PUBLIC ADMINISTRATION

Elite Economics and Political Instability

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Abstract. The article puts forward a new version of elite theory based on the use of a macroeconomic production function depending on the number of the elites and the masses. At the same time, the production function of the elites is complemented with the distribution function, which determines the income structure of social groups and the level of inequality. Combining the two sides of the activity of the elites allows us to design a simple typology of political situations in the country and highlight the regime of revolutionary situation. A formal analysis of the model of production activity of the elites has shown that the phenomenon of over-accumulation of the ruling class has a noticeable destructive impact on economic growth only after a severe drop in its functioning effectiveness. The very deterioration of the quality of the political elite allows an unjustified increase in its size to manifest itself. We consider generalizations of elite model in relation to the case of the middle class and show the invariance of the previously obtained conclusions. We provide an interpretation of the macro-theory of the elites for the mega-level, when studying the world economic system as a combination of the center, periphery and semi-periphery. We consider four dimensions of the elite, with system paradigms being a new element within these dimensions. The influence of external historical events on the worldview of the elites and their actions is revealed using the examples of the transformation of the Roman Republic into the Roman Empire, the collapse of the USSR and the beginning of the fall of the U.S. hegemony. For the center – periphery system, we test the production model of the elites with the help of statistical data from the World Bank; we build econometric dependencies that show a decrease in the effectiveness of the United States in managing global production.

Key words: elites, state, political stability, economic growth, center–periphery model.

Acknowledgment

Introduction

The 21st century witnessed an increase in the number of attempts to build global social theories that could explain not only the rise, but also the collapse of civilizations. Modern history has accumulated a huge amount of knowledge about how individual States and entire empires arose, developed and collapsed. Despite the differences in their geography, scale, technological level and social models, the very alternation of boom and bust remained unchanged. In the era of capitalism, this process became even more pronounced when the primacy of one center of world capital was replaced by the hegemony of another, but the very process of transferring the role of global leader did not change. It is not surprising that such an organizational invariance of the geopolitical space urgently requires a system-wide explanation and thus generates different theories of social development. However, recently such theoretical concepts have begun to drift toward some kind of fundamental elite theory, which could explain the whole range of diverse phenomena based on the interaction of two large population groups – the elites and the masses.

We should point out that the shift of interest toward public administration is a significant phenomenon. In this sense, the fundamental problem of the rise and collapse of States and civilizations is becoming increasingly interdisciplinary or, more precisely, multidisciplinary. In addition, elite theory allows us to take an important step in the study of social processes – to combine the objective and subjective determinants of geopolitical achievements and failures in the history of humankind.

The fact of the West/Non-West confrontation, accompanied by active geopolitical turbulence, adds relevance to the role of elites in the modern world. Today there are several States whose fate is literally controversial. These are Armenia, Ukraine, Guyana, Kosovo, and Palestine. The future of the United States and almost all European countries is now in great doubt as well. Among other things, military confrontation is increasing with its possible escalation into a nuclear apocalypse. In a number of the mentioned cases, the ruling elites do not seek to resolve the situation, but continue to fuel and aggravate it.

The article aims to reveal the content of key elements of the general elite theory and provide their partial formalization, which helps to better understand the logic of social evolution. The main emphasis is on building a kind of theoretical synthesis of existing elite theories, which would allow us to dissect many phenomena of life and death of States and entire civilizations from a single and understandable position. The novelty of the approach consists in building the most aggregated production function, depending on elites and masses, which provides the key to describing economic growth and the functional failures it entails. Methodologically, our approach follows general macroeconomic principles used in describing economic dynamics.

Fundamental ideas of elite theory

Today, there is an almost endless literature on the issues regarding elites and their place in the state system; thus, we will consider only the most significant ideas in this area that have appeared recently and are directly related to subsequent constructions; we do not intend to make a full-fledged review of elite theories.

Perhaps the first and most mature judgments regarding the historical dynamics and the role of elites belong to Arnold Toynbee, who noted such

an important property as the *asymmetry of the processes of creation and disintegration of States* (civilizations). Here is one of his shrewd remarks: "…when we make an empirical comparative study of the paths which the dead civilizations have respectively travelled from breakdown to dissolution, we do here seem to find a certain measure of Spenglerian uniformity" (Toynbee, 2011, p. 20). Toynbee further elaborates on this thesis: "And this, after all, is not surprising. Since breakdown means loss of control, this in turn means the lapse of freedom into automatism, and, whereas free acts are infinitely variable and utterly unpredictable, automatic processes are apt to be uniform and regular" (Toynbee, 2011, pp. 20–21).

Having considered the property of asymmetry, Toynbee very accurately reveals the dialectic of disintegration in terms of elites and masses: "Briefly stated, the regular pattern of social disintegration is a schism of the disintegrating society into a recalcitrant proletariat and a less and less effectively dominant minority. The process of disintegration does not proceed evenly; it jolts along in alternating spasms of rout, rally, and rout" (Toynbee, 2011, p. 21). Thus, the collapse of the State occurs through the *disintegration of society into two increasingly less interconnected groups* – the elite (the dominant minority) and the masses (the recalcitrant majority). Toynbee emphasizes the fact that at the stage of the dissolution of the State, the elites lose their former influence due to the decline in their *authority*, which in turn is caused by a sharp decrease in the effectiveness of public administration, which means a decrease in the *effectiveness and competence* of elites themselves. Today, we can safely generalize the described process in case a State is created that arises through an effective and mutually beneficial pairing of elites and masses due to the fact that elites are constructing a new social order (management system) that suits both social groups and thereby receives consensus legitimization.

Despite the apparent simplicity and evidence of Toynbee's ideas, it is almost impossible to build an adequate theory of the State without relying on them.

The next stage in understanding the problem under consideration is the differentiation of elites and masses. Here it is necessary to highlight the *political approach* of Gaetano Mosca, according to which elite includes persons with real power or influence on political processes (Mosca, 1939). This understanding of the two social groups allows us to move on to a *cybernetic* interpretation of the State, when the ruling class (elite) is associated with the control subsystem and the population (masses) – with the managed subsystem. This methodological move makes it possible to apply the cybernetic law of necessary diversity to the State; the law was formulated by William Ross Ashby, and it states that the normal functioning of any system requires its control subsystem to be no less complex (diverse) than the managed subsystem (Ashby, 2021). This thesis automatically puts forward a strict requirement for elites and the system of public administration they have created: if this system is primitive and one-sided, and its key posts are occupied by people who are not well-prepared intellectually and morally, then the entire State is in danger of collapse.

The above can be continued and supplemented by the *meritocratic approach* to the definition of elites, dating back to Vilfredo Pareto; according to his views, this group includes people with higher intelligence, talent, abilities and competence compared to the average indicators of society (Pareto, 2009).

However, both political and meritocratic approaches to the definition of elite inevitably correlate with its financial situation, its *income*. On the one hand, an individual's political influence forms a closed cycle with their wealth; on the other hand, the acquisition of various advantages requires huge costs and a special lifestyle. This understanding

of elite brings it closer to the concept of the *leisure class* introduced and explained by Thorstein Veblen (Veblen, 2021). Looking into the quantitative aspect of individual wealth, which corresponds to a person who claims to be part of the elite, Thomas Piketty outlined both the threshold level of income required for this and the size of the corresponding social group (Piketty, 2016). Conducting a detailed analysis of French and British society of the 19th century based on the literary works of Honoré de Balzac and Jane Austen, Piketty states that the threshold of annual income for joining the elite should have been 20−30 times higher than the average income in society, and the size of such a leisure class was 0.5% of the total population; moreover, the life of Balzac's and Austin's characters who lived below the specified threshold was hard and humiliating (Piketty, 2016, p. 410); thus, the specified threshold could rise up to 50 times, and the size of elite could be reduced to 0.1% of the population (Piketty, 2016, p. 411). Despite some conditionality of such estimates, they can be taken as a starting point, assuming the maximum size of elite is 0.5−1.0% of the population, and their incomes are 20−35 times higher than the national average.

The next milestone in the development of elite theory includes two major works by Daron Acemoğlu and James Robinson, in which the issue of interaction between the masses and the elites has risen to a new level. In their first bestseller, they proposed a *theory of inclusive institutions*, emphasizing the need for openness of the elites and the existence of social channels for the best representatives of the masses to penetrate into it (Acemoğlu, Robinson, 2015). According to the authors, market mechanisms for selecting the best representatives of the masses and culling the worst representatives of the elite make it possible to update the managerial elite and maintain it in an efficient condition, which in turn is the basis for creating and maintaining successful political regimes and States. In other words, inclusive institutions support social elevators through which the elites and the masses carry out a constant mutual exchange of personnel; otherwise, when *extractive institutions* prevail in society, blocking the access of the masses to the highest echelons of power, the State is unable to support long-term economic growth and technological progress. We should mention that Douglas North and his colleagues had previously come up with a very similar concept, having considered two institutional ways of organizing society − *limited (privileged) access* to resources and *open (free) access* order (North et al., 2011; North et al., 2012).

In their second bestseller, Acemoğlu and Robinson reveal the anatomy of the formation of a political system under the influence of the struggle of two social groups − elites and masses (Acemoğlu, Robinson, 2021). The strength, organization and cohesion of each social group come out in the first place, forming in the appropriate coordinates the so-called *narrow corridor*, within which the emergence and existence of *political equilibrium* in the form of a Shackled Leviathan is possible, when the government machine controlled by the elites and the society formed by the masses are equivalent and control each other. Thus, the authors raise the issue of the dependence of the elites (the State) on the masses (society), focusing on the controlled formation of both groups.

The book by Daron Acemoğlu and Simon Johnson examines the history of technology development up to recent times and concludes that large-scale digitalization and the use of artificial intelligence systems contribute to the expansion of the rich class, marginalization of representatives of the masses and the ever increasing distance between these groups (Acemoğlu, Johnson, 2023). Thus, the authors record a dangerous tendency toward a long-term violation of the reasonable coupling of elites and masses.

A series of works by Peter Turchin and colleagues can be considered a breakthrough in elite theory. In one of the early empirical works by Peter Turchin and Sergey Nefedov, certain universal patterns in the dynamics of elites and masses were revealed, which are confirmed by historical cycles lasting hundreds of years on the example of many countries (Turchin, Nefedov, 2009). An important result of this study was the empirical establishment of *elite overproduction concept*, according to which overpopulation leads to the impoverishment of the common people, and the overproduction of the elite leads to the relative impoverishment of its significant part. Moreover, historical data show that elite overproduction is lagging in comparison with the general overpopulation. In a later work, P. Turchin considered a series of models reproducing various aspects of elite life. In particular, based on the work of Ibn Khaldun, he paid special attention to the phenomenon of asabiyya, which is understood as the collective solidarity of a social group (elite), giving it the ability to work collectively (Turchin, 2020, p. 93). Turchin's set of models demonstrates the coupling of the dynamics of elites, commoners and State, which is identified with budget revenues/expenditures. In such models, the effect of elite overproduction acts as an endogenous driving force, which cannot but attract attention to such constructions.

In his latest book, P. Turchin reviewed many vivid stylized examples from the history of different countries at different times, and also made an attempt to forecast future *political instability* in the United States (Turchin, 2023). At the same time, he expanded the ruling class to 10% of the population with a core of 1% in order to give a wider coverage of the phenomena that generate instability. Thus, the theory of elite overproduction was strengthened not only by the model framework, but also by meaningful explanations of the internal mechanisms of social movements, and the possibility of practical use of model calculations was also shown.

Another landmark work related to elite theory belongs to Ronald Findlay and John Wilson, who built an elegant two-sector model of national production (Findlay, Wilson, 1984). The Findlay — Wilson model considers the aggregated production function as a product of the one-factor production function of the private sector, which creates goods and services, and the one-factor law enforcement (management) function of the public sector, which supports state institutions. Since labor and capital in this model are fixed and the population is distributed between two sectors, this automatically leads to the existence of an optimal proportion of civil servants and, consequently, the public sector. In the Findlay — Wilson model, civil servants by default play the role of the elite responsible for the existing order in the country, but this understanding of the elite is too broad. Nevertheless, taking into account this reservation, the mentioned model can serve as a basis for describing the interaction between elites and masses.

The ideas considered above are quite enough to try to build a consistent generalized elite theory. This will be done below.

Basic model of the general elite theory

To understand the role of elites, let us consider two sides of society's life —creation and distribution of a macro-product. The production process can be described in an extremely general way by the following production function:

$$Y = AU(E)X(P) = AE^{\alpha}P^{\beta}, \qquad (1)$$

where E — number of elite; P — number of masses; $U(E)$ — control function; $X(P)$ — potential production capabilities of the national economy; A, α and β — function parameters.

In (1) it is assumed that the population (masses) participates in the creation of GDP in accordance with the available technological capabilities $X(P)$, and the elites ensure management of the State and, in particular, the economy in accordance

with function *U(E)*. For simplicity, we use power functions, the multiplication of which provides the total activity of the economic system, i.e. the actual GDP *Y*, in the form of a standard Cobb − Douglas function. Function (1) is supplemented by a balance constraint on the distribution of the population:

$$N = E + P, \qquad (2)$$

where *N* − total population of the country[1].

Then a simple dynamic equation follows from model (1)−(2):

$$\frac{dY}{dt} = \left(\frac{\alpha}{\zeta} - \frac{\beta}{1-\zeta}\right)\frac{dE}{dt} + \frac{\beta}{1-\zeta}\frac{dN}{dt}, \quad (3)$$

where *ζ* − proportion of the elite class in the population: *ζ* = *E/N*.

It is easy to see that model (1)−(2) formally completely coincides with the Findlay − Wilson model (Findlay, Wilson, 1984). In this case, it is assumed that the management of the State is determined by a small group − the ruling elite, which sets the rules of the game (institutions) and thereby forms a certain social order and vector of development. For further analysis, equation (3) is of particular interest; it connects the dynamics of national production with the growth of a privileged social group − the elite. If we proceed from the natural assumption that *α* > 0 and *β* > 0, then equation (3) implies a condition for fruitful growth of the elite, i.e. when the growth of the number of this group stimulates economic growth: *ζ* < *ζ**, where

$$\zeta^* = \frac{\alpha}{\alpha + \beta}. \qquad (4)$$

Consequently, the maximum size of the elite class is limited only by its effectiveness, i.e. its management ability. If the elite maintains a sufficiently high quality of economic management, then the size of its group, strictly speaking, is not limited; otherwise, restriction (4) becomes active, and exceeding the critical mark of the size of the elite leads to restraining economic growth. This conclusion automatically follows from the fact that the value *ζ* is extremely small (about 1%). Therefore, if the Cobb − Douglas function (1) is linearly homogeneous (*α* + *β* = 1), then the size of the elite group is limited only by its own effectiveness: *ζ* < *α*. This, in turn, means that such a restriction for the expansion of the elite group implies an extremely small value of elasticity of the elites compared to elasticity of the masses: *α* << *β*. In other words, the destructive growth of the elite occurs only when its effectiveness is almost nullified: *α* → 0.

This fact seems to be extremely important. It proves that the transfer of personnel to the elite is not able to slow down economic growth; this turns out to be possible only when the elites not only begin to manage society less effectively, but also cross a certain threshold of ineffectiveness and thereby cease to cope with managerial functions altogether. During this period, the elites are reborn into a class of *social parasites* who receive unreasonably large benefits and at the same time do not perform any constructive functions. In addition, equation (3) implies that with a growing population, even such a managerial failure of the elites is not able to disrupt the regime of economic growth and cause a production recession − the positive effect of mass growth will absorb the negative effect of elite growth. This analysis leads us to an understanding of two necessary conditions for the collapse of the State as such: the suspension of population growth (*dN / dt* ≈ 0) and, as a result, the suspension of the growth of the labor force and employment, which will lead to the exhaustion of the extensive factor

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[1] Model (1)−(2) focuses on the creative managerial function of the elites purely for the economy. The ideological, cultural orientations and achievements of the elites are not taken into account here, interactions with other countries and their elites are not considered, as well as the very possibility of unleashing a war is ignored. However, this is quite a natural simplification, which can be removed by complicating the control function U(E).

of economic growth[2]; a catastrophic drop in the effectiveness of the elites ($\alpha \to 0$ or $\alpha < 0$), which leads to a violation of the established social order and an increase in social chaos.

This suggests that, from a formal point of view, the onset of a period of instability requires a radical restructuring of the governing regime with a catastrophic decrease in elite elasticity. In this case, there is a kind of "gap" in production function (1), which can be expressed as follows:

$$Y = AE^{\alpha - \Delta\alpha}P^{\beta}, \qquad (5)$$

where $\Delta\alpha > 0$ — certain exogenous negative shift in elite elasticity.

In this case, we get a threshold value for a drop in elite effectiveness at a given size ζ: further growth of the elites begins to restrain economic growth when the critical value of the drop in their effectiveness $\Delta\alpha^*$ ($\Delta\alpha > \Delta\alpha^*$) is exceeded:

$$\Delta\alpha^* = \alpha - \beta\left(\frac{\zeta}{1-\zeta}\right). \qquad (6)$$

In model (1)−(2) such shifts in effectiveness are exogenous, whereas in reality they are endogenous and determined by their own laws and mechanisms. This issue will be covered in more detail below, but now it is important to point out that the size (quantity) and effectiveness (quality) of the elite are inextricably linked and it is their active conjugation and multiplication can lead to a radical restructuring of the state development regime and an increase in political instability.

Model (1)−(2) reveals the production line of a macro-product; but in order to get a complete picture it is necessary to reflect the line of its

distribution, which is carried out after the fact between the elites and the masses:

$$Y = DE + WP, \qquad (7)$$

where D − average income of the elites; W − average income of the masses.

If we introduce an indicator of income inequality between the elites and the masses $G = D/W$ and take into account balance ratio (2), then equation (7) is transformed as follows:

$$Y = WN[1 + \zeta(G - 1)]. \qquad (8)$$

If, for convenience, we introduce indicators of the lower limit of poverty W^*, the parameter of *biological tolerance* of the masses $q = W/W^*$, the upper limit of inequality G^* and *social intolerance* of the masses to inequality $g = G/G^*$, then equation (8) will be as follows:

$$Y = qNW^*[1 + \zeta(gG^* - 1)]. \qquad (9)$$

Equation (9) shows in the simplest and clearest possible form the distributional effects in elite theory. For example, if GDP (Y) falls under the influence of the deteriorating work of the elites, then this fall, all other things being equal, will lead to a decrease in biological tolerance and an increase in social intolerance of the masses ($q \to 1$ and $g \to 1$, respectively, at normal values of $q > 1$ and $g < 1$). Such processes contribute to the growth of revolutionary sentiments and the likelihood of large-scale internal conflicts in the country. Thus, the combination of the parameters of the scale and effectiveness of the elites (ζ and α) and the biological and social tolerance of the masses (q and g) form the space of possible conflict (revolutionary) movements in society. Thus, the two initial impulses necessary for the collapse of the state (suspension of population growth and catastrophic decline in elite effectiveness) are complemented by sufficient conditions in the form of dissatisfaction of the masses with their welfare and manifestations of outright social injustice.

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[2] These constructions do not distinguish between the population and the employed population, which in some cases may be fundamental. If necessary, this circumstance can be carefully taken into account; however, to preserve the simplicity of the scheme, we will not do this. In reality, demographic growth of may be accompanied by a contraction in employment, which can have even more grave implications.

Typology of social orders and the theory of revolution

The proposed analytical scheme allows us to put forward a fairly simple and elegant typology of social orders that arise within the State as a result of a combination of functional parameters of two classes – the masses and the elites. Without losing the degree of generality, this typology can be presented in *Table 1*.

The first type of regime – managerial crisis – is associated with the loss of managerial skills by the elite. This case is frequent and corresponds to all known economic crises, when flaws in government regulation lead to failures in the economy. At the same time, there are no system-wide problems at the state level, and the problems that have arisen are being solved one way or another. As a rule, such periods are accompanied by a change of government and cabinet of ministers. If the loss of manageability of the economy goes hand in hand with elite overproduction, then the situation turns into a political crisis, when the question arises about the legality of preserving the ruling class. At this point there are signs that the ruling social group has turned into a parasitic class. In such cases there is a change of political power – the supreme leader (president) and their administration. If such a situation is not resolved in time, but is also supplemented by excessive remuneration of the insolvent part of society – the ruling elite – thereby causing public discontent among the population, then the formed regime indicates the emergence of a socio-political crisis. In fact, the population

(masses) already perceives the ruling class as a social parasite that wrongfully appropriates too many benefits. Such situations are accompanied by resignation of the government and the supreme leader against the background of mass popular demonstrations and protests. Finally, if such a situation is not resolved, but is also complemented by absolute impoverishment of the masses, then a regime of *revolutionary situation* arises, which can have any implications – from violent overthrow of power to civil war and complete collapse of the State.

The latter regime not only corresponds to Vladimir Lenin's teaching about the revolutionary situation, but also generalizes it. Thus, in his 1920 work, Lenin famously characterized the revolutionary situation when the "lower classes" (the masses) do not want to live the old way, and the "upper classes" (elites) cannot govern the old way (Lenin, 2022). Table 1 reveals Lenin's provision through four parameters. The second part of Lenin's formula is concretized by the decline in the effectiveness of the elites with the simultaneous expansion of their size, and the first part – by the growing discontent of the masses with excessive income inequality and their categorical unwillingness to drag out a further miserable existence.

All four parameters have a clear interpretation and can be verified and digitized with varying accuracy. For example, parameters α and ζ require the construction of an appropriate production function (1) for a given historical time period. The

Table 1. Types of political situation in the State

Political situation	Model characteristics			
	Elite parameters		Mass parameters	
	α	ζ	g	q
Managerial crisis	$\alpha \to 0,\ \alpha < 0$	$\zeta < \alpha$	$g \ll 1$	$q \gg 1$
Political crisis	$\alpha \to 0,\ \alpha < 0$	$\zeta > \alpha$	$g \ll 1$	$q \gg 1$
Socio-political crisis	$\alpha \to 0,\ \alpha < 0$	$\zeta > \alpha$	$g \to 1,\ g \leq 1$	$q \gg 1$
Revolutionary situation	$\alpha \to 0,\ \alpha < 0$	$\zeta > \alpha$	$g \to 1,\ g \leq 1$	$q \to 1,\ q \geq 1$
Source: own compilation.				

critical level of poverty can be quite accurately determined for each country, which makes it possible to determine the level of current biological tolerance of the masses. With regard to social intolerance, we can use Piketty's rough estimate for elite incomes $- G^* = 50$. Thus, the theoretical framework of the constructed scheme is subject to reasonable verification.

We emphasize that the systematization of political regimes in Table 1 allows us not only to carry out a kind of theoretical synthesis of elite theories, but also to operationalize formal constructions using understandable categories and economic indicators. This is the main significance of the proposed analytical scheme.

Generalizations and modifications of the basic model

The above constructions are the simplest of all possible. In this regard, several claims can be made against them. The most obvious of these are the following two.

The first one is the possibility of considering not two, but several classes or social groups. For example, a natural generalization of model (1) could be a three-factor model that also includes the middle class. Then a logical question arises as to whether the conclusions of the model will not change for such a more extensive scheme.

The second claim lies in the initially nonlinear nature of model (1). In this regard, it is natural to ask whether the identified properties of the model will be preserved with the transition to linear dependencies.

Let us answer the two questions.

First, let us generalize the basic model in the case of inclusion of a third social group – the middle class. Then function (1) will be as follows:

$$Y = AE^{\alpha}M^{\gamma}P^{\beta}, \qquad (10)$$

where M – size of the middle class; γ – elasticity of the middle class; the other designations remain as they have been deciphered above.

Balance ratio (2) for the population is summarized as follows:

$$N = E + M + P. \qquad (11$$

If we enter parameter λ as the share of the middle class in the total population, i.e. $\lambda = M/N$, then the dynamization of equation (10) gives the ratio:

$$\frac{dY}{dt} = \left(\frac{\alpha}{\zeta} - \frac{\beta}{1 - \zeta - \lambda}\right)\frac{dE}{dt} + \\ + \left(\frac{\gamma}{\lambda} - \frac{\beta}{1 - \zeta - \lambda}\right)\frac{dM}{dt} + \frac{\beta}{1 - \zeta - \lambda}\frac{dN}{dt}. \qquad (12)$$

The simplest analysis shows that the impact of elite expansion on economic growth turns out to be the same as in model (1), but restriction (4) on the size of the elite is replaced by two simultaneous restrictions: $\zeta < \zeta^*$ and $\zeta < \zeta^{**}$, where

$$\zeta^* = \frac{\alpha(1 - \lambda)}{\alpha + \beta}, \qquad (13)$$

$$\zeta^{**} = 1 - \lambda(1 + \beta/\gamma). \qquad (14)$$

Formula (13) is a refinement of formula (4), and formula (14) can be perceived as an additional restriction for a fixed proportion of middle class λ. It is easy to see that threshold value (13) will almost always be an active constraint, and barrier (14) will, as a rule, be redundant for analyzing the size of the elite.

Thus, consideration of several population groups does not lead to qualitative changes in the previous conclusions.

We should note that models (1)−(2) and (10)−(11) can be used in relation to the global system. For example, according to Immanuel Wallerstein's concept, there are three groups of countries in the world system: core, periphery and semi-periphery (Wallerstein, 2006). Core countries can be interpreted as a kind of elite of the world economic system, semi-periphery countries − as the middle class, and periphery countries −

as the masses. Naturally, the starting position regarding which countries should be included in a particular system group is important here. We can assume that the core, as a governing elite, can be represented by only one country acting as the center of the current cycle of capital accumulation. Today, this role is performed by the United States. The world economic system can also be considered in a simplified form – within the framework of a two-factor model elites – masses or center – periphery; the empirical content of this scheme will be given below.

The second claim regarding the nonlinear form of the initial dependencies can be removed by considering the linear control and production functions in the initial dependence (1). Then model (1) will be as follows:

$$Y = A(\alpha E + a)(\beta P + b), \qquad (15)$$

where A, α, β, a and b – parameters of the introduced linear dependencies.

Combining equation (15) with formula (2) and making the simplest calculations, we obtain a quadratic dependence of GDP on the number of the elite, which has maximum point at the value:

$$E^* = (N + b/\beta - a/\alpha)/2, \qquad (16)$$

which corresponds to the threshold value of elite share:

$$\zeta^* = \frac{1}{2}\left(1 + \frac{b/\beta - a/\alpha}{N}\right). \qquad (17)$$

Thus, even the linear dependencies in function (15), assuming the conjugation of productive and managerial labor, give the same meaningful conclusions that were made earlier.

We can consider an even simpler case when the output is described by a linear function taking into account its two components:

$$Y = A + \alpha E + \beta P, \qquad (18)$$

where A, α and β – linear dependence parameters.

Then the dynamization of equation (18) will give the ratio:

$$\dot{Y} = (\alpha - \beta)\dot{E} + \beta\dot{N}. \qquad (19)$$

It is easy to see that equation (19) is a special case of equation (3) without taking into account the population structure of the two social groups. In other words, elite effectiveness still plays a major role in the dynamics of economic growth, but the limit on the scale of this group disappears. Thus, for the nonlinear case, the effectiveness and the accumulated size of the elite are important, and for the linear regime, only its effectiveness is important.

The above generalizations and modifications of model (1)−(2) demonstrate the invariance of the main conclusions obtained on its basis. This adds the necessary generality to the completed theoretical constructions.

Discussion of the results and new interpretations

The formal schemes we have constructed require application to the reality and explanation of the processes that are embedded in the presented models. To do this, let us turn to Turchin's works as they are the most meaningful ones regarding the role of elites in the preservation and disintegration of States. At the same time, the picture drawn in Turchin's works will be slightly corrected and supplemented in accordance with the above constructions.

According to Turchin's theory, the mechanism of powerful political conflicts and the collapse of statehood is based on the process of elite overproduction (Turchin, Nefedov, 2009; Turchin, 2020; Turchin, 2023). Along with the growth of this social group that possesses huge individual incomes, there is not only an inflow of people into this group, but also an inflow of national wealth. It means that the share of wealth attributable to the masses is decreasing, which, all other things being equal, leads to their impoverishment. This result serves as the basis for the political activity of the masses, their involvement in the struggle of the elites

and the subsequent social unrest. At the same time, the erosion of the elite layer itself is taking place — the so-called asabiyya, i.e. intra-group solidarity, is being destroyed. Elite expansion leads to a shortage of funds redistributed in its favor to ensure the "quota" of wealth for each of its members. This process eventually contributes to the localization of individual groups (clans) within it, with a gradual increase in competition for power and wealth between them. It is these rich and powerful groups lacking wealth and power that act as the main driver of the political struggle. These groups begin to fight for the support of their plans by the disadvantaged masses and carry out either a political coup or a revolution with a change in the principles of political government; in the case of a prolonged absence of a clear winner in a political conflict, there is a possibility of complete destruction of the former social order without building a new one, followed by the collapse of the State in one form or another.

Although the described mechanism as a whole correctly reflects the process of development of political conflicts, it still needs some clarification. The fact is that in Turchin's models, the elites themselves play a very limited role. Thus, the models assume that commoners are producers of goods, and elites are ordinary exploiters who appropriate a part of the wealth produced (Turchin, 2020, p. 297). Even including the State in his scheme in the form of a state budget, Turchin proceeds from the fact that elites act as a kind of *intermediary* between the masses and the State, transferring part of the benefits collected in the form of taxes to the budget. If the elites are getting poorer, they prevent the growth of taxes and replenishment of the treasury; there are also cases when the elite uses budget funds for their own needs (Turchin, 2020, p. 300). Thus, the deterioration of the position of the elites almost automatically generates a deterioration in the state budget, which is equivalent to a weakening of the State and its functions to maintain

social order. However, such a scheme is clearly a simplification.

The fact is that the elites are by no means simple intermediaries between the abstract state machine and the productive population (masses). In addition, they carry out a *creative* mission to organize social production, regulate economic activity, promote international relations, maintain established norms in business and everyday life, etc. It is this aspect of their activities that is reflected in the managerial function $U(E)$ in formula (1). In other words, the elites provide their specific contribution to the creation of the country's collective macro-product, which is reflected by elasticity α in model (1). In this interpretation, the elites are also a *producing* class, although their very activities are mainly *organizational*. But then it is quite obvious that the very failure or inadequate fulfillment by the elites of their organizational and managerial mission leads to the disruption of the effective functioning of the economy, failures in production, and system-wide recession. At the same time, the condition of the budget itself may not be associated with their redistributive function. For example, budget replenishment will continue to occur in accordance with the established tax burden in the economy, but the decreasing economic activity of the system will not allow government spending to be reproduced in the same amount, which will lead to a budget deficit with all the ensuing negative consequences. While the settlement of this problem largely depends on the managerial competence of the elites, i.e. on their productive function.

We can provide another additional argument about the impossibility of an independent collapse of public administration effectiveness due to the growth of the elite class. If there are two classes in the country (elite and masses), each of which has its own effectiveness level, then the flow of individuals from one to the other will negatively affect the system only if this flow is carried out from

a highly productive group to a low-productive one. Consequently, the very growth of the elite will have a negative impact on the entire social life only after it *has already lost* its former managerial effectiveness compared to the effectiveness of the masses. Moreover, formulas (5) and (6) show that the group efficiency of the elite should not just decrease, but decrease strongly enough to disrupt reproductive processes in the country. Only after that will the process of elite growth become destructive and restrain economic development, which in turn is the main trigger for the rise of political conflicts. Otherwise, when the elites successfully cope with the mission of governing the country, their growth may cause some social tension due to the overflow of public wealth in their favor, but this is unlikely to lead to large-scale political clashes that can cause the collapse of political power.

Thus, an important clarification arising from the previous arguments is that the *initial impulse* for the erosion of political power is provided by the loss of the ability of this power to effectively manage society and address pressing issues. The natural consequence of this process is the weakening of the elite's ability to govern itself and restrain itself. In such periods of time, their uncontrolled growth begins due to the dubious enrichment of commoners and the arrival of people "from the outside" to important government posts. A noticeable decline in the elites' management ability, superimposed on the growth of their absolute and relative size, triggers a subsequent mechanism of weakening the economic potential of society with a deterioration in the position of both classes – masses and elites. This process leads to the destruction of the asabiyya of the ruling class and its fragmentation into competing political groupings. A prolonged economic crisis generates the logic of distributing the created macro-product by its spontaneous "splitting" into social groups in accordance with formula (9); sooner or later, the thresholds of social

and biological tolerance of the population are reached, after which active destruction of the old social order begins.

Thus, an extremely attractive Turchin's model is preserved with some additions and clarifications. At the same time, the general picture of elite erosion and the development of political conflicts have a more significant explanatory potential.

The picture presented above brings new questions to the fore. The fact is that in our scheme, the initial impulse of social dynamics – a noticeable drop in elite effectiveness – turns out to be an exogenous factor that cannot be explained in the proposed scheme. Then there arises a logical question about what causes such a decline in the capacity of the political elite. We will try and give an answer to this question below.

Typology of political groups, elites and governance

We have already made an overview of the attributes of the elite that distinguish it from the masses. However, in addition to possessing power, wealth and personal qualities, representatives of the elite should have another attribute, which we will call a *system-oriented paradigm*. This is understood as an individual's worldview concerning the importance of the social system in their life and activities. In this regard, we can talk about two types of system-oriented paradigm. According to the first one, which we will call *holistic*, an individual finds the common (society as a whole) more important than the private (own personal affairs and interests); according to the second paradigm, which we will call *individualistic*, an individual finds the private more important than the common.

Strictly speaking, the deep meaning of the elite consists in the fact that its representatives, being responsible for the current condition and development of society, are guided in their decisions by the common interests and needs of the State – even contrary to their own desires and

interests. This position corresponds to the doctrine of *serving* something great — the State, the nation, God, etc. Unlike the elite, representatives of the masses can afford to put private (personal, family, career, etc.) interests above common (state-related) ones. At this point, the population is divided into two fundamentally different social groups, and the attitude toward the State as a kind of social integrity divides the elites and the masses into qualitatively disparate classes.

Let us recall that Aristotle also believed that "... man is by nature a political animal. And he who by nature and not by mere accident is without a state, is either above humanity, or below it" (Aristotle, 1984, p. 378). In other words, according to Aristotle, every normal person should have a developed political consciousness, but even Aristotle did not demand the *ability to sacrifice* from all citizens in relation to the State. This quality is undoubtedly the lot of the elite. It is the ability to sacrifice personal interests to the national ones that distinguishes the elite from the masses. It can be said that the holistic system-oriented paradigm of a representative of the elite is nothing more than a refined, crystallized and partially hypertrophied responsibility for what is happening in the country.

This makes it possible to expand the traditional understanding of elites to another dimension *(Figure)*. Here we should note that system-related paradigms, strictly speaking, do not duplicate traditional requirements for personal qualities, nor are they directly related to ethical standards. For example, a representative of the masses has the right to put their affairs above those of the State, because he/she is responsible to his/her loved ones (family, friends, colleagues, etc.), but does

Source: own compilation.
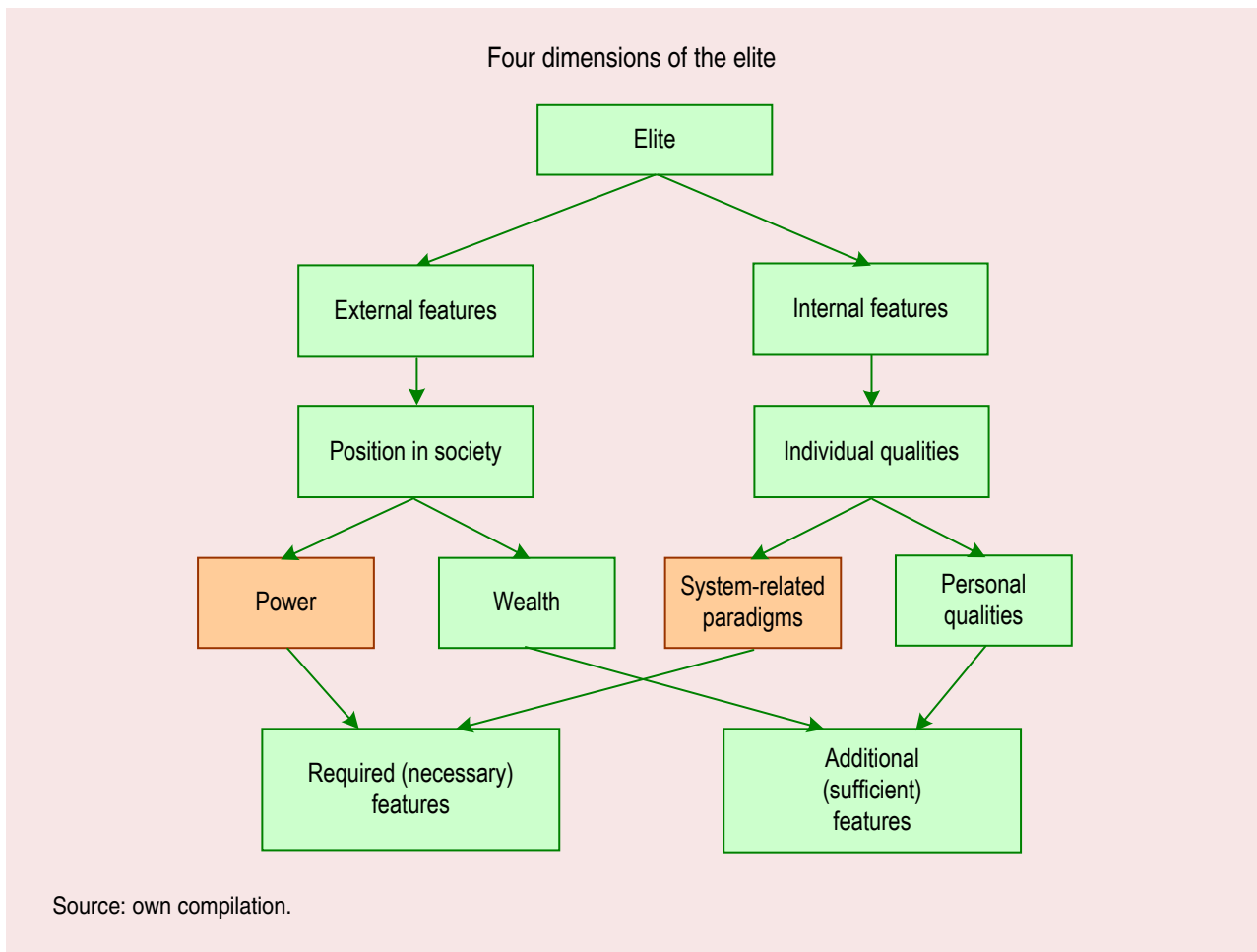
not affect the situation in the State, and therefore is not responsible for it. Consequently, his/her individualistic system-related paradigm does not harm anyone and has nothing to do with ethics and morality. However, if this paradigm is not imputed to the masses and does not carry an immoral potential, then it cannot be directly applied to the elites either. Conversely, if a representative of the elite has all the positive personal qualities (professionalism, competence, honesty, modesty, etc.), but does not share a holistic system-related paradigm, then his/her actions in governing the State will most likely be ineffective or questionable. Accordingly, in order for the elites to be truly effective, the factors such as possessing power and having a holistic system-related paradigm are of key importance; otherwise, there is a high risk of destruction of statehood as such. The presence of wealth and high personal qualities is an additional condition for elite productivity.

This allows us to put forward a qualitative typology of political groups that are somehow embedded in the political process *(Tab. 2)*. This classification is based on the principle of the presence of defining features. Depending on their combination, different political subgroups can be distinguished, including those that do not fully belong to elite category. In this context, it is extremely interesting how the loss of one or another feature leads to the transformation of the classical elite into its modifications and antipodes. For example, if the elite loses positive personal qualities and a holistic system-related paradigm, then it turns into an oligarchy pursuing its own narrow interests. If the wealth factor falls out of the full set of features, then the political elite turns into a narrow layer of intellectual elite, capable of influencing political processes, but not receiving material support for its privileged position.

The main result of the previous constructions is the understanding of the fact that the most acute problem that arises for the State is *elite degeneration*, i.e., *assimilation of elites to masses*, when elites discard the holistic system-related paradigm and begin to pursue their selfish personal interests. In such cases, the public administration system loses its effectiveness, and the country begins to move toward destruction. If such a process acquires a sufficient scale and lasts for quite a long time, then the probability of a negative outcome increases to a critical value and may well be realized. We recall that the tradition of considering the process of *degeneration* and *degradation* of elite groups and their individual representatives dates back to biological interpretations of population dynamics (Ashin, 2010, p. 125). However, in our case, it makes sense to talk about a broader consideration of these processes, including under the influence of various social movements and circumstances.

Table 2. Qualitative typology of political groups

Presence of the feature				Political groups
Power	Wealth	Personal qualities	Holistic system-related paradigm	
+	+	+	+	Classical elite
+	+	+	–	Ruling class
+	+	–	–	Oligarchy
+	–	–	+	Classical bureaucracy
+	–	+	+	Intellectual (bureaucratic) elite
–	+	+	+	Business elite
–	–	+	+	Intellectuals
–	+	–	–	Leisure class
Source: own compilation.				

In connection with the above, we will focus on the *inversion of the system-related paradigm* of the elites. The fact is that in addition to the quite understandable processes of degeneration and degradation of elite representatives, there is a wide range of social phenomena that objectively lead to this inversion of paradigms. As a stylized example of this kind of event, let us consider the period of transition from the Roman Republic to the Roman Empire.

Let us recall that the historical transition from a republican form of government to an imperial one is the content of the so-called Cicero paradox. According to the modern interpretation, republic is a *mixed* institution that provides a balance between three such *pure* institutions of power as monarchy, aristocracy and democracy; despite this, such a perfect institution lost its advantages and by the beginning of our era degenerated into a rather primitive imperial form of government with signs of tyranny (Balatsky, 2023). Apparently, the explanation for this transformation lies in the gradual degeneration of the Roman elite, which was based on the loss of a holistic system-related paradigm.

Indeed, the historical period under consideration was marked by large-scale civil wars, when the country's leading generals began a systematic struggle for absolute power contrary to the interests of the State. At the same time, it would be extremely rash to say that these generals demonstrated insignificant personal qualities. On the contrary, such names as Gaius Marius, Lucius Cornelius Cinna, Lucius Cornelius Sulla, Lucius Licinius Lucullus, Gnaeus Pompeius Magnus, Marcus Licinius Crassus and Gaius Julius Caesar speak volumes. They were exceptionally gifted, intelligent, educated, talented and by no means immoral people. Nevertheless, their attempts to seize sole power in Rome eventually led to the overthrow of the republic. We can reasonably assume that during the period under consideration there was a massive inversion of the system-related paradigm of the elites. Adrienne Mayor gives us the key to understanding the causes of this phenomenon: Rome's large-scale conquest campaigns led to the formation of huge troops and the strengthening of the influence of their military leaders; huge booty in successful wars instantly enriched the generals, gave them fame and made them popular among the masses; remoteness from the decision-making center led to the granting of additional political powers to military leaders, including the establishment of taxes and contributions, followed by additional enrichment at their expense; negotiating with foreign rulers increased their diplomatic status and allowed them to form international alliances; etc. (Mayor, 2010). This expansion of the powers of Roman generals contributed at first to the *identification* of their interests with those of the Roman Republic, and subsequently to the *primacy* of their private interests over the interests of the State.

However, one more important point should be mentioned in the considered example. By itself, the degeneration of the elites of the Roman Republic toward the predominance of selfish motives and the desire for sole power could not lead to the fall of the old form of government. For example, recent research suggests that the assassination of Caesar at a senate meeting was inevitable: it was not the first attempt, and it was a short-range conspiracy, whereas there was a parallel conspiracy of a larger radius, and possibly a third even more extensive circle of conspirators (Bobrovnikova, 2006). Thus, Caesar was doomed, which in itself proved the psychological unpreparedness of the elites for monarchical rule. Nevertheless, the subsequent accession of Gaius Octavianus Augustus did not cause such a protest. What is the reason for this?

The answer is as follows. The unprecedented expansion of the borders of the Roman Republic led to the loss of former effectiveness by the former

government: the elective procedure of consuls "supplied" more and more new actors to the political arena; the return of enriched triumphants to the city led to an increase in the number of elite representatives capable of activating large masses of the population; the need for generals to coordinate their actions with the conservative senate reduced the promptness of political solutions; a large number of revolts of slaves, Italian and other tribes required extremely harsh and even cruel decisions; conquests in different directions required long-term policy, coordination of actions and unity of command. In such conditions, the republican form of government gave systematic failures, which reduced the effectiveness of public administration. The elected consuls turned into political temporary workers, and the senate into a bureaucratic assembly, which did not allow for quick and productive solutions to emerging problems. The inability of the democratic government to solve the acute problems of the State manifested itself in the elevation of Lucius Cornelius Sulla to the post of dictator of Rome in 82 BC; this served as a kind of rehearsal for the future imperial rule. Thus, the fall of the Roman Republic was preceded by a sharp decrease in the effectiveness of state power, which gave rise to subsequent events.

In the given example, we have shown that the collapse of the Roman Republic went through several stages: military and economic expansion with its new challenges and problems; decline in the effectiveness of the rule of the old elite; expansion of the elite layer, disappearance of group asabiyya, fragmentation of the elite and the increasing competition of political groupings; identification of private and state interests by the elites with the subsequent primacy of private tasks; a series of political crises exacerbating the administrative problems of the government; victory of a new political group (Octavian Augustus and his supporters), formation of a new elite and establishment of a new political order (empire).

An important feature of this example is that the inversion of the system-related paradigms of the elites occurred not through the degradation of its individual subjects, but due to the emergence of objective inconsistencies in the system of power itself and challenges from the public administration system.

Another and in many ways more revealing and simple example of the metamorphosis of the elite in terms of the loss of a holistic system-related paradigm can be found in the collapse of the Soviet Union. The mechanism of degradation of the Soviet elite due to the emergence of military-strategic parity and the curtailment of inclusive institutions in the country has already been considered in detail in the literature (Balatsky, Pliskevich, 2017). The result of such a policy, in the absence of obvious external challenges, was the preservation of the elite with a gradual deterioration in its productivity — both the personal qualities of managers and their system-related paradigms. The period before the collapse of the former statehood was marked by unprecedented ineffectiveness of management decisions and disorganization of the entire economic life in the country. However, in this case we should emphasize that the degradation of the Soviet elite did not occur independently or spontaneously, but under the influence of certain circumstances. The main provision, which follows from the above examples, is that in each case it is necessary to look for its own causes and factors that lead to the deterioration in elite quality. This rule significantly complements and deepens modern ideas about the erosion of institutions due to a qualitative change in their "filling" — the social system (Balatsky, 2023).

Empirical applications of elite theory

All of the above was based on qualitative analysis, but the theory does not receive sufficient credibility without empirical material. In this regard, let us consider a specific, but telling example related to the existence of the world elite represented by the United States.

To do this, we will use World Bank data to construct function (1) for the 1960−2022 time period[3]. Then model (1) will be constructed in logarithmic form for three historical segments: 1960−1975, 1976−2000 and 2001−2022, respectively:

$$lnY = \underset{(-6.84)}{-36.50} + \underset{(2.84)}{2.20}lnE + \underset{(2.59)}{1.13}lnP, \quad (20)$$

$R^2 = 0.996$; $n = 16$; $F = 1819.1$.

$$lnY = \underset{(-5.75)}{-13.28} + \underset{(2.24)}{0.93}lnE + \underset{(4.47)}{1.18}lnP, \quad (21)$$

$R^2 = 0.995$; $n = 25$; $F = 2028.3$.

$$lnY = \underset{(-4.22)}{-24.43} + \underset{(0.58)}{0.63}lnE + \underset{(2.78)}{1.94}lnP, \quad (22)$$

$R^2 = 0.992$; $n = 22$; $F = 1256.3$,

where Y − volume of global GDP; E − U.S. population; P − world population excluding U.S. population; n − number of observations; F − value of F-statistics; R^2 − coefficient of determination.

Constructed models (20)−(22) are satisfactory for the qualitative analysis of the phenomena under consideration.

Models (20)−(22) assume that the world economic system is divided into two unequal parts − the elite represented by the world hegemon (USA) and the periphery (other countries). Then the entire global GDP created is the result of the governing efforts of the elite (American population)

and the masses (the rest of the world's population). Each participant makes its own contribution according to elasticities α and β. For convenience, the results of econometric calculations are presented in *Table 3*. Its analysis allows us to draw some important conclusions.

First, in retrospect, there is a clear downward drift of α parameter. Consequently, the effectiveness of the world's ruling elite represented by the United States was gradually decreasing, while the return of the periphery (β) showed an equally obvious opposite trend: it was increasing. Thus, we observe the process of gradual castling of the importance of the center and the periphery in the world economic system.

Second, the beginning of the 21st century was marked by a decrease in the effectiveness of the world hegemon and the loss of stable communication in conjunction with the periphery. Since the elasticity parameter of the United States became insignificant during this period, it can be argued that the global leader has already lost its systemic organizational basis. From a formal point of view, during this period, the original center−periphery model began to collapse.

Of course, the conclusions we have made cannot be overemphasized, but model calculations indicate exactly this course of events and urge us, at least, to pay attention to the nature of the center−periphery interaction.

Table 3. Effectiveness of American elite in different historical periods

	Parameters of model (1)		Condition for elite effectiveness	
	α	β	Presence	Form
1960–1975	2.201	1.133	+	$\alpha > \beta$; $\beta > 0$
1976–2005	0.939	1.177	+	$\alpha < \beta$; $\beta > 0$
2006–2022	0.633	1.938	−	$\alpha < \beta$; $\beta > 0$; α is insignificant

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[3] See: Data from database of The World Bank: World Development Indicators. Available at: https://databank.worldbank.org/source/world-development-indicators

Table 4. Relative parameters of the United States in the global economy

Year	Relative scale		Relative inequality
	Population (ζ), %	GDP (μ), %	GDP per capita (G), times
1960	6.0	31.6	7.28
1970	5.6	28.6	6.80
1980	5.1	26.8	6.79
1990	4.7	27.2	7.56
2000	4.6	28.4	8.23
2010	4.4	25.2	7.26
2022	4.2	23.3	6.93

Considering that in the 2001–2022 period parameter α turns out to be insignificant, from a formal point of view it means that there is no influence of the center (i.e. $\alpha = 0$), which raises doubts concerning the fruitfulness of the world order supported by the United States. Consequently, by the beginning of the 21st century, the United States has exhausted its managerial potential. The negative geopolitical events that followed confirm this.

The conclusion we have made is confirmed by the available empirical data *(Tab. 4)*. For example, during the period under consideration, the relative indicators of the U.S. scale decreased ($\mu = Y^*/Y$, where Y^* – U.S. GDP; Y – world GDP), whereas the indicator of world inequality ($G = (Y^*/E)/[(Y-Y^*)/P]$) showed ambiguous dynamics. So, in 1998, G index exceeded the mark 8 times for the first time in many years, and in 1999 it set a historical maximum of 8.27. Thus, it was during these years that the United States reached the highest mark in the redistribution of world GDP in its favor. An analysis of retrospective data for 1960–1975, when the effectiveness of the management of the world economic system by the United States was at its maximum, shows that the upper limit of inequality can be considered the mark when $G = 7.45$. Consequently, in 1999, the index of social intolerance of the masses toward inequality was $g = 1.11$, i.e. it exceeded the critical mark. This state of affairs suggests that by the beginning of the 21st century, an antagonistic confrontation between the center and the periphery had emerged in the world system and the question of the legitimacy of the established social order came to the fore.

In addition to all that has been said, these figures allow us to take another look at the concept of elite overproduction. For example, in the historical interval of 1960–2022, the relative size of the population of the hegemon country decreased; therefore, we cannot confirm elite overproduction in the world economy; even the relative enrichment of the ruling class as a whole decreased, despite some local bursts of its growth. However, the main thing is that against this background, the very effectiveness of the actions of the elites decreased, especially at the beginning of the new century. Consequently, the crisis of the previous model of geopolitical leadership is caused not so much by the growth of the size of the elite and not even by its "greed", but by the loss of its managerial effectiveness in organizing world production. It is this idea that is central to the elite theory we put forward.

The reasons for the decline in the effectiveness of the American elite are associated with the gradual erosion of the U.S. institutional system (Balatsky, 2023). The old doctrine of the primacy of competition, which the United States had always won before, gradually stopped working. China found itself in a better position in the old institutional paradigm of competition.

The old tough methods of solving international problems have also begun to fail in Russia, Iran and North Korea. In the early 21st century, asabiyya within the American state began collapsing; there emerged an antagonistic confrontation between two political parties and the business elites behind them. The most striking external manifestation of the loss of strategic unity of the United States can be the emigration policy, when president Donald Trump was building a wall on the border with Mexico, and the regional authorities prevented him from fulfilling his plan; after Joseph Biden came to power, the wall began to be destroyed, and local authorities started to erect barbed wire fences, thereby entering into conflict with federal authorities. Such a lack of unity under the rule of "political temporary workers" led to excessive penetration of migrants into the country and the impossibility of effective operation of the "melting pot of cultures", which previously coped well with a smaller volume of migrants. Similar processes when the situation was getting out of control were observed in many areas of public, business and political life of the country. Thus, the world economic system outgrew the old institutional and political paradigm of the American elite, as a result of which it began to disintegrate into separate clans with their own interests, which gradually became higher than the national ones. In other words, the process of transition from a holistic to an individualistic system-related paradigm took place in the minds of American elite, with all the related consequences. Of course, technological progress reinforces all these phenomena, and the violation of Ashby's law provokes the collapse of the former social order and the collapse of the State based on outdated management principles.

Continuing the empirical line of this section, we can assume that a new leader emerged in the world economic system at the beginning of this century; it is China, which has already replaced or is replacing the old leader. To test this hypothesis, we constructed an econometric dependence for the 2001−2022 period:

$$lnY = -\underset{(-1.53)}{27.74} + \underset{(0.68)}{1.02}\,lnE + \underset{(2.84)}{1.70}\,lnP, \quad (23)$$

$R^2 = 0.992$; $n = 22$; $F = 1267.9$,

where Y − global GDP; E − population of China; P − population of the world excluding population of China; the rest of the designations remain as they have been deciphered above.

However, the parameters of model (23) do not allow us to confirm our hypothesis. The model of China's interaction with the rest of the world is extremely unstable − two regressors in the equation are insignificant. It means that at the moment there is a situation in which there is no unambiguous leader State in the world that would effectively manage global geopolitical processes. Perhaps the situation will clear up over the next few years, but so far there remains a geopolitical uncertainty.

Thus, the application of the general elite theory to the world economic system gives quite reasonable results, which suggests the possibility of expanding the scope of applied research using it.

Conclusion

The conducted research adds to modern views on elites and their role in public administration. The main emphasis in the proposed theory is on the fact that elites have lost effective management ability. At the same time, a new view of the problem does not conflict with existing concepts, but rather organically complements them. In particular, in contrast to P. Turhin's elite overproduction theory, our version examines the quantitative and qualitative changes of the ruling class in a single complex, which eliminates some inaccuracies in the interpretation of historical events. Attention is drawn to the possibility of transferring our elite theory to the mega-level when the center−periphery world economic system is considered. Verification of theoretical constructions based on statistical

data allows us to assert not only its fundamental possibility, but also the fruitfulness of further research in this direction.

The results obtained give reason to believe that in the future, collecting necessary statistical data may allow us to move to a proactive forecasting of crisis periods in the activities of national elites with subsequent adjustments to the strategy of public administration. At the same time, it seems that a more thorough calibration of the theory in terms of the system variables used may be required. In this case, groups such as the employed, unemployed, pensioners, youth, etc. can be taken into account more effectively. This will lead to a more extensive dichotomy of political regimes, while increasing its realism.

We cannot but mention the issue of replicating applied calculations based on the presented model within a single country. This question is not trivial and has no simple answer. However, the following hypothetical basic option can be proposed: for different regions of Russia, we can construct functions of type (1), where employees of the regional management system appear as the elite, and the rest of the population as the masses; GRP can be the output variable. Such a comprehensive monitoring could make it possible to assess the validity of the existing number of administrative staff in the Russian regions. Of course, different variations of the basic scheme are possible, and they require specific adjustment of the variables used.

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Received February 14, 2024.