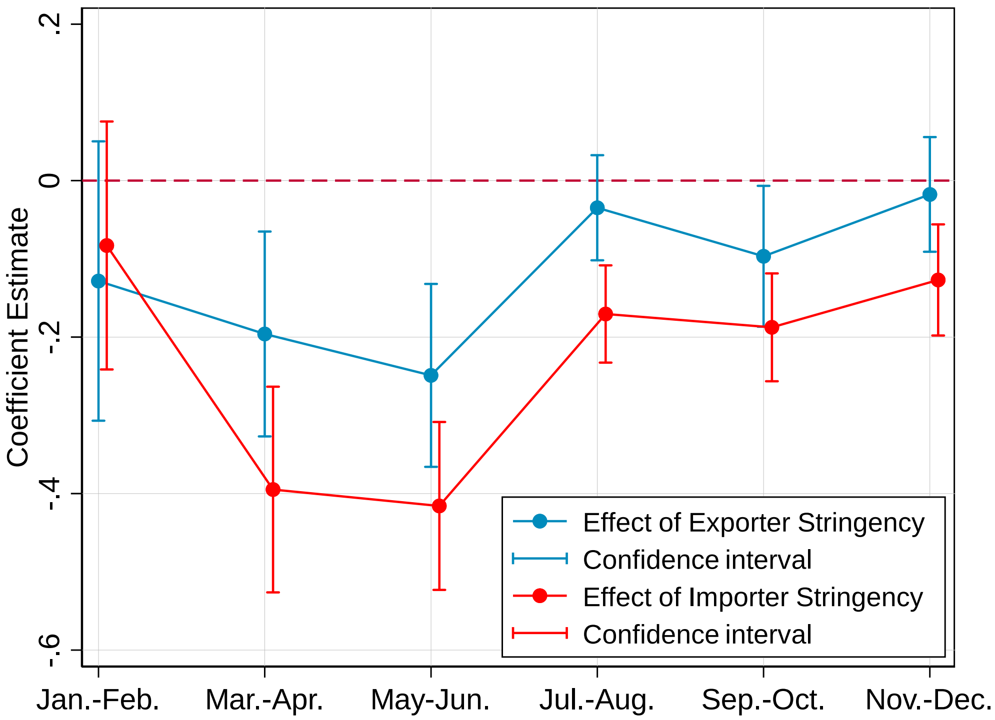
The impact of lockdowns on international trade

By Antoine Berthou and Sebastian Stumpner

Lockdowns and more generally restrictions introduced by governments during the Covid-19 pandemic contributed to the disruption of international trade in goods. We show that bilateral trade declined more when lockdowns were initially introduced in Spring 2020 with a higher degree of stringency. Moreover, the quantitative impact of lockdowns on trade weakened in the second half of 2020. This is especially the case of lockdowns implemented in the exporting country, which have little or no significant impact on trade in the second half of 2020.

Chart 1: The effect of lockdowns on bilateral trade has become weaker over time in 2020.



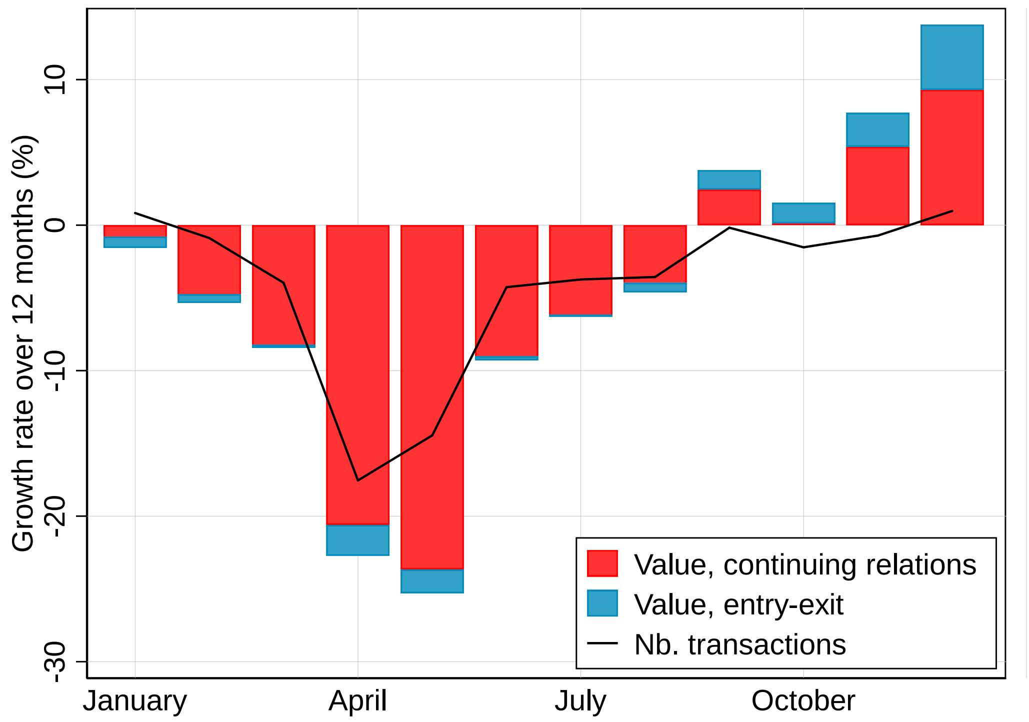
Note: Months of the year 2020. Coefficients (and 95% confidence intervals) estimated from export and import equations, where the main variable of interest is the degree of lockdown stringency in the partner country. Equations are estimated in a panel, and rely on trade data from the Trade Data Monitor and Lockdown stringency from the University of Oxford. For details, see Berthou and Stumpner (2020, forthcoming).

Collapse and rebound of global trade during the Covid-19 pandemic.

The Covid-19 pandemic forced governments to introduce a series of restrictions, with various degrees of stringency over time and across space, which strongly disrupted economic and social activity. These restrictions affected in particular people's capacity to reach workplaces, consume or travel. They contributed to disorganising production, especially when firms needed to coordinate with their suppliers and their clients. For firms involved in international trade, the capacity to operate across borders suffered from a combination of supply and demand shocks related to these restrictions. Disruptions in international transportation logistics introduced an additional layer of complexity for cross-border transactions.

Chart 2 reports the yearly growth rate of goods' exports for a group of 31 countries. This group of countries includes the largest trading nations globally and trade growth of these countries is therefore a good proxy for the growth of world trade.

Chart 2: World trade plummeted during the first wave in 2020, but recovered swiftly.



<u>Note</u>: Authors calculations based on data from the Trade Data Monitor (TDM) for 31 reporting countries accounting for about 75% of global trade. Exports are measured in current USD. A trade relation is represented by an exporting country, an importing country and a product detailed at the 6-digit level of the Harmonized System of the product nomenclature of the United Nations. A "Continuing relation" corresponds to a trade relation that remains "active" (i.e. is represented by a positive value of trade) in a given month in two consecutive years (e.g. April 2019 and April 2020). The value of entry minus exit corresponds to the change in total bilateral exports, which is explained by new trade relations being created over twelve months, and trade relations being terminated. A positive value implies net trade creation, while a negative value implies net trade destruction. Based on Berthou and Stumpner (2021).

The chart shows that the global trade value plummeted in the spring of 2020, at the time when many countries introduced lockdowns and other restrictions connected to Covid-19. In April and May 2020 in particular, the total value of exports declined by about 25% compared with the same month in the previous year. This is due to a smaller amount of exports within continuing trade relations (exporting country, importing country and detailed product), and also, to a lesser extent, due to a decline in the number of transactions (number of foreign trade partners and products exported).

The recovery in global exports started in June 2020 and exports had already recovered to pre-crisis levels in September 2020. Strikingly, the recovery continued in the fall of 2020 at a rapid pace, despite new lockdowns being introduced in Europe during the second wave of the pandemic.

Exports plummeted more in countries with stricter lockdowns.

The decline in country-level exports during the first wave of the pandemic is closely related to the stringency of the restrictions implemented by governments.

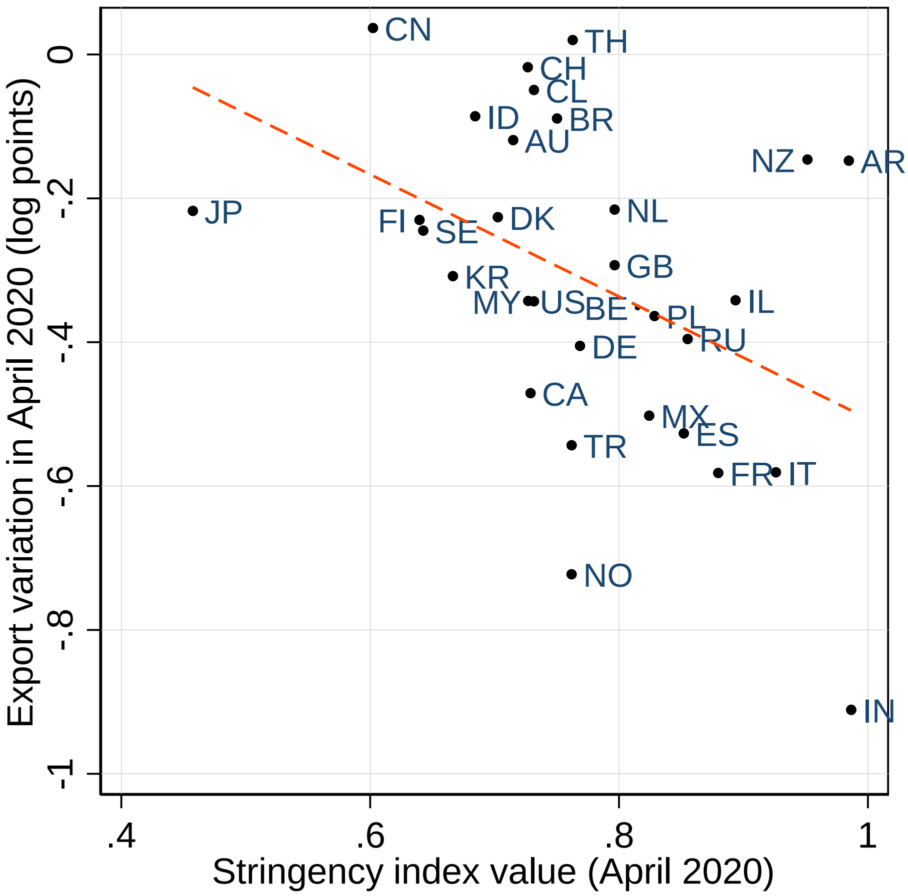
This finding is based on Chart 3 where data on export growth by country between April 2020 and April 2019 and data on lockdown stringency by country in April 2020 are combined. Lockdown stringency accounts for all restrictions that were implemented by governments, including workplace closures, school closures, restrictions on gathering or restaurants, shops closures, or restrictions on transportation and international travel. Chart 3 shows that countries that implemented stricter restrictions in April 2020 experienced a larger decline in their exports.

In a country like France where these restrictions were particularly severe in the spring of 2020, a very sharp drop in the value of exports compared with the previous year is observed. In countries where fewer restrictions were introduced, either because of a different management of the pandemic (Sweden) or because of a less severe pandemic wave (Japan), aggregate exports declined much less.

In a more detailed analysis, Berthou and Stumpner, (Banque de France mimeo, 2021) quantitatively assess the effect of restrictions' stringency on both exports and imports, using bilateral trade data detailed at the product-level. Their estimations confirm that the value of bilateral trade between countries declined more when restrictions were implemented with a higher degree of stringency. This conclusion remains valid even when additional controls are introduced in the estimation, for example to account for cross-country differences in the dynamics of the pandemic, which could have affected exports and imports on top of the severity of the restrictions implemented by governments.

Chart 3: In the first wave, countries with stricter lockdowns saw a larger decline in exports

(Year on year export variation and lockdown's stringency in April 2020)



<u>Note</u>: Vertical axis: Year-on-year growth of monthly export value (Trade Data Monitor); Horizontal axis: University of Oxford's lockdown stringency index. Based on Berthou and Stumpner (2021). Countries: AR Argentina; AU Australia; BE Belgium; BR Brazil; CA Canada; CH Switzerland; CL Chile; CN China; DE Germany; DK Denmark; ES Spain; FI Finland; FR France; GB United Kingdom; ID Indonesia; IL Israel; IN India; IT Italy; JP Japan; KR Korea; MX Mexico; MY Malaysia; NL Netherlands; NO Norway; NZ New Zealand; PL Poland; RU Russia; SE Sweden; TH Thailand; TR Turkey; US United States.

The impact of restrictions on trade has become weaker over time.

Chart 1 in this blog shows the evolution of the effect of lockdowns, implemented in the exporting country (blue line) or importing country (red line), on bilateral trade over time. When restrictions were first introduced in the spring of 2020, we estimate a stronger effect on bilateral trade for restrictions imposed in the importing country compared to restrictions imposed in the exporting country. This suggests that initially, restrictions had a stronger effect on consumer demand than they did on the capacity of firms to produce.

Over time, the effect of restrictions imposed in both the exporting and importing country has become weaker. A likely explanation for this is the adaptation of both firms and households to the new environment. Teleworking was extended in many economic sectors, and, with the exception of activities where social interactions are required (e.g. bars and restaurants), allowed for a continuation of economic activity.

By the end of 2020, the effect of lockdowns imposed in the exporting country on bilateral trade is no longer different from zero, which implies that the adaptation allowed exporters to supply their foreign clients irrespective of lockdowns implemented in their own country. On the demand side, we also estimate a decline in the effect of lockdowns imposed in the importing country in the second half of 2020. However, the effect remains significant even in late 2020, which suggests that the restrictions continue to impede transactions and imports from foreign partners.