

TRADE VOLUMES STAGNATE WHILE PRICES RISE DUE TO LOGISTICS BOTTLENECKS

KEY MESSAGES

- Global merchandise trade has stabilized at levels above pre-pandemic but hides divergent trends for quantities (weakening since early 2021) and prices of trade goods (which continue to increase).
- Global services trade has reached pre-pandemic levels, although travel services remain depressed with tourist arrivals still 60 percent below 2019.
- Transport services are recovering strongly; they exceeded telecommunication, computer, and information services in September, for the first time since the pandemic started.
- Stresses on the global logistics systems remain high, as are delays and prices, albeit the momentum has slowed down in recent months.

SPECIAL FOCUS

- Understanding the economic impact of the EU Carbon Border Adjustment Mechanism (CBAM)

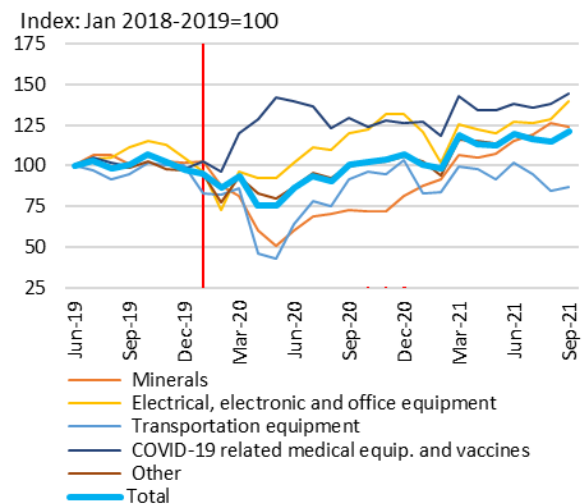
RECENT TRENDS

Merchandise trade

Global merchandise trade remains broadly stable at levels around 20 percent above pre-pandemic (Figure 1). Trade values were up 6 percent in September 2021, relative to August 2021. The slight MoM pick-up in global trade in September correlates with increases in trade in electrical equipment and medical products (including COVID-19 related). Trade in transport equipment was relatively stable in September 2021 relative to August, and below pre-pandemic levels by close to 10 percent. Trade in all other product groups exceeded pre-pandemic levels by at least 20 percent.

Trade values hide divergent trends in volumes (which proxy for quantities) and unit values (Figure 2). According to the World Trade Monitor, published by the CPB Netherlands Bureau for Economic Policy Analysis, volumes were down 0.8 percent in September, compared to August, and had been gradually slowing down (from a 7 percent YoY growth in April 2021 versus April 2017-2019 to 3.5 percent in September 2021 versus September 2017-2019). By contrast, unit values increased by 0.7 percent in September 2021, compared to August 2021, and were up by 14 percent from pre-pandemic levels (compared to 10 percent YoY growth in April 2021 versus April 2017-2019). Among developing countries, commodity exporters benefited from

Figure 1. Global trade in current U.S. dollars, not seasonally adjusted (n.s.a), by product group



This note has been prepared by the Global Trade and Regional Integration Unit of the World Bank. It has been prepared by a team led by Cristina Constantinescu and Michael Ferrantino, with contributions from Jean Francois Arvis, Karly Dairabayeva, Ian Gillson, Karen Muramatsu, Mike Nyawo, Daria Ulybina, and Pratyush Dubey, under the guidance of Antonio Nucifora (Practice Manager). For further information please contact Cristina Constantinescu at ineagu@worldbank.org

the rise in commodity prices during the recovery period. However, going forward, their terms of trade could worsen if inflation pressures extend to manufacturing and products in the import basket.

Services Trade

Global services trade has also recovered, and in September 2021 was at a level only slightly below that pre-pandemic. Comparing 2021 values with those in 2019 (Y2Y change), services exports were 1.4 percent lower and imports 3 percent lower. On a monthly basis, exports were 2.2 percent higher, and imports were 1.3 percent higher in September.

Aggregate data for 14 economies highlights that services sectors have recovered, except for travel services, which remains the most affected by the pandemic (Figure 3). Transport services have experienced a strong recovery in recent months, and as of September 2021, they had increased by more than all other services categories.

The number of commercial flights in late November was 82 percent of the corresponding levels for the same period in 2019, but up 34 percentage points from 2020. However, international tourism arrivals in September remained depressed at 37 percent in the same month in 2019, and at only 6 percent for Asia and the Pacific, the most affected region globally (Figure 4).

Logistics constraints

Despite a 10 percent decline in November 2021 compared to October, stresses on the global logistics systems remain historically high, 10 times above those in pre-pandemic times and 3 times higher than November 2020 (Figure 5). Underlying these developments is the continued tension between the strong global demand for goods and the operational disruptions in ports and hinterlands of key trading economies -- notably China and the U.S., which together account for 12 percent of the global container fleet of Panamax or larger class ships. Traffic delays in North America are still triple compared to pre-pandemic years, although their growth on an MoM basis has somewhat eased in recent months (Figure 5). Prices remain high but have stabilized somewhat in recent months (according to early December 2021 data for the Shanghai Containerized Freight Index).

Sources:

1: Staff estimates using Global Economic Monitor, data from WTO, IMF International Financial Statistics, OECD, and official data from China, Eurostat, Japan, UK, and the USA. 2: CPB World Trade Monitor. 3: Estimates based on WTO and UNCTAD data. 4: WBG staff based on World Tourism Organization data. 5: WBG staff based on data from MarineTraffic's Automatic Identification System (AIS). Ship tracking data for Automated Identification System (AIS) reveals real-time information on trade in motion. The analysis has been conducted using a calling event database prepared for the World Bank by MarineTraffic, covering over 7,000 ships calling at over 1,000 ports worldwide. The focus is on container shipping, as opposed to commodity freight in bulk. Container shipping carries manufactured goods and is representative of GVCs. The main indicator is instant (weekly) capacity calling countries or regions, measured in capacity units of Twenty-Foot Equivalent (TEU) boxes (Atlantic ports of France, Spain, Portugal).

Notes:

1: Mirror data is used when data for recent months are missing. Lines depict the average of exports and imports normalized by the average across selected pre-pandemic years. 3: The global aggregate includes data on services exports and imports. Data includes 14 economies that reported in September 2021, which accounted for a total of approximately 38 percent of global services exports and 39 percent of global services imports in 2017 (UNCTAD). 5: The stress index is an estimation of shipping capacity additionally mobilized or stalled at ports when excessive delays are observed over historical port-to-port lead time.

Online Excel data:

Some of the figures in the text as well as additional data corresponding to the merchandise, services, and logistics sections can be found in the online Excel file that accompanies [Trade Watch](#). The file includes data used in the latest issue. Data for previous issues can be shared upon request.

Figure 2. Trends in global trade in constant U.S. dollars vs. trends in unit values

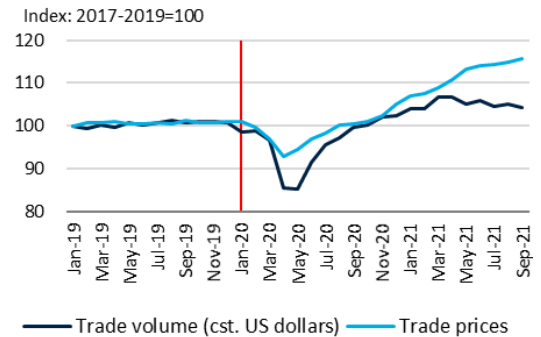


Figure 3. World services trade, by type

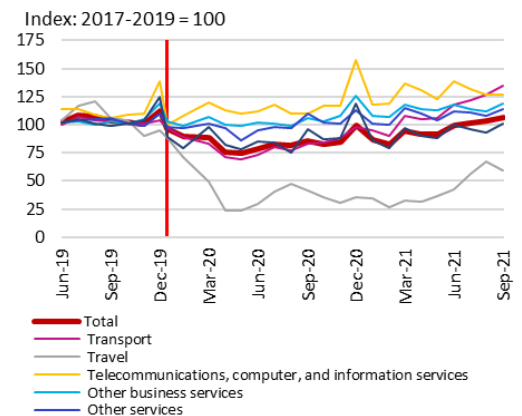


Figure 4. International Tourism by Region (YoY % change)

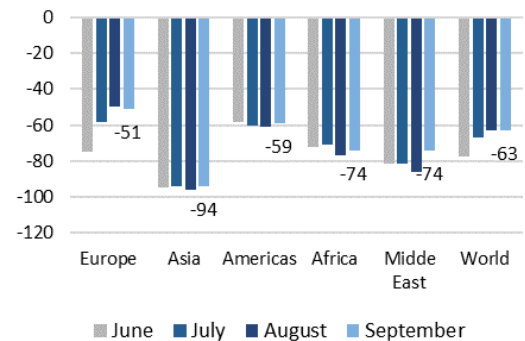
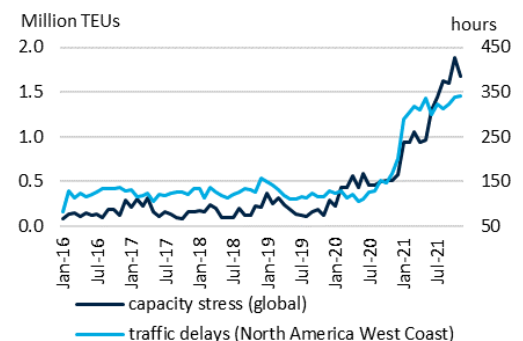


Figure 5. Global supply chain capacity stress (million TEUs) and traffic delays (hours), up to November 2021



THE EU CARBON BORDER ADJUSTMENT MECHANISM (CBAM) AND ITS LONG-TERM ECONOMIC IMPACT

The EU CBAM aims to equalize the price of carbon between EU domestic products and imports. Having set greenhouse gas (GHG) emission targets under the auspices of the Paris Agreement, the EU has recently pushed the bar higher, with its European Green Deal package announced in July 2021 (EC 2021). As part of the deal, the EU has committed to a 55 percent reduction in carbon emissions compared to 1990 levels by 2030, and zero net emissions by 2050. However, the increase in the differential from other countries' emission targets (Figure 1a) implies wide variation in the cross-country domestic carbon prices, which raises the possibility of "carbon leakage" and dents in competitiveness for EU firms. This creates the need for implementing the EU Carbon Border Adjustment Mechanism (CBAM), which is essentially a border tax aimed at leveling out the playing field for EU and foreign firms and hopefully incentivizing trade partners to strengthen their own climate efforts. The EU CBAM was announced in July 2021 and will be operational by 2026, following a three-year transition period (EC 2021).

The EU CBAM will have the following features: (i) it will be based on purchasing of carbon certificates by imports, just like in the case of the EU Emissions Trading System (ETS) [1,2]; (ii) the price will be the one applicable for goods produced under the EU carbon pricing rules and the non-EU producers that have already paid in a third country will be entitled to a deduction of the corresponding cost; (iii) the "scope" of the sectoral coverage will be expanded gradually: in the initial stage (or "scope 1"), the focus will be limited to direct carbon emissions (i.e., from an industry's own or controlled sources) in imported cement, iron and steel, aluminum, fertilizers, and electricity; in the second stage (or "scope 2"), the carbon content will also account for indirect emissions (i.e., carbon emissions from the electricity, heat and steam used to produce a good) and it will be extended to other products, namely coking coal, asphalt bitumen, petroleum products, chemicals, glass and ceramics and non-ferrous metals; and the final stage (or "scope 3") will cover all other indirect emissions in the supply chain (and may be extended to cover more products); (iv) it will apply to all trading partners, except Switzerland and members of the European Economic Area; the UK might also be exempted provided it links its ETS with the EU ETS; and, (v) it will aim to comply with the WTO rules, not discriminating between domestic and foreign firms.

Expected impact of the EU CBAM based on CGE simulations

From the EU perspective, and given the implementation as a tax on imports, the EU CBAM is expected to reduce EU imports in the products included in its "scope" and increase their domestic production. From the perspective of non-EU countries, EU CBAM decreases exports and production of energy-intensive trade-exposed (EITE) industries, depending on the share of exports to the EU in the affected sectors and the carbon intensity of those exports. Thus, countries in Europe and Central Asia and in the Middle East and North Africa are likely to see the largest negative impacts, given their large share of carbon-intensive exports to the EU (Figure 1b). However, the declines are expected to be partially offset by increases in the production of goods that are less carbon-intensive (or outside the scope of the CBAM), which become more competitive under CBAM.

The results of the CGE simulations are in-line with these expectations. The analysis also indicates that while the sectoral impacts may be significant, the magnitude of the impact at the aggregate level tends to be small [3]. These findings are highlighted using two scenarios: the first simulates the implementation of both import and domestic carbon pricing (i.e., the EU CBAM plus the full implementation of the NDCs by all countries by 2030 and the implementation of the EU Green Deal emissions target by the EU); the second scenario simulates the implementation of only domestic carbon pricing (i.e., the NDCs and the EU Green Deal targets, but not the EU CBAM). The main results highlight that:

- **The EU CBAM strongly discourages energy-intensive imports from outside the EU** and, in fact, more than offsets increases related to the domestic carbon pricing in the corresponding sectors (Figure 2a). Sizable negative impacts of EU CBAM are on EITE sectors, notably chemicals, electricity, metals, and non-metallic minerals (which produce CBAM-covered products) [4]. Sectoral declines range from 10 percent for petroleum products to 50 percent for electricity. In contribution terms, chemicals are the largest driver of the overall import decline, contributing -2 percentage points to the -3 percent effect of the EU CBAM (Figure 2b).
- **The EU CBAM encourages reallocation of production towards industries less affected by the import carbon price.** EU imports of downstream manufacturing sectors and services (textiles/apparel, vehicles, electronics, and other manufacturing, as well as in transport and other services) pick up and contribute collectively 1 percentage point to the effect of the EU CBAM on EU bilateral imports (Figure 2b).

**This Special Focus has been prepared by Cristina Constantinescu (Economist, ETIRI), Michael Ferrantino (Lead Economist, ETIRI) and Maryla Maliszewska (Senior Economist, ETIRI) under the guidance of Antonio Nucifora (Practice Manager, ETIRI).*

[1] EU ETS as well as other countries' ETS set a cap on the amount of greenhouse gas emissions that can be released from industrial installations in certain sectors. The cap can be exceeded by purchasing allowances on the ETS trading market. In the case of the EU, free allowances are also distributed to contain carbon leakage, but these will be gradually phased out for CBAM sectors (gradually between 2026 and 2035).

[2] Other modalities of implementation of CBAM include tariffs on imported goods or tax exemptions for exporters.

[3] Chepeliev, 2021, UNCTAD, 2021; Kuusi et al., 2020; World Bank, 2022a, 2022b.

[4] Different from the EU CBAM, the negative effects of domestic carbon prices are the largest in fossil fuels industries: coal, gas, etc.

- **The decline in bilateral trade due to EU CBAM translates into small declines in aggregate export and output**, mostly limited to countries that are EU trade-exposed in energy-intensive products notably from Europe and Central Asia (ECA), to a lesser extent from Middle-East and North Africa (MENA), South Asia (SAS), and Sub-Saharan Africa (SSA); (Figure 2c & 2d). More specifically:

Exports: The largest CBAM-related decline in aggregate exports of non-EU regions is of a 1.5 percent reduction from ECA (yellow bars in Figure 2c). SSA, MENA, and SAS also experience CBAM-related smaller declines in exports (in percentage terms). EU exports decline by 2.5 percent, which is mostly the result of changes in the domestic carbon pricing (associated with NDC/EU Green Deal). The negative effect associated with CBAM is consistent with the fact that CBAM is implemented as a tax on imports (and therefore does not compensate exporters for the loss of competitiveness abroad).

Output: The declines in output related to the EU CBAM (yellow bars in Figure 2d) are even smaller than those in aggregate exports. The output in the EU increases slightly, as domestic producers become more competitive. As for global output, there is hardly any change, consistent with the notion that CBAMs have primarily a reallocation effect, correcting distortions induced by the cross-country heterogeneity of domestic carbon prices.

The reassuring message regarding the limited impact of the EU CBAM on total trade and output should not be taken for granted, however, as the analysis is limited by a series of caveats.

While the impact of the EU CBAM may be expected to be limited initially (as it will cover only direct emissions of a small number of products under scope 1, there are several reasons why the impact is likely to become greater over time. First, other countries are likely to introduce similar mechanisms, and the product and scope coverage of CBAMs will expand as more countries adopt them. Second, future shifts in technology and consumer demand towards cleaner products might lead to fundamental changes to the type of goods that countries export and import. Third, firms are likely to implement changes in their production processes to ensure that they remain competitive in a low carbon future, hand in hand with investments in certification of the carbon intensity of their products. Moreover, while the initial impacts may not be large at the aggregate level, it is likely that some of the impacts will be locally focused, reflecting the geographical concentration of the industries affected by CBAM, and as such the social impacts (including on unemployment and poverty) at the local level may be much more significant.

REFERENCES

European Commission (EC). 2021. *Proposal for a Regulation of the European Parliament and of the Council Establishing a Carbon Border Adjustment Mechanism*. Brussels, 14.7.2021. https://ec.europa.eu/info/sites/default/files/carbon_border_adjustment_mechanism_0.pdf

World Bank, 2022a, "Reshaping Global Value Chains in Light of COVID-19: Implications for Trade and Poverty Reduction in Developing Countries," (forthcoming)

World Bank, 2022b, *Turkey Country Climate and Development Report* (forthcoming)

Chepeliev, M. 2021. *Possible Implications of the European Carbon Border Adjustment Mechanism for Ukraine and Other EU Trading Partners*. *Energy RESEARCH LETTERS*. 2(1):1–6, *Asia-Pacific Applied Economics Association*. <https://doi.org/10.46557/001c.21527>

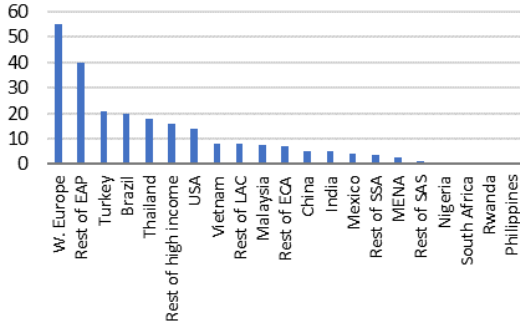
United Nations Conference on Trade and Development (UNCTAD). 2021. *A European Union Carbon Border Adjustment Mechanism: Implications for developing countries*. https://unctad.org/system/files/official-document/osginf2021d2_en.pdf

Kuusi, T., Björklund, M., Kaitila, V., Kokko, K., Lehmus, M., Mechling, M. and Wang, M. 2020. *Carbon Border Adjustment Mechanisms and Their Economic Impact on Finland and the EU*. https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162510/VNTEAS_2020_48.pdf

Figure 1: Emissions by region, and shaping factors of the EU CBAM impact

a. NDC and EU green deal greenhouse gas emission targets by region

Emission targets vary greatly by country



b. Shares of exports to the EU in GDP and shares of carbon intensive products in total exports to the EU by region

ECA and MENA are likely to be impacted more by EU CBAMS

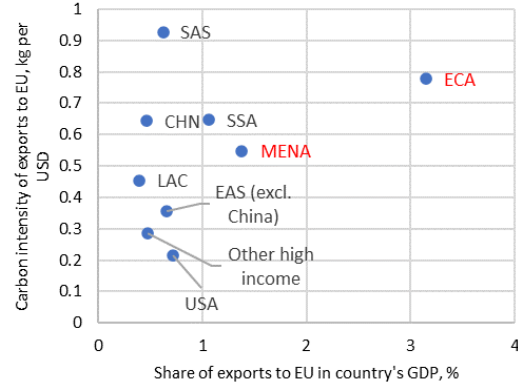
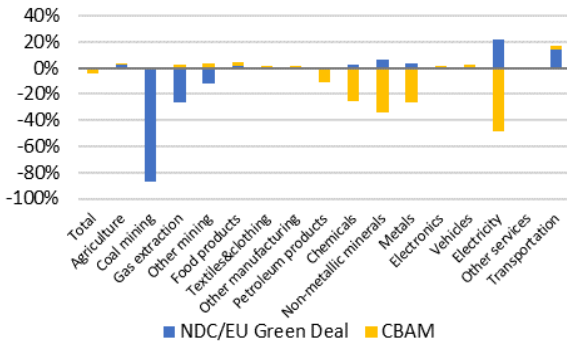


Figure 2: Impact of the domestic and import carbon pricing on trade and output in 2030, relative to the baseline

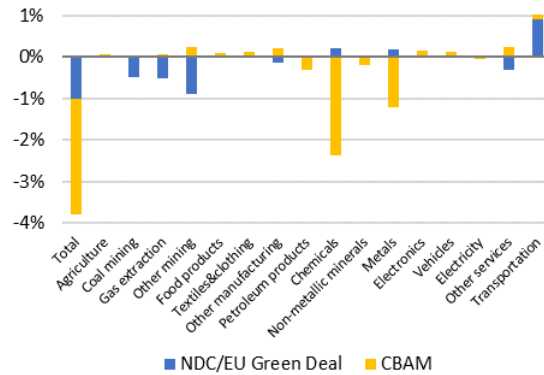
a. EU imports by product, % change in 2030, relative to the baseline (excludes intra-EU imports)

EU CBAM discourages imports of energy-intensive products.



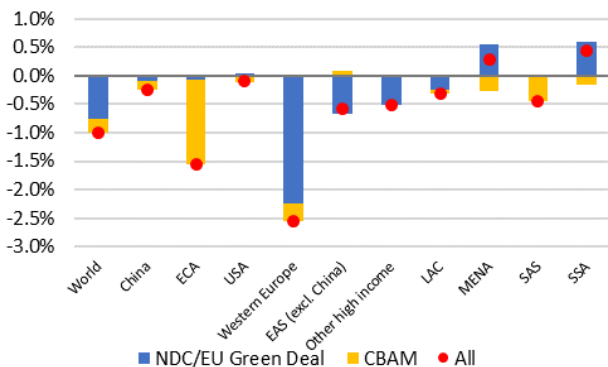
b. EU imports by product, contributions to % change in 2030, relative to the baseline (excludes intra-EU imports)

CBAM triggers a moderate increase in imports of downstream manufacturing products.



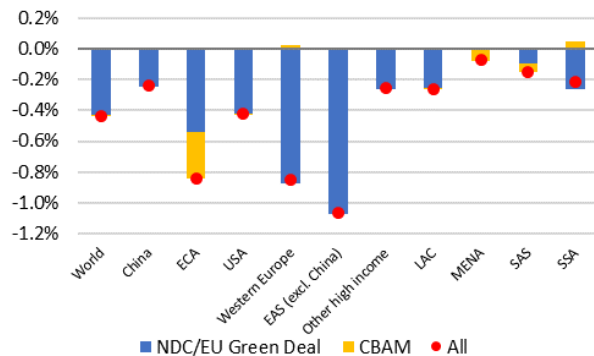
c. Impact on aggregate exports by region, % change in 2030 relative to the baseline

Export declines affect most but not all regions in the NDC – EU Green Deal scenario, and are concentrated to the few regions that also see output declines, in the CBAM scenario.



d. Impact on output by region, % change in 2030 relative to the baseline

Small total output declines across the board from domestic carbon prices, and CBAM related declines concentrated in few regions.



Note: EU is included in Western Europe, together with the UK and EFTA countries.