Trading with Dictators*

Claudia Marchini Alexander Popov

Abstract

Using data on bilateral trade and on the quality of democratic governance, we construct a democracy-weighted index of bilateral trade for the EU-15. We find that since the late 1990s, there has been a substantial deterioration of the democratic profile of the EU-15's trading partners. This is true for virtually all individual member states and is observed in all sectors, except energy. This development is explained neither by the entry of China in world trade nor by a retreat of democracy globally, but rather by a concurrent deterioration of democracy in the EU-15's trading partners and reallocation of trade towards relatively less democratic countries. Regression analysis of bilateral trade for 179 countries since 2000 suggests that the evidence for the EU-15 is a lower bound of the global effect: countries tend to increase their imports from trading partners whose democracy deteriorates, but more democratic importers are less likely to do so.

JEL classification: E60, F10, P10

Keywords: Democracy, dictatorship, trade policy, bilateral trade

*Claudia Marchini: ECB, claudia.marchini@ecb.europa.eu. Alexander Popov: ECB and CEPR, alexander.popov@ecb.europa.eu. We thank seminar participants at the ECB and the Deutsche Bundesbank for valuable comments. The opinions expressed herein are those of the authors and do not necessarily reflect those of the ECB or the Eurosystem.

1 Introduction

Do democratic values play a role in bilateral trade? While the perceived weakening recently of democratic standards around the globe has renewed interest in this question, the answer is far from clear. On the one hand, classical economic theory posits that countries trade with each other based solely on comparative advantage (Ricardo, 1817), rather than on values-based considerations. Consistent with this narrative, during the first two decades of the 21st century countries with a very poor democratic and human-rights record, like China and the Russian Federation, became indispensable trading partners, including to mature Western democracies. On the other hand, empirical research has suggested that societies tend to trade with each other based on cultural proximity and shared trust (Guiso, Sapienza, and Zingales, 2009). Furthermore, there is a long tradition of various groups and even whole countries boycotting imported goods produced under dictatorial regimes and/or using forced labor. Examples include the Quaker movement in the 1800s which advocated a boycott on sugar from the West Indies and cotton from the United States, the drive to ban rubber from the Belgian Congo in the early 1900s, and the anti-sweatshop campaigns in the 1990s. Thus, the extent to which democracies' trade policy is values-based as opposed to transactional remains unclear.

We go to the heart of this question by studying the evolution of the democratic profile of the European Union's (EU) trading partners since the mid-1980s. The EU is the perfect object of study because it has legally bound itself to a values-based

trade policy. In particular, EU law requires EU trade policy to ensure that economic development goes hand in hand with democratic and social values such as social justice, respect for human rights, and high labor standards.[1] Consistent with these provisions, after the full-scale invasion of Ukraine in February 2022, EU member states reduced quickly and sharply their imports of raw materials, such as coal, gas, and oil, from the Russian Federation. Furthermore, the EU recently adopted regulation PE Cons 67/24 forbidding the sale in the EU of products made with input from victims of forced labor exploitation.[2] At the same time, the EU did not impose sanctions of the same scale when the Russian Federation illegally annexed Crimea in 2014, and critics of the EU's anti-forced-labor law have argued that its provisions are much weaker than existing U.S. legislation, and as a result it fails to properly address documented human-rights abuses in the Chinese region of Xinjiang.[3] Therefore it remains an open empirical questions whether the EU has consistently lived up to its self-imposed values-based standards of international trade.

We provide three sets of results. First, we construct a "Democracy-Weighted Trade Index" (DWTI) for the European Union-15[4] for the period 1985-2023. This index is calculated as a weighted average of imports into the EU, where the relative share of imports by each trading partner is weighted by a democratic index measuring the ex-

[1] For more details on the three pillars of the European Union's commitment to sustainable development, see https://policy.trade.ec.europa.eu/development-and-sustainability/sustainable-development.

[2] See https://data.consilium.europa.eu/doc/document/PE-67-2024-INIT/en/pdf.

[3] See https://www.politico.eu/article/china-forced-labor-ban-europe-us-uyghur-xinjiang/.

[4] We focus on the "old" EU member states as most of the "new" ones were themselves dictatorships until 1989.

tent to which this trading partner is a democracy as opposed to a dictatorship. Data come from publicly available sources: on bilateral trade come from the UN's Comtrade (main analysis) and the IMF's Direction of Trade (robustness), and on the quality of democratic governance come from V-Dem (main analysis) and from the Polity Project (robustness). Our main finding is that in the past 40 years, the EU-15's DWTI has exhibited an inverse U-shaped pattern over time. Initially, between 1985 and the late 1990s, it increased significantly, reflecting a broad democratization trend across the EU-15's trading partners in eastern Europe, Latin America, and east Asia. However, between 1999 and 2022 the EU-15's DWTI declined gradually and significantly, by about 1/3. This development is largely mimicked by each EU-15 member state, suggesting that both as a club and individually, mature European democracies have in the past 25 years become less likely to shun autocratic trade partners. At the same time, the index arrested its decline in 2023, fully due to the trade sanctions that the EU imposed on the Russian Federation after its invasion of Ukraine.

Second, we show that our results are robust to a wide range of empirical and data choices. The sharp and significant decline in the democratic index of the EU-15's average trading partner is observed in the data regardless of the source of data on bilateral trade or democracy. It obtains for exports, too, and it is not confined to the EU as we uncover a very similar pattern for the United States over the same period. Finally, it obtains for 9 out of the 10 broad sectors of the economy, the only exception being the energy sector. This strongly suggests that the deterioration in the democratic

quality of the EU's trade is a broad-based fact that is not driven by a few influential sectors.

Finally, we investigate the potential mechanisms at play. The first possibility is that the effect is entirely driven by China. After spending decades outside the international trade system, in 2001 China joined the World Trade Organization (WTO). Since then, trade between Europe and China has gradually increased, and at present, China accounts for 1/5 of all imports into the European Union. Given China's very low democratic score (at present, it ranks 172 out of 179 countries in the V-Dem database), it is possible that the observed deterioration in the democratic profile of the EU-15's imports is driven by one very influential trading partner. However, when we recalculate the EU-15's DWTI without China, we find that while not as pronounced, the post-1999 decline still obtains and over 25 years is to the tune of 20%.

The second possibility is that democracy has been on the retreat globally, and given that European consumers are forced to import many goods they cannot source locally (like radioactive materials for cancer drugs or exotic foods like coffee and bananas), the decline in the democratic profile of the EU-15's trading partners can be a purely mechanical artifact of a world-wide democratic decline. However, we confirm that since 1999, the median country outside the EU-15 has become more, not less democratic.

This leaves a third possibility, namely, a combination of two factors: 1) the quality of democratic governance has declined in the EU-15's trading partners, if not globally; and/or 2) the EU-15 has over time reallocated its imports from more towards less

democratic countries. We show that both factors have been at play, although not at the same time. First, holding each trading partner's democratic index fixed at its 1999 value, we show that between 1999 and 2012, the decline in the overall Democracy-Weighted Trade Index is almost entirely driven by a reallocation away from more and towards less democratic countries. Second, holding each trading partner's share in overall trade fixed at its 1999 value, we show that between 2012 and 2022, the decline in the overall Democracy-Weighted Trade Index is almost entirely driven by a deterioration in the democratic quality of the EU-15's trading partners.

We then take the analysis to the global sample. For 179-by-178 country pairs, we study the reaction of imports to changes in the trading partner's quality of democratic governance, accounting for the importer's own democratic quality. The evidence suggests that since 2000 the trend we document for the EU-15 is a lower bound of the global trend. In particular, we find that countries on average tend to increase their imports from trading partners whose democracy deteriorates. In this sense, the global result mirrors what we find in the case of the EU-15. However, this effect is smaller for more democratic importers, suggesting that democratic standards in importers may matter for the extend to which their countries "trade with dictators".

Our work contributes to the literature on the cultural and institutional determinants of bilateral trade. For example, Anderson and Marcouiller (2002), Berkowitz et al. (2006), Nunn (2007), Guiso et al. (2009), and Popov (2025) have documented a significant effect on bilateral trade of country-specific, as well as of country-pair-

specific, cultural and institutional factors that are slow moving over time, such as trust or religious affiliation. We extend this literature by looking at how bilateral differences in the propensity to uphold democratic standards affect imports from autocracies by mature democracies.

Our analysis also speaks to an emerging literature on "geoeconomic fragmentation", or policy-induced changes in the sources and destinations of cross-border trade flows. Several recent empirical studies have argued that underneath the relatively stable aggregate trends, a reallocation of trade across countries can be observed. Freund, Mattoo, Mulabdic and Ruta (2023) and Alfaro and Chor (2023) show that tariffs on Chinese products have effectively decreased U.S. imports from China. However, there is little evidence that this phenomenon extends beyond U.S. efforts to re-shore, near-shore, and friend-shore (Lovely, 2023; Yellen, 2022). Still, Corsetti, Demir, and Javorcik (2024) show that Turkish exports to Russia have risen sharply and particularly so in sanctioned products, with Turkish firms charging higher markups and prices. These developments have been accompanied by an increase in the share of cash-in-advance transactions and the share of Turkish firms invoicing in Turkish liras instead of dollars. Gopinath, Gourinchas, Presbitero, and Topalova (2024) provide evidence of trade and investment fragmentation along geopolitical lines since Russia's invasion of Ukraine. We contribute to this literature by documenting a long-term trend of increased reliance in trade on dictatorships and semi-democracies, including by a club of mature democracies, the European Union.

2 Data

2.1 Bilateral trade

The main data on bilateral trade come from the UN Comtrade database. The database contains information on bilateral trade for 200+ trading partners (countries and territories). It also contains information on bilateral trade at the product level, for 10 broad product classes (These are: 'Food and live animals'; 'Beverages and tobacco'; 'Crude materials, inedible, except fuels'; 'Mineral fuels, lubricants, and related materials'; 'Animal and vegetable oils, fats, and waxes'; 'Chemicals and related products, not else specified'; 'Manufactured goods classified chiefly by material'; 'Machinery and transport equipment'; 'Miscellaneous manufactured articles'; and 'Commodities and transactions not classified elsewhere'.).

In robustness tests, we also use the IMF's Direction of Trade Statistics (DOTS) dataset, which is based on data from the World Trade Organization (WTO). In both cases, to ensure good global coverage, we choose 1985 as the starting point of the analysis.

2.2 Democracy index

Data on various democratic indices come from V-Dem. These data are available for 179 countries for the period 1789–2023. While the dataset contains a multitude of indices

measuring various aspects of the country's democratic profile, we focus on the Liberal Democracy Index. This is a composite index that is a linear combination of 'Rule of law', 'Checks and balances', 'Civil liberties', and 'Electoral democracy'.[5] In this way, the index captures all of the important components that comprise democracy, namely the extent of suffrage, the freedom and fairness of elections, freedoms of association and expression, individual and minority rights, equality before the law, and executive constraints.[6] The index ranges from 0 to 1.

In robustness tests, we use a comparable Democracy Index from the Polity Project. This index captures the extent to which open, multi-party, and competitive elections choose a chief executive who faces comprehensive institutional constraints, and political participation is competitive. The index ranges from -10 to 10. While the data from Polity has been somewhat more popular in empirical research on the evolution of democracy (see, e.g., Papaioannou and Siourounis, 2008; Bruckner, Ciccone, and Tesei, 2012; Acemoglu, Naidu, Restrepo, and Robinson, 2019), it was discontinued by the Polity Project in 2018. Given that we want to capture the evolution of democracy-weighted trade until 2023, we only use it in robustness tests. Moreover, the index coming from V-Dem is better able to capture components of democratic government

[5]In constructing the index, V-Dem starts from the question, to what extent is the ideal of liberal democracy achieved? The liberal principle of democracy emphasizes the importance of protecting individual and minority rights against the tyranny of the state and the tyranny of the majority. The liberal model takes a "negative" view of political power insofar as it judges the quality of democracy by the limits placed on government. This is achieved by constitutionally protected civil liberties, strong rule of law, an independent judiciary, and effective checks and balances that, together, limit the exercise of executive power. To make this a measure of liberal democracy, the index also takes the level of electoral democracy into account.

[6]For recent empirical applications using this index, see, e.g., Pande, 2020; Funke, Schularick, and Trebesch, 2023.

that go beyond executive recruitment, constraints on executive authority, and political competition, such as respect for human rights.

2.3 Summary statistics

All data are summarized in Table 1. The mean share in imports of a trade partner is 0.68%, with a low of 0 and a high of 28.6%. The mean index of liberal democracy is 0.38, with a low of 0.005 and a high of 0.897 (Norway).

3 Constructing the Democracy-Weighted Trade Index

Using the datasets just described, we construct the Democracy-Weighted Trade Index (DWTI) as follows:

$$DWTI_{i,t} = \sum_{j=1}^{J} \frac{Imports_{i,j,t}}{Imports_{i,t}} \times Democracy_{j,t}. \quad (1)$$

$Imports_{ijt}$ denotes imports by country i from trade partner j in year t, and $Imports_{it}$ denotes imports by country i from the rest of the world in year t. The ratio of the two measures the relative contribution of each trading partner j to country i's overall imports at each point in time. In turn, $Democracy_{jt}$ denotes an index of liberal democracy for trade partner j in year t. For the purpose of the main empirical exercise, i

denotes EU-15, but in robustness tests, we also calculate the $DWTI_{it}$ for individual EU-15 member states, as well as for other countries such as the United States.

Given that $\frac{Imports_{ijt}}{Imports_{it}}$ takes on values between 0 and 1, and that the liberal democracy index from V-Dem we use as an empirical proxy for $Democracy_{jt}$ takes on values between 0 and 1, $DWTI_{it}$ also takes on values between 0 and 1.

Table 2 lists the top 20 and the bottom 20 countries in terms of the value of the V-Dem Liberal Democracy Index in 2023. The evidence suggests that in practice, the index of liberal democracy is never above 0.844 for countries outside the EU-15. The interpretation of $DWTI_{it}$ thus is that if it is below 0.05, the EU-15 purchases all of its foreign goods from countries like Belarus, Chad, and Afghanistan, and if it is above 0.8, the EU-15 purchases all of its foreign goods from countries like Costa Rica, New Zealand, and Switzerland.

4 Empirical evidence

4.1 Main result

Figure 1 presents the main result of the paper. It becomes readily apparent that there have been two phases in the past 40 years vis-a-vis the extent to which EU-15 member states have purchased goods from more as opposed to less democratic trading partners. Between 1985 and 1999, the Democracy-Weighted Trade Index for

the EU-15 increased from 0.438 to 0.594, an increase of 35.6%. This is largely driven by a mechanical increase in the value of the Liberal Democracy Index of the EU-15's trading partners, following a wave of democratization in regions like eastern Europe, Latin America, and east Asia. In relative terms, a value of 0.594 is identical to EU-15 member states purchasing all of their imported goods in 1999 from India (ranking 48 out of 174 countries).

However, between 1999 and 2022, the Democracy-Weighted Trade Index for the EU-15 declined from 0.594 to 0.414, a decline of 30.3%. This means that effectively, in the end of the sample period the average imported good into the EU-15 came from a less democratic country than it did in the beginning of the sample period, before the wave of democratization of the 1980s and 1990s. In relative terms, a value of 0.414 is identical to EU-15 member states purchasing all of their imported goods in 2022 from Liberia (ranking 79 out of 179 countries).

The evidence strongly suggests that since 1999, the EU-15 has increasingly been importing foreign goods from less democratic states. By 2022, all of the democratic gains in the DWTI accumulated during the second half of the 1980s and the 1990s were erased, a development that appears inconsistent with the EU's stated values-based goals of sustainable trade based on democratic values. An exception is the last year of the sample period, whereby in 2023 the EU-15's DWTI arrested its decline and increased by 5.8%, to 0.438.

4.2 Robustness

We now show that the development captured in Figure 1 is not driven by a specific choice of empirical proxies. In Figure 2, we re-construct $DWTI_{it}$ by using data on bilateral trade from the IMF's Direction of Trade. The DWTI for the EU-15 is almost identical to the one resented in Figure 1, suggesting that the concave evolution of the index over the last four decades is not an artifact of using one particular dataset on bilateral trade.

In Figure 3, we re-calculate the DWTI using the original data on bilateral trade from Comtrade, but weighing each trading partner's contribution to overall imports using data on democracy from the Polity Project (Polity V). The inverse-U shape of the DWTI over time is still readily apparent, and if anything, the decline between 1999 and 2018 (the year when the index was discontinued) is even steeper at 37.8% (from 6.24 to 3.88).[7] We therefore confirm that the same pattern of the DWTI is obtained when using alternative methodologies to score the state of individual countries' democracy.

Another concern is that the shape of the EU-15's DWTI is driven by a few influential outliers and is not representative of most countries' behavior. In Figure 4, we replicate the EU-15's DWTI for all individual member states. We document visible heterogeneity in terms of levels: for example, the average imported good always comes from less (more) democratic countries in the case of Spain (Ireland), relative to the EU-15. However, there is little-to-no heterogeneity in terms of trends. On the contrary, the

[7]Recall that the Polity V uses an index scaled between -10 and 10.

evidence strongly implies that individual EU-15 member states' experience is broadly aligned with the overall index, both in terms of the pre-1999 increase and in terms of the post-1999 decline.

It is also possible that the shape of the EU-15's DWTI is driven by a few influential goods which the EU has no way of sourcing domestically and whose exporters have become less democratic over time. In Figure 5, we replicate the EU-15's DWTI for each of 10 broad product categories for which there are data on bilateral trade in the Comtrade database. These categories are: 0) 'Food and live animals'; 1) 'Beverages and tobacco'; 2) 'Crude materials, inedible, except fuels'; 3) 'Mineral fuels, lubricants, and related materials'; 4) 'Animal and vegetable oils, fats, and waxes'; 5) 'Chemicals and related products, not else specified'; 6) 'Manufactured goods classified chiefly by material'; 7) 'Machinery and transport equipment'; 8) 'Miscellaneous manufactured articles'; and 9) 'Commodities and transactions not classified elsewhere'. Figure 5 makes it clear that the inverse-U shape of the DWTI between 1985 and 2023 obtains for almost all product classes. The only exception is "3) Mineral fuels, lubricants, and related materials" which declined between 1999 and 2010, from 0.359 to 0.311, but then stabilized and even increased after 2019 due to a rising share of imports of oil and gas from relatively more democratic countries like Canada, Norway, and the United States. Moreover, the DWTI index for energy rose sharply after the invasion of Ukraine, reflecting a robust reduction in the EU's imports of carbohydrates from the Russian Federation, which is largely responsible for the increase in the overall index in

2023 (Figure 1).

It is also possible that the overall decline in the DWTI since 1999 masks a positive trend – namely, that despite a higher reliance on average by the EU-15 on less democratic countries than in the past, member states have reduced their reliance on actual dictatorships. Such reallocation of trade away from the worst abusers of democratic and human rights would be fully consistent with the EU's stated goals of values-based trade. To address this possibility, in Figure 6 we plot the share of imports into the EU-15 which comes, at each point in time, from the 20 least democratic countries in the world. The evidence suggests that this share has increased substantially over time: for example, between 1999 and 2022, the share of imports from the 20 least democratic countries more than doubled.

Is the effect limited to imports? To answer this question, in Figure 7 we replicate the DWTI using data on bilateral exports instead of imports. We obtain the same inverse-U shape as in the case of the import-based DWTI, however, in this case the increase during the first part of the sample period is steeper (from 0.498 in 1985 to 0.623 in 2000), and the decline during the second part of the sample period is less steep (from 0.623 in 2000 to 0.496 in 2021).

Finally, is the evolution of democracy-weighted trade a particular feature of Europe, or is it observed for other mature democracies, too? The natural comparison, in terms of democratic values and market size, are the United States. In Figure 8, we replicate the DWTI for the US. The data suggest that throughout the 1990s, the US-based DWTI

was relatively stable. Similar to the European experience, it declined during the 2000s, 2010s, and the early 2020s, but it did so by a smaller magnitude (from 0.543 in 2000 to 0.391 in 2022, or by 22%). At the same time, throughout the sample period, the average import into the United States comes from less democratic countries, with the US-based DWTI being lower on average by around 0.05 points than the EU-15-based one.

5 Mechanisms

What can explain the evolution of the EU-15's DWTI over time, and in particular its pronounced decline since 1999? We now formulate a set of hypotheses and take them to the data in an attempt to explain the observed patterns.

5.1 Hypotheses

The first hypothesis is that the post-1999 decline in the DWTI is entirely driven by China, which joined the WTO in 2001. Since then, trade between Europe and China has gradually increased, and at present, China accounts for around one-fifth of all imports into the European Union. Given China's very low democratic score (in 2023, it ranked 172 out of 179 countries in the V-Dem database), it is possible that the observed deterioration in the democratic profile of the EU-15's imports is driven by one very influential trading partner.

The second possibility is that democracy has been on the retreat around the globe since the late 1990s. The recent rise of anti-democratic parties in Europe itself has strengthened the impression that the world is experiencing a democratic reversal. Given that European consumers are forced to purchase from abroad many goods they cannot source locally, like some foods and raw materials, the decline in the democratic profile of the EU-15's trading partners can be a mechanical consequence of a world-wide democratic decline.

The third hypothesis is that democracy did not decline globally, but the EU's trading partners became less democratic. This is certainly true of a number of countries that play a central role in the EU's trade and that have slipped in the direction of autocracy since the early 2000s (e.g., India, Russia, and Turkey). If the EU-15 member states did not engage in import substitution in order to maintain a more values-based patter of trade, this could readily explain the post-1999 decline in the DWTI.

The final possibility is that the quality of democracy around the world and among EU-15 trading partners has not deteriorated, but the EU-15 member states have over time reallocated their imports from more towards less democratic countries. This could be the case for purely technological reasons – e.g., the decline in the use of locally-sourced coal and the concurrent increase in the use of solar panels whose components come from countries with dictatorial regimes like China and the Democratic Republic of Congo.

5.2 Evidence

We now take these four hypotheses to the data. Figures 9-12 present the evidence. We focus on the post-1999 decline in the DWTI, and in all cases we also replicate the DWTI pattern presented in Figure 1.

Figure 9 juxtaposes the main DWTI with one where China has been excluded from the data. It is readily apparent that trade with China results in a lower value of the index: without China, the index is higher on average by about 8.5 points. However, the downward trend since 1999 is obtained even when excluding China from the construction of the DWTI; numerically, the index declined by one-fifth over the same time period, from 0.629 in 1999 to 0.499 in 2022. The evidence thus implies that while increased trade with China has played a role in the deterioration of the EU-15's democracy-weighted trade, it fails to fully explain the reversal observed in the data starting in the late 1990s.

In Figure 10, we re-calculate the DWTI in the following way: we take the actual values of the liberal democracy index for all countries outside the EU-15, but assume that EU-15 member states purchase an equal share from each of them. This alternative index essentially replicates a counterfactual where the EU-15 imports all foreign goods from the median world country, in terms of democracy. As the Figure shows, this counterfactual index is largely flat in the past quarter of a century, even increasing slightly, from 0.347 in 1999 to 0.349 in 2022. This suggests that the world on average has not become a less democratic place since the late 1990s. The comparison with the

actual DWTI suggests that on average over this period, the EU-15 has been trading with more-democratic-than-average countries, but it has been trending towards the world median ever since 1999.

In Figure 11, we address the third hypothesis, namely that since 1999, the EU-15 member states have not adjusted their trade pattern, but rather their trading partners have became less democratic. To test for this possibility, we re-calculate the DWTI in the following way: we take the actual trade share of each trading partner in 1999 and we fix it over time, while taking the actual value of the liberal democracy index for each trading partner after 1999. This counterfactual index is flat between 1999 and 2012, after which it declines in lockstep with the main one. This suggests that holding the relative import intensity constant, the decline in the DWTI after 2012 is driven by a deterioration in the democratic quality of governance in the EU-15'trading partners.

Finally, in Figure 12, we address the fourth hypothesis, namely that part of the post-1999 decline in the DWTI is driven by a reallocation of imports from relatively more to relatively less democratic trading partners. To test for this possibility, we re-calculate the DWTI in the following way: we fix over time each trading partner's liberal democracy index at its 1999 value, and we take the actual evolution of bilateral trade after 1999. This counterfactual index moves in lockstep with the actual one between 1999 and 2012, after which it stays flat. This suggests that holding democracy constant, the decline in the DWTI between 1999 and 2012 is driven by an import substitution from more towards less democratic trading partners.

6 Discussion

The evidence documented in this paper presents the European Union with a number of challenges. The most obvious one is to the EU's reputation as a values-based economic and political club, as opposed to a transactional one. The post-1999 decline in the quality of democratic governance of its average trading partner can be perceived as inconsistent with the EU's stated goals of "sustainable" trade policy, understood as a policy that is conducted with a view of democratic, human, and social rights.

Second, "trading with dictators" amounts to generating profits for regimes that often have an explicit expansionary and militaristic agenda. In turn, increased geopolitical risk has implications for all aspects of the global economic order, including monetary policy, financial stability, and international capital flows, especially for an open economy such as Europe's.

Third, our evidence suggests another trade-off in the "Green Transition." Current "green" technologies rely on a range of rare earth materials that are more often than not controlled by countries with autocratic regimes (Javorcik, 2024). One example are electric batteries which are a staple of the "Green Transition" and whose production involves four main metals – cobalt, copper, lithium, and nickel – of which the EU has almost no domestic reserves. With the exception of copper, all are sold on international markets primarily by countries with a non-democratic government, such as China, Russia, and the Democratic Republic of Congo, where abuses in the extraction of

these raw materials in the form of prisoner and child labor have been well-documented. This creates the risk that one type of externality (a carbon-emissions one) is being addressed by exacerbating another, social externality.

7 Regression analysis of the global sample

We now take the analysis to the global sample. For 179-by-178 country pairs between 1999 and 2023, we study the reaction of imports to changes in the trading partner's quality of democratic governance, accounting for the importer's own democratic quality. The idea is to study whether globally, the effect of a democratic retreat in a trading partner mimics that of the EU-15, or if the EU-15 is an exception in one or another direction.

In practice, we estimate the following model:

$$\begin{aligned} Log(Imports)_{i,j,t} = \beta_1 Lib\,Dem\,Index_{j,t} + \beta_2 Lib\,Dem\,Index_{j,t} \times Lib\,Dem\,Index_{i,t} \\ + \beta_3 X_{j,t} + \Psi_{i,j} + \Phi_{i,t} + \varepsilon_{i,j,t}. \end{aligned} \tag{2}$$

Here, the dependent variable $Log(Imports)_{i,j,t}$ denotes the natural logarithm of total imports by importer i from trade partner j in year t. $Lib\,Dem\,Index_{j,t}$ is the Index of Liberal Democracy for trading partner j, and $Lib\,Dem\,Index_{i,t}$ is the Index

of Liberal Democracy for importer i.

We saturate the regression model in Equation (2) with an interactions of country i and country j dummies ($\Psi_{i,j}$), and an interaction of country i and year dummies t ($\Phi_{i,t}$). $\Psi_{i,j}$ captures the impact on bilateral trade of factors pertinent to the relationship between visited country i and trading partner country j that are fixed over time. These include some of the standard components of gravity: physical distance, difference in size, common border, common language, religious similarity, and somatic and genetic distance, among others (see, e.g., Frankel and Romer, 1999; Helpman, Melitz, and Rubinstein, 2008; Anderson and Yotov, 2010). This is important as any such variation at the country-pair level can explain differences in bilateral trade without any panel variation existing. $\Phi_{i,t}$ controls for time-varying factors at the level of importer i that affect all of country i's trading partners equally at the same point in time. Including these in the regression allows us to net out the independent effect on trade of important time-varying determinants of the demand for imports, such as GDP growth and population growth in country i. Because we want to isolate the effect of changes in the trading partner's quality of democratic governance on imports, we do not include interactions of trading partner dummies with time dummies. However, we include a vector $X_{j,t}$ which includes standard determinants of trade at the trading-partner level, such as GDP growth, population growth, and the exchange rate.

The estimates from this test are reported in Table 3. The evidence recorded in column (1) suggests that imports increase when the partner country is experiencing

faster GDP growth and is undergoing currency appreciation. Population growth does not appear to play a role. Importantly, imports increase significantly from a trading partner that is experiencing a deterioration in the democratic quality of its government, and this effect is significant at the 5-percent statistical level. The coefficient -0.24 implies that if a trading partner's liberal democracy index declines from the 75th percentile (69) to the 25th percentile (16) of the sample distribution, imports increase by about one-quarter.

In column (2), we include the interaction between the importer's and the trading partner's index of liberal democracy. We still record an increase in imports when the trading partner becomes less democratic, and this time the effect is significant at the 1-percent statistical level. However, the effect declines with the extent to which the importer itself is a democracy. This suggests that mature democracies react less, in terms of increased imports, to a deterioration of the democratic standards in the trading partner. This effect is significant at the 5-percent statistical level.

Finally, in column (3) we also include interactions of trading partner j and year dummies. These control for time-varying factors at the level of trading partner j that affect all importers equally at the same point in time. Including these in the regression allows us to net out the independent effect on trade of important time-varying determinants of exports, such as GDP growth, population growth, and changes in exchange rates in exporter j. Because of the inclusion of these fixed effects, we can no longer estimate the independent effect on trade of $Lib\,Dem\,Index_{j,t}$, only of its

interaction with $Lib\,Dem\,Index_{i,t}$. The point estimate on the interaction term is now significant at the 1% statistical level. The evidence thus continues to suggest that more democratic countries increase their imports by less than do less democratic countries, when democratic standards in the trading partner decline.

We conclude that since 2000, the trend we document for the EU-15 is a lower bound of the global trend. In particular, we find that countries tend to increase their imports from trading partners whose quality of democratic governance deteriorates. In this sense, the global result mirrors what we find in the case of the EU-15. However, this effect is smaller for more democratic importers, suggesting that democratic standards in importer countries matter for the extend to which they "trade with dictators".

8 Conclusion

We document that the average quality of democratic governance of EU-15 member states' trading partners increased during the 1980s and 1990s and then declined gradually and substantially after 1999, to the point where in 2022, the average imported good came from a less democratic country than it did in 1985. This pattern holds for individual EU-15 member states and for all product categories, except energy. We also document that the post-1999 decline in the democracy-weighted index of EU trade is not explained by increased reliance on trade with China or on a global retreat of democracy. It is rather explained by a reallocation of trade from relatively more to rel-

atively less democratic trading partners between 1999 and 2012, and by a deterioration of the EU-15's existing trading partners after 2012.

Our evidence raises the question of whether democratic values play a role in the ongoing "Great Reallocation" of trade along supply chains (e.g., Alfaro and Chor, 2023) and the rise of semi-democratic "connector countries" (Gopinath, Gourinchas, Presbitero, and Topalova, 2024). A natural extension of our analysis is to investigate the underlying mechanisms behind the increased reliance of mature democracies on imports from trading partners with dictatorial regimes. There are at least three distinct possibilities. The first possibility is a shift in demand towards products which less democratic countries have a comparative advantage in producing. The second possibility is a technological shift favouring intermediary inputs presently in the hands of dictators. The third possibility is a general shift in preferences whereby "buying from dictators" is no longer frowned upon. While very important in order to understand the full picture, this investigation is beyond the scope of the current paper.

References

Acemoglu, D., Naidu, S., Resterepo, P., and Robinson, J. (2019). 'Democratization does cause growth.' Journal of Political Economy, vol. 127(1), pp. 47–100.

Alfaro, L., and Chor, D. (2023). 'Global supply chains: The looming "Great Reallocation."' NBER Working Paper 31661.

Anderson, J., and Marcouiller, D. (2002). 'Insecurity and the pattern of trade: An empirical investigation.' Review of Economics and Statistics, vol. 84(2), pp. 342—52.

Anderson, J., and Yotov, Y. (2010). 'The changing incidence of gravity.' American Economic Review, vol. 100(5), pp. 1158–86.

Berkowitz, D., Moenius, J., and Pistor, K. (2006). 'Trade, law, and product complexity,' Review of Economics and Statistics, vol. 88(2), pp. 363—73.

Brückner, M., Ciccone, A., and Tesei, A. (2012). 'Oil price shocks, income, and democracy.' The Review of Economics and Statistics, vol. 94(2), pp. 389–99.

Coppedge, M., Gerring, J., Knutsen, C., Lindberg, S., Teorell, J., Altman, D., Angiolillo, F., Bernhard, M., Borella, C., Cornell, A., Fish, M., Fox, L., Gastaldi, L., Gjerlow, H., Glynn, A., God, A., Grahn, S., Hicken, A., Kinzelbach, K., Krusell, J., Marquardt, K., McMann, K., Mechkova, V., Medzihorsky, J., Natsika, N., Neundorf, A., Paxton, P., Pemstein, D., Pernes, J., Rydén, O., von Römer, J., Seim, B., Sigman, R., Skaaning, S.-E., Staton, J., Sundström, A., Tzelgov, E., Wang, Y., Wig, T., Wilson, S., and Ziblatt, D. (2024). 'V-Dem Dataset v14.' Varieties of Democracy (V-Dem)

Project.

Corsetti, G., Demir, B., and Javorcik, B. (2024). Trading around geopolitics. Oxford University Department of Economics Discussion Paper.

Frankel, J., and Romer, D. (1999). 'Does trade cause growth?' American Economic Review, vol. 89(3), pp. 379–99.

Freund, C., Mattoo, A., Mulabdic, A., and Ruta, M. (2023). 'Is US trade policy reshaping global supply chains?' World Bank Policy Research Working Paper 10593.

Funke, M., Schularick, M., and Trebesch, C. (2023). 'Populist leaders and the economy.' American Economic Review, vol. 113(12), pp. 3249—88.

Gopinath, G., Gourinchas, P.-O., Presbitero, A., and Topalova, P. (2024). 'Changing global linkages: A new cold war?' IMF Working Paper WP/24/76.

Guiso, L., Sapienza, P., and Zingales, L. (2009). 'Cultural biases in economic exchange?,' Quarterly Journal of Economics, vol. 124(3), pp. 1095—131.

Helpman, E., Melitz, M., and Rubinstein, Y. (2008). 'Estimating trade flows: Trading partners and trading volumes.' Quarterly Journal of Economics, vol. 123(2), pp. 441–87.

Javorcik, B. (2024). 'Geopolitical shocks and inflation: Critical raw materials.' ECB Sintra Forum on Cetral Banking.

Lovely, M. (2023). 'Manufacturing resilience: The US drive to reorder global supply

chains.' In M. S. Kearney, J. Schardin and L. Pardue (eds.), Building a More Resilient US Economy, Aspen Institute.

Nunn, N. (2007). 'Relationship-specificity, incomplete contract, and the pattern of trade,' Quarterly Journal of Economics, vol. 122(2), pp. 569—600.

Pande, R., (2020). 'Can democracy work for the poor?' Science, vol. 369(6508), pp. 1188–92.

Papaioannou, E., and Siorounis, G. 'Democratization and growth.' Economic Journal, vol. 118(532), pp. 1520–51.

Popov, A. (2025) 'Putting countries on the map? Pastoral visits of John Paull II and international trade.' Economic Journal, forthcoming.

Yellen, J. (2022). US Treasury Secretary Janet Yellen on the Next Steps for Russia Sanctions and 'Friend-Shoring' Supply Chains. Address delivered to the Atlantic Council.

Table 1: Summary statistics

Variable	#	Mean	Median	St. Dev.	Min	Max
Liberal Democracy Index (V-Dem)	6,778	0.38	0.47	0.27	0.005	0.883
Liberal Democracy Index (Polity5)	5,481	2.64	5.00	6.80	-10.00	10
Trade share (Comtrade)	5,716	0.68	0.09	2.10	0.00	28.58
Trade share (DOTS)	5,943	0.66	0.06	1.97	0.00	22.92
Log Imports (Comtrade)	578,584	14.83	15.17	4.25	-5.81	31.34
Exchange rate, '1000 (Penn)	483,282	20.62	0.01	1,232.97	0.00	7,640,000
GDP growth (Penn)	483,085	3.60	3.74	5.07	-108.23	72.41
Population growth (Penn)	483,085	1.43	1.27	1.53	-25.03	17.63

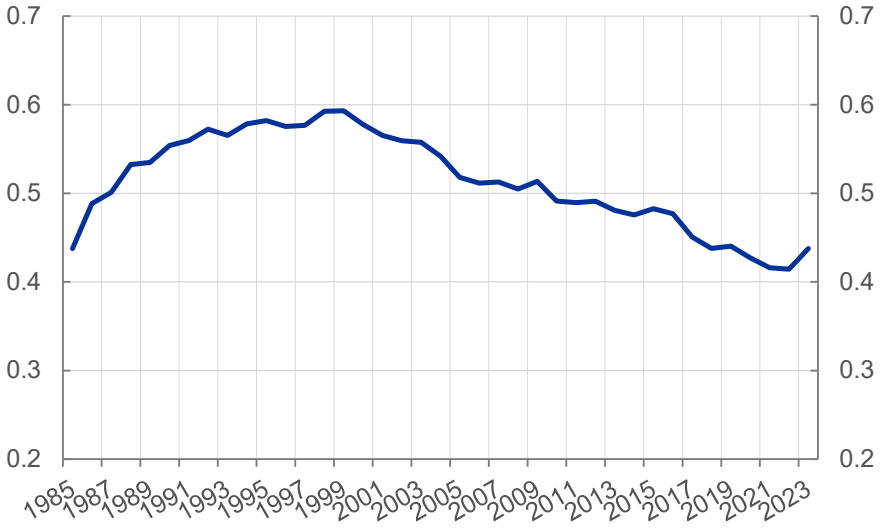
Notes: 'Liberal Democracy Index (V-Dem)' is a composite measure of the country's extent of suffrage, freedom and fairness of elections, freedoms of association and expression, individual and minority rights, equality before the law, and executive constraints. 'Liberal Democracy Index (Polity5)' is a composite index that captures the extent to which open, multi-party, and competitive elections choose a chief executive who faces comprehensive institutional constraints, and political participation is competitive. 'Trade share' is the share of imports from a trading partner out of all imports in a year. 'Log imports' is the natural logarithm of imports from a trading partner in a year. 'Exchange rate' is the exchange rate vis-à-vis the USD. 'GDP growth' is the year-on-year percentage change in GDP per capita. 'Population growth' is the year-on-year percentage change in population. Data come from Varieties of Democracy (V-Dem), the Center for Systemic Peace (Polity5), the UN (Comtrade), the IMF (Direction of Trade Statistics, or DOTS), and the Penn Tables.

Table 2: Top and bottom 20 countries in the Liberal Democracy Index

Rank	Country	LDI
#1	Denmark	0.883
#2	Sweden	0.852
#3	Estonia	0.845
#4	Switzerland	0.844
#5	Norway	0.836
#6	New Zealand	0.831
#7	Ireland	0.831
#8	Finland	0.820
#9	Costa Rica	0.816
#10	Belgium	0.814
#11	Germany	0.812
#12	France	0.810
#13	Czechia	0.805
#14	Australia	0.804
#15	Netherlands	0.800
#16	Luxembourg	0.798
#17	Chile	0.786
#18	Austria	0.773
#19	USA	0.772
#20	United Kingdom	0.772
…	…	…
#160	Burundi	0.059
#161	Cuba	0.058
#162	Equatorial Guinea	0.057
#163	Cambodia	0.057
#164	Venezuela	0.055
#165	Syria	0.054
#166	Bahrain	0.054
#167	Yemen	0.048
#168	Chad	0.047
#169	Sudan	0.046
#170	Saudi Arabia	0.046
#171	Tajikistan	0.041
#172	China	0.037
#173	Turkmenistan	0.036
#174	Belarus	0.036
#175	Afghanistan	0.030
#176	Nicaragua	0.027
#177	Burma/Myanmar	0.016
#178	North Korea	0.015
#179	Eritrea	0.010

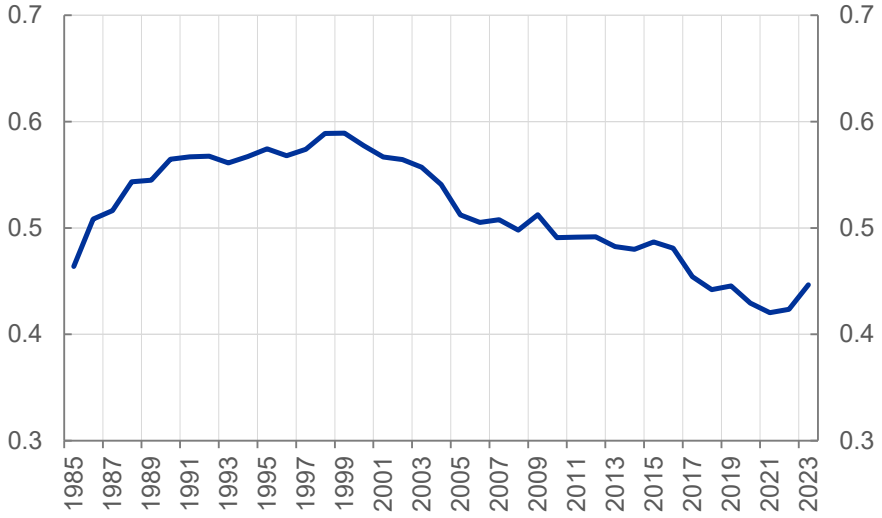
Note: The ranking is based on the Liberal Democracy Index (LDI) in 2023. Countries highlighted in blue are EU member states. Source: Varieties of Democracy.

Figure 1: Democracy-Weighted Trade Index for the EU-15: Headline result



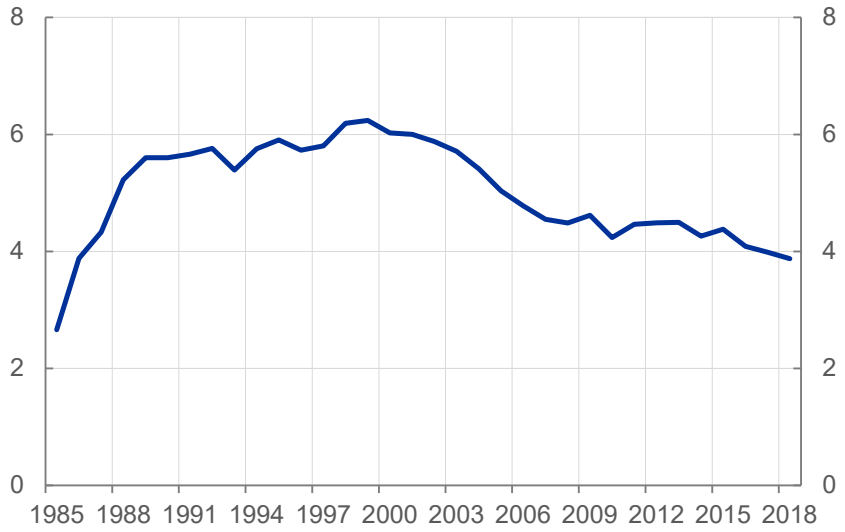
Note: The Democracy-Weighted Trade Index is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 import shares from each partner in each year (see Equation (1)). EU-15 countries are excluded from the group of trading partners. EU-15 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Figure 2: Democracy-Weighted Trade Index for the EU-15: Robust trade



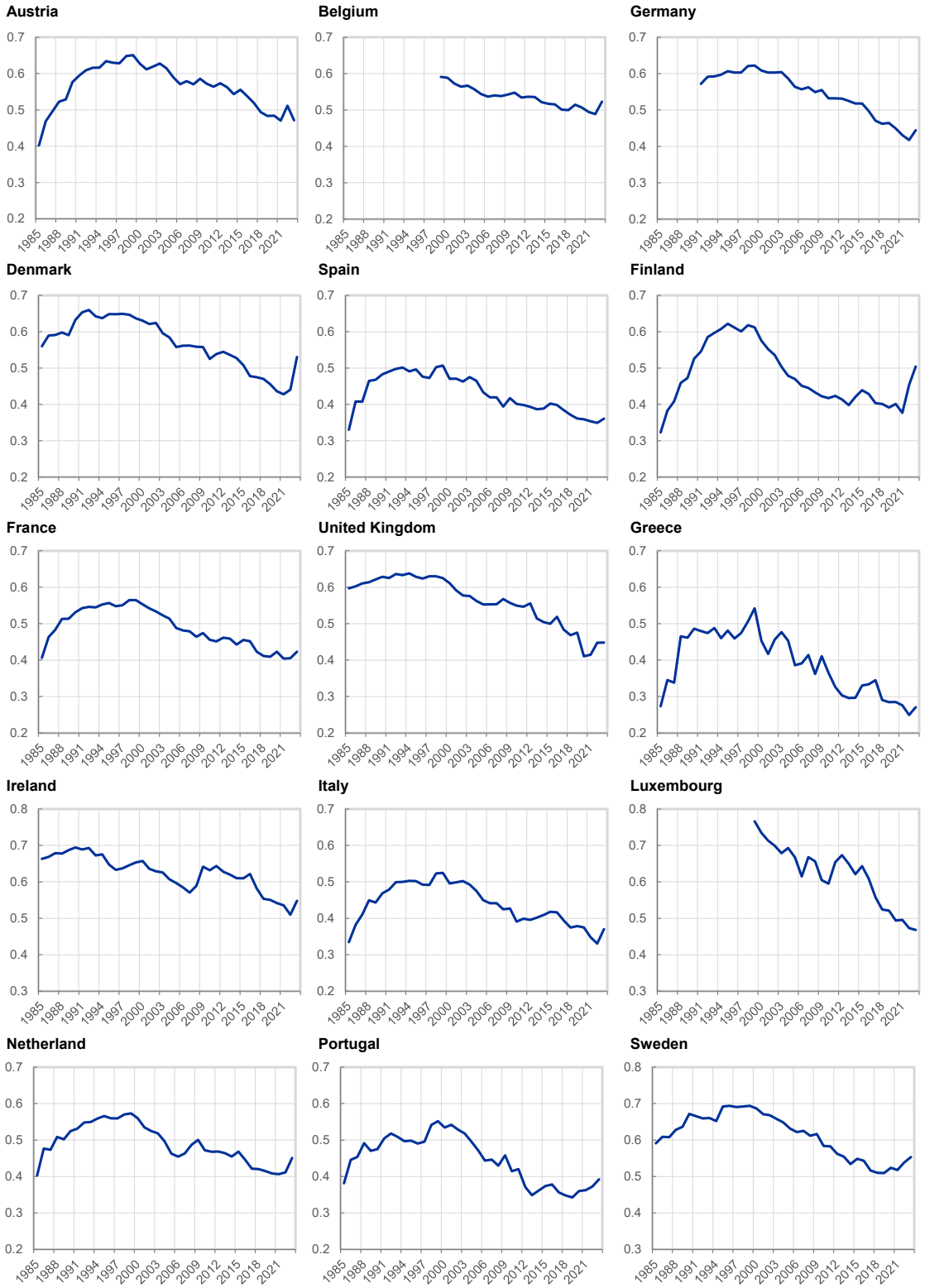
Note: The Democracy-Weighted Trade Index is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 import shares from each partner in each year (see Equation (1)). EU-15 countries are excluded from the group of trading partners. EU-15 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Data on bilateral trade come from the IMF's Direction of Trade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Figure 3: Democracy-Weighted Trade Index for the EU-15: Robust democracy



Note: The Democracy-Weighted Trade Index is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 import shares from each partner in each year (see Equation (1)). EU-15 countries are excluded from the group of trading partners. EU-15 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from the Center for Systemic Peace (Polity5).

Figure 4: Democracy-Weighted Trade Index for the EU-15: Individual countries

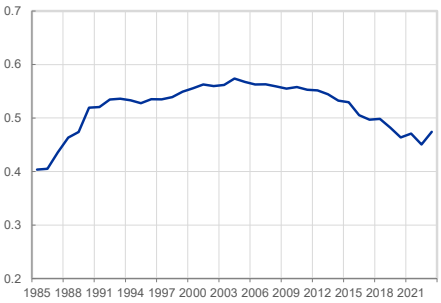


Note: The Democracy-Weighted Trade Index is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 import shares from each partner in each year (see Equation (1)). EU-15 countries are excluded from the group of trading

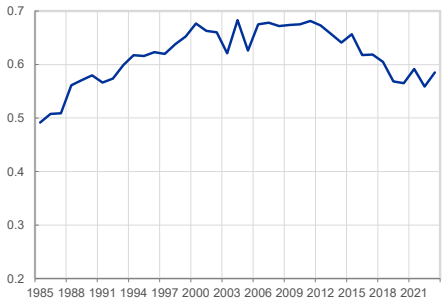
partners. Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Figure 5: Democracy-Weighted Trade Index for the EU-15: Individual sectors

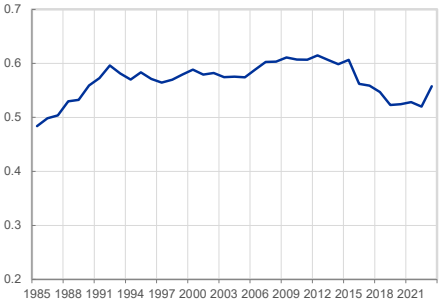
SITC 0 - Food and live animals



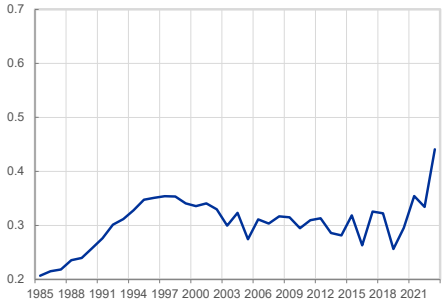
SITC 1 - Beverages and tobacco



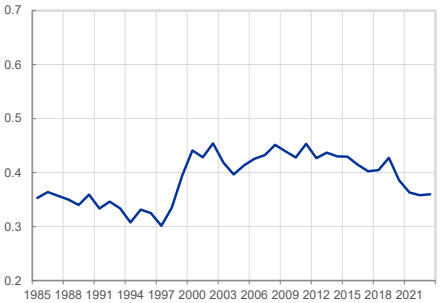
SITC 2 - Crude materials, inedible, except fuels



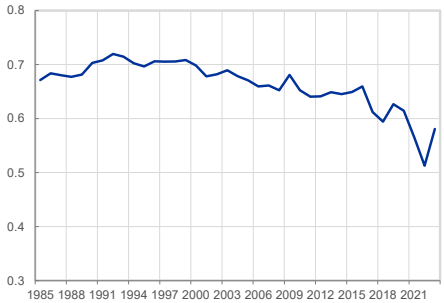
SITC 3 - Mineral fuels, lubricants and related materials



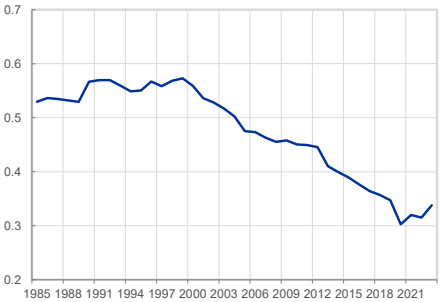
SITC 4 - Animal and vegetable oils, fats and waxes



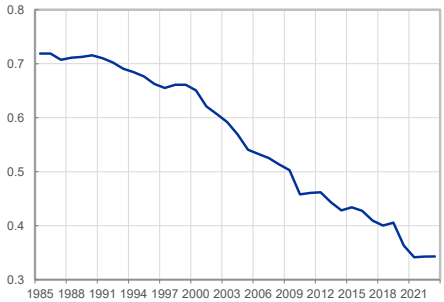
SITC 5 - Chemicals and related products, nes



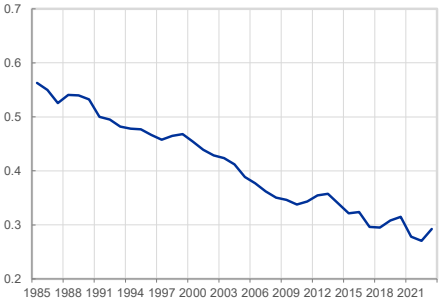
SITC 6 - Manufactured goods classified chiefly by materials



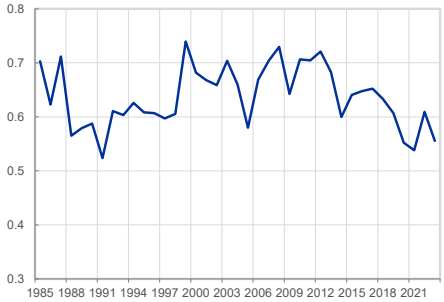
SITC 7 - Machinery and transport equipment



SITC 8 - Miscellaneous manufactured articles

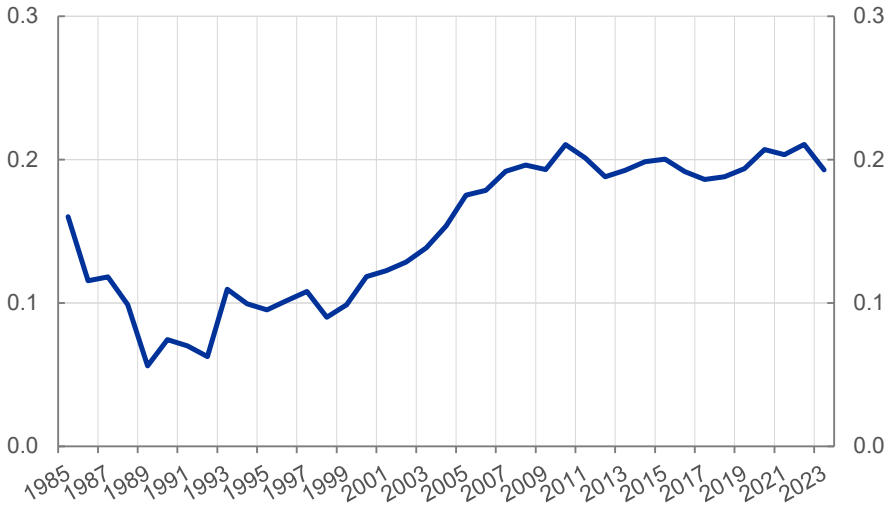


SITC 9 - Commodities and transactions not classified elsewhere in the SITC



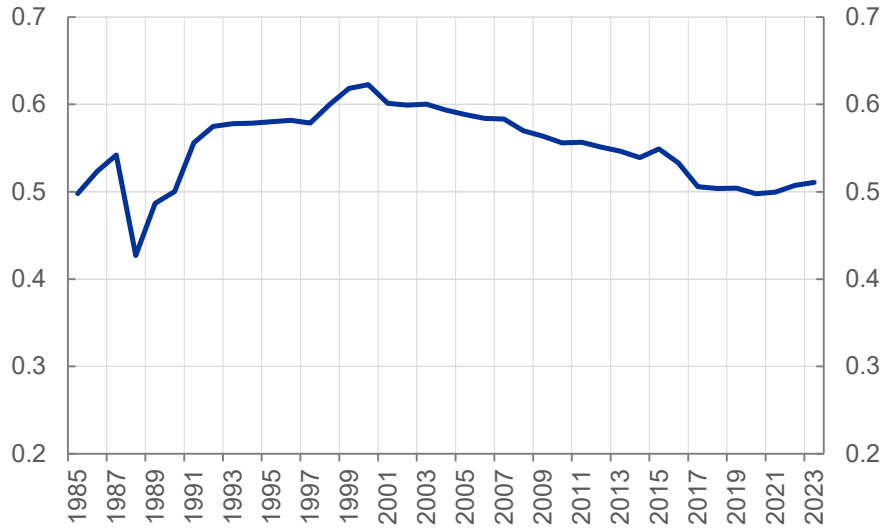
Note: The Democracy-Weighted Trade Index is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 import shares from each partner in each year (see Equation (1)). EU-15 countries are excluded from the group of trading partners. EU-15 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Figure 6: Share of imports into EU-15 from the bottom 20 countries in terms of democracy



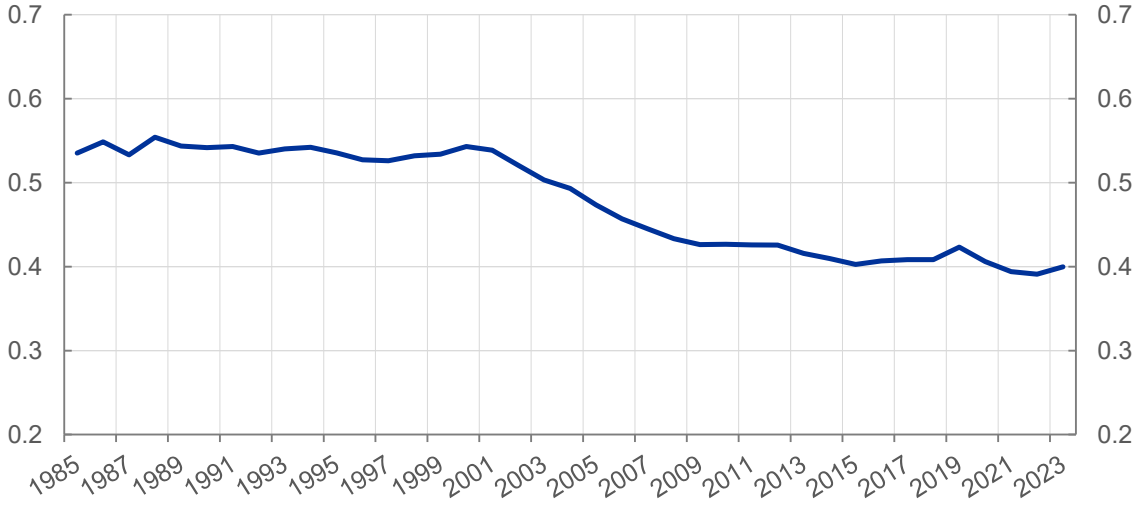
Note: The Figure plots the share of trade coming from the bottom-20 trading partners of the EU-15 in terms of liberal democracy indices. EU-15 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Figure 7: Democracy-Weighted Trade Index for the EU-15: Exports



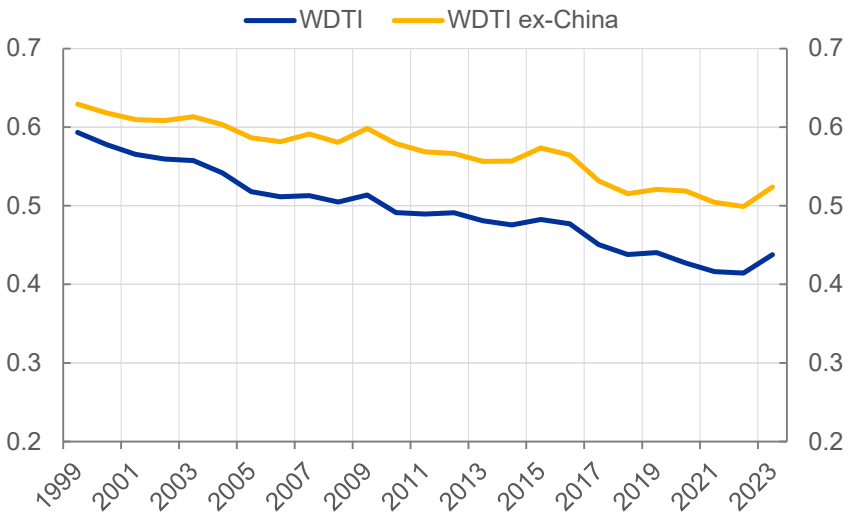
Note: The Democracy-Weighted Trade Index is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 export shares to each partner in each year (see Equation (1)). EU-15 countries are excluded from the group of trading partners. EU-15 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Figure 8: Democracy-Weighted Trade Index for the US



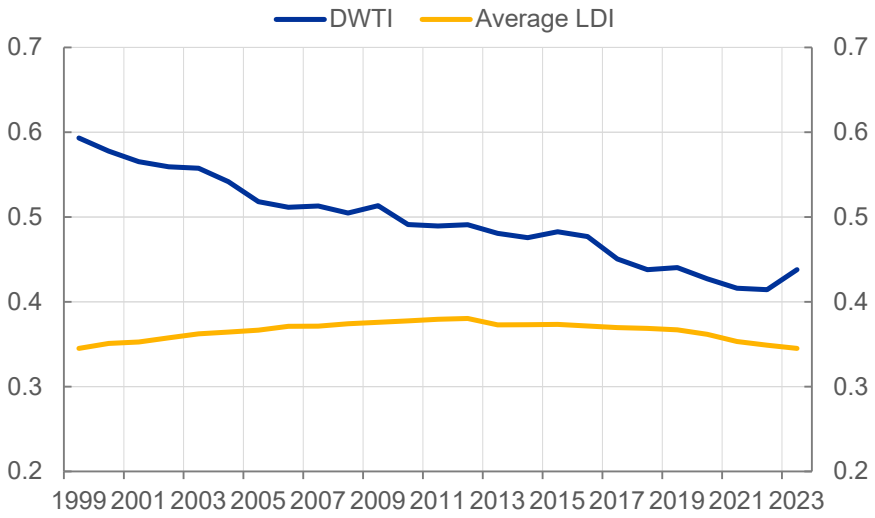
Note: The Democracy-Weighted Trade Index is computed as weighted average of the US partner countries' liberal democracy indices using as weights the US import shares from each partner in each year (see Equation (1)). Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Figure 9: Democracy-Weighted Trade Index for the EU-15: Excluding China



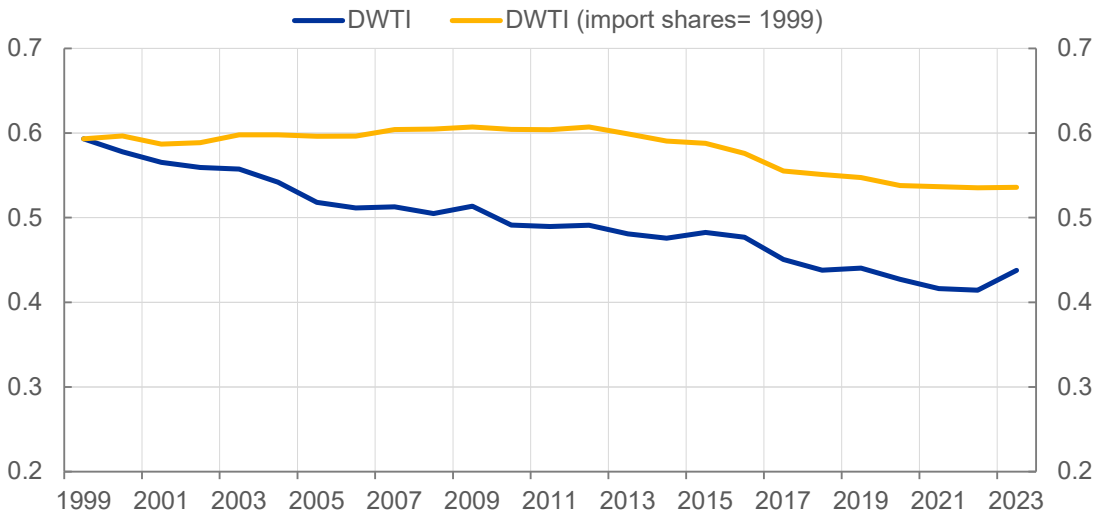
Note: The Democracy-Weighted Trade Index is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 import shares from each partner in each year (see Equation (1)). EU-15 countries and China are excluded from the group of trading partners. EU-15 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Figure 10: Democracy-Weighted Trade Index for the EU-15: Average Index



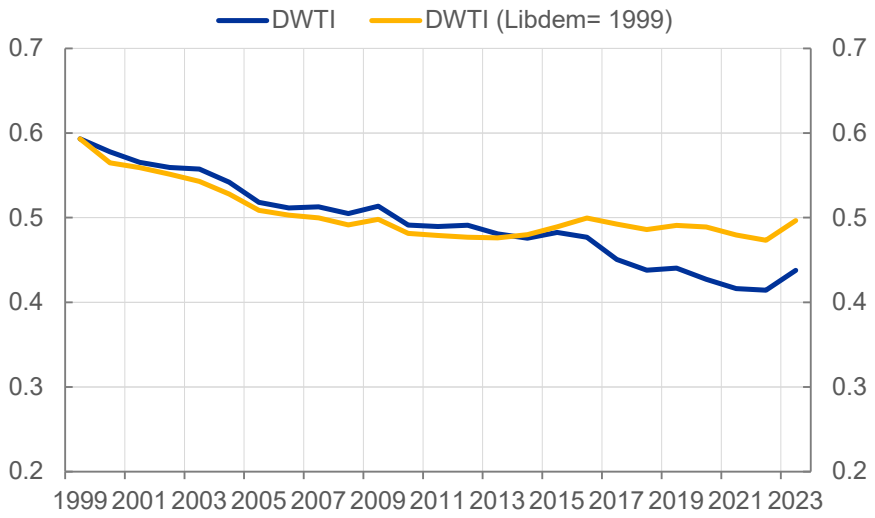
Note: The Democracy-Weighted Trade Index (DWTI) is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 import shares from each partner in each year (see Equation (1)). The Average Liberal Democracy Index (Average LDI) is computed as an average of the non-EU-15 partner countries' liberal democracy indices using equal weights for each partner in each year. EU-15 countries are excluded from the group of trading partners. EU-15 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Figure 11: Democracy-Weighted Trade Index for the EU-15: Import shares fixed in 1999



Note: The Democracy-Weighted Trade Index (DWTI) is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 import shares from each partner in each year (see Equation (1)). The DWTI (import shares=1999) is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 import shares from each partner, fixed in 1999. EU-15 countries are excluded from the group of trading partners. EU-15 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Figure 12: Democracy-Weighted Trade Index for the EU-15: Liberal Democracy Index fixed in 1999



Note: The Democracy-Weighted Trade Index (DWTI) is computed as weighted average of the non-EU-15 partner countries' liberal democracy indices using as weights the EU-15 import shares from each partner in each year (see Equation (1)). The DWTI (Libdem=1999) is computed as weighted average of the EU-15 import shares from each partner, using as weights non-EU-15 partner countries' liberal democracy indices fixed in 1999. EU-15 countries are excluded from the group of trading partners. EU-15 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Data on bilateral trade come from the UN's Comtrade. Data on the liberal democracy index come from Varieties of Democracy (V-Dem).

Table 3. Trading partner democracy and imports: Global sample

	Log (Imports)		
	(1)	(2)	(3)
Partner LDI	-0.2407**	-0.4629***	
	(0.1042)	(0.1462)	
Partner LDI × Importer LDI		0.4650**	0.6007***
		(0.2046)	(0.2046)
Partner exchange rate	-0.1810***	-0.1810***	
	(0.0308)	(0.0309)	
Partner GDP growth	0.3187*	0.3175*	
	(0.1890)	(0.1888)	
Partner population growth	-0.1000	-0.1053	
	(2.0415)	(2.0421)	
Importer × Year FEs	Yes	Yes	Yes
Importer × Partner FEs	Yes	Yes	Yes
Partner × Year FEs	No	No	Yes
Clustering		Importer, Year	
# observations	383,564	383,343	383,343
R-squared	0.88	0.88	0.89

Note: The Table reports estimates from a regression of the natural logarithm of imports (see Equation (2)). 'Partner LDI' is the Liberal Democracy Index of each trading partner, by year, from V-Dem. 'Importer LDI' is the Liberal Democracy Index of each importer, by year, from V-Dem. 'Partner's exchange rate' is the trading partner's exchange rate vis-à-vis the USD, from the Penn Tables. 'Partner's GDP growth' is the trading partner's year-on-year percentage change in GDP per capita, from the Penn Tables. 'Partner's population growth' is the trading partner's year-on-year percentage change in population, from the Penn Tables. The sample period is 2000–2023. The regressions are estimated using OLS and high-dimensional fixed effects as specified. Standard errors clustered at importer and year in parentheses, where ***, **, and * indicates significance at 1%, 5%, and 10%, respectively.