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Ensuring Economic Safety of South Korea in the Implementation of the Agreement on the Transtichokeyan Strategic Economic Cooperation

Trans-Pacific Partnership (TPP) is an international trade and economic organization set to create a free trade zone in the Asia-Pacific region (APR). The organization is created on the basis of the developed trade agreement between its participants[1]. The real participants of the TTP are its four founders[2], as well as the countries that are negotiating the terms of their participation, as well as the rules of the new trade block[3] [1, 2].

Economic patronage, as a form of ensuring the economic security of the state[4], in the context of globalization determines, first of all, observance of various

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[1] The full title of the document is the Trans-Pacific Strategic Economic Partnership Agreement. Preparation of the draft Agreement was conducted in the absolute secrecy of negotiations when discussing its conditions. The agreement regulates a wide range of issues related to the legal protection of intellectual property rights (domain names on the Internet, registration and protection of trademarks, protection of copyright and related rights, restrictions on the production of cheap analogs of patented drugs, etc.), agriculture, telecommunications, financial services, cCustoms cooperation and tariffs, mutual investments, etc. The US advocates the idea of introducing an order in which a TTP member country could be obliged to raise labor and environmental standards to a certain, "international" level. Also, the United States belongs to the initiative of the establishment in the TTP of a special court to deal with disputes between transnational corporations and governments.

[2] The proposal to create a TTP was launched in 2003 by three countries – New Zealand, Singapore and Chile. In 2005, Brunei became a participant, in the same year four countries signed an agreement on the establishment of a TTP, which entered into force in 2006. The Agreement on the Establishment of the TTP stated that its participants created, in accordance with WTO rules, a free trade zone.

[3] In other words, when they say that a country has entered the TTP, it means that it joined the negotiations. In 2008, the United States, followed by Australia, Vietnam and Peru, became interested in this project. In 2010, negotiations to join the TTP began in Malaysia, in 2012 – Canada and Mexico. In April 2012, the US announced its intention to include Japan in the organization, in March 2013, Japan decided to start negotiations on joining the TTP. In May 2013, it was announced the beginning of negotiations on Japan, in the business environment of Japan began an active discussion of the prospects of entering the TTP. From 2010 to September 2013, the countries held 19 rounds of official negotiations on the draft TTP agreement. October 5, 2015 in Atlanta, USA, an agreement was reached on the Trans-Pacific partnership between 12 countries: the United States, Japan, Malaysia, Vietnam, Singapore, Brunei, Australia, New Zealand, Canada, Mexico, Chile and Peru.

[4] In the "Concept of Economic Security of the Russian Federation" the concept of "*economic security of the state*" is defined as "the *ability* and *readiness* of the economy to ensure decent living and personal development, socio-economic and military-political stability of society and the state, to resist the influence of internal and external threats". See: The Concept of Economic Security of the Russian Federation. Basic provisions. – M.: Scientific Council of Security Council of the Russian Federation, 1994. In the same vein, this concept is also treated in the "State Strategy for Economic Security of the Russian Federation (Basic Provisions), approved by Presidential Decree No. 608 of April 29, 1996. In the New Economic Encyclopedia, the term "*economic security of the state*" is defined as "the *state of the economy* and the *readiness of the institutions of power*, under which protection of national interests in relation to possible external and internal threats and impacts, socially directed development of the country as a whole are guaranteed. Sufficient defense potential". See: E. E. Rumyantseva. New economic encyclopedia. 2nd ed.– Moscow:

norms related to functioning of the national economy[5] on the economic territory of the state in the presence of various external and internal threats. [3]

Obviously, the effectiveness of implementation of the relevant existing norms in the functioning of South Korean economy[6] in the prevention, neutralization, localization of various external and internal threats and / or elimination of their negative consequences under conditions of globalization can be considered in the example of global financial and economic crisis 2008–2010 and the post-crisis period[7].

INFRA-M, 2006. – VI, 810 p. In our opinion, the *economic security of the state can be presented as a state of protection of the national economy from external and internal threats,* which ensures the progressive development of society, its economic and socio-political stability, despite the presence of unfavorable external and internal factors.

Here and further under the *ensuring of economic security of the state* is understood the process of ensuring the protection of the national economy from external and internal threats on the economic territory of the state. In other words, this is a process of increasing and / or maintaining the necessary level of protection of the national economy from external and internal threats in the economic territory of the state. It seems that the laws governing the economic security of the state in the context of globalization are:

1. *Dependence of the efficiency of the functioning of the economy, its protection against external and internal threats from the level of resources.*
2. *Dependence of the effectiveness of ensuring the economic security of the state on the effectiveness of special measures and the use of special means.*
3. *Dependence of the effectiveness of the adoption of special measures to ensure the economic security of the state, the use of special means to protect the national economy from external and internal threats, from the existence of a specialized organizational structure of the state.*
4. *Dependence of the effectiveness of ensuring the economic security of the state against the concentration of the impact on the economy opposing in the competitive (political, military-economic) struggle of the party.*
5. *Dependence of the effectiveness of the functioning of the national economy on the nature of its interaction with national economies of other countries.*
6. *Dependence of the degree of protection of the national economy against external and internal threats from the level of economic security of states with which economic cooperation takes place in the context of globalization, and the degree of mutual influence of the national economy on the economies of other countries, the world economy sector.*
7. *Dependence of the degree of protection of the national economy on external and internal threats from the level of economic security of states with which economic confrontation occurs in the context of globalization, and the degree of unrealized interference of the national economy in the economies of other countries, the world economy sector.*

[5] By their very nature, the norms of the functioning of the national economy can be legal, legislative, religious, political (ideological, conceptual), ethical, etc. These norms can be universal, international (inter-confessional, interethnic), regional (confessional, national), state (for Russia – federal), sub-state (for Russia – a subject of the federation), etc.

[6] The potential of the national economy of South Korea is characterized by the territory (99,617.38 square kilometers) and the population (50.22 million people (2013) of this state. The country is poor in mineral resources. Near the town of Samchok coal is extracted (1.6 billion tons), tungsten and polymetallic ores, magnesite. Polymetallic ores have a high content of lead and zinc (Su-won). Available are: copper (Koson, Chinhe), manganese (Ponkhwa), nickel and molybdenum ores. Gold and silver are also mined; deposits of kaolin, talc, limestone are also excavated. On the Korean peninsula there are the world's largest deposits of graphite.

[7] The emergence of the world financial and economic crisis can be interpreted as inefficient implementation of the existing norms of world economy and its components' functioning. The main imbalances of the world economy, which led to the global financial and economic crisis are 1) the imbalance between the real value of assets and the amount of money circulating in financial markets. For example, the world market for insurance of banks against default on loans amounted to 62 trillion dollars by the end of the second quarter of 2008, which exceeded the size of world GDP in 2007; 2) imbalance of world growth. In the years leading up to the crisis, the gap between consumption and the level of national production in the developed

Ensuring Economic Safety of South Korea in the Implementation of the Agreement
on the Transtichokeyan Strategic Economic Cooperation

75

The value of economic security indicators of South Korea, which characterize the economic patronage on the part of the Government and the Central Bank of the country, are presented in Table. 1[8]. [1, 3]

countries of the G7 and a number of European countries has grown many times, turning them into the largest debt economies and stimulating the flows of capital from all over the world; 3) the imbalance between the growth of companies' capitalization, the profitability of investments in the financial sector and the return on investment in the real sector, and the growth of labor productivity. As a result, for some outwardly quite successful companies in the real sector before the crisis, losses from their production activities were covered by speculative operations in financial markets; 4) imbalance between the real possibilities and the obligations of consumers. This started in the US mortgage market, and then in the consumer lending market. At the same time, the depth and duration of crisis in the economic territories of different countries of the world was determined not only by the magnitude of those imbalances, but also by the adequacy of anti-crisis measures taken by the relevant state structures. For more details, see: Nabiullina E. Economic policy in crisis – analysis and prospects. // The economic policy, 2009, №3. – P.73–85; Gordienko D. V. The impact of the global financial and economic crisis on the changing level of economic security in the world. // National interests: priorities and security, 2010, No. 18 (75). – P.46–53.

[8] Threshold levels of economic security in South Korea are: 1) for the volume of gross domestic product (GDP) – 600 billion dollars (in 2003 prices); 2) for the gross harvest of grain – 25 million tons (weight before processing); 3) for the share of investments in fixed assets – 16 per cent of GDP; 4) for the share of defense spending – 2.0 per cent of GDP; 5) for a share of expenditures on "civil" science – 1.5 per cent of GDP; 6) for the share of innovative products in the total volume of industrial output – 15 per cent; 7) for the share of machine building and metalworking in industrial production – 25 per cent; 8) for the proportion of people with cash incomes below the subsistence minimum in the entire population – 7 per cent of the total population of the country; 9) for the decile coefficient of differentiation of incomes of the population – 8; 10) for the unemployment rate – 8 per cent for the economically active population; 11) for the level of monetization – 25 per cent of GDP; 12), 13) for external and internal debt – 40 per cent and 30 per cent of GDP, respectively; 14) for the share of budget expenditures for servicing the public debt – 20 per cent of the total expenditure of the central government budget; 15) for the central government budget deficit – 3 per cent of GDP; 16) for the inflation rate – 25 per cent; 17) for the volume of gold and foreign currency reserves – 37.5 billion dollars; 18) for the ratio of payments on external debt to the volume of annual exports – 25 per cent; 19) for the share of food received by import, in the total volume of food resources – 20 per cent.

It is assumed that the *smallest possible* value of the i-th *normalized private economic security indicator* of the state, which characterizes the level of economic security of the state, realized in the framework of economic patronage – $\beta_{i,min} = 0,01$ – corresponds to the lowest level of economic security of the state for fixed values of other private indicators- Indicators. And vice versa, the *largest possible* value of the *i*-th normalized private indicator – $\beta_{i,max} = 100$ – corresponds to the highest level of security of the national economy of the

$$Y_{ЭБ(ЭПатронат),j} = \prod_{i=1}^{19} \beta_{i,j}^{\alpha_{i,j}}, \quad 0,01 \le \beta_{i,j}^{\alpha_{i,j}} \le 100,$$

country, also with fixed values of other private indicator indicators. The *single* value of the *i*-th normalized private indicator – $\beta_i = 1$ – corresponds to the threshold level of economic security of the state.

The calculated formula of the general normative index of the security of the national economy of the *j*-th state-the level of economic security realized within the framework of the economic patronage, can have the form:

where: $Y_{ЭБ(ЭПатронат),j}$ – the general standardized level of safety of the national economy of the j-th state, realized in the framework of economic patronage, $\alpha_{i,j}$ – the weight of the i-th normalized private indicator characterizing the economic security of the j-th state, $\beta_{i,j}$ – the value of the i-th normalized private indicator characterizing the economic security of the j-state.

With the same significance of the 19th security component of the national economies of the developed countries, the lowest possible value of the overall norm (level) of economic security of the j-th state realized within the framework of the economic patronage is $Y_{ЭБ(ЭПатронат),j,min} = 10^{-38}$ – The lowest level of security of the country's national economy. And, on the contrary, the largest possible value of this indicator is $Y_{ЭБ(ЭПатронат),j,max} = 10^{38}$ – corresponds to the highest level of economic security of the state. The single value of the general (integral) norm of the economic security of the state – $Y_{ЭБ(ЭПатронат),j} = 1$ – corresponds to the critical level of safety of the national economy, the reduction of which determines the danger for

Table 1

The values of economic indicators of South Korea, which characterize the economic patronage of the Government and the Central Bank of the country

Private indicators of economic security, characterizing …	2007	2010	2015 (valuation)	2020 (valuation)
Volume of GDP ($\beta_{1,3}$)	1,60	1,72	2,17	2,83
Gross harvest of cereals ($\beta_{2,3}$)	1,18	1,18	1,18	1,19
Investments in fixed assets ($\beta_{3,3}$)	1,59	1,61	1,64	1,70
Unemployment rate ($\beta_{4,3}$)	2,35	2,58	2,86	3,08
Monetization level ($\beta_{5,3}$)	5,42	5,64	6,00	6,80
External debt ($\beta_{6,3}$)	22,22	1,14	1,33	1,60
Defense Expenses ($\beta_{7,3}$)	1,45	1,50	1,50	1,50
Expenses for "civil" science ($\beta_{8,3}$)	1,93	1,93	2,00	2,07
Innovative products ($\beta_{9,3}$)	5,34	5,43	5,69	5,97
The rate of inflation ($\beta_{10,3}$)	4,46	4,39	4,24	4,24
The volume of gold and foreign exchange reserves ($\beta_{11,3}$)	6,59	8,00	10,67	12,00
Payments on external debt ($\beta_{12,3}$)	16,67	16,67	17,86	17,86
Domestic debt ($\beta_{13,3}$)	1,95	1,50	1,30	1,20
Spending on public debt ($\beta_{14,3}$)	4,26	4,17	4,08	4,00
Central government budget deficit ($\beta_{15,3}$)	1,88	1,67	2,00	2,31
Machine building and metalworking in industrial production ($\beta_{16,3}$)	1,07	1,08	1,16	1,24

the economy of the j-state. This value corresponds to the general (integral) conditional "threshold", which nevertheless gives an idea of a certain boundary between the state of protection and the state of insecurity of the national economy from external and internal threats. Sources: Economic Security of Russia: General Course: Textbook / Ed. V. C. Senchagova.– M.: Publishing house "Delo", 2005.– 806 p.; Economic and National Security: A Textbook / Ed. E. A. Oleynikova.– M.: Publishing house "Examen", 2004.– 768 p.; Gordienko D. V., Safonov M. S. Economic Security of Russia. Theoretical and methodological aspects.– Moscow: Prospekt, 2016.– 256 p. Gordienko D. V., Kamayev R. A. Ensuring economic security of the state in the context of globalization.– Moscow: ARGAMAK-MEDIA, 2016,– 360 p.; Gordienko D. V. Ensuring the economic security of the state in times of crisis: a textbook.– M.: Publishing house "Delo" RANEPA, 2012.– 368 p.

Ensuring Economic Safety of South Korea in the Implementation of the Agreement
on the Transtichokeyan Strategic Economic Cooperation

77

Private indicators of economic security, characterizing …	2007	2010	2015 (valuation)	2020 (valuation)
The population with cash incomes below the subsistence level ($\beta_{17,3}$)	1,17	1,08	1,16	1,24
Decile coefficient of income differentiation ($\beta_{18,3}$)	1,05	1,08	1,11	1,14
Share of food imported ($\beta_{19,3}$)	0,34	0,36	0,43	0,50
The values of the economic security indicator characterizing the economic patronage $\prod_{i=1}^{19} \beta_{i,3}$	$4,34 \times 10^7$	$3,22 \times 10^6$	$9,70 \times 10^6$	$3,29 \times 10^7$

The economic cooperation of South Korea with the countries participating in the TPP can be characterized by the corresponding indicators of the country's trade turnover for the period from 2010 to 2020. (Table 2)[9]. [3]

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[9] It is assumed that the *smallest possible* value of the *k*-th *normalized private economic security indicator* of the state, characterizing the level of economic security of the state, realized in the framework of economic cooperation with the economy of the *k*-th state, $-\beta_{k,min} = 0,01$ – corresponds to the lowest level of economic security of the state under fixed values of other private indicators. And, conversely, the *largest possible* value of the *k*-th normalized private indicator $-\beta_{k,max} = 100$ – corresponds to the highest level security of the national economy security, also with fixed values of other private indicators. The *single* value of the *k*-th normalized private indicator $-\beta_k = 1$ – corresponds to the threshold level of economic security of the state. The calculated formula for the level of economic security realized in the framework of economic cooperation may look like:

$$У_{ЭБ(ЭКооперация),j} = \prod_{\substack{k=1 \\ k \neq j}}^{K} \left(\left(\prod_{i=1}^{19} \beta_{i,j}^{\alpha_{i,j}} \right)^{\frac{\alpha_{imp\,j,k}}{19}} \times \left(\prod_{i=1}^{19} \beta_{i,k}^{\alpha_{i,k}} \right)^{\frac{\alpha_{exp\,k,j}}{19}} \right)^{\frac{\gamma_{k,j}}{2}} .$$

$$0,01 \leq \left(\left(\prod_{i=1}^{19} \beta_{i,j}^{\alpha_{i,j}} \right)^{\frac{\alpha_{imp\,j,k}}{19}} \times \left(\prod_{i=1}^{19} \beta_{i,k}^{\alpha_{i,k}} \right)^{\frac{\alpha_{exp\,k,j}}{19}} \right)^{\frac{\gamma_{k,j}}{2}} \leq 100,$$

where: $У_{ЭБ(ЭКооперация),j}$ – the general standardized level of safety of the national economy of the j-th state, realized in the framework of economic cooperation,

$\alpha_{i,j}(\alpha_{i,k})$ is the weight of the i-th normalized private indicator characterizing the economic security of the j-th (k-th) state,

$\alpha_{imp,j,k}, \alpha_{exp,k,j}$ – the weights of the influence of the national economy of the k-th state on the economy of the j-th state ("import of the economic influence of the k-th state on the j-th state") and the influence of the national economy of the j-th state on the economy of the k-th state ("Export of economic influence of the j-th state to the k-th state") within the framework of their economic cooperation in the conditions of globalization. The weight of the mutual influence of the economies of the world's states in the context of globalization can be characterized by a multitude of indicators. It seems that, in the first approximation, the weight of the influence of the national economy of the k-th state on the economy of the j-th state ("import of economic influence") can be represented by the corresponding share of imports of goods and services of the k-th state in the j-th state, and the weight of the influence of the national Economy of the j-th state to the economy of the k-th state ("export of economic influence") within the framework of their economic cooperation in the context of globalization can be represented by a corresponding share of exports of goods

Table 2

South Korea's trade turnover

	Export to …						Import from …					
	2010		2020 (forecast)				2010		2020 (forecast)			
	Bil-lion dol-lars	%	without taking into account the implementa-tion of TTP		taking into account the implementa-tion of TTP		Bil-lion dol-lars	%	without taking into account the implementa-tion of TTP		taking into account the implementa-tion of TTP	
			Bil-lion dol-lars	%	Bil-lion dol-lars	%			Bil-lion dollars	%	Bil-lion dol-lars	%
Brunei	1,0	**0,22**	2,8	**0,40**	3,1	**0,44**	0,4	**0,19**	2,5	**0,38**	2,8	**0,42**

and services of the j-th state to the k-th state. The situation when $\alpha_{imp.j,\,k} = 0$ and $\alpha_{exp.k,\,j} = 0$ corresponds to the complete isolation of the economies of the j-th and k-th states. The situation when $\alpha_{imp.j,k} = 1$ and $\alpha_{exp.k,j} = 1$ corresponds to the complete interdependence of economies (full economic integration) of the j-th and k-th states. The situation when $\alpha_{imp.j\,k} = 1$ corresponds to the complete external management of the economy of the j-th state from the side of the k-th state,

$\gamma_{k,j}$ is the weight of the normalized private indicator characterizing the economic cooperation of the j-th and the k-th state in the conditions of globalization,

$\beta_{i,j}(\beta_{i,k})$ is the value of the i-th normalized private indicator characterizing the economic security of the j-th (k-th) state,

K is the number of states in the world under consideration.

At the same importance, the security components of national economies of the world, characterizing their economic cooperation in the context of globalization, $\gamma_{k,j} = 1$. In this case, the restriction of the value of the economic security index of the j-th state, characterizing its economic cooperation with the k-th state, is unconditionally fulfilled. For the same significance, for example, the 19th security component is the smallest possible value of the overall standardized indicator (level) of the economic security of the j-th state realized in the framework of economic cooperation with national economies of 19 states of the world – $y_{ЭБ(Экооперация),\,j,min} = 10^{-38}$ – corresponds to the lowest level of security of the national economy of the country. And, on the contrary, the largest possible value of this indicator is $y_{ЭБ(Экооперация),\,j,max} = 10^{38}$ – corresponds to the highest level of economic security of the state. The single value of the general (integral) standardized indicator of the economic security of the state – $y_{ЭБ(Экооперация),\,j} = 1$ – corresponds to the critical level of security of the national economy, the reduction of which determines the danger to the economy of the j-th state. This value corresponds to the general (integral) conditional "threshold", which nevertheless gives an idea of a certain boundary between the state of protection and the state of insecurity of the national economy from external and internal threats. **Sources:** Gordienko D. V., Safonov M. S. Economic Security of Russia. Theoretical and methodological aspects.– M.: Prospekt, 2016.– 256 p; Gordienko D. V., Kamayev R. A. Ensuring the economic security of the state in the context of globalization.– M.: ARGAMAK-MEDIA, 2016,– 360 p; Gordienko D. V., Yakovleva N. G. The global financial and economic crisis and ensuring the economic security of the state.– M: ARGAMAK-MEDIA, 2013 – 392 p.; Gordienko D. V., Luzyanin S. G. Globalization and ensuring China's economic security / China in global and regional politics. Issue XVIII: annual publication / comp. E. I. Safronova.– M.: IFES RAS, 2013. – pp.296–325; Gordienko D. V., Luzyanin S. G. Assessment of the security level of the countries of North-East and Central Asia.– M.: IFES RAS, 2013.– 88 p.; Gordienko D. V. Influence of the world financial and economic crisis on the level of economic security of South Korea in the conditions of globalization / Korea: lessons of history and challenges of modernity.– M.: IFES RAS, 2013.– P. 381–404.; Gordienko D. V. Assessment of the level of economic security of the states of the Asian-Pacific region // National interests: priorities and security, 2013, No. 13 (202).– P.39–55; No. 15 (204).– P. 20–39; Gordienko D. V. Ensuring South Korea's economic security in the context of globalization // National interests: priorities and security, 2013, No. 36 (225). – P.37–54.

Ensuring Economic Safety of South Korea in the Implementation of the Agreement
on the Transtichokeyan Strategic Economic Cooperation

79

|	Export to …						Import from …					
	2010		2020 (forecast)				2010		2020 (forecast)			
			without taking into account the implementation of TTP		taking into account the implementation of TTP				without taking into account the implementation of TTP		taking into account the implementation of TTP	
	Billion dollars	%	Billion dollars	%	Billion dollars	%	Billion dollars	%	Billion dollars	%	Billion dollars	%
Chile	5,5	**1,20**	7,5	**1,07**	8,3	**1,18**	3,2	**1,46**	7,0	**1,08**	7,7	**1,18**
N.Zeland	1,0	**0,22**	2,0	**0,29**	2,2	**0,31**	0,4	**0,18**	1,3	**0,20**	1,4	**0,22**
Singapore	24,8	**5,39**	24,0	**3,43**	26,4	**3,77**	4,5	**2,03**	15,0	**2,31**	16,5	**2,54**
USA	49,2	**10,70**	70,0	**10,00**	77,0	**11,00**	19,8	**8,94**	60,0	**9,23**	66,0	**10,15**
Australia	20,0	**4,35**	30,0	**4,29**	33,0	**4,71**	15,0	**6,78**	21,0	**3,23**	23,1	**3,55**
Peru	2,0	**0,43**	2,4	**0,34**	2,6	**0,38**	1,5	**0,68**	2,2	**0,34**	2,4	**0,37**
Vietnam	12,0	**2,61**	12,4	**1,77**	13,6	**1,95**	6,0	**2,71**	10,0	**1,54**	11,0	**1,69**
Malaysia	3,0	**0,65**	3,6	**0,51**	3,96	**0,57**	2,0	**0,90**	3,5	**0,54**	3,85	**0,59**
Mexico	9,1	**1,97**	19,0	**2,71**	20,9	**2,99**	8,0	**3,61**	14,0	**2,15**	15,4	**2,37**
Canada	5,0	**1,09**	6,0	**0,86**	6,6	**0,94**	4,0	**1,81**	5,5	**0,85**	6,1	**0,93**
Japan	27,6	**6,00**	47,0	**6,71**	51,7	**7,39**	45,6	**20,60**	68,0	**10,46**	74,8	**11,51**
Taiwan	11,5	**2,50**	21,0	**3,00**	23,1	**3,30**	10,5	**4,74**	14,0	**2,15**	15,4	**2,37**
Colombia	2,0	**0,43**	2,4	**0,34**	2,6	**0,38**	1,5	**0,68**	2,3	**0,35**	2,5	**0,39**
Philippines	1,3	**0,28**	9,0	**1,29**	9,9	**1,41**	1,0	**0,45**	5,0	**0,77**	5,5	**0,85**
TOTAL	175,0	38,03	259,1	37,01	285,0	40,72	123,5	55,76	231,3	35,58	254,4	39,14
ALL	460,0	**100**	700,0	**100**	700,0	**100**	221,4	**100**	650,0	**100**	650,0	**100**

The implementation of the Agreement on the Trans-Pacific Strategic Economic Cooperation will increase the share of South Korea's trade with the countries participating in the Trans-Pacific Partnership by 2020 by no less than 3.63 per cent – from 36.33 per cent ($490.4 billion) to 39.96 per cent. ($539.4 billion) [10] [1, 2].

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[10] Including: with Brunei – by 0.04 per cent – from 0.39 per cent (5.3 billion dollars) to 0.43 per cent (5.8 billion dollars);
From Chile – by 0.11 per cent – from 1.07 per cent (14.5 billion dollars) to 1.18 per cent (16.0 billion dollars);
With New Zealand – by 0.024 per cent – from 0.244 per cent (3.3 billion dollars) to 0.269 per cent (3.6 billion dollars);
With Singapore – by 0.289 per cent – from 2.89 per cent ($39.0 billion) to 3.18 per cent ($42.9 billion);
With the United States – by 0.963 per cent – from 9.63 per cent (130.0 billion dollars) to 10.59 per cent (143.0 billion dollars);
With Australia – by 0.378 per cent – from 3.78 per cent (51.0 billion dollars) to 4.16 per cent

The increments in the level of economic security realized in the framework of its economic cooperation are shown in Fig. 1.

Figure1

The growth rates of the level of economic security of South Korea realized in the framework of its economic cooperation without taking into account the implementation of (a) and taking into account (b) the implementation of the Agreement on Trans-Pacific Strategic Economic Cooperation
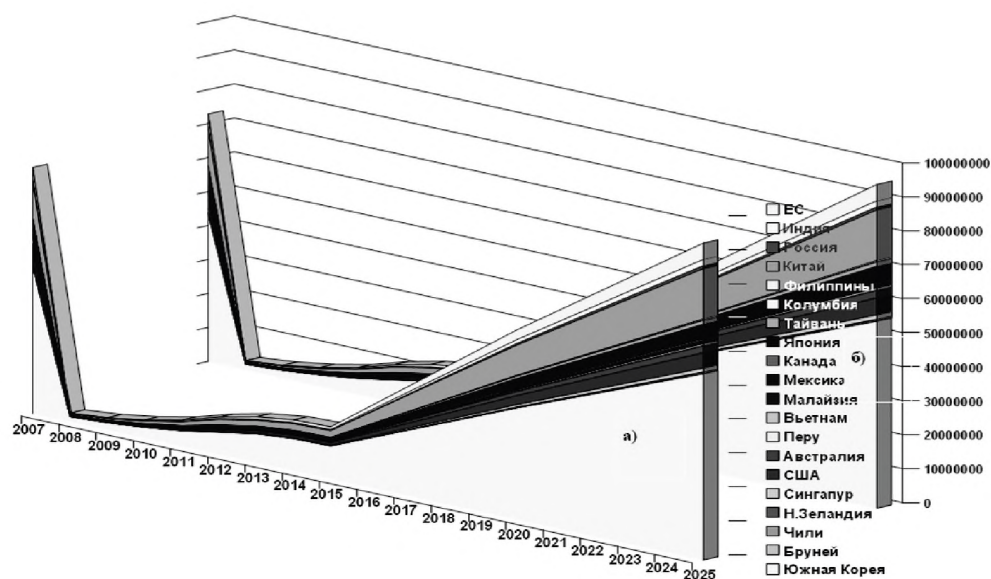
The economic confrontation between South Korea and the member countries of the Trans–Pacific Partnership can be characterized by corresponding indicators of the unrealized trade turnover of this country between 2010 and 2020. (Table 3)[11]. [3]

(56.1 billion dollars);
From Peru – by 0.034 per cent – from 0.34 per cent (4.6 billion dollars) to 0.37 per cent (5.1 billion dollars);
With Vietnam – by 0.166 per cent – from 1.66 per cent (22.4 billion dollars) to 1.83 per cent (24.6 billion dollars);
With Malaysia – by 0.053 per cent – from 0.53 per cent (7.1 billion dollars) to 0.58 per cent (7.81 billion dollars);
With Mexico – by 0.244 per cent – from 2.44 per cent (33.0 billion dollars) to 2.69 per cent (36.3 billion dollars);
With Canada – by 0.085 per cent – from 0.85 per cent (11.5 billion dollars) to 0.94 per cent (12.7 billion dollars);
With Japan – by 0.852 per cent – from 8.52 per cent (115.0 billion dollars) to 9.37 per cent (126.5 billion dollars);
With Taiwan – by 0.259 per cent – from 2.59 per cent (35.0 billion dollars) to 2.85 per cent (38.5 billion dollars);
With Colombia – by 0.035 per cent – from 0.35 per cent (4.7 billion dollars) to 0.38 per cent (5.2 billion dollars);
With the Philippines – by 0.104 per cent – from 1.04 per cent (14.0 billion dollars) to 1.14 per cent (15.4 billion dollars).

[11] It is assumed that the *smallest possible* value of the *l*-th normalized private economic security indicator

Ensuring Economic Safety of South Korea in the Implementation of the Agreement
on the Transtichokeyan Strategic Economic Cooperation

81

of the state, characterizing the level of economic security of the state, realized in the context of economic confrontation with the economy of the l-th state, $-\beta_{l,min}$ = 0.01 – corresponds to the lowest level of economic security of the state under Fixed values of other private indicator indicators. And, conversely, the *largest possible* value of the l-th normalized private indicator – $\beta_{l,max}$ = 100 – corresponds to the highest level of safety of the national economy of the country, also with fixed values of the remaining private indicator indicators. The *single* value of the l-th normalized private indicator – β_l = 1 - corresponds to the threshold level of economic security of the state.

The calculated formula for the level of economic security realized within the framework of economic confrontation may look like:

$$ Y_{ЭБ(ЭПротивоборство),j} = \prod_{\substack{l=1 \\ l \neq j}}^{L} \left(\frac{\left(\prod_{i=1}^{19} \beta_{i,j}^{\alpha_{i,j}}\right)^{\frac{\alpha_{нереал.\,imp.j,l}}{19}}}{\left(\prod_{i=1}^{19} \beta_{i,l}^{\alpha_{i,l}}\right)^{\frac{\alpha_{нереал.\,exp.l,j}}{19}}} \right)^{\chi_{l,j}}, $$

$$ 0,01 \leq \left(\frac{\left(\prod_{i=1}^{19} \beta_{i,j}^{\alpha_{i,j}}\right)^{\frac{\alpha_{нереал.\,imp.j,l}}{19}}}{\left(\prod_{i=1}^{19} \beta_{i,j}^{\alpha_{i,j}}\right)^{\frac{\alpha_{нереал.\,exp.l,j}}{19}}} \right)^{\chi_{l,j}} \leq 100, $$

where: $Y_{ЭБ\,(ЭПротивоборство),j}$ – the general normalized indicator of the level of security of the national economy of the j-th state, realized in the framework of economic confrontation,

$\alpha_{i,j}$ ($\alpha_{i,l}$) is the weight of the i-th normalized partial indicator characterizing the economic security of the j-th (l-th) state,

$\alpha_{нереал.\,imp.j,l}$, $\alpha_{непеал.\,exp.l,j}$ – the weight of the unrealized influence of the national economy of the l-th state on the economy of the j-th state ("unrealized import of the economic influence of the l-th state on the j-th state") and the unrealized influence of the national economy of the j-th state on the economy l ("Unimplemented exports of the economic influence of the j-th state to the l-th state") within the framework of their economic confrontation in the conditions of globalization. The weight of the unrealized mutual influence of the economies of the states of the world under the conditions of globalization can be characterized by a multitude of indicators. It seems that, in the first approximation, the weight of the unrealized influence of the national economy of the l-th state on the economy of the j-th state ("unrealized imports of economic influence") can be represented by the corresponding share of unrealized imports of goods and services of the l-th state into the j-th state, and The weight of the unrealized influence of the national economy of the jth state on the economy of the lth state ("unimplemented export of economic influence") within the framework of their economic confrontation in the conditions of globalization can be represented by a corresponding share of unrealized exports of goods and services of the jth state to the lth state . The situation when $\alpha_{нереал.\,imp.j,l}$ = 0, and $\alpha_{нереал.\,exp.l,j}$ = 0 corresponds to the total absence of economic confrontation between the j-th and the l-th states. The situation when $\alpha_{нереал.\,imp.j,l}$ = 1 and $\alpha_{нереал.\,exp.l,j j}$ = 1 corresponds to the full economic confrontation between the j-th and the l-th states and he absence of economic confrontation of these states with other countries of the world,

$\chi_{l,j}$ – the weight of the normalized private indicator characterizing the economic confrontation between the j-th and l-th states in the conditions of globalization,

$\beta_{i,j}$ ($\beta_{i,l}$) is the value of the i-th normalized private indicator characterizing the economic security of the j-th (l-th) state,

L is the number of states in the world under consideration.

With the same significance, the security components of the national economies of the world, characterizing their economic confrontation in the context of globalization, and the difference of the numerator and denominator values by not more than 100 times, $\chi_{l,j}$ = 1. In this case, limiting the value of the economic security index of the jth state, Characterizing its economic confrontation with the l-th state, is fulfilled unconditionally. *Sources:* Gordienko D.V., Safonov M.S. Economic Security of Russia. Theoretical and methodological aspects. – M.: Prospekt, 2016. – 256 p.; Gordienko D.V., Kamayev R.A. Ensuring the economic security of the state in the context of globalization. – M.: ARGAMAK-MEDIA, 2016, – 360 p.; Gordienko D.V., Yakovleva N.G. The global financial and economic crisis and ensuring the economic security of the state. – M: ARGAMAK-MEDIA, 2013. – 392 p; Gordienko D.V., Luzyanin S.G. Globalization and ensuring China's economic security / China in global and regional politics. Issue. XVIII: annual publication / comp. E.I. Safronova. – M.: IFES RAS, 2013. – pp.296-325.; Gordienko D.V., Luzyanin S.G. Assessment of the security level of the countries of North-East and Central Asia. – M.: IFES RAS, 2013. – 88 p.; Gordienko D.V.

Table 3

Unrealized trade turnover of South Korea

	Unrealized exports to …							Unrealized imports from …						
	2010		2020 (forecast)				2010		2020 (forecast)					
			without taking into account the implementation of TTP		taking into account the implementation of TTP				without taking into account the implementation of TTP		taking into account the implementation of TTP			
	Billion dollars	%	Billion dollars	%	Billion dollars	%	Billion dollars	%	Billion dollars	%	Billion dollars	%		
Brunei	0,25	**0,22**	0,7	**0,4**	0,4	**0,24**	0,105	**0,19**	0,625	**0,38**	0,4	**0,23**		
Chile	1,375	**1,2**	1,875	**1,07**	1,1	**0,64**	0,81	**1,46**	1,75	**1,08**	1,1	**0,65**		
N.Zeland	0,25	**0,22**	0,5	**0,29**	0,3	**0,17**	0,1	**0,18**	0,325	**0,2**	0,2	**0,12**		
Singapore	6,2	**5,39**	6,0	**3,43**	3,6	**2,06**	1,125	**2,03**	3,75	**2,31**	2,3	**1,38**		
USA	12,3	**10,7**	17,5	**10**	10,5	**6,00**	4,95	**8,94**	15	**9,23**	9,0	**5,54**		
Australia	5,0	**4,35**	7,5	**4,29**	4,5	**2,57**	3,75	**6,78**	5,25	**3,23**	3,2	**1,94**		
Peru	0,5	**0,43**	0,6	**0,34**	0,4	**0,21**	0,375	**0,68**	0,55	**0,34**	0,3	**0,20**		
Vietnam	3,0	**2,61**	3,1	**1,77**	1,9	**1,06**	1,5	**2,71**	2,5	**1,54**	1,5	**0,92**		
Malaysia	0,75	**0,65**	0,9	**0,51**	0,5	**0,31**	0,5	**0,9**	0,875	**0,54**	0,5	**0,32**		
Mexico	2,26	**1,97**	4,75	**2,71**	2,9	**1,63**	2,0	**3,61**	3,5	**2,15**	2,1	**1,29**		
Canada	1,25	**1,09**	1,5	**0,86**	0,9	**0,51**	1,0	**1,81**	1,375	**0,85**	0,8	**0,51**		
Japan	6,9	**6,0**	11,75	**6,71**	7,1	**4,03**	11,4	**20,6**	17	**10,46**	10,2	**6,28**		
Taiwan	2,875	**2,5**	5,25	**3**	3,2	**1,80**	2,625	**4,74**	3,5	**2,15**	2,1	**1,29**		
Colombia	0,5	**0,43**	0,6	**0,34**	0,4	**0,21**	0,375	**0,68**	0,575	**0,35**	0,3	**0,21**		
Philippines	0,325	**0,28**	2,25	**1,29**	1,4	**0,77**	0,25	**0,45**	1,25	**0,77**	0,8	**0,46**		
TOTAL	43,74	**38,03**	64,77	**37,01**	38,9	**22,21**	30,86	**55,76**	57,82	**35,58**	34,7	**21,35**		
ALL	115,0	**100**	175,0	**100**	175,0	**100**	55,35	**100**	162,5	**100**	162,5	**100**		

The implementation of the Agreement on the Trans-Pacific Strategic Economic Cooperation will reduce the share of South Korea's unrealized trade turnover with the countries participating in the Trans-Pacific Partnership by 2020 by no less than 14.53 per cent – from 36.33 per cent (122.6 billion dollars) to 21.80 per cent. (73.6 billion dollars)[12].


Influence of the world financial and economic crisis on the level of economic security of South Korea in the conditions of globalization / Korea: lessons of history and challenges of modernity. – M.: IFES RAS, 2013. – P.381-404.; Gordienko D.V. Assessment of the level of economic security of the states of the Asian-Pacific region // National interests: priorities and security, 2013, No. 13 (202). – P.39-55; No. 15 (204). – P.20-39.; Gordienko D.V. Ensuring South Korea's economic security in the context of globalization // National interests: priorities and security, 2013, No. 36 (225). – P.37-54.

[12] Including: with Brunei – by 0.15 per cent – from 0.39 per cent (1.325 billion dollars) to 0.24 per cent (0.8 billion dollars);

Ensuring Economic Safety of South Korea in the Implementation of the Agreement
on the Transtichokeyan Strategic Economic Cooperation

83

The growth rates of the level of economic security realized in the framework of its economic confrontation are presented in Fig. 2. [1, 2]

Figure 2

The growth rates of the level of economic security of South Korea realized within the framework of its economic confrontation without taking into account the implementation of (a) and taking into account (b) the implementation of the Agreement on Trans-Pacific Strategic Economic Cooperation
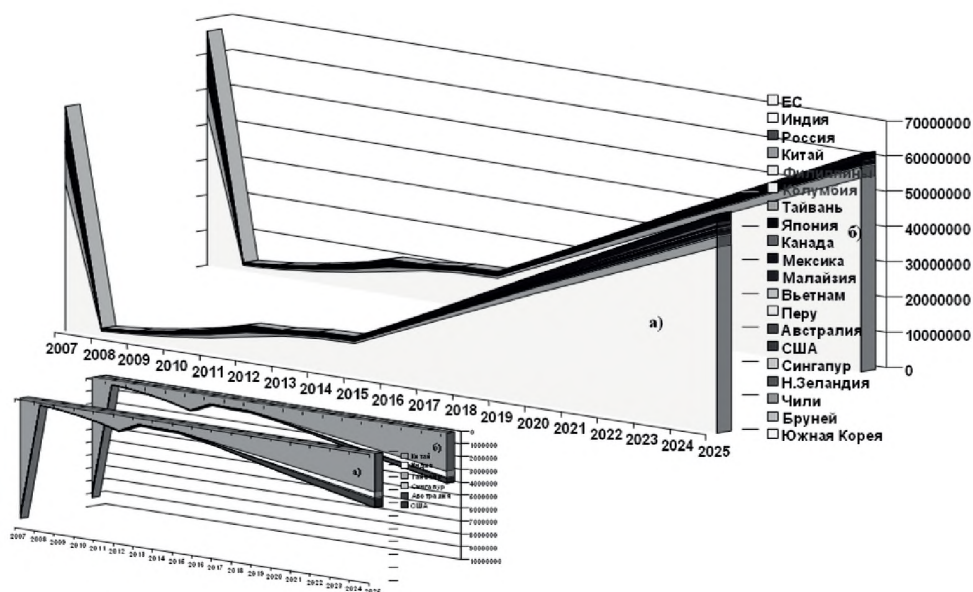

From Chile – by 0.43 per cent – from 1.07 per cent (3.625 billion dollars) to 0.64 per cent (2.2 billion dollars);
With New Zealand – by 0.09 per cent – from 0.24 per cent (0.825 billion dollars) to 0.15 per cent (0.5 billion dollars);
With Singapore – by 1.16 per cent – from 2.89 per cent (9.75 billion dollars) to 1.73 per cent (5.9 billion dollars);
With the US – by 3.85 per cent – from 9.63 per cent (32.5 billion dollars) to 5.78 per cent (19.5 billion dollars);
With Australia – by 1.51 per cent – from 3.78 per cent (12.75 billion dollars) to 2.27 per cent (7.7 billion dollars);
With Peru – by 0.14 per cent – from 0.34 per cent (1.15 billion dollars) to 0.2 per cent (0.7 billion dollars);
With Vietnam – by 0.66 per cent – from 1.66 per cent (5.6 billion dollars) to 1.0 per cent (3.4 billion dollars);
With Malaysia – by 0.21 per cent – from 0.53 per cent (1.775 billion dollars) to 0.32 per cent (1.1 billion dollars);
With Mexico – by 0.97 per cent – from 2.44 per cent (8.25 billion dollars) to 1.47 per cent (5.0 billion dollars);
With Canada – by 0.34 per cent – from 0.85 per cent (2.875 billion dollars) to 0.51 per cent (1.7 billion dollars);
With Japan – by 3.41 per cent – from 8.52 per cent (28.75 billion dollars) to 5.11 per cent (17.3 billion dollars);
With Taiwan – by 1.03 per cent – from 2.59 per cent (8.75 billion dollars) to 1.56 per cent (5.3 billion dollars);
With Colombia – by 0.14 per cent – from 0.35 per cent ($1.175 billion) to 0.21 per cent ($0.7 billion);
With the Philippines – by 0.42 per cent – from 1.04 per cent (3.5 billion dollars) to 0.62 per cent (2.1 billion dollars).

Obviously, with the continuing trends in South Korean economic development and the structure of its trade, negative increases in the level of protection of the national economy of this country are possible with the ongoing economic confrontation with China, India, Australia and Taiwan (Fig. 2a).

Figure 2a

Negative gains in the level of economic security of South Korea, realized within the framework of its economic confrontation without taking into account the implementation of (a) and taking into account (b) the implementation of the Agreement on Trans-Pacific Strategic Economic Cooperation
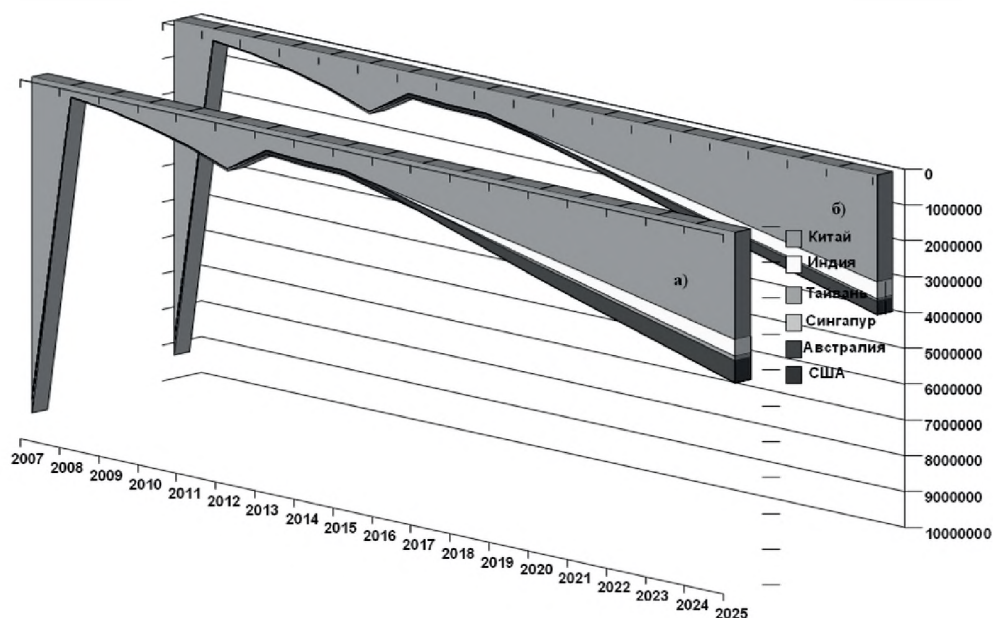
The change in the levels of economic security of South Korea implementation of the Agreement on the Trans-Pacific Strategic Economic Cooperation can be presented in the form of Table 4.

The presented approach to assessing the changes in the level of economic security of South Korea and other TTP states participating in the implementation of the Agreement on the Trans-Pacific Strategic Economic Cooperation makes it possible to determine the ranges of shares in the increase in exports of goods to each of the TTP member states and imports to each of the TTP member states by 2020 In comparison with the projected ones, at which maximum levels of their economic security can be achieved.

Ensuring Economic Safety of South Korea in the Implementation of the Agreement
on the Transtichokeyan Strategic Economic Cooperation

85

Table 4

Integral indicators characterizing the levels of protection of the national economy of South Korea, implemented in the framework of various forms of economic security

	2020 (forecast)							
	Economical patronat	without implementation Strategy of TTP			taking into account the implementation of Strategy of TTP			Change in the level of economic security in the implementation of the Agreement on Trans-Pacific Strategic Economic Co-operation
		Economic cooperation	Economic confrontation	Level of economic security	Economic cooperation	Economic confrontation	Level of economic security	
	(1)	(2)	(3)	(1)×(2)××(3)	(4)	(5)	(1)×(4)××(5)	(1)×(4)××(5)−(1)×(2)×(3)
Economic Cooperation and Economic Confrontation of South Korea with the States Parties to the Trans-Pacific Partnership	3,29×10⁷	1,3342	1,0742	4,72×10⁷	1,3732	1,0438	4,72×10⁷	4886,308
Economic Cooperation and Economic Confrontation of South Korea with States Parties to the Trans-Pacific Partnership, China, Russia, India and the EU (28)		1,9342	1,0091	6,42×10⁷	1,9907	0,9805	6,42×10⁷	2636,277

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