The great gas pipeline game: monopolistic expansion of Russia's Gazprom into European markets

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Abstract

Purpose – *Russian dominance of the Eurasian natural gas delivery system has put the independence of the EU's foreign policy at risk. Although Europe is struggling to counteract the threat, Russia appears to be winning the game. This paper aims to recommend significant measures to reverse the trend.*

Design/methodology/approach – *This is a discussion paper exploring the issues involved.*

Findings – *Russia's stranglehold already has acquired 25 percent of the European market. Moreover, it is installing four new pipelines, and plans to increase its market share substantially. In response, Europe is building or planning three new pipelines. The author recommends additionally: strategic gas reserves, anti-trust prosecution, financial and political inducements, and offering WTO membership to Russia in exchange for concessions.*

Practical implications – *Europe can win the great natural gas pipeline game if it is played with commitment. Europe must focus on the big prize, natural gas independence.*

Originality/value – *This original research viewpoint contains suggestions for the EU and Europe to increase their energy security.*

Keywords *Europe, International politics, Gas supply, Russia*

Paper type *Viewpoint*

Introduction

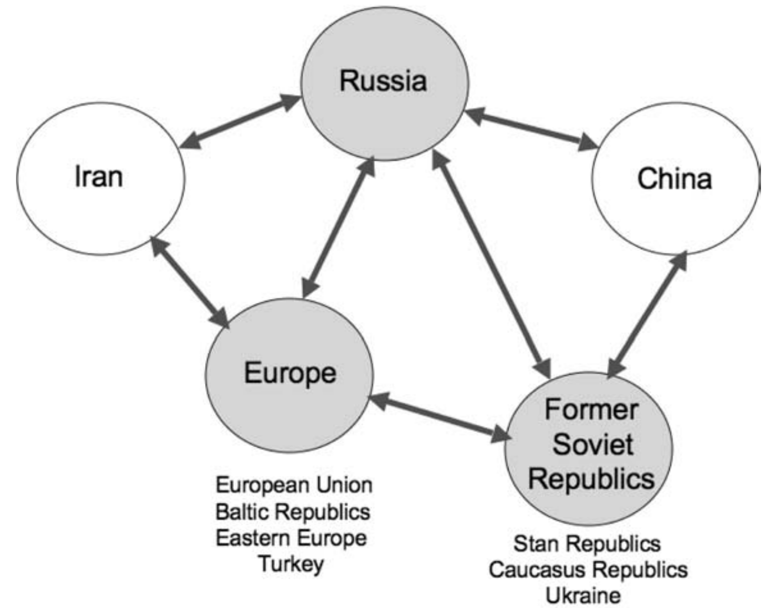
Russian monopolistic dominance of the Eurasian natural gas delivery system has put the independence of the European Union's foreign policy at risk. The issue was made starkly evident by Franco-German disapproval in April 2008 of early NATO membership for Ukraine and Georgia as a consequence of Russian opposition. Among the explanations were explicit concerns about stable deliveries of Russian gas. This disturbing turn of events disrupted NATO's expansion schedule potentially undermining collective security in Europe. Although Europe is struggling to counteract that threat by creating alternative sources of gas, Russia appears to be winning the game. We recommend significant measures to reverse the trend.

The gas pipeline game is being played between the Russian Federation, the European Union, several former Soviet Republics adjacent to Russia, and post-iron-curtain satellite countries heavily dependent on Russian energy. The playgrounds are Western Europe, Turkey, the Central-Asian ''Stan'' Republics, the South Caucasus, and the Caspian and Black Seas. At least 18 countries are affected in a substantial way.

The major natural gas pipeline players of interest are represented in Figure 1. Depicted in blue are the principals: Russia, Europe and the Former Soviet Republics. Iran, although currently not a significant participant in the European game, is among the world leaders in natural gas reserves and is a future exploitation focus. China is not an exporter of natural gas but is a major importer competing for Central-Asian resources. The former Soviet Republics use the China market for diversification purposes to wean themselves away from Russian

Received 1 May 2008
Accepted 30 June 2008

Figure 1 Major interactions in the great gas game



Source: Author

dominance, and Europe is exploring exploitation of Iranian natural gas resources in competition with Russia for the same reason.

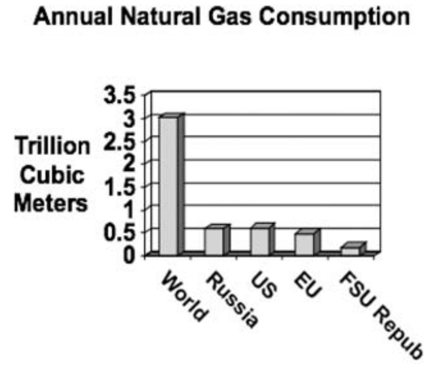
If it plays with commitment, Europe can persevere in this contest. However, it must remain focused on the big prize, natural gas independence, and not permit political lobbying and short-term profits to dilute the effort. A game plan involving new European-financed pipelines and additional, strategically placed natural gas reserve storage is suggested. Anti-trust legal action and diplomatic pressure against Russia related to future WTO membership are also recommended.

What are the stakes?

Natural gas is a preferred fuel because it is abundant and relatively clean burning. It is extensively used to power electricity grids, to provide heat energy in consumer residences, and for the manufacture of plastics and fertilizer. In 2007, the natural gas consumption of 27 European Union member states was 505 billion cubic meters (BCM), the current value being about $100 billion. Moreover, natural gas consumption in most of Europe is projected to increase at about 1.5 percent per year for the next 25 years. Europe's vulnerability lies in the fact that a significant fraction of its natural gas is imported from Russia. Unanticipated disruptions in those imports are bound to have a large impact on the economy of Europe. There is therefore a tendency for Europe to be ultra-cautious and to avoid policy initiatives opposed by Russia.

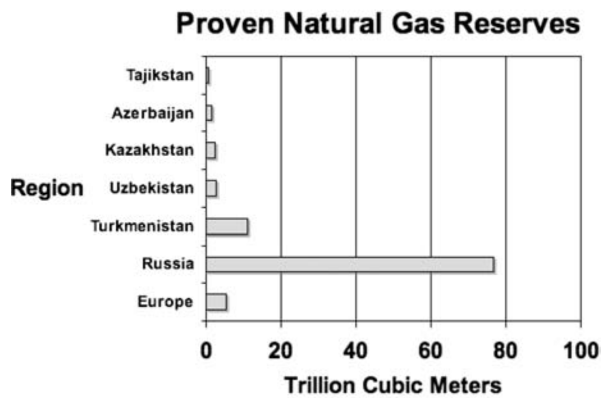
Figure 2 compares the annual consumption of natural gas for four important regions including the EU in the 2005-2007 timeframe. Collectively, these entities account for more than half the world total, also displayed. Russia is both a major domestic consumer and an exporter. It supplies a large fraction of the gas for both Europe and the now independent former Soviet Republics. This gives Russia considerable leverage for economic and political aggressiveness.

Figure 2 Selected major consumers



Source: Author Compilation

Figure 3 Natural gas reserves in Europe and Central Asia



Source: Energy Information Administration (2006)

Where is the gas?

The countries with the largest proven untapped reserves in Europe and Asia are identified in Figure 3. Clearly in the dominant position, Russia has far more reserves than all of Europe and the Former Soviet Republics combined. Principal deposits are in Western Siberia, Central Asia, the Caucasus, and the Caspian Sea. It is observed that Europe has only a ten-year supply at its present rate of consumption. This explains the necessity to import much of its natural gas. In contrast, Russia has about a 150-year reserve measured in terms of domestic consumption. It consumes 550 BCM of gas annually and exports about 300 BCM. The gas it exports comes largely from Central Asia. Russia imports gas from Former Soviet Asian Republics at below market price, transports it through the pipeline network paying transit fees as necessary, and then exports at world market prices. The price differential is considerably more than 100 percent. Russia pays $50-85 per 1,000 cubic meters and charges Ukraine, Belarus and Europe $180-350. The price it charges domestic customers is heavily subsidized, less than $50; Europe pays for that largesse.

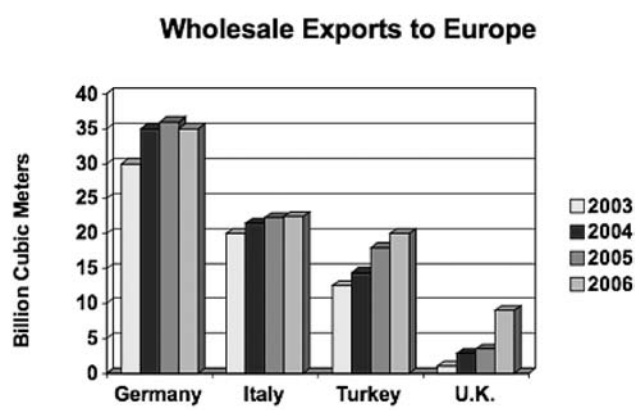
The largest Russian natural gas company is state-controlled Gazprom. Ranking only behind Saudi Arabia and Iran in deposits of oil and oil-equivalent natural gas, it is the world's greatest exporter of gas. Gazprom owns both reserves and pipelines, and is aggressively

Table I Gazprom natural gas to Europe

Country	*% Supplied*
Bosnia-Herzegovina	100
Estonia	100
Finland	100
Macedonia	100
Latvia	100
Lithuania	100
Moldova	100
Slovakia	100
Bulgaria	89
Hungary	62
Poland	47
Czech Republic	84
Turkey	65
Austria	70
Romania	23
Germany	43
Italy	30
France	26

Source: Energy Information Administration (2007)

Figure 4 Gazprom expansion into Europe



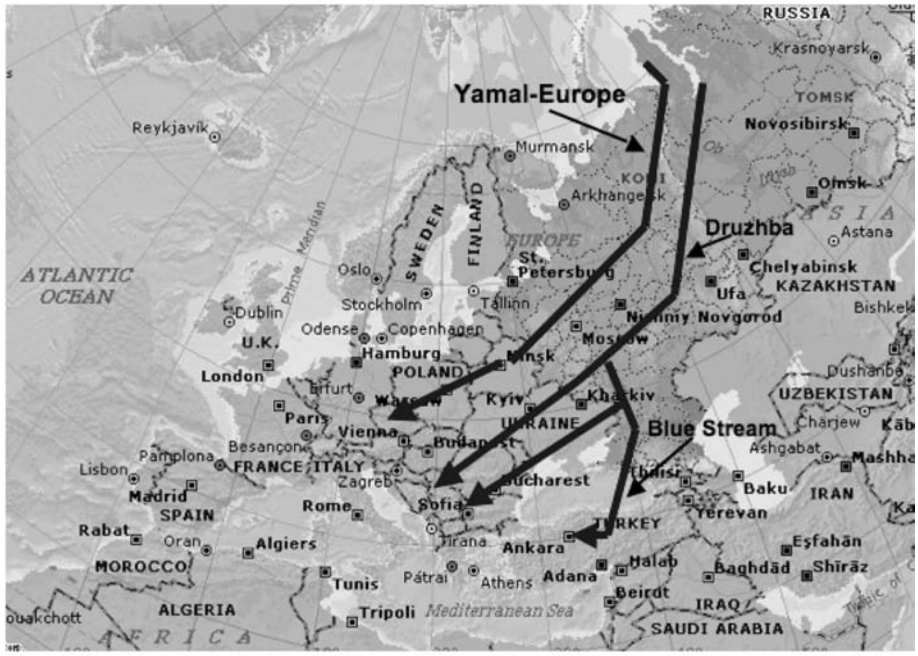
Source: Wall Street Journal (1/28/08)

moving into the retail gas market as well. It controls an estimated 16 percent of the world supply and 25-30 percent of the European Union supply.

However, it is not the location and quantity of reserves that is of concern; that is an accident of geology and geography. It is the monopolistic manipulation and expansion of the pipeline system serving Europe that is threatening. Table I and Figure 4 summarize Gazprom's wholesale penetration into Europe. By 2005, Gazprom was the principal natural gas supplier to 18 European countries. It also supplied 35 percent of Ukraine's requirements and 100 percent of Georgia's.

Gazprom has aggressive plans for even further expansion. However, there is gathering opposition on grounds that it is a tool of Kremlin foreign policy. Accordingly, Europe and America have initiated competing networks that bypass Gazprom. Vigorously opposed by Russia, that struggle is the subject of this essay.

Figure 5 Principal Gazprom pipelines from Asia



Source: Author Depiction

Where are the pipelines?

The most important gas pipelines in Russia and Central Europe are traced on the map of Figure 5. The principal routes to Europe originate in Russian Siberia and run through Ukraine and Belarus. The largest is the Druzhba through Ukraine; a smaller pipeline, the Yamal-Europe runs through Belarus to Poland, Germany and the Baltic countries. All told, they deliver gas to Moldova, Romania, the Balkans, Hungary, Austria, Slovakia, the Czech Republic, Poland, Italy and Germany. An additional gas pipeline for which expansion plans have been announced is the Blue Stream running under the Black Sea and connecting Russia to Turkey.

In an attempt to gain independence from the Russian monopoly, European-American consortiums in coordination with Turkey and four Former Soviet Republics have developed programs for competing pipelines. The most mature is the Baku-Tbilisi-Ceyhan (BTC) oil pipeline, and running parallel to it is the partially completed South Caucasus gas pipeline. The South Caucasus, with a capacity of 16 BCM annually, traverses two countries, Azerbaijan and Georgia, connecting Caspian terminals to the Black Sea. The routes are displayed in Figure 6. Initial deliveries of gas began in December 2006.

The South Caucasus is supplied from the Azerbaijan-owned portion of the Caspian Sea through the port of Baku. Kazakhstan has announced intentions of building a pipeline in the Caspian Sea from Aktau to Baku via Turkmenistan so that it can transport additional oil and gas from its prolific Kashagan field. However, since there is opposition from Russia, Iran and Azerbaijan, it is more likely that Kazakh oil and gas will be transported to Baku by tanker in the near term.

Still another pipeline, Nabucco (Figure 7), is planned by the European Union with American backing to bring natural gas to Central Europe, again primarily to circumvent Gazprom. The intent, by 2012, is for Nabucco to extend some 3,300 km passing from Turkey through Bulgaria, Romania, and Hungary ending in Austria. Gas will be withdrawn in each country. The weakness of Nabucco is the insufficiency of the Shah Deniz field in the Azeri portion of

Figure 6 Route of the Baku-Tbilisi-Ceyhan/South Caucasus pipelines

Source: BBC World News (2002)

Figure 7 Nabucco and South Stream pipelines

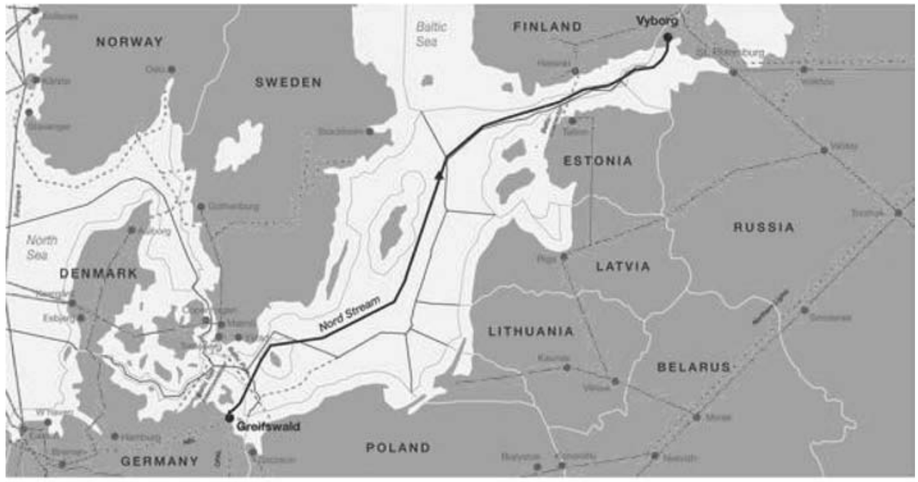
Source: BBC News (19 Jan 2008)

the Caspian Sea; it delivers at most 7 BCM per year. The remainder would conceptually be transported through the not-yet-realized Trans-Caspian Pipeline connecting Kazakhstan and Azerbaijan. An additional future possibility is gas from Iran.

Russian, in turn, has been contesting Europe's attempt to bypass Gazprom. It has two major competitive initiatives, the South Stream and the Nord Stream, under way. The route of South Stream is displayed in Figure 7. It will transport Russian gas to Europe via the Balkans, first crossing the Black Sea, and then splitting in two. One arm will go northwest to Austria paralleling Nabucco and the other southwest to Greece and southern Italy. Operations are planned for 2013.

Nord Stream, also in the planning stage, will run offshore in the Baltic Sea between Vyborg, Russia to Greifswald, Germany as displayed in Figure 8. The plan is to connect to the Yamal-Europe deep within Germany, thereby avoiding payment of gas transit fees to Belarus. The capacity of Nord Stream is 55 BCM and first delivery is scheduled for 2011. However, Nord Stream is highly contentious on environmental grounds and success is far from guaranteed.

Figure 8 Proposed Nord Stream pipeline



Source: Gazprom (2008)

Other major gas pipeline projects involve the Central Asian republics. The bulk of their oil and gas is currently channeled into the Gazprom system but they are attempting to diversify. A Kazakhstan-China oil pipeline has already been built. Additionally, Turkmenistan has a partially completed gas pipeline to China via Uzbekistan and Kazakhstan.

However, the principal initiative affecting Europe is the previously mentioned Trans-Caspian Gas Pipeline. Its progress has been stalled by sovereignty disputes between Turkmenistan and Azerbaijan. Complicating the situation is a proposed pipeline along the Caspian seashore from Turkmenistan through Kazakhstan to Russia for which preliminary agreement was reached late in 2007. It would supply 20 BCM annually beginning in 2010. The Caspian Seashore pipeline might be a deal-breaker for the Trans-Caspian pipeline but conceivably Turkmenistan could be persuaded to opt for both approaches.

Importantly, a major Turkmen-Russian gas supply contract for 50 BCM per year is scheduled to expire at the end of 2009. If Turkmenistan declines to renew, it will put a significant crimp in Gazprom's delivery system. On the other hand, unless the Turkmenistan-Azerbaijan dispute is resolved, the Trans-Caspian gas pipeline is moribund and Europe is deprived. Europe may have to sweeten the pot to achieve a breakthrough.

Figure 9 displays the route of the proposed Trans-Caspian gas pipeline. Also shown is the route of the Caspian Seashore Pipeline to Russia, and the Turkmenistan-China gas pipeline. Turkmenistan is clearly playing a shadowy game since it does not have reserves sufficient for all three customers.

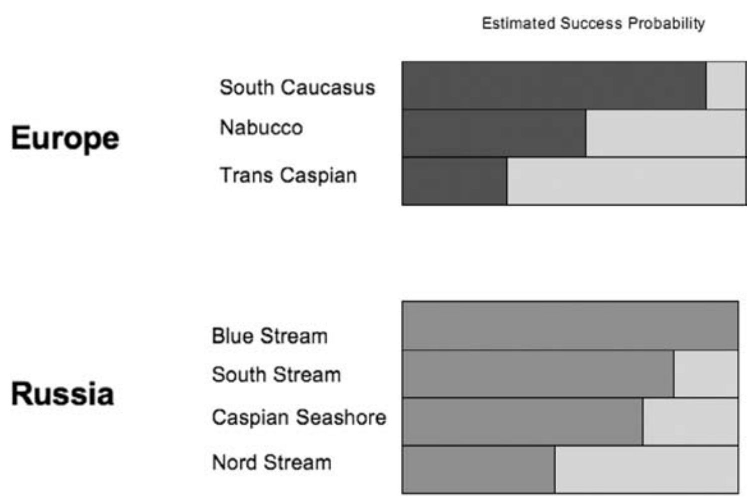
Pipeline politics

Russia currently has a near monopoly on Asian gas deliveries to western, central and southern Europe. In an even-handed world, it should not matter. However, Russia has been using its pipeline capability as a weapon against Ukraine, Belarus, and Serbia[1] with European foreign policy issues at stake. In Ukraine and Belarus, disputes over the price of Gazprom gas delivered to those countries were the triggering issues. Russia has simultaneously been trying to gain control of both the Ukrainian and Belarus-owned conduits since the transit fees those countries charge undermine profits. To reinforce their claims, Gazprom reduced the flow of incoming gas on several occasions. Not to be denied, Ukraine and Belarus continued to withdraw gas for their own use, and down-stream customers in Europe suffered. Although previous disputes were short-lived, the practice continues, most recently in March 2008 involving Ukraine. The net effect is that Europe is a captive consumer

Figure 9 Proposed gas pipelines in Central Asia

Source: Author Recompilation

Figure 10 Gas pipeline expansion scorecard



Source: Author Estimates

subject to gas deprivations. To avoid upsetting stable deliveries, Europe has compromised initiatives impinging on NATO expansion, issues that Russia opposed. The collective security of the region is therefore at risk.

The competition between Russia and Europe for Eurasian natural gas distribution is summarized in Figure 10 with a hypothetical scorecard. Russia appears to be winning the gas pipeline expansion game. Their four expansion activities have a significantly higher collective success probability than the three European programs.

Worldwide Gazprom expansionist tactics

Alarmingly, Gazprom's ambitions are wider than just Europe; they have a global program that, if carried to completion, could put Russia in a position of world dominance in natural gas delivery. Listed below are Gazprom's announced worldwide activities:

- Algeria – Co-production with state-owned energy firm, Sonotrach.
- Austria – Austrian Oil agreement for Central European gas hub stake.
- Baltic States – Nord Stream Pipeline to avoid transit fees.
- Belgium – Joint ventures with Distrigas and Fluxys.
- Bulgaria – Bulgarian participation in South Stream Pipeline.
- China, South Korea – Committed on pipeline to Xinjiang Province.
- Czech Republic – Agreement with Vemex to bypass state network.
- France – Agreement with Gaz de France to supply a quarter of France's gas.
- Germany – Supplies a third of Germany's gas; Nord Stream Pipeline.
- Hungary – Joint venture to extend Blue Stream to Hungary.
- Iran – Invested in phases 2-3 of South Pars gas field.
- Italy – Supplies a third of Italy's gas under Eni SpA contract; South Stream.
- The Netherlands – Stake in gas pipeline from The Netherlands to UK.
- Russia – Coercing British Petroleum (BP) to cede oil and gas assets.
- Sakhalin – Coerced BP and Shell to sell Kovykta and Sakhalin – 2.
- Serbia – Allows South Stream gas pipeline; majority stake NIS Corp.
- Slovakia – Partner with Ruhrgas and Gaz de France in Slovak network.
- Turkey – Blue Stream Pipeline; supplies three quarters of Turkey's gas.
- United Kingdom – Announced ambitions for 20 percent of retail gas market.

Since Gazprom is an official state monopoly and considering the recent bellicose nature of Russian foreign policies, these are sufficient reasons to hoist alarm flags and take collective action against additional bullying tactics. Some suggestions are outlined next.

Toward natural gas independence

South Caucasus and Nabucco initiatives to bypass the Gazprom monopoly, although a promising beginning, are insufficient to achieve European natural gas independence. Additional possibilities for circumventing the spidery Russian stranglehold are:

Trans-Caspian pipeline

Broker a deal between Azerbaijan and Turkmenistan to complete the Trans-Caspian Pipeline. This will permit tapping gas reserves in Kazakhstan to supply Nabucco at full capacity when completed. Azerbaijan appears to be the chief obstacle, sovereignty disputes over hydrocarbon rights in the Caspian seabed being the bottleneck. Azerbaijan, Kazakhstan, and Russia have already ratified Caspian seabed treaties based on equidistance. However, Azerbaijan has also undertaken unilateral exploration in disputed waters while bilateral talks continue with Turkmenistan on dividing the Caspian. It is conjectured that Azerbaijan and Turkmenistan could be persuaded to settle their differences with the right inducements. Neither is a member of the WTO, for example, and that privilege could be advanced and promoted by the European Union for settlement. Conceivably, Azerbaijan could also be persuaded by the promise of future European Union membership.

Auxiliary conduits to strategic reserves in Ukraine

Major pipelines cross Ukraine delivering Russian gas to Europe. Ukraine owns the pipelines but Russia owns the gas. Ukraine has been subjected to heavy-handed blackmail relative to this gas. Ukraine routinely withdraws some for domestic use and exports the remainder to Europe. It pays Gazprom for the gas it withdraws and charges a fee for transiting the balance. However, each time there is a dispute, Gazprom reduces the flow, in effect forcing Ukraine to withdraw European gas for its own consumption. If Ukraine had sufficient emergency reserves, this practice would be unnecessary. The suggested solution is to create a reserve storage facility near a Black Sea port and stock it with natural gas from European-owned sources. The source could be gas transported from the soon-to-be-opened Nabucco, either by pipeline or in the interim by tanker-delivered liquefied natural gas. Potential routes are shown in Figure 7 as dotted lines. This would constitute a major end run around Gazprom. The net effect would be to redistribute gas from Central Asia to Ukraine through pipelines not subject to Russian control. With this bypass network in place, there would be no need for Ukraine to tap European gas when Gazprom reduces the flow. Ukraine would pay market prices for the gas it stores and uses. Capital costs would in principle be shared by Europe and Ukraine. Both the EU and Ukraine would benefit. From their past resistance to the Russians, Ukraine would probably be a willing participant.

Anti-trust lawsuits against Gazprom and its partners

Europe does not have direct legal leverage over Gazprom since Russia is not a member of the World Trade Organization. However, the Europeans do have the ability to squelch anti-competitive activities of non-Russian companies that do business with Gazprom. A case in point is the deal Gazprom signed in 2006 with Eni SpA, the Italian energy group. It allows Gazprom through South Stream to sell 30 BCM annually directly to Italian customers. The European Commission could pursue anti-competition actions against Gazprom and Eni under Article 82 of the EU Treaty that governs abuse of market dominance by large corporations. Similar actions could be levied against Blue Stream serving Turkey and Nord Stream serving Germany. In the latter case the offending entity is Nord Stream AG of which Gazprom is a principal stockholder. The European Commission has been very successful against large American and European corporations for alleged anti-competitive practices. Billion-euro fines have been applied for restraint of trade forcing effective compliance with European Commission demands. It is appropriate that they turn their attention to Russian dominance of the natural gas market in Europe.

Membership in the World Trade Organization (WTO)

Membership in the WTO is a leverage point that the EU can exert to induce Russia to ratify the Energy Charter Treaty. The benefits of WTO membership are substantial and Russia has expressed a desire to join. WTO membership means that the joiner automatically receives ''most favored nation'' status. All such nations must deal with each other without preferential trade privileges. Members trade with lower tariffs, lower import quotas and minimum trade regulations.

Entered into legal force in April 1998, the Energy Charter Treaty has been signed by 53 entities. The aim is to strengthen the rule of energy law by creating a level playing field. If Russia ratifies, it no longer will be able to manipulate natural gas flows through pipelines entering Ukraine and Belarus and exiting in Europe because of disputes unrelated to Europe. However, Russia has so far failed to ratify the Energy Charter Treaty.

Russian membership in the WTO is currently opposed by the EU largely due to the heavy-handed pressure used by Gazprom in managing its gas pipeline network, and secondarily because Russia has not ratified the Energy Charter Treaty. Combined with the threat of anti-trust lawsuits, WTO membership pressure might be sufficient to force Russia to moderate its aggressive behavior. Ratifying the treaty moves in that direction.

Summary

Russia's pipeline politics appears to be motivated by the desire to achieve global hegemony in natural gas energy and secondarily to reclaim economic dominance over several former Soviet Republics. Their prospects for success are substantial. Gazprom is the largest gas distribution company in the world, and controls the third largest in-the-ground gas reserves. Gazprom has shrewdly negotiated subsidized deals in Italy, Germany, Serbia, Romania, and the Czech Republic to gain both wholesale and retail footholds in those markets. Although they are state-owned and can afford a very long-term outlook, Gazprom nevertheless deals extensively with the private sector that is more often motivated by short-term profits. Also, Gazprom has attempted to eliminate the transit fees it pays to Ukraine and Belarus for the gas passing through those countries. In this pursuit, they have three tactics:

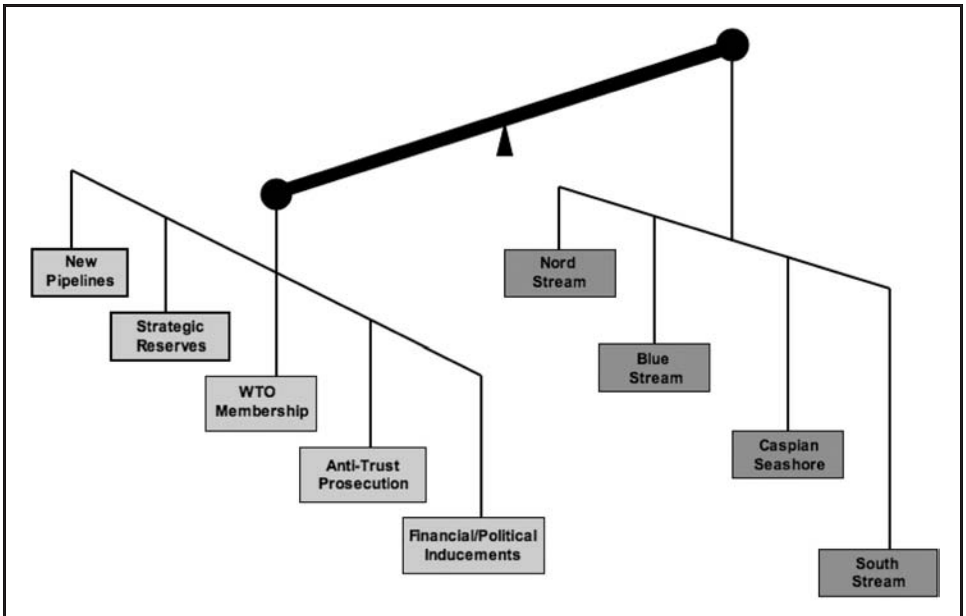
1. Raise the price of gas transiting Ukraine and Belarus, and failing prompt payment, decrease the flow.
2. Build new, Russian-controlled pipelines that bypass Ukraine and Belarus.
3. Interfere with and harass European Union attempts to install competing gas pipelines connecting to Central Asian sources[2].

If those tactics succeed, Europe loses. In particular, its foreign policy on issues considered contentious by Russia is severely compromised as illustrated by the difficulties Ukraine and Georgia are having with their NATO membership applications.

Five actions for the European Community to induce Russia to moderate its gas delivery behavior are suggested:

1. Build new gas pipelines to circumvent the Gazprom monopoly.
2. Build facilities and stockpile reserve storage gas on the Ukrainian black sea coast.
3. Institute anti-trust proceedings against Gazprom corporate partners.

Figure 11 Leverage points in the great gas game



Source: Author Depiction

4. Offer financial and political inducements to Turkmenistan and Azerbaijan to settle their Caspian Sea sovereignty dispute.
5. Back WTO membership for Russia in exchange for ratifying the EU-sponsored energy charter treaty.

Figure 11 summarizes the leverage points that could be used collectively by the EU in the pipeline struggle against monopolistic Gazprom.

Reiterating, Europe can win the great natural gas pipeline game if it is played with commitment. However, Europe must act as an entity, focus on the big prize of natural gas independence, and not permit political lobbying and short-term profits to dilute the effort.

Notes

1. Gazprom has long had a substantial position on gas deliveries to Serbia. Russia has recently leveraged its opposition to Kosovo independence to obtain even greater energy assets there. Serbia is actively cooperating with Russia in planning a South Stream Pipeline extension (see Figure 7)
2. Gazprom has also used a fourth tactic, political influence, with partial success. They have been offering the chairmanship of Gazprom subsidiaries to prominent, retired politicians in Europe and America presumably to lobby on their behalf. Outgoing Italian Prime Minister Romano Prodi recently turned down an offer to become chairman of South Stream, and former US Commerce Secretary Donald Evans refused an offer to run OAO Rosneft. However, former German Chancellor Gerhard Schroder became chairman of Nord Stream in 2005.

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