The dynamics of natural gas supply coordination in a New World
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PART I
Chapter 2
A theoretical background: Agent-structure in a geopolitical context

2.1 Introduction
The first step in determining the boundary solutions for cooperation between Russia and other gas-exporting countries is to determine Russia’s position in and perception of the international political system. In other words, it is important to lay out the theoretical and analytical tools necessary to analyse the international political context. This context pertains to both structures of the international political system in which agents (such as states) operate as well as the nature of the agents themselves. An essential point of departure is that Russia’s geography matters, both in terms of Russia’s behaviour in the international political system, as well as in terms of Russia’s gas reserves and their proximity to export markets.

Since the end of the Cold War, the system of international relations and power is based more on relative economic advantages rather than absolute military ones involving zero-sum games [Waltz 2006; Strange 1994; Gilpin 2001]. There are now types of power different from those important during the Cold War, such as hard military power. Within this changing international political system, Russia wishes to improve its status to that of a great power, that is, to become one of the important poles in the system rather than merely living on its fringes. It no longer has hard military power at its disposal. For Russia, among other things, such as oil, gold and other minerals and resources, its gas wealth offers a means to develop important relative economic advantages, which, in turn, make it possible for Russia to regain and carve out for itself a respected position in the international political system.

The structure of the international political system in terms of polarity is more dynamic, as is the shift from absolute to relative advantages. With the collapse of the Soviet Union, a structural realist theory is an important starting point, because it helps us understand the implications of such a major change in the international political system. Since Russia’s perception also plays a role in motivating its actions, the distribution of ideas and perceptions is also an important factor to take into account. Russia’s continuing evolution, its self-perception and its view of gas as a means to safeguard its economic power, and its projection of political power
can be best understood using a multi-pronged theoretical framework. Moreover, for Russia geography plays an important role, with geography being a permanent factor in international relations. Particularly given the fact that natural resources are distributed in certain concentrations across the globe implies that a geopolitical approach is warranted in this study. The modern variant of international political economy covers the overarching theoretical background to the relationship between states and markets and its role in creating relative advantages [Gilpin 2001; Strange 1994].

The relationship between agents and structure is thus set in a geopolitical context, where geography and the perception of geography play an important role. This is a more advanced theoretical lens through which to perceive the world than in zero-sum terms, implicitly incorporating the material, immaterial and geographic dimensions.

Section 2.2 discusses the importance of an agent-structure relationship, involving a material dimension. Section 2.3 will follow with a discussion on new forms of power which have emerged since the end of the Cold War, which includes a description of the rising importance of gas as an economic and strategic resource. Section 2.4 moves on with an immaterial approach, from which a geopolitical approach is developed as well, since perception and immaterial desires must precede geopolitical action. Section 2.5 then makes the case that actors’ perceptions impact actions are taken with regard to natural resources such as gas.

2.2 The structure of the international political system
While factors such as geography permanently influence politics, the structure of the international political system influences the behaviour of the agents in it. The first of these dynamic factors is the structure of the international political system and the degrees of interdependence. Paradigms in international relations implicitly capture such dynamic factors. The various paradigms of international relations, realism, liberalism, etc., are composed of theories which have been developed over the course of the twentieth century. Most theorising about world politics concentrates on power and national interest; of the material paradigms, realism and neo-realism are the most commonly used as well neo-liberalism. The basic building blocks for

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19 State power can be conceived of a few components: resources or capabilities, or power-in-being, how that power is converted through national processes and power in outcomes, or which state prevails in particular circumstances [Treverton and Jones 2005].
20 A paradigm is a pattern, model or perspective that acts as a guide in conducting research and organise thoughts. Paradigms in international relations, often referred to as ‘schools of thought’, ‘traditions’ and/or ‘discourses’ [Donnelly 2001], help explain the laws of international politics or recurrent patterns of national behaviour [Waltz 1979] and attempt either to explain and predict behaviour or to understand the world ‘inside the heads’ of actors [Hollis and Smith 1990]. Amongst other purposes, they also aid in explaining relations between states and how they struggle for power [Wight 1991].
21 Realism, the oldest school of thought on international relations and rooted in the thinking of Hobbes, Morgenthau, Carr, Niebuhr and others, assumes constitutive actors in the international political system are states, where other actors such as international organisations such as firms and institutions are subordinate to states.
neo-realism (i.e., structural realism) consist of power and national interest, with power being understood as military capability and interest as self-centred desire for power, security and wealth. Neo-realism is an effort at finding a theoretical approach which makes it possible to explain how international relations come about on the basis of the conditions determined by the structure of the international political system [Waltz 1979].

Two assumptions characterise neo-realist thinking: (1) the international system is anarchical and (2) that states are primarily interested in their own survival, which they must ensure by maximising their power, most likely by military means and/or constrained by the structure of the international political system in doing so [Donnelly 2001; Viotti and Kauppi 1999]. Another fundamental claim of neo-realism is that the structure of the international political system influences the behaviour of the actors involved in the system. Generally, Waltz’s model of structural realism is conceptualised along three main dimensions: 1) the ordering principles amongst units, 2) the character of the units and 3) the distribution of capabilities [Baylis and Smith 2001]. Neo-realists approach the polarity in the international system as micro-economists approach market structure: a uni-polar world will induce competition from would-be poles, bi-polarity is stable, and systems with one, two, three or a few great powers are deemed monopolistic or oligopolistic [Donnelly 2001].

States create spheres of influence through their foreign policies to advance their national interests and exercise military power whenever and wherever necessary. Historically, as has been succinctly argued by Paul Kennedy, economic growth has often allowed states to increase their global influence, essentially because they could use their surpluses to build up their military forces, which in turn allowed them to reinforce and further their global influence [Kennedy 1987]. In the immediate post-Cold War period, in 1993, Waltz pondered how the bi-polar setting would evolve in terms of structure and what the effects would be of this structural

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22 Anarchy prevails in the international system, meaning that there is no accepted global political authority, compelling states to engage in self-help behaviour.

23 Power is defined in this context as dynamic, focussing on the interaction of states. “A state’s influence (or capacity to influence or coerce) is not only determined by its capabilities (or relative capabilities) but also by (1) its willingness (and perceptions by other states of its willingness) to use these capabilities and (2) its control or influence over other states. Power can thus be inferred by observing the behaviour of states as they interact. The relative power of states is most clearly revealed by the outcomes of their interactions” [Viotti and Kauppi 1999, pp. 64 - 65].

24 Seen through the prism of this theory of international politics, states are akin to billiard balls, which determine the structure of as they collide and send one another into different direction. The larger billiard balls, or more powerful states with abilities, economic and military, to affect the international political system in its entirety are ‘great’ powers and act as ‘poles’ in the system.

25 Ordering principles are those by which the elements of structure are organised. The distribution of capabilities corresponds with the distribution of material resources amongst countries or states, especially military and economic ones, corresponds with the distribution of capabilities throughout the system. Other international relations’ scholars differ on that point, for example, according to Gilpin [1981], the distribution of power is largely driven by unit-level factors that have little to do with the international structure [Gilpin 1981].
change (as a result of the collapse of the Soviet Union) [Waltz 1993]. He would later claim that changes are occurring both in the system while the system itself was also in motion, i.e. a change of the system itself [Waltz 2000].

2.3 Post-Cold War sources of power
The most important difference between the Cold War era and its aftermath is the manner in which the balance of power is determined by the great powers in the international political system. To look at power from a Russian perspective, we need to acknowledge the existence of other source of power, other than traditional hard power, since this is no longer a form of power Russia abundantly possesses.

2.3.1 Absolute versus relative advantage
With the existence of nuclear weapons, conventional military power has become almost redundant amongst the great powers. In the post-Cold War environment, it is economic and financial power that has become comparatively more important. The collapse of the Soviet Union via economic, rather than purely military forces, demonstrates the increasing relevance of relative advantages [Waltz 2006; Strange 1994; Gilpin 2001]. With the existence of economic factors and non-state actors, neo-liberalism assumes that because of interdependence, states also maintain relative advantages rather than absolute. States are acknowledged as being the principal actors in global politics, but pervasive interdependence was thought to alter the nature and effectiveness of state power [Keohane and Nye 1977]. Within the structure of the international political system non-state actors and markets also play an important role. Gilpin reasons that “the parallel existence and mutual interaction of ‘state’ and ‘market’ in the modern world create ‘political economy’; without both state and market there could be no political economy […] Although neither world can ever exist in a pure form, the relative influence of the state or market changes over time and in different circumstances” [Gilpin 2001, p. 8]. The modern variant of international political economy (IPE)\textsuperscript{26} argues that it is essential to synthesise international relations and (political) economy in order to explain complex issues in the world [Strange 1989], such as in the gas market.

Particularly in the gas industry the state is always present, either on the sidelines or at the centre.\textsuperscript{27} These powers in the international system have an interlocking effect on one another. In

\textsuperscript{26} International Political Economy (IPE) is concerned with the political determinants of international economic relations. The mainstream of IPE built further on the Liberal vision on international relations. The core problem, which is studied by IPE, is the mismatch between two organisation principles: territorial organised state systems and de-territorial organised market systems [Viotti and Kauppi 1999]. Thucydides and Aristotle already studied the interaction between economy and politics. The classic variant of the IPE refers to the ‘political economists’ of the 18\textsuperscript{th} and 19\textsuperscript{th} century, such as Ricardo and Smith [Viotti and Kauppi 1999].

\textsuperscript{27} National energy firms in energy-producing and exporting countries have a crucial part in formulating export strategies, which often hinge on the national interests of those countries. After all, the incomes these firms accrue underpin much of these countries’ economic development. Major international financial institutions such as the World Bank and the IMF as
today’s international system states compete not so much for absolute advantages by military means but for relative, more economically-driven ones. Strange accepts low politics\(^{28}\) as a realm of influence on international relations and therefore accepts economic forces as determinants of relative economic gains [Strange 1994; 1989]. So for example, the translation of economic power into long-run military power and financial power leads to relative advantages between states [Strange 1994]. Economic and financial power may lead to abilities to influence the economic development and politics of other states. States do so not only directly, on their own account, but also through proxies such as government-owned, or quasi government-owned and controlled enterprises.\(^{29}\) In essence, countries with great endowments in energy resources have a natural absolute advantage in the international economic sense [Smith 1991].

Room is therefore made in the theoretical framework for neo-liberal thought as prescribed by Strange [1989; 1994] who uses a concept of structural power to explain how state power can vary in relative terms through financial, military and production means, as well as through intellectual capital (knowledge): “Structural power is the power to shape and determine the structures of the global political economy within other states, their political institutions, their economic enterprises and (not least) their scientists and other professional people have to operate” [Strange 1989, pp. 24-25]. Increases or decreases in terms of the ability to wield power in each of these four different dimensions, thus influences a state’s relative power position vis-à-vis other states. Non-governmental actors can play important roles too, but they do not have a monopoly over force like governments do [Burchill 2005].

A country’s knowledge and production can lead to financial wealth, which can be used to further boost production, develop the intellectual capital base and (further) develop the means to defend itself. In principle, as such, a state’s abundant possession of natural resources should also be included as a source of potential, structural financial, economic power.\(^{30}\) Strange sees the possession of energy as part of a secondary power structure [Strange 1994] because energy is the lifeline of modern economies and can be translated into the forms of power described above. Porter [1998] argued on the basis of an extensive case-by-case study of economically well as international banks also have a pivotal impact on the ability of energy firms to finance and realise large energy projects.

\(^{28}\) Neo-realists and realists alike make a distinction between ‘high’ and ‘low’ politics; ‘politics’ and ‘economy’; and state, and respectively market.

\(^{29}\) The thinking of Ricardo and Hecksher-Ohlin in international economics shows how comparative advantage plays an important role in international economic relations, based on international differences of factor endowments [Niehsen et al. 1995].

\(^{30}\) Countries are endowed with certain resources, in terms of labour, capital, resources and they employ it to develop competitive advantages in the international economic arena. Given the concentration of natural gas in only a handful of countries (which also holds for many other natural resources), the balance of power is skewed in favour of those countries with excess resources for valuable exports. States rich in natural resources, upon which others depend for economic development, have a strong comparative advantage.
well-developed countries that a combination of factors is important in the development of a country’s economy: availability and skill of labour, resources, etc [Porter 1998].

These forms of power (in terms of building a competitive advantage), which should be seen as a relative concept between states, primarily relates to states’ abilities to influence the international political system to their own advantage using economic instruments. As mentioned above, one of the hypotheses is that states are more concerned about relative advantages than absolute gains because over time, relative advantages may develop into strategic ones, perhaps involving military power. A power with all forms of structural power or a strong combination thereof is capable to act as rule-setter rather than a rulefollower.

Illustratively speaking, for Russia, gas may well present it with an opportunity to develop a relative advantage, but the significance of gas for Russia goes further: it provides Russia room to develop as an important energy hub in a rapidly developing gas industry, for example. However, gas alone cannot provide structural financial power in the sense of Strange. In order for this to happen, the Russian government must pursue a number of successful economic policies that wean itself off over-dependence on oil and gas export earnings, and enable it to translate that wealth into other forms of power.

The overall resulting theoretical framework, thus far, is one in which the international political system is driven by material and immaterial factors, where states act as a function of these factors, also using the natural resources and other factors at their disposal to create a relative advantage. This relative advantage is concerned more with increasing a state’s options for influence in the international political system and the economic means to exert power, more so than gaining a military superiority per se. Relative advantage is more about long-run economic power where states are increasingly interdependent, effectively having offset traditional military power. However, it is important to remember that military power nevertheless remains important in shaping some of the boundary solutions and the playing field for geo-economic and relative advantages to take shape. Especially in a globalising world economy, such advantage may translate into political influence, in particular through structural dependency and the ability to set the rules of engagement to one’s advantage [Grieco 1988; Strange 1994].

\[31\] Next to structural power, Strange [1988] distinguishes relational power, which is “the power of A to get B to do something they would not otherwise do” [Strange 1988, pp. 24-25]. The most direct form of relational power is a military action, where a state is forced to act according to the other. Relative economic advantages can be translated into other forms of power in the long run [Strange 1988]. Advantages in economic terms may one day lead to the capacity to fund an advanced weapons programme. This is in essence also part of Strange’s concept of power dimensions [Strange 1994].
In today’s world, these economic powers may also translate into abilities to gain ownership of economically and strategically pivotal assets in an economically interdependent world. Ultimately, these economic powers rest on geopolitical and geo-economic boundary solutions.

2.3.2 The rising, economic and strategic importance of gas
Conventional gas is gradually becoming an important factor in international relations, particularly but not exclusively at a European level. Though gas does not enjoy the same status as oil in modern economies (with crude oil being indispensable in a number of sectors such as transport), it is fast becoming a fuel of choice for a gradual transition towards a more sustainable energy mix in many countries. Gas is a cleaner-burning fuel than oil, and its applications are becoming more numerous (e.g., not just power generation, heating and cooking, but also gas-based industries, pharmaceuticals and high value liquids). In a world where the reduction of carbon emissions are becoming a pressing issue, the potential contribution of gas as a more sustainable energy source lends it strategic significance. Given the amount of years of production remaining for the various fossil fuels, which is 122 years for coal, 42 years for oil and 60.4 years for gas, according to British Petroleum (BP) [2009], gas is well placed as a comparatively clean fuel with regard to its more carbon intense sister fuels.

Since the mid-2000s, the geopolitical complexity of gas trade, the rigidity of gas transport and the rise in oil—and therefore also—gas prices has made gas more of a ‘fuel of consequence’. Its popularity as a transition fuel has since been dampened in Europe because of perceived security of supply concerns. In addition, the 2008-2009 international economic and financial crisis has caused the market value of gas to become comparatively lower relative to the market value of oil [Stern 2009a]. While conventional gas is found in certain concentrations (see below), the import-dependency especially of Organisation for Economic Co-operation and Development (OECD) countries is rising, as will be shown in Chapter 5. Gas must be transported over ever greater distances in the form of LNG, while pipeline gas tends to be accompanied by transit issues (due to transit of gas through pipeline running over third party territories). Unconventional gas discoveries and development have had their impact on prospects for further import-dependency; particularly in the US (also refer to Chapter 5).

32 The Organisation for Economic Cooperation and Development (OECD) member countries are referred to as a group uniting countries with common economic but not necessarily common political interests, which include mostly the rich and industrialized nations and exclude the developing and emerging economies such as China (non-OECD countries).

33 Conventional gas consists of methane. Sources of unconventional gas, however, consist of tight gas, deep gas, geopressurized zones, shale gas, coal bed methane and methane hydrates [IEA 2008c]. Non-conventional gas embraces a set of gas resources that are generally contiguous in nature, sometimes referred to as ‘resource plays’ in the industry, requiring special drilling and stimulation techniques to release the gas from the formations in which they can be found. The combination of improved technology and higher gas prices has stimulated production of deepwater and non-conventional resources, which have previously been too difficult and costly to extract (IEA 2008a).
The rigid nature of gas transport (because pipelines, once built, cannot be re-routed) and transit through third countries, attaches to gas, as a commodity, a certain geo-strategic significance and exposes gas trade to additional geopolitical forces, because of the risk to pipelines and the gas flowing through them. In this regard, bottlenecks such as troublesome transit countries and narrow straits (for LNG), add an additional complication to gas transport and trade. The predominance of pipeline gas trade is important, especially in Europe (also see Chapter 5). Gas traded by pipeline brings with it fixed dependency relationships due to the rigid nature of these gas pipelines. This inherently has an impact on international relations between countries along the gas value chain. Control of access to infrastructure (and its capacity) is essential for extracting the economic rents. The perception of agents in the political and economic system of the role of pipelines in the gas value chain is also important, as will be described below.

Indeed, in the case of natural gas, a geopolitical and also geo-economic approach is warranted because of the nature of gas pipelines and transit issues. Gas pipelines are important because they consist of fixed infrastructural investments for gas transport, and lead to fixed political relations with countries in and between various geographical areas. In addition, these pipelines enable the flow of gas in the first place, on a large scale, which endows them with a certain strategic value in and of themselves. Pipelines can be seen as geo-economic tools to control the flow of resources vital for economic growth and security in both gas-consuming and gas-producing countries. The location of existing and potential gas markets for Russia (e.g., Europe and China) and other gas-exporting countries, the location of existing and potential gas-exporting countries themselves and the goals, behaviour and strategies of existing, and potential geo-strategic competitors, all warrant a geographical approach. Here, geopolitics and geo-economic come into play for gas-consuming and gas-producing countries alike (refer to Section 2.5 for a definitional overview of geopolitics and geo-economics).

2.4 Agents’ perceptions of the material world

While the material dimension of international relations acknowledges such things as power and wealth, it does not account for how agents’ behaviour can change. For example, while the Soviet Union collapsed in 1991, it began behaving differently as early as the mid-1980s, as a result of its leaders’ changing perceptions of the Cold War balance of power. Social relations between the US and the Soviet Union gradually change during the second half of the 1980s, while true material polarity only changed in 1991 with the collapse of the Soviet Union. So, how agents in the international political and economic system perceive that structure, and others in it, helps shape their views of the world and underpins their actions.

Also dynamic and subject to change is the notion that powers may have ideas and perceptions about the world around them; this is the immaterial dimension of international relations. The social science underpinning the immaterial dimension of international relations arose during
the 1980s, as a counterweight to rationalist, materially oriented paradigms such as those described above. Neo-realists such as Gilpin also recognize the notion of social interaction in international relations and their link to material and immaterial interests: “an international system is established for the same reason that any social or political system is created; actors enter social relations and create social structures in order to advance particular sets of political, economic, or other types of interests” [Gilpin 1981, p. 9]. According to Wendt [1992; 1999], states are social beings, whose perceptions lead to desires, or goals, which leads to action, or policy: this is Wendt’s ‘desires + beliefs = action’ equation. This equation simply states that policies arise from the pursuit of certain goals, and these goals in turn are born of perceptions and desires. Desires may include aspiring to become a great power, for example, or to return to such a status in the international political system, this lies rooted in concepts such as Wendt’s identities (see below).

Without refuting Waltz’s structural theory, Wendt, for example, argues that the structural realist approach is in need of some modification in order to take into account the full range of factors influencing actors’ behaviour in the international political system, such as ideas. The international political system is as much social as it is material. These ideas are constituted by beliefs and desires, which leads to action and then reaction, i.e., they imply a more dynamic, social process than is the case under structural realism. Actors may have desires and beliefs about how to pursue those desires. As Kagan notes, “when one horizon has been crossed, a new horizon always beckons. What was once unimaginable becomes imaginable. Desire becomes ambition, and ambition becomes interest” [Kagan 2008a, pp. 17 - 18]. The concept of structural change in Wendt terms refers to changes in social relations amongst countries rather than simply material ones when poles ‘phase in or out’ of the international political system.

Seen through a social prism, the national interest of a state can consist of a number of immaterial factors in relation to national interests. To start with, the national interests of a state may consist of physical survival, autonomy, self-determination and preservation, economic well-

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34 Critical theory calls for interpretive understanding of time and space, an insight drawn from Max Weber’s work in social science, being especially critical of objective knowledge and the rigid vision between normative and empirical theory [Viotti and Kauppi 1999].

35 This was mainly developed in critical theory, a separate paradigm which underlines the role of normative factors which may be at play in the international political system. Thus other observers contended that the pursuit of material factors and a physical, international political system consisting of simple, colliding billiard balls was an insufficient explanation for the behaviour of states. Wendt’s work is of the systemic category, centring on the notion that a state is informed by its interests and in turn its actions. Social constructivism “is characterised by an emphasis on the importance of normative as well as material structures, on the role of identity in shaping political action and on the mutually constitutive relationship between agents and structures” [Reus-Smit 2001]. In other, less abstract words, rather than being units acting as a set of colliding billiard balls on the prowl for glory and power, there may be ideas at work which go beyond such pursuits of material wealth and power.

36 Self-determination is tightly linked to sovereignty and autonomy, including the freedom to choose the model of political control and government, and on the distribution of economic wealth.
being, while Wendt adds ‘collective self-esteem.’ Wendt recognises what effects material forces have on life in the international system: 1) the distribution of actors’ material capabilities affects the possibility and likelihood of certain outcomes, 2) the composition of material capabilities has similar constraining and enabling effects and 3) geography and the distribution of natural resources have a major bearing on states’ behaviour. Thus states have to deal with certain material givens, such as their geographic location and their resources while on the basis of their desires and beliefs, they take certain actions. A state’s national interest may thus hinge not only on material factors but also on the inter-locking components of actors’ identities, as described below.

2.4.1 Agents and their identities
Identities refer to whom or what actors are, designating social kinds of being while interests refer to what actors want. Together these identity components shape the ‘belief’ component of the so-called intentional equation already mentioned above: desire + belief = action, while interests belong to the ‘desire’ component. The bottom line is that without interests, identities have no motivational force, without identities interests have no direction [Wendt 1999]. These are constituted by both internal and external identity components. Internal ones include type and personal identities, while external ones include role and collective identities:

1) Type identities pertain to how states constitute themselves domestically, such as choosing a certain regime type: a capitalist democracy versus state-centred capitalism, for example;
2) Personal identities pertain to the need of a state to maintain its sovereignty as a separate actor in the international political system: European acting as countries separate from the EU;
3) Role identities relate to how states perceive themselves and are perceived by other actors in the international political system and also how they desire to be perceived (i.e., a role identity more an object of desire then a strategy) and
4) Collective identities point to those external actors with which states may seek to form alliances and with which they identify themselves most closely for reasons either related to internal factors or to geopolitical and/or other material factors.

2.4.2 Different forms of anarchy
While the Waltzian school of thought claims that states live in an anarchic world, Wendt argues that it is states’ own perceptions of this anarchy that, to a large extent, shapes the anarchic situation around them. Wendt’s notion of cultures comes into play, shared ideas which make up a subset of social structures in which states ‘live’, anarchy takes up various forms in states’

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7 Self-esteem, a very human sentiment, is one that a state may have as well and pertains to the overall ‘human’ or psychological condition of the state.
perceptions [Wendt 1992]. There are three types of culture or forms of anarchy: Hobbesian, Lockean and/or Kantian:

1) The Hobbesian culture of anarchy: The motto of a Hobbesian culture is “if you want peace, prepare for war.” States perceive the world as a battle for survival and are stuck in an eternal prisoner’s dilemma, they must fight to survive, and war often results. States often think in zero-sum terms.

2) The Lockean culture of anarchy: The motto of the Lockean culture of anarchy is “live and let live.” States respect one another’s existence and interests, and merely act as rivals or adversaries, offsetting each other’s power by relative means. There is also room for cooperation whenever it suits states’ interests.

3) The Kantian culture of anarchy: The motto of the Kantian culture is “all for one, one for all.” States see the world in terms of partnership with other states, cooperating within an alliance or acting cooperatively with regard to most external agents.

For example, one power may perceive the world around it in zero-sum terms, while another merely seeks to enhance its relative advantages. The former is likely to resort military means, if it feels its survival is at stake as a result of actions taken by the latter. Whether one agent or another sees the world through a Hobbesian or Kantian lens largely depends on its perception of the outside world and its immaterial beliefs and desires.

2.5 Perception, geography and natural resources

While perceptions play an important role in how agents in the structure come to new ideas and actions, they are also vital at the politico-strategic level, since only at this level decisions materialise with regard to how resources are used and exploited. Many observers foresee that fossil fuels and their transport will be the single dominant factor in international politics in the years to come [Rahr 2006]. States’ traditional national security objectives—gaining control over territory and expanding sphere of influence, in Waltzian terms—are no longer concerned with military aspects (military capacities are still key aspects of state power) [Gagné 2007]. National security objectives are now more complex, and involve new considerations such as control of and access to scarce energy resources [Schweller 1999].

By partial extension of the above, geography as such is an important factor to take into account. While in an interdependent and globalising world geography no longer plays the same role in terms of opportunities and constraints as in the past, it still has a regional impact. Geography affects nations’ perceptions of the world and offers them resources and capabilities, if they are at all able to employ them. In addition, natural resources are found in a certain three-dimensional space under the surface of the globe (in the case of natural gas). It is agents’ per-
ception of geography, natural resources (as described above) and their combined importance that leads to the subsequent ‘perception’ of geopolitics. The concentration of certain resources in certain areas can affect actors’ perceptions as well.

Wendt’s theory of social constructivism also explicitly underlines the importance both of natural resources and the geography in which they are found, as part of its assumption that so-called “brute material forces” have independent effects on international life: “[t]here are geography and natural resources. The distribution of certain [natural resources] in a given area makes possible the technological development of primitive societies living there” [Wendt 1999, pp. 110-111]. Wendt’s point is that agents in the structure of international political system must first perceive its geographical reality, which ultimately leads to the perception of the world in spatial terms. Much as only the perception of the outside world by agents in the system can lead to action, and dynamic change, so too only their perception of geography as such can lead to geopolitical action, i.e., geopolitics.

The frame of analysis used above sketches the geographical chessboard upon which great powers’ strategies take shape, given their perceptions of geographical factors and natural resources. These strategies, when a function of the geography surrounding the great powers, become geo-strategies, and geographic features or the control of geographical features become geo-strategic. Hence the desire to affect a certain geopolitical or geo-economic outcome may be pursued by geo-strategic means, with the ends being the immaterial desires of states. First, these states perceive certain interests and desires, they then they translate these into policies, always doing so by default in a geopolitical context; particularly when it comes to natural resources.
Geopolitics is “the scientific field of study belonging to both political geography as well as international relations, which seeks to investigate the relationship between political behaviour of man and his territorial surroundings [Criekemans 2007].” Geopolitical insights were present in the thinking of Aristotle, Montesquieu and Kant [Cohen 2003]. Classical geopolitics pertains to the thinking of Kjellén and Ratzel, who both argued in the 19th century that conditions and problems of the state find their origin in its geographical characteristics, where Ratzel emphasised that the state was akin to a biological organism in search of new territory and resources in order to grow [Criekemans 2007]. Geopolitical perceptions of the balance of power amongst states arose with the Anglo-American line of geopolitical reasoning of MacKinder and Spykman. MacKinder then argued that the British Empire faced a lasting threat from the physical or geographical characteristics which offered advantages to the efficient movement of people, ideas and goods across Eurasia that arose after the industrial revolution [MacKinder 1904]. He saw the US and Russia as great powers merely because their potential ability to centralise large amounts of natural resources [Criekemans 2007]. According to MacKinder [1904], the ‘Heartland area’ or ‘Pivot region’ (corresponding of all of Russia and much of Central Asia and Eastern Europe) in Eurasia was the key to the balance of power in the world. The power which successfully controlled the heartland and its resources could dominate the world.

*At the epistemological level, geopolitics is partially a debate between ‘territoriality’ and ‘politics’ [Criekemans 2007, p. 585]. As Napoleon once said, to know a nation’s geography is to know its foreign policy: ‘la politique de toutes les puissances est dans leur géographie’. Napoleon’s statement, made more than a century before international relations became an official field of study within the social sciences, reflects a certain ‘geographical consciousness’, an awareness that states behave within a geographical context, as Criekemans [2007] notes.*
Spykman [1938] developed his ‘Heartland-Rimland’ thesis, based largely on Mackinder’s con-
cepts [Spykman 1938]. Spykman believed that although the heartland was an important re-
gion, the ‘Rimland’ was at least as important if not more important from a political and mili-
tary point of view [Spykman 1944]. Spykman was thus in favour of a Cold War strategy in
which the US used the rimland to keep in check and contain powers in the heartland, by es-

tablishing alliances with key states in the rimland and perhaps even establish a direct security
presence, a strategy that is illustrated in Figure 2.1 above. Spykman reasoned that, from a US
perspective, no one single power or coalition of powers was to dominate Eurasia, and powers
in its core, i.e., the heartland, must be kept in check if the US is to safeguard its long-run
power base. In other words, the balance of power in Eurasia directly affected US national secu-

rity [Spykman 1944]. According to later geopolitical thinking of Brzezinski [1997], Eurasia as a
whole remains the all-important ‘chessboard’ upon which a battle for the global balance of
power takes place, even in a post-Cold War environment.

2.5.1 Russia’s perception of the outside world and natural gas
Russia’s perception is strongly driven by a sense of space. It is a power whose historical devel-
opment has been underpinned by the perception of its geography, and the forces exerting pres-
sure and influence on it. The approach of combining structural realist theory with a construc-
tivist approach, with regard to Russia as an actor in the international political system, is not
entirely new [Suny 2007; Tsygankov 2006]. LeDonne, for example, argues that Russian be-

haviour over four centuries reflected, without divergence, the drive of a “core area” to expand
to the edges of the Eurasian Heartland [LeDonne 1997]. Using Mackinder’s initial work on
heartland-rimland thinking (see also below, especially box 2.1),

LeDonne recognises how
Russia as a ‘core’ area, i.e., the heartland, was bound by other core areas (e.g., Sweden, Poland,
the Habsburg and Ottoman empires, the Persian Empire and China, etc.) as well as coastlands
controlled by the British Empire and Japan.

Russia’s foreign policy has subsequently been driven by an urge to expand outward towards
these other core areas and to defend Russia against external threats. Geopolitics has to a certain
extent always been present in Russian thinking and strongly influences the national psyche,
possibly forming a basis also for future great power aspirations [Kerr 1995]. This was not the
result of any preconceived plan of the various consecutive Russian governments; it was rather a
natural product of a ‘state’ building process [Legvold 2007b]. In this process, Russia faced
challenges such as unrests in neighbouring territories, threats of external invasion and difficul-
ties in preserving internal state integrity [Tsygankov 2006].

Referring to Mackinder’s ‘pivot’ area versus marginal crescent thesis [MacKinder 1904].
Later on these coastlands would gradually be controlled or influenced at least partially by the US, a relative newcomer to
the Eurasian landmass and as a successor to the British Empire.
From a Russian perspective and within the context of this study, the additional factor to take into account, besides the role of geography in and of itself, is the distribution of natural gas and the pipelines necessary to transport it. While Russia already perceives the international political system and the outside world in geopolitical rather than merely political terms, as will be shown in Chapter 3, it must also deal with the spatial complexities of the gas value chain (for an in-depth description of the gas value chain and gas infrastructural projects, see Smeenk [2010]). Russia’s perception of the outside world not only pertains to purely geopolitical issues such as territory and identity, but also to geo-economic issues. As will be shown in more detail below and in Chapter 3, in terms of oil, Russia has neither the reserves to be an important actor, nor is oil interesting in the long-term for Russia, as far as developing a position of strength is concerned. In the oil market the OPEC countries are and will continue to be dominant exporters, where Russia has no real place as a price setter, while in gas terms Russia may perhaps be able to develop its own dominance. This is a crucial point: Russia’s initial perception of its position in a world of asymmetrically distributed gas reserves potentially plays into its actions.

The world’s conventional gas resources are located in a ‘strategic’ ellipse, or better said, a *Eurasian* gas ellipse. The remainder of the world’s proven conventional gas reserves is located randomly outside this ellipse, the latter containing more than 70 percent of the world’s conventional proven natural gas reserves, and more than 70 percent of the world’s conventional oil reserves. Important in recent years has been the development of unconventional gas resources, production of which has become economic at relatively low prices in the US.

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41 Geo-economics pertains to the relationship between territory or spatial relationships and economics. Certain decisions based on economic factors can have geographical constraints and underpinnings and vice versa. Geopolitics is about boundaries, identities and territories while geo-economics is about flows and exchanges and the constraints set by national borders to those flows. Though traditional geopolitical conflicts did not disappear, geo-economic competition has become an important element in the distribution of power in particular among the most industrialised nations [Csurgai 2002].

42 Some of these countries (especially Turkmenistan and Russia in the arctic region) likely possess more reserves yet to be found. A facet which has gained recent interest in the industry is the likelihood of a large resource potential in the Arctic regions: according to an assessment by the USGS, the mean undiscovered gas resources are about 46 trillion cubic meters (tcm), of which 70 percent of the overall undiscovered gas potential is located in three provinces: the West Siberian basin, 18 tcm, East Barents Basins, 9 tcm and Arctic Alaska, 6 tcm [USGS 2008].

43 This region stretches from West and Northern Siberia (e.g., Yamal) and parts of the Arctic down to and around the Persian Gulf region (e.g., Iran, Qatar) across Central Eurasia (e.g., Kazakhstan, Turkmenistan). Gas reserve statistics changed substantially over time: between 1988 and year’s end 2008, for example, the world’s total proven conventional gas reserves rose from 109.72 tcm to 185.02 tcm, an increase of almost 70 percent in only 20 years [BP 2009]. New exploration technologies and the collapse of the Soviet Union have helped contribute to this revision in global gas reserves throughout the 1990s.

44 These resources have not only boosted gas reserve accounts as such, but also led to increased production of gas in the US, lessening required US gas imports, also refer to Chapter 5.
This all adds to the future strategic value of gas, particularly in Russia’s perception of the outside world as well as its own resources. The world’s gas reserves are more concentrated than is the case for the world’s oil reserves: three countries, Russia, Iran and Qatar dominate the reserve skyline, possessing the vast bulk of the world’s natural gas reserves: 43.3 trillion cubic meters (tcm) (23.4 percent), 29.6 tcm (16.0 percent) and 25.46 tcm (13.8 percent), respectively; meaning some 53.2 percent of global gas reserves are in the hands of just three countries [BP 2009]. The next largest gas reserve holders, which are also major oil producers, pale in comparison, none exceeding 8 tcm worth of reserves, or some 4 percent of the total. The concentration of the world’s gas resources in one comparatively small area of the world and in so few countries bestows upon gas, given its economic and strategic importance, an additional geopolitical and geo-strategic value. For Russia, this geographical fact underpins the importance of Eurasia, as well as the importance of potential US designs for accessing this region.

2.5.2 The US perception of the outside world: Geo-strategic logic
Russia is not the only agent in the international political system that perceives the outside world through a geopolitical lens and sees herein the importance of natural resources, including gas. The US is also a power that perceives the outside world in spatial terms. However, in the case of the US, the origin of such thinking is more geo-strategic than geopolitical, in the sense that it is not inherently part of its identity to do so. In contrast to Russia, the US is bordered on either side by huge oceans, and has never faced a territorial threat emanating from a rival state in its direct neighbourhood. The US is not lodged in a ‘core’ area, where it is surrounded by territories from which other powers may seek to attack or conquer it.

The US never had to defend itself against an invasion on its soil, which partially explains the traumatic and galvanising events of Pearl Harbor and the September 11, 2001 attacks. Yet nonetheless, particularly throughout the Cold War, the US has sought to ensure its power base on the Eurasian continent, either directly through its own security presence, or indirectly through its alliances. This strategy has not changed since the end of the Cold War: NATO still exists and US spheres of influence have only expanded. The underlying reasons for such a US presence in Eurasia lie rooted in geo-strategic logic rather than national psyche, as in Russia’s case, that may underpin certain perceptions of the world. The perception of the US of the

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45 In the case of oil, five countries are needed to reach the 60 percent mark for the world’s oil reserves.
46 The next largest reserve holders include: Turkmenistan at 7.94 tcm (4.3 percent); Saudi Arabia at 7.67 tcm (4.1 percent); the US, 6.73 tcm (3.6 percent); the United Arab Emirates, 6.43 tcm (3.5 percent); Nigeria 5.22 tcm (2.8 percent); Venezuela, 4.84 tcm (2.6 percent); Algeria, 4.50 tcm (2.4 percent); Indonesia, 3.18 tcm (1.7 percent); Iraq 3.17 tcm (1.7 percent); Norway, 2.91 tcm (1.6 percent); Australia, 2.51 (1.4 percent); China, 2.46 tcm (1.3 percent); Malaysia, 2.39 tcm (1.3 percent); Egypt, 2.17 tcm (1.3 percent); Kazakhstan, 1.82 tcm (1.0 percent); and Kuwait, 1.78 tcm (1.0 percent). Noteworthy is the fact that of the world’s gas reserves, 9 percent (16.63 tcm) are located in OECD countries, while roughly 50 percent are located in OPEC countries (non-OECD), next to Russia’s non-OPEC 23.4 percent [BP 2009].
world is based on the geo-strategic reasoning developed by MacKinder [1904], Spykman [1944] and scholars not mentioned above such as Cohen [1963].

The centrality of the Eurasian continent owes its economic and strategic value to the fact that it is home to 1) the bulk of the world’s population, 2) the bulk of the world’s natural resource and 3) all of the great powers except for the US and Brazil [Brzezinski 1997]. On the basis of the thinking of Spykman [1944] and Brzezinski [1997], the concentration of the bulk of the world’s conventional gas resources in a small area in Eurasia compels the US to seek headways in ensuring that no single geopolitical force holds sway over this concentration of resources.

During the late 1940s, while containment thinking would rise to underpin such geo-strategic logic would shape most US policies and strategies during the Cold War. The main difference between Cold War containment thinking and today’s US strategies lies mainly in the changing nature of power, from absolute to relative advantages. While the geo-strategic thinking of the Cold War pertained mostly to the direct control of territory and security issues, in today’s world the relevance is more of a geo-economic nature. In a post-Cold War environment involving the interdependence of nations and the importance of trade and economic security, it is the control of geo-economic flows that has become comparatively more important.\footnote{Nonetheless, military action or intervention as hard power tools can be employed to affect the geo-economic playing field (i.e., geo-strategies affecting geo-economic flows).}

As such, the notion of maintaining spheres of influence in the rimland, with the aim of keeping in check the heartland, can be seen in the context of gaining access to its resources. By extension of Spykman’s thinking, if the Eurasian powers can be kept from dominating Eurasia, and the flow of its resources to the outside world maintained, the position of the US can be secured from a geo-economic point of view. The concentration of such economically vital strategic resources such as oil and gas in Eurasia further emphasises the need for the US, as a non-Eurasian power, to establish ‘gateways’ in Eurasia (see the definitions below). The dominance of Eurasia by other powers would lead to the direct control of natural resources vital to the economic survival and prosperity of the world’s great powers, including the US and its allies. Here the role of natural gas pipelines, and those who control them, plays a critical role in the US perception, as much as it could from a Russian perspective.

In order to ensure the division of the Eurasian continent and the flow of resources from it, the US relies on alliances such as NATO, as well as on pivot states and gateway regions. ‘Gateway states’ or ‘gateway regions’ play an important role in linking together the various parts of the world through geo-economic forces, including the flow of goods, ideas and people [Cohen
Often located in areas of political instability along ethnic or other geopolitical lines, gateway regions or ‘shatterbelts’ consist of or encompass ‘geopolitical pivots,’ countries “whose importance is derived not from their power and motivation but rather from their sensitive location” [Brzezinski 1997]. As will be shown in chapters 3 and 11, these states would become an important concept in US foreign policy, as and when the Soviet Union unravelled during the late 1980s and 1990s.

### 2.6 Conclusion

An international relations framework is needed to analyse the position of Russia in and its perception of the international political system which it inhabits. Such an analytical framework will enable us to better understand the role of gas for Russia as a state. A structural framework allows us to grasp the material factors involved in determining the behaviour of agents in the structure of international relations. In addition, the post-Cold War era has seen the rise of new forms of power, determined by relative economic advantages rather than purely absolute military advantages. An immaterial dimension is also involved, namely how agents perceive the international political system, and the fact that they are driven to actions on the basis of desires and beliefs. Different identities shape the nature of actors involved, while the latter may also perceive the world around them in varying forms of anarchy, including the Hobbesian, Lockean and Kantian cultures of anarchy.

While states’ perceptions of the international political structure involve perceiving material aspects, such as wealth and power, they also pertain to perceiving geography. A crucial aspect of the agent-structure theoretical framework used here is that it is set in a geopolitical context. Particularly when it comes to natural resources, which can generate wealth and power, a geographic perception of the outside world becomes necessary because natural resources, such as gas, are asymmetrically distributed in the world. Gas plays an increasingly economic and strategic role in international relations. Russia has historically always been an actor whose inclination has been to perceive the world in geopolitical terms, with a deep awareness of its periphery in spatial terms. The result has become a geopolitical underpinning of Russian foreign policy, which spills over into its policies and behaviour, as will be shown in the next chapter. For Russia, the distribution of gas resources in its own territory and a limited number of other coun-

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48 Cohen argued that, from 1991 onwards, Central and Eastern Europe formed potential gateway states, linking the geo-strategic regions of the Western maritime and the continental powers, mainly Russia. As post-Soviet regions, Central Asia and the Caucasus could collectively develop in the post-Cold War period either as a gateway regions or disintegrate further into ‘shatterbelts’. Shatterbelts are those areas with internally divided border areas in and between the various spheres of influence of the world’s great powers. These areas are trapped in between the geopolitical forces emanating from these major geo-strategic players and do not exhibit any cohesion towards the outside world. Examples of shatterbelts in Cohen’s thinking include the Middle East and South East Asia as well as Central Asia.

49 Barnett identifies such regions as being part of a so-called ‘non-integrated gap’, regions of the world that are largely disconnected from the global economy and the rule sets that define its stability [Barnett 2009].
tries, as well as aspects of gas transport infrastructure, further buttress a geographically conscious approach to Russia’s position in the international political system.

Indeed, the concentration of some two thirds of the world’s conventional gas resources within the Eurasian gas ellipse heavily skews the playing field for gas flows. That said, an important consideration for the US has always been its own perception of the international political system in geo-strategic terms. An important aspect of geo-strategic thought has resulted from this perception, namely that the power base of the US rests on a strong position in Eurasia, primarily through the maintenance of spheres of influence in the rimland. In a post-Cold War setting, where relative economic and—in geographic terms—geo-economic forces are at play, the most important consideration for US power, from a geo-strategic point of view, is maintaining the flow of resources from Eurasia. It is important for the US that no single power dominates Eurasia’s resources, including natural gas. Conclusively, for Russia the converse holds. Russia must seek to aggregate and guide natural gas flows in Eurasia to its geo-economic advantage, which involves anything but a diversification of export flows from the Eurasian gas ellipse. US designs on controlling geo-economic flows of resources, e.g., gas, has important implications for the course Russia chooses to pursue in the international political system.