Should the Russian gas sector be deregulated?

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For many years the powerful NGO’s in Washington DC have been calling for a deregulation of the Russian gas market. The Washington consensus, as well as other strong economic arguments, has been presented often enough to the Russian government, but it has resisted calls even from its Trade and Development Ministry to undergo deregulation. This paper asks if the sector should be deregulated or are there good reasons other than the status quo why the government has resisted deregulation after so many years.

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<td>Boston Consulting Group</td>
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<td>BCM</td>
<td>Billion Cubic Meters</td>
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<td>CIS</td>
<td>Commonwealth of Independent States</td>
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<td>FTS</td>
<td>Federal Tariff Service</td>
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<td>International Monetary Fund</td>
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Should the Russian gas sector be deregulated?

1. Introduction

The state of the Russian gas sector is of paramount importance. Not only does Russia hold the world’s biggest reserves of natural gas, it is also the world’s biggest producer and exporter. It plays a major role in the energy security of Europe, supplying over 25% of its gas needs, with recent shipments of LNG to America and a sub-Caspian gas line to Turkey (Blue Stream). Gas also comprises the biggest part of the Russian domestic energy mix. But the sector is heavily under-invested and some have cast doubt on the ability of OAO Gazprom, the state gas company, to continue sufficient investment into the development of new reserves and upkeep of ailing infrastructure.

It seems that everybody has called for deregulation, specifically price deregulation, from the WTO to Gazprom itself. Yet the Russian government seems reluctant to allow this, for with deregulation there must follow liberalisation of the sector. If there is no government oversight, competition must be introduced to ensure fair pricing to consumers, argue economists. This paper seeks to determine what type of reform, if any, is needed. The first section provides a snap-shot of the current state of the Russian gas sector. The following two sections discuss the arguments for and against deregulation with the penultimate section identifying the desires of the supporters of deregulation and suggesting how these desires may be achieved without the need for deregulation.

2. Current Climate

The gas sector in Russia is perhaps the most protected industry in the Russian economy. Historically it has been considered a strategic sector and this has been the position of the Russian government to this day. Currently the sector is dominated by a state owned enterprise OAO Gazprom, which after a recent round of acquisitions has allowed the government to increase its stake in the enterprise to 51%.

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1 A Gaz de France ‘swap’ allowed Gazprom to ship gas to the US without operating its own LNG terminal
Gazprom is a financially vertically integrated company, structured around eight main producing companies. The producing companies sell their gas to Gazprom at internal transfer prices (usually below production costs), solidifying their dependence on the parent company. Furthermore, Gazprom holds a monopoly on transport, through a wholly owned subsidiary, Transgaz, compelling other gas producers to sell to Gazprom at prices regulated by the incumbent, often below an economically viable price. As a result, in 1997, after a request from the IMF, the Russian government introduced a common carrier principal on the gas pipeline network; however, with no effective body to enforce this, implementation of this provision was left to the goodwill of Gazprom management.3,4

Gazprom does not, however, own the distribution networks and as such the low pressure regional and city networks still fall under the control of the local administration. Yet during the late 1990s, Gazprom acquired some 10% of these distribution networks through a series of shares-for-debt swaps and bankruptcy proceedings.5 Since that time, the company has acquired just under 75% of the distribution system (about 428,000 km) through 179 gas distribution companies.

Gazprom also holds a monopoly on export, through another wholly owned subsidiary, Gazpromexport (formally known as Gazexport), which took over all former Soviet Union long term export contracts. Since all the export contracts have been consolidated into this company, which also holds an existing monopoly on transport, it is impossible for other producers to enter the export market, without the permission of the government.

Currently, the price for gas supplied by Gazprom to the domestic market is regulated by the state, under the Russian Federation Act on Natural Gas Supply [1999], and only the remaining 30% supplied by other producers, whose prices are not regulated by the state. “Other producers” include some independent producers of gas as well as oil producing companies, who produce associated gas.

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5 In 1998, six independent producers shipped 28.2 BCM.
Russia has the lowest energy prices out of all European countries. Households pay between €18 and €24 per 1000 cubic metres of gas. Both residential and industrial consumers pay a gas price according to the pricing zone in which they live or operate. These zones are defined by the distance from the wellhead\(^6\) and until 2005 there were seven zones. From the 1 January 2005, there are 12 pricing zones.\(^7\)

\(^{6}\)“Wellhead” is considered to be the Yamal-Nenets Autonomous District in the Tyumen Region.

\(^{7}\)Gazprom in Figures 2000-2004
Not only is there subsidization by the government in the form of low prices but also subsidies in the form of non-monetary settlements. This includes non-payments as well as barter, promissory notes and inter-enterprise credits. In 1999, for example, monetary payments comprised only 18.5% of revenues received by Gazprom from domestic sales.

It is also interesting to note that over 80% of Russia’s households are billed for energy regardless of consumption levels. Bills are calculated on living space (per m²) or registered persons (per household). For instance, a household with three registered persons may expect to pay three times more than a household with one registered person for the same use of the gas oven. Even if a meter is fitted, there are further discrepancies: a pensioner living in the same building as an office space hired by a medium sized company, would pay the same rates for the utilities used.

Russia currently has a dual pricing system. The price for gas on the domestic market is considerably lower than the price charged for gas to the export market. Domestic

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8 One of the most common forms of commercial credit in Russia is the promissory note, or "veksel". "Veksel" is the Russian word for "promissory note": the two terms are used interchangeably in the Russian banking sector.


prices, even though the tariffs have increased in recent years, remain low at €20-25 per thousand cubic metres (TCM). Prices for export to Europe have always been substantially higher, with the current price averaging US$230 per TCM (approx. €196).

There exists a third tier, which is overlooked in the title of ‘dual pricing’ formula of Russian gas. This tier refers to the sale of gas to the CIS states, where the average netback value has until recently been US$50 (≈ €35) per TCM. This price was derived from a discounted price sold to Europe. The income of the CIS states is clearly lower than that of their European counterparts, and the demand less strong, and thus Gazprom felt that the price is adequate, so long as it continues to cover their short run marginal costs. As of this year however, Gazprom has begun to raise the price of gas sold to CIS members, however.

3. Arguments for deregulation

3.1 The Washington Consensus

The stance of these two NGOs has been that market forces must be introduced where they are missing and not be interfered with, once established. Arising from this ideology, there has been pressure from the US and the EU for a liberalisation of, and the introduction of competition into, the Russian gas sector. The problem of such arguments is that the ‘one size fits all’ approach simply does not work when applied to certain cases, as was encountered in Russia during the 1998 economic collapse.

3.2 Investment into production and infrastructure

Perhaps the strongest argument for deregulation and liberalisation of the sector is the financial position of the state concern. OAO Gazprom is heavily in debt, continuing most operations through securing further funds in the capital markets. Yet most of the resource base is old soviet deposits which are in the declining stage and in need of further investment. Further investment is needed to develop new fields to continue the current level of production, or to increase it as is currently planned. Furthermore, the
infrastructure is mostly soviet built and ailing in the majority of cases. Not only has a considerable time elapsed since construction (the united gas transportation system began with the first pipelines in the 1940’s) but there has been little maintenance or replacement. In any case, the infrastructure was built and installed in a hurry, corresponding to less strict standards that might be expected of similar projects today. Gazprom has been making some necessary investment to maintain and replace some of this infrastructure; however financial constraints prohibit wide-ranging initiatives. It is argued that once the domestic price of gas is increased to mirror European levels, Gazprom would increase its profits by US$60bn annually allowing the much needed investment into new reserves and infrastructure. According to a BCG report if the price of domestic gas was increased to only US$50, ceteris paribus, Gazprom’s revenue would increase by US$9.3bn, and the subsequent increase profit would be over US$7bn.

![Graph showing Gazprom revenues 2003 (estimation) and after gas price rise to $50/1,000 m³](source: BCG analysis)

Alternatively, introduction of competition would ensure that investment is made by new independent players in the market. This argument is null. Due to the extensive nature of the existing infrastructure, any additional construction would be uneconomical (it would more than double the costs associated) and the free rider problem here is also obvious. If one is to force the new entrants to commit some funds to infrastructure maintenance and replacement, we have positive regulation, which we

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11 Actual profits from export were US$16.5bn and US$18bn in 2003 and 2004 respectively.
12 ESMAP (2003)
wanted to remove by the introduction of competition and the argument becomes self-defeating. If we leave this to market forces, the free rider problem prevails.

3.3 Consumption and Efficiency

On the other hand, artificially low prices for natural gas means there is no incentive to conserve energy, which translates into a growing demand for the fossil fuel. By Gazprom’s calculations, the demand for gas grows at an average annual rate of 3 BCM. Research by BCG has indicated that consumption can be substantially decreased by an increase in price and the installation of valves and meters.

![Figure 5](image)

Increased gas prices would also encourage greater energy efficiency on the part of the industrial users. An increase in the price of gas would also stimulate other energy industries, not only increasing energy security through diversification but also creating growth in new industries, such as fuel oil and coal.

3.4 Regulatory capture

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13 Gazprom in questions and answers
The argument here is that regulation of Gazprom is really but a concept. Because of the phenomenon of regulatory capture\textsuperscript{14} which is particularly applicable to countries of the FSU, regulation becomes only theoretical. The Federal Tariff Service, the regulator, has been responsible for setting gas prices for the domestic market, as well as tariffs for transmission of gas for non-Gazprom organisations. This is always done in consultation with Gazprom, often because it possesses the necessary information without which such decisions would be baseless. In essence Gazprom is a quasi-ministry that is regulating itself. If one is to remove the regulatory body, the benefit is the removal of a wasteful resource, and very little downside effect.

4. Arguments against deregulation

4.1 Price Deregulation

In order for total deregulation to take place there must be some mechanism to ensure that the current monopolist is kept in check and to ensure fair price to the consumer. In fact, one of the arguments for deregulation is that competition will prevent the monopolist from exercising monopoly pricing, and eating away at consumer surplus. This point is obviously moot because the current regulated price for gas in the domestic market is at or below short term marginal cost, certainly for the residential consumer.\textsuperscript{15} Under a system of perfect competition, the residential consumers would be charged long term marginal cost, which without subsidy would be unaffordable to a large percentage of the population. In Russia’s case, we can say that the fair price for domestic consumption of natural gas would not exceed the price which the consumers would be able to pay. If the price exceeds this level, there will be wide non-payment, because natural gas is a vital part of the domestic utilities and so consumption will continue. In this case the government will have to intervene and distort the natural market forces. If the price remains regulated on the domestic market, there will be no incentive for new entrants to supply the domestic market, and all new natural gas production will be aimed at the export market. With no overall regulation, Gazprom will have no incentive to supply the domestic market either and all the production will also be aimed at the export market. This creates a problem in

\textsuperscript{14}A term coined by Richard Posner, detailing how the regulator may unwittingly perform tasks to the ultimate benefit of the entity being regulated.

\textsuperscript{15}The industrial consumer does pay more (household prices are lower by an average of 28%), and some consumers are supplied from a spot market.
itself: if such large volumes hit the export market, the price will drop considerably, due to the simple theory of supply and demand.\textsuperscript{16} Currently Gazprom exports over 175 BCM of gas (of which 100 BCM are exported to Western Europe)\textsuperscript{17} and 330BCM are delivered to Russian consumers (of which 40 BCM is in the unregulated market). Therefore, if additional 300 BCM were added to the export market, this would hugely distort the market power of Gazprom and with it, the price premium. The government could impose a tax levy on export of gas, one which would make the independent producers indifferent as to which market to supply, but this would also have to apply to Gazprom, since it is a public company. Until the price for gas on the domestic market will not reach a level which will make all producers indifferent as to which market to supply, the government cannot remove the regulation of domestic price for gas. This can only happen when the Russian consumers will be able to pay the same price for gas as European wholesalers (minus the transit fee and export duty). But even if we were to assume that competition would bring about further efficiencies, these efficiencies may often be socially undesirable. Russia is the largest country in the world, with extreme temperature swing, and in many cases operating long-distance pipelines to supply a small town with gas is economically inefficient. Without regulation, there is nothing to stop these remote locations being cut off from the gas supply altogether. The supply of these towns may not be efficient, but the goal of equity must nevertheless remain important.

4.2 Unified Gas Transportation System

Apart from prices, there remains the question of Gazprom’s vertical integration. The incumbent’s position is solidified by the ownership and control of the transmission network. Oil companies that produce associated gas are unable to access the pipeline despite common carriage rights. However, an unbundling of the enterprise would remove the much needed finance that is being directed by Gazprom to the infrastructure. In 2004, Gazprom’s investment into transportation and storage was 125bn roubles,\textsuperscript{18} which at the then exchange rate is just under US$4.5bn – an entity unbundled from Gazprom would be unable to continue such investments from

\textsuperscript{16} Tarr, D. and Thomson, P. (2001)
\textsuperscript{17} Gazprom in figures 2000-2004
\textsuperscript{18} Ibid.
revenues generated through transit fees. In any case, because pipeline operation is considered a natural monopoly that shows strong signs of subadditivity, it would have to remain as either a state-owned entity, requiring the state to reimburse stakeholders, or heavily regulated, which counteracts the initial desire.

4.3 Political Dogma

Although there is no political dogma as such, the natural gas sector is considered of strategic national importance. The reasons for this are obvious: apart from being the world’s biggest producer, gas constitutes more than 50% of the Russian energy mix. Obviously the government needs to maintain some control over such a vital part of the country’s lifeblood. This is not hugely unusual; in fact in the UK the Labour Party policy has traditionally been to control the “commanding heights” of the economy. The French and Italian governments have also sought to take ownership stakes in certain industries.\textsuperscript{19} The government strategy however is more practical than dogmatic. The task is evident, to grow Gazprom into a multinational energy company.\textsuperscript{20}

5. What is the desired outcome?

Having identified the arguments surrounding the liberalisation and deregulation debate, it is perhaps worth extrapolating the desired outcome of the proponents of deregulation. The strongest argument seems to be the underinvestment by Gazprom into infrastructure and new production. The concern is that Gazprom will be unable to continue the current levels of production, and thereby threaten the energy security of the European Union which relies on timely delivery of Russian natural gas. This is also highly topical as the consumption of natural gas in Europe is set for steady growth.

\textsuperscript{19} Waterson, M. (1988)
\textsuperscript{20} Take over of Lukoil and Surgutneftegas would make sense for this strategy.
The pipeline network and compressors are also an important part of this equation. Granted the wellbeing of the Russian population who rely heavily on natural gas is likewise a concern. Therefore the outcome would be an increase in Gazprom profits (or decrease of debts) through some mechanism which would allow greater investment into new production and infrastructure.

Just as importantly, access should be made available to foreign or independent firms to enter the gas sector. This is often tied into the investment claim but is also the fundamental demand of the Washington Consensus. Because independents are free to own gas resources, and indeed they do, the crux of the matter lies in access to the pipeline network which is currently owned by Gazprom. What is required here is that there exists a transparent tariff system, an open third party access or common carriage policy, and an efficient mechanism to settle disputes in a fair and timely fashion. Independent producers should be able to collect reasonable rent from the exploitation of the hydrocarbon reserves. This should be done by selling in the domestic Russian market at or close to the price levels prevalent in the European market. In the absence

\[21\text{ Independent producers own } 20.9\% \text{ of total Russian reserves} \]
of this, they should be freely able to export the gas to a market where they can secure such a price.

This arrives at the next point, that Russian industry which is energy intensive or consumes considerable amount of natural gas in the production chain, such as metallurgy, cement, petrochemicals and fertilisers should not be subsidised via cheap sources of natural gas as electricity or feedstock. The WTO sets this as a condition of joining the organisation. Therefore the desired outcome would be for the aforementioned industry to be supplied with European prices for gas.

6. Other ways to reach the desired outcome

Once the actual desires of the proponents of deregulation and liberalisation have been established, it is worth seeing if these can be satisfied by other methods other than deregulation and liberalisation.

The increase of Gazprom profits for the purpose of increased investment into production and infrastructure is achievable without the increase of prices on the domestic market to world levels.

Gazprom has started to acquire other oil producing companies, thereby adding their profits to its own balance sheet. After some time, the companies will amortise the loans received by Gazprom for the acquisitions through their own profits, and thereafter continue to contribute these profits to the Gazprom balance sheet. It is also likely that their profitability ratios will increase, as some benefit is achieved through increased economies of scale and scope, and from the new market for the natural gas reserves. Sibneft was the first acquisition, which will certainly be followed by others, such as Lukoil and Surgutneftegas. As these assets are added, Gazprom will be able to secure further credit on the basis of these assets, using them as collateral\textsuperscript{22}. Also, from 2005, those independent producers that wish to use the UGS on long term contract basis will be required to make some contribution to the rehabilitation, expansion and upgrade of the transit network. To increase its operating profits in the near term,

\textsuperscript{22} Debt is the cheapest method of raising finance, and so this strategy seems to be economically sound.
Gazprom will continue with the cost cutting strategy outlined by Alexey Miller, the Chief Executive.  

The introduction of foreign partners into the Russian gas sector has become a recent occurrence but has allowed Gazprom to continue to diversify its production portfolio. Technology transfer as well as capital injection of foreign partners is achieved via this process.

On the domestic market there has been a gradual increase of the domestic prices for natural gas and this will continue if the economy continues to expand.

![Figure 7](Source: Gazprom in Figures)

A good way to increase revenues for Gazprom is to increase the price of gas sold to FSU countries. As mentioned above, these countries pay a heavily discounted price for gas. However as of the end of 2005, some countries have moved closer to a world price for gas, such as Ukraine, which now pays US$230 per TCM of Russian gas, up from US$50 and Moldova which now pays US$110, up from US$80. The Moldova deal will bring in an additional profit of US$102 million in 2006.

Another method, which has not been implemented by Gazprom, is to increase the pricing tiers used to calculate end-user gas price on the domestic regulated market.

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24 Excluding the Sakhalin projects
25 Although no official ‘world’ price exists, this term is often used in reference to the price received in Western Europe.
Currently, the price is set for residential and non-residential users who pay by pricing bands in accordance to their distance from the well-head (considered the Yamal-Nenets autonomous region). However, no distinction is made between commercial and industrial users. This should be introduced so that industrial users that rely on gas as a feedstock or are very energy intensive and thereby calculate their profits as a function of natural gas price pay a higher price than commercial organisations that use the gas for heating or electricity. Furthermore, commercial and industrial organisations should pay a gas price set by price bands according to annual turnover. It is agreed that the price for the domestic market must not exceed that which consumers are able to pay, and since this is far below the market price of the European market where consumers are able to pay a higher price, those consumers that are able to pay the higher price should be charge that same higher price. It also seems rational that a shop with an annual turnover of US$40 million should pay a higher price for gas than a small kiosk on the same street. It is not uncommon to find a travel agency, for example, paying the same rate for gas as a pensioner living in the same building.

The participation of foreign firms and independents in the gas sector is an understandable desire of the West. Access to independent producers has been open and indeed over 20% of gas reserves in Russia are currently owned by independent producers. The FTS has clearly outlines the TPA rules for access to the UGS which have been incorporated into Federal Law. The tariff for the transit of gas is also published and incorporated into Federal Law. Despite criticism by certain analysts that Gazprom does not allow access to the pipelines, 33 independent producers successfully shipped 99.9 BCM (≈ 3.5tcf) in 2004. Seeking to simplify access to its gas mains, Gazprom will, in the first two quarters of 2006, finalise the drafting of its new internal Policy Governing the Preparation and Issuance of Permits to Independent Entities Seeking Access to Gazprom’s Gas Transportation System. The compliance of independent suppliers with the terms and conditions of access to Gazprom’s gas mains is monitored by a special government panel whose decisions are binding for all the parties concerned.

26 For example Arbat Prestige, a perfume and cosmetics outlet
27 Transit tariff presently constitutes US$0.92 per TCM per 100km for export and RUR 19.37 per TCM per 100km for the domestic market
In any case, Gazprom now invites major international energy companies to participate in project ranging from production (Shtokman) to pipeline operation (NEGP).

For smaller energy companies that are unable to participate in these JVA with Gazprom, the unregulated spot market is growing, and is currently in excess of 85 BCM. Gazprom has been lobbying the government to increase the spot market by allowing more industrial users to be supplied from this market.

On the issue of entry into the WTO, Russia has been under pressure to increase the price of gas to Russia’s export-orientated manufacturers, considering the supply of cheap gas as export-subsidising. However, the Russians have pointed out that this does not violate WTO ascension requirements. In any case, the author is not entirely convinced that entry into the WTO will be wholly beneficial to Russia from an economic perspective. The abovementioned retarification and widening of the spot market should go some way to satisfy the WTO demands.

7. Conclusion

Having analysed the desired aims of the proponents of deregulation, and thereafter identified a number of ways in which these aims can be fulfilled in ways other than deregulating the market, it is possible to conclude that deregulation is not required at this stage of the development of the gas sector. In fact, it can be said that deregulation at this time would be counterproductive and destabilising. The sector may develop in the near future and at which point discussions of this nature may indeed need to be encouraged. The sector is not at this stage yet. The Russian gas sector should not be deregulated at this time; it may however evolve so as it may need deregulation in the foreseeable future but this question will have to be revisited nearer that foreseeable future.
8. Bibliography


Pravda. (2004) Gazprom Board of Directors to change ways of selling gas in Russia, Pravda Newspaper, 4th February


Gazprom in Figures 2000-2004

Gazprom in questions and answers, http://gazpromquestions.ru