M. K. Glazatova[1]

Imperatives of Business Regulation Development in Global Economy[2]

The article deals with the evolution of regulation frameworks in the light of structural shifts and industrial revolutions. The author used the theory of technological paradigms because it made possible to trace the changing needs of the expanding industrial sector.

Crucially, the paper dwells on the issue of applying different regulative tools in order to promote domestic production along with maintaining a competitive environment and encouraging entrepreneurial activities.

It is highlighted that in the information era technology transfer occurs so quickly and seamlessly that economic success only depends on possibilities of use of technology on the particular territory.

Key words: *Kondratiev waves, technological paradigm, structural shifts, industrial revolution.*

JEL: F13, F55

Introduction

During last decades, global shifts in interaction in the economic sphere, forced governments to change the set of tools of regulation. The vector of development of regulation in recent decades, slowly but inexorably shifted from instruments of direct financial impact on economic processes in the direction of creation of a conducive environment: development of institutions and supporting infrastructure; improvement of rules governing activities of economic agents; providing an optimal system for resolving disputes, etc.

Matters like investment regulation, intellectual property protection, technology transfer, preservation of brands, and determining the country of origin have risen to the forefront. In fact, the main problems are not production and sales of the product itself but rather ensuring property rights and choosing an optimal country for manufacturing activities. Obviously, the arsenal of instruments which are

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1 Marina K. Glazatova — Ph.D. in Economics; Deputy Director, Institute of Trade Policy, National Research University Higher School of Economics (HSE), E-mail: <mglazatova@hse.ru>.

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actively used by regulatory bodies in the sphere of foreign trade became more and more supplemented by regulation of the internal market.

One can see not only interaction of regulatory instruments, but also blurring of differences between jurisdictions. It is possible due to harmonization of legislation, use of regulatory frameworks developed at the international level and approved by the majority of states as the best form of regulation policies, combining fulfillment of obligations of a state to provide security, stability of rights and freedoms, flexible framework for the entrepreneurial initiative, and to preserve the environment.

Analysis of the change of technological paradigms (structures) and in-depth study of the components of technology, raw materials and final products combined with large cycles of economic conditions, industrial revolution, and global economic shocks, allowed to trace and identify emerging institutions, which were a reaction to the challenges of changing markets and public (including first of all, consumer) behavior. The study monitored the evolution of the institutional environment from cycle to cycle. This helped to form a basis for systematization of instruments of state regulation used in each period. Among them those were identified that had been the core characteristic of the appropriate technology era (see Appendix, Table 1).

The study used the theory of technological paradigms because it made possible to trace the changing needs of the expanding industrial sector. Also one can see the evolution of the response to the question whether it was possible to stimulate domestic production without disturbing a healthy competitive environment and without worsening of conditions for entrepreneurial activities.

The results presented in Appendix, Table 2 demonstrate that, since the first industrial revolution and the first technological paradigm, i.e. from the late eighteenth century to the present time (or for three centuries), unchanged and critical imperative of regulation has been to ensure freedom of entrepreneurial activity combined with property rights while maintaining a normal level of competition. Along with development of large- scale economic activities, another imperative appeared — an independent judicial system providing fair and impartial analysis of controversial situations in commercial transactions, which is an additional guarantee of the stability of property rights.

Despite the fact that development in each period only exacerbated and revealed significance of these imperatives (for the third and the fourth technological paradigms) the world experienced the political dichotomy: it was divided into capitalist and socialist blocs. The socialist bloc denied basic imperatives.

Naturally, first of all, polarization shocked the main imperatives, namely private property was transformed to socialized property along with freedom of enterprise transformed to prohibition of entrepreneurship. But it did not affect the main principles of regulation which provided support for domestic production.

Protectionist policies were typical for many states. The change of socio-economic formations in most of the countries of the socialist world happened at the turn between the fourth and the fifth technological paradigms. The explosive development of digital technologies has given accelerated dynamics to all economic processes, which coincided with changes in the architecture of the global economy.

First of all, it should be noted that a new type of economic agent appeared in the economic environment in the mid-20th century. In addition to states, various forms of enterprises (either commercial or non-commercial), households and physical persons as individual entrepreneurs, and transnational corporations (TNC) entered the scene as agents of economic activities. The mergers and acquisition processes converted them into a single pool of global business enterprises. It was a response to increased competition.

As it usually happens in available niches, TNCs quickly gained economic activity and serious influence first on economic, and later on political processes. Activities of transnational corporations have created a new form of economic cooperation — the global chain of added value. Increasing complexity of technologies, materials, and, in the end, final products deepened the division of labor.

Specialization became deeper and deeper focusing on individual process steps, which in turn was the catalyst for the development of small-sized enterprises better-adapted to narrow specialization, and also forced them to unite into chains for production of final products. Large businesses and corporations also benefited from this in terms of specialization and chains to minimize production costs actually providing the key competitive advantage.

Thus, a new set of international norms in the sphere of economy was established. The rapid development of international cooperation and integration led to the fact that international economic organizations developed rules which formed the set, starting from the 1950-60s that became known as international economic law. The ambition to create the best conditions for trade has intensified the process of harmonization of national legislation with internationally accepted norms and rules. The prospective results of this would probably be the harmonized national legislation through implementation of international standards into them.

Small business was considered to be a driving force that can provide diversification. Big business continues to play its role as support for the economy, but due to slowness, high social and fiscal risks should not be engaged in structural reforms. Its role is to consistently provide the tax for the budget.

Concluding remarks

Lastly, in many cases, in the information era technology transfer occurs so quickly and seamlessly that economic success depends only on possibilities of use of technology at the particular territory.

Naturally, these changes have stressed the significance of protection of resources invested in business (investment, technology, etc.), security settings, activities and products, stimulating development of small and medium enterprises.

The set of imperatives has also changed. The basic principles of freedom of entrepreneurial initiative, and ensuring the rights of ownership and maintaining a competitive environment were restored. In response to the technological development and emergence of new kinds of materials, the importance of protection of intellectual property rights has increased. The share of state regulation is limited. But legitimate goals of ensuring security are rigidly fixed in every aspect. The imperative of cooperation between the state and society and the priority of international norms appears and develops. As a perspective of the imperative there is a need to develop management strategies based on interactive strategic approach and competitive positioning because of disappeared boundaries in trade due to electronic platforms and electronic means of payment. The symbiosis of internal and external regulation is becoming more and more evident.

Appendix

Table 1

Comparative analysis of basic imperatives based on technological paradigms

Imperatives	Technological paradigms					
	1 1772–1840	2 1830–1879	3 1880–1940	4 1930–1990	5 1985–2035	6 2020–2060
Protection of property rights	✔	✔	✔	Bipolar world	✔	✔
Freedom of commercial transactions	✔	✔		Bipolar world	✔	✔
Freedom of entrepreneurship	✔	✔		Bipolar world	✔	✔
Protection of intellectual property		✔		✔	✔	✔
Protectionism	✔	✔	✔	✔		
Growing role of the state			✔	✔		
Maintaining competitive environment	✔			Bipolar world	✔	✔
Use of new means of payment	✔ (e.g. promissory note)				✔ (e.g. (bitcoin)	

Independent judicial system		✔			✔	
Non-discrimination			✔	✔	✔	✔
State planning			✔	✔		
Socialization of ownership			✔	✔		
Differential treatment in trade				✔	✔	
Transparency				✔	✔	✔
Tariff liberalization			✔	✔		
Dispute settlement mechanism				✔	✔	✔
Limited state regulation					✔	✔
Interaction between state and society					✔	✔
Harmonization of mandatory standards					✔	✔
Self-regulation					✔	✔
Non-tariff regulation					✔	✔
Priority of international norms					✔	✔
Support institutions					✔	✔
Strategy of rapid response + competitive benefits						✔
Symbiosis of internal and external regulation						✔
Protection of rights of purchasers						✔

Source: Compiled by the author.

Table 2

Combinations of technological paradigms, Kondratiev waves, economic crises and respective regulation imperatives

Technological paradigm		Industrial revolutions[1]	K-cycles (periods)	Major global economic and political crises and monetary systems	Key institutions	Regulation imperatives and reasons for their application
No./ Period	**Key technologies and level of production development**					
I 1772–1840	Creation of the first manufacturing industry – a textile factory (spinning machines) Serial production, mechanization of labor. Emergence of first large companies. Initial accumulation of capital. Emergence of monopolies.	The first industrial revolution (mechanical production)	1780–1810 – upward wave 1810–1817 – the top 1817–1844 – the downward wave	1789 – Declaration of the rights of a man and citizen (France). 1816 – the introduction of the gold standard by the Bank of England ("...regardless of the reasons for this, the free market recognized gold and silver as the most effective types of money..."). Reserve currency – pound sterling. 1825 – stock market panic 1837 – second stock market panic 1820–1840 – overproduction	- Trade unions – reducing influence and regulation; – Creation of partnerships among small enterprises (cooperation of private capital); – Creation of scientific and engineering societies (development of scientific research); – Entrepreneurship based on inventions; – Use of a bill as a means of payment in sales transactions; – Training for a type of activity along with work (professional training).	**Reasons**: monopoly, establishment of market relations and regulation, mechanization and concentration of production. **Imperatives:** – expansion of freedom and property rights and conduct of commercial transactions (J. Locke (1989): "The main goal of people's entry into society is the desire to use their property peacefully and safely, and the laws and instruments established in this society serve as the main instrument and means for this."); – formation of antimonopoly regulation; – support and freedom of entrepreneurship; – introduction of restrictions in foreign trade for the development of national entrepreneurship (in England – special import duties in order to reduce competition with imports, and not to replenish the treasury);

1 *Dates are provided according to Schwab K. Four Industrial revolusion. World economic forum? 2016*

						– measures of state support for exports were first applied ("...production and export of finished industrial products and foodstuffs were stimulated, and on the contrary, exports of raw materials and semi-finished products were taxed or banned to stimulate their own processing inside the country…"); – recognition of bills as a means of payment in international commodity turnover.
II 1830–1879	Steam engine. Emergence of locomotives and steam navigation. Construction of railways. Development of coal mining and trade. Development of large companies. Concentration of capital, development of financial markets and natural sciences.		1844–1851 – bottom 1851–1870 – upward wave 1870–1875 – the top 1875–1890 – the downward wave	1867 – Paris currency system (free currency conversion for gold, the main international regulator is the Conference (Paris, 1867)) 1873–1879 – Depression (Long)	- Replacement of guild unions by trade unions and creation of the Trade Union Congress in 1868; – Formation of social legislation; – Formation of first rules of international trade (conclusion of trade agreements with individual states); – Establishment of state-owned banks; – Emergence of collective owners (joint-stock companies with limited liability); – Formation of scientific schools and teams (research institutes);	**Reasons:** Development of transport infrastructure accelerated turnover and the movement of labor resources. Development of the land market and other factors of production (the possibility of transporting heavy goods). The beginning and development of globalization. Concentration of production with concentration of capital. **Imperatives:** – formation of a system of inalienable rights: the state secures the protection of property rights, "but this same law protects the individual from the state ..."; – formation of the independence of the judicial system for protection of contractual rights and private property [D. Hicks]; – protectionism (ensured development

					– Development of vocational education; – Appearance of copyright.	of the economy of England, Prussia, Austria, and Sweden) [K. Hill, E. Wallerstein]; – Protection of intellectual property rights.
III 1880–1940	Industrial use of electrical energy. Development of the electrical industry. Invention of radio and telegraph. Emergence of steelmaking (Bessemer process, the converter) and, on its basis, development of heavy engineering. Appearance of dynamite and cars.	The second industrial revolution (conveyor and electricity)	1890–1896 – bottom 1896–1914 – upward wave 1914–1920 – the peak 1920–1939 – the downward wave	1914–1918 – World War I 1917 – The Socialist Revolution 1922 – Genoese currency system (Gold standard, the main international regulator is the Conference (Genoa, 1922). The currencies are exchanged for gold through the USD, pound sterling, French franc). 1929–1939 – Depression (Great) 1937 – Recession	1919 – International Labor Organization; 1920 – League of Nations; – Bilateral agreements; – Concentration of financial capital and ubiquitous development of the banking system. Emergence of the state regulator – the central bank which establishes rules for settlements and lending in the conduct of trade operations; – Strengthening state participation in the economy. Expansion of the structure of institutions and instruments of state regulation; – Formation and development of international organizations as institutions of international / supranational regulation; – Emergence of first	**Reasons:** Intensification of international cooperation between countries (the era of bilateral agreements); Bipolar world. Emergence of a system of state centralized planning and regulation in countries of the socialist world. 1922 – formation of the USSR. Intense population migration caused by the World War, the Great Russian Revolution and the Great Depression. Disruptions to international trade. Application of strict protectionist measures. **Imperatives:** – Strengthening the role of the state as a regulator in the economic and social spheres; – Most-favored-nation treatment; – Application of protectionist measures in foreign trade; – Application of state planning. – Socialization of property in the bloc of socialist countries.

					processes of mergers, acquisitions. Active processes of monopolization of markets. Concentration of production (syndicates, trusts, cartels, etc.); – Knowledge transfer from the scientific environment to the production, formation and development of the institute of engineering thought (use of specialists with higher education in production); – the emergence of compulsory primary education.	
IV 1930–1990	Deep processing of oil and gas. Appearance of an internal combustion engine and a jet engine. Automation of production. Atomic fuel. A computer. Space exploration. Development of organic and bioorganic	1960s – the beginning of the Third Industrial Revolution (semiconductors , personal computers, the Internet).	1939–1950 – the bottom 1950–1968 – upward wave 1968–1974 – the peak 1974–1984 – the downward wave	1941–1945 – The Second World War 1944 – Establishment of the Bretton Woods currency system (Gold dollar standard, the main international regulator is the International Monetary Fund, the currencies are exchanged for gold through the USD)	1945 – the United Nations; 1947 – GATT; 1948–1952 – European Communities; 1949 – Council for Mutual Economic Assistance (CMEA); 1920 – Emergence of the Permanent Chamber of International Justice, which was replaced by the International Court of Justice in 1946 (formation	**Reasons:** The Age of Keynesianism. 1945–1984 – disintegration of the colonial system. Emergence of a group of developing countries; Large-scale international cooperation between countries; Active phase of economic integration in the world; Establishment of most international organizations to which a number of regulatory powers have been delegated by member states;

	chemistry. Genetic Engineering. Synthetic materials and raw materials. Appearance of new structural materials. Mass production of consumer goods. Emergence of multinational companies. Oligopolistic competition. Formation of global value chains. Development of international trade. Development of international cooperation.			1968–1973 – Currency Crisis 1973 – The Oil Crisis 1976 – Establishment of the Jamaican currency system (Demonetization of gold, SDR Standard (Special Drawing Rights), the main international regulator is the International Monetary Fund).	of modern international law); 1945–1970 – Formation of the main international organizations that established regulatory agreements in the agreements (OECD, OPEC, FAO, IAEA, ICAO, Geneva UNECE Convention, etc.); – Universities as institutes of merge of educational and scientific spheres; – Emergence of international regulators in the form of international organizations (the International Monetary Fund, etc.); – Vertical integration of production and the emergence of transnational corporations as a new economic agent; – Emergence of global chains of value added as a new type of cooperative interaction; – strengthening the role of the state as (1) a regulator; (2) Institute for the Guaranteeing and	Formation of rules for multilateral trade regulation; Increased competition; Savings on scales; Harmonization of policies of countries that are part of one integration education; Processes of harmonization of national legislations; Oligopoly and cartels in world markets; Political dichotomy (capitalism and socialism); Fundamental theoretical discoveries; Government planning. **Imperatives:** – opposite directions of regulation (capitalist world – development of small and medium-sized business, socialist world – suppression of private entrepreneurial initiative); – etatist model of regulation in the socialist countries; – non-discrimination in the export / import of goods (most-favored-nation treatment (alignment of conditions for countries), national treatment (alignment of conditions for external / domestic producer)); – special differential treatment of trade regulation (exceptions to restrictions for

					Realization of Social Protection, (3) the Institute for Defense and Security and the emergence of the defense industry complex; – Emergence of the institution of an international regulator, in the capacity of which international organizations act; – Involvement of the state in the sphere of economic relations as an economic entity; – Extraterritoriality of investments; – Development of the institution of universal secondary education.	developing countries); – transparency of mandatory requirements; – tariff liberalization; – formation of a mechanism for compulsion to comply with the norms of international agreements (dispute settlement mechanism).
V 1985–2035	Development of technologies for the creation of new materials, raw materials and types of energy. Further exploration of outer space. Development of digital, communicative and biotechnologies. Nanotechnology.	2000s – the beginning of the Fourth Industrial Revolution (global digital networks, artificial intelligence, nanotechnology, synthesis of physical,	1984–1991 – the bottom 1991–2005 – the upward wave 2005–2008 – the peak 2008–2010 – bearish wave	1991–to date 2008–2009 – financial crisis	1989 – APEC; 1991 – MERCOSUR; 1992 – the EU; 1995 – WTO; 2001 – SCO; 2015 – International Energy Charter; – Emergence of the global Internet as an institution for the exchange of information and social communication;	**Reasons:** Globalization; The era of regional trade agreements; Expansion of international commodity turnover; Emergence of electronic trading platforms and the blurring of borders for consumer choice; The focus of international regulation is on food security, ecology, life expectancy and quality, exchange of best technologies;

	Getting graphene. Robotics. Emergence and development of electronic commerce and 3D materials and technologies	biological and digital technologies)			– Use of the Internet to create and develop the institution of electronic commerce; – Emergence and development of the institution of state regulation of the transfer, deployment and use of information in electronic and digital form; – Giving the mass media the role of the institution of influence on public consciousness; – Restriction of the role of the state as a regulator; – The fall of the role of professional associations; – The emergence of institutions for multilateral trade regulation and global economic regulation; – Multipolarity of the world economic system; – Development of the institute of integration associations of countries; – Providing the institute of intellectual property protection with new content in connection with	1990–1991 – disintegration of the USSR; 1991 – breakdown of the CMEA; Formation of the main integration associations of countries; Formation of a homogeneous economic environment based on market principles of functioning; Decrease in the share of state regulation in the economy (on a global scale due to the fall of the socialist world); Trade liberalization; Application of extraterritoriality of law in international relations. **Imperatives:** – Restriction of state regulation; – Establishment of interaction between the state and society using public control mechanisms (assessment of regulatory impact, public discussion of draft mandatory norms, etc.); – Liberal-etatist model of regulation; – harmonization of national legislation with international norms and rules; – Support for the development of entrepreneurship; – Strengthening enforcement mechanisms to comply with international norms; – Activation of self-regulation; – Reduction in the use of direct tools to

					appearance of new types of products expressed in electronic-digital form.	support producers (liberalization of tariff protection) and increased use of complex non-tariff instruments; – Strict compliance with international agreements; – Focus on maintaining a competitive environment in the domestic market; – Development of institutional conditions for the development of entrepreneurship.
VI 2020–2060	Development of nanotechnology, robotics, biotechnology. Artificial intelligence and global information networks. Wide distribution of 3D technologies. Artificial organs based on 3D technologies. High-speed transport systems. Robotization of production. Use of renewable energy sources.		2010–2018 – the upward wave 2018–2040 – the top 2040–2050 – the downward wave 2050–2060 – bottom		- Strengthening the role of institutions to ensure environmental protection, protect historical heritage, preserve planetary resources; – Formation and development of quality of life institutions (smart cities, smart technologies); – Formation and development of the institutions of smart regulation (expansion of the capabilities of economic agents, the formation of new forms of cooperative interaction); – Emergence of the institution of global economic governance by the redistribution of food and energy resources.	**Reasons:** Deepening international cooperation between countries and strengthening economic alliances; Reduction of transaction costs due to the harmonization of legislation (mandatory requirements); Increased information in training; Industrial and technological chains based on 3D technologies, artificial intelligence, the emergence of a new kind of materials and raw materials; Accelerated development and implementation of new technologies; Widespread use of electronic commerce. **Imperatives:** – use of flexible regulatory tools; – application of symbiosis of mechanisms and tools of emergent strategic approach and competitive positioning ("the strategy should be

						oriented to creating conditions for the self-organization of systems: for example, laws and rules underlying competitive markets"); – regulation based on the priority of international law and, accordingly, the merger of internal regulation with the regulation of external markets, the formation of a standard set of regulation; – The emphasis of regulation on ensuring a competitive environment when the borders of internal and external markets are blurred; – Enhancing the role of providing and protecting the rights of purchasers and intellectual property.

Source: Compiled by the author.

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Глазатова М. К.[1]

Императивы развития регулирования предпринимательской деятельности в условиях глобальной экономики[2]

В данной статье рассмотрена эволюция системы мер регулирования в свете происходящих структурных сдвигов и промышленных революций. Применяется концепция технологических укладов, позволяющая отследить динамику условий деятельности индустриального сект*ора.*

В работе подробно анализируется, насколько возможно успешно сочетать различные меры регулирования в целях расширения производства с поддержкой здоровой конкурентной среды и поощрением предпринимательской деятельности.

Подчеркивается, что в информационную эпоху перемещение технологий происходит настолько быстро, что успех в экономической сфере зависит преимущественно от их использования в конкретной стране.

Ключевые слова: *волны Кондратьева, технологический уклад, структурные сдвиги, промышленная революция.*

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1 Глазатова Марина Константиновна — к.э.н., Заместитель Директора Института торговой политики, Национальный исследовательский университет Высшая школа экономики, Москва, Россия. E-mail: <mglazatova@hse.ru>.

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