RIAC

**RUSSIAN
INTERNATIONAL
AFFAIRS COUNCIL**

WORKING PAPER

WORLD ORDER OR WORLD ANARCHY?

A LOOK AT THE MODERN SYSTEM
OF INTERNATIONAL RELATIONS

18 / 2014

RUSSIAN INTERNATIONAL AFFAIRS COUNCIL

MOSCOW 2014

This working paper is an examination of the modern world order. Theoretical approaches to the analysis of international relations are revised and its guiding characteristics are determined. The structure of the modern world order and its particular dynamics are revealed with the help of mathematical modeling methods. Possible directions for Russia's policy in the changing world environment are considered.

The full text is published on RIAC's website. You can download the Working Paper or leave a comment via this direct link — **www.russiancouncil.ru/en/paper18**

Photo used on the cover is taken from REUTERS/Brendan McDermid, REUTERS/Laurent Dubrule, and the website www.militaryphotos.net

TABLE OF CONTENTS

Introduction. Formulating the Problem

The current aggravation of international relations has again raised a number of questions about the modern world order. What is the hierarchy of the power centres in the world? What is the structure and system of the contemporary world? What is the "currency" of international influence and what resources determine the place of individual countries in the world hierarchy? How are these resources distributed – what is the balance of "hard", "soft" and economic power among the key players? What opportunities does the established or emerging world order present for individual powers? Finally, what makes individual states behave the way they do in the international arena? What makes them opt for military or peaceful actions, form or break up coalitions, and seek to preserve or upset the status quo?

An understanding of the system and structure of contemporary international relations and, more importantly, the nature of their changes, is a powerful explanatory instrument in the hands of an international affairs scholar. It makes it possible to understand and explain why individual states behave the way they do, what conditions and structures determine their strategic choices, and what the range of possible scenarios in the framework of the existing world order is.

The world order may be in for a shake–up. The serious political crisis in relations between Russia and the West, as well as a whole range of problems in other regions of the world (beginning from the Arab Spring and ending with the accelerated arms race in the Asia Pacific Region) indicate this. Under the circumstances, it is important to understand the parameters of the current world order, the status and potential of the individual players within it, and the nature and direction that its dynamics have taken.

The aim of this report is to suggest a methodology and programme of research into the contemporary world order. I will endeavour to present the programme both at the theoretical and empirical levels. I will also demonstrate that it is possible to study the world order in a static and dynamic state. The latter is particularly important considering the speed and character of changes of the international situation.

The ultimate goal of this programme has an applied character. It is necessary to learn to predict crisis situations in international relations more or less accurately. This would make it possible to prepare the paths for resolving them in advance, or at least to reduce their negative impact.

Obviously, the achievement of this goal is similar to forecasting stock exchange dynamics, because in both cases we are dealing with pronounced non–linear pro– cesses that often acquire an explosive and unexpected character. These process– es are difficult to forecast because, on the one hand, they involve many factors. In each case, the set of factors or their combination may be unique, which makes it more difficult to draw on the experience of some situations when analyzing others. Complicated systems have a way of "forgetting" past experiences, which devalues the existing factor models and necessitates their revision.

However, this is only part of the problem and, in my opinion, it is not the most important aspect. International scholars usually have a fairly profound idea of the factors that could potentially shake up the world order and its individual elements. And yet it is often the case that an aggravation of the situation comes as a surprise to them, and indeed to the structures and agencies involved. The problem is that understanding the contradictions and knowing conflict-generating factors as such by no means always helps to answer the question: Why do they lead to a worsening of the situation at a particular point in time? Crisis situations are often similar to catastrophes: at a certain point, the smooth change of the controlling parameters accelerates sharply and triggers a sudden, snowballing change of the situation. Knowing these parameters is necessary, but it gives us no idea as to exactly when these parameters may cause an escalation. The problem has another aspect to it, namely, the relationship between "major factors" and accidental fluctuations: Why is it that in some cases the situation escalates as the result of an accident or a succession of accidents, while in others it remains insensitive to them? The question may also be put in terms of the relative roles of the agents and structures: Why is it that in some cases the steps taken by the agents have substantial resonance, while in others they seem to be absorbed by the structure?

The central hypothesis of the proposed research programme is that the risk of contradictions flaring up is determined by the nature of world order dynamics. In various dynamic modes, one and the same set of factors can produce fundamentally different results. The risk of a crisis situation arising is much greater if the dynamics becomes chaotic or change with a high degree of intensity. One of the key features of the dynamics is a growing deficit of resources and increased pressure of resource constraints. Adding an element of chaos to the dynamics generates uncertainty and instability in the system. The political consequence of uncertainty and instability is an exacerbation of the security dilemma in relations between leading power centres. As a result, the situation becomes vulnerable even to the slightest factors and fluctuations that may provoke an abrupt and irreversible escalation.

This report proposes an algorithm for testing this hypothesis and outlines the key components of the research programme. Above all, it will set out a theoretical framework for the study of the contemporary world order with an emphasis on normative theories on the one hand and systemic-structural theories on the other. This is a necessary part as a matter of principle, because current discussions of the world order largely ignore normative political theory. And yet, without such a theory, it is hardly possible to (a) decipher the existing ideas of the world order, and (b) propose new political alternatives.

We will then lay out the approach to the study of the world order in a static state, with emphasis on the controlling parameters. Finally, we will propose a methodology for studying the dynamic of the world order and explain the proposed hypothesis with the help of concrete mathematical models.

1. World Order or World Anarchy? Political Theory Answers

It makes sense to start the discussion of the issue of the world order by referring to one of the basic assumptions of the theory of international relations: international relations are inherently anarchic. In other words, the nature of international relations presupposes a lack of order as such. Order in international relations is an unnatural thing and its existence in the current configuration is a temporary phenomenon.

Any world and international order is under threat of anarchy, a natural state of "the war of all against all", in which the only means of survival is power in the broad sense of the word. A state can only defend itself against another state's encroachments by countering its force with an adequate response that would make the encroachment on its sovereignty too costly and detrimental for the aggressor. At a certain stage, the state may itself become an aggressor, using its power potential for aggressive purposes.

The ideas of the anarchic nature of international relations have their roots in the political theory of the state, specifically the theory of the social contract. The state is an instrument of curbing anarchy. It is a means of enforcing order when the war of all against all is precluded by the right and monopoly of the state to use violence. Such a monopoly renders law effective within the boundaries of a certain territory.

However, solving the problem of anarchy at the level of the state inevitably generates anarchy in relations between states. The main problem here is the absence of a "global" sovereign that could regulate relations among states, coerce them into peace and ensure order. The lack of a monopoly on violence at the global scale largely devalues international law and efforts to bring order to international relations.

In turn, anarchy creates a state of uncertainty when State A does not have the full information about the potentials and intentions of State B. Thus, it can never discount the possibility that hostile actions may be taken against it and must be prepared for "the worst–case scenario".

This theory was proposed in the 17th century by Thomas Hobbes[1] and is one of the basic components of the modern theory of international relations. While theories of international relations differ in terms of the methods they propose for dealing with the problem, they are one in assuming that anarchy and the security dilemma is an objective prerequisite of international relations. The quest for the solution of the anarchy problem has been a powerful driver of the development of the theory of international relations. The category of order, of course, is one of its key elements.

Let us note parenthetically that the question of world or international order has long been within the realm of normative political theory, something that is usually

---

[1] Hobbes T. Leviathan or the Matter, Form and Power of a Commonwealth, Ecclesiastical and Civil. Works in 2 vols. Vol. 2. Moscow: Mysl Publishers, 1991, Chapters XVII, XXIX (in Russian).

overlooked in contemporary discussions of the world order. We discuss the hierarchy, the balance of forces, crises, wars, sanctions and international law without looking into the foundations of these concepts. However, normative political theory has long perfected these concepts as instruments for legitimizing the ideas of the proper order and structure of international relations.

1.1. Order Versus Anarchy: The Liberal Approach

Liberal thought has proposed one of the most influential normative approaches to solving the problem of anarchy. The bedrock principle of Liberalism is the idea of human reason and rationality as a great transformative force. If human reason can organize a rule–of–law state, it can just as well rationally organize international relations. In other words, it can subjugate anarchy to order. How can this be done? By applying the principles of rational organization of the state to international relations.

First of all, world order on the international arena can only be achieved if the participants in international relations (i.e. states) are rationally disposed. Such a disposition implies the rule–of–law state whose institutions enable its citizens to participate in and influence politics. In other words, it is democracy. The logic of the link between democracy and international relations is simple. Citizens, Liberals believe, do not want war. Rulers often unleash wars against the will of their citizens. If the state is accountable to its citizens, it will be far more constrained in making decisions to go to war than the government of an autocratic state. The state should have enough resources to uphold its sovereignty and defend itself from "predator states". But in a democratic state, the government will be constrained by the will of the citizens if it tries to unleash a war for different reasons. The internal transformation of states into democracies is the first means of bringing about order in the international arena.

Secondly, the most favourable conditions should be created for international trade and economic interdependence. States engaged in active mutual trade are unlikely to be interested in war (i.e. the violation of the order). Destruction of trade spells losses. Besides, an influential commercial lobby within the state would restrain the political ambitions of its government.

Thirdly, order in international relations calls for the creation of common legal norms and international institutions. One of the fundamental norms and institutional procedures is sanctions and a system of punishing "predator states" that violate the world order. The need for institutions that enable states to unite against an aggressor and thus deprive any state of the stimulus to commit aggression was recognized back in the 17th century.[2]

Thus, the liberal scheme of ensuring international order envisages the so–called "peace triangle": democracy, trade and international institutions.[3] It rules out a

---

[2] Seminal works include the works of William Penn, Charles de St. Pierre, Jean Jacques Rousseau and others. For more detail see: Treatises on Perpetual Peace. Compiled by Andreyeva I.S. and Gulyga A.V. Moscow, Sotseukgiz Publishers, 1963 (in Russian).

[3] "The Triangle of Peace" was formulated by Immanuel Kant. It is hard to find a study into the influence of the factors of regime, trade and international organizations that contain no reference to his famous essay. See Kant I. Perpetual Peace // Works in six volumes, vol. 6. Moscow: Mysl Publishers, 1966 (in Russian).

stable world order based on force because such a structure would be unstable, since the problem of anarchy would remain unsolved. The strong will sooner or later grow weak and temporary peace will be replaced by the war of all against all. Power is needed to enforce international law. Only then would it be constructive and cease to generate anarchy.

The Liberal political theory, which is still highly influential, has come under heavy fire from two other fundamental political theories, namely, Marxism and Conservatism.

1.2. The Marxist Answer: Alienation, Inequality, Imperialism

Like Liberals, Marxists assume that human reason plays the decisive role in transforming the world. War and anarchy are symptoms of defects of the social order. The problem can be solved by reasonably correcting it. But while the main instrument for the Liberals is the correction of the political regime (democracies do not fight wars), for Marxists the very existence of the state is fraught with violation of order. Ideally, the fading away of the state should solve the problem of anarchy in international relations and the problem of the natural condition within the state. For the root of the natural condition is property. The disappearance of property and inequality would automatically solve the issue of the natural condition.

In reality, Marx and his numerous followers were not in a hurry to discount the state. The state, being a superstructure, can exert powerful influence on the basis of socio–economic relations, and act as an independent force that has its own interests.[4] Neo–Marxists (most notably Antonio Gramsci and Nicos Poulantzas) substantially elaborated this thesis, bringing Liberal arguments into serious question.[5]

Is it really true that democracies do not fight wars because their citizens restrain the government? Far from it, the Neo–Marxists would say. Sooner or later, even democratic institutions are bureaucratized. In accordance with Michels' "iron law of oligarchy", an initially open system becomes more and more closed and oligarchic although it preserves the instruments of rotation on the procedural level. In other words, such a government sooner or later becomes autonomous from the citizens and acquires its own interests. More importantly, it has access to the instruments that influence citizens. These instruments include the system of education and the mass media, which make it possible to instil in public opinion the desired image of the enemy and secure support for certain decisions. Nationalism becomes a powerful instrument of mobilization in solving foreign policy tasks even under patently democratic governments.

Is international trade a guarantee of international order? Not so, the Neo–Marxists would counter. The global economy and international trade is an arena

---

[4] See, for example, K. Marx. The Eighteenth Brumaire of Louis Bonaparte. K. Marx, F. Engels. Complete Works. Vol. 8. This thesis is also put forward in the work of T.A. Alekseyeva. See Alekseyeva T.A. Modern Political Theories. Moscow: Rosspen Publishers, 2001, p. 39 (In Russian).

[5] Gramsci A. Prison Notebooks // Alekseyeva T.A. (ed.) An Anthology of World Political Thought in 5 volumes. Vol. 2: Political Thought outside Russia, 20th Century. Moscow: Mysl Publishers, 1997 (in Russian). Poulantzas N. Political Power and Social Classes in the Capitalist State // Alekseyeva T.A. (ed.) An Anthology of World Political Thought in 5 volumes. Vol. 2: Political Thought outside Russia in the 20th Century. Moscow: Mysl Publishers, 1997 (in Russian).

of competition. Once it grows, business will try to harness the political resources of its state to gain an edge on the competition. The interests of the state and business merge and political instruments (including violence and war) are used to obtain resources or new markets. This hybrid mechanism serves to suppress those who are weaker, and in internal politics the state may act as a powerful instrument of suppression. Thus, international trade makes international relations still more anarchic because at stake is the re–division of the world in the context of imperialism, when capitalism merges with the imperial ambitions of states.[6] Globalization and the international division of labour mitigate the problem but do not solve it.

The argument that the commercial lobby may restrain the government in its foreign policy is also debatable. Bureaucracy sooner or later becomes a force in its own right. It is a mistake to believe that it is the plaything of property owners. The commercial lobby can impose its rules of the game upon them, prevent their consolidation and stand up to the consolidated influence of business.

Can international norms and institutions ensure order in international relations? Theoretically, yes. But in practice, the two above–mentioned factors – flaws in the structure of the state and its role in international trade – make the power of these institutions very relative. Stronger players will introduce international norms and organizations in their own interests or manipulate them in the process of their work. In this shape, the institutions are unlikely to be able to solve the problem of equality. In the end, the strong will impose order. But such an order does not solve the problem of anarchy, because sooner or later new claimants to dominance will come forward.

It is important to understand that the difference between the Liberal and Marxist ideas of the world order lies in their interpretation of the concept of justice. Both theories agree that the world order can be built through social engineering, that is, through the creation of a special type of just society and institutions. But Liberals associate justice with the democratic state, the rational organization of the capitalist economy and the grafting of the rule–of–law state principles onto international relations. A world order without anarchy is the result of a social contract among states similar to the social contract within a rule–of–law state. Marxists do not consider the Liberal recipes to be a guarantee of justice. Justice calls for rational – but far more profound – changes in the nature of the state, economy and society. These changes include solving the problem of dispossessing the products of labour from hired workers by capitalists and alienation of citizens' power by the state. Essentially, it means liquidating the basic costs of capitalism (in the shape of exploitation) and the bureaucratic state (in the shape of oppression). Without these, an honest social contract concluded "under the veil of ignorance" is impossible.

1.3. The Conservative Answer: Power, Deterrence and Common Sense

Conservative political theory takes a fundamentally different view of the nature of anarchy and the ways to tame it. Therefore, the Conservative concept of order

---

[6] See, for example, Lenin V.I. Imperialism, the Highest Stage of Capitalism // Lenin V.I. Collected Works, vol. 27 (in Russian).

in international relations is fundamentally different. In the modern theory of international relations, Conservative thought is represented mainly by Realism and its offshoots.

First of all, Realists question the unlimited potential of human reason. The limitations of rationality and social engineering are as much a fundamental principle for the Conservatives as the faith in reason and progress is fundamental for the Liberals and Marxists. The social world (including international relations) is too complicated to lend itself to "rational" experiments.[7] Instead of reason, they give pride of place to common sense and political wisdom, a kind of mixture of pragmatism and traditions, openness to new experience and very close attention to history and "roots". Hence their approach to changes of the international and social order in general. Change must be gradual and cautious. Any attempt at a sweeping revolution in accordance with this or that rational "plan" is doomed to failure simply because the social world is too complex. Besides, culture and historical tradition are always behind institutions. While the latter can be changed overnight, the former may function within the self–same logic for centuries.[8] Thus, for Liberals and Marxists, the world order is subjective; it can be designed and constructed. By contrast, for Conservatives (Realists), the world order is objective: political leaders make decisions proceeding from existing conditions and can change parts but not the whole.

All this goes to show that there is no place for social engineers and ideologies in international relations. Instead, there are statesmen who are guided by their experience, political wisdom and common sense.[9]

Furthermore, Conservatives consider a fundamental error the belief of Liberals and Marxists that the political regime and the internal political structure of the state influence its foreign policy. The driving force of foreign policy is the national interest expressed in the wish to maximize the state's power to achieve security and increase wealth. The foreign policy interest is the same for democracies and autocracies. They can therefore be expected to behave similarly in the international arena. If a democracy needs to promote certain material interests, it will act in the international arena in the same tough and principled way as an autocracy. Civil control falls by the wayside.

Economics and international trade are unlikely to resolve the problem of anarchy. Every state or coalition of states seeks to secure the most advantageous position in world trade and in the distribution of resources. Very often it is a zero–sum game in which some gain and some lose. Consequently, the economy is just another sphere of competition between states in the world arena. Economic potential is a component of a state's strength. Military force is one means of achieving an advantageous position in the world hierarchy.

---

[7] This provision is argued forcefully in the works of Reinhold Niebuhr, who is still an intellectual authority for many Realists. Niebuhr inveighs against the socialist faith in unlimited human reason. See Niebuhr R. The Irony of American History. Chicago: The University of Chicago Press, 2008, p. 4. Niebuhr R. Ideology and the Scientific Method // McAfee R.B. (ed). The Essential Reinhold Niebuhr: Selected Essays and Addresses. New Haven: Yale University Press, 1986, pp. 205–210.

[8] Anthropological pessimism is also a fundamental premise in the works of Hans Morgenthau. His critique is aimed against the Liberal political theory. See Morgenthau H. Scientific Man versus Power Politics. Chicago: University of Chicago Press, 1946, pp. 51–52.

[9] Ibid. Cover page.

The world order and its structure can hardly be determined by international law and institutions. On the contrary, the world order and its hierarchy are determined by power, or rather, the ratio of power potentials of the key players. By power, of course, we mean not only military force, but also economic and human potential, the strength of ideas and mechanisms for their dissemination.[10]

Can such a world order solve the problem of anarchy? Of course not. Anarchy cannot be banished from international relations in principle. The only way to tame anarchy and preserve the world order is to use force to keep potential claimants to domination out of power.[11] But such deterrence cannot be infinite and the world order will sooner or later be shaken once again. The result will be the emergence of new power centres with their own rules of the game.

In other words, anarchy and the uncertainty it engenders are structural features of international relations. An important consequence of this assumption is that fear is a significant motive driving the behaviour of states in the international arena. Yes, states pursue their own interests in the world. But an equally strong motive for their behaviour is the fear of aggression or hostile actions on the part of others. Fear is bred by uncertainty; the absence of a complete picture of the intentions and potential of partners. In this context, a conflict breaks out even when the parties are objectively not interested in it. Without knowing all the intentions of the other side, an attempt at pre–emptive action – "kill or perish" – becomes a reasonable strategy. The so–called "Hobbesian fear" can well induce states to act aggressively even when cooperation or neutrality promise greater benefits.[12]

1.4. The World Order: The Systemic–Structural Perspective

Normative theories have stimulated the emergence of a whole range of derivative concepts that approach international relations either from the viewpoint of the agent, or from the viewpoint of the structure. In the first case, priority is given to the study of the way a concrete state makes decisions in various conditions. In the second case, attention is focused on the system of international relations formed by the states and other actors, as well as on the structural features of such a system. The features of the system are thought to provide the framework for the behaviour of states in the international arena. In other words, the behaviour of an individual state can be explained by the character of the system of international relations. Obviously, the concept of world order is more conveniently conceptualized in the framework of systemic–structural theories. It is notable that each of the above–mentioned normative theories has been matched by a systemic–structural variant

---

[10] See, for example, Carr E. The Twenty Years Crisis. London: Palgrave, 2001, pp. 102–120. His attention to public opinion control is also worth noting. Carr also saw propaganda as a resource of international influence. He demonstrated the increased role of information in international relations, linking it to military and economic issues. Ibid, pp. 120–130.

[11] See, for example, Morgenthau H. Politics Among Nations: The Struggle for Power and Peace // The Theory of International Relations. An Anthology. Compiled, edited and commented by P.A. Tsygankova. Moscow: Gardariki Publishers, 2002, pp. 72–88 (in Russian).

[12] Notable concepts of the security dilemma have been proposed by John Hearst and Herbert Butterfield, which have been exhaustively presented in the work of Kenneth Booth and Nicholas Wheeler. See: Booth K. and Wheeler N. The Security Dilemma: Fear, Cooperation and Trust in World Politics. New York: Palgrave McMillan, 2008, pp. 1–18. We should also mention the ideas of Robert Jervis. See: Jervis, Robert. Cooperation under the Security Dilemma // Art R. and Waltz K. (eds). The Use of Force. New York: Rowman & Littlefield Publishers, 2009, pp. 44–71. (The work was first published in the journal World Politics in 1978.)

at the level of empirical political studies. These variants began to be worked out roughly in the last quarter of the 20th century and still have a following.

The Liberal wing of the theory of international relations emphasizes the exceptional role of economic interdependence in reducing the anarchy of the international environment. Globalization, the fall of trade barriers in relations between developed countries, and the division of labour among them have given rise to fundamentally new structural features of international relations. The new structure has moved economic competition into a different realm, severing it from the toolkit of power politics (again, this applies to developed countries). That greatly diminished the probability of conflicts, which has been relegated to the periphery of international relations. States began to form network structures that replaced hierarchic imperial or quasi–imperial models. Coincidentally or not, the majority of states that form these structures have turned out to be either "old democracies" or have made the successful transition to democracy. A large number of international organizations has appeared. Being a member of these organizations offers unprecedented opportunities for communication, reducing "Hobbesian fear" and uncertainty in relations between states.[13] The very concept of power has diversified, with Liberals taking the credit for introducing the concept of "soft power". The historical juncture in the late 20th and early 21st centuries would seem to provide strong arguments in favour of the Liberal premises of the "peace triangle": the end of history proclaimed by Francis Fukuyama; the triumph of freedom and progress; a unipolar and democratic world.

But what should be done with the conflict–ridden and problematic periphery? The processes taking place there do not quite fit into the logic of Liberal thought. The use of force by developed countries in the periphery has long become the norm, and its conflict potential apparently is becoming greater and greater. Meanwhile, the periphery is part of the world order and its problems are capable of shaking its stability.

This lacuna was originally filled by Neo–Marxist systemic–structural theories. The most notable among them is the world system theory of Immanuel Wallerstein. He conceptualizes the world order in terms of the capitalist world system. This means a system formed by the place of states in the world division of labour.[14] Structurally, it consists of core, peripheral and semi–peripheral countries. Capital and production with high added value are concentrated in the core, whereas the periphery provides resources and raw materials.

Once again, the state plays an important role here. In the core, the interests of the state and capital coincide. But in the periphery, the strong state undermines the interests of business. Any attempts at protectionism or regulation in the national interest hurt both the consumers in the core and producers in the peripheral state.[15] That is why weak statehood is the key problem of the peripheral states. Weakness is in the interests of strong players in the core and of the national (often

---

[13] In one of my works, I analyzed articles verifying the principles of Liberalism. See: Timofeyev, I.N. The Balance of Forces, Interdependence and Identity: Competition of Empirical Models of Solving the Security Dilemma // Vestnik MGIMO University, 2008, No. 3 (in Russian).

[14] Wallerstein I. The Rise and Future Demise of the World Capitalist System: Concepts for Comparative Analysis // Wallerstein I. World System Analysis and the Situation in the Modern World. St. Petersburg: Universitetskaya Kniga, pp. 23–25 (in Russian).

[15] Ibid., pp. 40–41.

comprador) elites of the peripheral states. Essentially, we see the mechanism of alienation from the periphery to the core described by Marx with respect to the capitalist economy. That is why the Liberal recipes that work in the core countries, do not work in the peripheral countries – or can even throw them back.

The role of the semi–periphery in the above structure should be noted. The semi–peripheral states combine two qualities: their economy is peripheral to varying degrees, but they are strong enough to implement "modernization from the top", use their political clout in bargaining with the core and seek to become part of it.[16] This category is extremely important for the world order, because it includes large developing states whose political role in international affairs simply cannot be ignored. The BRICS countries are the most important representatives of the modern semi–periphery.

The core, the periphery and the semi–periphery are in a state of dynamic equilibrium. As soon as that equilibrium is upset, the world order plunges into crisis. Wallerstein defines it as such a state of the world system in which the cumulative body of contradictions makes it impossible for the system to remain as it is and requires a transition to a new quality.[17] According to Wallerstein, the fact that the core increasingly resorts to military force to solve problems in the periphery is one sign of such a crisis.

Finally, one should mention yet another influential theory, and that is the Neorealism of Kenneth Waltz, in which the normative principles of Conservatism and Realism rest on a systemic–structural basis. Waltz adapted the political–philosophical nucleus of Realism to the requirements of contemporary empirical political studies. The result was a qualitatively new theory that used Realist categories but had acquired a new explanatory apparatus using the concepts of systemic analysis. This approach was vigorously pursued in the Soviet Union and later in Russia. It was developed in various ways by the schools of Mark Khrustalyov, Yevgeny Primakov, Alexei Bogaturov and other Russian international affairs scholars.

Using the categories of systemic analysis, Waltz builds an argument to bolster the main thesis of Realism, namely that the link between foreign and domestic policies is not significant. Foreign policy should be studied on the basis of the influence of the system of international relations on the state. A change of system alters the conditions and framework of foreign policy, and consequently the foreign policy of individual states. The foreign policy of a state should be interpreted through understanding the structural features of the world order.[18] Waltz elaborates the consistent conservative critique of Liberalism and its wish to explain foreign policy by the internal structure of the state.

The next important step is understanding the system of international relations as a political system. Waltz deliberately distances himself from Marxists, criticizing them for explaining international policy by non–political factors (economics and the division of labour). What makes the world order a political system? The main criteria for determining its hierarchy are, of course, power and influence. Power

---

[16] Ibid., pp. 43–44.

[17] Wallerstein I. Typology of Crises in the World–System // Wallerstein I. World System Analysis and the Situation in the Modern World. St. Petersburg: Universitetskaya Kniga, 2001, p. 109 (in Russian).

[18] Waltz K. Theory of International Politics. Long Grove: Waveland Press, 2010, pp. 17–40.

has a precise definition: it is the ability of a state to ensure its security and achieve its interests. Obviously, this interpretation refers primarily to military force. But behind it lurk economic parameters, because an effective military organism requires a developed economy. In other words, various parameters of power are usually interconnected: big states have considerable military capability, are economically strong and can afford to project power by various non–military means.[19]

Finally, it is also important that there are not many truly powerful states in the system. It consists of a host of weak and only a few strong states. The strong players constitute the poles of the international system, making it unipolar, bipolar or multipolar. The more poles there are in the system, the less stable it is; the greater the uncertainty in the relations between the poles; the more anarchic it will be; and the more likely the world order will be to change.[20]

This is an important thesis that warns of the risks of multi–polarity. In Russian political discourse, multi–polarity is typically seen as a good thing. Indeed, such a system offers greater diplomatic leeway and is, in theory, more democratic. The downside is that contradictions between the poles risk escalation and compromises are even more difficult to find.

Let us stress that the poles are determined in terms of military power as well as the technological and economic basis that underpins it. The question arises: Was Waltz unaware of the growing interdependence between contemporary states? How can such antiquated terms as "the balance of forces" be used at a time when the concepts of globalization have entered the agenda, the international public is agitated by global problems and non–state players – big transnational corporations, environmental groups, etc. – have moved into the forefront. It would seem that the globalizing and increasingly interdependent world should have marginalized Neorealism. Waltz displays considerable consistency in pre–empting this critique.

It is true that the world faces at least four global problems: overpopulation, poverty, environmental pollution and the proliferation of weapons of mass destruction. The manifestation of these problems in some countries undoubtedly affects others.[21] However, this does not make states want to help each other. Interdependence should be understood as shared vulnerability, and not a readiness to tackle problems together.

Waltz interprets the concept of interdependence in a completely different way to Liberals and Marxists, who treated it rather in economic terms, albeit with different

---

[19] Ibid., p. 128. It is interesting that Waltz treats the balance of forces as a dynamic characteristic. The achievement and preservation of balance can be likened to a state of equilibrium. It may be upset when, for example, claimants to changing the status quo come forward. In this case, the system will experience an unstable state or, to use the complication theory term, dynamic chaos. Ultimately, however, states will seek a stable state, i.e. a balance of forces.

[20] Waltz invokes economic concepts to illustrate this thesis. Perfect competition has many players. They are not big and depend on the market situation. They are unable to influence it, just like they are unable to influence all of their competitors. In an oligopoly, given several strong players, each of them can substantially influence the market situation and, more importantly, other players, while keeping an eye on their actions. Equilibrium is more easily achieved in such systems because a large firm has better chances of survival, newcomers find it more difficult to break into the system, bargaining costs diminish, market niches for the remaining players expand, agreements are easier to achieve, relations with one another are more clear–cut, and their actions are less chaotic. However, oligopoly should not be supplanted by monopoly, which is fraught with stagnation and eventual decline. This betrays the influence on Waltz of contemporary economic thought and the discourse on anti–trust laws in the United States. However, Waltz makes two important reservations: by no means all players seek stability; a firm can die more readily than a state. Ibid., pp. 133–137.

[21] Ibid., p. 139.

accents (Liberals stress the advantages of trade, while Marxists stress the costs of inequality). Waltz agrees that inequality is the key problem of interdependence. But it should be construed in political, rather than economic, terms. That is, in terms of power. Only states that are relatively equal can be interdependent. If they are not equal, interdependence turns out to be dependence of some states on others. That is why interdependence diminishes as the number of powers in the system shrinks: most states become dependent on a small number of power centres. Thus, Waltz separates the concepts of interdependence and dependence and considers them in terms of security (strategic interdependence) and not trade. The concept of interdependence should perhaps be replaced with the concepts of relative dependence or independence.[22] Thus, Neorealism convincingly overturns the Liberal thesis of interdependence, bringing the question of anarchy back to the agenda and putting Fukuyama's theory of "the end of history" into question.

We have indicated some theoretical approaches that can be used to study the contemporary world order. Obviously, the range of available approaches is not exhausted by these theories and authors. However, we have chosen the theories that: (a) are closely linked to the basic normative political theories (Liberalism, Marxism and Conservatism); (b) use systemic–structural categories; and (c) can be empirically tested. That is why we have not mentioned, for example, Constructivism, which distances itself both from the normative theory and from the systemic–structural view. Its empirical verification is only possible at the level of the agent and not the structure. This makes it suitable for studying the ideas of various agents about the world order (for example, of state leaders), but probably not for studying the world order as such. That would constitute a separate research programme.

We have deliberately failed to mention the wide gamut of civilization theories, in which Samuel Huntington's work occupied a notable role in its time. The reason for this is simple. Civilization identity is an object of manipulation and construction carried out by the state, or else by the forces that seek to destroy a specific state and create a new one in its place. This simple consideration makes civilization theory partly irrelevant to international relations. The modernist apparatus of political theory is quite sufficient. Clearly, civilization theory has developed against the background of a more profound discussion of the crisis of the modern project as a whole and the modern state in particular. The victory of instinct, "roots" and "blood" over the rational machine of the modern mass state and economy would indeed put civilization theory in the forefront. The threat of "post–modernism" was signalled long before Huntington by such authors as Nikolay Danilevsky, Oswald Spengler, Arnold Toynbee, Georgy Vernadsky and others.

---

[22] Ibid., pp. 139–145. However, he does not ignore economic issues. Going back to the hierarchy–anarchy dichotomy, Waltz notes that there is greater specialization of the actors within a state. In the international arena there are more players and their degree of specialization is lower. In other words, interdependence requires a high degree of system integration. If the degree of integration is not high, interdependence (or dependence) turns into vulnerability, as demonstrated, in his opinion, by the 1973 oil crisis. Of course, the United States is becoming more dependent on imports, including oil imports. In other words, the country is becoming more dependent and vulnerable. However, at a pinch the United States can do without certain imports by changing suppliers or using its own resources. That would exact a price and cause damage, but the United States still has wiggle room. The same is not true of many other countries. That is why, even though it depends on oil imports, the United States is less dependent on such supplies than other countries. Other countries depend on the United States more than the United States depends on them. Incidentally, the same could have been said about the Soviet Union. Ibid., pp. 151–160. Thus, one of the key results of the Cold War is that Russia has lost much of its relative independence from other countries, while the level of its dependence has increased.

But the fact that the modern state and capitalism are still holding their position, digesting civilizational and other identities, renders the use of civilization theory for explaining the world order premature. This does not mean that international affairs and area studies scholars should give up research into the civilization factor. The current processes, for example in Iraq, suggest otherwise. But it is important not to overestimate its inherent role as a system–forming factor on a world scale.

The following section will consider the contemporary world order through the prism of concrete quantitative data: international statistics that reflect the position of states in the modern world. We will draw on these data in order to try to understand the structure of the modern world, the parameters that determine this structure and the significance the above–mentioned theories acquire in the light of concrete quantitative data.

2. A Static View of the World Order: Structure, System and Controlling Parameters

What is the modern world order? What are the criteria for ranking states in a hier–archy? What are the controlling parameters of the world order? What determines the position of states in this hierarchy?

The methodology of the massive research *Political Atlas of the Modern World* project may be used to answer these questions.[23] Let us look at the present world from the viewpoint of this methodology and suggest further steps of its use.

It is important to note that the *Political Atlas* is based on statistical materials from 2006–2007. It is a snapshot as it were of the world order at the time of Vladimir Putin's Munich speech. The tectonic shifts such as the Arab Spring had not yet started. It is all the more interesting to study these data because the current pic–ture is far less stable and settled. For our analysis of the world order, the year 2007 is what the year 1913 was for historians of Russia, being a pre–crisis year of peak achievements of the previous world "socio–economic system". In 2008, the world economic crisis broke out and the world begin to change rapidly. It is important to record this pre–crisis picture in order to use it as a starting point for the study of current transformations of the world order, having identified its controlling parameters.

2.1. Controlling Parameters of the World Order

The underlying premise of the *Political Atlas* is that the life of modern states and the international relations system they form is determined by a set of several con–trolling parameters. In other words, the world order is multidimensional; it cannot be reduced to any one sphere, be it power, the political regime or development. In practice, of course, there is a multitude of controlling parameters and their entire range defies human cognition. It is, therefore, necessary to build models that provide an admittedly simplified but functional picture of the world order, so as to gain an insight into its specificities. The *Political Atlas* model singles out five such parameters.

The first parameter is state consistency. If the state is still the key element of the world order, it is important to understand which states are more important than others. In other words, how do contemporary states differ from one another in terms of sovereignty, i.e. the ability to perform their functions on a certain territo–ry? The theory of international relations has unjustifiably given too little attention to this controlling parameter. Perhaps only Wallerstein's Neo–Marxism stresses the importance of an effective government for a country's ability to occupy a place in the core of the world system. Realists have traditionally sidestepped the issue, while Liberals have steered the discussion towards the political regime. However, experience shows that the existence of democratic institutions is no guarantee that their decisions will be effectively implemented and that the state is

---

[23] Melville A.Yu., Ilyin M.V., Polunin Yu.A., Mironyuk M.G., Meleshkina Ye.Yu., Timofeyev I.N. Political Atlas of the Modern World. Moscow: MGIMO University Press, 2007 (in Russian).

truly independent. We have partly turned to this parameter, being mindful of the serious precedents of crisis of modern states such as the USSR and Yugoslavia, and more recently Georgia and Ukraine.

Secondly, every state is characterized by a certain level of development that is expressed in terms of the quality of life. At the end of the day, the well–being of citizens is the main priority of almost every country. In political theory, this issue has traditionally engaged Liberals more than it has Marxists. For the former, the well–being of citizens was seen as a motivation to engage in trade rather than war. For the latter, it was an indicator of the country's position in the world system. For the Realists, it is a secondary component of a state's power.

Thirdly, there is the range of external and internal threats that states face. Their presence or absence may accelerate or slow down the development of the state. The structure of the world order contains countries whose cumulative set of threats is low or, on the contrary, high. That makes threats an important inde–pendent parameter: two democracies with different levels of threats will obviously behave differently in the international arena (compare Switzerland and Israel). In–ternational relations theory as a rule sidesteps that issue. Perhaps only Construc–tivism makes it possible to explain the policy of a state in terms of how its leaders perceive threats. But that does not get us anywhere nearer to understanding the world order and its structure.

The two following controlling parameters are perfectly in line with the theory of international relations. Thus:

The fourth parameter refers to the political regime of the state or, more precisely, its institutional basis. Although the Liberal premise that democracies do not fight is debatable, the world's countries can be safely divided into democracies (pol–yarchies) and autocracies, and the category of political regime can be seen as a world–level parameter. This is important partly because transitions to democracy followed by rollbacks have become part of international life. Needless to say how much attention Liberals and Marxists pay to the concept of political regime.

Finally, there is the power or potential of world influence. This is the basic cat–egory of Realism. For understandable reasons, it cannot be ignored in analyzing the world order, although it is still unclear how important power is in the structur–ing and ranking of modern states. It is also essential to see power as consisting of several elements: military power, economic potential and soft power.

2.2. World Order Parameters: Operationalization

The question arises: How can these controlling parameters be put into operation? How can they be translated into the language of concrete variables? In other words, how can we move them from the level of theorizing to the level of analysis? The *Political Atlas* sought to operationalize these parameters in the shape of quantitative indices, each comprising certain quantitative parameters. The project's database has a little over 50 such parameters for 191 countries. The latter fact is very important, because statistical analysis produces visible, concrete and verifiable results. These parameters have been described in detail in the *Political Atlas*, so a brief mention here will suffice.

The State Consistency Index is determined by such parameters as the age of sovereign statehood of a country, its integrity (the existence, intensity and territorial scale of internal conflicts, and ethnic fragmentation), its economic and technological sovereignty (external debt, the share of foreign aid in the Gross National Income, the ratio of patents taken out by residents and non–residents, the pegging of the national currency) and foreign military presence in various forms (for example, in the shape of military bases).

The Quality of Life Index includes per capita GDP, the proportion of the population covered by the education system, life expectancy and rates of mortality from various causes. This index is similar in composition to the *United Nations Development Programme*'s *Human Development Index* and closely correlates with it.

The Index of External and Internal Threats comprises the presence or absence of humanitarian threats (malnutrition, drinking water supply, epidemics), economic threats (unbalanced export, chronic trade deficit, dependence on the import of energy), internal political threats (precedents of government coups or attempted coups, legal and illegal separatism, terrorism), external political threats (territorial claims and unsettled disputes, the threat of external aggression), and demographic threats (depopulation, excessive migration).

The Index of the Institutional Basis of Democracy includes the existence and degree of electoral competition (in electing legislative and executive power bodies), the duration of the existence of contested elections, the involvement and participation of citizens in the electoral process, the influence of parliament on the executive branch, precedents of the violation of the constitutional order (government coups or attempted coups), etc.

Finally, the International Influence Capabilities Index comprises the variables of military power (defence spending, the size of the regular army, the existence of nuclear weapons and modern combat aircraft, the presence of military contingents and bases overseas), economic power (the share in the Gross World Product and world export, membership of the *Paris Club*), demographic power (the share of the population as part of the world population), political clout at key international organizations (membership and share of the votes at the *International Monetary Fund*, holding a seat at the UN Security Council, the share in financing the United Nations).

The indices were calculated by the method of discriminant function analysis and the values obtained have been subjected to factor analysis. Factor analysis produced un–correlated orthogonal ("pure") parameters that could form the basis for a model of the world order. The outcome was four such parameters or key components. Their content merits special attention.[24]

2.3. The Structure and System of the World Order

The first component can be called the Development Component. It is formed by the juxtaposition of two indices: the quality of life and external and internal threats. The *Political Atlas* calculations have shown that more than half of the world's countries (55.4 per cent) and their position in the world order can be

---

[24] The indices, variables and calculation methods are described in detail in the above–mentioned monograph. Ibid., pp. 67–161.

explained in terms of development, that is, the ratio between the quality of life on the one hand and the level of national threats on the other (Table 1).

In practice, this means that there are two major groups of countries that form the modern world order. The first group are countries that have achieved a high quality of life and face a small number of threats. The second group, on the contrary, are countries with a low quality of life and which are exposed to many and various threats.

The second component can be called the Political Order Component. It includes about one quarter of the world's countries (26.4 per cent). It is based on the opposition of the indices of state consistency and institutional foundations of democracy. That is, the position of these countries in the world order can be described in terms of the correlation between their state consistency and the character of their political regime. Countries in which state consistency is developing at the expense of democracy and countries in which democracy is developing at the expense of state consistency stand out.

In practice, this means that there are two major groups of countries. The first includes countries that are basically sovereign, but sovereignty is achieved by suppressing democratic institutions. The second group has democratic
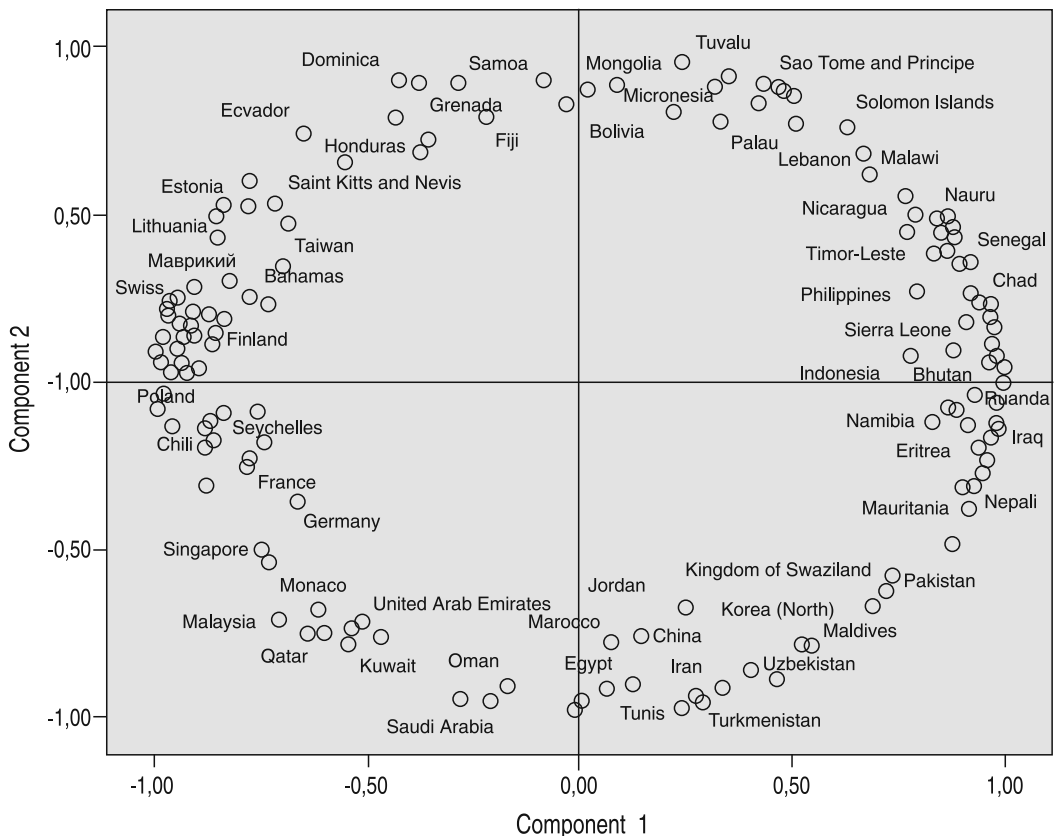

Figure 1. Countries in the Space of Development and Political Order Components

institutions, but their sovereignty is dubious – they delegate it to stronger foreign players.

These two components already produce an interesting projection of the world order represented in Figure 1. The X axis is represented by Component 1 and the Y axis by Component 2. On the left, we see countries with high and very high living standards and relatively low levels of threats (they include, for example, the countries of the European Union), whereas on the right are countries with a medium or low quality of life and a high level of threats (they include many countries of Sub–Saharan Africa and some countries in South and Central Asia). At the top are the countries in which the existence of democratic institutions and procedures goes hand–in–hand with a relatively low level of statehood (they include both dwarf states and some transitional democracies), at the bottom are the countries in which democracy has been sacrificed in favour of strong statehood (notable examples are the Middle East, North–African countries, Iran, Kazakhstan, etc.).

An interpretation of this picture of the world was proposed in its time by Andrey Melville, Mikhail Ilyin, Mikhail Mironyuk, Elena Meleshkina and Yuri Polunin. The movement from right to left, i.e. the transition from the periphery to the developed core, can follow two paths. It is either the path of strong statehood without regard for the quality of the regime (the lower path), or the delegation of its sovereignty to stronger countries and the building of democracy (the upper path).

As a result, Components 1 and 2 offer a picture of the world that is presented at the theoretical level by Liberalism and Marxism. However, it highlights the factors of statehood and national threats, making the theoretical picture more complete and in line with current realities.

The third component, formed by the opposition of the State Consistency Index and the Quality Of Life index, can be interpreted in a similar way. These are countries that either sacrifice quality of life for the sake of strong statehood, or vice versa. There are only a few such countries – a little over 11 per cent. They include Latin American examples: Venezuela, Guatemala, Honduras, Columbia and Peru.

The question suggests itself: Where do the great powers enter the picture of the world order? What place do major power centres occupy? And where does Russia fit in this scheme? Our analysis has shown that the final, fourth, component explains only a small number of countries (just 7 per cent). From the formal point of view, that component could be ignored. There is one "but", however. The 7 per cent are major world powers and the key index of this component is the potential of international influence. In other words, this component sheds light on the narrow circle of influential players that form the world order in the conservative sense, i.e. in terms of power.

Let us look at the pre–crisis world order from 2007 in terms of the combination of the first and fourth components, i.e. the development component and the power component. Figure 2 shows the picture of the world order formed by three poles. The right and left parts are already familiar: on the left are countries with a relatively high quality of life and low level of threats; on the right are countries with a relatively low quality of life and a high level of threats. At the bottom are centres of world influence.
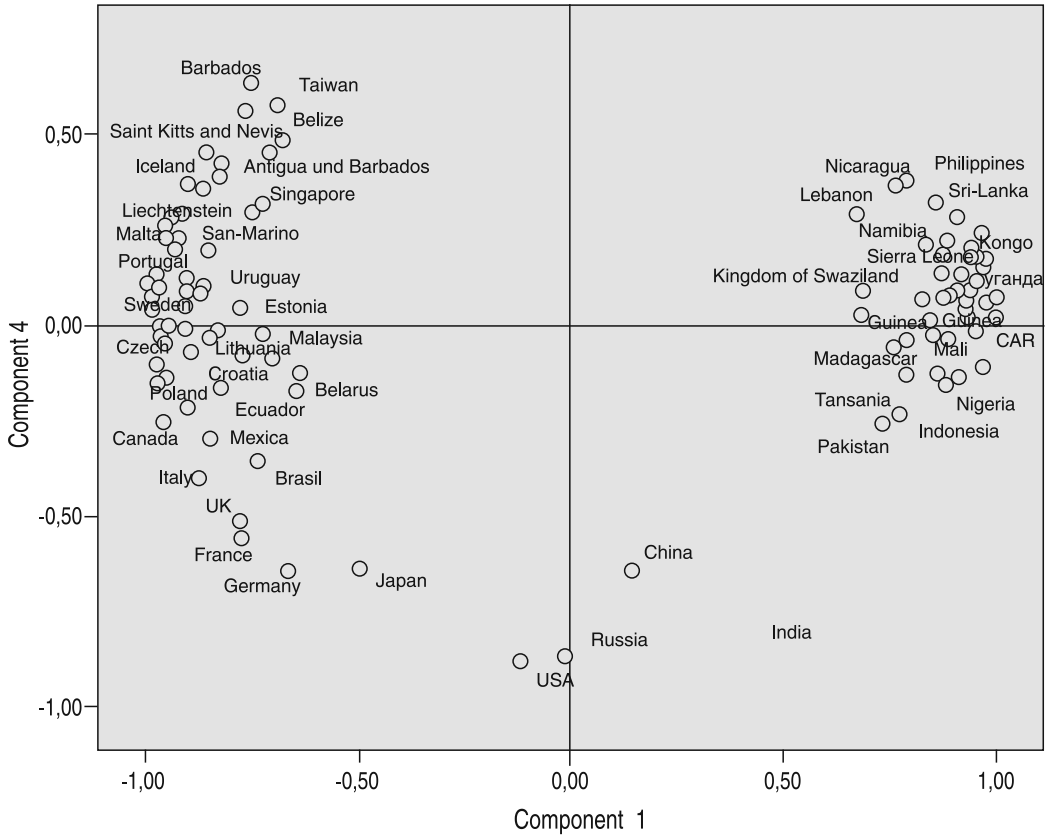
Figure 2. Countries in the Space of the Development and Power Components

There are several interesting clusters among these countries. The first is in the bottom left corner: these are power centres and powers with a high level of development, i.e. countries with low threats and a high quality of life. Here we see Germany, Japan, France and the United Kingdom. Slightly above are Italy, Brazil, Mexico and Canada. The second cluster – in the bottom right corner – are strong powers which still have unresolved development problems, a relatively low quality of life and a high level of threats. India, Pakistan and Indonesia stand out.

Finally, the United States, Russia and China constitute a separate cluster. These three countries are fundamentally different from all the rest. Each of them is marked by a high potential of international influence. Of course, this does not strike off the agenda the issues of development, statehood or democracy. However, by comparison with the other features, their most characteristic component is power. (For Russia, this is important for two reasons. Russia is special in that it will hardly be able to divest itself of the role of a global player. In spite of the current problems, Russia is too large to be on the sidelines. However, this is fraught with problems: the price of global responsibility may be internal development, whose flaws may undermine the country's international potential. The Russian elites must thoroughly learn the lesson of the USSR.)

In other words, we have arrived at a picture of the world order in which the overwhelming majority of countries are structured in terms of development, the state of the regime and statehood, and external and internal threats. However, that picture is "crowned" with a small number of fundamentally different countries for which power is the main measure of their position in the structure of international relations.[25]

Since 2007, the world has lived through a series of economic and political earthquakes. These cataclysms will inevitably change the position of states in the structure of the world order. But its basic structure will most probably remain the same, as the majority of countries will be structured in terms of development and an overwhelming minority in terms of power. Table 2 shows how individual countries are described by each of the four key components. The greater the significance of a component for a country, the more it is characterized by that component. For example, Australia and Angola have high values of Component 1. This means that the place of both in the world order is determined in terms of development; high development in the case of Australia, and low development in the case of Angola.

A new snapshot of the world order in 2014–2015 is indispensable for implementing a programme for the study of the world order. The methodology of the Political Atlas is quite suitable for tackling this task. Besides, its results will be compatible with the 2007 picture.

Although this task is important, it will still yield a static picture of the world. What are its dynamics and how should they be studied?

---

[25] Ibid., pp. 183–202.

3. Dynamics of the World Order

The *Political Atlas* makes it possible to identify the structural features and controlling parameters of the world order. But it fails to give an idea of its dynamics. Meanwhile, the existing structure may prove to be stable in one dynamic regime and crumble in another. Consequently, knowledge of the kind of dynamic regime that the world order or its individual elements are currently at is a serious prognostic instrument.

To answer that question, let us try to present the dynamics of the world order as a non–linear process. Of late, the non–linear concept has come to be widely used in scholarly literature and popular writing. It refers to complicated processes that are hard to predict and control. This definition may be sufficient for the writers of newspaper articles and essays, but is useless for serious analysis. Let us therefore give a more rigorous definition.

3.1. Foxes and Rabbits: The Problem of Resource Deficit

Non–linearity presupposes a disproportion of the results and the efforts exerted. In some cases, the impact may be very strong, but the result will be weak. In other cases, even an accident or a seemingly insignificant factor triggers a snowballing process and leads to catastrophic consequences. In politics and in many other social processes, this disproportion is caused by resource constraints: any political process unfolds in the context of a limited resource niche.[26] We are referring to a wide range of resources, from human resources to finances and technologies.

In other words, the non–linear process is determined by two characteristics: (a) the intensity of the process or, more simply, the ratio between the effort exerted and the results; and (b) the state of the resource niche, i.e. the pressure of resource constraints at a given point in time. These two components are closely interconnected. The growing intensity of the process leads to a situation where increased efforts fail to bring about increased results because of shrinking resources.

An anthological example of a non–linear process is the "predator–prey" model.[27] There are foxes and rabbits. As long as there are a lot of rabbits, the foxes do not need to exert great efforts to catch them. Nor do they have to compete with each other for the prey, because it is abundant. The rabbit population is the resource niche for the foxes, their prey. But there comes a moment when the foxes become too numerous and the rabbits cannot reproduce at the same rate as the foxes. Now the foxes have to exert far greater effort to search for rabbits. These efforts yield much more modest results than before. A shrinking of resources leads to competition among the foxes for prey.

Sooner or later this pattern of relations between the predator and its prey will reach a point of crisis and will acquire a new quality. The foxes may find

---

[26] For more detail, see: Polunin Yu.A., Timofeyev I.N. Non–Linear Political Processes. Moscow, MGIMO University Press, 2009. http://www.mgimo.ru/files/126379/0bba60a2c7dfe8f9a4dc362a48c5a1c0.pdf (in Russian).

[27] Notably the Lotka–Volterra model.

themselves new prey, that is, expand their resource niche. Or else they will proceed to destroy each other until their shrinking numbers allow the rabbits to increase their population again. This is another method of solving the problem of resource constraints, even though it is more cruel and destructive for the foxes. The cruelty would be increased by the lag factor that characterizes any social or ecological system – the understanding that there is no longer any need to kill each other because there are again enough resources takes some time to sink in. The lag would make competition and its destructive consequences far greater than is really necessary. That is a manifestation of the non–linear process in the context of a limited resource niche. This scenario can in general go very far: the foxes die in the process of competition or kill off all the rabbits. In this case, they will have to look for new prey (a new resource niche) or starve to death.

In the language of politics, shrinking resources exacerbate competition for re–sources and tend to destabilize the status quo. Such destabilization leads to qualitative changes (bifurcations), as a result of which either new resource niches appear or competitors drop out of the game and their resources go to the win–ners. Incidentally, the "predator–prey" model is widely used in science to simu–late political and social processes. It applies, for example, to relations between the state and taxpayers, the mafia and business, a company and its customers, etc.

International processes are also non–linear. They develop of course in the context of resource constraints and the states seek to gain their share of the limited re–sources. The resources inevitably diminish. The greater the shortage of resourc–es, the more intensively the world order changes. It can be said that the pressure of the resource deficit pushes the system of international relations towards anar–chy, and their abundance makes cooperation and a certain kind of order possible.

States have two options for solving the deficit problem: they can either introduce new technologies that expand the resource niche, or they can reduce the number of claimants the resources in the existing resource niche. But the latter option would in any case be tactical, because it does not offer a fundamental solution to the problem of the limits to growth. Sooner or later, tough competition will make the search for new resources necessary. This process of search as a rule is as–sociated with radical changes of the world order. Obviously, states are unlikely to agree to give up their share of resources or yield their place in the world order for the sake of "a bright future". Therefore, a change of the world order is usually accompanied by world–scale upheavals: wars, revolutions, the collapse of some states and the emergence of new ones in their place.

3.2. The Verhulst Model of the World Order Dynamics

Thus, the intensity of the process and its resource constraints are the two characteristics of the non–linear dynamics of the world order. The Verhulst Model is a convenient mathematical expression of such a process. Pierre Verhulst (1804–1849) was a Belgian mathematician who modelled the dynamics of ecological niches in the first half of the 19th century. Like the "predator–prey" model, the Verhulst Model was used to analyze a very wide range of social processes. In Russia, researchers at the Keldysh Institute of Applied Mathematics of the Russian Academy of Sciences made a big contribution to the use of various

non–linear models,[28] and Yuri Polunin of the Ministry of Foreign Affairs' MGIMO University applied the Verhulst Model to international processes.[29] In the United States, interesting examples of the non–linear modelling of political processes were published, for example, in a monograph edited by Diana Richards of Michigan University.[30]

This model can be used to analyze changes of a statistical indicator reflecting specific components of the world order. In the previous section, we singled out two important controlling parameters: development and power. The first can be represented as a change of the UN Human Development Index, while the second can be represented as changes in the military expenditure of major powers. We will try to apply the Verhulst Model to the analysis of how these two variables change. On the basis of this, we will be able to characterize the changes of the contemporary world order. These two variables, of course, do not exhaust the set of parameters. Yet even their analysis can give an insight into the specifics of the changes that are taking place in the international arena today.

The Verhulst process can be represented as follows:

$$\mathbf{X_{n+1} = X_n + A\ X_n\ (K - X_n)}$$

Where $\mathbf{X_{n+1}}$ is the value of the process at a certain cycle (for example, U.S. military expenditures in 2013);

$\mathbf{X_n}$ is the value of the process at the previous cycle (for example, U.S. military expenditures in 2012);

$\mathbf{A}$ is the coefficient of the process intensity; and $\mathbf{K}$ is the coefficient of resource constraints. $\mathbf{A}$ and $\mathbf{K}$ are calculated from the values of the process in three cycles. For example, to calculate the intensity of the process of change in U.S. military expenditures and constraints on that process in 2013, we would need data on defence spending for 2013, 2012 and 2011.

Let us now introduce another important concept: the regime of dynamics or the so–called process attractor. The attractor changes depending on the normalized coefficient of intensity (let us call it $\mathbf{a}$). There are three dynamic regimes: low, medium and high intensity processes. In academic literature, they are designated as point attractor, cyclical attractor and strange (chaotic) attractor.

The point attractor is a process that has an S shape. It corresponds to intensity values ($\mathbf{a}$) from 0 to 2. Of all the types of process, this is the most predictable. Accordingly, it is the least threatening for the stability of international relations.

Increasing the intensity brings about a qualitative change in the process. It ceases to be a point attractor and becomes a cyclical attractor. That process is less stable, although its values vary within a certain range, making it relatively predictable. The values of $\mathbf{a}$ vary from 2 to 2.57.

[28] See, for example, Korotayev A.V., Malkov A.C., Khalturina D.A. The Laws of History. Mathematical Modelling of the World System. Moscow: Komkniga Publishers, 2007 (in Russian). Malinetsky G.G. and Kurdyumov S.P. Non–Llinear Dynamics and Forecasting Problems // Vestnik RAN. Vol. 71, No. 3, 2001 (in Russian).

[29] See Polunin Yu. A., Timofeyev I.N. Op. cit.

[30] Richards D. (ed). Political Complexity. Nonlinear Models of Politics. Ann Arbor: The University of Michigan Press, 2003.

Finally, increasing intensity yet further makes the process chaotic (the value of **a** is 2.57 and higher). It is marked by high volatility and its following values are hard to predict. It is the most dangerous for international relations, generating a high level of uncertainty and the need to make decisions under pressure.

The **K** coefficient is equally important. It has to be stressed that the resource constraints are "soft". In other words, the value of the process may go beyond the limits of existing constraints. For example, at a given stage a state can afford a certain level of military expenditure. But it can go beyond the existing constraints by mobilizing resources, introducing new technologies, borrowing money or getting external assistance, etc. In short, it can "punch above its weight". Any crossing of the limits is a serious challenge for which the state will have to "pay" in the following cycles. If the increase was artificial and no adequate conditions were created for growth, the following cycles will see a decline (for example, cutting off foreign military aid can reduce the military budget). If such conditions have been created, the resource niche will expand (for example, new technologies are introduced that make it possible to commit greater resources to defence). The more the state "punches above its weight", the greater the risk, and the greater the subsequent "payback" may be. At the same time, however, new resource opportunities may increase.

Let us call this process "transcending the limits of constraints". It is characterized by the negative value of intensity (**a**<0) and the value of the process being greater than the value of constraints (X_n>**K**). For the sake of convenience, let us normalize the value of the process by coefficient **ω** (**ω** = X_n/**K**). With **ω**<1, the process develops within the resource niche. With **ω**>1 the process goes beyond the resource niche.[31]

The process of going beyond the limits is a very common scenario. In terms of development, it generates new opportunities for growth, although it is fraught with "bubbles". But in terms of power, it generates risks for the system of international relations. A mutual build–up of power – increased defence spending, for example – may well increase uncertainty and aggravate the security dilemma. This is the arms race scenario. The threat of having to pay for inflated military spending may be the cause of war. As the Liberals and Marxists would say, it is easier for the political elite to unleash a war than to answer to the citizens of their countries for diminishing indicators. Clearly, the higher the intensity of transcending the limits of constraints the higher the risks.

3.3. Dynamics of the World Order: The Development Parameter

Let us look at the dynamics of the UN *Human Development Index.* Effectively, the *Human Development Index* reflects the dynamics of the world order in terms of the development parameter. Let us take data beginning from 1980 and use the Verhulst Model to trace their development until 2010 with a spacing of 10 years. First of all, let us look at the dynamics of the countries with a very high level of development, a high level of development, a medium level of development, and a low level of development (according to the UN classification).

---

[31] On the interpretation of the coefficients and their values see more in Polunin Yu.A. and Timofeyev I.N. Op. cit.

Tables 3, 4, 5 and 6 present the corresponding data as well as the process intensity coefficients and resource constraints. What do these data suggest?

First of all, they show that, in terms of development, the dynamics of the world order by 2010 had low intensity and high resource potentials. This is a good sign for the stability of the world order. All the four groups of countries report growth and what is more, the dynamics are similar. This means that the core, the semi–periphery and the periphery are closely interconnected and have developed more or less in sync. The distance between them practically does not diminish. But at least there are no signs that the core is developing at the expense of the periphery.

By 2000, countries with a very high level of development were growing in a regime that had no constraints. They managed to go beyond the existing constraints, to "punch above their weight" (a<1, ω>1). This happened "neatly", without upheavals, in the low–intensity mode; the value of a is very small. By 2010, their dynamics were already characterized by the point attractor, a low intensity process and the development of the earlier expanded resource niche.

In the other three groups, this process lags behind by a decade. By 2010, it had gone beyond the constraints and, barring political upheavals, it will enter a low–intensity mode by 2020. Only the fourth group of countries (those with a low level of development) is at risk of having to pay for growth without constraints: there, the intensity of growth is higher than in the groups with high and medium development level (a = −0.824 for the fourth group; −0.391 for the second group; and −0.1 for the third group, with ω>1 in all the three cases).

In reality, of course, things are not all that smooth. The reason is that progressive improvement of the quality of life may have controversial political consequences. The UN *Human Development Index* reflects such variables as per capita GDP, the proportion of population receiving an education, and life expectancy. The growth of these standards may often simply be unable to catch up with the political development of certain states. And that makes revolutionary change more likely.

We can see this process taking place in the Arab Spring countries. If we look at the dynamic of human development in the Arab countries, it appears quite favourable in terms of the Verhulst Model. Table 7 shows that between 1980 and 2010 these countries made great strides, and by 2000 they had a large resource niche for further development, which had increased further by 2010. The process developed in the point attractor mode, i.e. it was marked by a low intensity (a = 0.212 in 2000 and a = 0.147 in 2010).

Tables 8, 9 and 10 show that by 2010 the dynamics in Egypt, Libya and Tunisia matched that trend, although they had a somewhat greater intensity. In Syria (Table 11), the constraints limits were exceeded. But the intensity of the process was not high, which therefore did not give cause for alarm.

Apparently, in all the four cases growth came to contradict the state of the political system. The driving forces of the revolutions in these countries were by no means oppressed minorities. They were well–educated, "advanced" young people who by that time accounted for a significant proportion of the population – the results of the success of education policy and diminished mortality.

Let us now recall the picture of the world order indicated in the previous section. We mentioned a significant group of countries whose place in the world order is marked by a conflict between statehood and democracy, i.e. the development of one at the expense of the other. All the Arab Spring countries are characterized by this feature.

The example of the Arab Spring countries is further proof that political processes are non–linear. In the countries characterized in the *Political Atlas* by the development component, the improvement of the quality of life played a positive role. By contrast, in a whole number of countries where statehood developed at the expense of democracy, growth in the quality of life led to internal political upheavals. Data for 2020 would provide some interesting information on the results of that process. Most probably they will increase its intensity, lead to stagnation and reduce the resource base for growth.

Thus, on the global scale, we can see rather favourable dynamics of the world order in terms of economic and human development. At the very least, they reveal a lack of open antagonism between the core and the periphery. Locally, though, positive socio–economic dynamics tend to overheat the state systems that cannot keep pace with the demands of an increasingly advanced and educated population. The Arab Spring countries are a clear example.

What, then, can threaten the world order? Its "elite" minority, the club of great powers? Let us recall that these states are characterized by a fundamentally different logic that should be construed in terms of power, and not only or largely development. Let us look at the dynamics of their power indicators in the context of the Verhulst Model.

3.4. Dynamics of the World Order: The Power Parameter

Now let us analyze the dynamics of military spending of the most influential world powers as one example of a power parameter. Like in the case of the UN Human Development Index, defence spending is not the only power variable. However, the experience of the *Political Atlas* has shown us that when explaining the differences between powerful and weak countries, military expenditures is the key parameter. In other words, the countries with high levels of military spending are very likely to have other high power parameters: economic, technological, etc. We use SIPRI data with four–year intervals.[32] This will enable us to rule out temporary fluctuations that inevitably crop up when working with intervals of one year.

In 2009, against the background of the financial crisis, a similar analysis of the military spending of great powers was carried out.[33] The hypothesis was that the simultaneous build–up by the powers of their military spending with high intensity and/or transcending the resource constraints was a harbinger of a major military conflict. Analysis bears out that hypothesis based on the dynamics on the eve of the First and Second World Wars. Both wars were preceded by an intensive and simultaneous increase of military spending by all the major players. The

---

[32] The database on countries' military spending has been published by the Stockholm International Peace Research Institute. http://www.sipri.org/research/armaments/milex/milex_database.

[33] See Timofeyev I.N. The Security Dilemma: the Risk of an Armed Conflict between Great Powers // Polis. No. 4, 2009 (in Russian).

dynamics in the USSR and the United States during the Cold War also confirmed this hypothesis, with both sides constantly increasing their military spending. Yet in all the 40 years of the confrontation, there was not a single instance of simultaneous chaotic leaps. For all the antagonism, the two sides were relatively predictable for each other.

In 2009, some worrisome signs could be noted (growing defence spending in the United States, China, India and Russia). The dramatic asymmetry of power in favour of the United States was also important. However, growth was not universal. For example, Germany, France and Japan were reducing their defence spending. It was unclear what strategy the powers would follow in the face of the world financial crisis: boosting the economy by injecting resources into defence or, on the contrary, saving money by reducing military spending? The data for 2013 provide an answer to that question.

First of all, we should single out those countries whose response to the crisis was to reduce their military spending. These include the United States and the United Kingdom. It should be noted that these countries reduced spending in the 1990s, only to increase it significantly in the 2000s. The specificities of that process are important for understanding how lasting and profound the reduction of defence spending may be.

In the case of the United States (Table 12), we can see intensive growth without constraints in the 1997–2001–2005 cycles (**a** = −16.62 for **ω**>1). By 2009, growth slows down, approaching – but not exhausting – the limits of the resource constraints in the United States at the time (**ω** = 0.957. In the following four years, we see cuts in military spending. However, an important consequence of the cuts was to enable the United States to expand its resource niche. In the 2013 cycle, **ω** = 0.941. In addition to this, the intensity of the process increased (**a** = 1.771). In the Verhulst Model, this is reflected in a graph with fading fluctuations.

In practice, this means that we can expect an increase of the U.S. defence budget by 2017. The question is how great the increase will be.

The United Kingdom's defence spending dynamic (Table 13) has much in common with that of the United States – a decline in the 1990s, followed by growth in the 2000s. A slight difference is that by 2013, the resource niche for subsequent growth is smaller in the United Kingdom than it is in the United States.

In France, Germany and Japan (Tables 14, 15 and 16), fluctuations in military spending were insignificant. Neither Germany nor France raised their military spending to the early 1990s level (the United States and the United Kingdom exceeded them). Japan's military spending registered small fluctuations, and in fact dipped slightly in 2005–2013.

China presents a fundamentally different picture (Table 17). We see a consistent and intensive increase of military spending throughout the 1990s and 2000s. Over 20 years, China's spending increased sevenfold, moving into second place in the world, although still noticeably behind the United States. A slowdown of growth and subsequent stagnation were not registered until 2013. We can safely predict further growth by 2017, although it will probably be at a slower rate. Higher growth rates would call for an expanded resource niche.

India's dynamics (Table 18) are similar to those of China. We see steady growth, although stagnation is far greater at the last cycle (2013) than it is in China. Besides, India's defence spending is more than three times less than China's ($49 billion in 2011 prices for India versus $171 billion for China in 2013). Further growth would also require India to expand its resource niche.

Finally, Russia's dynamics are interesting (Table 19). They are similar to the dynamics of Western countries at the initial stages, with military spending declining after the end of the Cold War and increasing in the 2000s (although growth began later than it did in the United States and the United Kingdom). The Russian dynamic differs from that of the West at the final cycle, however. Against the background of the world financial crisis, Russian defence spending continues to grow. The process is very likely to continue until 2017, and there is already a great resource niche for it (ω = 0.596).

The main risk over the next four years is that such big powers as the United States, China, India, Russia and the United Kingdom could begin or continue to increase their military expenditures. If for whatever reason Germany, France and Japan are also involved in this process, we will come close to the dangerous phase of a simultaneous intensive build–up of military potential by big powers. Global upheavals such as the two world wars unfolded against the background of similar dynamics. The challenge for diplomacy is to avoid such a scenario. All the more so since at the level of social and economic development parameters the world order is still stable. There is no point in playing with fire when the resource pie is still big enough.

Conclusion. Russia's Future in the World Order: A Conservative Foreign Policy?

The contemporary world order may appear to be paradoxical. On the one hand, we see a steady dynamic of social and economic development. In other words, there is no great shortage of resources that could lead to large–scale conflicts and a violent change of the existing order. On the other hand, there are several powers in the world whose political relations and security policies may shake and overturn the world order. Russia is among such powers.

It is important to understand that Russia's position among great powers today is fairly vulnerable. While the country's political resources are great, these resources are only converted into development in a limited way. The connection between Russia's global weight and its potential for solving its own social and economic problems is tenuous. In other words, Russia's successes in the international arena by no means guarantee its socio–economic development.

This situation is highlighted by the Ukrainian crisis. Russia has taken a tough stand, is being pro–active, and asserts itself as a power whose opinion should be reckoned with. It is clear that the country is unlikely to diverge from that course. However, the response of Russia's opponents is likely to be not only, or even largely, political. They will try to bar Russia's access to the global sources of growth and development. The pressure will be powerful and concerted. In this game, Russia will have no reliable allies. Limited access to the resources of globalization is the price of an independent and indeed tough foreign policy. Under the current conditions, Russia will be unable to both uphold its political ambitions and retain access to the sources of development in the global world. In this situation, two unfavourable scenarios are possible.

The first is a showdown with the West: increased consolidated pressure will be applied on Russia in the security and economic spheres; the country will be sidelined, pushed to the world periphery, cut off from the financial, technological and other sources of growth. Under this scenario, it will be difficult for Russia to stand its ground. The second scenario would see Russia make important concessions to the West. This is also a negative scenario, because the price of being reintegrated into the global world would be much higher. Besides, concessions do not guarantee that Russia will not be forced into a corner in the future, nor that it would be able to cope with the current development problems. The bottom line is that both scenarios would deepen Russia's backwardness and lead to serious losses. The world order remains in place, but without Russia's former role.

Both scenarios are patently unacceptable for Russia. In this situation, Russia is becoming a country interested in a change of the existing world order. Under the current scheme of things, Russia would benefit from building a global world in which its foreign political opponents would have limited opportunities for cutting the country off from the sources of growth. This underlies Russia's interest in

seeing a multi–polar world. Multi–polarity means several sources of growth and development, and not just the coexistence of several great powers.

Russia, of course, is unlikely to be able to build such a world order on its own. Unlike the Soviet Union, the country does not even have a project to offer to other countries. And yet the future of international relations will certainly involve a competition of different projects of the world order. The projects are well known to us. One is the Liberal Western approach that would preserve and develop the existing globalization model. The other is an approach that would exploit the shortcomings of the Western model, the problem of inequality and distribution of resources. It will essentially be a left–wing project, whatever its name may be. With the collapse of the Soviet Union, Russia voluntarily shed the burden of leadership in that project. It cannot regain it, firstly because it lacks the resources to do so, and also because it has resolutely turned its back on left–wing ideas in principle.

Who will assume the role of leader in the left–wing project? The answer is obvious: China. Up until now, China's foreign policy has been noted for its caution and restraint, as the country avoids declaring its global ambitions. But the process is going on under the radar and China will eventually have to offer up its project of the world order. In the not–too–distant future, we may see a very interesting picture. Communist China will adopt several elements of the capitalist economy and instruments of democracy. Instruments, but not principles (a predictable and smooth–running change of supreme power and flexible government at the local level). However, on the international arena, it will promote left–wing principles: the solution of the problem of alienation from the core to the periphery; the equitable distribution of resources, etc. This would dovetail with its official ideology and help to strengthen and legitimize it through foreign policy.

The question is whether China will continue to try to integrate itself into the existing Western model or start building an order that is more to its liking. If the confrontation between Russia and the West goes too far, the second option would be preferable for Russia. In this case, Russia may try to align itself with the Chinese model. But the chances of being an equal partner in it are remote. The most Russia can hope for would be the role of "the elder sister".

The last option is to try to maintain an independent role and play on several chessboards at once: to avoid a sharp confrontation with the West and simultaneously avoid becoming dependent on China. To manoeuvre in such a way as to solve the problems of Russia's own development: its technological backwardness, the quality of life, effective governance, etc. This is basically a conservative model of foreign policy that relies on common sense, pragmatism and its own power potential. But given the resource constraints and the problems facing Russia, diplomacy and not military force should become the key instrument of this foreign policy.

Appendix

Table 1.

Dispersion of Countries Explained by the Main Components

Component	Percentage explained	Cumulative percentage
1 (development)	55.4	55.4
2 (political order)	26.4	81.8
3 (human price of state consistency)	11.2	93.0
4 (power)	7.0	100

Table 2.

Percentage of Countries Explained by the Main Components

Country	Development	Political Order	Human Price of State Consistency	Power
Afghanistan	85.3	13.4	1.3	0.0
Albania	37.7	25.2	34.7	2.5
Algeria	21.6	77.3	0.3	0.7
Andorra	92.1	2.4	0.4	5.0
Angola	76.5	22.9	0.0	0.6
Antigua and Barbuda	67.7	9.5	5.3	17.5
Argentina	81.2	0.2	18.1	0.5
Armenia	0.0	75.4	20.7	3.8
Australia	98.4	0.7	0.8	0.1
Austria	98.1	0.4	0.2	1.3
Azerbaijan	92.7	0.4	0.9	6.0
Bahamas	59.9	6.7	1.6	31.9
Bahrain	37.6	45.3	12.9	4.2
Bangladesh	80.6	12.5	6.3	0.6
Barbados	56.8	0.8	1.8	40.6
Belarus	40.3	56.5	1.5	1.6
Belgium	96.5	0.4	2.1	1.1
Belize	46.3	22.5	7.4	23.8
Benin	99.3	0.0	0.7	0.0
Bhutan	85.9	0.2	10.9	3.0
Bolivia	4.8	65.7	22.3	7.2
Bosnia and Herzegovina	12.6	52.1	30.8	4.5
Botswana	21.0	23.7	52.4	2.9
Brazil	55.0	3.0	29.2	12.8
Brunei	28.4	53.2	11.3	7.2
Bulgaria	82.4	8.7	4.4	4.5
Burkina Faso	99.3	0.3	0.0	0.4

Burundi	93.8	3.7	2.5	0.0
Cambodia	84.8	7.1	6.6	1.5
Cameroon	94.2	1.2	3.4	1.3
Canada	92.3	0.1	0.9	6.6
Cape Verde	12.6	82.8	2.4	2.3
Central African Republic	93.0	5.9	1.1	0.0
Chad	88.7	5.6	5.6	0.0
Chile	74.7	1.4	20.9	3.1
China	2.0	56.6	0.0	41.4
Colombia	1.6	3.0	81.8	13.6
Comoros	31.1	25.3	27.7	15.9
Congo	94.7	2.4	0.3	2.5
Costa–Rica	75.3	4.1	16.7	3.9
Croatia	60.1	35.8	3.4	0.7
Cuba	4.4	90.1	0.6	4.9
Cyprus	74.7	1.5	10.9	12.9
Czech Republic	90.9	6.7	2.4	0.0
Denmark	94.9	3.7	0.3	1.1
Democratic Republic of the Congo	93.1	2.7	4.2	0.0
Djibouti	84.8	13.7	1.3	0.2
Dominica	17.9	81.6	0.4	0.1
Dominican Republic	33.7	0.6	63.3	2.4
Ecuador	41.6	55.2	0.4	2.9
Egypt	1.6	81.7	16.3	0.3
El Salvador	20.8	1.5	44.3	33.3
Equatorial Guinea	96.1	1.5	2.1	0.3
Eritrea	89.1	7.5	2.5	0.8
Estonia	60.9	27.4	11.6	0.2
Ethiopia	95.0	2.8	0.5	1.7
Fiji	4.8	63.0	29.2	3.0
Finland	96.3	1.8	0.1	1.9
Former Yugoslav Republic of Macedonia	0.1	68.7	31.1	0.1
France	61.0	5.4	2.2	31.4
Gabon	21.9	57.3	11.7	9.0
Gambia	94.2	0.9	2.7	2.2
Georgia	76.0	0.6	20.1	3.3
Germany	44.7	12.6	1.5	41.1
Ghana	28.6	20.0	40.5	10.9
Greece	88.0	0.4	2.6	9.0
Grenada	14.0	79.4	4.9	1.7
Guatemala	11.8	1.3	84.8	2.2

Guinea–Bissau	78.3	20.1	1.5	0.1
Guinea	81.3	15.1	1.1	2.6
Guyana	25.1	73.4	0.5	1.0
Haiti	96.1	0.8	0.0	3.1
Honduras	13.9	47.4	36.7	2.0
Hungary	93.2	3.5	3.1	0.2
Iceland	83.0	2.3	1.2	13.5
India	19.1	5.2	2.2	73.5
Indonesia	60.8	0.7	33.2	5.3
Iran	11.5	82.8	5.6	0.1
Iraq	97.5	0.3	0.0	2.2
Ireland	89.2	1.1	1.3	8.4
Israel	33.5	29.4	18.1	19.0
Italy	78.0	3.7	2.3	15.9
Ivory Coast	75.1	22.4	0.8	1.7
Jamaica	35.0	1.6	63.0	0.5
Japan	24.5	31.8	3.2	40.5
Jordan	6.2	45.2	48.5	0.1
Kazakhstan	7.9	89.4	1.0	1.7
Kenya	61.7	7.4	29.1	1.8
Kiribati	23.0	76.2	0.6	0.2
Kuwait	29.6	60.7	5.2	4.5
Kyrgyzstan	76.2	0.8	20.9	2.0
Laos	87.4	9.3	0.0	3.2
Latvia	73.1	24.5	2.2	0.1
Lesotho	67.8	14.8	16.9	0.6
Lebanon	44.8	46.1	0.5	8.6
Liberia	79.7	19.3	0.2	0.8
Libya	0.0	94.7	1.0	4.3
Lichtenstein	91.0	1.6	0.7	6.7
Lithuania	69.7	28.0	2.3	0.0
Luxembourg	69.2	0.8	14.6	15.3
Madagascar	62.4	24.3	13.2	0.2
Malawi	46.8	38.2	14.9	0.1
Malaysia	49.4	49.9	0.0	0.7
Maldives	30.2	62.1	0.3	7.4
Mali	73.6	25.0	1.3	0.1
Malta	89.5	6.6	0.0	3.9
Marshall Islands	9.9	78.9	5.9	5.3
Mauritania	81.9	10.0	7.2	0.9
Mauritius	83.1	8.7	7.9	0.3
Mexico	72.4	2.1	16.4	9.1
Micronesia	17.3	70.6	10.6	1.4

Monaco	53.3	29.1	7.6	10.1
Mongolia	0.8	78.4	19.9	0.9
Morocco	0.5	59.7	37.6	2.2
Mozambique	90.5	4.2	5.3	0.0
Myanmar	52.1	39.2	6.0	2.7
Namibia	69.7	1.3	24.6	4.4
Nauru	70.4	23.8	5.7	0.0
Nepal	86.0	8.8	2.0	3.1
Netherlands	96.3	0.4	0.8	2.4
New Zealand	86.9	2.1	5.7	5.3
Nicaragua	59.0	20.0	7.5	13.5
Niger	77.7	18.6	3.1	0.6
Nigeria	77.8	0.8	19.1	2.3
North Korea	27.3	61.4	0.0	11.3
Norway	88.6	3.2	4.0	4.2
Oman	3.0	82.7	2.8	11.5
Pakistan	54.2	33.6	5.8	6.4
Palau	11.6	60.1	27.3	1.0
Panama	82.9	4.7	11.6	0.8
Papua New Guinea	25.4	59.2	12.3	3.1
Paraguay	30.1	2.7	64.2	3.0
Peru	1.0	0.1	81.3	17.6
Philippines	62.7	7.2	15.8	14.3
Poland	91.5	0.1	6.5	1.8
Portugal	96.5	0.1	1.9	1.6
Qatar	35.8	56.9	3.9	3.4
Republic of Korea	76.5	9.3	13.2	0.9
Republic of Moldova	0.7	81.0	5.0	13.3
Romania	69.3	3.6	24.3	2.7
Russia	0.0	22.2	2.2	75.6
Rwanda	99.1	0.2	0.0	0.7
Samoa	8.0	79.7	10.6	1.7
Saint Vincent and the Grenadines	30.2	43.3	14.8	11.6
Saint Kitts and Nevis	51.2	28.4	0.1	20.4
Saint Lucia	72.8	18.6	5.3	3.3
San Marino	84.0	0.1	7.3	8.6
Sao Tome and Principe	19.2	80.1	0.2	0.6
Saudi Arabia	0.0	90.6	0.5	8.9
Senegal	86.8	12.8	0.0	0.4
Serbia and Montenegro	18.6	62.9	3.5	15.1
Seychelles	73.8	2.9	2.9	20.4
Sierra–Leone	92.6	5.4	0.5	1.4

Singapore	56.3	24.6	9.9	9.1
Slovakia	93.9	5.9	0.1	0.1
Slovenia	83.1	8.1	7.4	1.5
Solomon Islands	39.7	58.8	1.2	0.3
Somalia	84.2	14.2	0.5	1.1
South Africa	39.3	3.3	50.7	6.6
Spain	96.2	1.3	1.7	0.8
Sri Lanka	74.5	15.6	0.0	9.9
Sudan	83.9	13.2	1.2	1.6
Surinam	53.0	5.6	41.3	0.1
Swaziland	47.7	43.8	7.7	0.8
Sweden	98.6	0.8	0.0	0.5
Switzerland	95.0	4.5	0.5	0.0
Syria	5.8	94.2	0.0	0.0
Tajikistan	87.5	3.8	4.6	4.2
Taiwan	48.4	12.1	5.8	33.7
Thailand	84.3	1.7	6.1	7.9
Timor–Leste	71.6	20.4	8.0	0.0
Togo	88.1	6.4	4.6	0.9
Tonga	0.1	29.6	69.4	1.0
Trinidad and Tobago	83.1	3.1	13.8	0.0
Tunisia	0.4	83.9	0.2	15.4
Turkey	3.7	19.0	44.5	32.8
Turkmenistan	7.7	87.7	1.6	3.0
Tuvalu	6.0	90.5	0.1	3.5
Uganda	91.2	5.3	0.5	3.0
Ukraine	26.4	39.8	0.1	33.6
United Arab Emirates	26.2	51.4	17.7	4.8
United Kingdom	61.3	6.3	5.9	26.6
United Republic of Tanzania	82.2	3.2	12.7	1.9
United States of America	1.4	14.4	5.8	78.5
Uruguay	77.4	1.9	20.1	0.6
Uzbekistan	16.5	73.5	9.2	0.8
Vanuatu	22.1	77.6	0.0	0.2
Venezuela	1.7	39.5	55.2	3.6
Vietnam	8.4	90.7	0.0	0.8
Yemen	35.7	38.4	20.1	5.7
Zambia	58.6	30.9	10.3	0.3
Zimbabwe	78.2	0.6	16.5	4.7

Table 3.

Dynamics of the UN Human Development Index for Countries with a Very High Level of Development (1980–2010)

Year	UN HDI	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1980	0.757				
1990	0.798				
2000	0.849	0.529	−0.238	−0.126	1.604
2010	0.885	0.950	0.422	0.400	0.932

Table 4.

Dynamics of the UN Human Development Index for Countries with a High Level of Development (1980–2010)

Year	UN HDI	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1980	0.534				
1990	0.593				
2000	0.643	0.783	0.444	0.347	0.821
2010	0.723	0.488	−0.802	−0.391	1.482

Table 5.

Dynamics of the UN Human Development Index for Countries with a Medium Level of Development (1980–2010)

Year	UN HDI	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1980	0.420				
1990	0.474				
2000	0.528	0.894	0.271	0.242	0.591
2010	0.601	0.221	−0.451	−0.100	2.717

Table 6.

Dynamics of the UN Human Development Index for Countries with a Low Level of Development (1980–2010)

Year	UN HDI	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1980	0.345				
1990	0.367				
2000	0.403	0.304	−1.560	−0.475	1.325
2010	0.479	0.328	−2.514	−0.824	1.460

Table 7.

Dynamics of the UN Human Development Index for Arab Countries (1980–2010)

Year	UN HDI	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1980	0.492				
1990	0.551				
2000	0.611	1.134	0.187	0.212	0.539
2010	0.675	2.127	0.069	0.147	0.317

Table 8.

Dynamics of the UN Human Development Index for Egypt (1980–2010)

Year	UN HDI	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1980	0.452				
1990	0.546				
2000	0.621	0.729	0.751	0.547	0.852
2010	0.678	0.772	0.608	0.469	0.878

Table 9.

Dynamics of the UN Human Development Index for Libya (1980–2010)

Year	UN HDI	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1980	0.641				
1990	0.684				
2000	0.745	0.510	−0.514	−0.262	1.459
2010	0.799	1.010	0.274	0.276	0.791

Table 10.

Dynamics of the UN Human Development Index for Tunisia (1980–2010)

Year	UN HDI	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1980	0.484				
1990	0.567				
2000	0.653	1.202	0.239	0.287	0.543
2010	0.715	0.797	0.660	0.526	0.897

Table 11.

Dynamics of the UN Human Development Index for Syria (1980–2010)

Year	UN HDI	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1980	0.528				
1990	0.570				
2000	0.605	0.712	0.432	0.308	0.850
2010	0.662	0.505	−0.937	−0.473	1.312

Table 12.

Dynamics of U.S. Military Expenditures (1993–2013)

Year	Military expenditures (million dollars in 2011 prices)	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1993	463,504				
1997	387,258				
2001	397,334	397,670.834	0.000	0.994	0.999
2005	579,831	386,652.935	0.000	−6.627	1.500
2009	701,048	732,287.935	0.000	1.004	0.957
2013	618,681	657,434.258	0.000	1.771	0.941

Table 13.

Dynamics of the United Kingdom's Military Expenditures (1993–2013)

Year	Military expenditures (million dollars in 2011 prices)	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1993	53,042				
1997	46,578				
2001	49,941	48,982.891	0.000	1.471	1.020
2005	58,150	43,943.662	0.000	−1.204	1.323
2009	64,297	72,942.028	0.000	0.521	0.881
2013	56,231	60,961.039	0.000	2.292	0.922

Table 14.

Dynamics of France's Military Expenditures (1993–2013)

Year	Military expenditures (million dollars in 2011 prices)	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1993	67,991				
1997	63,617				
2001	61,576	59,265.624	0.000	0.437	1.039
2005	65,123	62,886.892	0.000	2.763	1.036
2009	69,426	37,457.068	0.000	−0.089	1.853
2013	62,272	66,804.177	0.000	2.626	0.932

Table 15.

Dynamics of Germany's Military Expenditures (1993–2013)

Year	Military expenditures (million dollars in 2011 prices)	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1993	57,985				
1997	50,255				
2001	49,783	49,669.122	0.000	0.796	1.002
2005	46,983	50,349.619	0.000	−4.998	0.933
2009	49,046	48,210.580	0.000	1.724	1.017
2013	49,297	49,318.163	0.000	0.927	1.000

Table 16.

Dynamics of Japan's Military Expenditures (1993–2013)

Year	Military expenditures (million dollars in 2011 prices)	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1993	54,607				
1997	56,988				
2001	60,250	46,994.438	0.000	−0.269	1.282
2005	61,288	61,654.543	0.000	0.756	0.994
2009	59,735	60,670.106	0.000	2.488	0.985
2013	59,431	59,344.711	0.000	0.774	1.001

Table 17.

Dynamics of China's Military Expenditures (1993–2013)

Year	Military expenditures (million dollars in 2011 prices)	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1993	23,454				
1997	26,335				
2001	45,422	22,866.083	0.000	−4.778	1.986
2005	71,496	118,108.979	0.000	0.933	0.605
2009	128,734	−20,648.783	0.000	0.179	−6.234
2013	171,381	169,138.765	0.000	1.387	1.013

Table 18.

Dynamics of India's Military Expenditures (1993–2013)

Year	Military expenditures (million dollars in 2011 prices)	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1993	18,956				
1997	22,102				
2001	28,616	14,901.047	0.000	−0.610	1.920
2005	36,054	77,269.769	0.000	0.413	0.467
2009	48,963	8,912.737	0.000	−0.118	5.494
2013	49,091	49,057.946	0.000	1.351	1.001

Table 19.

Dynamics of Russia's Military Expenditures (1993–2013)

Year	Military expenditures (million dollars in 2011 prices)	Estimated process constraint – K	Estimated process intensity – A	Normalized process intensity – a	Normalized value of process – ω
1993	54,400				
1997	34,900				
2001	33,700	32,831.055	0.000	0.546	1.026
2005	46,446	34,799.999	0.000	11.966	1.335
2009	64,504	−422,123.004	0.000	0.350	−0.153
2013	84,864	142,416.894	0.000	0.577	0.596

About the Author

Ivan N. Timofeev holds Ph.D. in Political Science, and is the Director of Programmes at the Russian International Affairs Council.

After graduating from Saint Petersburg State University, he obtained his Masters degree from Lancaster University and Central European University. In 2006, he finished his postgraduate studies and successfully defended his dissertation at the Moscow State Institute of International Relations (MGIMO–University) of the MFA of Russia.

In 2006, he began teaching at MGIMO–University in the Department of Political Theory, of which he is now the Associate Professor.

From 2009 to 2011, he was the Director of the Analytical Center, as well as the Academic Secretary at MGIMO–University.

He is the author of more than 50 scientific publications including:

Timofeev I.N. *The International Community and the Limits of Intervention in Conflicts of the "Crisis States": the Case of Afghanistan*. Vestnik MGIMO–University, 2011, no. 5.

Political Atlas of the Modern World. An Experiment in Multidimensional Statistical Analysis of the Political Systems of the Modern World. Oxford: Wiley–Blackwell, 2010 (coauthor).

Timofeev I.N. et al. *International Conflicts (Experience of Analytical Monitoring)*. International Affairs, 2010, no. 7.

Polunin Yu.A., Timofeev I.N. *Nonlinear Political Processes*. Moscow: MGIMO–University, 2009.

Timofeev I.N. *Security Dilemma. The Risk of Armed Conflict between the Great Powers*. Polis, 2009, no. 4.

Melville A.Yu., Timofeev I.N. *Russia 2020: Alternative Scenarios and Public Preferences*. Polis, 2008, no. 4.

Timofeev I.N. *The Balance of Power, Interdependence and Identity: Empirical Models of Solving the Security Dilemma*. Vestnik MGIMO–University, 2008, no. 3.