Statement of the problem

Most economic studies consider the integration processes from the angle of multilateral and interregional initiatives, bypassing the bilateral ones. However, in modern conditions of significant deepening and expansion of regional trade agreements, which significantly go beyond purely regional or interregional relations, and the subject of agreements goes beyond the regulation of purely trade aspects, which leads to new formats of regional integration and even requires a revision of existing agreements regulating international trade within the WTO – consideration of the intensification of bilateral trade agreements becomes relevant as a constant imperative for increasing the social and economic well-being of the countries involved.
economic development of the countries.

2 Latest scientific progress and publications review

Many works of both foreign scientists have always been devoted to the study of modern integration processes and globalization: M. Grosso [6], A. Venables, D. Dion, as well as domestic scientists D. Lukyanenko [7], [8] T. Tsygankova [4], T. Gordeeva [5].

Issues of determining the level of complementarity in trade between Ukraine and its strategic partners were dealt with by such domestic scientists as A. Mokiy [9], in particular, when assessing the Ukrainian-Turkish relations. As for the foreign scientists, the complementarity index is highlighted in the works of Pirlman D., Yin D. and Li D. [12]

3 The purpose of research

The purpose of research is to analyze the vectors of intensification of trade integration of the post-Soviet countries in the format of bilateral initiatives based on the trade complementarity index.

4 Results of the research

The growing number of bilateral and multilateral regional trade agreements, since the 90s of the XX century, has become a kind of catalyst for global convergence and, accordingly, an integral part of integration processes. They allow the participating countries to gain competitive advantages and take stronger positions in the global market, within the framework of national interests, and determine their further social and economic development.

It is worth noting that current trends, in particular the complication of value chains, the dynamization of the Fourth Industrial Revolution, digitalization, which cover more and more countries and regions of the world, are gradually contributing to the transformation of international integration formats. First, the number of regional trade agreements has increased almost 6-fold compared to 1990; second, the agreements cover an increasing range of issues, such as state aid and public procurement, investment measures related to the trade (TRIMs), technical barriers to trade, etc. (WTO+); data protection, protection of consumer rights, environmental protection, innovation policy, terrorism, regional cooperation, etc. (WTO-extra), which go beyond the traditional focus on preferential trade agreements, in particular tariff and non-tariff regulation. And the branching of supply chains makes the process of determining the country of origin so difficult that it leads to the formation of the concept of “Made in the world”. Secondy, along with the expansion of the spheres of influence of regional trade agreements, they are deepening (Trans-Pacific Strategic Economic Partnership, Asia-Pacific Economic Cooperation, East Asian Free Trade Agreement), which leads to new formats of regional integration and requires revision of existing agreements regulating the international trade

Figure 1 Dynamics of notified and current RTAs, 1990-2020

Source: constructed by the author on the basis of [10]
within the WTO.

Currently, 306 regional trade agreements and 496 notified ones are in force (Figure 1).

Since the 1958, the total number of existing regional trade agreements begins to grow gradually, about 1, 2 agreements per year, and from 2000 to 2015, their number is, on average, about 12 RTA for trade in goods and about 7 RTA for trade in services per year, which is evidence of a significant strengthening of integration processes. Thus, the number of agreements on the establishment or accession to the customs union is 30, agreements on the establishment or accession to the Economic Union – 158; agreements on the establishment of a free-trade area – 269; agreements on the establishment of a preferential trade zone – 24 [10]. That is, as we can see, the most common form of integration processes is precisely trade integration, in particular, the establishment of the Free Trade Zones.

Taking into account the results of empirical studies that prove that the growth of bilateral trade contributes to economic growth and reduces economic inequality, in particular within the framework of regional trade agreements on the free and preferential trade zone. Moreover, the social and economic benefits are not limited to the parties of bilateral agreements. In addition, the bilateral trade agreements are actively concluded by the countries participating in intercontinental trade agreements.

The integration processes in the post-Soviet space began in 1991 and continue to this day. However, it is somewhat difficult to call them successful and effective. Taking into account the above, it is relevant and economically expedient to consider the bilateral intensification of trade relations between the post-Soviet countries.

For example, the main trading partners of Ukraine in 2018 continue to be Russia (share – 8.26%), Poland (6.26%) and Italy (5.31%). The share in the structure of domestic exports belongs to products of the plant origin and semi-finished products.

Armenia’s main trading partners are Russia (23.2%), Switzerland (17.8%) and Bulgaria (7.5%). A specific share of exports belongs to copper ore, gold and tobacco.

Azerbaijan’s main trading partners are Italy (30.1%), Turkey (9.27%) and the Czech Republic (4.79%). The main export items are oil and gas.

The Belarus’ trading partners are Russia (38%), Ukraine – 12.4%; Great Britain – 9.26 %. The largest share of exports belongs to oil and potash fertilizers, trucks.

Georgia’s key partners are Azerbaijan (13%), Russia (11.5%) and Bulgaria (8.36%). The main export items are copper ore, ferro-alloys, automobiles, tobacco.

Latvia’s partners are Lithuania (14.2%), Estonia (9.2%), and Russia (8.34%). The share of exports is accounted for by wood, strong alcoholic beverages, medicines, oil, etc.

Lithuania’s key trading partners are Russia (13.3%), Latvia (9.28%), and Poland (7.62%). A specific share of exports is accounted for by oil, furniture, tobacco, and medicines.

Estonia’s trading partners are Finland (13.2%), Sweden (9.78%), and Russia (8.74%). Main export items: television equipment, oil, automobiles, etc.

Kazakhstan’s trading partners are Italy (16%), China (10%) and the Netherlands (9.42%). A significant share of exports is accounted for by copper, oil, gas, ferro-alloys, etc.

The main export destinations for Kyrgyzstan are the United Kingdom (49.2%), Russia (14.4%) and Kazakhstan (13.2%). The share of exports is accounted for by gold, precious metals, copper, oil, etc.

Moldova’s trading partners are Romania (27.6%), Italy (10.2%) and Germany (7.83%). The main export items are metal products (wires), wine, etc.

Turkmenistan’s main trading partners are China (80.2%), Afghanistan (3.5%) and Turkey (2.8%). The share of exports is accounted for by petroleum gas, oil, and cotton.

Tajikistan’s main trading partners are Kazakhstan (26.5%), Switzerland (18.3%), and Turkey (16.9%). Gold, aluminum, zinc, lead and copper ores account for a significant share of exports.

Uzbekistan’s trading partners are China (21.3%), Switzerland (23.6%) and Russia (15.6%). The share in the structure of exports is occupied by gold, petroleum gas, and copper.

Russia’s key export partners are China (12.9%), the Netherlands (9.59%) and Germany (5.45 %). The main export items are oil, petroleum products, coal, and wheat.

As you can see, the main export items in most post-Soviet countries are mainly products with low added value. In the era of the Fourth Industrial Revolution, the trend of which is the production of high-tech goods using cyber systems and artificial intelligence, the trade in raw materials will only deepen the economic gap between developing and highly developed countries.

Therefore, we propose to analyze the intensification of trade relations between the post-Soviet countries and their main trading partners in high-value-added product groups. These include in particular [3]: Electric (including electrically heated gas) (Harmonized Tariff System Codes 8515), Transmission shafts (including cam shafts and crank shafts) and cranks (code 8483), Harvesting or threshing machinery, including straw or fodder balers (code 8433), Parts and accessories suitable for use solely or principally with the machines (code 8466), Pumps for liquids, whether or not fitted with a measuring device (code 8413), Furnace burners for liquid fuel, for pulvurised solid fuel or for gas (code 8416), Centrifuges, including centrifugal dryers (code 8421), Machine tools
Azerbaijan to intensify trade relations with the
in Nagorno-Karabakh.

If not for the military conflict of 09/27/2020
high-value-added products with Azerbaijan (TCI
and it would be economically feasible to trade the
with Kazakhstan (TCI = 84), Sweden (TCI = 81.2),
advisable for Armenia to develop trade relations
Kazakhstan (TCI = 83).

product groups with high added value with Bulgaria
possible to develop the bilateral trade relations for
key export items are Russia, Poland, Italy, it is also
plicable to develop the bilateral trade relations for
product groups with high added value with Bulgaria
(TCI = 79.1), Azerbaijan (TCI = 79.9), and
Kazakhstan (TCI = 83).

According to the obtained data, it would be
advisable for Armenia to develop trade relations
with Kazakhstan (TCI = 84), Sweden (TCI = 81.2),
and it would be economically feasible to trade the
high-value-added products with Azerbaijan (TCI
= 86), if not for the military conflict of 09/27/2020
in Nagorno-Karabakh.

According to the obtained data, it is more expedient for
Azerbaijan to intensify trade relations with the
Netherlands (TCI = 71.7) and China (TCI = 68.3).

Belarus can increase exports of high-value-
added goods to the Netherlands (TCI = 89.3), China
(TCI = 86.4), Romania (TCI = 85), Finland (TCI = 84.5)
and a number of other countries shown in the table.

Georgia and Uzbekistan have the lowest
complementarity indices for the product categories
studied. The maximum complementarity index for
Georgia is TCI = 56.7 (trade with Azerbaijan); for
Uzbekistan TCI = 53.2 (trade with Estonia). One of
the factors of this situation may be a low share in
the structure of exports of goods with high added
value. For example, Georgia's exports under Electric
machines or similar hard materials (code 8465), Parts and accessories of
the motor vehicles of headings 8701 to 8705 (code 8708), Electrical
transformers, static converters (for example, rectifiers) and inductors (code 8504).

To determine how much the export structure of
the post-Soviet countries corresponds to the
overall import structure of their key trading
partners and a number of other states, the trade
complementarity index was used [2]:

\[
TCI = 100 \left(1 - \frac{\sum_{k=1}^{M} |X_{ik} - X_{jk}|}{2} \right)
\]

(1)

TABLE 1 Identification of the promising partner countries of the post-Soviet countries in order to intensify trade relations

<table>
<thead>
<tr>
<th>Post-Soviet countries</th>
<th>Partner countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ukraine</td>
<td>Armenia</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Kyrgyzstan</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>Russia</td>
</tr>
<tr>
<td>Moldova</td>
<td>Armenia</td>
</tr>
</tbody>
</table>

* Tajikistan, Turkmenistan — no data available.

Source: calculated by the author based on [11].
issue requires a deeper empirical analysis.

Latvia can intensify trade relations, among other things, also with Ukraine (TCI=72.1), Azerbaijan (TCI=78.8) and Bulgaria (TCI=71.2); Lithuania with Ukraine (TCI=79.2), Bulgaria (TCI=82.4), Azerbaijan (TCI=78.8); Estonia with the Netherlands (TCI=66.5).

It is advisable for Kazakhstan to increase the volume of exports to China not only of raw materials, but also of high-tech products, as evidenced by TCI=75.5. Kyrgyzstan should pay attention to the development of bilateral trade, for the studied group of goods, with Turkey TCI=77.7.

According to the data obtained, Russia can intensify trade in high-tech products with Italy (TCI=83.9), Great Britain (TCI=84.7), Kazakhstan (TCI=86.1). Among the countries studied, Moldova can increase the volume of exports to China (TCI=61.4).

Thus, according to the results obtained, promising trading partner countries were identified, with which the bilateral trade relations can hypothetically be intensified. However, it is worth noting that the trade complementarity index shows only the correspondence of the structure of supply and demand between the studied countries, but does not take into account equally important other factors of an economic and non-economic nature that can directly or indirectly affect the deepening of trade between the studied countries, in particular:

- distance between the countries,
- the level of the overhead costs for cross-border trade;
- the level of trade protection, the presence or absence of regional trade agreements on the establishment of a free-trade area, preferential trade, customs union, strategic partnership agreement, etc.;
- political tensions between the countries, economic (for example, embargoes, sanctions) or military conflicts, etc.

As for the analysis of the directions of intensification of trade relations between the post-Soviet countries with their main trading partners and other represented countries, the vast majority of them have concluded RTA (Table 2).

In general, if we take into account the current changes that occur under the influence of the COVID-19 pandemic, which affected absolutely all areas of activity, then it is worth focusing not only on the use of innovations in the production and manufacture of high-tech products, but on the production of services with high added value, in particular, which relate to other commercial services (telecommunications, computer and information services) — this is one of the few sectors that showed growth of 3.3% in the context of the COVID-19 pandemic. Also, it is worth paying attention to the even more rapid

<table>
<thead>
<tr>
<th>Country</th>
<th>Existing regional trade agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ukraine</td>
<td>Armenia, Canada, Joint Economic Zone, European Free Trade Area, EU, Georgia, GUAM, Kyrgyzstan, CIS, Azerbaijan, Belarus, Kazakhstan, Moldova, Montenegro, North Macedonia, Tajikistan, Uzbekistan, Turkmenistan.</td>
</tr>
<tr>
<td>Armenia</td>
<td>Kazakhstan, Moldova, Turkmenistan, Ukraine, EU, Eurasian Economic Union, Georgia, Kyrgyzstan, free-trade area within the CIS</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>CIS, Georgia, Ukraine, GUAM, Russia</td>
</tr>
<tr>
<td>Belarus</td>
<td>Joint Economic Zone, Eurasian Economic Union, Customs Union Russia-Belarus-Kazakhstan; free-trade area within the CIS, Ukraine</td>
</tr>
<tr>
<td>Georgia</td>
<td>China, CIS, EU, Armenia, Azerbaijan, Kazakhstan, Russia, Turkmenistan, Ukraine, GUAM, China, Turkey</td>
</tr>
<tr>
<td>Latvia, Lithuania, Estonia</td>
<td>Within the EU: Albania, Algeria, Andorra, Armenia, Bosnia and Herzegovina, Cameroon, Canada, CARIForum, Central America, Chile, Colombia and Peru, Ivory Coast, Eastern and Southern African countries, Egypt, Faroe Islands, Georgia, Ghana, Iceland, Israel, Japan, Jordan, Republic of Korea, Lebanon, Mexico, Moldova, Russia, Montenegro, Morocco, North Macedonia, Norway, Palestine, Switzerland - Liechtenstein, etc.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Armenia, Joint Economic Zone, Eurasian Economic Zone, Georgia, Kyrgyzstan, Customs Union Russia-Belarus - Kazakhstan, Ukraine, CIS</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>Eurasian Economic Union, Armenia, Kazakhstan, Moldova, Ukraine, Uzbekistan, CIS</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>CIS, Kyrgyzstan, Russia, Ukraine</td>
</tr>
<tr>
<td>Russia</td>
<td>Joint Economic Zone, Eurasian Union, Georgia, Azerbaijan, Customs Union Russia - Belarus-Kazakhstan, Serbia, Turkmenistan, Uzbekistan, CIS</td>
</tr>
<tr>
<td>Moldova</td>
<td>Central Europe Free Trade Association, Armenia, EU, GUAM, Kyrgyzstan, CIS, Turkey. Ukraine</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>Armenia, CIS, Georgia, Russia, Ukraine</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>CIS, Ukraine</td>
</tr>
</tbody>
</table>

Source: constructed by the author on the basis of [10]
development of e-commerce. The implementation of world experience will allow the post-Soviet countries to increase the level of social and economic development.

5 Conclusions

Despite the global strengthening of protectionist measures, in the context of the COVID-19 pandemic, international trade continues to be one of the imperatives of economic development. Accordingly, the intensification of trade relations is the key to improving the social and economic situations of the countries. According to empirical research, it is the strengthening of bilateral trade that can contribute to these results.

Therefore, the study analyzed the directions of geographical intensification of trade for the post-Soviet countries with their main trading partners and some other countries by product groups with high added value based on the trade complementarity index. It is determined that, for example, it is advisable for Ukraine to develop the bilateral trade relations with Bulgaria (TCI = 79.1), Azerbaijan (TCI = 79.9), and Kazakhstan (TCI = 83) within these countries. Armenia with Kazakhstan (TCI = 84), Sweden (TCI = 81.2); Azerbaijan with the Netherlands (TCI = 71.7) and China (TCI = 68.3), Belarus with the Netherlands (TCI = 89.3), China (TCI = 86.4), Romania (TCI = 85) and Finland (TCI = 84.5); Georgia with Azerbaijan (TCI = 56.7); Uzbekistan with Estonia TCI = 53.2; Latvia can intensify trade relations, among other things, also with Ukraine (TCI = 72.1), Azerbaijan (TCI = 78.8) and Bulgaria (TCI = 71.2); Lithuania with Ukraine (TCI = 79.2), Bulgaria (TCI = 82.4), Azerbaijan (TCI = 78.8). Estonia with the Netherlands (TCI = 66.5); Kazakhstan with China (TCI = 75.5). Kyrgyzstan with Turkey (TCI = 77.7); Russia with Italy (TCI = 83.9), Great Britain (TCI = 84.7), Kazakhstan (TCI = 86.1); Moldova with China (TCI = 61.4).

Also the transformations in the trade structure of the post-Soviet countries should take place taking into account current global trends and include not only the manufacture of high-tech products with high added value, but also the production of telecommunications, computer and information services.

References