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ДИВЕРСИФІКАЦІЯ ЕКСПОРТУ ЯК КЛЮЧОВА СКЛАДОВА ЗОВНІШНЬОТОРГОВЕЛЬНОЇ СТРАТЕГІЇ КИТАЮ

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Ключові слова: диверсифікація економіки, диверсифікація експорту, товарна диверсифікація експорту, географічна диверсифікація експорту, диверсифікація методів торгівлі, експорт високотехнологічної продукції, Китайська Народна Республіка.

ДИВЕРСИФИКАЦИЯ ЭКСПОРТА КАК КЛЮЧЕВАЯ СОСТАВЛЯЮЩАЯ ВНЕШНЕТОРГОВОЙ СТРАТЕГИИ КИТАЯ

Шалупаева Н. С.

В настоящее время экономическая диверсификация остается ключевой проблемой для большинства развивающихся стран. Мировая торговая система развивается от всеобщей либерализации к усилению протекционизма, что создает дополнительные трудности для развития экспорта стран и ставит диверсификацию экспорта в центр стратегии экономической диверсификации.

Внешняя торговля Китая в настоящее время также переживает критический период быстрого развития и трансформации. Китай выстраивает новую модель интеграции в мировую экономическую систему, но экономическая трансформация не проходит гладко и сталкивается с рядом проблем. Принимая во внимание высокую зависимость Китая от экспорта, одна из наиболее серьезных угроз

для экономического развития Китая – высокая подверженность колебаниям в мировой экономике – в значительной степени обусловлена низким уровнем диверсификации экспорта страны. Для достижения более устойчивого долгосрочного экономического роста и защиты от воздействия внешних шоков Китаю необходимо диверсифицировать свои экспортные рынки, ассортимент экспортируемой продукции и методы торговли.

Цель статьи. Целью статьи является исследование практических аспектов диверсификации экспорта Китая, выявление особенностей и проблем товарной и рыночной диверсификации китайского экспорта, диверсификации методов торговли и экспорта высокотехнологичной продукции.

Методология. Методологическую основу исследования составляют теории внешней торговли и промышленной политики, а также исследования, проведенные в области диверсификации экспорта. Информационной основой исследования являются базы данных ЮНКТАД, ВТО и Национального статистического бюро Китая. В исследовании использованы общенаучные методы, системный подход, экономико-статистические методы.

Выводы. В статье был проведен анализ диверсификации экспорта Китая, в том числе выявлены особенности и проблемы товарной и рыночной диверсификации экспорта Китая, диверсификации методов торговли и экспорта высокотехнологичной продукции, а также выявлен ряд эффектов диверсификации китайского экспорта на экономическое развитие страны и обоснована необходимость совершенствования стратегии диверсификации экспорта Китая для снижения экономических рисков и содействия устойчивому развитию внешней торговли.

Ключевые слова: диверсификация экономики, диверсификация экспорта, товарная диверсификация экспорта, географическая диверсификация экспорта, диверсификация методов торговли, экспорт высокотехнологичной продукции, Китайская Народная Республика.

EXPORTS DIVERSIFICATION AS A KEY POINT OF CHINA'S TRADE STRATEGY

Shalupayeva Natalia

Nowadays, economic diversification remains a key challenge for most developing countries. The world trading system is developing from universal liberalization to increased protectionism which imposes additional difficulties in countries' exports development and puts export diversification at the heart of a strategy for economic diversification.

China's foreign trade is also in a critical period of rapid development and transformation at present. China is building a new pattern of integration into the world economic system, but its economic transformation is not smooth and faces problems. Taking into account China's high reliance on exports, one of the most important threat to China's economic development – the susceptibility to fluctuations in global economy – is largely due to a low level of Chinese exports diversification. In order to achieve a more sustainable long-term economic growth and hedge against the impact of external shocks China needs to diversify its exports markets, range of exported products and trade methods.

Purpose. The purpose of the article is the research of practical aspects of exports diversification in China, identification of features and problems of China's exports product and market diversification, diversification of trade methods and high-tech products exports diversification.

Methodology. The methodological basis of the study is presented by the theories of foreign trade and industrial policy, as well as by the researches realized in the field of exports diversification. The information basis of the study are the databases of UNCTAD, WTO and National Bureau of Statistics of China. General scientific methods, systematic approach, economic-statistical methods are used in the research.

Findings. An analysis of China's exports diversification was realized in the article, including revealing of features and problems of China's exports product and market diversification, diversification of trade methods and high-tech products exports diversification, as well as identification of some driving effects of China's exports diversification on its economic development and substantiation of the significance to improve its export diversification strategy in order to reduce economic risks and promote the sustainable development of foreign trade.

Keywords: economic diversification, export diversification, product diversification of exports, market diversification of exports, diversification of trade methods, high-tech products exports, People's Republic of China.

JEL Classification: F19, F21, F49

Introduction. Nowadays, economic diversification remains a key challenge for most developing countries. The challenge of diversification is greatest for countries with the lowest incomes and for countries whose economies are dominated by commodities or minerals. For these countries, economic diversification is inextricably linked with the structural transformation of their economies and achievement of higher levels of productivity. The current global downturn in trade poses a particular challenge for countries and regions with a very narrow industrial base. But more broadly, stagnating global growth and the imperative in many developing countries to increase the number and quality of jobs in the face of a rapidly rising working population, call for effective strategies to diversify trade and production to support countries to regain economic growth, raise productivity, and curb volatility.

Export diversification, closely associated with a broader range of production activities and competitiveness agenda, is at the heart of a strategy for economic diversification. Export diversification is a crucial determinant of economic growth for low-income countries (LICs) [IMF, 2014]. The effect is not only statistically significant but also economically important: a one standard deviation increase in export diversification is shown to increase the average annual growth rate by 0.8 percentage points for LICs [IMF, 2014]. At the same time in modern conditions the world

trading system is developing from universal liberalization to increased protectionism which imposes additional difficulties in countries' exports development. So, export diversification should be an important growth policy target not only for LICs, but for most of countries, especially developing economies and economies in transition.

China has transformed from a poor rural country into one of the main economic powers as a result of the economic reforms initiated in the late 1970s. The sources of the success of China's economy can be found first and foremost in the effective use of foreign capital to modernize the national economy and the use of the comparative advantage in the form of unlimited cheap labour resources.

China's opening to the outside world began with the 1979 law on joint ventures and the creation of special economic zones in 1980. Prior to 1978, China's foreign trade sector was subject to strict central planning. So, the Ministry of Foreign Trade limited trading rights to a few large foreign trade corporations, imports and exports were fixed in physical terms, and the exchange rate was deliberately overvalued to subsidize imports and discourage exports. Under such an autarkic regime, China's share of world trade was only 0.6 % by 1977. After 1978, China decentralized the foreign trade sector, increased trading rights, liberalized prices, reduced tariff and nontariff barriers, devalued the RMB (which fell by more than 70 % in real terms between 1980 and 1995), allowed convertibility for current-account transactions, and encouraged foreign investment and processing trade by foreign-funded firms. Private trading companies were authorized in 1998, and already by 2000 more than 1,000 private enterprises had acquired the right to import and export, along with more than 150,000 foreign-funded firms. Prior to joining the WTO, China already had significantly reduced its tariff and nontariff barriers and increased trading rights. After China's accession to the WTO the foreign trade system has continued to be more open, stable, transparent and in line with market economic rules. So, China revised and issued new «Foreign Trade Law», «Regulations on Administration of Import and Export of Goods» and related departmental regulations in accordance with WTO rules. Those and other reforms helped link China to the world price system, allowed firms to specialize according to their comparative cost advantage, and helped consumers realize the gains from trade.

From the beginning of its 1978 reforms, much of China's development planning had focused on modernizing its industrial base. To accomplish this objective, its government provided strong financial incentives to attract FDI, encouraged multinationals to offshore their lower-value stages of production processes to China, and pursued export-oriented growth strategies that often came at the expense of domestic importation and consumption. By around 2006, however, this strategy transformed into one that increasingly prioritized the development of homegrown technology. Data from China's National Bureau of Statistics suggest that this policy shift was significant, given a noticeable drop in China's imported technology expenditures to GDP ratios that started in that year. It also set the stage for the ambitious «Made in China 2025» initiative and innovation objectives set out in China's 13th and 14-th Five-Year Plans.

Within the last four decades FDI inflows into China have played a significant role in the economic growth, because they provided the Chinese economy with access to finances, advanced technologies or modern management methods. For many years, the Chinese export-oriented model of development based on FDI and the exports of labor-intensive goods with low added value has been effective. China has become the world's largest exporter and holder of foreign exchange reserves as well as one of the largest importers and exporters of foreign capital in the form of FDI. Moreover, it has developed at an impressive rate which was unattainable for the world's largest economies [Kostecka-Tomaszewska, 2018].

However, the influx of cheap labour-seeking FDI perpetuates the current development model. Thus, the hitherto model of development, based on low labour costs and access to cheap resources is disadvantageous in the long run and cannot be the basis of permanent economic security and prosperity, and can even strand China in the middle income trap. The adopted model of development is also burdened with high risk, because the increase in wages reduces competitiveness and attractiveness of the market for foreign capital. Therefore, low wages and cost-based competition have become an essential structural problem for the Chinese economy and it requires immediate in-depth reforms, the lack of which is going to prevent China from joining the group of the highly developed economies.

So, nowadays Chinese economy faces with serious structural problems, and at present China's foreign trade and trade policy are in a critical period of transformation. The economic growth mechanism, which relies on the availability of cheap labour and low production costs, exporting labour-intensive products of low added value, artificial undervaluation of the yuan, foreign direct investment, foreign technologies and intense inward investment loses its effectiveness and cannot guarantee a sustainable growth of the economy in the long term [Kostecka-Tomaszewska, 2018].

To face new challenges China is radically changing its economic and trade strategy. Faced with the new COVID-19 pandemic that has revealed the extreme fragility of global market structures, Beijing decided to adopt an economic internalization plan, seeking to create measures to prioritize the domestic consumer market and strengthen its economy from inside. In May 2020, Chinese president Xi Jinping proposed a new economic model – the «dual circulation strategy» (DCS) at a Politburo meeting. China's dual circulation strategy seeks to spur China's domestic demand on one hand and simultaneously develop conditions to facilitate foreign investment and boost production for exports on the other [Zhang Zoey, 2020]. Thus, the two-pronged strategy refers to the parallel emphasis on an 'internal circulation' and an 'international circulation' and a shift towards becoming a demand and innovation-driven economy.

Chinese experts call also this strategy a «double inversion» and believe that it will be the key to transform the Chinese consumer market in the most important part of national GDP. Although the strategy was officially launched recently, some measures were already being taken previously and contributed to the Chinese choice for this change. For example, in 2020, the share of exports in Chinese GDP fell to 17%. On the other hand, domestic consumption had a significant increase and last year reached 58% of the national GDP.

In fact, China's DCS is not only a quick and passive response to the unpredictability in global markets, but the dual circulation strategy follows China's long-held goal of rebalancing its economy. In the 1980s, China's former leader Deng Xiaoping first adopted the 'reform and opening-up policy' and began implementing an export-oriented development strategy. The 2008 global financial crisis exposed the Chinese fast-growing economy to the fragility of the export-led economic model, prompting Chinese policymakers to rebalance growth towards cultivating and supplying domestic demand. In addition, there was an important reason – the export-oriented trade pattern where Chinese businesses import raw materials to process and then export to foreign markets had locked China into the middle order of the global value chain.

To achieve sustainable growth and move beyond the limitations holding back its economic expansion, China began rolling out consistent economic reforms over the past decade, including supply-side structural reform in 2015 and Made in China 2025 announced in 2018. The ultimate goal has been to shift itself from being an «export and investment-led» economy to a «demand and innovation-driven» economy. As a result, from 2006 to 2019, the trade-to-GDP ratio of China slid from 64.5 to 35.7 %, and the portion of domestic private consumption marginally arose, stabilizing at 38.8 % of GDP in 2019 – barely higher than a decade earlier [Zhang Zoey, 2020].

However, this does not mean that exports will no longer be important in the Chinese economy. The «dual circulation» strategy (DCS) is a two-pronged development strategy that seeks to spur China's domestic demand in addition to catering to export markets and will create conditions that allow domestic and foreign markets to boost each other.

So, at present, China's foreign trade is in a critical period of rapid development and transformation. China is building a new pattern of integration into the world economic system and opening-up policy. China's economic transformation is not smooth and faces many problems. Recent dramatic changes in the global trade environment, promoting economic nationalism over a free market economy, has made the issue of exports development and diversification more urgent for China. The ongoing COVID-19 pandemic has additionally provoked global concerns on supply chain dependency, as different countries have been forced to rethink their reliance on other countries (especially in strategic industries, such as medical supplies and access to pharmaceutical raw ingredients), which will likely accelerate supply chain shifts out of China. In addition, the widening rift with the US, that poses additional challenges for China's exports development. In order to achieve a more sustainable long-term economic growth and hedge against the impact of external shocks China needs to diversify its exports markets, range of exported products and trade methods, that determines the significance and the relevance of the topic of the article.

Theoretical framework.

Discussion on export diversification in the literature mainly concentrates either on the effects of export diversification or on policy response regarding the diversification process.

There are two possible explanations for the effects of export diversification. The first is its impact on export growth. There are no many researches on the relationship between export diversification and export growth. More recently, however, several scholars have begun to investigate such issues. Evenett and Venables (2002) showed that an export expansion along the extensive margin plays a significant role for export growth in developing countries. They showed that about one third of the export growth of developing countries between 1970 and 1997 were due to exports of old goods to new markets. Shepherd (2008) reinforced the idea as stated, in that the trade growth of developing countries can take place through the creation of trading relationships with new partners. The second possible explanations for the effects of export diversification is its impact on export instability. In contrast with the first case, many scholars have made significant efforts regarding this issue. Massell (1964) came up with several interesting findings by concluding that there is a significant positive relationship between instability of export earnings and concentration of exports. Another cross sectional analysis conducted by Soutar (1977) concluded that geographic concentration is one of the significant variables in explaining the instability in less developed countries (LDCs) from 1957 to 1969. As a systematic approach, Love (1979) developed a model based on Markowitz's portfolio model to explain the relationship between a commodity concentration and export fluctuations. Recently, Samen (2006) stated that countries specializing in a narrow group of export products expose themselves to instability of export earnings [Jung Joo La, 2011].

As the majority of studies find that export diversification increases economic growth, the expected question is what determines export diversification. However, this issue is still relatively unexplored in the existing literature. The lack of a systematic theoretical framework could serve as a possible explanation for the scarcity of empirical investigation.

A few studies give evidence about a set of diversification determinates, estimated either from wide panel of countries all over the world (Parteka and Tambieri, 2011; Dennins and Shepherd, 2011; Agosin et al, 2011) a specific region (Cabral, 2010) or specific country (Lim, 2010). Parteka and Tambieri (2011) provide a two-stage analysis: first, they investigate the relation between export diversification, on one hand, and the level of development and country fixed effects on the other. Agosin et al. (2011) focus on the process of reforms (such as trade and financial liberalisation), structural and macroeconomic factors (factor endowments and economic distance, exchange rate and exchange rate volatility). In the case of one single country, which is Chile, Gutierrez de Pineres and Ferrantino (1997) find that process of export diversification is enhanced by exchange rate depreciation and trade reforms. Recent empirical literature relies on heterogeneous trade models in order to identify factors that influence export diversification [Balavac, 2012].

Discussion.

Overall, despite significantly rising domestic and international risks and challenges, China's foreign trade scored both steady growth in quantity and continuous improvement in quality. Trade has become an increasingly important part

of China's overall economy, and it has been a significant tool used for economic modernization. As reported by WTO in 2020, exports of goods in 2019 were USD 2,499.4 billion and imports USD 2,078.4 billion, while exports and imports of services in 2019 reached USD 281.6 billion and USD 497 billion respectively. According to the World Bank data of 2019, China's trade surplus for goods stood at USD 425.2 billion, an increase from USD 395.1 billion in 2018. The overall trade balance (including services) was USD 164.1 billion in 2019, from 103 billion the previous year (table 1).

Table 1. China's foreign trade main indicators in 2015-2019

Foreign Trade Values	2015	2016	2017	2018	2019
Imports of Goods (million USD)	1,681,951	1,587,431	1,843,793	2,135,748	2,078,386
Exports of Goods (million USD)	2,274,949	2,098,161	2,263,345	2,486,695	2,499,457
Imports of Services (million USD)	466,330	453,014	464,133	520,683	496,967
Exports of Services (million USD)	285,476	208,488	226,389	269,697	281,651
Exports of Goods and Services (million USD)	2,560,425	2,306,649	2,489,734	2,756,392	2,781,108
Imports of Goods and Services (million USD)	2,148,281	2,040,445	2,307,926	2,656,431	2,575,353
Trade turnover in Goods and Services (million USD)	4,708,706	4,347,094	4,797,660	5,412,823	5,356,461
Trade balance in Goods and Services (million USD)	412,144	266,204	181,808	99,961	205,755
Foreign Trade (in % of GDP)	39.5	36.9	37.6	37.5	35.7
Imports of Goods and Services (% of GDP)	18.1	17.3	17.9	18.3	17.3
Exports of Goods and Services (% of GDP)	21.4	19.6	19.7	19.1	18.4

Source: World Trade Organization (WTO).

Thanks to its enormous trade surplus over the past few years, China has become the world's largest exporter and ranks second among the world's largest importers. Despite its strict policies, the country is fairly open to foreign trade, which represented 35.7% of its GDP in 2019 [World Bank, 2020].

At the same time nowadays we can see a tendency of decreasing positive trade balance in China. Compared to 2015, the trade turnover increased in 13%, while the positive trade balance decreased in 20.6%. From one side, this a negative trend, from the other side, it reflects the change of China development strategy from export-oriented to domestic demand oriented. At the same time, it still means the high dependence of China's production on imports. Therefore the other key element of DCS is «reducing risks tied to import dependency». As a report by The Economist Intelligence Unit analyzes, «technology, energy, and food will be the sector focus.»

But, taking into account China's high reliance on exports, one of the most important threat to China's economic development and external economic security – the susceptibility to fluctuations in global economy – seems to be largely due to a low level of Chinese exports diversification.

Product diversification of China's exports.

According to the Standard Classification of International Trade (STIC), the structure of China's exports in the past five years has been led by manufactured goods. Machinery and transportation equipment rank first, followed by manufactured goods classified chiefly by material (dominated by textile yarn, fabrics, manufactures of metals) and miscellaneous products (dominated by articles of apparel and clothing accessories, furniture and parts thereof, professional, scientific and controlling instruments and apparatus) (table 2).

Table 2. The merchandise structure of China's foreign trade in 2019

Commodity (by SITC)	Exports	
	RMB 100 million	USD 100 million
Total	172373.63	24994.82
Primary Goods	9232.95	1339.70
Food and Live Animals	4484.92	650.00
Beverages and Tobacco	239.23	34.68
Crude materials, Inedible, Except Fuels	1186.48	172.24
Mineral Fuels, Lubricants and Related Materials	3242.72	471.23
Animal and Vegetable Oils, Fats and Wax	79.59	11.54
Manufactured Goods	163140.69	23655.13
Chemicals and Related Products	11137.70	1617.65
Manufactured Goods Classified Chiefly by Material	28030.73	4067.33
Machinery and Transport Equipment	82453.79	11954.44
Miscellaneous Manufactured Articles	40257.45	5835.02
Commodities and Transactions not classified in SITC	1261.00	180.69

Source: China Statistical Yearbook, 2020

China's exports in services in 2019 were driven by the telecommunications, computer and information services and other business services, followed by transport, travel, construction (table 3).

Table 3. China’s foreign trade in services by sector, 2019

Classification	100 million USD		
	Total	Exports	Imports
Total	7850.0	2836.0	5014.0
Transport	1509.1	460.3	1048.7
Travel	2856.1	345.1	2511.0
Construction	372.9	280.0	92.9
Insurance Services	155.5	47.8	107.8
Financial Services	63.8	39.1	24.7
Telecommunications, Computer and Information Services	807.6	538.6	269.0
Fees for Use of Intellectual Property	410.3	66.5	343.8
Personal, Cultural, and Recreational Services	52.8	12.0	40.8
Maintenance and Repair Services	138.4	101.8	36.6
Manufacturing Services on Physical Inputs Owned by Others	198.9	195.8	3.1
Other Business Services	1232.0	733.5	498.5
Government Services	52.6	15.4	37.2

Source: China’s Statistical Yearbook, 2020

The analysis of the data, presented in the table 4, shows that in 2020 compared to 2000, the product concentration of China’s exports has increased in 29.5%, while the diversification indices of merchandise exports has decreased in 15.9%. This is obviously a negative tenancy as it rises the dependence of Chinese economy on certain products and increases the risks in the sphere of external economic security.

Table 4. Product diversification and concentration indices of merchandise exports of China

Year	Concentration indices	Diversification indices
1	2	3
2000	0.077188	0.455893
2005	0.109997	0.460246
2006	0.109621	0.453023
2007	0.103705	0.452499
2008	0.097127	0.457596
2009	0.10869	0.454433
2010	0.106533	0.451031
2011	0.098828	0.463309
2012	0.101495	0.468763
2013	0.103053	0.4672
2014	0.100596	0.448355
2015	0.104071	0.420122
2016	0.105133	0.410062
2017	0.096441	0.412291
2018	0.096701	0.412039
2019	0.094911	0.404898
2020	0.099978	0.383289

Source: China Statistical Yearbook, 2020

Market diversification of China’s exports.

The analysis of the China’s exports geographical structure showed that China’s export market structure is also relatively concentrated. Asia had the highest shares in China’s exports in goods in 2019 (49%), followed by Europe and North America (figure 1).

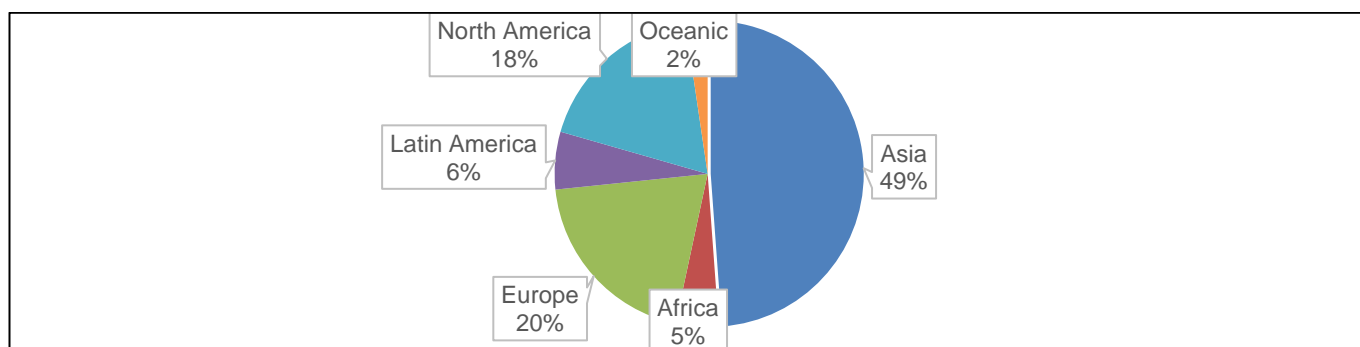


Figure 1. The geographical structure of China’s exports in 2019, by region

Source: China Statistical Yearbook, 2020

The main 10 countries of China's goods exports are shown in the table 5.

Table 5. China's exports in goods by country in 2019

Country (Region)	USD 10 000	Share in total, %
Asia		
Hong Kong, China	27915249	11.2
India	7482530	3.0
Japan	14324452	5.7
Singapore	5479849	2.2
Korea Rep.	11097441	4.4
Taiwan, China	5510931	2.2
Europe		
United Kingdom	6242502	2.5
Germany	7978909	3.2
Netherlands	7397880	3.0
Northern America		
United States	41866408	16.8

Source: *China Statistical Yearbook, 2020*

The data analysis shows that 10 main export destinations account for 54.2% of the total China's exports, 5 main export destinations – 41.3%. It means that China has very low level of market diversification of exports.

Surely, this is also a negative tendency as it rises the dependence of Chinese economy on certain countries and increases the risks in the sphere of external economic security. The highest dependence of China's exports is on US market, which creates additional threats to China's economic security in the period of actual trade war between United States and China.

China's promotion of exports market diversification will help to reduce dependence on specific export markets, thereby diversifying economic risks, alleviating trade frictions, achieving economic growth, and better maintaining economic security. It will help to fully participate in the international division of labor, to facilitate striving for favorable terms of trade in international competition and to strengthen economic and trade cooperation.

Diversification of trade methods.

In terms of trade structure, export trade patterns include general trade, processing trade and other trade. In recent years, China's general trade exports showed an upward trend, processing trade exports as a whole shrank, and other trade exports showed little change. So, in 2020, general and other modes of trade increased from the previous year, by 59.3 % and 13.5 % respectively, while processing trade declined by 27.1 % (figure 2).

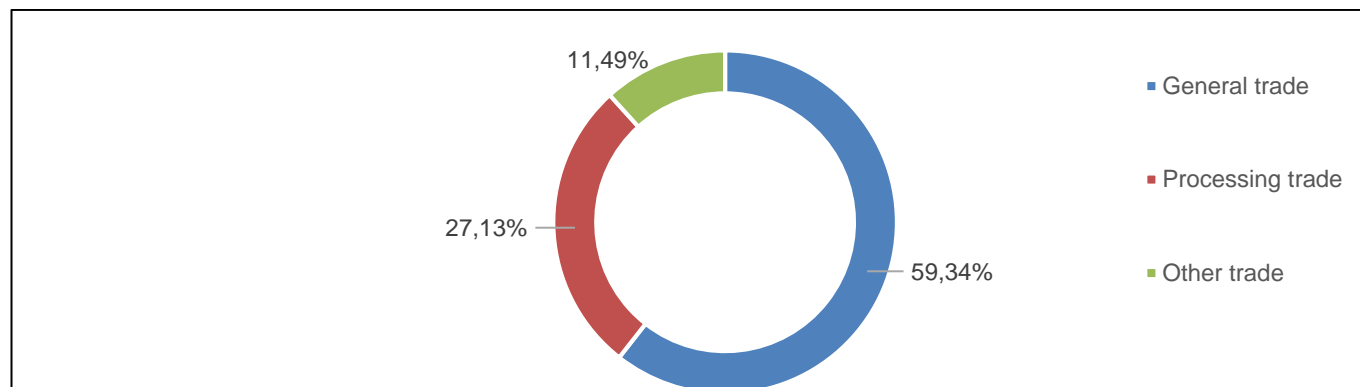


Figure 2. Structure of China's export trade patterns in 2020, %

Source: *China Statistical Yearbook*.

In 2015-2020, China's general trade volume has been growing since 2016, while processing trade has declined from 797.8 billion US dollars to 702.7 billion in 2020, and the export volume of processing trade has further shrunk (figure 3). In terms of the proportion structure, the proportion of processing trade decreased by 7.9 percentage points in 2020 compared with 2015, while the proportion of general trade increased by 5.9 percentage points.

It can be concluded that in China, the structure of import and export trade patterns is facing further adjustment, and the downward trend of processing trade volume is continuing.

High-tech products exports diversification.

One of the most important issues of China's foreign trade development is the exports of high-tech products. In recent years, the export of high and new technology products has grown rapidly, and their proportion in the merchandise export has been increasing continuously. In 2019, China's exports of new and high-tech products reached 715.8 billion US dollars.

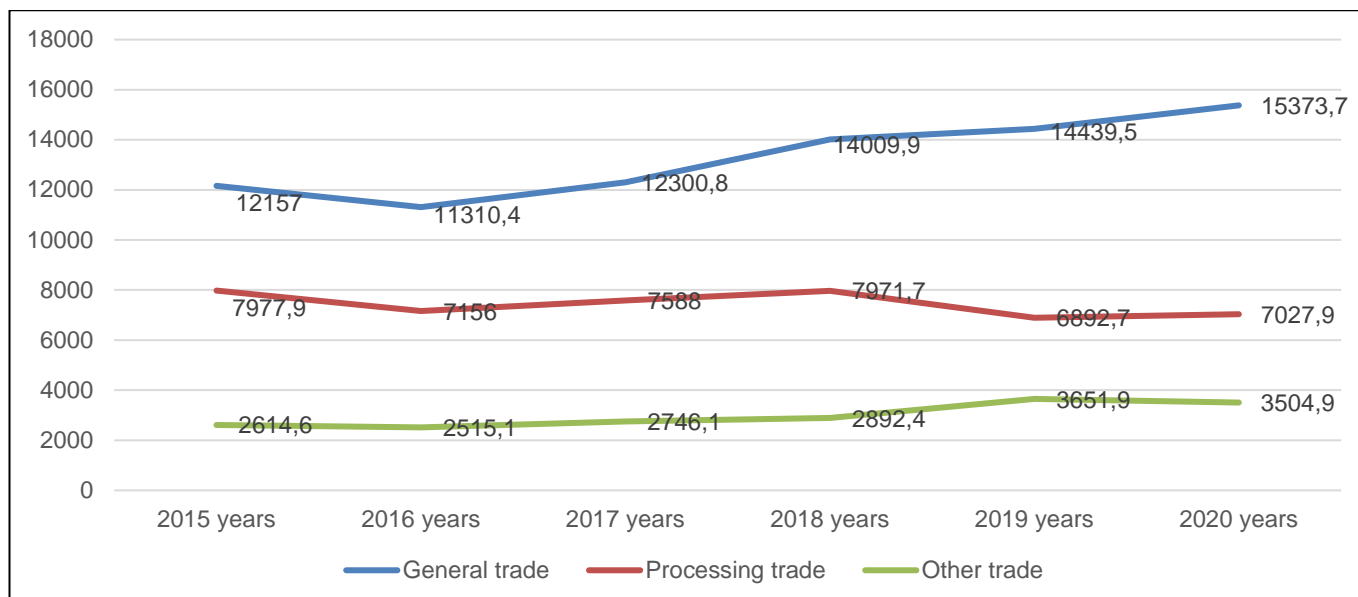


Figure 3. China's export trade patterns in 2015-2020, US\$ billion

Source: China Statistical Yearbook.

At the same time one of the important problems of China's high-tech exports is the low level of its product diversification. So, the industry distribution of China's high-tech products export is seriously unbalanced, but the degree of imbalance has been reducing (table 6). China's high-tech products exports is dominated by computer and communication technology products. So, in 2015, the top three areas of computer and communication technology, electronic technology and photoelectric technology accounted for 67.43%, 19.16% and 5.45% of high-tech products respectively.

But with the advance of time, the industrial contribution of computer and communication technology products has declined. So, the proportion of products in the field of computer and communication technology decreased from 80.30 % in 2003 to 67.43 %. On the contrary to the decline of the contribution of computer and communication technology, the growth of optoelectronic technology, material technology and electronic technique is obvious, and the contribution to the industry increases. At the same time, the export scale of computer and communication technology continued to grow, reaching 441.8 billion US dollars in 2015.

Table 6. Industrial structure of China's export of high-tech products, US \$100 mln

Products	2003		2007		2011		2015	
	Volume	%	Volume	%	Volume	%	Volume	%
High tech products	678.57	100	3478.18	100	5488.30	100	6552.96	100
Aerospace Technology	5.94	0.88	25.18	0.72	45.99	0.84	73.26	1.12
Biotechnology	1.67	0.25	2.65	0.08	4.14	0.08	6.87	0.10
Computer integrated manufacturing technology	7.3	1.08	49.33	1.42	89.4	1.63	125.06	1.91
Computer and communication technology	544.87	80.30	2796.1	80	3929.43	71.30	4418.86	67.44
Electronic technique	75.03	11.06	456.69	13.13	865.84	15.78	1255.42	19.16
Life science and technology	23.62	3.48	89.17	2.56	178.43	3.25	245.86	3.75
Material technology	3.07	0.45	21.23	0.61	47.16	0.86	62.34	0.95
Photoelectric technology	14.26	2.10	34.99	1.01	321.14	5.85	357.32	5.45
Other Technologies	2.81	0.40	2.85	0.08	6.77	0.11	7.97	0.12

Sources: 2004-2016 China High Tech Industry Statistical Yearbook, China Science and Technology Statistical Yearbook.

So, the greatest part of the China's high tech exports is represented by ICT goods exports. The ICT goods exports as a percentage of total goods exports in China is presented in the figure 4.

The level of market diversification of China's high-tech exports is also low and has a negative tendency to rise. The outbreak of the international financial crisis has made great changes in the export market of China's high-tech products. The share of the original traditional market has declined, while the export scale to the non-traditional market has increased significantly. In 2012, Hong Kong, Macao and Taiwan, the United States, the European Union and Japan were the top four export markets of high-tech products in China. Among them, the market of Hong Kong, Macao and Taiwan accounted for 27.78%, ranking first, the market of the United States ranking second, the market of the European Union accounted for 15.32%, ranking third, and the market of Japan ranked fourth accounted for 5.88%, with a total proportion of 67.08%. However, in the following years, the market shares of the United States, the European Union and Japan all decreased. The market shares of the United States and Japan only decreased slightly, while the market share of the European Union decreased more (table 7).

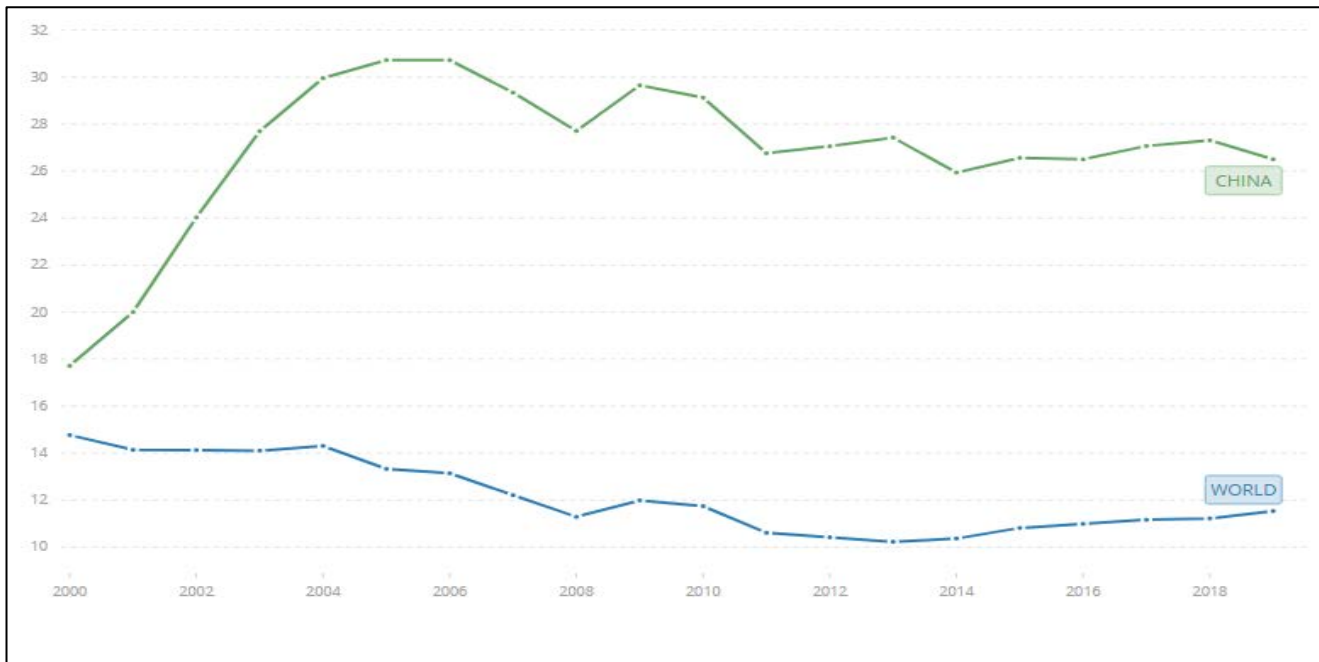


Figure 4. The ICT goods exports as a percentage of total goods exports in China and in the world, %
 Source: The World Bank data

While the market shares of the United States, the European Union and Japan decreased, the market share of exports to Hong Kong, Macao and Taiwan, South Korea and Southeast Asia increased. The market shares of Hong Kong, Macao and Taiwan and Southeast Asia increased significantly. The market shares of Hong Kong, Macao and Taiwan increased from 27.78% in 2012 to 29.31% in 2015, and the market share of Southeast Asia increased from 5.26% in 2012 to 6.56% in 2015. It has become one of the main export markets of high-tech products in China.

Table 7. Geographical structure of exports of high tech products in China, %

Country	2012	2014	2015	2018	2019
Hong Kong, Macao and Taiwan	27.78	27.62	29.31	29.30	30.63
United States	18.10	8.43	17.91	18.46	17.74
European Union	15.32	16.38	13.36	14.01	12.20
Japan	5.88	6.80	5.24	5.35	5.89
South Korea	4.77	6.98	5.30	4.23	4.33
Southeast Asia	5.26	8.27	6.56	6.29	6.89
Other countries	22.89	25.52	22.32	22.36	22.32
Total	100	100	100	100	100

Source: according to the industry trade database of 2012- 2019.

The trade modes of China's high tech products are also highly concentrated, but have a tendency to diversification.

Table 8. Trade modes of China's high tech products, %

Trade mode	2010	2011	2012	2013	2014	2015
Proportion of general trade	15.18	16.37	15.72	16.77	19.85	22.81
Proportion of processing trade	78.81	76.92	71.81	65.33	66.48	63.06
Proportion of other trade modes	6.01	6.71	12.47	17.90	13.67	14.13

Source: Statistical Yearbook of China's high tech industry in 2010 and 2016.

The analysis of the data presented in the table 8 shows that processing trade is the main trade mode of China's high-tech products. Although it shows a downward trend in recent years, processing trade still accounts for more than 60% by 2015. This has a negative impact on strengthening independent innovation and accelerating industrial upgrading. Among the various ways of high-tech products exports, the processing trade is a way of trade to make full use of China's cheap labor force, but its technology is generally in the hands of foreign parties. So, integration into the international division of labor by the mode based on processing trade makes China's high-tech products trade more «enclave». It makes China's high-tech products exports seriously affected by economic fluctuations, including the impact of the 2008 economic crisis and COVID-19 crisis. The reason is that China only controls the processing links, and the production, technology and marketing channels of spare parts are in the hands of foreign parties. Foreign parties can easily withdraw from China and look for other developing countries with lower costs.

It can be concluded that the trade method of China's high tech products is relatively monotonous, processing trade still accounts for more than a half of China's exports, and other trade methods account for a small proportion.

Conclusion.

Export is the driving source of China's economic growth, and export diversification is of high importance for China because it can have a certain driving effect on its economic development. Firstly, export market diversification can resist the European Union and North American free trade zones and other regional negative impact on China's foreign trade and reduce its excessive dependence on some markets. Secondly, as the export diversification make Chinese enterprises to participate in the wider world market competition, it is to enhance the vitality and power of Chinese enterprises, improve its international competitiveness. Thirdly, as the export diversification can expand China's export market, it is easier to form an economy of scale and promote China's overall economic strength. Fourthly, diversification of the export market will make Chinese enterprises face the demand from different countries, which is conducive to the product diversification of China's exports.

To conclude, in order to retain stable economic growth and avoid the middle income trap China needs new impulses to stimulate its economic growth, one of them can be the export diversification. At the same time China has some problems with the exports diversification ensuring, including problems of diversified export geographic directions, diversified export product structure, and diversified export trade methods. It negatively influences the country's economic security. Therefore, it is necessary for China to continuously improve its export diversification strategy to reduce economic risks and promote the sustainable development of foreign trade.

Some steps are being done. So, in order to overcome the middle- income trap and to sustain economic growth Xi Jinping has introduced the Belt and Road Initiative, and one of the goals of this initiative is diversification of export markets for Chinese products and new trade opportunities abroad. Export diversification depends crucially on the deepening of intra-regional and inter-regional activities. Regional integration is thus a key cornerstone of any diversification strategy and plays a vital role in the implementation of China's diversification strategy. And the Belt and Road Initiative also can play a significant role in this process. Moreover, China has gradually changed its development strategy: from a resource intensive model to a more sustainable one; from a model based on imported technology to technological innovation; from a model based on low-value-added manufacturing to high-value-added manufacturing.

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