KIEL
POLICY BRIEF

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Decoupling Europe

No. 153 July 2021

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- The debate is also rooted in the growing dependence on Asian suppliers and the colliding political and ideological systems between China and the West.

- Unilateral decoupling of the EU from China (a doubling of trade costs) would reduce real income in the EU on average by 0.8 %. In terms of GDP in 2019, this equals a permanent loss in real income of 131.4 bn EUR. Should China retaliate, real income would fall by 1.0 % (170.3 bn EUR). With its extremely interconnected economy, real income in Germany would even decline by 1.4 % (48.4 bn EUR). China would also lose from such a trade war, with real income declining by 1.3 %.

- Should the EU increase its trade barriers against all its non-European trading partners, real income in the Union would fall by 3.5 % or 584.3 bn EUR in case of a unilateral increase and by 5.3 % or 873.1 bn EUR in case the rest of the world responds by also raising trade barriers.

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OVERVIEW/ÜBERBLICK

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- The debate is also rooted in the growing dependence on Asian suppliers and the colliding political and ideological systems between China and the West.

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- Should the EU increase its trade barriers against all its non-European trading partners, real income in the Union would fall by 3.5 % or 584.3 bn EUR in case of a unilateral increase and by 5.3 % or 873.1 bn EUR in case the rest of the world responds by also raising trade barriers.

Keywords: European Union, China, Germany, Trade, Global Value Chains

- Die COVID-19 Pandemie hat die Verletzbarkeit internationaler Wertschöpfungsketten in Folge globaler Schocks offen gelegt. In der politischen Diskussion werden seitdem Rufe nach einer Renationalisierung vulnerabler Lieferketten laut, um die Abhängigkeit von ausländischen Zulieferern zu verringern und die heimische Wirtschaft krisenfester zu machen.

- Hintergrund dieser Debatte ist auch die zunehmende Abhängigkeit von asiatischen Zulieferern verbunden mit zunehmenden politischen und ideologischen Spannungen zwischen China und dem Westen.

- Eine einseitige Abkopplung der EU von China würde die Wohlfahrt über alle EU-Mitgliedsstaaten im Durchschnitt um 0,8 % reduzieren. Gemessen am BIP 2019 entspräche dies einem dauerhaften Einkommensverlust in Höhe von 131,4 Mrd. EUR. Sollte China zurückschlagen, so würde das Realeinkommen um 1 % sinken (170,3 Mrd. EUR). Aufgrund seiner starken internationalen Verflechtungen wäre Deutschland mit einem Einkommensverlust in Höhe von 1,4 % (48,4 Mrd. EUR) besonders stark betroffen. China würde durch solch einen Handelskrieg Einkommenseinbußen in Höhe von 1,3 % erleiden.

- Sollte die EU ihre Handelsbarrieren gegenüber allen außereuropäischen Handelspartnern erhöhen, so wäre das Realeinkommen in der Union 3,5 % bzw. 584,3 Mrd. EUR niedriger. Im Falle eines Handelskriegs würde sich dieser Verlust auf 5,3 % bzw 873,1 Mrd. EUR erhöhen.

Schlüsselwörter: Europäische Union, China, Deutschland, Handel, Globale Wertschöpfungsketten

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Decoupling Europe

1 Introduction: COVID-19 as a catalyst enforcing renationalization of value chains

The COVID-19 pandemic has caused a severe economic crisis both in Europe and globally. In 2020 European GDP fell by about 6.3 %, which is the largest collapse in post-war history (European Commission, 2020). Globally, GDP contracted by 3.3 % in 2020. On the one hand, the Covid-19 disease and lockdowns of various forms and guises have caused a rapid decline in demand both in domestic and export markets. On the other hand, production shutdowns and, increasingly, export restrictions around the globe have led to supply shortages for both consumer products and intermediate goods. This was particularly evident in the case of medical supplies such as face masks, gloves, disinfectants and lung ventilators, which were no longer available in sufficient quantities during the beginning of the pandemic (Fuchs et al., 2020), but is currently very much the case in the area of vaccine production and, increasingly, also in other areas, from wood to containers.

The revealed vulnerability of international value chains in the face of global shocks has lead to a political discussion regarding a possible reshoring of vulnerable supply chains back home. The aim is to reduce dependencies on foreign suppliers and thus improve the crisis resilience of the domestic economy. Attention among economists is awakening as well. In a survey by Blum et al. (2020), 38 % of German economics professors surveyed, supported shifting value creation back to the EU or Germany. Only 19 % are in favor of greater international diversification. Triggered by the pandemic, the debate is rooted in the growing dependence on Asian suppliers and the colliding political and ideological systems between China and the West.[1] It is thus also linked to fears of growing Chinese influence, for example through increased foreign direct investment in Europe (Felbermayr et al., 2019a,b).

It is, however, unclear how such a reintroduction of domestic manufacturing can be implemented. Although an increase in EU tariffs against third countries would be feasible in principle, it would be incompatible with the EU's commitments towards the WTO. More likely, manipulation of international trade flows would be achieved by introducing additional non-tariff barriers (NTBs). These include a wide spectrum of policy instruments, some of which strongly affect trade. One example are new rules on public procurement, requiring that certain goods must be provided by at least one European producer (Joachimsen, 2020). Alternatively, import quotas, tax breaks, import bans, or subsidies for European suppliers of certain goods are also conceivable.

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[1] Cf. Merz, F. (January 8, 2021), "Wir haben den Machtwillen Chinas in Europa massiv unterschätzt...", [Tweet], Twitter, https://twitter.com/_FriedrichMerz/status/134762588505100698.

This policy brief shows that decoupling the EU from China and the world economy would be very costly in terms of economic value added.[2] In contrast, the alleged advantages of a higher degree of autonomy or sovereignty are hard to quantify and may well be illusionary, in particular if reshoring leads to a concentration of risk in a smaller number of markets. This brief contributes to a recently emerging strand of literature investigating implications of the call for reshoring value chains.[3] It is structured as follows: Section 2 starts with a brief description of recent developments in European trade with particular emphasis on China. Section 3 provides a scenario analysis capturing the economic effects of an isolation of the EU and possible cascading effects through trade partner reactions. Section 4 concludes.

2 Developments in EU trade

The world financial crisis of 2009 brought a period of strong and consistent export growth to an abrupt end. In the immediate aftermath of the trade collapse, the EU's exports recovered by around 21 % between 2010 and 2011; however, in the following years trade expanded only sluggishly. From 2014 to 2016 exports even decreased; see Figure 1.

Figure 1: EU exports to China and the world, in bn USD
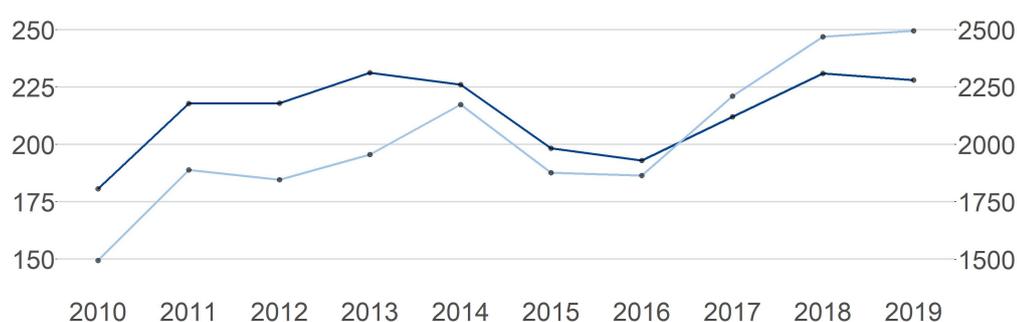
Note: Exports to China - left scale, light blue. Total exports - right scale, dark blue.
Source: Data from UN Comtrade database.

Exports to China behaved broadly similarly, although with a more pronounced momentum.[4] While exports to China declined in 2012 despite overall export growth, the years 2013 and 2014 were characterized by higher growth than overall EU exports. The average annual growth rate of exports

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[2]In doing so, the policy brief partly borrows from Felbermayr et al. (2020).

[3]See for example D'Aguanno et al. (2021), Miroudot (2020). Also see the recent paper by Eppinger et al. (2021), which studies additional barriers only in input trade while keeping final goods trade unimpaired.

[4]For an extensive overview of current trade and investment relations between China and the EU, the reader is referred to Garcia-Herrero et al. (2020).

to China during the ten years considered is around 7 % compared to 3 % for total EU exports. Between 2010 and 2019, exports to China increased by nearly 67 % compared to a 26 % increase in overall exports. In 2019, EU exports to China amounted to 250 bn USD, accounting for 11 % of total EU exports (2,281 bn USD).

Taking a look at EU imports over the same time frame, one can observe an average annual increase in imports from China of slightly above 2.7 %, compared to an average annual increase in total imports of around 1.8 % (Figure 2). The recovery years after 2009 are once again characterized by stronger growth dynamics for total imports as well as for imports from China. This was followed by a steady decrease in most years up until 2016. From 2017, imports started to recover, reaching a total value of 2,300 bn USD (470 bn USD from China) in 2019. Relative to 2010, this constitutes an overall growth rate of about 25.3 % for imports from China but only 13.1 % growth in overall imports.

Figure 2: EU imports from China and the world, in bn USD

Note: Imports from China - left scale, light blue. Total imports - right scale, dark blue.
Source: Data from UN Comtrade database.

3 Economic effects of decoupling the EU

In the following, we examine how decoupling of the EU could affect trade, output and real income inside the EU and outside. In addition to average effects, we also show results for individual member states, with a focus on the largest economy in the EU, Germany. We also pay special attention to the behavior of China as one of the EU's most important trading partners and a global value chain hub, transmitting shocks throughout the global production and trade network. Note that our analysis sheds lights on the costs of decoupling. It does not model the risks that may be associated to international production networks and that decoupling may actually reduce. Eppinger et al. (2021) have used a related model and have investigated supply shocks in foreign countries. They demonstrate that the

gains from decoupling are by about a factor ten smaller than the costs. Hence, we think that focusing on costs, as we do in the present paper, is a reasonable approximation.[5]

The analysis is carried out with the help of the "Kiel Institute Trade Policy Evaluation" model ("KITE model") which is based on the trade model proposed by Caliendo and Parro (2015). This is a computable general equilibrium model of international trade that pays special attention to the intra- and international input–output linkages which are important characteristcs of our modern world economy, where countries are strongly linked through global value chains. The model quantifies the effects of changes in bilateral trade barriers on 65 sectors in 141 countries, covering more than 90 % of economic activity worldwide. We use standard sources of data to calibrate this model. The global input-output-database GTAP 10 provides us with detailed information about intra- and international input-output linkages and, thus, about global value chains. Furthermore, standard sources such as the UN Comtrade database for trade data as well as WITS and MacMap for tariff data are used to define the baseline scenario (status-quo) in our model. Therefore, direct and indirect trade effects such as trade diversion and real income effects can be quantified and international value chains are explicitly taken into account.

The model is used to examine through several scenarios how a decoupling of the EU affects trade and real income in the EU, Germany and their main trading partners, first and foremost China. Decoupling is modelled through an increase in the use of NTBs. These are chosen for the scenario analysis because they are both feasible in principle and have been shown to cause significant trade destruction (Bratt, 2017; Ghodsi et al., 2017; Kinzius et al., 2019). Following Flach and Steininger (2020) and Sforza and Steininger (2020), all scenarios model an increase in NTBs by 100 percentage points, which amounts to a doubling of barriers. As shown in Table 1, increasing NTBs to such an extent results in a sharp decline in international trade. Self-sufficiency is not reached though, since many EU countries rely upon certain raw materials which can only be covered through imports.[6]

3.1 Overview of the four scenarios

Scenario I simulates a unilateral decoupling of the EU from the rest of the world (RoW). This is achieved by an increase in (a doubling of) the EU's NTBs on imports, while exports remain unaffected. Scenario II, additionally, assumes that the rest of the world retaliates with import restrictions by also doubling their levels. As a consequence, both EU exports and imports are subject to higher NTBs. The remaining two scenarios simulate decoupling from China. Specifically, Scenario III assumes that the EU doubles its non-tariff trade barriers on imports from China only. Finally, Scenario IV examines

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[5]Also see Sforza and Steininger (2020) or D'Aguanno et al. (2021) who come to a similar conclusion.
[6]For this reason, import restrictions on oil and gas were not increased in the scenarios.

the possibility of a trade war between the EU and China, in which case all bilateral trade between the EU and China (i.e. exports and imports) becomes subject to a doubling of NTBs.

While Table 1 reports the change in EU trade, Tables 2 and 3 illustrate the average real income loss and output decline in the four scenarios across all EU member states as well as for Germany. Not surprisingly all scenarios clearly indicate negative effects following decoupling of the EU and possible retaliation measures by third countries.

Scenario II - decoupling of the EU in combination with retaliation from trading partners - causes the highest trade reductions between the EU and its trading partners. In this scenario, EU imports from China (Rest of the world) decline by 83.6 % (84.1 %), whereas exports even fall by 89.1 % (87 %). Correspondingly, trade within the EU increases by 12.9 %. Consequently, real income declines by 5.3 (6.9) % in the EU (Germany). Relative to GDP in 2019, this amounts to a drop in income of 873.1 bn EUR (236.7 bn EUR for Germany). Even without retaliation, unilateral decoupling as modeled in Scenario I would have a strong negative impact on trade and consequently on real income in the EU (3.5 % or 584.3 bn EUR) and its largest economy (3.3 % or 114.5 bn EUR).

Table 1: Trade effects for the EU 28

	Real change of EU imports		Real change of EU exports	
	from China	from RoW	to China	to RoW
Scenario I (Complete Unilateral Decoupling of EU)	-66.7%	-62.5%	-59.0%	-54.2%
Scenario II (Complete Reciprocal Decoupling of EU)	-83.6%	-84.1%	-89.1%	-87.0%
Scenario III (Unilateral Decoupling of EU vis-à-vis China)	-81.4%	-8.0%	-15.1%	-6.2%
Scenario IV (Trade War EU-China)	-82.7%	-11.8%	-92.5%	-11.7%

Source: Authors' own calculations.

Table 2: Change in EU real output and real income following decoupling

EU	Real income	Output	Income in EUR
Scenario I (Complete Unilateral Decoupling of EU)	-3.5%	-3.0%	-584.3 bn EUR
Scenario II (Complete Reciprocal Decoupling of EU)	-5.3%	-5.4%	-873.1 bn EUR
Scenario III (Unilateral Decoupling of EU vis-à-vis China)	-0.8%	-0.6%	-131.4 bn EUR
Scenario IV (Trade War EU-China)	-1.0%	-0.9%	-170.3 bn EUR

Change in income based on GDP 2019 for EU-28. Source: Data from Eurostat database, authors' own calculations.

Table 3: Change in Germany's real output and real income following decoupling

Germany	Real income	Output	Income in EUR
Scenario I (Complete Unilateral Decoupling of EU)	-3.3%	-3.8%	-114.5 bn EUR
Scenario II (Complete Reciprocal Decoupling of EU)	-6.9%	-5.8%	-236.7 bn EUR
Scenario III (Unilateral Decoupling of EU vis-à-vis China)	-0.9%	-0.8%	-32.3 bn EUR
Scenario IV (Trade War EU-China)	-1.4%	-1.3%	-48.4 bn EUR

Change in income based on GDP 2019. Source: Data from Eurostat database, authors' own calculations.

Scenarios III and IV investigate the expected loss of a decoupling from China. Unilateral imposition of NTBs by the EU against China would reduce European (German) real income by 0.8 % (0.9 %). In terms of GDP in 2019, this amounts to an income loss of 131.4 bn EUR for the EU (32.3 bn EUR for Germany). In case China retaliates (Scenario IV), the German decline in real income would amount to 1.4 % (48.4 bn EUR), while EU real income would fall by 1 % (170.3 bn EUR). Germany, therefore, seems to react more strongly to NTBs imposed against its exports than the EU average. This is not surprising given the country's strong export orientation.

Real income effects for China are reported in Figure 3. It can be seen that China would lose from a trade war with the EU, which would lead to a real income reduction of 1.3 % (Scenario IV). If NTBs were imposed unilaterally by the EU against China, Chinese real income would fall by 0.7 % (Scenario III). Interestingly, China would lose more in Scenario I (1 %, complete unilateral decoupling of the EU) than in Scenario III. European decoupling would lead to an increase in the cost of intermediates in the EU. This cost increase is then passed on along the value chain and increases the price of EU exports, which are in turn used as inputs in other countries. The results, therefore, emphasize the role global value chains play in modern economies.

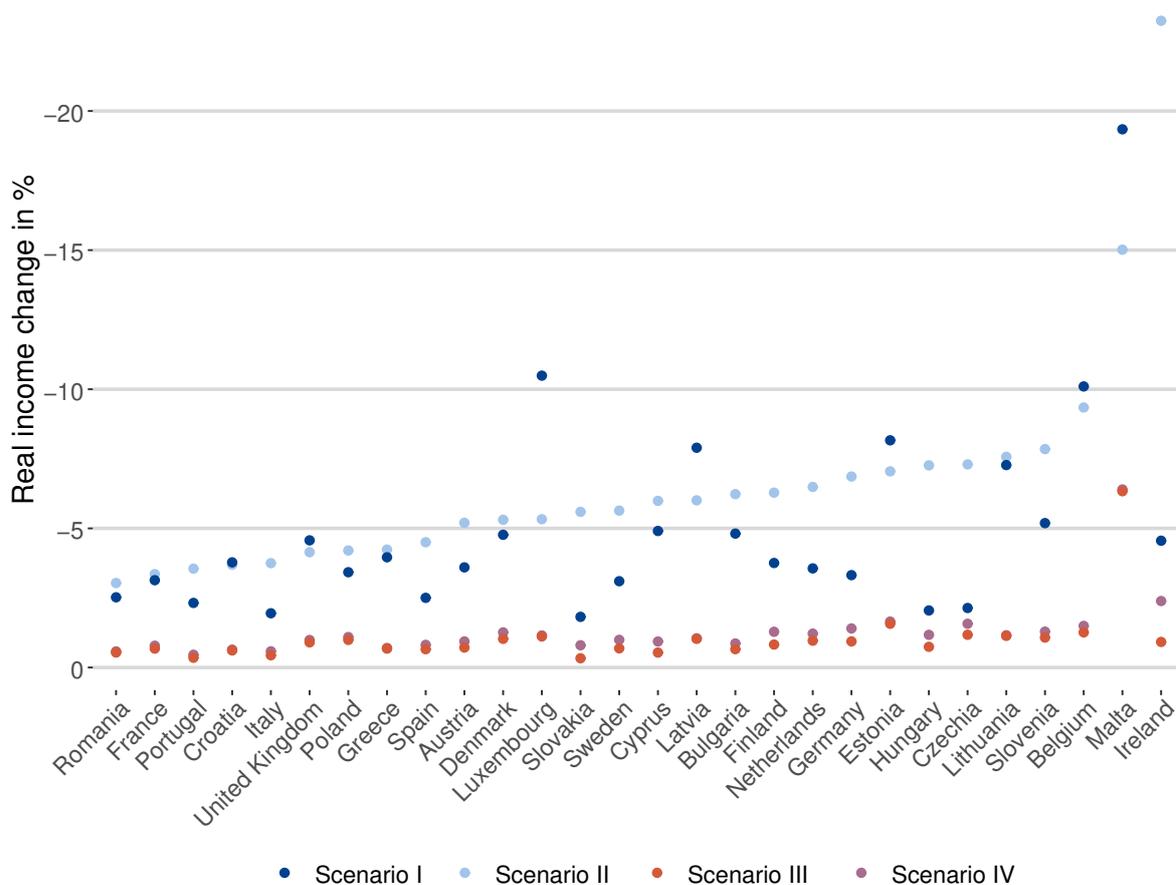Figure 3: Real income losses in the most important trading partners of the EU
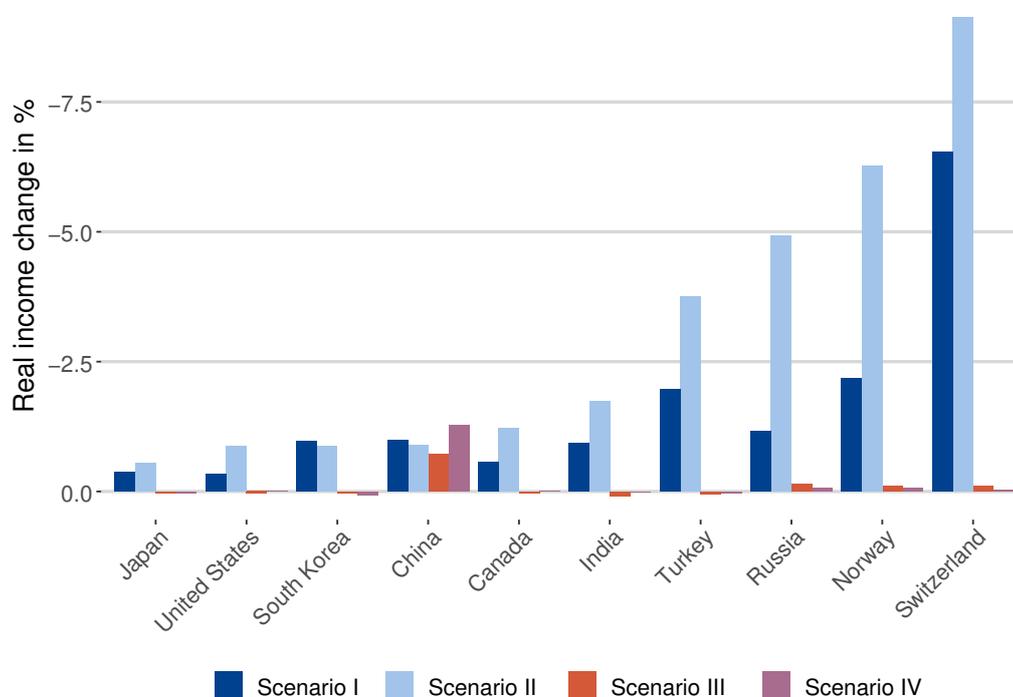
Scenario I: Complete Unilateral Decoupling of the EU. Scenario II: Complete Reciprocal Decoupling of the EU. Scenario III: Unilateral Decoupling of the EU vis-à-vis China. Scenario IV: Trade War EU-China. Source: Authors' own calculations.

Figure 3 also reports real income losses for the largest trading partners of the EU. Focusing on Scenario I, the highest losses can be observed for Switzerland (6.5 %) and Norway (2.2 %). Both countries are strongly integrated into the European trade network through the European Free Trade Association (EFTA) and are thus highly dependent on the EU's trade policies. Russia and Turkey as the EU's neighbors would also be strongly affected. Within the EU, small countries such as Malta, Luxembourg and Belgium would be hit hardest (Figure 4).

Figure 4: Real income losses of the EU member states (plus UK), sorted by real income loss in Scenario II.

Scenario I: Complete Unilateral Decoupling of the EU. Scenario II: Complete Reciprocal Decoupling of the EU. Scenario III: Unilateral Decoupling of the EU vis-à-vis China. Scenario IV: Trade War EU-China. Source: Authors' own calculations.

3.2 Taking a closer look at the scenarios

Scenario I: Complete Unilateral Decoupling of the EU

Scenario I simulates the unilateral increase in EU NTBs against imports from the rest of the world.[7] This means that the EU member states double their bilateral non-tariff trade barriers against third countries in all sectors (except oil and gas).[8] European exports and trade among EU member states remain unaffected.

The effects of this unilateral European decoupling are shown in Tables 1 and 2 (Scenario I) for EU countries and in Table 3 for Germany. Not surprisingly, EU imports from China (RoW), fall dramatically by 66.7 % (62.5 %) following the imposition of NTBs on EU imports. In addition, and perhaps less straightforward, EU exports to China (Row) also decline on average by 59 % (54.2 %). The increase in the price of imports leads to production being shifted back to Europe. However, this results in a decrease in specialization and thus to reduced productivity, so that products are produced at higher costs than is currently the case. More expensive intermediate products (both due to more expensive imports and due to the substitution of previously imported intermediate products with more expensive domestic products) lead to additional costs and thus to rising prices, reducing the competitiveness of EU producers and thus exports. Despite a trade increase within the European Union of 10.2 %, output in the EU (price-adjusted) would fall by 3 %, leading to a 3.5 % fall in real income.[9] Real income in the EU would permanently be 584.3 bn EUR lower than in a world without these additional NTBs (measured in GDP 2019).

Real income losses in Scenario I are less than 5 % in most of the EU countries (Figure 4). In Germany, real income would drop by 3.3 %. However, as small economies are particularly dependent on foreign trade (D'Aguanno et al., 2021), countries such as Malta (19.3 %), Luxembourg (10.5 %) and Belgium (10.1 %) experience the most severe negative impact.

Outside the EU, the Union's trading partners would face average income losses of 0.9 % in Scenario I. Countries on the European continent that maintain close trade relations with the EU are particularly affected (Figure 3). This applies first and foremost to Swtzerland and Norway, but also to Iceland and Liechtenstein (4.6 %, both not shown).[10] The Balkan states such as Montenegro and Bosnia and

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[7]The UK is counted as an EU country in the scenarios, as the country's future trade relations cannot yet be clearly depicted in the model.

[8]Although the European continent has certain oil and gas reserves, it can be assumed that the EU will not be able to cover its needs exclusively through its own production. The trade barriers for these goods therefore remain unchanged in the analyzed scenarios.

[9]This is an average weighted by the GDP of the member countries.

[10]Since all four countries are members of the EFTA and Iceland and Liechtenstein are also in the European Economic Area, it would be likely that these states would be excluded from the increased trade barriers. Nevertheless, an increase in non-tariff trade barriers against these countries would be possible in principle and is therefore taken into account accordingly in the scenario analysis.

Herzegovina are also severely affected (but not shown), with real income losses averaging 4.3 %.[11] Ukraine is also expected to see a real income decline of 3.7 %.

In addition to the countries closely linked to the EU, oil and gas exporting countries such as Qatar (3.9 %) and Kuwait (3.4 %) are among the losers of a protectionist EU trade policy. Although an increase in import barriers against oil and gas has been explicitly ruled out, trade barriers against refined petroleum products cause a decline in the export of these goods, and those have a higher value-added than raw products. Although the export of crude oil and natural gas increases in the simulation, there is a shift of value-added in the further processing and refining of raw materials from the exporting countries towards the EU.[12]

The EU's largest trading partners would also lose out, albeit to a much lesser extent. China and the US, for example, are expected to suffer real income losses of 1 % and 0.3 %, respectively. Russia (1.2 %), Turkey (2 %), Japan (0.4 %) and the Republic of Korea (1 %) also lose. Large emerging economies such as India (0.9 %) and Brazil (0.5 %) are not spared either. Overall, real income is falling in more than 96 % of the countries analyzed. The EU is therefore not only harming itself, but also the rest of the world.

Scenario II: Complete Reciprocal Decoupling of the EU

Against the backdrop of the current trade conflicts between the EU, the US and China, it is unlikely that European trading partners will readily accept unilateral import restrictions by the EU. Scenario II therefore examines how countermeasures by non-European trading partners affect real income in the EU and Germany. Specifically, in this scenario, it is assumed that the rest of the world also imposes import restrictions against exports originating from the EU. This is simulated by doubling the NTBs in all sectors (excluding oil and gas).

An imposition of NTBs against EU exports makes European products more expensive in destination countries. Consequently, in Scenario II, EU exports to China (RoW) fall by 89.1 % (87 %) relative to a world without any additional trade barriers (Table 1). Compared to Scenario I, imports also take an additional hit and are 83.6 % (China) and 84.1 % (Row) lower than in the baseline scenario. Trade within the EU increases by 12.9 % relative to a scenario where all NTBs are left unchanged.

The real income effects arising from such a trade war are again reported in Tables 2 and 3. Across the EU, real income falls by an average of 5.3 %, or 873.1 bn EUR in this scenario (Table 2). Two-thirds of EU member states suffer from real income losses higher than 5 % (Figure 4). Ireland

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[11] These countries are not considered separately in the input-output tables, so that only an aggregated value can be presented here.

[12] In the event of an increase in EU import barriers also against oil and gas, real income in the exporting countries concerned would decline even further.

is most heavily affected, facing a real income loss of 23.2 %. It is followed by Malta (15 %) and Belgium (9.3 %). The newer Eastern European members of the EU Slovenia (7.8 %), Lithuania (7.6 %), the Czech Republic (7.3 %), Estonia (7 %) and Hungary (7.3 %) also pay a high price induced by retaliation measures. In contrast to these, Romania (3 %) and Croatia (3.7 %) are least affected within the European Union.

As a result of the more difficult export conditions, output in Germany would fall by 5.8 %. Compared to the output decline of 3.8 % observed in Scenario I, it may seem surprising at first glance that the import restrictions against the EU only reduce output in Germany by two additional percentage points. This is partly due to the fact that restrictions in the rest of the world make those intermediate products that non-European producers import from the EU more expensive. German industry is thus gaining competitiveness on the European market against non-European producers. Nevertheless, total real income in Germany falls by 6.9 % in this scenario.

In the rest of the world, the average real income loss rises to 1.5 %. With declines in real income of 9.1 % and 6.3 % respectively, Switzerland and Norway are once again most severely affected. Russia would also suffer significantly from the imposition of NTBs on exports from the EU, with real income declining by 4.9 %. It is followed by Turkey, which would experience a real income loss of 3.7 %.

Scenario III: Unilateral Decoupling of the EU vis-à-vis China

The third scenario simulates decoupling from China by assuming an increase in NTBs on EU imports from China only. In this scenario, EU imports from China fall by 81.4 % (Table 1) or around 400 bn USD (Figure 5). The resulting increase in the cost of intermediate products reduces EU exports to China by 15.1 %. Exports to the rest of the world fall by 6.2 %. As illustrated in Figure 6, exports to all of the EU's major trading partners fall. Even though NTBs against other countries remain unchanged, EU imports from the rest of the world also decline by 8 % as EU output falls by 0.6 % (Table 2). However, there is also some evidence for import diversion, as EU imports from countries such as the US, Switzerland, Russia and Norway increase (Figure 5). The Union would also trade more with itself, as real intra-EU trade would increase by 1.9 %.

Following this decline in trade, the EU is looking at an average real income loss of 0.8 % (131.4 bn EUR, Table 2). Real income in China would decline to a similar extent, by 0.7 %. The European real income loss induced by Scenario III makes up nearly one-fourth of the overall loss in Scenario I, pronouncing the strength of the interconnections between China and the EU economies.

Real income in Germany would decline by 0.9 % in this scenario. The aforementioned smaller European countries Estonia (2 %), Latvia (1.3 %), Belgium (1.3 %), Luxembourg (1.3 %) and also Denmark (1.2 %) appear within the strongest affected economies under Scenario III. They are led

by Malta with a loss of 6.5 %. The least affected countries across the largest economies inside the EU are Portugal (0.1 %) and Italy (0.15 %), similar to Slovakia (0.1 %) and Cyprus (0.2 %) which are the least affected among the smaller countries. France and the UK, in line with Germany, suffer significantly more from the decoupling from China with losses of 0.8 % and 0.9 %, respectively.

Unsurprisingly, the rest of the world (without China) would only be mildly affected, with real income falling by 0.1 % on average. This decline in real income is likely to result from the increasing price of EU exports which is a consequence of the increased cost of intermediates imported from China by the EU as well as the shift to less efficient production within the Union. With a real income increase of 0.08 % for India, 0.05 % for Turkey, 0.04 % for the US and South Korea, 0.03 % for Canada and Japan, some countries could even gain from a protectionist EU policy against China.

Figure 5: Change in EU imports from important trading partners (Scenarios III and IV)
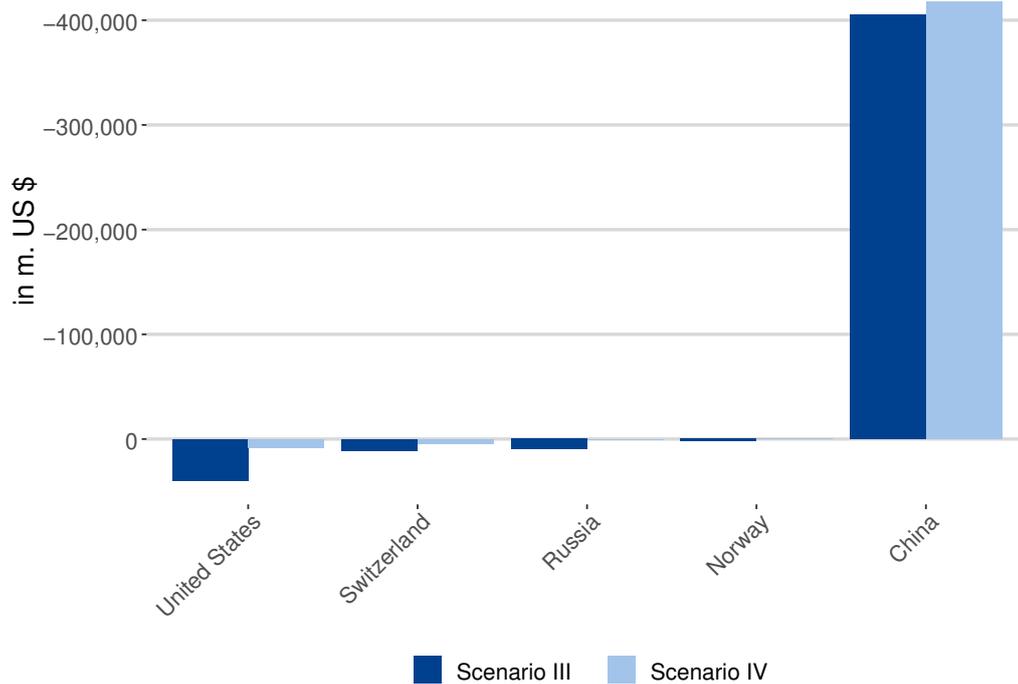
Scenario III: Unilateral Decoupling of the EU vis-à-vis China. Scenario IV: Trade War EU-China.
Source: Authors' own calculations.

Figure 6: Change in EU exports to important trading partners (Scenarios III and IV)
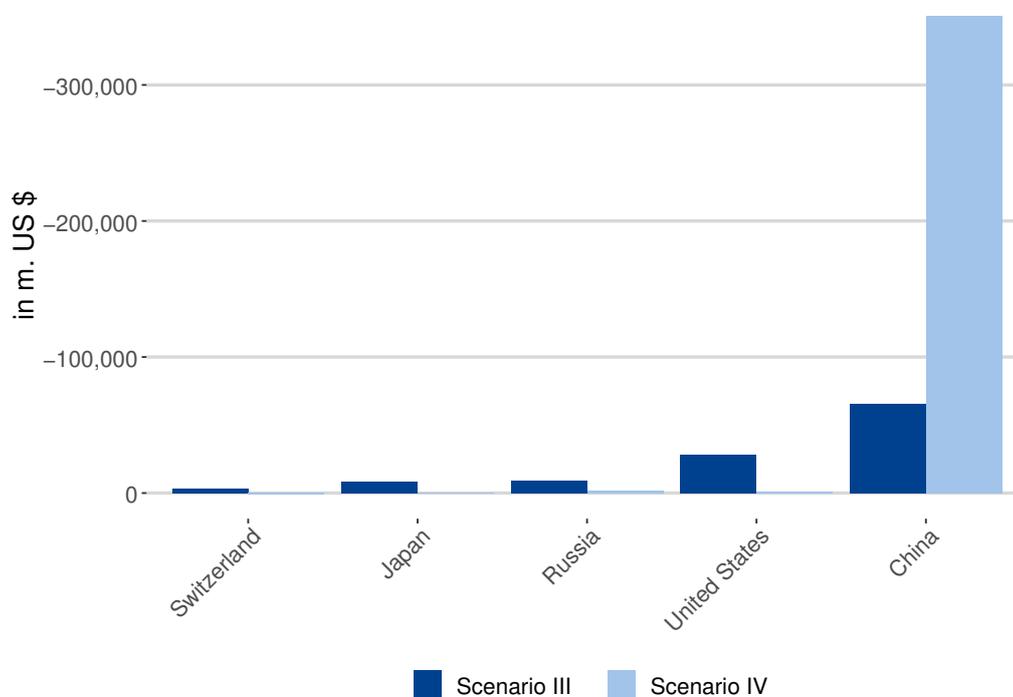
Scenario III: Unilateral Decoupling of the EU vis-à-vis China. Scenario IV: Trade War EU-China.
Source: Authors' own calculations.

Scenario IV: Trade War EU-China

Scenario IV builds on Scenario III and assumes that China responds to European protection by increasing NTBs against exports from the EU. In this scenario, EU exports to China (RoW) are 92.5 % (11.7 %) lower than in a world without a trade war between the EU and China (Table 1). EU imports from China (Row) fall by 82.7 % (11.8 %) compared to the baseline scenario. Trade within the Union would increase by 2 %.

Relative to Scenario III the magnitude of the real income loss for the European Union only increases by 0.2 percentage points (to 1 % or 170.3 bn EUR). Given the EU's trade deficit with China, this small change is perhaps not surprising. Imports from China simply play a more important role for the EU than exports.

For Germany for which China is an important export market, the magnitude of the real income loss is larger in this scenario, amounting to 1.4 %. Germany is thus among the most affected countries in Scenario IV, alongside the UK (1.3 %), but otherwise significantly smaller economies like the Czech Republic (1.3 %), Denmark (1.3 %), Belgium (1.2 %) and the Netherlands (1.2 %). Surprisingly,

France (0.8 %), Portugal (0.3 %) and Italy (0.5 %) are positioned more comfortably and experience smaller losses.

China would lose from such retaliation, as real income losses increase to 1.3 %. The loss for other non-European trading partners (without China), doubles to 0.2 %.

3.3 Sectoral effects

For Scenarios III and IV, Figure 7 reports absolute changes in output for the most affected sectors in the EU. A few sectors would benefit from the unilateral imposition of EU NTBs on imports from China. These include wholesale and retail trade, construction and the machinery and equipment industry. However, other sectors, first and foremost motor vehicles but also other transport equipment would suffer from unilateral decoupling. This heterogeneity disappears in Scenario IV, as all of the aforementioned sectors would experience declines in output following a trade war between the EU and China.

Figure 7: Output change in the top ten affected sectors in the EU (sorted by Scenario IV)
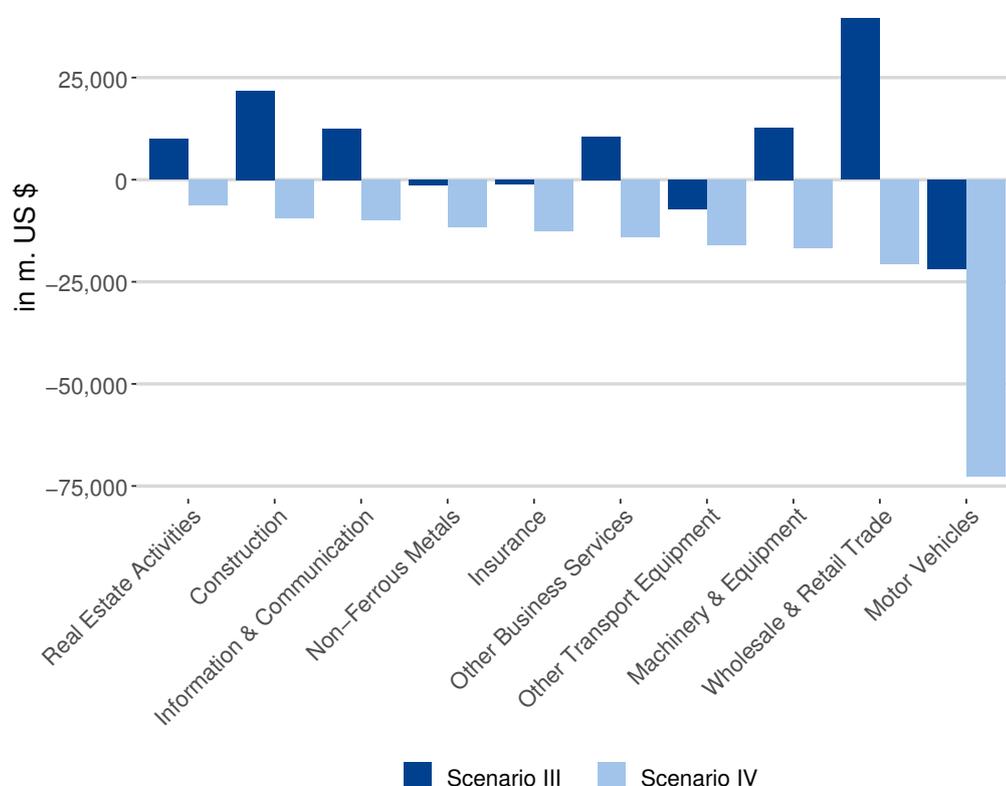
Scenario III: Unilateral Decoupling of the EU vis-à-vis China. Scenario IV: Trade War EU-China.
Source: Authors' own calculations.

4 Final remarks

As a catalyst for economic and political transition the global COVID-19 pandemic has revealed how vulnerable the global trade network and specifically global supply chains are to supply and demand shocks. This has triggered a political discussion about the rising dependence of domestic economic performance on global trade relations, especially with China. In particular, relocating value chains back to the EU is proposed in order to improve resilience in the face of crises.

This policy brief has shown that such reshoring, implemented through a unilateral increase in NTBs on EU imports, would have devastating impacts on extra EU trade. On average, it would reduce real income by 3.5 % across EU member states. Relative to GDP in 2019, this equals a permanent income loss of 584.3 bn EUR. These effects would be extremely unevenly distributed, with small open economies such as Malta and Belgium being affected most severely. In case other countries follow the same strategy, the average real income loss in the EU would rise to 5.3 % (873.1 bn EUR). The real income of non-European trading partners would decrease by up to 1.5 % on average. Such a decoupling of the EU would considerably worsen the standard of living for people inside the EU as well as for its trading partners outside, and should thus be avoided by all means. A decoupling from China only would cost the EU between 0.8 % (131.4 bn EUR) and 1 % (170.3 bn EUR) of real income.

Nevertheless, there is a need for action. Diversification of supply chains, advances in recycling techniques and improved warehousing are but a few examples that can reduce singular dependencies. Unlike isolationism, they can help increase the crisis resilience of the European economy without forgoing the benefits of the international division of labor that has contributed to the continent's prosperity.

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IMPRESSUM

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