RESEARCH ARTICLE
https://doi.org/10.17059/ekon.reg.2021-3-17
UDC: 339
JEL F 14

Olli-Pekka Hilmola [a], *Yulia Panova* [b]
[a] LUT University, Kouvola, Finland
[a] Estonian Maritime Academy of Tallinn University of Technology, Tallinn, Estonia
[b] Luoyang Normal University, Luoyang, China
[b] https://orcid.org/0000-0001-9247-9167

Sustainability of the EU-28 Trade with China and the USA[1]

There has been a lot of debate in global politics about fair trade, surpluses (also called positive trade accounts), and deficits (negative trade accounts) among the USA, China and the European Union (EU). The study aims to analyse the countries' trade accounts through the lenses of international finance theory. Based on financial analytical models, the countries' competitiveness and changes in their net foreign wealth were examined. The factors considered in the literature review are as follows: exchange rate, government tariff and tax policies, saving rate, manufacturing base, investments, natural resource abundance and others. The computation of the trade accounts was conducted using the ten-year international trade data (2009–2018) for the EU-28 member countries that became the main importer for China instead of the USA in 2019. The conducted empirical research showed that Chinese trade has continuous deficits throughout European countries, and in some countries, it could be considered as an increasingly important structural issue (for example, in Poland and the Czech Republic). Trade with the USA, in turn, typically produces surplus for European countries, where Germany is the leader. The provided conclusions hold value for international trade managers in terms of their potential influence on public policy in the researched countries. In light of the financial crisis, the current export shock could be used by countries as an occasion to change the course and depart from the assumptions, which do not advocate for free trade.

Keywords: foreign trade, surplus, deficit, Europe, China, USA, competitiveness, factors of growth, sustainability, Germany

For citation: Hilmola, O.-P. & Panova, Yu. (2021). Sustainability of the EU-28 Trade with China and the USA. Ekonomika regiona [Economy of region], 17(3), 956-970, https://doi.org/10.17059/ekon.reg.2021-3-17.

[1] © Hilmola O-P., Panova Yu. Text. 2021.

ИССЛЕДОВАТЕЛЬСКАЯ СТАТЬЯ

О.-П. Хилмола [а], Ю. Панова [б]

[а] Лаппеенрантский технологический университет, Коувола, Финляндия

[а] Эстонская морская академия Таллиннского технического университета, Таллин, Эстония

[б] Лоянский педагогический университет, Лоян, Китай

[б] https://orcid.org/0000-0001-9247-9167

Устойчивость торговли стран Евросоюза с Китаем и США

«Справедливая торговля», профицит (положительное сальдо текущего счета) и дефицит (отрицательное сальдо) между США, Китаем и Европейским союзом (ЕС) в течение длительного времени являются предметом дискуссий. Данная статья рассматривает текущие счета стран через призму теории международных финансов. На основе финансовых аналитических моделей были исследованы конкурентоспособность стран и изменения их чистых иностранных активов. На основе анализа литературы рассмотрены такие факторы, как обменный курс, тарифная и налоговая политика, норма сбережений, производственная база, инвестиции, изобилие природных ресурсов и другие. Текущие счета проанализированы на основе данных о международной торговле государств-членов ЕС-28, которые в 2019 г. стали основным импортером Китая вместо США, за десять лет (2009–2018 гг.). Проведенное исследование показало, что торговля с Китаем увеличила дефицит во всех европейских странах, что в некоторых странах привело к возникновению структурных проблем (например, в Польше и Чехии). Торговля с США (в которой основным партнером является Германия), в свою очередь, привела к положительному сальдо. Полученные результаты могут быть использованы в управлении международной торговлей для влияния на государственную политику в исследуемых странах. Учитывая нынешний финансовый кризис, экспортный шок может быть использован странами как повод для изменения курса и перехода к принципам свободной торговли.

Ключевые слова: внешняя торговля, профицит, дефицит, Европа, Китай, США, конкурентоспособность, факторы роста, устойчивость, Германия

Для цитирования: Хилмола О.-П., Панова Ю. Устойчивость торговли стран Евросоюза с Китаем и США. Экономика региона. 2021. Т. 17, вып. 3. С. 956-970. https://doi.org/10.17059/ekon.reg.2021-3-17.

1. Introduction

For a long time, there existed a global consensus that free trade and low customs tariffs are the ultimate goals of global economy and growth. However, after the global financial crisis (2008–2009) the situation has changed little by little, and, in recent year, the world has witnessed the reappearance of trade hostilities, and the probability of long-term trade wars has increased. Of course, the disputes have mostly been between the United States of America (USA) and China [1, 2], but others also exist. One example is the hostility between Russia and western countries after the Crimean annexation in 2014, as this led to economic sanctions, import bans and ownership restrictions [3]. Similarly, Japan and South Korea have been arguing with each other in recent years, and they have both imposed sanctions, import/export bans and higher custom tariffs to each other[1]. United States was also having trade disputes with Mexico and Canada over the 1990s, and then signed a free trade agreement called the North American Free Trade Agreement (NAFTA). However, while Mexico and Canada remain within a unique trade area with the USA, a new trade agreement introduced new amendments, such as a minimum wage required in car manufacturing and further opening of dairy markets of Canada for products of the USA[2].

A trade dispute between the USA and European Union (EU) is still on the agenda, as it needs to be solved. The most recent and widely reported example is Europe's import ban on American 'chlorinated chicken'[3]. It would have been difficult to foresee such major developments, however, Rickards [4] was one of the first authors writing about them as a real possibility. Free trade has been challenging not only at the political level due to deficits and jobs; bans on waste exports have been made in recent years due to environmental concerns [5, 6].

[1] Bremmer, I. (2019). Why the Japan-South Korea at trade war is worrying for the world. Aetrieved from: https://time.com/5691631/japan-south-korea-trade-war/ (date of access: 29.01.2020).

[2] Pramuk, J. (2019). House approves USMCA trade deal after more than a year of talks, sending it to Senate. Retrieved from: Attps://www.cnbc.com/2019/12/19/house-passes-trumps-usmca-trade-agreement.html (date of access: 23.01.2020).

[3] 51voa.com (2019). US, Britain Clash Over Farming Issues During Trade Talks. Retrieved from: Attps://www.51voa.com/VOA_Special_English/us-britain-clash-over-possible-trade-agreement-81563.html (date of access: 15.03.2019).

In trade disputes and arguments, the European Union had a rather passive role, as it just tried to adapt to the situation. It should be emphasised that European states differ in country-level competitiveness, and decades-old Soviet and eastern legacy is still pretty much present [7, 8, 9]. Some convergence in export industries has been argued to be found regarding the highly competitive German model [8]. However, the EU's role in the world economy and trade is far from insignificant. Before the implementation of sanctions of the Ukrainian crisis, it was the largest economic area of the world, even larger than the USA. This position was lost, however, as sanctions and also economic crises swelled over European landscape (due to sovereign debt crises and implemented austerity). Within global trade, the EU has been at the same level as China and the USA[1]). Even if the EU is still one of leaders regarding its economy size and trade activity, these value will decrease due the Brexit taking place in 2020.

Considering the above-mentioned unprecedented shifts in the global economy, the goal of our study is to identify current trade account surplus and the factors that affect sustainable trade growth through positive and negative aspects. We hypothesise that the current financial crisis could be considered as another occasion for countries to depart from mercantilist strategies, i. e. economic policies that maximise the exports and minimise the imports for an economy [10]. China has already started a stunning reversal from excessive export-led growth strategy toward domestic-demand-led growth [11].

China significantly reduced the enormous current account surplus of 10 % of gross domestic product (GDP) in 2007 to a level of around 2 % since 2011, using the export shock during the financial crisis. Reportedly, Germany will need much more time for rebalancing the current trade balance. Germany and other European surplus countries could learn from the world experience and activate positive changes in the balance of international trade. In this regard, the research problem of this study could be stated as the following research questions: What are the factors of country competitiveness, which is reflected in trade surplus economies? What is the significance of Chinese and American trade within European Union-28 countries? How beneficial is the EU-28 trade with China and the USA? We attempt to answer these questions using data compiled from Commercial trade database[2]. The examination period is a decade of 2009–2018. It should be noted that this period was showing great changes due to the global financial crisis followed by the European sovereign debt crisis (e. g. in Greece, Portugal, Ireland and Cyprus). Also, this period was the time, where Chinese trade grew globally as the largest, even bypassing that of the USA. The examination period ended with numerous trade disputes between countries.

The paper is structured as follows. In Section 2, the methodology is presented. In the next Section 3, the review of foreign trade competitiveness and correlated factors is provided. Thereafter, in Section 4, overall EU-28 trade with the world is analysed, and then individually with China and the USA. In Section 5, main empirical data analysis follows, where individual countries of the EU-28 are analysed with their Chinese and the USA trade performance, including overall trade and balance of trade. Throughout the analysis, Germany is assumed to be a trade leader, and therefore it is further considered in Section 6. The study is concluded in Section 7, where also further research avenues are being proposed.

2. Methodology

The research has been started with the literature review. According to Briman and Bell, the theory is latent in the literature review [12]. In particular, the review allows choosing a quantitative methods or/and qualitative approach to the researched subject [13]. In this case, the current account as the subject was examined through the analysis of secondary documents, reports, concepts, journals, books, databases of the World Bank, Statistical Communiqué of the People's Republic of China, United Nations Conference on Trade and Development (UNCTAD), Eurostat, and United Nations (UN) Comtrade.

The collected data for the ten year period has been used in statistical models to find average and median numbers of the trade surplus/deficit for European countries. Although the use of a computer in analytical modelling is not obligatory, as, in simulation modelling, Excel still was applied to make computations and analyse the database.

The analytical models for trade surplus or deficit were borrowed from the theory of international finance [14]. The discussed topics include the value

[1] Eurostat. (2019). International trade in goods. Eurostat, European Commission, Luxemburg. Aetrieved from: https://ec.europa.eu/eurostat/statistics-explained/index.php/International_trade_in_goods#The_three_largest_global_players_for_international_trade:_EU.2C_China_and_the_USA (date of access: 29.01.2020).

[2] Comtrade. (2020). UN Comtrade Database. United Nations. Aetrieved from: https://comtrade.un.org/ (date of access: 23.01.2020).

of exports and imports, as well as the value of financial assets that flow into and out of the countries. In turn, related to these two measures is the current account (*CA*) balance, which was specifically computed. It accounts for flows of goods and services, imports (*IM*) and exports (*EX*):

$$CA = EX - IM.$$

When $EX > IM$, $CA > 0$, the country has a current account surplus.

When $EX < IM$, $CA < 0$, the country has a current account deficit.

The international finance theory also emphasises that *CA* is influenced by exchange rates. There is an effect of a rise in q (a real depreciation) on export demand:

$$EX = \text{change in } EX / \text{change in } q.$$

Other things equal, a real depreciation, i. e. a reduction of domestic currency value against foreign currency value, improves the current account, while a real appreciation (growth of domestic currency value vs. foreign currency value) causes the current account to immediately worsen.

At the same time, the connection of inflation with the exchange rate (*E*) should not be underestimated. For example, the appreciation rate of a foreign currency depends on the foreign inflation rate (f^*) and domestic inflation rate (f):

$$E = f - f^*.$$

For example, if Russian inflation is 5 % a year, and Chinese inflation is 3 % a year, then the exchange rate of the Chinese Yuan measured in Russian Roubles will increase 2 % a year. The deeper analysis of the current account and factors that contribute to the trade surplus and overall competitiveness of countries showed that there is a relation between *CA* and the national saving (*S*) and investments (*I*):

$$CA = S - I.$$

In particular, a country that exports more than it imports has a high level of national saving to investment. For instance, this is attributed to Germany. National saving is national income (*Y*) that is not spent on consumption (*C*) or government purchases (*G*):

$$S = Y - C - G.$$

The decomposition of national saving on public and private shows the dependence of current account on taxes (*T*):

$$S = Y - T - C + T - G.$$

$T - G$ represents public saving, while $Y - T - C$ stands for private saving. If $T > G$, the government runs a budget surplus. If $G < T$, then the government runs a budget deficit: it spends more money than it receives in tax revenue. The USA federal government ran a budget deficit of USD 1.3 trillion in 2010.

Countries can finance investment either by saving or by acquiring foreign funds equal to the current account deficit:

$$I = S - CA.$$

For example, in the USA, a deficit (also called a negative current account) has to be made up by borrowing. International borrowing of money is similar to the selling of financial assets. On the contrary, the current account surplus (e. g., in China) can be equalled to international lending. Under these circumstances, domestic residents lend the amount of current account balance to foreign residents. Lending money is similar to buying financial assets.

Therefore, the current account, which was computed for countries in this study, is a rough measure of the countries' net foreign wealth (*NFW*):

$$\text{Change in } NFW = CA.$$

NFW is also called Net International Investment Position (*NIIP*), which, in turn, is analogous to net foreign assets (*NFA*). It determines whether a country is a creditor or debtor nation by measuring the difference in its external assets and liabilities. That is why the net foreign asset of a country reflects the indebtedness of that country and its competitiveness as a whole.

In this regard, the USA has the highest negative foreign wealth in the world and, therefore, is the world's biggest debtor nation. As its current account continues to be in deficit, its net foreign wealth continues to decrease. In contrast, the Chinese current account surplus is growing along with its country's foreign wealth. The above-mentioned logic has been used in the following sections to explain the foreign trade competitiveness of these countries.

3. Review of Foreign Trade Competitiveness

Many studies have paid attention to the analysis of trade statistics between the USA and China, first and foremost, a decades-long issue of the growing USA's deficit and China's surplus [15, 16, 17, 18]. Some researches moved forward and have discussed when such a trade is good or bad [19]. Our analysis looks into the side of a trade surplus, which reflects country competitiveness [20]. Therefore, the focus is on China and the European

Union (primarily, Germany), its current main importer[1]. The review of trade competitiveness is done in terms of factors that support strong economies.

Recently, in political discussions in the Old West, it was highlighted [21] how competitiveness is being lost due to globalisation, and how manufacturing jobs have been offshored to Asia and other low-cost countries during the previous decades. However, these decisions were made mostly by the private sector of the West [22, 23], and were cost-based (thus, markets in Asia were tempting too).

On the whole, globalisation has contributed to trade growth of countries. Specifically, China's growth of economy got a significant boost from the membership within the World Trade Organisation (WTO) in late 2001. In the globalised world, countries' connectivity is also a vital factor for the further growth of trade. It is not surprising that leading export countries are performing well in the connectivity of UNCTAD (shipping connectivity), and logistics performance index of the World Bank. China has been a leading country in liner shipping connectivity index since 2006[2], while Germany has been numerous times best-performing country in the logistics performance index[3].

Meanwhile, in the beginning, Asian competitiveness was mostly based on currency depreciation, which started in China during the 1980s [24], and continued throughout South-East Asia in the midst of the currency crisis of 1997 [25]. Exchange rate management (specifically, a pegged exchange rate regime) was pivotal for China's export-led growth strategy [16, 26, 27]. Effects are still in place as Asian currencies are valued today lower as compared against the US dollar. In some currencies, appreciation has taken place (like Chinese Yuan), but this has only been a rather small scale as compared to big changes taken place in the previous decades during export-led growth [27].

Germany has been strong in its exports, even if its own currency in previous times was strong (German mark) [4]. In many circumstances, a strong currency is beneficial for an economy. An appreciation in currency usually reflects the fact that the economy is becoming more competitive and productive. For example, in the post-war period, Japan and Germany both experienced a sustained appreciation in their currency. This was compatible with rising productivity, low unemployment and high economic growth. At the same time, it should be noted that "the German real exchange rate is strongly undervalued relative to the rest of the Eurozone. This makes its goods artificially cheap, crowding out those of other Eurozone countries from both Eurozone and world markets" [20].

In export-led growth, countries try to gain competitive advantage by any means (e. g., the attraction of export-oriented FDI; shift of tax burdens onto labour income from capital income; creation of extra-judicial export processing zones; competitive devaluations creating financial instability; disregard for various environmental standards) [28]. However, the path of economic growth at the expense of the environment from an international perspective is not acceptable [29].

The above-mentioned factors are not, however, the necessity of foreign trade competitiveness in the long term. If a country has its strong commercial brands, then it is possible to sustain the growth of the economy. This is illustrated in such high-cost countries, like Germany and Switzerland. German companies (e. g., Heidelberg Printing Machines, BMW and Mercedes-Benz) perform well in export markets, based on product quality and technology [30].

Additionally, the reasons for exports growth and 'national competitiveness' should be traced in the structure of the economy, in the capital stock and the human capital [10]. Makin and PMB identify that the savings rate in the economy is an important factor [26]. Priewe [10] puts emphasis on national saving relative to domestic investment as a determinant of the current account surplus in Germany, which emerged in 1999, and is the biggest on the globe in absolute terms. Both China and Germany have high individual saving rates.

Domestic investment, as well as foreign direct investment (their level and growth), are both vital factors for export competitiveness [31, 32]. Investments could be made in tangible or intangible assets, and they are both equally important in global markets and contribute to trade surplus [33]. In some instances, foreign direct investment could be used to supplement the domestic investment and lead to economic growth, as Pakistan case shows [34]. Foreign direct investment has

[1] Statistical Communiqué of the People's Republic of China on the 2019 National Economic and Social Development. (2020). Aetrieved from: http://www.stats.gov.cn/english/PressRelease/202002/t20200228_1728917.html (date of access: 26.02.2020).

[2] UNCTAD (2019). Maritime connectivity: countries vie for positions. 17.July.2019. UNCTAD, United Nations. Available at URL: https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2151 (date of access: 14.02.2020).

[3] World Bank (2020). Country Score Card: Germany 2018. The World Bank Group. Available at URL: https://lpi.worldbank.org/international/scorecard/radar/254/C/DEU/2018#chartarea (date of access: 14.02.2020).

Table 1

European Union-28 overall trade with China, the USA and the world, together with proportional shares of China and the USA in the period 2009–2018 (currency: in Billion USD)

Year	China	USA	World	Share of China (%)	USA (%)
2009	$415 B	$501 B	$3357 B	12.4 %	14.9 %
2010	$525 B	$541 B	$3840 B	13.7 %	14.1 %
2011	$599 B	$628 B	$4592 B	13.0 %	13.7 %
2012	$559 B	$640 B	$4497 B	12.4 %	14.2 %
2013	$567 B	$643 B	$4554 B	12.4 %	14.1 %
2014	$618 B	$684 B	$4509 B	13.7 %	15.2 %
2015	$576 B	$681 B	$3902 B	14.8 %	17.5 %
2016	$573 B	$674 B	$3825 B	15.0 %	17.6 %
2017	$644 B	$706 B	$4217 B	15.3 %	16.8 %
2018	$710 B	$786 B	$4641 B	15.3 %	16.9 %
Trade growth from 09:	71.1 %	57.0 %	38.2 %		
Trade growth from 10:	35.3 %	45.3 %	20.9 %		

greatly facilitated export growth with multinational firms (e. g., Motorola, Toshiba, Nokia and LG), contributing significantly to China's export volumes [26].

The growth of investments is favoured by the low level of inflation, which, in turn, provides stable prices. If a low and stable rate of inflation is maintained over an extended period of time, the economic decisions of households and firms are not influenced. People do not waste resources attempting to protect themselves from inflation. They save and invest with confidence that the value of money will be stable over time [35, 36].

In countries, where inflation is relatively high, e. g. in Russia, competitiveness is supported by natural resource abundance [36]. First and foremost, these are oil and gas that contribute to trade surplus. For the first half of 2019, Russia's merchandise trade surplus was $93 billion, ranking third in the world after China and Germany and before South Korea[1]. Natural resource abundance is an important determinant of growth in Russia, however, not the only one. Recently, the Russian government has started to apply a reasonable tax policy to enlarge the export of IT services[2]. Taxation rates, as well as tax breaks, have always led to favourable effects in Ireland, which has a current account surplus comparable with the leading countries [38].

Theory and evidence from China show that the export tax rebate policy has a positive impact on export performance. According to Chen, Mai and Yu [39], when a government raises the export rebate rate, the output of final goods for export by domestic firms increases. Chandra and Long [40] present empirical findings that demonstrate significant and large effects of value added tax (VAT) rebates on export volume, i. e. for each percentage point increase in the VAT rebate rate, the volume of Chinese exports increased by 13 %.

In the next section, we provide trade statistics to support arguments on the competitiveness of Chinese and German economies. Particularly, the trade surplus is discussed below as a reflection of countries competitiveness [20].

4. Research Environment: EU-28 Trade with China, USA and the world Overall

European Union's overall trade (import and export) of 28 member countries with the entire world, but also with China and the USA, has developed favourably during the ten year period of 2009–2018 (Table 1). Of course, the base year of 2009 was in global trade very sluggish (due to the global financial crisis), and growth achieved in comparison to the year 2018 is therefore high. In this examined decade, the EU-28 trade with the entire world grew 38.2 %, while Chinese trade showed growth of 71.1 %, and trade with USA 57 %. To compare with the year 2010, growth rates would be much lower (in world's and Chinese case they would be around half lower), and trade growth with the entire world would then be 20.9 %, while with China this growth reached 35.3 % and 45.3 % with the USA (Table 1).

As Chinese and American trade with the EU-28 has shown much higher growth in the obser-

[1] Awaragroup. (2020). An Awara Accounting Economic Brief: With Global Recession Looming, Russia Looks Strong. Retrieved from: https://www.awaragroup.com/blog/with-global-recession-looming-russia-looks-strong/ (date of access: 26.02.2020).

[2] Cnews.ru (2020). Putin introduces «the lowest tax rates in the world» for IT companies. Aetrieved from: https://www.cnews.ru/news/top/2020–06–24_putin_predlozhil_ustanovit (date of access: 25.06.2020).

Table 2

European Union-28 trade balance with China, the USA and the world in the period 2009–2018 (currency: in Billion USD)

Year	China	USA	World
2009	–$185 B	$68 B	–$157 B
2010	–$226 B	$88 B	–$228 B
2011	–$221 B	$92 B	–$236 B
2012	–$190 B	$105 B	–$139 B
2013	–$176 B	$117 B	$69 B
2014	–$184 B	$135 B	$13 B
2015	–$201 B	$135 B	$66 B
2016	–$200 B	$126 B	$36 B
2017	–$201 B	$131 B	$25 B
2018	–$220 B	$159 B	–$29 B

vation period, their relative share from the EU-28 trade has increased. In the year 2009, Chinese and American trade accounted for 27.3 % of the EU-28 trade, while in the year 2018, it had grown to 32.2 %. Trade with the USA in the observation period stayed a little bit more important than Chinese trade. However, the difference is not anymore that significant. China accounted for 15.3 % from the EU-28 trade in 2018, while the USA, in turn, had a share of 16.9 %. It should be emphasised that these two analysed countries are in the class of their own within the EU-28 trade, followed by Russia, Switzerland and Turkey in 2018 (three most important after USA and China). However, their total combined trade did not reach the level of the USA's trade with the EU-28 (especially Russian trade has been going through difficult times in the observation period, and is in decline).

In trade balance terms, in recent years, development has been good from the EU-28 perspective (Table 2). The development of European trade with China and the USA has been more predictable. The trade deficit of the EU-28 with China has remained within 200 bill. USD range for the entire observation period. In the case of the USA's trade, Europe's surpluses have more than doubled in the decade (+134.7 %). Good development of this trade is not only due to the slump of 2009 within the USA trade, but it is clearly present even if comparing development from the year 2010 onwards.

5. Empirical Data Analysis: EU-28 Countries and their Foreign Trade with China and the USA

Further analysis of the EU-28 countries foreign trade with China and the USA was completed in the country level. This analysis includes also re-import and re-export, which leads to the situation, where total export and import are not equal to Section 3 trade volumes. The analysis was conducted for the same ten-year period in order to sketch the development path and most important actors.

Among European countries, the definite leader in trade with China is Germany, which has total trade of basically the same amount with the three-following top European countries, namely the United Kingdom (UK), France and Netherlands (see Table 3). The situation in the year 2018 was only even more biased to Germany as its total trade was a little bit more than these three-following top trading European countries. German dominance could be examined from another perspective too: if European countries, starting from Spain and ending with the smallest trading country Malta, would be summed together in trade (Table 3), they would be smaller than Germany alone in Chinese trade. If Italy would be included in these 'smaller' European foreign trade countries, it would be somehow larger than Germany.

In country-level and relative terms, Germany is also most dependent from the EU-28 countries on Chinese trade (Figure 1) as in year 2018 it reached 8.3 % from overall trade (re-import and re-export are included, and relative share is lower than the EU-28's on average: EU-28 countries are not seen to be together, but here analyses of individual countries and intra-EU trade are also included). Germany is followed by the UK, Czech Republic, France, Poland and Finland, which have a dependency of 6.2–7.8 % on China. Lowest relative share in the EU-28 countries could be observed in Croatia, Latvia, Luxemburg, Portugal and Lithuania. These all have Chinese share from overall trade around 2 %, and lowest, Lithuanian, is 1.8 %.

In Chinese trade, rather surprisingly, all EU-28 countries in the examined years had, as a rule, faced trade deficit (Table 4). There is only one exception and it is Finnish trade account in the year 2011 — it was 604.5 mill. USD positive in that particular year; apart from this sole year, in all other years (including in Finland) it was around one or two billion USD negative (cumulative performance of Finland in this examined period was a deficit of 14.4 bill. USD). This is a rather significant fact, considering how historically strong trading countries of Europe were. It also reveals how competitive Chinese manufacturing and trade has been.

Even German trade with China is having deficits. Germany, being the strongest economy of the European Union, represents the economic stance of the Union as a whole. Recently, the European Union, not the United States, became the main importer of China, which creates additional deficit for the European countries.

Table 3

European Union-28 countries and the total trade with China in the period 2009–2018, annual average, median and last year performance (currency: in Million USD, including also re-export and re-import)

Country	Total (2009–2018)	Average	Median	Year 2018
Germany	$1919268 M	$191927 M	$189948 M	$237204 M
United Kingdom	$792332 M	$79233 M	$78923 M	$91094 M
France	$717186 M	$71719 M	$73318 M	$83655 M
Netherlands	$501971 M	$50197 M	$51216 M	$59488 M
Italy	$464309 M	$46431 M	$45828 M	$53066 M
Spain	$308050 M	$30805 M	$31034 M	$39126 M
Belgium	$260019 M	$26002 M	$26261 M	$26292 M
Poland	$231183 M	$23118 M	$22909 M	$33474 M
Czechia	$194680 M	$19468 M	$19514 M	$28636 M
Austria	$126189 M	$12619 M	$12680 M	$15534 M
Sweden	$125115 M	$12511 M	$12516 M	$15418 M
Denmark	$93573 M	$9357 M	$9554 M	$10369 M
Finland	$81542 M	$8154 M	$8362 M	$9547 M
Hungary	$73901 M	$7390 M	$7327 M	$8749 M
Ireland	$71224 M	$7122 M	$6207 M	$11762 M
Slovakia	$69241 M	$6924 M	$7320 M	$7153 M
Romania	$40641 M	$4064 M	$3850 M	$6095 M
Greece	$38728 M	$3873 M	$3645 M	$5305 M
Portugal	$28417 M	$2842 M	$2776 M	$3849 M
Slovenia	$18692 M	$1869 M	$1781 M	$2620 M
Bulgaria	$16988 M	$1699 M	$1710 M	$2457 M
Estonia	$14928 M	$1493 M	$1587 M	$1891 M
Croatia	$11057 M	$1106 M	$1007 M	$1111 M
Lithuania	$8657 M	$866 M	$894 M	$1232 M
Luxembourg	$6774 M	$677 M	$680 M	$876 M
Cyprus	$5330 M	$533 M	$463 M	$566 M
Latvia	$5264 M	$526 M	$567 M	$765 M
Malta	$2546 M	$255 M	$257 M	$299 M
Total	$6227804 M	$622780 M	$622136 M	$757631 M

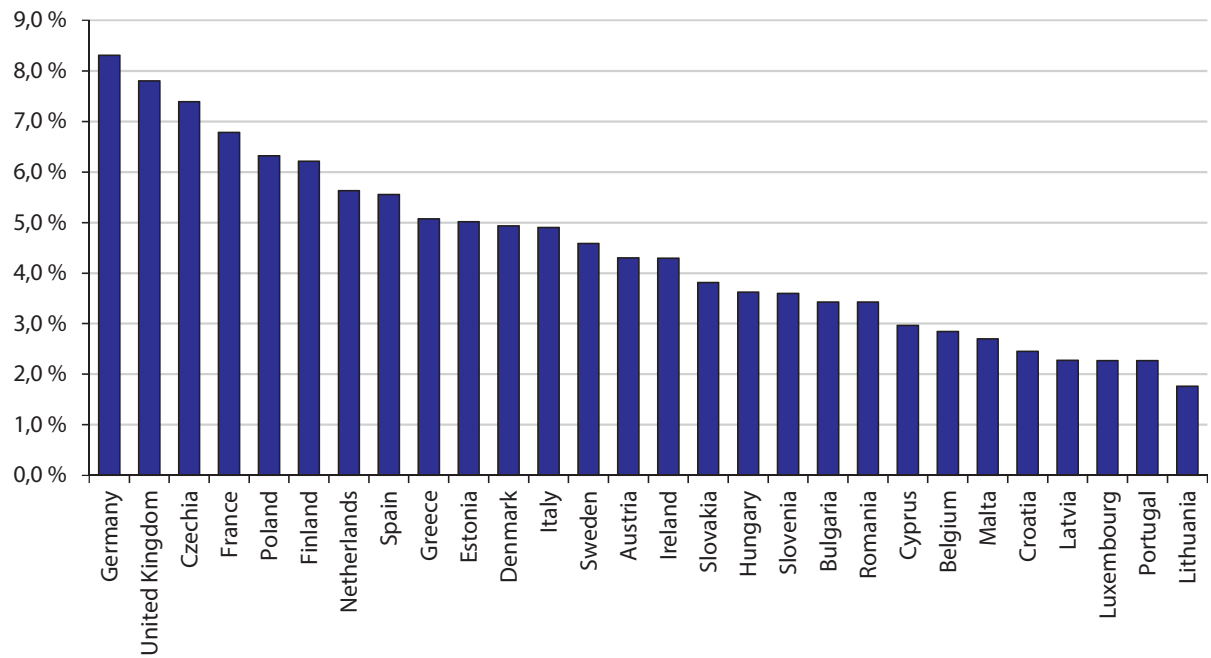

Fig. 1. *The relative share of Chinese trade in EU-28 countries in the year 2018*

Table 4

European Union-28 countries and the balance of trade with China in the period 2009–2018 (currency: in Million USD, including also re-export and re-import)

Country	Average	Median	Year 2018
Malta	–$142 M	–$127 M	–$223 M
Luxembourg	–$222 M	–$211 M	–$372 M
Latvia	–$322 M	–$336 M	–$390 M
Cyprus	–$432 M	–$403 M	–$354 M
Bulgaria	–$509 M	–$474 M	–$654 M
Lithuania	–$633 M	–$641 M	–$787 M
Croatia	–$952 M	–$744 M	–$794 M
Sweden	–$1019 M	–$954 M	–$37 M
Estonia	–$1119 M	–$1172 M	–$1449 M
Portugal	–$1317 M	–$1254 M	–$2157 M
Finland	–$1441 M	–$1475 M	–$1346 M
Slovenia	–$1459 M	–$1457 M	–$1900 M
Ireland	–$1496 M	–$1405 M	–$674 M
Romania	–$2835 M	–$2797 M	–$4327 M
Greece	–$2931 M	–$2888 M	–$3177 M
Hungary	–$3495 M	–$3482 M	–$4006 M
Denmark	–$3710 M	–$3752 M	–$4047 M
Slovakia	–$3885 M	–$3964 M	–$3934 M
Austria	–$4836 M	–$5006 M	–$5978 M
Belgium	–$8746 M	–$8630 M	–$9847 M
Czechia	–$15845 M	–$15562 M	–$23469 M
Poland	–$19156 M	–$18772 M	–$28471 M
Germany	–$19735 M	–$20107 M	–$16298 M
Italy	–$20138 M	–$19205 M	–$20043 M
Spain	–$20515 M	–$21025 M	–$24350 M
Netherlands	–$30355 M	–$31541 M	–$32550 M
France	–$34080 M	–$34215 M	–$34419 M
United Kingdom	–$41508 M	–$39970 M	–$35690 M
Total	–$242833 M	–$241568 M	–$261743 M

While Sweden, Ireland, Germany and Finland are rather close to one with their import per export multiplier (Figure 2), there are some European countries, which are in a rather difficult position. For example, every time Poland exports products to China, it receives as imports more than 12 times the value of their exports (Figure 2; comprehensive analysis, see [41]). In the case of the Czech Republic, this multiplier is around 10 and Estonia, being third lowest-performing country, has the multiplier of above seven. In recent years, these countries have not improved their poor situation, even if their exports to China have increased. It is notable that apart from five best performing European countries, the rest of the countries are having a multiplier of two or above, and this comes from situation, which is structural and will not change in the short amount of time.

Foreign trade with the USA is similar in the EU-28 countries as it was with China. Five most trading countries in Table 5 are the same as in Table 3. Again, Germany dominates this trade, but not that significantly as in Chinese trade. However, in recent years of the observation period, Germany's trade has increased so much that in the year 2018, it was at the level with the two following countries of it (UK and France). In this most recent year, German trade with the USA was so big that it exceeded total trade of countries in Table 3, starting from Ireland and ending to smallest trading country Cyprus.

Considering the balance of trade, Germany is again a leader with a significant surplus (Table 6), but surprisingly, it is followed by Italy, which is

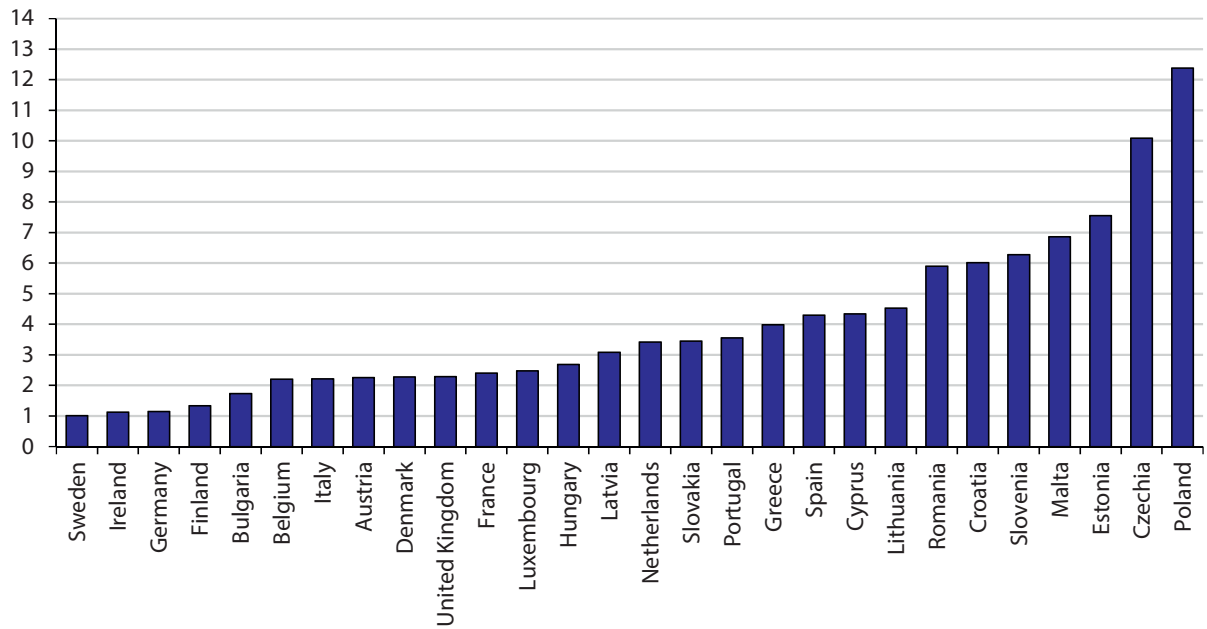

Fig. 2. *Average multipliers of imports from China over exports to the EU-28 in the period 2009–2018 (including re-export and re-import)*

Table 5

European Union-28 countries and the total trade with the USA in the period 2009–2018, annual average, median and last year performance (currency: in Million USD, including also re-export and re-import)

Country	Total (2009–2018)	Average	Median	Year 2018
Germany	$1804584 M	$180458 M	$185131 M	$212658 M
United Kingdom	$1210146 M	$121015 M	$121763 M	$129279 M
France	$749938 M	$74994 M	$76243 M	$86893 M
Netherlands	$568118 M	$56812 M	$56172 M	$66302 M
Italy	$553692 M	$55369 M	$55810 M	$74432 M
Belgium	$525395 M	$52540 M	$53695 M	$55311 M
Ireland	$442660 M	$44266 M	$40834 M	$65074 M
Spain	$257772 M	$25777 M	$26310 M	$30475 M
Sweden	$145832 M	$14583 M	$14264 M	$15166 M
Austria	$144627 M	$14463 M	$14673 M	$19509 M
Poland	$98298 M	$9830 M	$9931 M	$14899 M
Denmark	$75935 M	$7593 M	$7637 M	$7648 M
Finland	$67499 M	$6750 M	$6857 M	$7346 M
Czechia	$66233 M	$6623 M	$6676 M	$8843 M
Hungary	$48926 M	$4893 M	$5415 M	$5687 M
Portugal	$37949 M	$3795 M	$3735 M	$5412 M
Slovakia	$24235 M	$2424 M	$2358 M	$3991 M
Greece	$22993 M	$2299 M	$2087 M	$2432 M
Romania	$19728 M	$1973 M	$1968 M	$2630 M
Luxembourg	$17292 M	$1729 M	$1790 M	$1264 M
Lithuania	$13606 M	$1361 M	$1412 M	$2158 M
Slovenia	$12682 M	$1268 M	$1235 M	$1742 M
Estonia	$10893 M	$1089 M	$1000 M	$1593 M
Bulgaria	$6961 M	$696 M	$694 M	$974 M
Croatia	$6838 M	$684 M	$722 M	$618 M
Malta	$5517 M	$552 M	$450 M	$340 M
Latvia	$3444 M	$344 M	$264 M	$920 M
Cyprus	$2104 M	$210 M	$207 M	$284 M
Total	$6943895 M	$694390 M	$699336 M	$823880 M

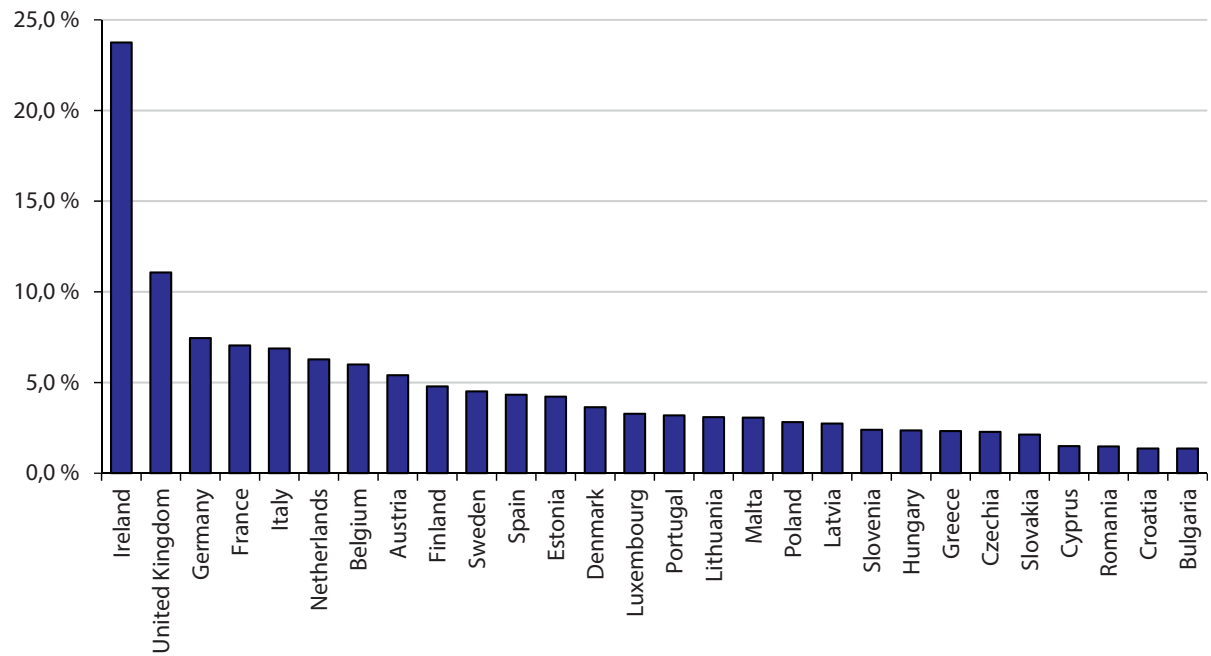

Fig. 3. *The relative share of the USA trade with the EU-28 countries in the year 2018*

Table 6

European Union-28 countries and the balance of trade with the USA during the years 2009–2018 (currency: in Million USD, including also re-export and re-import)

Country	Average	Median	Year 2018
Germany	$45935 M	$52597 M	$56068 M
Italy	$22946 M	$23380 M	$36613 M
Ireland	$17889 M	$18224 M	$27713 M
Sweden	$5770 M	$6139 M	$6214 M
United Kingdom	$4499 M	$3578 M	$2691 M
Austria	$3577 M	$3704 M	$5463 M
Denmark	$2424 M	$2336 M	$1849 M
Finland	$2159 M	$2059 M	$2374 M
Portugal	$1310 M	$1551 M	$1910 M
Hungary	$1031 M	$1066 M	$1396 M
Slovakia	$878 M	$792 M	$2214 M
Lithuania	$638 M	$604 M	$1193 M
Estonia	$468 M	$325 M	$883 M
Greece	$353 M	$526 M	$804 M
Romania	$200 M	$240 M	$510 M
Bulgaria	$126 M	$147 M	$291 M
Latvia	$84 M	$60 M	$292 M
Croatia	$53 M	$97 M	$190 M
Czechia	$33 M	$161 M	–$485 M
Malta	–$14 M	–$15 M	–$6 M
Cyprus	–$23 M	$3 M	$84 M
Slovenia	–$258 M	–$243 M	–$398 M
Poland	–$819 M	–$689 M	–$332 M
Luxembourg	–$849 M	–$823 M	–$393 M
Spain	–$1953 M	–$1723 M	–$521 M
France	–$4700 M	–$5740 M	$3726 M
Belgium	–$4990 M	–$6880 M	–$6797 M
Netherlands	–$11570 M	–$12337 M	–$12747 M
Total	$85197 M	$89137 M	$130799 M

having a proportionally high surplus. On the average, German surplus is similarly sized in Table 3 with three following most surplus producing countries (Italy, Ireland and Sweden). Also in average terms, the German trade surplus is bigger than all other countries together in Table 6, as trade deficit of countries (from Malta to the Netherlands) takes away other surplus country performance.

Further on, it is necessary to note the significance of the USA trade, which is clearly highest in Ireland, where it takes 23.7 % from overall trade (see Figure 3). This is followed by the UK with a relative share of 11.1 %. Germany, France and Italy are all having a relative share of around 7 %. Least dependent on the USA's trade are Cyprus, Romania, Croatia and Bulgaria. These are all having a relative share of only 1.4–1.5 %, which is really low. Interestingly, the USA's trade is more fluctuating among European countries than Chinese trade — highest and lowest shares are having more extreme values (it is also apparent in standard deviation as compared to the mean, but not reported in here).

Trade with the USA is biased as it is with China, but in this situation, it is in the surplus direction. Also, the magnitude is different: in Figure 2, Poland has a multiplier of more than 12, and in Figure 4, Lithuania has a multiplier of 2.7. As shown in Figure 4, five countries enjoy significant proportional trade surplus (Lithuania, Estonia, Italy, Ireland and Sweden), and these have 2.34–2.7 more exports to the USA than imports. From these five countries, top positions in Table 6 (from

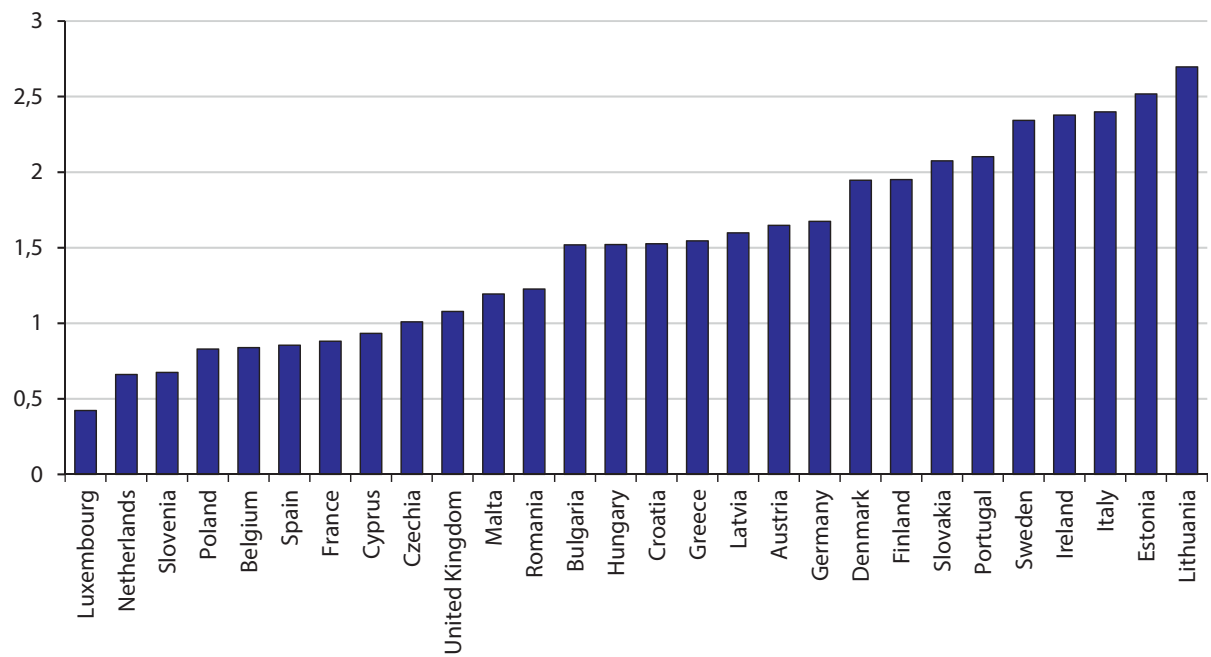

Fig. 4. *Average multipliers of exports to the USA from the EU-28 countries over imports in the period 2009–2018 (including also re-export and re-import)*

second to fourth highest surplus) are occupied by Italy, Ireland and Sweden. Examining Figure 4 further, it could be observed that these five top countries in the surplus multiplier are followed by a group of four countries having a multiplier of around two (Portugal, Slovakia, Finland and Denmark). However, it should be highlighted that not all trade is at a surplus, and having high multiplier. In Figure 2, there are eight countries, which have on the average below one values: Luxemburg, Netherlands and Slovenia are in a rather challenging position.

6. Discussion: How Important the USA and China are for Germany?

From the foreign trade data analysis, it became apparent that Germany is playing an important role within the EU-28 trade with the USA and China, and its performance in volume terms is much higher than in other countries. It has also an impressive trade surplus with the USA. Therefore, further analysis to understand the role of the USA and China in German foreign trade was conducted. The examination was made for the same ten-year period as before.

In terms of the total trade volume, both the USA and China hold important positions in German trade (China being the second most important on the average, and the USA fourth, see Table 7). However, Germany has other significant trade partners, they are all European countries (it has been argued that Germany is actually too competitive in the Euro currency area, see e. g. [42, 43]). On average, France has been the largest trade partner for Germany during the years 2009–2018, even larger than China. In the most recent year of 2018, however, China was larger than France, and so was the USA. The situation is similar with the Netherlands, as it was fourth most important in overall trade (on average), but in the most recent data (year 2018) it fell behind the USA. From overall trade, it could be concluded that while Germany is linked to China and the USA in volumes, it has other significantly sized trade partners, too.

On the country basis, the USA is the largest contributor to the German trade surplus (Table 8). However, the UK is nearly as big in its surplus production. In addition, numerous other European countries are producing surplus in their trade for Germany, typically starting from 10 billion USD per annum. Notable is that the United Arab Emirates is also in the list of the highest surplus producing countries. While surplus of Germany depends not

Table 7

Germany and ten largest countries in its total trade in the period 2009–2018 (currency: in Million USD, including also re-export and re-import)

	Total (2009–2018)	Average	Median	Year 2018
France	$2034834 M	$203483 M	$200112 M	$201657 M
China	$1919268 M	$191927 M	$189948 M	$237204 M
Netherlands	$1814465 M	$181447 M	$185517 M	$204484 M
USA	$1804584 M	$180458 M	$185131 M	$212658 M
United Kingdom	$1392191 M	$139219 M	$140241 M	$140185 M
Italy	$1339623 M	$133962 M	$132675 M	$153664 M
Austria	$1155210 M	$115521 M	$116553 M	$124735 M
Switzerland	$1100228 M	$110023 M	$113942 M	$120812 M
Poland	$1063416 M	$106342 M	$106215 M	$140035 M

Table 8

Germany and the ten largest countries in its trade surplus in the period 2009–2018 (currency: in Million USD, including also re-export and re-import)

	Country	Average	Median	Year 2018
1	USA	$45935 M	$52597 M	$56068 M
2	United Kingdom	$44088 M	$47897 M	$53133 M
3	France	$43966 M	$45391 M	$47065 M
4	Austria	$25158 M	$25177 M	$25818 M
5	Spain	$13878 M	$13756 M	$13909 M
6	Italy	$12872 M	$10809 M	$11164 M
7	United Arab Emirates	$11551 M	$11543 M	$8491 M
8	Poland	$10623 M	$9972 M	$9512 M
9	Switzerland	$10430 M	$10000 M	$10168 M
10	Sweden	$10169 M	$9847 M	$12283 M

Table 9

Germany and the ten largest countries in its trade deficit in the period 2009–2018 (currency: in Million USD, incl. also re-export and re-import)

	Country	Average	Median	Year 2018
1	China	–$19735 M	–$20107 M	–$16298 M
2	Japan	–$7434 M	–$4999 M	–$5043 M
3	Ireland	–$7287 M	–$6080 M	–$2500 M
4	Netherlands	–$6874 M	–$5946 M	–$5343 M
5	Viet Nam	–$4848 M	–$5269 M	–$6753 M
6	Bangladesh	–$4118 M	–$4237 M	–$5931 M
7	Czechia	–$3867 M	–$3723 M	–$4592 M
8	Libya	–$2750 M	–$2395 M	–$3665 M
9	Hungary	–$2544 M	–$2728 M	–$1568 M
10	Kazakhstan	–$2518 M	–$2589 M	–$2734 M

only on the USA, it is still mostly arising from the USA and countries of Europe.

In terms of trade deficit, German trade is showing a much higher geographical spread. Here, China is a leading country in trade deficit terms (Table 9), and it is followed by Japan and Ireland. Apart from other European countries (Netherlands, the Czech Republic and Hungary), two other Asian countries are included in the list (Vietnam and Bangladesh), as well one North African (Libya) and Central-Asian (Kazakhstan) states. Trade deficits in largest deficit producing countries are much lower as compared to trade surpluses: deficits are starting from (on average) 2.5 bill. USD.

To conclude from the above analysis, China and the USA are important for German trade, but, at the same time, it is rather diversified to other countries, too. European countries do play an important role in its overall trade, and also in trade surpluses. Other sources of deficits for Germany are observed in Japan, North Africa and Central Asia. Additionally, four European countries are included in the list of ten most deficit producing countries for Germany.

7. Conclusions

The review of countries' trade showed that there is a variety of factors affecting the competitiveness of economies (manufacturing base, exchange rate management, low wages, disregard of environmental standards, high saving rate, government tariff and tax policies, foreign direct investments, natural resource abundance, etc.). Strong economies usually have a strong, and export-focused, manufacturing base. This is usually reflected in a strong currency and trade surplus (meaning that they sell more things to other countries than they buy from them). The institutions in a strong economy focus on keeping inflation in check and promoting exports. Some other economies are strong because they have a lot of natural resources, particularly, oil and gas. Again, these countries' economies usually run trade surpluses, though they do not necessarily have strong currencies as oil is usually paid for in US dollars.

This research also showed that foreign trade of Europe overall has developed well in the examined decade, and the importance of China and the USA has only increased. These two main trade partners of Europe are, however, different in their roles. Particularly, China is the source of the trade deficit in Europe, while the USA, on the contrary, contributes to the surplus in the European trade.

At the same time, the trade of China and the USA has a different spread throughout Europe: the USA clearly has key partners, while China is more present in all countries. Trade deficits are observed throughout Chinese trade in European countries, and, in some of them, these deficits are very significant and could be considered as structural (like in Poland and the Czech Republic). Trade with the USA, in turn, is producing general surpluses to European countries. For some countries, the trade with the USA is extremely important, like Ireland and Italy (both have very high overall trade with the USA as compared to total trade, and this trade is producing significant surpluses). However, from the overall analysis it could be said that German trade with China and the USA is exceptional among European countries, and it has also increased in this examination period. It should be stressed that further analysis revealed that the German position in its trade is rather versatile, and it is not only dominated by China and the USA. However, in terms of surplus, the USA is the most important, while Chinese trade brought the highest deficits in 2018. Also, the influence of the USA and China on German trade has been further increasing at the end of the period.

For further research, it would be interesting to continue examining trade development from a European perspective. As future is uncertain, and there are numerous threats for favourable trade development, it would be natural to analyse how robust is European foreign trade for "trade shocks", e. g. possible sanctions or suddenly decreasing demand of the USA and/or China. Statistical analysis, examining multiplier effects and connecting this to the simulation, should shed a brighter light on the robustness of European trade and economies.

References

1. Steinbock, D. (2018). U.S.-China trade war and it global impacts. *China Quarterly of International Strategic Studies, 4(4),* 515–542.

2. Liu, L-J., Creutxig, F., Yao, Y-F., Wei, Y-M. & Liang, Q-M. (2020). Environmental and economic impacts of trade barriers: The example of China-US trade friction. *Resource and Energy Economics, 59,* 101144.

3. Năsulea, C., Crețu, B. N. & Spînu, D. F. (2015). How sanctions on Russia impact the economy of the European Union. *Studies in Business and Economics, 10(3),* 147–157.

4. Rickards, J. (2011). *Currency Wars — The making of the next global crisis.* Penguin Books, New York, USA, 318.

5. The Economist (2018). Exit the dragon — A Chinese ban on rubbish imports is shaking up the global junk trade. *The Economist, 428(9111),* 7–8.

6. Wang, C., Xhao, L., Lim, M. K., Chen, W-Q. & Sutherland, J. W. (2020). Structure of the global plastic waste trade network and the impact of China's import ban. *Resources, Conservation & Recycling, 153,* 104591.

7. Falkowski, K. (2018). Competitiveness of the Baltic States in international hightechnology goods trade. *Comparative Economic Research, 21(1),* 25–43.

8. Czarny, E. & Zmuda, M. (2018). Competitiveness as the ability to adjust: The EU–10 exports structure and its convergence to the German pattern. *Comparative Economic Research, 21(1),* 119–133.

9. Kordalska, A. & Olczyk, M. (2014). Impact of the manufacturing sector on the export competitiveness of European countries — A spatial panel analysis. *Comparative Economic Research, 17(4),* 105–120.

10. Priewe, J. (2018). *A time bomb for the Euro? Understanding Germany's current account surplus.* IMK Studies No. 59. IMK at the Hans Boeckler Foundation, 96.

11. Hill, C. W. L & Hult, G. T. M. (2018). *International Business.* University of Washington, USA, 715.

12. Briman, A. & Bell, E. (2011). *Business Research Methods* (3rd ed). Oxford University: United Kingdom Press, UK, 806.

13. Novikov, A. M. & Novikov, D. A. (2010). *Metodologiya nauchnogo issledovaniya [Methodology of Scientific Research].* Moscow: LIBROKOM, 660. (In Russ.)

14. Krugman, P. R., Obstefeld, M. & Melitz, M. J. (2018). *International Finance: Theory and Policy.* Pearson Education, London, UK, 465.

15. Miles, H. E. (1922). *Hearings Before Committee on Finance, United States Senate, on the Proposed Tariff Act of 1921 (HR 7456).* US Government Printing Office, USA, 5419.

16. Makin, A. J. (2007). Does China's huge external surplus imply an undervalued Renminbi? *China & World Economy, 15(3),* 89–102.

17. Mastel, G. & Szamosszegi, A. Z. (1997). China's growing trade surplus: Why it matters. *Washington Quarterly, 20(2),* 201–212.

18. Gräf, B. (2007). US current account deficit: No reason to panic! *CESifo Forum, 8(4),* 31–38.

19. Leightner, J. E. (2010). Are the forces that cause China's trade surplus with the USA good? *Journal of Chinese Economic and Foreign Trade Studies, 3(1),* 43–53.

20. Springford, J. & Tilford, S. (2013). Why Germany's trade surplus is bad for the Eurozone. *CER Bulletin, 93,* 3–4.

21. Hays, J., Lim, J. & Spoon, J-J. (2019). The path from trade to right-wing populism in Europe. *Electoral Studies, 60,* 102038.

22. Milberg, W. & Winkler, D. (2013). *Outsourcing Economics — Global Value Chains in Capitalist Development.* Cambridge University Press, Cambridge, UK, 345.

23. Jain, N., Girotra, K. & Netessine S. (2014). Managing global sourcing: Inventory performance. *Management Science, 60(5),* 1202–1222.

24. Bhalla, S. S. (2012). *Devaluing to Prosperity: Misaligned currencies and their growth consequences.* Peterson Institute for International Economics, Washington, DC, USA, 263.

25. Das, S. (2012). *Traders, Guns and Money.* Financial Times Publishing, Great Britain, 401.

26. Makin, T. & PMB, G. C. (2006). China's growing trade surplus: causes, consequences and policy implications. In: *ACESA2006 Emerging China: Internal Challenges and Global Implications* (pp. 13–14). Victoria University, Melbourne.

27. Garcia-Herrero, A. & Koivu, T. (2007). *Can the Chinese trade surplus be reduced through exchange rate policy?* BOFIT Discussion Paper No. 6/2007. Institute for Economics in Transition, Helsinki, Finland, 36.

28. Palley, T. I. (2011). *The rise and fall of export led growth.* Levy Economics Institute of Bard University working paper, No. 675, 24.

29. Zhang, Z. (2010). China in the transition to a low-carbon economy. *Energy Policy, 38(11),* 6638–6653.

30. Simon, H. (1992). Service policies of German manufacturers: Critical factors in international competition. *European Management Journal, 10(4),* 404–411.

31. Andreson, J. E., Larch, M. & Yotov, Y. V. (2019). Trade and investment in the global economy: A multi-country dynamic analysis. *European Economic Review, 120,* 103311.

32. Jean, S., Martin, P. & Sapir, A. (2018). International trade under attack: what strategy for Europe? *Notes du conseil d'analyse économique, 46,* 1–12.

33. Torvik, R. (2009). Why do some resource-abundant countries succeed while others do not? *Oxford Review of Economic Policy, 25(2),* 241–256.

34. Ullah, I., Shah, M. & Khan, F. U. (2014). Domestic investment, foreign direct investment, and economic growth nexus: A case of Pakistan. *Economics Research International, 1,* 1–5.

35. Poole, W. & Wheelock, D. (2008). Stable Prices, Stable Economy. The Regional Economist, 9.

36. Mishkin, F. S. (2001). *From monetary targeting to inflation targeting: lessons from industrialized countries.* The World Bank, 39.

37. Lederman, D. & Maloney, W. F. (2003). *Trade structure and growth.* The World Bank, Policy Research Working Paper, Washington, USA, 23.

38. Stewart, J. (2011). Corporation Tax: How Important is the 12.5 % Corporate Tax Rate in Ireland? *Financial Times, 8,* 12.

39. Chen, C. H., Mai, C. C. & Yu, H. C. (2006). The effect of export tax rebates on export performance: Theory and evidence from China. *China Economic Review, 17(2),* 226–235.

40. Chandra, P. & Long, C. (2013). VAT rebates and export performance in China: Firm-level evidence. *Journal of Public Economics, 102(C),* 13–22.

41. Choroś-Mrozowska, D. (2019). The Chinese belt and road initiative from the Polish perspective. *Comparative Economic Research, 22(2),* 39–53.

42. Varoufakis, Y. (2016). *And the Weak Suffer What They Must?* Vintage, Penguin Random House, London, UK, 336.

43. Stiglitz, J. E. (2018). *The Euro: How Common Currency Threatens the Future of Europe.* First Edition. W. W. Norton & Company, London, UK, 395.

About the authors

Olli-Pekka Hilmola — PhD, Professor, LUT University; Adjunct Professor, Estonian Maritime Academy of Tallinn University of Technology (1, Tykkietie St., Kouvola Research Unit, Kouvola, FIN-45100, Finland; 101, Kopli St., Tallinn, 11712, Estonia; e-mail: olli-pekka.hilmola@lut.fi, olli-pekka.hilmola@taltech.ee).

Yulia Panova — PhD, Associate Professor, Department of E-Commerce, Luoyang Normal University (6, Jiqing Rd., Yi Bin District, Luoyang, Henan Province, 471934, China; e-mail: panovayulia87@gmail.com).

Информация об авторах

Хилмола Олли-Пекка — PhD, профессор, Лаппеенрантский технологический университет; адъюнкт-профессором, Эстонская морская академия Таллиннского технического университета (Финляндия, FIN-45100, г. Коувола, ул. Тиккиетие, 1; Эстония, 11712, г. Таллинн, ул. Копли, 101; e-mail: Olli-pekka.hilmola @ lut.fi, olli-pekka.hilmola@taltech.ee).

Панова Юлия — PhD, доцент, кафедра электронной коммерции, Лоянский педагогический университет (Китай, 471934, провинция Хэнань, г. Лоян, район Ибинь, ул. Цзицин, 6; e-mail: panovayulia87@gmail.com).

Дата поступления рукописи: 02.03.20
Прошла рецензирование:23.06.20.
Принято решение о публикации: 18.06.2021.
Received: 2 March 2020.
Reviewed: 23 June 2020.
Accepted: 18 Jun 2021.