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Reordering international trade: what will it cost?

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ABSTRACT

This paper overviews early research which has gone into the possible effects of the recent tensions in international trade. We have witnessed the increase and the promises of future increase in tariffs, in the case of the new trade policy of the US, and the promises of the future increase in the non-tariff barriers (possibly even tariffs) in the UK's decision to leave the EU. The focus in the research is mostly on trade policy and on the results, insights, and conclusions, while the discussion on the econometric specification or estimation of the models is out of scope.

Keywords: international trade, tariffs, gains from trade, protectionism, trade policy, Brexit.

1   Introduction

> In war, whichever side may call itself the victor, there are no winners, but all are losers. — Neville Chamberlain

The same logic applies to a trade war. No one wins a trade war. Still, since the beginning of 2018, the US has announced a series of protectionist measures, mostly targeting China. While the overall volume of trade covered with the first wave of measures remained limited (less than 2% of global imports), new measures, which were announced and threatened in 2019, will leave a stronger imprint on the global economy.[1] The return to protectionism is unprecedented in the post-war period, since the countries involved are the largest economies, the increases in tariffs are significant and the breadth of sectors involved is wide. So the multilateral trading system is seriously threatened by the country which had been its main inspirer.

The research overviewed here is an early research and mostly covers the measures which were considered in 2018. Moreover, next to the topic of the US trade policy we also include Brexit, as the impact of the UK leaving the EU single market will spread mainly through the trade channel. Nowadays trade tensions — tariffs, non-tariff barriers, Brexit and its implications — are causing stormy waves in the international trade waters. This, naturally, then poses a question: what will it cost us? The forecasts do bear uncertainty but it is worth looking into the early research.

When analysing the impact of trade war on the economy we need to at least answer the questions of how high might the tariffs go, how much world trade would be reduced, and how costly all this would be. What is more, the spreading of global supply chains over the last decades has increased both total trade and the gains from trade, therefore, there is more to lose from a trade war than there was a generation ago. To answer the question of how high can the tariffs go we need to know how easily goods from one country can be substituted for goods from another, then find an equilibrium (e.g., a Nash equilibrium) in which each country is charging its optimal tariff given what everyone else is doing. And in order to estimate the effects of trade tensions, we need to model how production and trade flows depend on the tariff rates (calibrated to match the actual data), for which many use "computable general equilibrium" model of world trade (with many assumptions and imputations involved and the results depending on the substitution elasticities).

Classical trade theory suggests that consumers and firms that buy foreign products lose from higher tariffs. What is more, trade tensions may have distributional consequences across sectors, and therefore across regions with different patterns of comparative advantage. The elasticities here are very important, because for any given tariff rate, the amount of trade reduction depends on the elasticity of import demand; and these parameters are hard to estimate.[2] The optimal

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[1]For example, if the US decided to act on the last promises (at the time when this paper is published), nearly all US imports from China would be subject to the tariffs imposed since July 2018. Also, if automobiles and auto parts imported by the US were subject to a 25% import tariff, this would affect a fraction of countries, yet big economies nonetheless.

[2]P. Krugman argues that the estimates of the elasticity of import demand are around 3 or 4, but with high uncertainty. P. Krugman "Thinking about a trade war", *New York Times*, 2018.

tariff also depends on elasticities, because if the good is easily substituted, the optimal tariff is fairly low; if not — the optimal tariff might go high, see, for example, Nicita et al. (2018) and Ossa (2014), which we overview later in the text.

The impact of trade tensions that surfaced over the last years is not easy to measure for several reasons (Bown and Zhang, 2019). A part of imports subject to the new tariffs were already taxed. For example, antidumping and countervailing duties were already imposed on a number of specific products and countries covered by the recent trade policy decisions.[3] More-over, international trade is no longer just a direct trade of production, because with the increase in participation in global value chains we get a complicated network of trade with components and final production crossing borders several times. This has data implications, as there is a growing difference between gross measures and value-added measures (goods incorporate value added from various countries) and this is relevant when analysing possible impact of tariffs.

The conclusions we can draw from the overview of this research are the following. The protectionist policy and retaliation will harm the cooperation 'attitude' that had been common until recent years, as well as trading system and will bring significant welfare losses. As global integration through global value chains has increased international spillovers from higher tariffs, in order to analyse the effects of higher tariffs, we have to distinguish between gross and value-added measures. The latter represent correct flows, as now goods often incorporate value added from various countries (IMF (2019), Huidrom et al. (2019)). What is more, it is very likely that the higher tariffs will disturb the current system of global value chains with greater implications for the economies other than the ones directly affected by the tariffs. This is applicable to Asian countries as well as the EU, since a big portion of the EU exports are linked to supply chains. This is relevant not only in the analysis of trade tensions, but also in the analysis of Brexit's imprint on the European economy, as the main channel will be international trade.

The current order of international trade will be affected, even though less globally, but still quite significantly in the case of Brexit. However, there is a great deal of uncertainty both in the case of global trade tensions and in the case of Brexit. The new trading relationships between the US and China, probably between the US and the EU and, in the case of Brexit, between the UK and the EU and the rest of the world will take time to develop and the effects will heavily depend on these developments (the parameters involved), which at the moment are quite uncertain. The early research, nevertheless, shows that these developments could result in negative consequences for the economies involved, especially the UK.

The remainder of this paper is organised as follows. Section 2 briefly overviews some aspects of trade, such as optimal tariffs and the possible effects of global value chains. Section 3 overviews research on the impact of Brexit. Sections 4 summarises early findings on the impact of the protectionist trade policy. Section 5 concludes.

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[3]For example, the tariff on steel would be an addition to an average antidumping tariff of 66% which had already existed before the new waves of tariffs in 2018.

2 What does it mean to 'wage war' in international trade?

This section provides an overview of the two aspects of the protectionist policy: optimal tariffs and their effect on the economies involved and the impact of tariffs on the current structure of international trade, i.e., the importance of global value chains.

Ossa (2014) uses probably one of the first quantitative frameworks, which essentially combines motives for protectionism from traditional, new trade, and political economy. The author uses a multi-country multi-industry general equilibrium model and provides analysis in several different cases: optimal tariffs, Nash tariffs, and cooperative tariffs. The application is focused on regions, such as Brazil, China, EU, India, Japan, USA, and the rest of the world.

In the first case, assuming optimal tariffs, which are imposed provided that a country does not fear retaliation, the author shows that the country can gain quite significantly — of course, at the expense of other countries. While the mean predicted welfare gain for a country could be around 2%, the mean predicted loss for others would be over -0.5%. In the optimal tariff case the average tariff is over 60%. The second case is centred around the assumption of Nash tariffs, which are imposed when countries are retaliating optimally (meaning full trade war). The author finds that no one benefits in such a scenario and welfare declines across countries: the mean welfare loss for a country could be around 3%, with the average Nash tariff being over 60%, similarly to the optimal tariff case. As regards the third case, assuming cooperative tariffs that are achieved in trade negotiations, the author finds that significant trade gains are obtained: the mean welfare gain for a country could be from 0.2% to over 3% depending on the scenario — optimal or Nash tariffs — one started.

This shows that worldwide import tariffs as high as 60% could be optimal in a world without any form of cooperation. So a world without multilateral cooperation, institutions such as the World Trade Organization, and no bilateral trade cooperation would have prohibitive tariffs, which would therefore lead to the collapse of the world trading system and significant welfare losses.

In the last decades, the decline in transportation costs and a reduction in barriers for international trade have been significant factors for growth in international trade flows (see Fig. 1). However, at the same time, countries have been intensifying their specialisation accordingly and increasing their comparative advantage. Countries with a comparative advantage in manufacturing (e.g., China, Germany, Mexico) and countries with a comparative advantage in services (e.g., the US, the UK, India) have all been strengthening their initial advantage throughout the years. The result we see in statistical tables is reflected in the trade balances of manufacturing and services (e.g., US increased its trade surplus in services). However, the comparative advantage was not the sole determinant, as countries like China and Korea have developed their high-tech sectors (which have a strong global impact) without the initial advantage. Furthermore, the specialisation has built a solid ground for the developing of global value chains, which has in turn further reinforced the specialisation more deeply. The stages of production were used to take place within a country, but now they are located within different countries. Therefore,

goods and services are likely to cross borders several times before they are finally consumed.
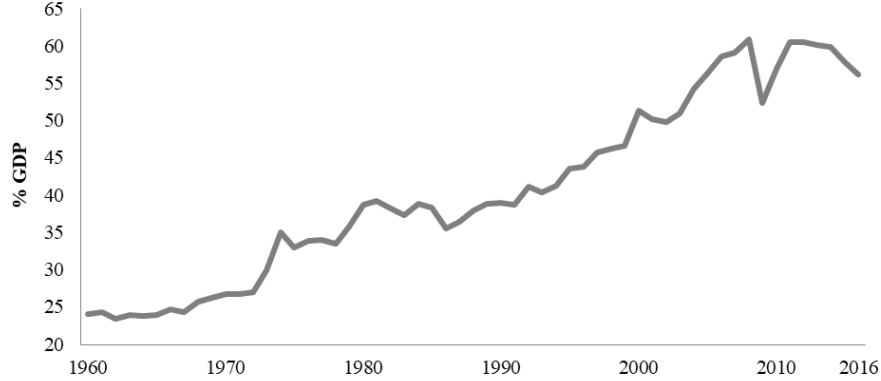

Fig. 1. World trade (% of GDP). *World Bank national accounts data, and OECD National Accounts data files.*

The IMF staff (IMF, 2019) concludes that trade imbalances are mostly reflected at the bilateral level and do not appear at the aggregate level, as the adjustments occur elsewhere and balances cancel out. The authors list that bilateral trade balances (either negative or positive) are mostly driven by macroeconomic factors such as the two partners' domestic imbalance between aggregate supply and spending, and by micro-structural factors, including tariffs.

Even though in the post-crisis period we have observed that the expansion of the global value chains network has broadly slowed down the participation in global value chains has, in general, increased throughout the years. This, therefore, has some data implications, as there is a growing difference between gross measures and value-added measures (goods incorporate value added from various countries). This is especially relevant when analysing the impact of tariffs (IMF, 2019). IMF (2019) show that global integration through global value chains increases international spillovers from higher tariffs. Their analysis also suggests that tariffs impact the economy not only along the value chain, but also through real value added, employment and productivity.

The distinguishing between traditional gross and valued-added export measures is important in Europe's case too, because the European industry is often a part of global value chains with different stages of manufacturing dispersed among several countries. Therefore, trade tensions, or more precisely, higher tariffs for exports from one country will in turn affect other countries as well through a network of value chains. When assessing the potential economic impact of tariffs or other economic shocks, it is important to view the whole process of manufacturing, say, for example, cars, through the prism of value chains, because losses will be distributed across more European countries than gross export data would suggest.

Huidrom et al. (2019) provide an analysis of the impact of trade shocks and growth spillovers using value added instead of gross measures, in order to better disentangle the costs spread across European countries. They find that export losses are higher when they are analysed

using global value chains data. The estimates of the car tariff shock suggest that short-term losses could average around 0.1% of GDP across the EU with half of this impact being through the indirect effects in supply chains.

It is therefore very likely that the new tariffs will disturb global value chains. For example, a tariff on an electronic device, which China exports to the US will not only affect the Chinese economy, but also the economies of countries which participate in the making of such a device. For example, if South Korea manufactures some of the components, its economy will be affected indirectly through the supply chain. What is more, Chinese companies will likely move their production elsewhere or bring it back home altogether, as the uncertainty over trade tensions continues. China's response to the reliance on global value chains can also be significant, for example, to build up its own high-technology industries and rely less on imported components (the 'Made in China 2025' initiative for China to achieve a 70% self-sufficiency). However, there are concerns that the efficiency of such network of national supply chains might be lower and might result in higher prices for consumers.

3   Brexit: what will it cost?

This section overviews the results of the UK's withdrawal from the EU on international trade, depending on the scenario, e.g. the benign EU-like departure, FTA-type agreement, and 'no-deal' WTO scenario, but mostly just two scenarios labelled as 'soft' and 'hard' Brexit. As the ultimate agreement on the future relationship between the UK and the EU is not yet known, the uncertainty as for which of the scenarios is more likely is still high. The effects of the UK leaving (in short, Brexit) the single market will be mainly due to changes in the degree of freedom of trade between the UK and the EU, changes in investment patterns, and barriers to the movement of labour. The focus of most research is on aggregate effects on the UK and on the EU27, which would materialise through the trade channel; some research goes deeper into the heterogeneity of the effects both at the country and the regional level.

The IMF staff has produced several analyses concerning the impact of Brexit on the EU and the UK economies. IMF (2018a,b) show that, in the case of a no-deal scenario, the long-term impact on the UK economy could reach up to 8% loss in level, while the EU is at much less risky position — could lose only up to 1.5% of the production level in the long run. IMF (2018a) provides an impact analysis for the UK (using a standard multi-country and multi-sector computable general equilibrium model) across different sectors and shows that there is significant sectoral heterogeneity in the impact. The financial services sector could be one of the most affected sectors with a possible loss of 25% in output in the case of 'no-deal' Brexit as compared to a no-Brexit scenario.

Harari (2018) provides a good overview of the UK government's analyses, also comparing them with the Bank of England's projections. The Government's analysis provides long-term projections for the UK economy in the case of a different future relationship with the EU.

The results are quite pessimistic (compared to the other studies), as this analysis shows that in the case of no-deal, the UK economy could lose up to 9% of its level. The effects would be respectively lower with regard to different assumptions about the future relationship, e.g. migration patterns, trade agreement, etc. The Bank of England's mid-term projections are quite in line with the Government's, as their analysis show that a "disorderly no-deal Brexit" could result in almost 8% lower GDP.

Born et al. (2019) quantify and analyse the costs of economic disintegration by employing the natural experiment of Brexit. The unexpected outcome of the Brexit referendum (June 2016) offers a unique situation which translates into macroeconomic dynamics that can be observed. The authors use synthetic control methods to construct a *doppelganger* to the UK economy, i.e., the comparison economy to track the actual UK economy as closely as possible prior to the referendum. They need this counterfactual benchmark in order to evaluate the causal impact of the Brexit vote on the UK macroeconomy (see Fig. 2). The authors conclude that the Brexit vote has probably impacted the economy well before any change in policy was observable. They show that by the end of 2018 British GDP was lower by around 2% than it would have been had the vote resulted differently. This suggests that, in line with the economic theory, British households and firms have adjusted their behaviour in anticipation of Brexit: consumption and investment dynamics changed, as economic agents downgraded their expectations about future income.
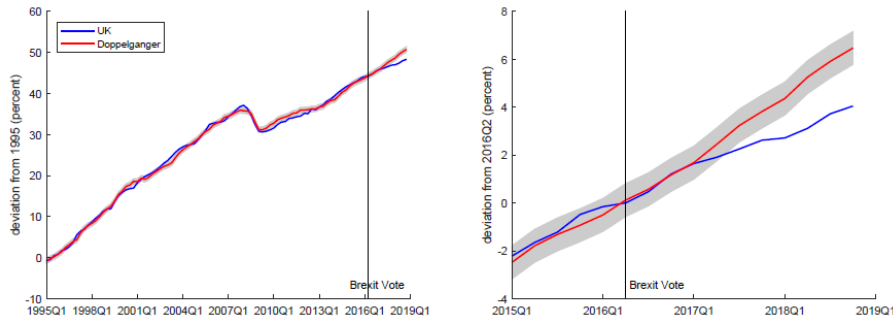
Fig. 2. Born et al. (2019): real GDP of the UK — actual data vs doppelganger. Note: the shaded area is one standard deviation of difference prior to the Brexit vote. Data source: OECD Economic Outlook.

Lawless and Morgenroth (2019) analyse the potential impact of the imposition of the WTO tariffs at the product level (over 5000 product types), with rates varying across sectors from 0 to 50%. However, the authors keep the assumption that the UK stays in the customs union with the EU, therefore the tariffs for third countries stay unchanged. The impact on each country in the EU depends on the pattern of products traded with the UK and on the elasticity of the trade flows. The authors predict the overall reductions of 30% in the EU's exports to the UK and 22% in the UK's exports to the EU, which are based on assumptions that prices will respond

conservatively to tariff increases.[4] The reduction of trade with the UK across EU countries ranges from 5% to 40%, the most affected being Ireland and Belgium with reductions in total exports of 4% and 3%, respectively.

Mion and Ponattu (2019) analyse the impact of Brexit (both a soft and a hard version) on productivity, mark-ups, product variety, welfare and the distribution of population across European regions. Their model (the general equilibrium model with parameters based on the estimation of a trade gravity equation) is characterised by costly trade, love of variety, heterogeneous firms, labour mobility as well as endogenous mark-ups and productivity. They evaluate the impact of Brexit by performing a series of counterfactual experiments. The key parameter in their counterfactual analysis is an indicator of the trade-boosting effects of the EEA agreement and the Single Market (in a hard Brexit case they set the parameter to zero). They find that, in the hard Brexit case, UK's welfare would go down by more than 2% and productivity would be reduced by more than 2%. The authors predict that such impact on the economy would cause more than 750 thousand people to leave the country for jobs abroad.[5] As these figures are on
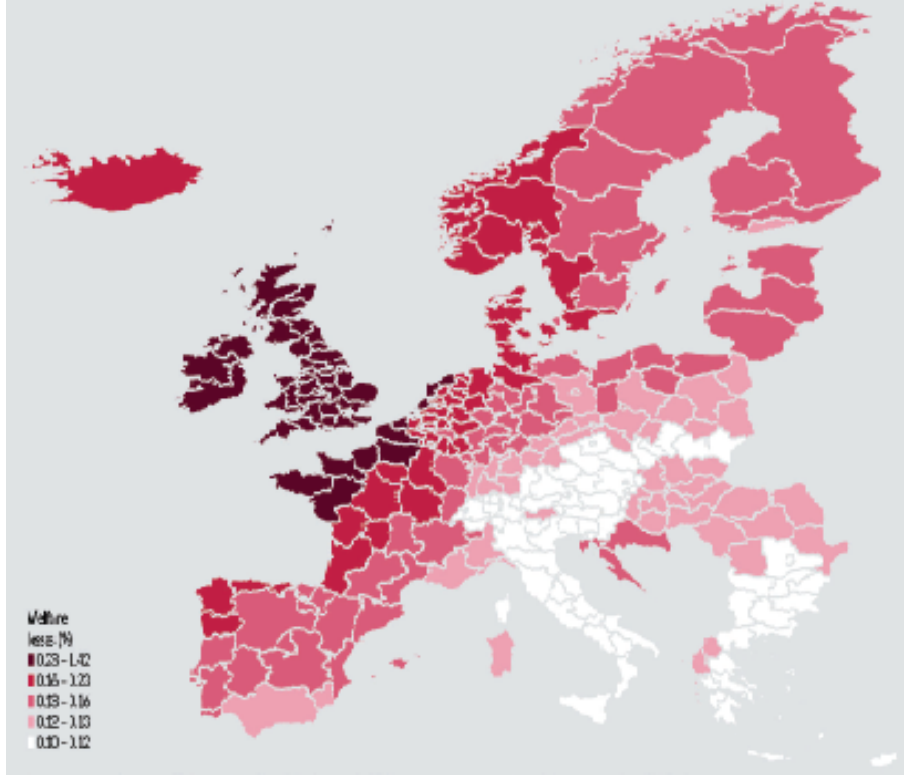
Fig. 3. Mion and Ponattu (2019): welfare losses (%) across Europe.

[4]Exports to the EU make up around 12-15% of UK GDP, while exports to the UK make up around 3-4% of EU-27 GDP. Germany, France, Ireland and the Netherlands are the largest trading partners of the UK within the EU.

[5]Countries close to the UK, e.g. Ireland, would experience significant losses (over 1% reduction in welfare) while countries which are further away from the UK, e.g. Austria, would be affected less significantly (0.2% reduction in welfare).

a yearly basis, the cost would be much higher. Regionally, not surprisingly, the effects are heterogeneous: the UK regions closer in distance to the continent will experience bigger welfare losses and European regions closer to the UK will be more affected (see Fig. 3).

Oberhofer et al. (2018) estimate the trade and welfare effects of Brexit employing a new panel data structural gravity approach (for identifying the bilateral trade effects). Their calculations suggest that Brexit could reduce the UK's real income between 0.3% and 5.7%. The authors argue that this effect is mainly due to a substitution of relatively cheap imports of manufacturing goods from the EU27 by relatively expansive domestic production. Further, the EU27's welfare is not statistically significantly reduced, because the whole EU (rather than separate countries) do not find the trade relationships with the UK important to the same degree as these economic ties are for the UK. What is more, the authors caution that their results should be considered as a lower bound estimates, because they do not include other channels for bilateral economic relationships such as migration, trade in services, and FDI.

Vandenbussche (2019) analyses (with the help of the Global Network model where the EU is modelled as a network economy to trace the global value chains between countries) a sector-level impact of Brexit on every EU country in terms of value added and in job losses (in the case of a soft and a hard Brexit). The author shows that countries like Poland, Sweden, Slovakia, the Czech Republic, Romania and Hungary also experience substantial job losses, this being due to the presence of network effects in European value chains. Therefore, the conclusions that Brexit mostly affects countries that are geographically close to the UK (see, for example, Chen et al. (2018)), are not entirely true. They find that, in the case of a hard Brexit, the EU-27 could lose around 1.5% of its GDP and over 1 million jobs, while the UK could lose around 4.4% of its GDP and over half a million jobs. In the case of a soft Brexit, the numbers are almost 4 times smaller. In terms of sectors, a hard Brexit would have a disastrous effect on the European food and beverages sector, a major impact on the textiles industry, while pharmaceuticals, chemical and petroleum products would also sustain losses. The services sectors would be badly affected too, partly due to the fact that goods and services are often bundled and traded together, consequently, trade barriers on goods also negatively impact services.

Chen et al. (2018) analyse the exposure of regions in the UK and the EU. They show that UK regions are systematically more vulnerable to Brexit than regions in other EU countries. However, there is an exception — Irish regions are exposed similarly to the UK regions, but in terms of the lowest levels of exposure, i.e. London and northern parts of Scotland. In Europe, the most risk-exposed regions are in Southern Germany, but their levels of exposure are typically half that of any UK or Irish region.

The results overviewed above show that gravity does play a role for regions, at least in terms of trade linkages: north-western European regions would be the most exposed, while regions in Southern and Eastern Europe would be barely affected. Yet the existence of global value chains, which cover Europe as a comprehensive network, makes the picture of trade much more complex and the inference in various analysis less straightforward.

4 Tensions in international trade: what will they cost?

In 2018, the US imposed import tariffs on approximately USD 300 billion (almost 13% of total imports of the US in 2017), with rates ranging between 10% and 50% (including over USD 6 billion imports from the EU and USD 250 billion imports from China); in 2019 the US raised tariffs on USD 200 billion imports from China from 10% to 25% and threatened to impose tariffs on an additional USD 300 billion worth of imports and to raise tariffs on cars and their parts, mainly affecting the EU, Japan, Canada, and Mexico. In the case of the EU, the latter threat would affect around USD 56 billion worth of export to the US. In response to the 2018 tariffs, US trading partners have retaliated with tariffs averaging 16% on approximately USD 120 billion of US exports.

The US and China are each others the most important trade partners. After the US granted China the Most Favoured Nation (MFN) status in 1980, in a few years the US became China's second largest importer. In 1999, the US granted China with the "Permanent Normal Trade Relations" status, which also gave way for China to join the WTO in 2001. Afterwards, the bilateral trade between the two countries grew faster than prior China's accession (see Fig. 4). Still, in terms of trade, the two countries had conflicts. For example, the US frequently criticised China's large trade surplus and inflexible exchange rate. The US also often accused China of dumping products, such as textile or steel, at unfairly low prices. But the criticism and some barriers were nothing compared to the protectionism wave coming from the US since the election of President D. Trump.
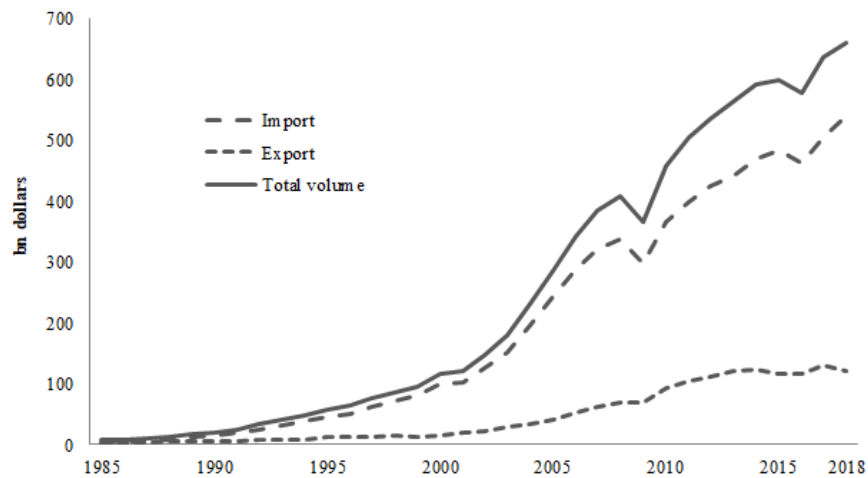
Fig. 4. US trade with China. *US Census Bureau data.*

The US-China conflict and trade war ideas are not a new subject (see, for example, Hughes (2005)). Even though in the past decades both the US and China gained significantly from bilateral trade, the dispute intensified following the US president election in 2016. The US blames China for the slow growth, weak employment growth, and especially the net loss in manufacturing employment. The US also criticises China for its unequal treatment of foreign companies in

favour of state-owned enterprises. China responded to these arguments by promising to bring equal opportunities to foreign and domestic enterprises as well as to strengthen the role of the market. Finally, the US complained that its enterprises are required to transfer the technology in order to be eligible for investment approvals, while at the same time the Chinese government enforced poor protection and enforcement of trade secrets.

By the use of the multi-sector multi-country general equilibrium model (with intersectoral linkages) Guo et al. (2018) evaluate the possible effects of US-China and US-Rest of the World (ROW) trade conflicts on the world economy. The authors consider four cases. In the first case, the US tariff is increased by up to 45% (there were threats of prohibitive high taxes, hence the assumption) for China; in the second case tariffs are increased uniformly for the ROW; in the third case China retaliates to the same level; and, in the last case, the ROW retaliates to the same level. The authors find that US tariff increase would be very damaging for international trade. In the first case, China's exports to the US would be slashed by 73%. In the second case, China's exports to the US would drop by 74%, while the US exports to China would be cut by 56%. If the US increased tariffs for the ROW and the other countries retaliated, then the global total imports would drop by approximately 11%. In all cases, the US imports would be significantly reduced and the effect would be much stronger if China and rest of the world retaliated. The authors also show that in terms of welfare losses the US would lose the most, while China's welfare losses would be relatively small. What is more, a number of Asian countries might gain as a result of trade diversion. However, some advanced economies might suffer a collateral damage due to the spillover effects (coming from the input-output linkages and the general effect).

Amiti et al. (2019) explore the impact of the trade restrictions imposed in 2018 on prices and welfare and offer empirical support for the argument that there are real income losses from import protection. The authors find that by the end of 2018 the tariff increase could have reduced real income in the US by 1.4 billion dollars per month. Similar patterns are seen for foreign countries which have retaliated against the US. The study describes in detail how Americans saw substantial increases in the prices of intermediates and final goods. The study also shows large changes to the supply chain network and reductions in the availability of imported varieties. The authors conclude that there was a complete passthrough of the tariffs into domestic prices of imported goods. The authors also estimate that if the tariffs that had been in place by the end of 2018 were to continue, approximately an annual USD 165 billion of trade would continue to be redirected, causing large extra costs on firms that had invested in the US and China.

The results of this study are in line with the argument provided by some economists: the outcome of a trade war depends on whether the countries experience recession or excess demand.[6] In a recession, tariffs could boost the economic activity in the short to medium term, while in the economy which is at its capacity tariffs would be passed on to higher prices. Therefore, since the US economy is working at its capacity, the findings of a complete passthrough to prices are

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[6] *The US Will Lose Its Trade War with China*, A. Kaletsky, Project Syndicate, September 2018.

hardly surprising. There are speculations that US businesses will neither invest nor hire new workers to replace Chinese goods, unless they believe that the tariffs will continue for many years. Thus, all this should add extra pressure on inflation and interest rates. In China, on the other hand, the effect on growth should be mooted, as demand management will be likely applied to offset the loss of exports.[7]

Using estimated trade elasticities from actual tariff variation, as opposed to hypothetical changes in trade costs, Fajgelbaum et al. (2019) estimate the impact of the trade war on the US economy and quantify the impact on welfare. In the end, the aggregate impacts depend on the direct impact of tariffs on prices, on price changes induced by reallocations (which depend on demand and supply elasticities of both the US and its trade partners), and on tariff revenue. The authors find that the trade war lowered aggregate US welfare in the short-run by 0.04% of GDP (tariff revenue and partners' retaliation included). The authors state that the small aggregate effects mask heterogeneous impacts across US regions. What is more, they find a complete pass-through, even though extensive literature on trade and international macroeconomics has estimated an incomplete passthrough.

Bellora and Fontagné (2019) rely on a recursive dynamic general equilibrium model of the world economy with global value chains — this allows to differentiate the demand of goods as final or intermediate consumption. The authors analyse the possible trade and welfare effects of internationally fragmented value chains. They find that China and the US could experience GDP losses by 0.4% and 0.3%, respectively. In other regions, such as Europe or some countries in Asia, GDP could slightly increase. However, the authors note that the aggregate numbers hide a large heterogeneity across sectors: for example, the electronics sector in China could suffer a 9% decrease in terms of value added, while the US could boast a 7% gain. Nonetheless, while the primary sectors in China show an overall increase in the value added they generate, the primary, manufacturing and service sectors in the US all experience a decrease in their value added.

Bekkers and Teh (2019) employ the WTO Global Trade Model to forecast the medium-run economic effects of a global trade conflict. The scenario with trade tensions is modelled using estimates of the difference between cooperative and non-cooperative tariffs. The authors find that the global GDP would decline by about 2% by 2022 while global trade would be reduced by about 17% (compared to the baseline).[8] The authors conclude that the global trade dispute leads to the reallocation of resources (including labour) away from the most efficient allocation based on comparative advantage.

Huidrom et al. (2019) estimate the impact of trade shocks and growth spillovers across Europe using value-added measures of exports instead of gross exports to get a better understanding of how trade tensions affect economic activity. They find that the losses in Europe are different

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[7]The Chinese government has already started to boost domestic consumption and investment by easing its monetary policy and cutting taxes.

[8]To compare, the global GDP fell about 2% and global trade was reduced by about 12% during the global financial crisis.

when measured according to value added versus gross trade. The authors base their analysis on input-output tables and estimate the possible impact of a scenario in which the US increases the tariff on cars and car parts up to 25%. They find that about half of the impact is transmitted directly to the affected sector-country and the rest via supply chains. Europe is deeply integrated into global value chains (about 70% of total European exports are linked to forward and backward supply chains), and trade tensions pose risks for other countries, because they can be affected indirectly. The authors find that the negative impact of a higher tariff on cars would spread across a bigger number of countries when measured using value-added indicators than when using gross exports.

Felbermayr and Steininger (2019), using the standard general equilibrium trade model, analyse the potential of auto tariffs (the introduction of an additional import tariff of 25%, plus the initial tariff of 2.5%) on the economies of the US and its trade partners. The countries with the largest direct car exports to the US include Mexico, Japan, Canada, and Germany. The most affected car exporters in the EU are Germany (about EUR 34 billion worth of exports, i.e. 30% of total exports to the US) and the UK (almost EUR 5 billion worth of exports), but relative to total exports, Hungary and Slovakia are also strongly affected, as they host factories, which export to the US. The authors find that German car exports to the US could go down by about 50%, which would also affect Spain, Hungary or Slovakia, since Germany is the centre of the European car production network and the negative terms-of-trade effect spills over to other markets. Their results show that these trade restrictions could reduce value added in the German car industry by about 5%. Japan and Mexico, which have substantially higher car exports to the US, could lose about 9% and 21%, respectively. Canada would suffer a loss of about 31%, while in contrast, value added of the US car industry would in the long run go up by about 18%.

Barattieri et al. (2018) study the effects of protectionism on macroeconomic fluctuations in small open economies. The authors (estimating both country level and panel structural VARs with high frequency trade policy data) show that trade barriers — even temporary — have a similar effect on the economy as a supply shock would: output falls and inflation rises in the short run, even though there is a small positive effect on the trade balance. With the help of a built small-open economy model, the authors also show that the channels through which protectionism affects economic fluctuations are both macro (investment dynamics due to the increased prices) and micro (reallocations towards possibly less efficient domestic producers) contractionary forces. Furthermore, the authors also perform counterfactual scenarios showing that even for countries, whose economies are stuck at the zero lower bound, taking a temporary protectionist stance in their trade policy is not practical, since protectionism is inflationary, as well as recessionary — and the latter is stronger. The authors conclude that the protectionist policy can be very costly for a small open economy (even if used temporarily).

5 Conclusions

Looking into the early research which tries to measure the impact of a changing attitude in the US trade policy, we see that tariffs would, unsurprisingly, come at a cost for the entire world. Early research makes it clear that by imposing higher tariffs the US does not only hurt the trade partners but also its own economy, as, for example, it is very likely that the consumers will experience higher prices. What is more, it is very likely that the new tariffs will disturb global value chains, which might become more local. A network of national supply chains could be much less efficient and result in higher prices for consumers.

Moreover, in the case of a hard Brexit, the order of international trade will also be affected — although less globally, yet still quite significantly. The new trade relationship between the UK and the EU will strongly impact the British economy with spillovers to Ireland, Belgium and other regions that are in close proximity to or have closer ties with the UK. However, there is a lot of uncertainty. In the case of the UK, the new trading relationships both with the EU and the rest of the world will take some time to develop. The effects, which are cited earlier heavily depend on these developments. Furthermore, leaving the EU is unprecedented and therefore hard to emulate in models. The usual assumptions are centred around trade relations after going back to WTO rules, while really there are many scenarios between staying in the EU and trading under WTO rules. We should therefore treat the results as thresholds, keeping in mind there is great uncertainty over what outcome will actually materialise.

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