role included the Chalk Research Programme (which drew upon and expanded early efforts by Phillips to understand the characteristics of Ekofisk) as well as an initiative aimed at developing improved oil recovery technologies. Current-day research priorities of the NPD include integrated operations (the use of information technology to connect onshore and offshore activities and make operations more efficient) and carbon capture and storage (CCS).

61 Any increased costs associated with using Statoil as a tool to achieve national hydrocarbon goals would decrease tax revenues and dividends.

62 Article 54 of the Royal Decree of December 8, 1972 specified that: “Licensees shall use Norwegian goods and services in petroleum operations to the extent that these are competitive in terms of quality, service, delivery time and price.”

63 The NPD has been allocated more resources by the Ministry to hire staff in order to enhance its ability to keep tabs on Statoil (PESD Interviews). Petrooro’s counterbalancing role may become more important as well, but mere exhortations from this watchdog company have less bite than direct competition from Norsk Hydro, and the government has made it clear that it does not intend to let Petrooro grow into an operating company that would compete toe-to-toe with Statoil. Both Petrooro and suppliers have expressed concerns since the merger that some projects are proceeding more slowly than promised. Statoil has explained delays as representing natural post-merger growing pains (PESD Interviews); more recently, the global economic crisis could be having some effect as well.

15 Gazprom: the struggle for power
NADEJDA VICTOR AND INNA SAYFER

1 Introduction

Russia’s national oil company (NOC), Gazprom, is a deeply important player in world energy markets. If Gazprom were a country, its combined oil and gas reserves would rank behind only those of Saudi Arabia and Iran. In 2008, Gazprom controlled about 20% of the world’s natural gas reserves, 70% of Russia’s gas reserves, and 94% of Russia’s gas production.

Gazprom is also a major corporate player. Many of Gazprom’s shares are freely traded on the stock market where its market capitalization briefly stood above $300 billion before energy prices plunged in the second half of 2008. Gazprom is one of the fifty largest companies in the world and by any reasonable valuation of its assets the largest company in Russia (Fortune Global 500 Rankings 2009). In 2008, Gazprom alone accounted for more than 10 percent of Russia’s GDP and provided about 40 percent of its earnings to the federal budget (Gazprom 2009a).

Despite its commercially oriented facade, Gazprom has a long history of tight state control. Gazprom traces its origins to 1965, when the Soviet Union established a gas ministry as a way to develop the national gas industry. Just before the Soviet collapse in 1991, the government transformed Gazprom into a company and in 1993 partly privatized it through a widely criticized sale of state assets. In 2003, Gazprom came under even closer state command. Only when it was confident that the enterprise was unequivocally under its power did the Kremlin – while retaining a controlling share – sell larger stakes to private investors and favored companies in the West.

In this study, we make five central arguments about Gazprom.

First, Gazprom’s performance compares poorly with most other firms in this study. This is partly due to the fact that most of these other firms are oil-dominated companies, not gas companies. Gas
distribution requires longer time horizons and a much closer physical connection to the customer than is the case with oil. Indeed, Gazprom's oil assets post better performance than its gas assets because the Russian oil market is more fully governed by market economics and the oil network is much less costly to operate. Gazprom's performance is also especially sensitive to the special politics of gas. By tacit agreement with the state, Gazprom provides an enormous supply of cheap gas to the Russian economy. This arrangement saps the company of desperately needed funds for investment in its large new fields. Therein lies the paradox that Western observers always note about Gazprom. On the one hand it controls the world's largest conventional gas resources. On the other hand it faces a looming gas crisis (which was postponed when the global financial crisis dampened demand for energy) because production in its major fields continues to decline and the company fails to invest adequately in new fields.

Second, Gazprom's investment strategy is not entirely irrational from the perspective of its managers. Like many of the NOCs examined in this book, managers are responsive to a wide array of concerns and they do not operate in a competitive market. Managers are concerned that shortfalls in gas supply are not necessarily a disadvantage, to the extent that they keep markets tight. To this end, managers often coordinate supplies from associated gas and independent gas companies to prevent oversupply to the market and are especially attentive to the risk of a decline in gas prices that would accompany an oversupply. Such risks (that became a reality in 2009) make the managers wary of investing resources in large capital-intensive projects. Similar forces explain Gazprom's expansion outside Russia, such as with the purchase of gas distribution companies in Europe that allow the firm to exert more control over the whole supply chain from wellhead to final customer.

Third, by Western standards Gazprom has weak corporate governance. Its managers are accountable to politicians rather than to shareholders, even as privately owned shares have risen to 49 percent of the enterprise. This system reflects Gazprom's insular history as a Soviet ministry and the fact that control over the firm is rooted in the Kremlin rather being based on the successful production of gas (and now oil). Shareholders have tolerated the situation mainly because Gazprom's political connections are seen as the keystone to its viability as an enterprise.

Fourth, Gazprom is an example of the phenomenon of regulatory capture. The Federal Tariff Service, the regulator, has been responsible for setting domestic gas prices with rate setting always done in consultation with Gazprom. Thus, Gazprom is in many ways a quasi-ministry that is partially regulating itself. Until about a decade ago, Gazprom's political strategy was anchored in keeping domestic tariffs low, which made the company indispensable. Now that its political relationships with the Kremlin are more secure, it has been able to raise tariffs, which has given the company more control over financial resources.

Fifth, the 2008 global financial crisis has turned the gas sector upside down. Previously, supplies were tight and energy prices were rising; in the midst of the crisis, demand weakened and so did prices. This shift in demand along with the arrival of large volumes of shale gas in the US (and perhaps soon similar gas sources in Western Europe, Gazprom's most lucrative market) portend a global gas oversupply that will be a disaster for Gazprom. It will erode the company's power over consuming and transit countries, and it will leave the company's LNG ambitions unfulfilled before 2030. This looming gas glut could have major consequences for the structure of gas markets, as Russia could come under pressure to modify pricing terms – moving away from lucrative oil-linked gas contracts to lower prices that will be fetched from gas-on-gas competition.

This study proceeds as follows. Section 2 looks historically at the “yin and yang” of Gazprom's (and its predecessors') interactions with the state. We focus especially on the reasons for early privatization efforts following the demise of the Soviet Union and the “renationalization” of the oil and gas sectors as world oil and gas prices rose. Section 3 provides an overview of the Russian oil and gas sectors, with special attention to Gazprom and its previous incarnation as a Soviet gas ministry – long the key drivers of the industry. Section 4 focuses on Gazprom as an organization today, including its structure, revenues, and its activities within Russia, Western Europe, and overseas. As the study makes clear, Gazprom is far more than the world’s largest gas company. It is a monopoly controlled by the Kremlin, serving both economic and political agendas, as well as a multidimensional investment enterprise seeking a larger role on the world stage. Section 5 concludes.
2 A history of state involvement in the oil and gas sectors

In this section, we sketch the history of Russia's long involvement in the oil and gas sectors, focusing particularly on Gazprom and its gas sector predecessors. The relationship between the Russian state and the oil and gas sectors has been changing in two fundamental ways. First, the goals and strategies set by the Kremlin have shifted back and forth, initially from tight control under the Soviet Union to some liberalization during the 1990s and most recently to a renationalization, so that the company has become as much an instrument of state as a commercial enterprise. Second, the particular tools that the government uses to affect behavior in the sector, including regulation, taxes, and competition, have become more powerful since re-nationalization began.

2.1 Foundations of Gazprom in the Soviet state (pre-1989)

Oil and gas development started in Russia on an industrial scale at the end of the nineteenth century with the financial and technological investment of major foreign investors, notably the Rothschild family and the Nobel brothers. By that time, the major cities in Russia were supplied by a gas network, primarily for lighting, which was the first widespread application of gas. Gas was mainly produced and used locally and Russia did not lay long-distance gas pipelines until well after World War II.

By 1955, the USSR was producing only 9 billion cubic meters (bcm) of gas from fields that were dispersed across the European part of Russia and Ukraine. Communist Party leader Khrushchev set the ambitious goal of catching up with the United States economically within twenty-five years, and along with this vision came new objectives for oil and gas. The desire to develop a gas industry was officially inserted into the sixth Five-Year Plan (1956–1960) and the ambition was stepped up in the seventh Five-Year Plan (crafted starting in 1959 and running 1961–1965).

As the small and dispersed gas fields west of the Urals and close to demand centers became depleted, net production shifted east. Khrushchev's eighth Five-Year Plan, which began in 1966, recognized the potential importance of the vast Siberian gas reserves to the east of the Ural Mountains. This plan marked the beginning of

the “Siberian period” with the opening of the world-class fields in Urengoi that were discovered in 1966 and first brought into service in 1978.

By the time of the Siberian period, the persistent state sponsorship of oil during the preceding fifteen years had finally paid off, catapulting oil to the top as the Soviet Union's primary energy supply. Gas development, however, was proceeding more slowly, in part because the infrastructure requirements for gas make it harder to handle and in part because gas was not seen as uniquely qualified for any particular industrial application, unlike oil which was used for petrochemicals and transportation.

The oil shock of 1973, however, put a premium on boosting gas production to replace oil, while also lifting the export price of gas so that the USSR could use to generate cash. The gas projects that followed through the middle 1980s had two basic goals. Projects for Soviet satellite nations (through the Council for Mutual Economic Assistance, or CMEA) involved the Soviet parent selling gas at depressed prices and through complex barter exchanges to generate political support. The projects for Western nations, by contrast, involved competitive pricing in hard currency financed with concessionary hard currency loans that were secured with the proceeds of a long-term gas purchase agreement. Usually these Western-oriented projects were backed by guarantees from the Soviet and Western governments. In 1980, the Soviet Union was earning about $15 billion per year from gas and oil exports, or more than 62 percent of the Soviet's total hard currency earnings (see Austvik 1991).

The Soviet invasion of Afghanistan in 1979, coupled with Ronald Reagan's assumption of power in the United States in 1980, had the effect of "refreezing" the Cold War and erasing the Western consensus on the acceptance of Soviet oil and gas exports. The United States initiated sanctions to limit access to hard currency that the Soviets could earn through gas exports. It also tried to block the exports of grain and essential high technology from the West to the USSR. From the European perspective, the US objections were rooted in an imagined geopolitical threat. Nevertheless, the risk of US sanctions served to slow numerous projects and led the Soviet Union to develop its own technology, including compressors.

In 1989, during the "perestroika" era, the goals of the Russian state changed because the inefficient planned economy desperately needed...
At that time, President Gorbachev created Gazprom as a state unit responsible for gas production, distribution, and sales. The relationship between the state and Gazprom began to evolve according to larger institutional changes under way in Russia.

The dissolution of the Soviet bloc in 1990, and the USSR in 1991, had a major impact on the contractual environment for gas exports to the West. In particular, the political changes created transit countries. The routes of all the pipeline projects connecting the European part of Russia to the outside world passed through Belarus and Ukraine. In fact, at the time of the Soviet Union's dissolution, about 90 percent of Russia's exported gas was traveling through Ukraine. Although these new ex-CMEA nations created new uncertainties for gas supply, there were strong incentives for them to avoid disrupting Soviet-era gas export arrangements.

The collapse of the Soviet Union caused economic shock waves that dramatically lowered the demand for gas in Russia, as well as in the ex-CMEA nations. With a shrinking economy, gas consumption in Russia declined more than 16 percent during the 1990s – from 420 billion cubic meters (bcm) in 1990 to 330 bcm in 1997 (BP 2010). Gas exports to the former Soviet countries in the Commonwealth of Independent States (CIS) also declined by 31 percent (from 110 bcm in 1990 to 75.6 bcm in 1998) in part because these countries' economies were intertwined with the Soviet economy and thus also suffered a severe economic recession. In addition, they were now forced to purchase gas at semi-hard export prices, which were higher than the internal Russian price but lower than the price charged for Western exports. Those higher prices discouraged gas consumption and promoted efficiency. However, even as consumption shrank, reported gas production declined only slightly (about 8 percent) from 1992 to 1998 because most of the infrastructure for production from large gas fields and transportation of the gas was already in place and relatively inexpensive to operate. That generated a strong incentive for the Russian gas ministry (and later Gazprom) to export outside the CIS countries. (Russia's total oil production, by contrast, fell nearly 23 percent during the same period.) This large and growing surplus available for export allowed Russia to expand its role as the world's largest exporter of natural gas and to earn additional hard currency for the Russian economy.

2.2 Privatization of the oil and gas sector in Russia (1989–2000)

Following the breakup of the Soviet Union in 1991, the Russian federal government gained jurisdiction over the major oil fields in Russia and control over the transport and export of oil and gas. But oil exports were constrained by the capacity limitations of the old Soviet pipeline system and a lack of investment; the oil fields, too, were aging. The Russian oil sector of the 1990s urgently needed investment and restructuring. Reformers of the newly democratized Russia saw only one way to do it – through privatization. This privatization process occurred in two stages, only the first stage of which was applied specifically to the gas industry.

The first stage of privatization, made possible via a 1992 presidential decree, provided for voucher auctions of formerly state-owned facilities. The decree established Gazprom as a joint stock company focused on gas and also created several oil-focused companies (such as Lukoil, Yukos, Surgutneftegaz, and Rosneft). The government first sold these companies through voucher auctions with ownership limited to workers and Russian citizens. This first stage ended in June 1994, with the requirement that 38–45% of the shares in the companies would remain in government hands for at least three years, after which time the government's share might be reduced. In the case of Gazprom, 40% of its shares were left in government hands for at least three years, and 9% of shares were set aside for foreign ownership.

The second stage of privatization, a shares-for-loans scheme, began in 1995 just as the Russian budget deficit had climbed to 20% of the country's GDP. This scheme auctioned blocks of government shares in certain joint stock companies (including five of Russia's oil giants) to a group of Russian commercial banks for cash. The shares-for-loans stage did not apply to Gazprom because then Prime Minister Viktor Chernomyrdin did not want to introduce new competition that might weaken his control and because internal gas prices were too low to make Gazprom a commercially viable enterprise. Even after the 1998 crisis, when the Russian government was looking for more cash, Russian President Yeltsin approved the sale of only a further 5% stake in Gazprom. Although limits on foreign ownership of Gazprom stock later increased from 9% to 14%, only an additional 2.5% stake was...
actually sold to Ruhrgas for $660 million (to establish a close liaison with the German company).

For most of the 1990s, Russia’s new oil barons and their private money restructured oil operations to become more efficient than their state company equivalents. As part of their strategy, however, the oil barons significantly reduced the taxes they paid to the Russian state and moved large amounts of capital offshore. At the time, oil and gas prices were on the rise, but the Russian federal government’s ownership in the oil and gas sector was limited to Rosneft (responsible for 5% of total Russian production) and a small share in Lukoil (about 7.6%). Including regionally controlled companies, the government controlled only about 15% of total oil production. Moreover, the regional governments where the oil was produced were highly independent and their policies often conflicted with federal rules (Treisman 1999). The government thus had to look to gas to provide the much needed revenue.

During the 1990s Gazprom existed as a state within a state. The Russian government was not able to control the gas giant either formally (most of the 38% of state shares were managed by Gazprom itself) or informally (Gazprom was a very successful lobbyist) (Kim 2003). The government – particularly the compliant Ministry of Fuel and Energy – was loyal to the company, and there were few attempts to change the situation. In 1992, the government of Prime Minister Yegor Gaidar tried to open the gas industry to competition, introducing for the first time the idea of establishing independent producing companies to supply gas to the centrally controlled gas transportation system. Gaidar ordered a review of Gazprom’s foreign accounts (as the government allowed the company to keep 38 percent of the currency it earned abroad). However, the “tail was smarter.” After the audit by Gaidar finished, Gazprom won the support of Chernomyrdin, the Chairman of the Government of the Russian Federation and a powerful political player within Russia, who gave the company monopoly rights to supply gas to the state’s foreign contracts. The government also allowed the company to keep 45% of the earnings from these contracts and exempted foreign operations from taxes. In 1993, Gazprom also convinced Boris Yeltsin to let it set up a tax-exempt special stabilization fund into which it could divert up to one-third of the income it derived from the value-added tax on gas to consumers.4

Gazprom’s defenders pointed to the very high degree of technical integration between the different parts of the industry and the need to use centralized control to optimize the production and transmission of natural gas. (In reality, of course, there was nothing intrinsic in the integration of the gas industry that required monopoly control.) These arguments, together with the gas industry’s importance to the Russian economy, ensured the survival of the monopoly.4

Gazprom also became politically powerful by providing implicit subsidies to domestic customers. Through these subsidies, Gazprom allowed non-payment of gas bills and charged a higher value than the market price in non-monetary transactions, such as settlements by near money, like barter and mutual netting provided to Gazprom. In the meantime, Gazprom delayed payments to the government budget and to its suppliers. The Russian government tolerated Gazprom’s delay in payments in recognition of the gas company’s implicit subsidies.

In 1997, Boris Nemtsov became the first deputy prime minister and promised to split up Gazprom. There was some restructuring, but mostly to Gazprom’s liking. All drilling enterprises within Gazprom were united under a specialized company, Burgaz, and production and transport companies delegated their sale functions to a limited liability company, Mezhrgazgaz. One more attempt to take control away from Gazprom took place in April 1997 when Nemtsov, along with reformer Anatoly Chubais, convinced President Yeltsin to terminate the trust agreement with Rem Vyakhirev, who managed the government’s 35% stake in Gazprom (Kim 2003). Boris Yeltsin signed the decree when Prime Minister Chernomyrdin took a two-day holiday. But once he came back from the holiday, the prime minister blocked the decree.

2.3 PetroKremlin: renationalization of the oil and gas sector (2000–present)

When Putin became president in 2000, the government had little command over the oil and gas sector. Oil monies often circumvented the state budget and it was hard for Putin’s government to control their flow. In addition, the new oil barons became more involved in politics and saw selling their companies’ shares to foreign majors as a means of insulating their business from the Russian bureaucracy. At the same time, world oil and gas prices started to climb, which meant that
the stakes in controlling the hydrocarbons industry rose as well. The new administration sought to re-nationalize the sector and opened hunting season on Russia’s tycoons (see more on re-nationalization in Locatelli 2006). The first steps consisted of ministerial change.

In May 2000, the government restructured the Ministry of Fuel and Energy and shifted many of its responsibilities to other state institutions. For example, the responsibility for allocating quotas—which ultimately determined which wells were used for production and the revenues their firms earned—shifted to a special commission controlled by the vice prime minister. By March 2004, massive ministerial reforms were complete. All federal ministries came under the direct jurisdiction of the president, and nine federal ministries were placed under the prime minister’s jurisdiction, including the former Ministry of Fuel and Energy, which was renamed the Ministry of Industry and Energy.

The Ministry of Industry and Energy became responsible for issuing resolutions and orders that defined policy, but it no longer had the right to make specific decisions such as issuing licenses for a particular activity. Supervisory and control functions passed to the Federal Energy Agency (FEA). Thus, Putin separated the ministerial bureaucrats who determined the “interests of the state” from those in the FEA who implemented these interests. By 2004, the Russian Ministry of Industry and Energy had become a “Queen of England” (only without the money). Direct management of state-owned energy enterprises passed completely to the FEA. And Putin’s government kept tight control over FEA.

In June 2000, in tandem with asserting greater control over hydrocarbon markets and regulation, the Kremlin sought greater control over Gazprom itself. Dmitry Medvedev replaced Gazprom’s key ally Chernomyrdin as deputy head of the presidential administration. The following year, Putin chose a new team from his hometown of St. Petersburg, headed by Aleksei Miller, to run Gazprom; Rem Vyakhirev, who had been running the company for ten years, was out. By May 2005 only three out of nineteen members of the earlier management committee remained.

Putin made similar changes across the oil and gas sector between 2004 and 2005. Oil oligarchs and ex-Soviet bureaucrats lost power that shifted to new allies of the Kremlin. The government also catalyzed a “merger mania,” putting the many regional and private companies under state control. The Kremlin sought to take over Surgutneftegaz, Slavneft, at least half of TNK-BP, and the remains of Yukos, using the state giants Rosneft and Gazprom as the vehicles for consolidation. An added benefit from the Kremlin’s perspective was that it could more easily control two consolidated oil and gas companies than many regional and private companies. Following “renationalization,” the new oil actors, the so-called “St. Petersburg team,” controlled almost 60 percent of oil production and nearly all of Russian gas production. After taking Gazprom under state control, Vladimir Putin signed amendments to a federal law allowing the government to have a controlling interest in the gas monopoly, by holding 50 percent plus one share, while controlling the sale of Gazprom’s shares to foreign investors.

Thus, since 2000 Gazprom has become a firmly controlled agent of the Kremlin. That agent proved useful as the Kremlin, politically and economically, sought to re-establish Russia’s status as a great power. As shown below, the Kremlin’s political interests and Gazprom’s economic priorities have led to incompatible goals—the government is seeking greater revenue from the energy sector, while at the same time asking Gazprom to carry out social and political aims that distract the company from its commercial aims.

Although the Kremlin has regained control over the company’s high-level decisions, the takeover of Gazprom has not been nearly as thorough as, for example, Chávez’s takeover of the Venezuelan national oil company (see Chapter 10). Gazprom has used its expertise to exercise influence over lower-level issues. The Federal Tariff Service, as the regulator, has been responsible for setting domestic gas prices and this is always done in consultation with Gazprom. Thus, to a large extent Gazprom remains a quasi-ministry that is regulating itself. Gazprom has obtained not only a monopoly on all gas pipelines and gas exports but also the legal right to be awarded certain exploration licenses without competition. Gazprom has achieved these results by using its political influence and technical knowledge to make the regulatory agency dependent on the company’s knowledge and advance the company’s priorities. The regulatory agency, in turn, uses formal powers over Gazprom to secure a part of the company’s (political and financial) largesse. Therefore, internal and external competition is absent for the benefit of the monopolist and political actors. Gazprom is an example of the phenomenon of regulatory capture.
3 Russian gas and oil: capabilities and limits

In this section, we survey the Russian oil and gas industries and Gazprom’s role within both. We begin with a discussion of gas and oil’s important position in the Russian economy and then provide overviews of the gas and oil industries. We then focus specifically on Gazprom.

3.1 Oil and gas in the Russian economy

The oil and gas industries are of large and growing importance to the Russian economy. The steady increase in world oil and gas prices since 1998 has accelerated Russia’s GDP growth (see Figures 15.1 and 15.2). Revenue from oil and gas export equaled about 25 percent of total Russian GDP in 2008—a significant increase from 6 percent in 1994.

It is hard to estimate the figures for how much the oil and gas sector accounts for of the Russian GDP. However, indirect estimates show that every doubling of oil price has resulted in a GDP increase of 80% (see window in Figure 15.2 and equation). Oil and gas exports accounted for 66% of Russia’s total export income in 2008 and in 1998–2008 grew on average 20% a year (see Table 15.1).

Table 15.1. Russian oil and gas export, and total export revenues

<table>
<thead>
<tr>
<th>Year</th>
<th>Oil and oil products</th>
<th>Natural gas</th>
<th>Total export</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>$m</td>
<td>% in total export</td>
<td>$m</td>
</tr>
<tr>
<td>1995</td>
<td>18,348</td>
<td>22%</td>
<td>12,122</td>
</tr>
<tr>
<td>2000</td>
<td>36,191</td>
<td>34%</td>
<td>16,644</td>
</tr>
<tr>
<td>2005</td>
<td>117,245</td>
<td>48%</td>
<td>31,671</td>
</tr>
<tr>
<td>2008</td>
<td>241,033</td>
<td>51%</td>
<td>69,107</td>
</tr>
<tr>
<td>2009</td>
<td>148,738</td>
<td>49%</td>
<td>41,971</td>
</tr>
</tbody>
</table>


The relationship between oil prices and total export revenues in Russia is extremely strong. A doubling of oil price results in an increase of export revenues by 101 percent (see Figure 15.2). The growing export revenues now fuel the economy, provide liquidity, and keep the current account in surplus.

Thus, the Russian economy is highly dependent on the international oil and gas markets. Perhaps too dependent, as many analysts agree that Russia has become a country with progressing “Dutch disease” (Eger 2005; Oomes and Kalcheva 2007). The investment climate in Russia will be critical to any effort to foster economic diversification that does not resort to the unsuccessful industrial policies of the past.

3.2 Overview of the Russian gas industry

Russia is by any measure a gas giant. At the end of 2008, Russia accounted for about one-quarter of the world’s total gas reserves (BP 2010; see Figure 15.3). About 80 percent of Russian gas reserves are in West Siberia, where the existence of many giant and a few supergiant gas fields has been proven. Currently Gazprom produces about 90 percent of its gas from this region (see Table 15.2). Gas discoveries peaked in the early 1970s, although it is expected that more gas will be found offshore in the Arctic. The extremely hostile environment of the Arctic makes exploration for further gas reserves economically unattractive, at least in the near future. There is little incentive to go further since nearly 60 percent of the already known gas reserves are not currently being produced.

Russia is a large producer, but estimates for its future production vary widely. They range from the 2009 Russian Energy Strategy estimates on the high side (800 bcm in 2020 and about 900 bcm in 2030) to IEA mid-level estimates (712 bcm in 2015 and 760 bcm in 2030 according to IEA 2009) to those of the more conservative 2003 Russian Energy Strategy (between 650 and 730 bcm by 2020) (see Figure 15.4). The Russian Cabinet of Ministers projects that Gazprom’s production will represent more than 80 percent of the Russian total.

Despite its large size and potential for further growth, the Russian gas sector faces several key uncertainties. First, the steady decline of three major gas fields invites questions about the long-term strategy for the development of new fields. Second, future gas demand is unclear in Russia, CIS, and the EU. Third, Russia may no longer be able to rely on Central Asian states to meet domestic demand for low-cost gas. We discuss these uncertainties below.

The stagnating production of natural gas in Russia is a direct result of the depletion of the Urengoyskoye, Yamburgskoye, and Medvezhye fields—the three major fields in Russia under production in the Urals (see Table 15.2).
The Yamburgskoye field is currently producing only 110–115 bcm per year, compared with the plateau production of 205–207 bcm. The Urengoygskoye field peaked in 1988 at around 300 bcm and is currently in decline; it produces about 135–140 bcm, although total associated production of 260–270 bcm has been maintained by bringing smaller satellite fields online. The Medvezhye field has been in decline since 1985 and has already produced a relatively high percentage of its initially recoverable reserves, though the associated production seems relatively stable. The speed of the decline at both Urengoygskoye and Medvezhye will depend on future investments and additional compression at the fields.

According to our estimations (see equations in Figure 15.5), these old fields will decrease production by about 5 percent annually in 2008–2020, resulting in production levels of roughly 140 bcm by 2020. Many analysts believe that the aging fields’ production levels will begin to contract by more than 5 percent a year.15

The commissioning of smaller Siberian fields to compensate for declines in production began in the 1990s. However, smaller satellite production is simply a Band-Aid for the maturing super-giant fields. The only large gas field to begin production in recent years is Zapolyarnoye, with total gas reserves of around 3.3 Tcm. It was discovered in 1965 but did not begin production until October 2001. Starting in 2006, Gazprom has been recovering gas from Zapolyarnoye, which currently produces about 110 bcm (see EIA 2009c); this recovery partly masked the decline in the older fields.

Huge investments are needed to replace Russia’s dwindling supply of natural gas, and all the options for new production will prove costly and difficult. New fields in the far north and east of the country are distant from most of the Russian population centers and export markets, requiring wholly new transport systems such as pipelines. Moreover, most of these new fields are found in extremely harsh environments where it is technically and financially difficult to operate. Gazprom controls neither the capital nor the technology needed for the task. As discussed below, the state-controlled company is already highly indebted and faces many expensive obligations that drain its coffers.

Second, another major uncertainty is future gas usage. This uncertainty is particularly acute domestically. Although Russia is the
second-largest gas consumer (after the United States) – consuming more than 420 bcm of gas to support an economy only one-eighth the size of the US economy (IMF 2010) – the inefficiency of usage and low price of domestic gas make future predictions of demand difficult. Russia’s energy strategy for the period up to 2030, which in 2009 became a cornerstone of the country’s fuel and energy complex, estimated internal usage for gas at 562 bcm in 2020 and 608 bcm in 2030. However, these estimates may be off, because more than 90 percent of residential and industrial gas consumers lack meters. Consumers do not have information on how much gas they are using and have no control over their own consumption (IEA 2002, 2006a). There is also no consistent information on the payments for gas consumed or whether consumers pay at all. Also “payment” by consumers in Russia is more loosely defined than in other economies, with exchange possible via money, barter, or a variety of other instruments. Much of the reason for this inefficiency lies in the fact that gas is extremely cheap domestically. At the end of 2008, domestic natural gas prices in Russia were around $52 per thousand cubic meters (or 14 percent higher than in 2006), while the price for Europe hit $450. Overall, gas is cheaper than coal in Russia – the only large country where that is true.

There is also uncertainty in future gas demand in the EU. In the short term, the global recession has hammered Europe’s gas consumption, particularly for industrial users. The EU’s gas imports in the first quarter of 2009 declined by about 12 percent compared with 2008. But Russian exports to Europe fell by an even greater margin (in the first quarter of the year they dropped by 35 percent), partly indicating that Europe has effectively diversified its import structure, especially via Statoil. Further weakening the position of Russian gas in the EU was Russia’s dispute in 2009 over supplies and transit in Ukraine that led to widespread shortages throughout much of Europe. And over the long term, the EU’s plans for greater energy efficiency and security (based on nuclear, coal, and renewable energy) could dent gas demand. The management board of Gazprom seems to dismiss such concerns and envisions that Gazprom’s exports to Europe will climb to 250 bcm per year by 2020.

Third, despite Russia’s copious gas reserves, something of a paradox exists in the Russian gas sector because of a domestic supply gap. At the root of this gap is Gazprom’s desire to export its own production coupled with Central Asian producers’ (which used to be part of the Soviet Union and now are independent countries) lack of access to the Gazprom-controlled pipeline network. Until recently, Russia met this gap through imports of low-cost Central Asian gas to domestic and CIS consumers. Russia has been squeezing geographically isolated Turkmenistan to sell gas to Russia at a deep discount. Because of their dominant presence in Uzbekistan, Gazprom and fellow Russian producer Lukoil also profitably import gas production from that country.

However, recent events have called this strategy into question. Russia can no longer count on Turkmenistan’s cheap gas, as it is poised to decline, and a new 7,000 km gas pipeline was inaugurated in December 2009 that will carry mainly Turkmen gas to China across Uzbekistan and Kazakhstan with planned capacity of 40 bcm a year. Moreover, in 2008, Gazprom agreed to pay Central Asian producers European prices for gas in an attempt to block competition for supplies it needed to compensate for declining output at its Siberian fields. And Uzbekistan’s friendly attitude toward Russian producers may change in the future. Although Russia has inked some other deals to shore up supplies from Azerbaijan, these deals are either modest or – in the case of its efforts to stop the widely publicized Nabucco pipeline – expensive. Some analysts have reported that Russia has agreed to purchase Azeri natural gas at a record price of $350 per thousand cubic meters to try to make the so-called Nabucco project unfeasible. (The Nabucco project is supposed to transport Caspian and Central Asian gas west across the South Caucasus and Turkey, reducing Europe’s reliance on Russian gas.)

Given the uncertainty and rising costs of supplying gas from Central Asia, Russia may look at other options to fill the supply gap. Russian oil companies such as Lukoil and TNK-BP have always produced substantial quantities of gas, both in association with crude oil production and as non-associated gas. The options available to oil companies to dispose of their associated gas are still not attractive because Gazprom restricts their access to gas processing plants and pipelines. By 2010, these companies could produce about 50 bcm in the Nadym-Purtazovsky region’s new fields alone. Gazprom is also pulling independent gas suppliers Itera and Novatek into its orbit. Gazprom bought a 19.9 percent stake in Novatek and has taken control of Itera’s largest remaining field. Thus, it might be
more appropriate to call these companies "Gazprom-dependent" rather than independent. While these actions dilute Gazprom's share of the domestic market they allow the company to shift the risks associated with capital-intensive development of new fields to other players.

Another way to surmount the gas shortage is through a price increase for domestic gas consumers. Since 2008, domestic gas prices have been set to increase as much as 25 percent annually and are expected to double by 2010 to $100 per thousand cubic meters. The government planned to achieve a declared level of equal profitability of sales in both local and export markets by 2011. It is still unclear how equal profitability in both markets can be achieved because the 2011 target for the domestic price is significantly lower than Gazprom's export price for 2007–2008 (see more details and discussions in Pirani 2009).

However, an internal gas price increase would not guarantee the security of the Russian energy system. The future security of gas will be related more to the development of the fields of the Far North and Eastern Siberia, as well as the shelf deposits of northern and Far Eastern seas. A great deal of new capacity has to come online over the next two decades; with lead times of five to seven years to bring large fields into production, development plans need to be set well ahead of time.

While Gazprom is a large gas company it has also benefited from the government's desire to assert tighter control over the oil industry. That is making Gazprom into an oil company as well. In 2005, Gazprom agreed to buy most of Sibur, the country's fifth-biggest oil firm. It was the biggest takeover in Russian history. Dmitry Medvedev, who is currently Russia's president but was formerly the chairman of Gazprom's board of directors and the first deputy prime minister, said this acquisition was the kind of deal you normally see in the marketplace.

4 Inside Gazprom: profile of the largest company in Russia

In this section, we move beyond Gazprom's production and reserves figures to peer inside the company. Gazprom is an enormous entity that employs 376,300 people (including 221,300 specifically in gas) and even has its own corporate anthem (see Radio Free Europe/Radio

Gazprom (Russia)

Liberty 2009). To capture a company of this size, we proceed as follows. We first discuss Gazprom's complex corporate structure, then its financing arrangements, followed by its domestic, international, and non-core holdings. We conclude by addressing the company's business strategy.

4.1 Corporate structure

Gazprom's ownership has undergone some reforms, though it remains dominated by the Russian government. In 2005, as a result of state-owned Rosneftegaz's purchase of a 10.74 percent stake in Gazprom, the government's stake in Gazprom increased to 50.1 percent. Other major shareholders include banks and favored Russian firms and one German firm (E.ON Ruhrgas) that is Gazprom's key customer in the West. A "ring fence" that separated Russian and foreign shares was removed late in 2005 as part of the Russian government's efforts to make the country more attractive to investors in the wake of the Russian government's dismantling of Yukos. Removing the ring fence transformed Gazprom from being a reasonably insignificant entity in the international capital markets into one of the most liquid of the emerging market stocks. This economic turn will prove important because the company will need substantial investments in the future to maintain infrastructure and to keep up production levels. Although the company's capitalization has grown substantially - because of its low base and enormous reserves - it has one of the lowest returns on assets in the energy sector.

Since 2001, the company has been in the process of intra-corporate reforms aimed at enhancing business efficiency. The reforms were to be carried out in two stages. During the first stage (2001–2003), the company sought to identify key corporate governance responsibilities, to develop governance rules and regulations, and to improve budget planning. The goal of the second stage (2004–2005) was to improve operating efficiency as a vertically integrated company. The crucial task of this stage was to optimize the business management structure in the various subsidiaries to ensure the transparency of financial flows. These reforms led to changes in the organizational structure, as shown in Figure 15.6 for 2004 (the latest available information).

Reforms continue through the present day. Gazprom's top management instituted another round of two-step reforms between 2006 and
2008. In the first step, the Gazprom subsidiaries, which own or lease about 80 percent of the company’s property, singled out their core assets into special “buffer” companies. In the second step, the buffer companies merged according to business segment. One company was selected to be the principal company at the core of the segment and the others would be linked to it.28

The expected effects of these internal governance reforms are mixed. They will raise corporate administrative spending by $100 million per year or more. At the same time, they will reveal Gazprom’s actual expenses, and with such new transparency market capitalization is expected to increase by more than $30 billion since it will make it easier for investors to assess the company’s health and risks (see Collins 2006). A successful reorganization should allow the Gazprom management to determine which business units are actually profitable.

4.2 Finances

Gazprom enjoyed strong financial performance between 2004 and 2008, mostly on the strength of (until recently) rising hydrocarbon prices. Total sales revenues in 2008 were about $120 billion, or about 328% higher than in 2003 (see Table 15.3). Net profit climbed more slowly, for 2008 profit was $19.8 billion, an increase of 162% over 2004 levels. However, the company’s $46 billion 2008 debts have increased by 160% since 2003 (though they were about the same as in 2007).30 Gazprom’s debt-to-asset indicator is about 22% (Gazprom 2009a), or roughly twice the industry average.31 Looking ahead, increases in debt,31 ambitious acquisitions, and a higher share of short-term debt or annual debt maturities could cause Gazprom’s financial situation to deteriorate.

The central issue of Gazprom’s finances is the company’s three distinct sales markets: the home market in Russia; the market in the rest of the former Soviet Union (FSU); and the lucrative Far Abroad Countries (mostly Western Europe). The price of natural gas delivered to Western Europe was about three times higher than the gas price sold to FSU and five times higher than the domestic price. This explains the company’s continued interest in expanding exports and its more recent (and successful, if slow) reform of domestic pricing. Since the export market will be difficult to expand significantly, the
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<th>Table 15.3. Gazprom’s revenues, 2003–2008</th>
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<td><strong>Sales revenues</strong></td>
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<td>Net revenue from sales, $m</td>
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<td><strong>Other sales revenues</strong></td>
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<td>Gas condensate &amp; refineries sales (net VAP, excise, export duties), $m</td>
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| Crude oil sales (net VAP, export duties), $m | N/A | N/A | 1,378 | 5,758 | 6,833 | 7,311 |
| Transportation services (net VAP), $m        | 958 | 1,046 | 870 | 1,310 | 1,700 | 2,404 |
| Other sales (net VAP), $m                    | 1,660 | 2,092 | 2,278 | 3,771 | 6,551 | 10,678 |
| **Total sales revenues (net VAP, excise, export duties), $m** | 27,835 | 35,199 | 48,073 | 81,736 | 98,707 | 119,681 |

| Sales profit, $m                           | 8,047 | 10,374 | 15,640 | 32,513 | 30,979 | 50,767 |
| Net profit, $m                             | 6,984 | 5,733  | 9,472  | 20,664 | 22,245 | 19,827 |
| Net debt, $m                               | 17,713 | 22,255 | 33,193 | 41,015 | 61,534 | 46,450 |
| Investments, $m                            | 6,935 | 8,700  | 12,232 | 18,444 | 23,498 | 27,254 |

**Note:** For calculation we used end of period exchange rate of the ruble against the US dollar.

**Source:** Gazprom 2003–2008 Financial Reports.
single largest leverage point on Gazprom's finances is probably the domestic price of gas.

4.3 Domestic holdings

Gazprom has a wide range of energy possessions within Russia. Many of these holdings reflect its status as a fully vertically integrated hydrocarbons company: It has facilities for domestic exploration, production, sale, and distribution of gas; the production and sale of crude oil and gas condensate; and hydrocarbon refining operations. Gazprom's refining capacities (exclusive of the Sibur Group) include six facilities producing a wide range of products. The refineries are designed to process 52.5 bcm of natural gas and 28.6 million tons of unstable gas condensate as of December 31, 2007 (the latest available information). Gazprom acquired Sibur assets by using a bankruptcy procedure. As a result of the acquisition, Gazprom now owns Russia's largest natural gas processing plant.

Gazprom also owns the largest gas pipeline system in the world. As of December 31, 2008, the total length of the system was approximately 159,5 thousand km. The system includes 219 compressor stations on the pipelines with a total capacity of about 42.0 thousand MW.15 Future growth in gas-powered generation and downstream gas assets (such as those represented by Britain's Centrica) are possible. As part of its infrastructure, Gazprom owns and operates twenty-five underground gas storage (UGS) facilities on the territory of Russia with total volume of commercial gas amounting to 65.2 bcm. (The idea of splitting transportation from Gazprom's production arm, much discussed by reformers in the 1990s, has been more or less dropped. Gazprom says that it has no incentive to keep independent gas producers out of its transport system, since the more gas is available for sale in Russia, the more gas will be available for Gazprom to export to Western Europe at higher prices. However, lack of transmission capacity has precluded independent producers from gaining access.)

One of the greatest problems facing Gazprom is the age and condition of its infrastructure. About 70 percent of the large diameter transmission lines were commissioned before 1987, and about 40,000 km of pipeline are more than thirty-five years old and will need replacement soon. The investment requirements of the transmission system will increase sharply over the next two decades - as investment will be needed to connect new fields to existing pipelines, as well as to replace and refurbish old lines.

As noted above, Gazprom has also moved more aggressively into oil. In October 2005, Gazprom bought the fifth-largest Russian oil firm, Siburit, for $13.1 billion. This was an extraordinary deal as the state paid near market price to buy back a firm it had sold for almost nothing in the "loans for shares" auctions a decade ago.

4.4 International activities

To boost its international presence in the gas market, Gazprom has acquired assets in many gas distribution companies throughout Europe. At the end of 2006 Gazprom and Italian Eni signed a new agreement on a strategic partnership that enables Gazprom to supply gas directly to Italy. Gazprom has sealed similar agreements with Gaz de France, E.ON Ruhrgas, OMV, RWE, and BASF and intends to conclude a few more agreements in the future (the list of Gazprom's joint ventures is in Gazprom-Subsidiary Companies16). Gazprom's goal is a direct sales strategy to capture the profit margins that go to downstream suppliers (for an excellent examination of this subject, see Finon and Locatelli 2008).

More recently, Gazprom has been in a "shopping mood" and has pushed ahead with an expansion plan and huge ambition, raising questions over its true motives. As of December 31, 2008, Gazprom Group held nineteen licenses for subsoil use that imply hydrocarbon exploration, development, and production abroad, including five geological exploration, development, and production licenses and fourteen geological exploration licenses. In 2008, Gazprom's international activities also extended to oil and gas exploration, production, and marketing (see Box 15.1).

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Box 15.1 Sample of Gazprom's international activities

Exploration & production
- In Vietnam (geological exploration work on Block No. 112).
- In India (geological exploration work on Block No. 26 in the northern part of the Bay of Bengal).
- In Libya (geological exploration work in licensed areas Nos. 19 and 64).
• In Venezuela, Gazprom received licenses for research and development of hydrocarbon reserves of Urumaco 1 and Urumaco 2 block deposits.
• In Libya, Gazprom agreed to swap a stake in its Yuzhno-Russkoye gas field in exchange for an interest in Libyan oil concessions.
• In Algeria, Gazprom and Sonatrach signed a Memorandum of Understanding in August 2006 on joint projects for gas exploration and production in Algeria, Russia and other regions.
• In Central Asian countries (in 2008), licenses were received to carry out geologic exploration work at the Kugaatstskaya area and Vostochny Maylisu IV in Kyrgyzstan, Sarikamash and Zapadny Shaimbar in Tajikistan, and Ustyurt region in Uzbekistan.
• In Nigeria, Gazprom has made a new contribution to the global branding blunders: “Nigaz” – the fifty-fifty partnership between Gazprom and NNPC. Nigaz is set to build refineries, pipelines and gas power stations in Nigeria.
• Gazprom Neft is also considering participation in foreign projects; the most promising of which are in Libya, Syria, Iran, Indonesia, Iraq, Venezuela, and Kazakhstan.

Marketing
• In the UK, Gazprom has acquired the retail supply business of Pennine Natural Gas Ltd, and signed a leasing agreement with the Vitol Company providing Gazprom with a five-year access to 50 percent of Humble Grove UGS in the south of Great Britain.
• In Denmark, Gazprom signed a twenty-year agreement with DONG Energy to deliver 1 bcm of gas to Denmark. Gazprom Marketing & Trading (GM&T, a 100 percent subsidiary of Gazexport) signed a fifteen-year supply agreement with DONG for 0.6 bcm of gas to be sold to the UK beginning in 2007.
• In the US, GM&T registered a LNG and natural gas marketing subsidiary, GM&T USA Inc in Houston.
• In France, GM&T registered a retail marketing subsidiary GM&T France SAS in Paris.
• In Scandinavia, Gazprom signed an SHA with BASF and E.ON confirming mutual involvement in the Northern Europe Gas Pipeline (NEGP) through NEGP Company (Gazprom 51 percent; BASF and E.ON each with 24.5 percent).

4.5 Non-core activities
Gazprom has extensive, poor-performing assets unrelated or only distantly connected to its gas and oil businesses. According to one 2004 estimate, non-core businesses generated a loss of $350 million and accrued staff costs of $1.4 billion. As of 2006, these assets were worth approximately $14 billion and employed 38 percent of the company’s employees (Kramer and Myers 2006). More recent figures indicate these assets (along with some core holdings, like gas storage facilities) represent only 11 percent of the company’s total (Gazprom 2009b). An OECD report noted Gazprom’s “seemingly insatiable appetite” for investing in sectors of the Russian economy (OECD 2006). Although Gazprom executives say they intend to drop the company’s non-core assets, the company continues to make

Transport
• Stakes in SPP in Slovakia and alliances and partnerships in key transit nations to secure deliveries.
• In 2006, Gazprom negotiated the purchase of ArmRosGazprom from the Armenian government, along with a 40-km section of the Iran–Armenia gas pipeline. Gazprom has agreed to supply gas to Armenia at a fixed price of $110 per thousand cubic metres until 2009 in return for control of Armenia’s gas pipelines, part of a power station, and a 40km section of a pipeline under construction between Armenia and Iran. Gazprom will participate in the construction of the Iran–Pakistan–India pipeline, and the refurbishing of one or two lines at the Southern Pars deposit.
• Shares in companies owning and operating UGS, namely: ArmRosGazprom Armenia, AO Latvijas Gaze (Latvia), WINGAS GmbH (Germany) and VNG AG (Germany).
• Access to foreign storage sites in Ukraine (17.5 bcm), Latvia (1.9 bcm), and Germany (1.5 bcm). The company plans to refurbish and expand existing sites and to build new ones in several countries in the CIS, Eastern Europe and elsewhere.
investments that have an unclear business motive. Following a series of “gas wars” with CIS countries, which has undermined European confidence in Gazprom, the company wants to improve its image abroad. Gazprom was prepared to pay $11 million in 2007 to PR firms headed by the Omnicom Group, a US communications company, for their services. Some analysts think the Gazprom campaign will be just part of a larger campaign by the Kremlin to improve its image in the West (Butrin 2007).

Some of Gazprom’s assets span the energy sector generally. Gazprom holds 10% of the largest Russian electricity producer, RAO UES, which supplies 70% of the domestic market, and owns 25% of Mosenergo, the provider of heat and electricity for Moscow. It also has a stake in hydrocarbon spillover industries, particularly petrochemicals, machine tools, and metallurgy.

But many of the company’s assets are in the media sector, acquired at least initially to facilitate government influence in that sector. Probably the most impressive is its Gazprom-Media Holding that comprises television, radio, printing press, cinema production, advertising, and movie theaters. Gazprom-Media Holding is one of the largest media holdings in Russia and Europe, posting 2008 revenues of $1.624 billion. In 2005, Gazprom expanded its media holdings with the acquisition of Izvestia, and in November 2006 the company purchased Komsomolskaya Pravda, Russia’s largest circulation newspaper.

In addition to these media holdings, Gazprom has a diverse and quite surprising range of other interests. Many of these assets are financial: Gazprom is the main shareholder of AB Gazprombank (ZAO), which meets most of Russia’s domestic banking needs (other than borrowings). It is also the founder of NPF Gazfund, the largest non-government pension fund in Russia, providing pension services to employees of Gazprom. In addition, the company owns an insurance company (Sogaz).

Other interests are more difficult to characterize. Gazprom is also the biggest single owner of agricultural land in Russia and has both a sausage factory and a brewery. It runs twenty-six cultural centers, many sports centers (including a soccer team, Zenit, from Putin’s hometown of St. Petersburg), and medical and therapy centers. Gazprom even has its own space projects through a subsidiary, Gazprom Space Systems, which operates three telecommunication satellites.

Information on Gazprom’s international non-core activities is relatively limited. In one of the better-documented cases, in 2001 Gazprom sought to gain control of the plastic maker Borsodchem in Hungary using the privately owned Austrian CE Oil and Gas Company, another shareholder in Borsodchem. Nevertheless, in 2006, the CEO of Gazprom’s banking affiliate in Hungary, General Banking and Trust, managed to increase his personal shareholding in Borsodchem to 18 percent by using his UK-registered family-owned firm Firthlon (see Kalotay 2008).

4.6 Business strategy

Gazprom has a broad strategy of globalizing its operations and becoming more vertically integrated, but this strategy is hostage to Russia’s ambitious political interests. One reflection of these competing concerns is its investment strategy: Gazprom had, from 2004 to 2006, invested less in its core extraction and production activities (while increasing investment overall), and directed resources instead into gas transit projects. The heavy investment in transit reflects the company’s desire to become a more vertically integrated company and in part to maintain influence and control over transit routes through markets and assets seeking. More recently, Gazprom has invested more in exploration and production – since 2005 its budget for such activities has more than doubled.

Looking ahead, the company’s business decisions will shape its future role in the international gas business. It is extremely difficult to predict future European gas demand (see Stern 2009). Gazprom may not be able (or maybe does not need) to increase gas supplies to Europe, at least in the short term. Thus, the looming gas crisis that was supposed to have major implications was suspended by the global financial crisis. Since 2008, reduced consumption in Russia, FSU, and Europe and low spot market prices have given Gazprom excess capacity and reduced its exports. In the first half of 2009, Gazprom’s profit was 48 percent lower compared with 2008, while its debt grew by 31 percent. Thus, Gazprom can consider itself lucky that it did not invest heavily in its new gas fields as its current situation would look much worse.
Gazprom has a wide range of priority commercial projects (see Box 15.2), but pursuing these projects simultaneously is likely to prove overly expensive and risky for Gazprom. (Indeed, the onset of the 2008 economic crisis prompted Gazprom to cut its investments by 15.8 percent.) The company’s choices will largely depend on the position of the Russian government with respect to reforming the domestic gas market. Increasing gas prices for internal consumers might slow down the growth of the domestic market, increase the profitability of domestic gas sales, and therefore reduce Gazprom’s dependence on the European market. By contrast, if the government maintains the current policy, Gazprom would continue financing loss-making projects at home, making the European gas market critically important to the financial health of the company. In the long term, Gazprom has no real alternative but to develop the new gas fields to boost supply.

Box 15.2 Major Gazprom projects

Gazprom is involved in a number of wide-ranging field development and pipeline projects designed to increase its production capacity in Europe and Asia (see Figure 15.7).

First discovered in 1988, the Shтокman field is one of the biggest known offshore gas fields in the world and is located more than 600 km from shore, at a depth of 340 m. The field contains 3.8 trillion cubic meters of gas and 37 million tons of gas condensate.

1. Development of the Shтокman field (on the Arctic shelf of the Barents Sea)

Over four phases, development of the Shтокman field is estimated to cost more than $30 billion. A preliminary development scheme envisions the construction of a sea platform above the field, an underwater pipeline, and a liquefied gas plant on the coast. Annual gas production is expected to be 60 bcm and the full development period is projected at fifty years.

After repeated delays and political grandstanding, in 2007 Gazprom and French energy company Total signed a framework agreement, according to which Gazprom and Total will set up Shтокman Development Company to organize the design, financing, construction, and operation of the Shтокman phase infrastructure. Later, a similar contract was signed between Gazprom and Statoil. Shтокman Development Company will bear all financial, geological, and technical risks related to the production activities. (Gazprom owns 51% of shares in Shтокman Development Company, while Total has 25% and Statoil 24% of shares).

Gazprom may delay development of the giant Shтокman gas condensate field depending on market conditions. Under Gazprom's original plan, it would produce 23.7 billion cubic meters of natural gas a year starting in 2013 from the first development phase of the field and up to 7.5 million metric tons of LNG a year starting in 2014.

2. Development of Yamal fields

Western Siberia's Yamal has eleven gas and fifteen oil, gas, and condensate fields with approximately 16 Tcm of explored and preliminary estimated gas reserves (ABC1+C2) and nearly 22 Tcm of in-place and forecast gas reserves (C3+D3). Reserves of condensate (ABC1) are estimated at 230.7 million tonnes (mln t) and those of oil at 291.8 mln t. Within this region, Gazprom holds the development licenses for the Bovanenkovo, Kharasaveyskoye, Novoportovskoye, Kuzensternskoye, Severo-Tambeyskoye, Zapadno-Tambeyskoye, Tasiyskoye, and Malygino fields.
The Bovanenkovskoye field is the most significant with 4.9 Tcm of gas. The initial gas reserves of the Kharasaveyskoye, Kruzenshternskoye, and Yuzhno-Tambeyskoye fields amount to about 3.3 Tcm.

Developing the Yamal – with resources predominantly on land – would require less new technology and involve lower risk. Unlike Shтокman, which would require investment and technology from Western companies, Russian companies could develop Yamal by themselves.

In October 2005, Gazprom's management sanctioned the start of the development of the Bovanenkovskoye field. Gazprom planned to pump 8 bcm of gas a year at the Bovanenkovo deposit starting in 2011, eventually increasing production to 115 bcm per year in 2015 (see Gazprom 2010). Long-term gas production is to be increased to 140 bcm a year. In 2008 Gazprom launched the construction of the Bovanenkovo–Ukhta gas trunk line system. However, battered by the 2009 financial crisis and facing competition from LNG coming into Europe (mostly from Qatar), Gazprom has delayed the launch of Bovanenkovo to 2012 (Belton and Gorst 2010).

After some delays, Gazprom had plans to invest RUB 150 billion (more than $5 billion) into the development of Yamal fields in 2010. Now, the first gas is expected to come online in 2016 (Belton and Gorst 2010).

3. Nord Stream pipeline

Nord Stream is a 1,200 km-long offshore natural gas pipeline stretching through the Baltic Sea, from Vyborg, Russia, to Greifswald, Germany. It is designed to be a new route for exporting Russian gas from Yuzhno-Russkoye, Yamal Peninsula, Ob-Taz bay, and Shтокmanovskoye fields. It will link Russia directly to the all-European gas network, bypassing today's transit nations. Nord Stream will carry gas to Germany, from where it can be transported to Denmark, the Netherlands, Belgium, the UK, and France. The length of the sea section of the gas pipeline from Vyborg to Greifswald will be 1,189 km. It will use a 1,067 mm pipe, operating under a pressure of 200 atmospheres. The Shтокman gas and condensate field will be a resource base for gas deliveries via Nord Stream.

Nord Stream is planned to begin operating in 2011 with a transport capacity of around 27.5 bcm of natural gas per year. The second line construction by 2012 is projected to double throughput capacity to 55 bcm. The total investment for the offshore pipeline is estimated to be at least EUR 5 billion (the total cost of the project – including the onshore pipelines – could be around EUR 12 billion). Managing this project is Nord Stream AG, established in 2005. Gazprom holds a 51% interest in the joint venture and as of 2008 the other shareholders are Wintershall Holding, 20%; E. ON, 20%; and N.V. Nederlandse Gasunie, 9%.

The project is controversial because of national security risks and environmental concerns. Environmental concerns include disruption of the seabed, impact on Baltic bird and marine life, and the dislodgement of World War II-era naval mines and toxic materials and other waste dumped in the Baltic Sea in the past decades. Some transit countries are also concerned that a long-term plan is to attempt to exert political influence on them by threatening their gas supplies without affecting supplies to Western Europe. The fears are strengthened by the fact that Russia has so far refused to ratify the Energy Charter Treaty. In April 2006, Radosław Sikorski, then Poland's defense minister and currently the foreign minister, compared the project to the pre-World War II Russian-German Molotov–Ribbentrop Pact. According to Gazprom, the direct connection to Germany would decrease risks in the gas transit zones, including the political risk of cutting off Russian gas exports to Western Europe. In late 2009, the Danish, Finnish, and Swedish governments issued construction permits for the project.

4. South Stream pipeline

South Stream is a proposed gas pipeline to transport Russian natural gas under the Black Sea from the Russian coast (Beregovaya compressor station) to the Bulgarian coast and farther to Italy and Austria. The total length of the offshore section would be around 900 km, with a maximum underwater depth of over two km and a full capacity of 63 bcm. Two possible routes are under review for South Stream's onshore section from Bulgaria – one northwestward...
and the other southwestward. The project could partly replace the planned extension of Blue Stream from Turkey through Bulgaria and Serbia to Hungary and Austria and is seen as a rival to the planned Nabucco pipeline. The new pipeline would expand the country’s export capacity to the continent from 47 bcm to 63 bcm of gas per year.

In May 2009, Russia signed initial transit deals with Greece, Bulgaria, Serbia, and Italy. (Gazprom and Italy’s Eni have also signed a related agreement.)

As of July 2009, the Nabucco pipeline project staged a comeback, while South Stream seems to be losing. Bulgarians elected Boyko Borisov, and he wants to take Bulgaria out of the South Stream consortium. Without Bulgaria on board, the South Stream project is unlikely to happen. The Nabucco signing ceremony (involving Turkey, Bulgaria, Romania, Hungary, and Austria) signaled that the project is at last gaining traction. Meanwhile, uncertainty surrounding future demand raises the possibility that neither pipeline will ever become a reality.

In addition, the development of the Yamal and Shтокman gas fields on Gazprom’s list of priorities and the financial crisis have forced Gazprom to cut back on investment by 26 percent in 2009. The technical and financial challenges facing South Stream will be fully known only after the completion of feasibility studies. Russia is projecting that South Stream will cost about $15 billion.

5. Supplying China

In September 2007, the Russian energy ministry approved a program for an integrated gas production, transportation, and supply system in Eastern Siberia and the Far East, taking into account potential gas exports to China and other Asia-Pacific countries (Eastern Gas Program). Russia is to supply natural gas to China via two Gazprom pipelines from Western Siberia and the offshore Sakhalin fields. The pipelines would be capable of supplying China with 68 bcm of gas annually or 85 percent of the gas China currently consumes. The West Siberian gas route could be operational in 2015, since the main trunk pipelines already exist and only their extension to China is required. However, price has been a particular sticking point, as Russia is seeking a pricing regime that is similar to the one in Europe, and China is seeking a lower-priced scheme. Given the fact that Asian markets are the growth markets, it is likely that at least the West Siberian route will be established sooner or later.

5 Conclusion

Gazprom has grand ambitions to become a global, vertically integrated energy company occupying a leading position in the world market. The company wants to compete with the majors on their own territory by developing upstream and downstream activities overseas.

Gazprom also wants to increase its stock price and market capitalization, which, in turn, could allow the company to raise funds for new capital projects. The growth in the company’s market value from 2003 to 2008 has been primarily driven by rising gas prices and the low level of Gazprom’s initial market value; neither of those factors is any longer at play. Compared with IOCs, Gazprom’s capitalization per barrel of proven reserves is extremely low — a reflection of the company’s overall poor performance and large risks that arise from its close connection to the Russian state. The current financial crisis is becoming an important variable in Gazprom’s future development. With little investment in infrastructure, Gazprom will likely be unable to continue to operate current (mostly mature) fields let alone undertake large new projects.

A supply glut on the scale projected by the IEA (see IEA 2009) would be a U-turn for an industry that braced for shortages in 2008 and be a significant blow to Russia. The projected oversupply would also be a major setback for Gazprom. This glut could have comprehensive consequences for the structure of gas markets. Suppliers could be under pressure to modify pricing terms under long-term contracts and to delink gas prices from oil prices and sell more gas on the spot market to stimulate demand. These new circumstances also lead to speculations that the link between oil and gas prices could be broken (see Stern 2009). In addition, the competitors are increasing their market share. Qatar is bringing on line new LNG supplies facilities, the United States is developing its massive unconventional gas reserves, and Iran has signed a deal to develop the immense South Pars gas field (although its prospects remain uncertain – see Chapter 6).
Where Gazprom as a company ends and Gazprom as a tool of the state begins is a rhetorical question. The Russian government has taken a stand against the European Energy Charter and its Transit Protocol because it will reduce Gazprom’s monopoly powers. The export monopoly offers the state a benefit as it guarantees the Kremlin’s control over what has become Russia’s most powerful foreign policy tool. Gazprom’s business decisions often have a political context, including Gazprom’s plan to build one or two gas pipelines to China rather than build an LNG plant. The price of oil and gas rarely figures explicitly into the political strategy, but surely it is a very important background force in any political decision. When prices were low in the 1990s, there was less reason to try to control Gazprom, while at the same time there was an urgent need for outside capital and, thus, the government was interested in the production-sharing agreement contracts. It was the combination of Putin’s rise to power – with a state-controlled “champions” model of industrial development – and high energy prices – which created the revenues for Russia – that made the strategy of asserting control over Gazprom both feasible and attractive.

The problems currently facing Gazprom are many and significant. Gazprom is trying to deal with new circumstances through its investment strategy (delaying the development of the Bovanenkovo field), turning its attention to new markets (particularly China), relaxing payment conditions for industrial users in Russia (with the hope that this will stimulate domestic demand), and strengthening its position in Europe (partially by reducing its own dependence on Ukraine’s transit system). Some of these policies involve higher risks than others.

The future of the company is uncertain, as it depends not only on the company’s effort but also on political and economic variables, such as global economic growth, gas demand, world oil and gas prices, the economic and political situation inside Russia, and the government’s foreign policy priorities. If the main driving forces for Gazprom’s decision making become even more political rather than business oriented, it will be hard for Gazprom to reach its ambitious goals.

Notes
1. This was several decades after the appearance of the first long-distance gas pipelines in the United States. By the early 1930s the Soviet economy consumed 10–15 million cubic meters annually (mcm), but within a decade, this figure had grown to 3.4 bcm. For comparison, the United States consumed about 50 bcm in 1935.
2. The joke about the State Committee for Planning (Gosplan) explains the economic situation in the USSR – if Gosplan took over the Sahara, there would soon be a sand shortage.
3. The successful bidders were required to hold the shares in trust for a maximum of three years in return for providing loans to the government to reduce its budget deficit. At any time the government could buy back its shares. In a series of auctions, stakes in the companies were transferred into trust accounts and then sold to insider banks for a fraction of their market value. Stakes often went to very companies organizing the loan tenders for the government, and through the loans-for-shares scheme, the government sold assets estimated at more than $25 billion for just $1.2 billion. The buyers included Mikhail Khodorkovsky of Yukos as well as Boris Berezovsky and Roman Abramovich of Sibur. (These new oil barons had no prior experience in the industry but, more importantly, they had access to financial capital from private banks [which they owned and controlled] and close political connections to the Russian government.)
4. In 2000, the government owned 38% of Gazprom; the managers’ official stake was around 35%, leaving about 20% in other, hidden hands. At least some of the hidden shares were also likely held by Gazprom insiders. Former Gazprom chairman and former Russian Prime Minister Viktor Chernomyrdin is rumored to be a major owner. (See Black et al. 2000.)
5. In 1995 Anatoly Chubais, the first deputy minister and a promoter of a strict budget policy, asked for the liquidation of the Gazprom stabilization fund and an investigation of its activities. In 1996 a tax scandal affected the relationship between Gazprom and the government: the accounts of some companies affiliated with Gazprom were frozen for tax arrears. The frozen property of Urogozigazprom amounted to about $14 million.
6. The gas exploration and distribution were handled by subsidiaries of Gazprom, though gas to the end users was distributed by local gas distribution companies. Since most of the local gas distribution companies were controlled by local authorities, it was difficult to suspend gas supply because of unpaid gas bills. Thus, Gazprom provides “hidden subsidies” to customers by allowing non-payment of gas bills.
7. The restructuring also led to a temporary name change from the Ministry of Fuel and Energy to the Ministry of Energy.
8. Rem Vyakhirev’s license expired and the Federal Commission on Securities postponed the issue of its prolongation indefinitely.
9 The international majors were merging themselves, downsizing and outsourcing and not investing in new refineries. IOC's knew that production was set to decline and exploration opportunities were declining as well. These internationals in Russia had to give the stock market, so their mergers hid the collapse of the weaker companies. On the state's side, Gazprom and Rosneft were getting bigger for the same reasons -- to look better to the investors (though not because of lack of reserves as in the IOC's cases, but to conceal depleting fields and a lack of investment).

10 This theory was set out by Richard Posner and developed by George Stigler. Colloquial characterization of regulator capture date back even further in time. In 1913, Woodrow Wilson wrote, "If the government is to tell big business men how to run their business, then don't you see that big business men have to get closer to the government even than they are now? Don't you see that they must capture the government, in order not to be restrained too much by it? Must capture the government? They have already captured it." (See Wilson 1913.)

11 A World Bank study published in 2004 raised doubts about the accuracy of official GDP statistics and, in particular, the impact of transfer pricing. Transfer pricing is a common practice whereby oil and gas companies sell their output at a cheap price to a subsidiary located in a low-tax region. The subsidiary -- which is registered as a trading, i.e., services company -- then sells the oil or gas on at the market price, making large profits in the process. Once this effect is accounted for, the World Bank estimates that the oil and gas sector accounts for 25 percent of GDP (World Bank 2004b, 2005c). The official lower figure (19 percent according to Russian Energy Strategy 8 (www.intercen.org/node/89)) is distorted by questionable accounting practices.

12 Russia plans to step up exploration of the "Russian Arctic." Two-thirds of potential gas reserves are scattered throughout four polar regions, notably the Yuzhno-Karsky oil and gas field, the western and eastern parts of the Barents Sea, and Alaska. The Yuzhno-Karsky field accounts for 39 percent of the Arctic's unproven gas deposits.

13 The company's plan was to produce 570 bcm in 2010, 610-615 bcm in 2013, and 650-670 bcm in 2020 (Gazprom 2009b). It actually produced 508.6 bcm of gas in 2010. The Russian Cabinet of Ministers is predicting that independent producers will have only a 17-18 percent share, despite owning 30 percent of the resource base. Gazprom's latest (summer 2009) plans for the period to 2012 envisaged a one-year delay in the development of the huge Bovanenkove field (reserves of 4.9 trillion cubic metres) from Q3 2011 to Q3 2012. Delay in Bovanenkove's development means that Gazprom's total capital investment is likely to reach 500 billion rubles, around 22 percent less than the 643 billion rubles that it planned to invest in December of 2008. Gazprom claims that its forecast of a 10 percent drop in gas consumption over the next four years is what has delayed the startup of Bovanenkove. Gazprom is likely to postpone the development of the even more inaccessible and technically difficult Shokman field (EGM 2009a).

14 The gas sector has moved from a tight supply and demand balance with extremely high gas prices to an easing one with plummeting prices. Gas markets face enormous uncertainty surrounding the timing, pace, and extent of economic rebound, which affects all prognoses for the future.

15 There has been an average rate of production decline at the three major gas fields of more than 22 bcm per year during the period 1999-2004 (Stern 2005) and that corresponds to annual declines of 5 percent.

16 The inefficiency extends to electricity production as well. In fact, 60% of total internal gas consumption is now used for electricity generation. The country's gas-fired electric generators operate at only 33% efficiency on average, compared with 50-55% for the modern combined-cycle generation plants in Europe.

17 The new energy strategy is urging a stage-by-stage implementation. Three phases are outlined in the strategy: in the period 2010-2013, the consequences of the current crisis are to be overcome; in the period 2015-2022, the fuel-based sector is to be made efficient; and in the period 2022-2030, the economy will be turning toward the use of alternative sources of energy. In order to reach these ambitious goals, a total of RUR 60 trillion (more than $2 trillion) need to be invested in the Russian energy sector with 90 percent of it coming from private investors. From 2013, up to 5.5 percent of the GDP will be spent on the energy fuel sector.

18 While Gazprom's production dropped in 2009, Statoil increased production by 21 percent (Kommersant 2009a). Besides, Statoil has boosted its exports and is now almost as big as Gazprom in the European market. Gazprom's relations with foreign customers are regulated by long-term contracts, where quarterly price adjustments are based on European petroleum prices six to nine months before. Algeria and Nigeria suffered from the same problem and only Norway had increased supplies in 2009, as it had benefited from deals on the spot market for gas, where deals take immediate effect.

19 Few oil companies even bother to look for gas, as they know they cannot deliver what they find to the market. Many companies have no choice but to flare their gas due to a lack of transportation infrastructure.
20 Turkmenistan began focusing on China as a trade partner in April 2009, after an explosion on a pipeline halted Turkmenistan's exports to Russia, and exports have not resumed at the time of this writing. The Russian import stoppage has struck Turkmenistan during the recession-induced low demand, but the halt of gas imports from Turkmenistan has attracted far less international attention than its recent halt of gas exports to Europe.

21 In June 2009 Azerbaijan's state oil company SOCAR signed an agreement to sell gas to Gazprom, beginning with a relatively modest 500 mcm in 2010, with future increases built into that deal.

22 Itera was founded in 1992 as a company trading in consumer goods, oil, and oil products in the former Soviet republics. It entered the gas market in 1994 through the good connections with Turkmenistan (Turkmen companies were unable to pay for goods except with gas). In 2000, Itera sold nearly 80 bcm of gas to customers in CIS countries. OAO Novatek (formally Novafininvest) was founded in 1994 and is currently a rapidly growing independent natural gas producer with upstream operations located in the Yamalo-Nenets Autonomous Region (it holds net estimated reserves of 1.5 Tcm of natural gas). In 2004 Novatek became the biggest independent gas producer and in 2006 the company supplied about 29 bcm of gas to the domestic market (Pirani 2009). In 2008 Novatek produced 30.9 Gm³, up 7.7 percent from the 2007 level. Novatek has not experienced a decline in production during the financial crisis. This is largely due to competitive prices. Novatek can charge what it likes for gas, while Gazprom has to stick to relatively inflexible regulated prices set by the Federal Tariff Service (FTS). At times of high demand and prices Russian buyers maximize their offtake from Gazprom, but the reverse is true when demand and the free market prices drop (EGM 2009b).

23 Recent reports have indicated that Novatek has been making gains on the domestic market. According to Catherine Belton and Isabel Gorst, it is as yet unclear whether the rise of Novatek - where output grew in volume by more than 11 percent in 2009 even as Gazprom's output fell by 18 percent - is part of the state's strategy to boost competition in order to increase Gazprom's efficiency or a distribution of assets among the groups competing for influence in the Kremlin (Belton and Gorst 2010).

24 The price elasticity for natural gas demand tends to be larger (in absolute value) than that for oil. Domestic natural gas demand can be expected to decline at least by 1 percent for every 10 percent permanent increase in price. It is unclear whether it would happen in Russia: the domestic gas consumption dropped in 2007 some 6 bcm, but that decline was not due to higher prices but due to lower gas demand in the unusually warm winter. The Russian government hopes that the higher domestic gas prices would encourage independent producers to produce more gas to supply about 50 percent of domestic industrial clients' needs (up from 29 percent now).

25 A proposal by the Russian Federal Property Fund (RFPP) to sell Gazprom's shares to foreign investors through a state organization (not through a stock exchange) was supported by the government. It helped the state to increase its stake in the company (the Russian Trading System (RTS) services are supposed to be paid by the company's shares). In the first three days after the ring fence was lifted, Gazprom's share price increased by 25 percent.

In April 2006, Gazprom applied to the US Securities and Exchange Commission for registration of a new program of E-6 American Depositary Receipts (ADRs). The new ADRs are now traded not only on the London Stock Exchange but also over the counter in the United States. The launch was complemented by an optimistic signal in terms of an ADR split: now one ADR consists of only four local shares (not ten as in the previous case). With this move, the ADR price has been returned to the $30-70 range in the US markets, sending a signal that the stock is likely to continue growing.

26 The average return on assets in the industry is 12-14% while Gazprom expected a 6% return on assets as of December 31, 2008, and a 5% return as of December 31, 2007 (see Gazprom 2008).

27 Gazprom set up specialized units within the subsidiaries that combined gas production and processing with gas transmission and storage. The structural changes were expected to differentiate the financial flows in gas and liquids (thermal) production from those in transmission, processing, underground storage, and marketing. This would help, for example, to expose gas transmission expenses under regulated gas transmission tariffs.

28 The buffer companies will be consolidated into six new entities managing different business segments: Gazprom-PKhG (underground storage), Gazpromreferabarksa (processing), Gazpromrossiyapodzemremont (northern underground maintenance), Gazpromugriyapodzemremont (southern underground maintenance), Gazpromtrans, and Gazpromtrans-Kaban. The company expects to increase its share in Gazpromtrans to 100 percent.

29 By comparison, the entire combined public and private sector debt coming due for India, China, and Brazil in 2009 totals $56 billion (Kramer 2008).

30 The majors currently have a debt-to-assets indicator of about 7% (for Exxon Mobil Corporation it is 3.8%, for Royal Dutch Shell 6%, for
Chevron 7.4%, and for BP 11%). On average, oil and gas companies have an 11% debt-to-assets ratio (Reuters Oil & Gas – Integrated: Company Rankings 2007).

31 In 2004–2008, Gazprom failed to convert an extremely favorable gas price situation into free cash flows that could have been used to reduce debt. Instead, Gazprom's long-term borrowings increased. In 2008, long-term bank borrowings included loans from Credit Suisse International, Salomon, Morgan Stanley and Dresdner Bank, which have been secured by revenue from export sales of gas to Western Europe. Also part of the long-term debt is money lent by the banks in the form of direct payment to equipment suppliers. Another source of borrowing (though with smaller share) is the series Russian bonds. The total amount of loans Gazprom received in 2008 was more than $15 billion (Gazprom 2009a). The borrowing is usually done in Western markets (80–88%) via Eurobonds. Gazprom continues to slash its short-term debt relative to total debt and plans to have 25% in short-term loans soon instead of more than the 30% it has at present. The company will also focus on unsecured loans with the aim of gradually freeing up to 50% of its export revenues from collateralized agreements. At present, Gazprom's exports to Western Europe are almost entirely used as collateral against loans.

32 Gazprom is the only company in Russia legally allowed to sell gas outside of the borders of the former Soviet Union. By Russian law, Gazprom is obligated to allow other producers to use its pipelines for domestic needs (not for foreign exports). However, when pipelines are filled to capacity, it is allowed to refuse to do so and usually does refuse.

33 www.gazprom.com/subsidiaries/subsidiary/
34 Hermitage Capital Management (www.hermitagefund.com/).
35 Although official figures for non-core activity are not available, in 2008 so-called “other activities assets” that include production and sales of electric and heat energy, construction, and gas storage represented 11 percent of total company assets (Gazprom 2009b).

36 In November 2006, the OECD released a report on the Russian economy that criticized the Russian government for its expansion into key economic sectors. The OECD report expressed alarm that instead of investing in gas production, Gazprom had been expanding its interests in oil, electricity, power generation machinery, and media. Gazprom's investment in developing new gas fields has been minimal and its monopoly over the gas transportation infrastructure has constrained the development of independent gas producers. This strategy is potentially dangerous during a time of growing concern about Russia's ability to sustain and increase its gas production.

37 Most likely, $11 million is a prepayment and the total expenses will be greater. The sum is about 8 percent of Gazprom's 2007 PR budget ($140 million in 2006).

38 Gazprom's entities are organized around profitable firms that take control of non-profitable firms by exchanging debts for shares. Gazprom has established internal artificial transfer prices with respect to the specific funding requirements of the individual subsidiaries within each segment. Thus, stated results don't provide an accurate picture of the segment's financial position or the results of its operations. Generally speaking, internal transfer prices are set below the cost of gas production, so company independence is considerably compromised. Through this mechanism of artificial pricing, Gazprom also keeps the investments centralized.

39 Gazprom 2005-2008 Financial Reports. Note: For calculation we used end of a period exchange rate of the ruble against the dollar.

40 On July 13, 2009, the cabinet approved Gazprom's revised investment program, which was 15.8 percent lower than planned earlier. Gazprom declined to release which specific projects will be suspended, but more likely it will delay the development of the Bovanenkovskoye deposit in Yamal. Furthermore, Gazprom previously planned to pump 550–560 billion cubic meters (bcm) of gas in 2009 but now it aims to produce only 460–510 bcm. Gazprom also decided to cut its Shтокман deposit investment from $184 million down to $45.2 million and spend only one-third on constructing underground gas storage facilities. However, it plans to increase investment in the Nord Stream project by $113 million up to $1.1 billion (Kommersant 2009b). Thus, Gazprom appears to be cutting its major production projects, while still funding selected export programs. Moreover, Gazprom still seemed to have some money to spend on purchasing natural gas that the company apparently does not require: on June 29, 2009, Gazprom and Azerbaijan's state-run energy company SOCAR signed an agreement on Azeri gas supplies to Russia. SOCAR agreed to supply 0.5 bcm annually to Russia's southern regions beginning in January 1, 2010. Gazprom's deal with Azerbaijan was apparently aimed at undermining the Nabucco pipeline project, which would bypass Russia and Ukraine. Despite Gazprom's efforts in Azerbaijan, the Nabucco pipeline deal was signed.

41 Gazprom estimated its losses at the domestic market to have been about RUB 9 billion ($324.09 million) in 2006 and RUB 11 billion ($396.11 million) in 2007.

42 Since the 1990s, a consortium of Conoco (12.5%), Fortum (12.5%), Norsk Hydro (12.5%), and Total (12.5%) headed by Gazprom (50%) had been working on assessment and solutions to technical problems.
In 2001, Gazprom announced its intention to develop the gas field together with Rosneft. In 2002, the license for the field development and recovery was transferred from JSC Rosshelf to Sveromneftegaz. In 2003, Gazprom and Sveromneftegaz prepared for the project of gas field development, based on the analysis of the accumulated data. However, currently Gazprom does not have clear and reliable solutions to the questions of field development, as the company has not gathered enough observations and information.

43 In 2003 representatives of Gazprom stated that foreign partners in the development of Shokman would be announced in the last quarter of 2003; the decision was delayed and analysts tried to explain the postponement primarily in political terms (including reasoning that Russia was holding Shokman hostage over the WTO issue). In October 2006 Gazprom announced that the company will develop the Shokman without Western companies and will no longer send Shokman gas to the United States by LNG, but rather to Europe by pipeline.

44 Preparations for the Yamal's development started in the 1990s.

45 Originally, BASF and E.ON each held 24.5 percent interests. On June 10, 2008, N.V. Nederlandse Gasunie was added into the Nord Stream AG shareholders, creating the 2008 arrangement.

16 NNPC and Nigeria’s oil patronage ecosystem

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1 Introduction

Any attempt to analyze Nigeria’s national oil company (NOC), the Nigerian National Petroleum Corporation (NNPC), must first confront the question of what it really is. Despite its formal organization as a vertically integrated oil company, NNPC is neither a real commercial entity nor a meaningful oil operator. It lacks control over the revenue it generates and thus is unable to set its own strategy. It relies on other firms to perform essentially all the most complex functions that are hallmarks of operating oil companies. Yet unlike some NOCs it also fails to fit the profile of a government agency: its portfolio of activities is too diverse, incoherent, and beyond the reach of government control for it to function as a government policymaking instrument.

Nigeria depends heavily on oil and gas. Hydrocarbon activities provide around 65 percent of total government revenue and 95 percent of export revenues (Nigerian Ministry of Finance and Budget Office of the Federation 2008; EIA 2010a). While Nigeria supplies some LNG to world markets and is starting to export a small amount of gas to Ghana via pipeline, the great majority of the country’s hydrocarbon earnings come from oil. In 2008, Nigeria was the fifth-largest oil exporter and tenth-largest holder of proved oil reserves in the world (EIA 2010b).

NNPC sits at the nexus between the many interests in Nigeria that seek a stake in the country’s oil riches, the government, and the private companies that operate most oil and gas projects. The best NNPC employees have good expertise in hydrocarbons and genuinely seek the best for the company and the nation, although they often lack the institutional support they need. The worst use their positions principally as a route to graft.

NNPC plays a number of roles in the oil sector through the activities of its manifold divisions and subsidiaries (see Box 16.1).