of their national markets by protecting their local operator when the Russian producer has so much bargaining power that nonnational operator could single-handedly provide a match for it.

We shall examine three main facets of the response to the economic risk of Europe's growing reliance on Russian gas: integration of Russia in the European single regulatory space for trade in energy, the creation of a European authority to coordinate the negotiations of European buyers with foreign producers, in addition to the organisation of short-term solidarity to protect against political risks, and the expansion of interconnection and import infrastructures (LNG terminals, transcontinental gas pipelines) to improve the contestability of the market in the future. These responses must be evaluated by starting with a realistic analysis of the economic risk, which must be separated from the political risk.

5.1. Deadlock in attempts at EU-Russia regulatory unification

The first proposal from European governments and the European Commission for limiting the "Russian gas risk" following the crisis of early 2006 was to get Russia to ratify the Energy Charter Treaty, a step that Russia has so far declined to take even though it is signatory to the treaty. This proposal represents a return to the strategy underlying the energy partnership concluded between the EU and Russia (2001) based on the same principles as the Energy Charter developed in the 1990s. At the end of 2006, the European Commission wanted to add an energy chapter reiterating all the principles of the Energy Charter to the new Economic Partnership general agreement that was under negotiation. If Russia could be persuaded to adopt free-market legislation in the energy sector, this would help create greater interdependence and convergence of interests. The Green Paper of March 2006 insists on the role of liberalised markets in helping to secure European gas and oil supplies. Legal alignment would help limit the risks associated with investment partnerships, facilitate funding needed to develop new gas fields and associated major infrastructures, and enhance transparency in gas trading¹⁷. For European gas buyers, it would facilitate access to gas produced by independent operators. Regulatory harmonisation should also be accompanied by

¹⁷ See for example the very shady status of EuralTransgaz and RosUkrEnergo, go-betweens for Turkmen gas sales via Russia to Ukraine.

liberalisation of Russia's internal market and the gradual removal of subsidies to industrial consumers, a measure called for by the European Commission and by the WTO as a condition of Russia's membership, in the interests of fair trade. Internal market liberalisation would also lead to a rationalisation of gas usage.

But as far as the Russian state is concerned, the Energy Charter is a "stillborn" treaty¹⁸, even though the door for negotiations seems to have been left slightly open. The renegotiation in 2006 of the EU-Russia Partnership and Cooperation Agreement, which was the pretext for re-examining institutional rules on energy sector investment and trade, ended twice in Russian refusal to discuss Gazprom's export monopoly and third party access to networks, first at the EU-Russia summit in Sochi in May 2006. It would have the most probably been the same in Helsinki on 24 November 2006 if Poland had not blocked the negotiation on the principles of Energy Charter by taking an intransigent position. There are lessons to be learned from this refusal. Russia, which sees itself as a sovereign power and has no plans to become part of a European common political and economic space, has no immediate interest in bringing its regulations in line with European legislation. This refusal also means that Russia's reasoning on gas issues is as much political as it is economic. Russia is not inclined to abandon its sovereignty in an area that is at the core of its power politics. It must therefore be reckoned with as a state in search of power, which is not seeking to subscribe to international rules on energy for this very reason, and which is returning to the confrontational practices and power struggles inherited from the Soviet era. This situation will probably remain unchanged until such time as the Russian state has regained complete control of national energy resources and concluded its project to create large international industrial groups, notably in the oil and gas sector.

Acknowledging that Russia will not liberalise its internal market means considering Gazprom as a central component of the new Russia Inc. that is being created by the Putin government in various sectors. At home, Gazprom is an instrument of domestic development, abroad a national champion and a means for affirming the country's economic and political power. Russian gas producers cannot be integrated in a European energy market space, since only Gazprom can sell in this space. European energy companies must consequently deal with Russia Inc. and not with an array of private or state-backed producers, as would be the case if Russia ratified the Energy Charter and removed restrictions on its oil and gas industries. The problem is that the Russian government is hardly reassuring with respect to Russia Inc. It employs forceful rhetoric in its relations with the former soviet republics. It manipulates the rules in order to try to revoke in a discretionary manner the property rights given by Yeltsin's government to private and foreign companies. It is expert at handling legal quibbles to deny the existence of any imbalance between its demands for direct access to European markets through the acquisition of stakes in national firms and its refusal to liberalise access to its own infrastructures and resources.

Focussing on the war of words and the legal power struggle creates a fear both of Russia using its gas as a weapon against European countries and of Gazprom exerting too much power over the market. But this combined fear makes it is easy to forget the corrective forces that the market is developing against this risk. Gazprom knows that it has everything to lose if it is seen as using its gas assets as a weapon or if it threatens foreign companies with expropriation. What approach should therefore be adopted with this atypical state and this

¹⁸ Statement made by A. Medvedev, vice-president of Gazprom at the World Gas Congress in April 2006, *The Economist*, April 29, 2006.

company that is both the actor and the instrument of its power strategy without exaggerating the challenge of balancing economic and commercial relations with the Russian gas sector?

What are European commentators and Russia's own critics saying? (see for instance Milov, 2006). In its quest for power, the Russian government prefers bilateral arrangements with European governments. It can use its state-backed gas company to negotiate directly with European gas companies, which is also what the companies themselves prefer. By competing with each other for access to Russian gas, these companies would become weaker and competition would be futile. Liberalisation of the European market, which has led to an increase in the number of buyers seeking to trade with the narrow oligopoly of sellers under the leadership of Gazprom, has enhanced the market power of the state-backed company, enabling it to impose its conditions regarding price and volume. Some commentators would even go so far as to anticipate a European market where the Russian seller would be able to impose its conditions as a monopoly. Consequently, any bilateral contract would be concluded between two uneven partners and would further weaken the collective bargaining power of European buyers in their negotiations with Russia. In such a situation Gazprom would be without competitors both in the short term and the long term.

5.2. Creation of a common negotiating authority

Europe's response will depend on how it perceives the economic risks associated with its purchase of Russian gas. At present, attention is on Russia's demonstration of its power. In the public opinion the political risk is transferred to the commercial arena in the form of a risk of takeover of European markets by the Russian producer. The most appropriate response to this situation would be for the EU to take direct coordinated action, since member states are exposed to differing degrees to the "Russian risk". In fact, the needs that have been voiced for a common energy policy have become more pressing since the accession of 10 new countries to the EU in May 2004 and of Bulgaria and Romania in January 2007, given that ten of these countries are totally dependent on Russia for their gas and were for a long time subject to Russian political and military domination. The European Commission would therefore like to see the EU adopt a common external energy policy enabling it to negotiate on behalf of European buyers with companies in gas-producing countries, the most important being Gazprom. This position is clearly spelled out in the Green Paper of March 2006 (EC, 2006)¹⁹. As well as a common strategy to deal with the political risks that might lead to interruption of supply, the Commission also suggests that there should be coordination among countries in managing emergency gas stocks, both of these aspects being based on the same principle of solidarity.

- *Coordination of contractualized gas purchases*

Let us briefly review the institutional situation. The European Union, lacking any real diplomatic or military resources, cannot pursue a consistent common external policy on energy, particularly since the interests and ideas of member states often diverge. Since the break-up of the Soviet Union, Russia's gradual politicization of energy relations has prompted the principal member states to develop their external energy policies autonomously. They have done this by conducting negotiations at the level of heads of state and government and

¹⁹ See Green Paper of March 2006 for the position of the Commission. Various Member States including the UK, France, the Central European countries and the Baltic states, which are particularly concerned by the question of gas supply dependence, supported this idea at the summit of European Heads of State and Government in March 2006. See, for example, the memorandum on energy policy presented by the French government in January 2006 : http://www.minefi.gouv.fr/notes_bleues/nbb/nbb304/Memorandumenergie.pdf

by relying heavily on their national monopoly or private sector leader. A typical example is the Irkutsk agreement signed in April 2006 between Germany and Russia, preceded in 2003 by the E.ON - Ruhrgas merger, which created a powerful energy giant, and the agreement in 2005 on construction of the NEGP (or Nordstream). These agreements reveal the importance of energy security for the German government. Italy, France and the Netherlands have a similar view of the situation. If the United Kingdom has, since 2005, spoken in favour of strengthening Community powers after long being scornful of Community involvement in the energy sector, it is because it is increasingly dependent on gas but does not have sufficient storage capacity to guard against shortages.

Working in coordination with government, national gas companies are also in a position to negotiate directly with Gazprom to set up balanced agreements that may also give the Russian party access to much coveted downstream assets. Theory of transaction costs economics shows that swapped assets can play the role of “hostages” long-term arrangements and provide credibility for them.

The numerous contracts concluded in 2006 (see Box 2) bear witness to the autonomy and bargaining power of major buyers who did not think twice about negotiating new contracts with Gazprom with the usual oil price indexation and quantity clauses and without fear of having to accept exorbitant conditions. Even the political tensions created by the Russia-Ukraine crisis in January 2006 did not appear to act as a deterrent. Although talks with Gazprom can be long and tough when asset swap is involved, the conditions of these agreements were by no means one-sided. In fact no negotiating party suffers on account of alleged competition between buyers since all partners, whether buying or selling in Europe, want the same type of contract with prices indexed to the price of crude oil and petroleum products.

Box 2: Agreements signed between Gazprom and major gas companies in 2006

- BASF and Gazprom signed an agreement in mid-2006 under which Gazprom will increase its share in Wingas from 35 to 50% in exchange for BASF receiving (through Wintershall) a 25% stake in the production company Severneftegazprom, which holds the production licence for the Russian Yuzhno-Russkoye gas field.
- In mid-2006 E.ON-Ruhrgas and Gazprom signed a protocol for the import of 400 Bcm of gas between 2006 and 2036. The protocol extends an existing contract beyond 2012 and includes a new contract for additional volumes of approximately 100 Bcm from 2010 onwards. E.ON and Gazprom also signed a framework agreement to swap stakes in its Yuzhno-Russkoye gas field in return for assets held by E.ON in Hungary in a gas marketing company, a storage site and regional gas and electricity suppliers.
- The Danish company DONG signed a contract in June 2006 to purchase of 1 Bcm per year for 20 years as well as a 15-year swap agreement under which DONG will supply 0.6 Bcm of gas a year to Gazprom’s UK trading arm.
- In October 2006, the Austrian company OMV extended its existing contract by signing an agreement to purchase 7.5 Bcm of gas per year for 20 years, 25% of which will be marketed by two companies, Centrex and GWh, in which Russia, including Gazprom, has stakes of 50% and 100% respectively.
- In October 2006, Gasunie signed an agreement to join the NEGP consortium in exchange for shares (probably 10%) in the BBL interconnector between the Netherlands and the UK, which will provide Gazprom with increased transmission capacity to the British market.
- In November 2006, Gazprom signed an agreement with ENI renewing its gas supply contracts (until 2035) and securing it with a framework agreement allowing Gazprom to sell directly to ENIPower customers

(volumes reaching 3 billion m³ /y in 2010), plus the possibility of asset swaps with Gazprom (for example, a stake of 10% in ENIPower or in an Algerian gas field in exchange for a stake in a gas field, possibly Yuzhno-Russkoye) and specific strategic agreements on asset swaps in transportation facilities (for example, a 10% stake in the St. Petersburg LNG project for a similar stake in the new Trans-Mediterranean pipeline to Italy).

- In December 2006, Gazprom signed an agreement with GDF renewing its gas supply contracts until 2030 for the import of nearly 200 Bcm of gas. The agreement extends an existing contract and includes a new contract for additional volumes of approximately 50 Bcm. This agreement will allow Gazprom to sell 1.5 Bcm /year of gas directly to final consumers.

There would therefore be little economic justification for coordinating the gas purchases of European buyers through the EC or a specially created European agency. The vision of a European market under the monopoly of the Russian seller does not take into account the effective reality of oligopolistic competition as analysed above. The market of long term contracts is a contestable market. Gas buyers, whether incumbent operators or market entrants, can choose between a certain numbers of producers in countries outside Russia: Norway, LNG-exporting countries in Africa (Maghreb, Egypt, Nigeria, Gulf of Guinea region), the Caribbean and the Middle East backed by gas and oil companies. These countries will be joined in the medium term by Central Asian countries and Iran if the Nabucco project and its successors get off the ground. Furthermore, negotiation of long term gas purchases through a single European voice would certainly cause market distortion. In fact, if we imagine there could be a need for such agreement when it comes to purchasing Russian gas, there would not be such a need for buying gas to Norwegian or Algerian producers or to establish a new LNG chain between a European gas company and a joint venture of an international oil company and a producer state such as Egypt.

The position of those in favour of European coordination, led by the European Commission, must be examined in light of the principles of competition advocated by the Commission itself. Given the shortage of competition on wholesale markets, proponents of European coordination recommend the separation of the transportation assets of the major gas operators and disinvestment of their gas contracts to weaken their market power at home. Coordination would also call into question the long-term contracts of incumbent operators, which are a barrier to market entry (EC, 2005b; Financial Times, 31 October, 2006). But, if the major gas buyers are weakened in the name of the principles of short-term competition, their bargaining power and their financial capacity to handle large import operations would be reduced. This is the basic conflict between the Community's objective of promoting competition at all costs and its goal of guaranteeing long-term security of supply. There is undoubtedly a certain logic in wanting to disperse gas company assets in the name of market principles on the one hand and to create a single European negotiating authority on the other. But member states are bound to wonder how such institutional choices might improve their national gas supply when large local buyers would be able to achieve this more easily by falling into line with government objectives.

European coordination of this type is not justified in the current situation of the European market of long-term gas contracts. But there is nothing to prevent neighbouring countries from joining forces to create the infrastructures needed to diversify their supplies or even to set up contracts to import gas from different sources. For example, eight Central European countries (Austria, Slovakia, Hungary, Czech Republic, Poland, Croatia, Slovenia and Romania) that met in April 2006 following the Russia-Ukraine gas crisis were able together to provide the political support needed for the Hungary-Croatia pipeline project to link Central

Europe to the Adria LNG terminal project in Croatia. This type of sub-regional coordination could be encouraged by the European Union through financial support for the projects created.

More flexible forms of coordination could also prove useful. The first possible initiative, along the lines of that implemented by the International Energy Agency in the oil sector, would be to organise permanent dialogue with the gas exporting countries in the region to look at the expectations and long-term plans of the parties. The second form of coordination would be much like the cooperative arrangements organised by competitors in the commodities oligopolies to reduce uncertainty surrounding their investment decisions: exchange of information on their investment projects, the state of their production facilities, their stocks and their unit production costs, and the creation of medium- to long-term market development scenarios (Calabre, 1997). A European centre could be created to collect information on all substantial gas contracts in force or under negotiation and to make this information available to companies to help them improve their bargaining power, an idea supported by D. Helm (2005). This centre would provide the basis for a European Energy Supply Observatory. Its purpose would be “to monitor the demand and supply patterns on EU energy markets, identifying likely shortfalls in infrastructure and supply at an early stage and complementing on an EU level the work of the International Energy Agency”. This would give companies mutual access to information on contractual positions and enable the European Commission to assess the extent to which each country is dependent on the exporting countries.

- *Organisation of short term solidarity*

This coordination through exchange of information on gas contracts would be unlikely to calm the fears of member states and the companies most dependent on Russian gas. But, if we look more closely at the fears expressed by Poland and the Baltic countries, we find that these countries are more concerned by the risk of temporary supply shortage than by the risk of facing a monopoly power when negotiating contracts²⁰. The EU should thus concern itself with organising solidarity in the event of interruption of supply by coordinating the use of emergency gas stocks. Such coordination should complement improvements to the physical and regulatory integration of markets that helps to secure short-term supply. Increases in short-term prices in under-supplied areas in the event of a crisis or technical interruption should in fact create offers from agents who have sufficient amounts for their monthly markets in other interconnected areas. But the regulatory shortcomings that hinder short-term trading, the interconnection constraints and the precautionary approach of gas sellers do not allow all the adjustments necessary in a crisis situation.

The economic rationality and political justification for coordinating emergency stocks is widely recognised in the oil sector²¹. The industrialised countries represented by the International Energy Agency (IEA) decided in the 1970s to establish emergency oil stocks and coordinate their use under the auspices of the IEA in the event of major shocks on the world market or technical problems in exporting or transit countries. The effort is shared among member countries, which are committed to holding a certain level of emergency stocks

²⁰ The fears expressed by the president of Poland at the German-Polish summit of 2 November 2006 are typical. Criticising Germany for its involvement in the Nordstream pipeline routed along the Baltic Sea floor and bypassing Poland and other transit countries, he emphasised the risk of gas shortages (fears reported in Financial Times, November 3, 2006).

²¹ For an in-depth theoretical economic analysis of the question of oil security, see Bohi, Toman and Walz (1987).

and to defining the institutional means for reaching this level. Where European gas supplies are concerned, the regional market must be seen as a whole, with the European Commission acting as the vector for coordination, in the same way as the IEA might for the international oil market. It would make sense to oblige countries to establish emergency stocks to protect against technical and geopolitical uncertainties affecting supplies and to keep the European Commission informed of the situation in real time. The European Commission would be empowered to order the release of gas stocks from certain countries to supply the market of other countries in the event of a major supply disruption²².

This issue has long been debated in Europe, reflecting the past and present reticence of member countries and gas companies to combine part of their stockpiles. Gas market liberalisation has temporarily accentuated the divergence of interests due to the uncertainties it creates regarding the economic role of gas storage, as revealed in the preparatory discussions relating to directive 2004/67/EC entitled “Measures to safeguard security of natural gas supply”. The directive simply spells out measures that can be taken at a national level to enhance the security of long-term supply through the development of import projects and to ensure diversification of gas supply sources. The directive does not oblige each member state to set up emergency stocks to guard against short-term risks, nor does it create an official body to collect information in real time and make adjustments in the event of a crisis. The Green Paper of March 2006, which draws attention to the importance of solidarity, marked the start of a process to strengthen EU powers on this question. If its recommendations are implemented, the Community will undoubtedly be able to protect itself against the direct or indirect effects of any political crisis and thus deal with the economic risk as a separate issue.

5.3. Improved physical links needed to promote diversification of supply sources.

By providing support for the development of interconnections and new import infrastructures, such as the Mediterranean and Trans-Caspian pipelines and LNG terminals, the EU is playing a dual role of catalyst for competitive markets and promoter of long-term energy security. If we consider the competitive environment to be an important aspect of Russian-EU gas relations then we should perhaps look at the role of member states and the EU in enhancing market integration and improving gas pipeline and LNG connections with the major exporters. Providing financial assistance for LNG terminals and interconnectors, which the EU can do within the framework of the European Union’s TransEuropean Network policy, is typically part of this role. Greater transparency of the rules of access to networks, storage facilities and interconnections should facilitate swaps between purchase contracts – something that has already been done in the past - and also help countries that depend on a single import source to envisage importing from more diverse sources in the medium and long term.

In the future, it should be easy for leading buyers to obtain gas by pipeline from Norway or LNG from Algeria via Croatia, just as a large UK buyer might do from Statoil, Gazprom, QatarGas and Exxon. New transit infrastructures, such as the proposed Nabucco pipeline, and joint ventures with the producers themselves, such as Medgaz with Sonatrach, and the Nordstream project between Gazprom, E.ON and BASF will provide greater opportunities for diversification. And even bilateral operations involving just one European country can bring

²² In the directive concerning measures to safeguard security of natural gas supply of 26 April 2004, a major supply disruption is defined as “a situation where the Community would risk to lose more than 20% of its gas supply from third countries and the situation at Community level is not likely to be adequately managed with national measures”.

important benefits to other markets, as in the case of the Nordstream, which will not only serve Germany but also the UK, Danish and possibly Scandinavian markets.

6. Conclusion

The confusion between energy dependence and the issue of energy security has undoubtedly clouded approaches to the question of the economic risk stemming from Gazprom's position in the European market. Here, we have developed the point of view that the reality of gas trading between Russia and Europe is determined by market principles and a need for stable long-term contractual arrangements based on credible commitments. While it is inevitable that Gazprom's share in certain national markets will rise thanks to the availability of Russian gas and the development of transmission infrastructures, we challenge the idea that Gazprom is in a monopoly position or that it can create an oligopolistic agreement. Consequently, it would seem unnecessary to guard at all costs against the risk associated with the Russian seller's market power by creating a special power at the European level, the gas contract market being fundamentally a contestable market. It seems unrealistic to give priority to promoting short-term competition by dispersing the assets of the large gas companies rather than using the long-term planning and bargaining powers of the major buyers to encourage development of future supply capacity if, in the end, it has to be recommended that the bargaining power of fragmented players be consolidated by a European coordination of gas purchases.

The deliberate politicization of the gas issue by the Putin government as a way of affirming Russia's ambitions to become an energy superpower creates fears that Gazprom is trying to shut out competitors from national markets by securing footholds downstream and is using its position to control prices on the European market. There may also be fears that Gazprom's position might help the Russian government to pursue its political objectives with respect to the European Union, which is indirectly suffering as Russia continues to use its gas resources as a weapon against the countries in its area of influence. But this kind of strategy will not help Russia to keep the gas revenues it derives from its European sales.

Does it make sense to leave development of long-term gas supplies solely to the free play of competition between the major buyers and sellers, in the hope that long-term competitive pressure will discipline the dominant seller? Without doubt, but while accepting Russia for what it is, without naivety. Accepting means that it would be unrealistic to expect Russia to ratify the Energy Charter in the next few years and that it is best to avoid confrontation. Accepting without naivety means exercising caution in agreeing to Gazprom's acquisition of stakes in European gas companies, although this possibility should not be blocked out of hand since Russia's presence in direct sales can also be a competitive factor. Accepting without naivety also means that Europe must maintain pressure through dialogue with Russia, in the hope that one day this country will ratify the Energy Charter, once its industrial ambitions have been achieved.

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Table 1: Main Gazprom acquisitions in downstream activities in the various European markets

Country	Joint Venture	Gazprom share (%)	Nature of operations
Germany	Wingas	50	Transportation and sales
Austria	GWH	50	Marketing and trading
	Centrex	25	Marketing and trading
Estonia	Eesti Gaze	37,5	Marketing and transportation
Latvia	Latvias Gaze	34	Marketing and distribution
	Stella Vitae	30	Transportation
Lithuania	Lietuvos Dujos	37	Marketing and transportation
United Kingdom	Pennine Natural Gas (PNG)	100	Marketing

Note: no mention is made of the small marketing companies that Gazprom launched in Germany, France, Greece, Italy, the Netherlands and the United Kingdom. In recent years they have succeeded in finding several industrial and business customers.

Table 1 bis: Continued downstream diversification by Gazprom through framework agreements signed in 2006

Hungary	Acquisition of a share in E.ON Foldgaz Storage and E.ON Foldgaz Trade, and in regional gas and electricity suppliers under the terms of an agreement with E.ON concerning its holdings in MOL
Italia	The November agreement provides for purchase of a 10% share in ENIpower with direct sales of gas for electricity production, and scope for direct access to its 7.5 million customers through a subsidiary, yet to be set up (3 Bcm in 2010)
Germany	Gazprom's share in Wingas rises from 35% to 50%
Austria	The agreement with OMV and regional distributors in September provides for Gazprom to market directly 1.8 Bcm of gas through GWH, a subsidiary jointly owned with a Russian investment company, Centrex, in which it has a 25% share

Sources: Gas Matters, The Moscow Times.

Table 2: Degree of Russian gas dependence of European Union countries in 2005

	Slovakia	Finland	Baltic States	Greece	Czech Rep.	Austria	Hungary	Poland	Germany	France	Italy
Import Bcm (1)	7,5	4,5	5.5 (2)	2,4	7,4	6,8	9	7	36	13,2	22
Ratio Russian gas Import /consumption	100%	100%	100%	86,8%	80,8%	73,4%	63,4%	50,2%	36%	26,8%	26%

Notes: (1) The following countries do not import Russian gas: Spain, Portugal, Netherlands, Belgium, Denmark and Sweden. The United Kingdom makes occasional purchases, totalling 4 Bcm; (2): Imports by Baltic countries are, respectively, 2.8 Bcm for Lithuania, 1.4 Bcm for Latvia and 1.3 Bcm for Estonia.

Table 3: Principal projects under study or being developed to supply gas to European markets

	Projects	Countries	Main companies
Gas pipelines	Nabucco (23 à 31 Bcm/an)	Azerbaijan, Iran Turkey, <i>Bulgaria,, Romania, Hungary, Austria</i>	20 % OMV, 20 % Botas, 20 % Bulgargaz, 20 % MOL, 20 % Transgaz
	South Caucasus Pipeline (SCP) (20 Bcm/an), Then Pipeline Turkey-Greece-Italy	Azerbaijan, Georgia, Turkey, <i>South of Europe (Greece-Italy)</i>	BP, Statoil, SOCAR, Lukoil, Total, TPAO
	Trans-Caspian Gas Pipeline (TCGP) (30 Bcm/an), With a part under Caspian sea	Turkmenistan, Azerbaijan, Turkey by SCP	
	Project Egypt-South of Europe	Egypt, Midle East, Turkey	BP
Trans-Mediterranean gas pipelines	GALSI (8 Bcm/an) MEDGAZ (10 Bcm/an)	Algeria-Italy Algeria-Spain	Sonatrach , ENI Sonatrach, CEPSA & GDF
	Green Stream (8 Bcm/an)	Lybia-Italy	ENI
New LNG chains	Qatar-UK (South Hook) (10,5 Bcm/an) Nigeria-Spain (Huelva)	<i>United Kingdom Spain</i>	QatarPetroleum, Exxon
LNG terminals in projects	<i>Total in capacity : 150 Bcm/year</i> Isle of Grain Rotterdam Wilhelmshaven Gdansk Rovigo, Brindisi, Augusta Adria Valencia Revithoussa	<i>United Kingdom Netherlands Germany Poland, Netherlands Italy Croatia, Austria Spain, Greece</i>	Gas Natural, Transgas, Enagas, Shell