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THE VIABILITY OF DEREGULATION IN THE RUSSIAN GAS INDUSTRY¹

C. Locatelli, IEPE, January 2003

Russia, with total production of 581 bcm (billion of cubic meters), is the world's leading producer of gas. Despite that, however, the problems currently faced by its gas industry are many and significant. On one hand, questions are still being asked on the capacity of Gazprom, the national company, to face up to the considerable financial needs to renew the major gas deposits developed under the Soviet days. The Russian gas company is already heavily indebted, while the profitability of a significant portion of its domestic market sales has still to be demonstrated because of very low gas prices and a significant level of non-monetary relations. On the other hand, the progressive deregulation of the European gas market, its principal export market, carries stakes of a different kind for Gazprom. Its most likely effect will be to bring about significant changes to the future long-term gas contracts that form the basis for the long-term financing of investments and therefore the development of industrial capacity.

These issues have placed once again on the agenda the oft-repeated and oft-avoided question of reforms in this industry. The latest project, discussed in 2002, was centred on deregulation that consisted in essence of ending the gas company's monopoly on sales and production. The aim of this reform is to favour the development of competition on the Russian domestic market. This issue raises the ever-present problem of whether the deregulation reforms are compatible with the institutional environment in which they are being applied. According to the institutional literature devoted to this issue, compatibility is characterised by three separate criteria². First of all, reforms must be "attractive", which means that they must be acceptable to the government and various social groups. This supposes that its redistributive effects will be limited. Next, they must be "feasible". In other words, there must be no intrinsic barriers to their implementation and the government must be capable to enforce them. Finally, the institutions must ensure that the reforms are "credible", by guaranteeing that they will not veer off course or come to nothing, most notably through legal or electoral intervention. The current debate is based on criticism of the efficiency of Gazprom's organisational model in the current institutional situation, and therefore relates to the attractiveness and feasibility of the reform.

The Gazprom's model is the one that allows the phenomenon of non-monetary relations to be managed as effectively as possible. The Russian economy has benefited from stable and inexpensive supplies of gas, despite the insolvency of a large number of industrial and domestic consumers and of some distributors. In return, Gazprom has been able to obtain a certain number of advantages like the privileged access to hard currencies from its exports, which have allowed it to finance its investments to some extent. The deregulation reform being discussed therefore poses a fundamental question: is the development of competition that would be allowed by the progressive changes in the industry's organisational structures compatible with the gas industry's institutional and economic environment? The answer is not a simple one, but already a number of factors can be taken into consideration as being likely to limit its scope. It is inconceivable to introduce competition without instituting major price

¹ We would like in particular to thank Dominique Finon for his comments and suggestions, which were a valuable contribution to the structure of this article.

² Levy, B., Spiller, P., *Regulations, Institutions, and Commitment*. Cambridge University Press, 1996.

reforms and a strict payment settlement regime. Turning gas-related exchanges into cash exchanges appears to be an essential condition for reform. At the same time, the organisation of inter enterprise relations into informal networks and industrial and financial groups, which has allowed non-payments to be effectively managed and guaranteed the survival of enterprises, could reduce the scope of the reforms, especially with regard to prices.

The reform of Gazprom has triggered much discussion in Russia and at an international level, because the aim of the reform exceeds the sectorial economic interests. On one hand, its success depends to some extent on the level of progress made by economic reforms overall. On the other hand, it depends on the structure of the industrial system which has resulted of the mass privatisation programmes and the demonetisation of the economy during the 1990s. Having set out the main aspects of the planned reforms, we will now look at their attractiveness and feasibility.

I - THE MAIN AREAS OF REFORM IN THE GAS INDUSTRY

The reform of the Russian gas industry, begun in the time of Mikhail Gorbachëv and continued in 1991 and 1992, is the subject of a continuing debate that brings advocates of centralisation into confrontation with those in favour of deregulating the industry. In this area, the latest projects being discussed all have the same objective of introducing competition into the sector, but they differ somewhat on the issue of whether or not Gazprom should be de-integrated. In recent months the gas company, which itself has long since opposed any reform of the gas market structures, has become more and more interested in maximising the value of its production and reserves. From this perspective, reform of the organisational structures is intrinsically linked with a major reform of gas prices on the Russian domestic market, these prices currently being heavily subsidised. Although it has not been addressed for some time, this issue is in fact the key to any major development in the industry.

1.1. The actual industrial structures

The structure of the Russian gas industry is dominated by Gazprom, which is a quasi-monopoly vertically integrated in terms of production and transport. The financial holding company Gazprom is structured around nine main production companies set up in profit centres in which the holding company has a 100% shareholding, and a transportation company Transgaz in which the holding company also has a 100% shareholding. The gas monopoly is a State monopoly in the sense that the State is the dominating shareholder with 38.4% of the shares. The rest is divided up as follows: Russian legal entities hold 33.6%, Russian individuals 17.7% and foreign investors 10.3%. The holding company is therefore privatised only to a very limited extent, and openings for foreign capital are limited. For international investors, the shares in Gazprom's capital are limited by a law that restricts their participation in the company to less than 20%³. Further to that, the investors may only gain access to Gazprom's capital via ADRs, or American Deposit Receipts, quoted on foreign markets at rates very much higher than those applied in Russian financial institutions⁴. The market for shares in the gas company is still neither unified nor free.

³ "Russian State to Retain 35% of Gazprom, by Law". *Gas Briefing Europe*, April 1999, p. 12.

⁴ In Russia, for national investors, shares in Gazprom may only be exchanged at the Moscow Stock Exchange, the St Petersburg Exchange, the Siberian Stock Exchange and the Yekaterinburg Exchange.

Relations between the financial holding company Gazprom and its companies are dominated by a specific co-ordination mechanism known as internal transfer prices. These are the prices at which the holding company Gazprom purchases the gas from the production companies via Transgaz. Generally set at a level lower than that of gas production costs⁵, they allow the production companies to be kept in a deficit situation, which means that their independence is considerably lessened. Through this mechanism, the organisational structure of Gazprom keeps the financing of investments centralised. The other significant element in this method of organisation is the centralisation of exports through the company GazExport, held 100% by Gazprom. Having taken over all the gas contracts signed between the old Soviet Union and various European countries, Gazprom obtained an export monopoly that guaranteed it access to the currencies linked to these exports.

In recent years a number of new producers have emerged, including Itera, created from the transfer of production assets previously held by Gazprom and of export contracts from the former CIS, and four major oil companies Lukoil, Yukos, Surgutneftegaz and Rosneft. These companies have as yet unexploited gas reserves, significant in places. Gazprom holds only 70% of proved and probable Russian reserves⁶. At present, most of their production consists of associated gas. These new producers have not lessened Gazprom's dominance at the production level. In fact, because of Gazprom's monopoly on transport, these new actors are compelled to sell their gas to the gas company at prices fixed by the gas company. Most of these prices are not greatly attractive and do not guarantee even a minimum of profitability. Following a request from the IMF, in July 1997 the Russian Government introduced a reform centred on the function of Gazprom's transportation network as a *Common Carrier*, in order to introduce a degree of competition by establishing legal bases for non-discriminatory access to Gazprom's network. However, as there was no support in the form of regulations, implementation of this provision has remained largely dependent on the goodwill of the gas company.

At the gas distribution level, the networks (regional networks and low-pressure city networks) are outside Gazprom and as such have remained under the control of regions and municipalities. The distribution companies known as Gorgaz are responsible for the distribution network within the cities. Oblgaz companies co-ordinate the distribution of gas at Oblast' level. At the higher regional level, Mezhraigaz companies are responsible for distributing gas to areas made up of several Oblast's and are required to purchase the gas from Gazprom. In recent years, Gazprom has extended its participation in these networks by exchanging their debts for shares and by making direct purchases in the context of bankruptcy procedures. 10% of the distribution network is therefore held by Gazprom, and it is expected that this process will continue⁷.

⁵ Kryukov, V., Moe, A., *The new Russian corporatism? A case study of Gazprom*. London: Post-Soviet Business Forum, The Royal Institute of International Affairs, 1996, p. 20.

⁶ Gazprom estimates that Russian oil companies could provide gas supplies to the tune of 150-170 bcm in the period 2010-2020. "Gazprom hints at transportation quota for independent gas producers", *Gas Briefing International*, May 2002, p. 3.

⁷ *Russia Energy Survey, 2002*. Paris: OCDE/AIE, 2002, p. 119. These share acquisitions are most notably carried out through Mezhhregiongaz, a subsidiary of Gazprom, created in 1997 and responsible for managing Gazprom's sales to the distribution companies.

This organisational and institutional structure is complemented by a commission of regulation, the FEC or Federal Energy Commission, which has particular responsibility for regulating the gas industry in a natural monopoly situation. To do this, the Commission, created in 1992, relies on the federal law concerning natural monopolies (August 1995) and the decree of 28 April 1997⁸. Its task is to regulate prices in the gas industry, to monitor its investments, and to restructure the sector. However, it does not have any real independence in relation to the public authorities. In order to respond to the macroeconomic aims of fighting against inflation or maintaining economic growth, the government has intervened on numerous occasions in the fixing of gas prices. As the prices are in theory defined on the basis of production costs, this provision should have the effect of triggering huge increases in prices given their current levels. In fact, however, the government has intervened on numerous occasions (especially in 2002) to limit price increases, despite the recommendations of the FEC. The independence of the Commission is therefore wholly theoretical, the capture of the regulator by the government being of particular importance⁹.

1.2. The Gazprom reform project

In recent years, the drop in production (-3.6% between 1996 and 2001, see Table 1) has stimulated the debate on reforming the gas company. Gazprom's monopoly has been called into question at both domestic market level and export level. The main criticism has come from certain government members and from the oil companies (Lukoil, Yukos and Surgutneftegaz).

Table 1: Evolution of the Russian gas production from 1991 to 2001, in bcm

	1991	1993	1996	1999	2000	2001
Russia	642.9	617.6	603.0	590.7	584.2	581.4
Gazprom	601.6	577.6	564.7	546.6	523.0	512.0
<i>Nadym-Pur-Taz region, including:</i>	533.3		527.7	510.8	505.0	
Nadymgazprom	68.9	68.0	65.3	72.4	73.6	
Yamburggazodobycha	166.8	174.0	176.5	175.9	168.0	
Urengoygazprom	282.8	262.8	242.2	209.1	193.3	
<i>Outside Siberia, including:</i>	63.4	44.0	40.4	-	-	
Orengburggazprom	48.0	34.5	28.7	24.8	24.2	
Outside Gazprom	41.3	40.0	38.3	44.1	61.2	69,4
Itera	-	-	-	6.0	18.0	
Oil holding companies				29.5	31.0	

Sources: *Gazprom*, Moscow, *Itera Group*, *Gas Matters*, September 2001.

- **The aims of the reform**

Through the channel of reform, the various actors in the gas industry are pursuing different targets. Having significant reserves, the Russian oil companies intend in the short term to develop a major gas strategy provided a number of barriers to entry are lifted, especially conditions for access to the Gazprom main pipeline network. Being obliged to sell to

⁸ Decree relating to "The main regulations concerning structural reform in the area of natural monopolies".

⁹ With regard to fixing tariffs, the FEC has been subject to two contradictory conditions since 1998. On one hand, prices must be fixed on the basis of costs, while on the other hand, prices must not increase too much so that industrial growth can be facilitated. *Russian Federation: OECD Economic Studies*. OCDE, Volume 2000/5, February, p. 132.

Gazprom at non-competitive prices, they do not have any incentive to develop new production. In consequence, they are claiming free and non-discriminatory access to Gazprom's network in order to have an access to the solvent domestic market and especially to the export market. For the oil companies, the question is above all one of access to international markets and the associated foreign currency profits. Given the current state of the Russian gas market, which is distinct for having non-monetary exchanges and very low internal gas prices, their intention is primarily to dedicate their production to exports.

In the same way a number of "reformers", such as the Minister for Economic Development and Commerce, Mr G. Greff, want also to deregulate the gas industry. However, their main aim is to improve the competitiveness of the Russian gas industry by creating competition between producers at the internal level. (These new producers will be the Russian oil companies or new producers of gas only). Their position is slightly qualified by the issue of deregulation of gas exports, which is not one of their priorities.

Institutional changes in Russia's principal export market, the European Union, are likely to make this competitiveness and efficiency objective top priority. Deregulation of the European gas market, which will lead to competition between suppliers, is also likely to bring about a fall in prices¹⁰. In this context, Russia's capacity to maintain and indeed increase its market share will depend upon the competitiveness of its exports in relation to those of its potential competitors. Even though only a little information is available on Russian production costs, because of the statistical secrecy practised by Gazprom, it is likely that the gas supply cost structure will cease to be favourable to Russia as and when the major deposits brought into production during the Soviet era (Urengoy, Yamburg and Medvezhe) become exhausted. Much effort will therefore be needed to bring about rationalisation in the Russian gas market.

- **The content of the reform**

Comprehensive reform should include the abolition of Gazprom's quasi-monopoly on production and exports by removing the barriers to entry and possibly dispersing its production assets, defining a third party access to pipelines and deregulating gas exports. The planned reforms for the Russian gas industry, drawn up in 2000 by the Ministry of Economic Development and Commerce, the Federal Energy Commission and the Minister for Anti-Monopoly Policies and Enterprise Aid, all pointed in this direction. It was a question of splitting production from transportation, creating six producers from the existing production companies currently held by Gazprom, and that company would have been reduced to its sole function of transporter with a natural monopoly and public status. The entry of new producers was also to have been facilitated¹¹. Since then, the Ministry of Economic Development and

¹⁰ On the question of deregulating the European gas market and the consequences of this on Europe's traditional suppliers, the reader is referred in particular to:

- Boussema, S., "New European Gas Market : Gas Strategies of Other Present and Potential Suppliers". *The role of Russian and CIS Countries in Deregulated Energy Markets*. The 1999 International Conference, Paris, 6-7 December 1999, The Moscow International Energy Club, and the Centre de Géopolitique de l'Énergie et des Matières Premières of University of Paris Dauphine.

- Finon, D., "European Gas Markets: Nascent Competition in a Diversity of Models". *Reform Group Project and IEPE, University of Grenoble*, Research Book, July 2002.

¹¹ The three main stages of this deregulation process were as follows. The first was to set up transparent and non-discriminatory access to Gazprom's network with a parallel emergency of new independent gas producers. The vertical integration of Gazprom would not have been affected but the investors would have had the chance to acquire holdings in the capital of the production companies held by Gazprom. This development would have subsequently allowed de-integration of Gazprom. Not until the second stage (after 2004) would a true

Commerce has reviewed its plans slightly, with objectives over and above those originally envisaged, even though the deregulation of the gas industry is still very much on the agenda. Therefore, the main aim of the plans discussed in late 2002 is to create the conditions needed for new producers to emerge. The first stage of the reform, to begin in 2003, will be the setting-up of a transparent and non-discriminatory transportation network for Gazprom, with prices regulated by the FEC, and the creation of an unregulated market alongside a regulated market. It is defined as the first step towards deregulation of the gas industry. Gazprom will retain the monopoly on exports. The second stage should cover the progressive increases in gas prices. In the short term, de-integration of Gazprom is no longer on the agenda, even though a single transport company, held 100% by Gazprom, is likely to emerge. This stage could be the prelude to a more comprehensive reform of Gazprom.

1.3. The creation of a two-tier market, a necessary condition for new producers to enter

The process of reforming industrial structures, especially the Gazprom monopoly, must be inextricably linked with a major reform in gas prices, otherwise major distortion will occur. The method of determining these prices is defined by substantial subsidies, which take two forms. The first consists of significantly undervaluing gas prices on the internal market and with substantial cross-subsidies between the industrial sector on one hand and the residential and agricultural sectors on the other hand; the two latter are subsidised by the former. In 2001, these prices were \$10 per 1,000 m³ for households and \$15-16 per 1,000 m³ for industrial units, compared with an average of \$120 per 1,000 m³ for exports to Western Europe¹². In addition, since 1997 actual gas prices have fallen noticeably, a drop that was barely compensated for by the 15% price increase in June 2002. The second form of subsidy, at least until 2000, showed in the development of non-monetary relations on a considerable scale: barter, non-payment, inter-enterprise credits¹³. These forms of payment have brought about major distortions in the Gazprom's cash flow, with a marked difference between nominal prices and effective prices received by the Russian gas company in the context of barter relations. As a result, there has been a strong incentive to attach priority to exports to international markets to the detriment of the internal market. This has already been noticed in the investment projects conducted in partnership with international companies aiming first and foremost at the export markets and with Russian oil companies. The draft production sharing agreement between TotalFinaElf and Gazprom, which relates in particular to the development of the Shtokman deposit, addresses this question in particular. For Total, most of the production would have to be geared towards exports to European markets, while Gazprom also intends to supply the internal market from this deposit. In a situation in which the export market is closed to entrants, the profitability and viability of the new production will not be guaranteed. There is therefore little likelihood of a competitive market emerging on this basis for internal supplies.

competition-based wholesale market developed. Finally, in the third stage (2007-2013), Gazprom's activities would have been centred on exports.

Russian Federation: OECD Economic Studies, OECD, Volume 2000/5, February, *op. cit.*, pp. 171-173.

¹² *Petroleum Economist*, February 2002, p. 40. Butler, M., "Russian Gas for Europe", *Oxford Energy Forum*, February 2002, pp. 3-6.

¹³ Monetary payments in 1999 therefore accounted for just 18.5% of Gazprom's internal sales. Veksels accounted for 4.9%, barter for 28.9% and compensation relations 38.2%. *Russian Federation: OECD Economic Studies*, Volume 2000/5, February, *op. cit.*, p. 146.

In order to create the incentives necessary for new producers to emerge, the main idea is therefore to favour the emergence of a two-tier market structure, one tier with free prices and the other with prices regulated by the Federal Energy Commission. The independent producers would be able to sell most of their production on the unregulated market (which could take the form of “gas stock exchanges”) and thus benefit from prices much more favourable than those devolved on Gazprom. These independent producers would initially be oil companies and gas producers, such as Itera. Gazprom would also be authorised to sell a very small part of its production (5% or about 26 bcm) on this market. There would therefore be a need to distinguish between the “new gas” produced by the new producers and sold at free prices, and the “old gas” originating from Gazprom’s production, sold at prices regulated by the FEC and intended mainly for consumer categories such as households unable to settle their gas bills. This kind of scheme would meet the twofold objective of the reforms. On one hand, it is aimed at developing competition by creating strong incentives to entry by means of the free prices. On the other hand, it would allow the progressive introduction of profitability on certain sections of the Russian gas market. At the end of the day, it is anticipated that the allocative efficiency and competitiveness of the Russian gas industry will improve, and that a capacity for financing investments on the basis of internal sales will be created.

II - THE UNKNOWN FACTORS IN REFORM IMPLEMENTATION

The gas industry reform, in its end-2002 version, includes a number of uncertainties on the deregulation of exports, the possibility of actually creating a two-tier market, and the consumer eligibility criteria separating the two markets. The possibility of actually stimulating competition in a two-tier market structure is an unknown factor given the volumes of gas involved on the free market. The question of the rhythm and sequence in which the reform should be instituted is an issue that must not be ignored, otherwise major distortions will occur and Gazprom will be allowed to maintain a monopoly on the Russian gas market. From this point of view, the reformers must settle the issue of whether the deregulation of the internal market is compatible with keeping exports centralised in the hands of Gazprom.

As we have already mentioned, reforming the organisational structures and in particular the gas monopoly depends on the reform of prices and the conversion of gas exchanges into cash exchanges. These will determine the possibility of access to a solvent market, guaranteeing that entries will be profitable. However, reforming prices and imposing a strict payment discipline is still, even though some progress has been made in this area, one of the most difficult economic and political issues facing Russia in terms of both feasibility and social acceptability. Also the structuring of inter-industrial relations very specific to Russia after ten years of “transition” towards the market economy could put the brakes on any large-scale price reforms.

2.1. The attractiveness and acceptability constraint in the gas reform

The issue of reforming the gas industry begs a number of questions on the extent to which it will be accepted by the various actors involved at different levels and to different extents. The Russian government may only be interested in instituting a partial reform, given its wish to maintain a degree of control over the sectors that it considers of strategic importance for the Russian economy. The gas industry is indisputably one of these. The gas company will be led to oppose this position if its interests and survival are threatened. Consumers may also come out against, if the reforms are likely to have significant redistributive effects.

* Deregulation of exports and the government's macroeconomic interests

A complete reform of the gas industry, which would involve deregulation of exports, remains one of the most difficult issues in that it is not acceptable to the Russian State. The draft presented in 2002 maintains Gazprom's monopoly on exports, a position that appears quite contradictory to the wish to deregulate the Russian gas industry. In this situation, the new actors would still in fact be totally dependent on Gazprom for their access to the international energy markets.

The government's short-term macroeconomic objectives will be more important than the question of the coherence of long-term industrial restructuring. Because of the tax revenue that they provide, gas exports to the European market (131.9bcm in 2001, see Table 2) are an important element in the macroeconomic stability of the country and therefore, implicitly, of its economic growth, although this is the subject of debate¹⁴. If the Russian oil companies are not obliged to only supply the internal gas market, they will without doubt feed the competition on the West European gas market and contribute to a fall in prices on that market. This would go against the interests of the Russian government in terms of tax revenue and balance of payments, hence the maintenance of close control of gas exports. This choice is consistent with the State's willingness to resume control of the gas company, especially in relation to investment strategies. The arrival of A. Miller as President of Gazprom in 2001 marked a complete change in its relations with the State. Until then, the company had been able to develop an independent strategy and provide proof of a significant degree of independence in relation to the government, especially in the payment of taxes, the definition of investment strategies and the sharing of gas profits. Recent years have shown that the State has once again taken a significant degree of control, thus expressing its willing to "re-intervene" in key areas of the economy¹⁵.

¹⁴ During 2002, in the light of the changes in international crude oil prices, a long debate was held in Russia on the consequences of these changes on the balance of trade, the tax situation and changes in exchange rate. The gas industry can learn some lessons from this, given its increasing importance in Russia's exports. In short, there are two conflicting arguments. According to the traditional view, Russia's fiscal and economic situation depends heavily on changes in oil prices and in exchange rates. A reduction in international oil prices will cause a significant downturn in the balance of trade and in Russian tax revenue, and this in turn will affect the rate of growth of the GNP. Conversely, some studies, especially the one commissioned at the request of the Russian Ministry of Economic Development and Commerce, concludes that an increase in oil prices will have a negative effect on Russian economic growth. This increase will lead to an improvement in exchange rate, which will be detrimental to Russian exports with the exception of energy. On these questions, which need to be developed much further, the reader is referred to:

- Rautava, J., "The role of oil prices and the real exchange rate in Russia's economy", *Bank of Finland, Institute for Economies in Transition, BOFIT*, Discussion Papers, 2002, No. 3, 21 pp.

- Pauwels, J. P., Swartenbroekx, C. "La politique pétrolière russe: entre le G8 et l'Arabie Saoudite".- *Revue de l'Energie*, No. 537, June 2002, pp. 366-379.

¹⁵ Similar developments can be observed in the oil industry, for which the Russian State had lost a sizeable portion of its activity resources. It wanted to make Rosneft into a principal actor in the oil industry. "Putin Pushes Rosneft into the Limelight", *PIW*, 1 July 2002.

Table 2: Evolution of the Russian gas exports to Europe, 1980-2001, in bcm

	1980	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
W. Europe	22,2	62,1	65,0	69,2	74,4	74,4	74,1	78,4	88,4	90,4	90,7
• European Union	22,2	57,2	59,5	64,1	68,3	67,9	67,0		76,9	79,8	
Germany (1)	11,8	22,9	25,7	29,6	32,2	32,3	32,5	32,5	34,9	34,1	32,6
France	0,0	12,1	11,6	12,2	12,5	12,0	10,9	10,9	13,4	12,9	11,2
Italy	6,4	14,1	13,8	13,8	13,9	13,8	14,2	17,3	19,8	21,8	20,2
Austria	3,0	5,1	5,3	5,1	6,1	6,1	5,6	5,7	5,4	5,1	4,9
Finland	1,0	3,0	3,1	3,4	3,6	3,7	3,6	4,2	4,2	4,3	4,6
• Turkey	0,0	4,5	5,1	4,7	5,7	5,7	6,7	6,6	8,8	10,2	11,1
• Switzerland	0,0	0,4	0,4	0,4	0,4	0,4	0,4	0,3	0,4	0,4	0,3
E. Europe	29,4	37,1	35,9	36,7	42,9	49,1	42,7	42,1	38,4		40,3
Czech Rep					8,4	9,4	8,4	8,6	7,8	7,5	7,5
Slovakia					7,4	7,2	7,1	7,1	7,5	7,9	7,9
Czechoslovakia	8,3	12,8	13,2	13,8	-	-	-	-	-	-	-
Poland	5,3	6,7	5,8	6,2	7,3	7,2	6,8	6,9	6,1	6,8	7,5
Hungary	3,9	4,8	5,7	5,2	6,3	7,7	6,5	7,3	7,4	6,5	8,0
Total	51,6	99,2	100,9	105,9	117,3	123,5	116,8	120,5	126,8	129,1	131,0

Sources: Cedigaz.- *Natural Gas in the World*, Rueil-Malmaison, various years.

* The acceptability of the reform to Gazprom

Although Gazprom's interests are in direct conflict with any form of deregulation plan, the two-tier market principle is acceptable to the gas company as it is able to "accompany" the introduction of competition under its own conditions. The key point, given the present situation and assuming that gas prices will remain low for the compulsory sales of its products on the regulated market, remains the financing of the investments necessary for the renewal of its production and transportation capacities. With regard to transport, the gas company could suggest participation by new producers in the required investment in the gas pipeline network as a condition for acceptance of any new developments¹⁶. With regard to production, as has already been mentioned, Gazprom is planning to form partnerships (especially in the form of joint ventures) with future producers for developing reserves. The Rosneft-Gazprom, Lukoil-Gazprom and Surgutneftegaz-Gazprom agreements, which relate to the development of certain gas and oil deposits, are the bases for this type of strategy¹⁷. The scope of the reform will have to be reduced to the extent at which the strategy will allow the gas company to maintain a level of control over its potential competitors' production and therefore limit the effects of competition.

In addition, the process of defining a two-tier market structure is likely to encourage Gazprom to limit its production as it will be dedicated to the regulated market, and to favour production by independent producers more or less under its control in order to benefit from a more favourable valuation for the gas on the deregulated section of the internal market. This strategy is all the more credible as Gazprom will maintain control of the transportation

¹⁶ "After the Clear-Out, Gazprom Gropes Towards a Strategy". *Gas Matters*, March 2002, pp. 24-29.

¹⁷ This relates mainly to deposits of oil and gas located in the autonomous province of Yamalo-Nenets, the Kara Sea (Vyngayakhinskoye and Yetyurovskoye deposits) and in the Caspian Sea. These agreements undoubtedly testify to the approval of Gazprom's entry into oil production and conversely to the entry of Rosneft, Lukoil and Surgutneftegaz into gas production.

network and develop its presence on a part of the regional and local distribution networks. This explains why the reforms are acceptable to Gazprom.

It must be remembered in every case that in the short term, the free market relates only to the 50,000 bcm that the oil companies and Itera are likely to produce and the 26 bcm that Gazprom will be authorised to sell on that market. These figures are very insignificant compared to the 512 bcm produced by the gas company. Competition will be limited at the outset, but will exist and could therefore have a destabilising effect.

*** Consumers and the social acceptability of gas reform**

The political and social acceptability of the price reform remains a major uncertainty in the overall reform of the Russian gas industry. A complete price reform would have a major redistributive effect, and as such is likely to encounter strong political opposition. It is also believed that the energy subsidies allocated in the form of low prices and non-payments valued on the basis of OECD market prices would represent about 30% of Russia's GDP¹⁸. Only a few consumer categories would be able to bear a major increase in prices. The creation of the two-tier market structure is aimed partly at resolving this problem, with households being supplied with Gazprom gas to be sold to the distributors at a price below the market price.

However, in the logic of a reform aimed at bringing prices and costs closer together, one should expect significant increases in the prices administered on the regulated market, together with respect for the payments discipline. It must be remembered that there is a marked degree of "path dependency" in Russia, indicated by planned economy practices based on a perception of energy as a good almost completely free of charge¹⁹. However, the severe budgetary constraints on households must be added to this equation. Any increase in prices carries a risk of an increase in non-payments, and there is therefore a need to find a happy medium between real prices and prices that will trigger non-payment situations. It is significant that for the years 2000 and 2001, the stronger payment discipline that has been observed was accompanied by substantial falls in real gas prices, and that conversely, the increase in gas prices in early 2002 led, in the first half of the year, to an increase in the consumers' debts to Gazprom of about 1,600 million roubles (that is, \$50.8 million)²⁰.

2.2. The feasibility of the deregulation reform

Questions also need to be asked on the feasibility of the gas industry reform, with regard to the specific role played and still being played by energy in the Russian economy. From this point of view, the question of deregulation of gas prices runs up against restrictions, intrinsic

¹⁸ This figure is obtained by valuing Russian energy sales using OECD zone market prices. Using Russian internal prices, a figure of about 5% of the GNP is obtained, 2% of this being for the gas sector.. *Russian Federation: OECD Economic Studies*. OECD, Volume 2000/5, February, *op. cit.*, pp. 142-144.

¹⁹ This "way of dependency" partly explains the current behaviour, especially the absence of important energy consumption decreases following changes in the Russian economic environment. Energy intensity therefore tends to increase during the transition, when a trend in the opposite direction has been expected.

²⁰ For the first six months of 2002, Russian consumers' debts to the gas industry were estimated at 40,500 million roubles, representing one third of Gazprom's annual investments. "Gazprom Again Looks West for Funds", *The Moscow Times*, 26 July 2002, p. 5.

to the system, which will limit the scope of the reforms. Organising the industrial sector into industrial and financial groups and into informal networks leads one to question whether it is possible to apply the energy price reform, and therefore whether it is possible to reform the organisational structures of the gas industry.

*** The barriers between the two markets**

The approach involving the creation of a two-tiered market structure is a necessary step towards the complete deregulation of gas prices. However, one must not under-estimate the tensions to which the coherence of the system will be subject. The most pronounced effects will be noted in defining the criteria for assessing the eligibility of consumers for the free market and for the exemptions. This is an issue of crucial importance in the industrial sector. For the enterprises, access to a less expensive supply is a question of utmost importance. In the institutionalised Russian context, marked by a high level of capture, the eligibility criteria will without doubt form the subject of bargaining agreements the outcome of which will depend on the power of negotiation with the appropriate minister and with the gas company. They could therefore lead to significant discrimination between enterprises. The question of competitiveness and increased exports for certain industries on the international markets will greatly influence the process of defining these criteria. Under the same logic of “low credibility of institutions”, siphoning of regulated (old) gas to the deregulated market will be difficult to control and have the effect of weakening the system.

The difficulties connected with contractual opportunism on the part of some industrial clients are already being felt in the form of non-payments by enterprises that are able to pay. Not all of these non-payments are linked to actual financial troubles, but are the outworking of strategic decisions, the enterprises with the available cash having the power to use it for purposes other than paying their energy bills²¹. This type of behaviour and practice is persistent and indicates a failure to perceive energy as an economic good with a cost. There is now a need to allocate a real economic value to energy resources and to avoid reducing the supply of energy to its physical availability alone. However, we are looking here at major changes in behaviour, behaviour that ten years of “transition” has not altered.

The eligibility of producers in the electricity sector will also be a question of first importance, as gas represents about 73% of supplies of combustibles to power stations. The requirement to make supplies on the free market at increased prices could in fact seriously upset the solvency levels of the Energos, (the regional electricity companies). In this area, however, the situation already differs sharply from one region to another, as do the Energos’ financial situations and the links that some power stations have already managed to cultivate with Gazprom through direct supply agreements or partial integration mechanisms through exchanges of debts²².

*** Price reform and types of Russian organisation**

The feasibility of price reform poses a question with regard to the organisational forms produced by the non-monetary relations of the 1990s. These organisational forms, which

²¹ Zlotowski, Y., *La crise des paiements en Russie, expression d’un consensus social ?* Les études du CERI, No. 43, August 1998, p. 43.

²² Opitz, P., “Russia: can liberalisation deliver in the post-Soviet economy ?”, *Power Economics*, June 2000, pp. 18-20.

range from industrial and financial groups to “informal networks”²³, are based on specific institutional arrangements based most notably on complex barter relations and debt compensation mechanisms, especially the exchange of shares in return for debts.

Gazprom’s vertical integration structure forms part of an industrial and financial group or IFG, via a number of shareholdings in industries that have nothing to do with its basic activity. In this way, Gazprom has a heavy presence in the petrochemical industry, in machine tools and in metallurgy (where is about to acquire a position of worldwide significance²⁴), but also in media and in the banking sector. The leading enterprises in these groups supply the inputs (in this case, supplies of energy) and the resources to their subsidiaries so that these may continue to invest and produce²⁵. Such “networks” are organised around profitable firms that take control of non-profitable firms by exchanging debts for shares²⁶. They rely on a very strong regional ingredient: in Gazprom’s case, such bilateral agreements have been negotiated between the gas company and the regions in relation to supplies of gas to the authorities and the firms as a mean of the payment of taxes and the acquisition of shareholdings in local distribution networks and in certain firms²⁷. Gazprom has also integrated itself into informal networks built around complex barter relations, which in this organisational logic could lead it to play a co-ordinating role in supplies to various firms in the same region through a series of debt compensation mechanisms²⁸.

At stake in this kind of institutional arrangement is most often the survival of unprofitable enterprises, and therefore the protection of employment. Whether it be through the group model or through an industrial network structure, a number of major firms, including Gazprom, ensure in part that some unprofitable firms will survive by allowing them to continue production without becoming bankrupt. In this sense, non-payment has been an essential factor in maintaining employment despite the collapse of the Russian economy and the restrictive monetary policy followed by the government²⁹.

²³ Jordan, A., *Industrial Networks and Post-Socialist Institutional Transition: Preliminary Version*, RECEP, January 2002, 16 pp.

²⁴ C. Durand has thus shown that in 1999, Gazprom took control of three of the main Russian mining kombinats, most notably the Lebedinsk GOK and Mihailovsk GOK, and acquired a major shareholding in the Oskolsk Electrometallurgical Kombinat. He concludes that if this development continues, the gas industry giant will be coupled with a metallurgical business of worldwide importance. Durand, C., “La transformation de la branche des métaux en Russie (1991-1999)”. *CEMI*, June 2000, 88 pp. Presented at the GTD study day, 12 January 2001.

²⁵ For a more detailed description of these relations in the gas industry, especially between the production companies and the Gazprom financial holding company, see Locatelli, C., *Energie et Transition en Russie : les nouveaux acteurs*. L’Harmattan, Collection Pays de l’Est, 1998, pp. 87-91.

²⁶ A. Jordan, 2002, *op. cit.*, p. 16.

²⁷ According to an OECD study, in 2001 Gazprom signed agreements of this kind with 69 of the 89 republics that make up Russia. *Russian Federation: OECD Economic Studies*. OECD, Volume 2000/5, February, *op. cit.*, p. 139.

²⁸ Using this system, Gazprom is reconstructing a system of supplies managed without the use of money. Kuznetsov, P., Gorobets, G., Fominykh, A., “Le troc et les impayés : témoins de nouvelles formes d’organisation en Russie”. *Mimeo*, 26 July 2000.

²⁹ Brana, S., Maurel, M., “Démonétisation en Russie : Un arbitrage favorable au maintien de l’emploi”. *Revue Economique*, Volume 52, No. 4, July 2001, pp. 841-859.

This type of organisation, which provides a general structure for the Russian industrial sector, begs questions on the feasibility of price reform. Surely such a reform runs the risk of being limited by the structuring of certain firms into industrial and financial groups and into networks. Who will guarantee that Gazprom will not maintain preferential prices for its non-gas subsidiaries, allowing them to become competitive in certain sectors? The result of this could be a serious distortion in competition in relation to firms which obtain their supplies, or have to obtain them, on the free market.

This situation takes us back to the question of feasibility of gas price reform in a market that is not yet unified. The informal networks are “exchange circuits” that are isolated from each other and distinct for having a strong spatial ingredient as well as prices heavily differentiated within them. There is an implicit price system applied in the barter exchanges alongside the official prices. Also, different implicit prices are applied for the same good, depending on the bargaining power of each actor involved in the exchange. Faced with a reform in prices, these inter-industrial relations are likely to be maintained, when the aim of the reform is the creation of a unified gas market.

The setting-up of the two-tier market and the reform of regulated prices (price increase) is therefore likely to run up against the inability of some enterprises to pay their energy bills and against implicit organisational forms and the institutional arrangements that arise from these forms. The increase in budgetary constraint, combined with steep price rises, creates the risk of a number of major enterprises becoming insolvent. Are the State and the Regions ready to face the social cost of such developments? Are they ready to call into question the implicit social compromise that has developed in the transition in relation to maintaining employers in enterprises, most notably in return for non-payment of energy bills, low energy prices, non-payment of taxes and sometimes considerable delays in the payment of salaries?³⁰

Defining the two-tier market system is without doubt an essential step. It forms part of a gradual process of definition of price reforms, aimed at ensuring that the reforms are feasible. It is, however, beset with a number of intrinsic difficulties.

III - CONCLUSION

Reforming the gas industry is currently one of the major challenges facing the Russian energy industry in order to pursue its development. The terms of the debate have scarcely changed with the passing of ten years: what level of deregulation is required, or can be introduced, in the gas industry? Should exports be deregulated? In the light of the restrictions on the financing of investments, a consensus is gradually coming together on the need to introduce more competition and flexibility. This choice will be inextricably linked with a major reform in prices; but the reform must be designed so that it takes account of macroeconomic reality and the position occupied by non-monetary relations, otherwise it will fail. It is evident from the foregoing analysis that the following elements should be taken into consideration.

The attractiveness of the reforms to Gazprom. This will be an essential prerequisite for its feasibility. In this matter, it is undoubtedly with regard to the question of price reforms that the interests of the oil companies wishing to enter the gas industry combine with the interests of Gazprom, whose profitability is becoming more and more conditioned by massive price

³⁰ Locatelli, C., *Les modèles d'organisation postcommunistes: le cas de l'énergie*. HDR, Université Pierre Mendès France, Grenoble II, May 2001, 92 pp.

increases. Gazprom could therefore easily bear a reform that it would deal with in part, the main consequence of that reform for Gazprom being added value for its products.

The attractiveness of the reforms to the Government. Although the Russian Government is interested in developing trading relations in the gas sector, the attractiveness of a reform aimed at total deregulation of the gas industry must, from the Government's point of view, be questionable. Gas exports are an important aspect of Russia's financial stability. At a time when the State's capacity for controlling the oil industry is becoming more and more limited, the State could be encouraged to delay an in-depth reform of the gas industry in favour of short-term macroeconomic objectives. It is therefore likely to keep gas exports centralised in the hands of Gazprom, and even reinforce the centralisation by granting it a monopoly of exports to Asia and keep its very strong dominant position in the Russian gas industry.

The feasibility of reforms. The creation of a gas market with two levels, the prelude to the deregulation of prices, brings with it particularly difficult problems in relation to the eligibility of clients for the competition market. More broadly speaking, the major element of the reform is the creation of a unified gas market that will allow efficient operators to flourish. The current structure of the industrial system, consisting of industrial and financial groups and networks, tends to create isolated networks of exchange in which conditions for the exchange of gas are specific, different from one inter-firm network to another, and heavily influenced by the relations that Gazprom enjoys with the regional authorities and the businesses involved. The gas reforms cannot be thought out without bearing this reality in mind. In particular, questions need to be asked on the State's real ability to control the informal relations between Gazprom and the other actors at regional level.

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