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## Sanctions, Shortages and Turbulence: the long-term consequences of Russian aggression on air cargo transport

In the last decades, the advancement of technology created an interconnected, globalized world. Transportation and communication costs reduced dramatically, and building anything from cars to computers requires combining materials, technology, and manufacturing capacity from several different countries. Aviation has been the key driver of such a globalized economy, with shipping costs shrinking **78% from 1970 to 2019**. In the age of great power competition, the US and China are already questioning the benefits of extensive global supply chains, viewing critical infrastructure as a **matter of national security**. However, in a highly interconnected and globalized world, a hindrance in global supply chains brings major consequences for businesses, workers and consumers everywhere. As the world has witnessed in the past week, Russia's aggression in Ukraine has convulsed the security order, bringing short and long-term social and economic repercussions. According to Lars van Abs, an expert aviation cargo supervisor, the war between the two countries could derail global air travel. Adding to the humanitarian disaster brought about by the war and the increased geopolitical tensions between NATO and Russia, the disruption of commercial aviation will cause issues with maintaining and manufacturing aircraft, products sourcing, leases and flight reroutes, which are likely to create further price instability and product shortages in European economies.



## Escalation and Targeted Sanctions on the Aircraft Industry

Western countries have responded to the Russian invasion of Ukraine by isolating the country's economy from international flows of goods and finance. Russia has been banned from SWIFT Interbanking Communications, making international payments and transactions almost impossible. The European Commission has placed sanctions on aircraft equipment and key technology exports to Russia. In addition to economic sanctions, Western states have upped military support to Ukraine. NATO allies have sent aircraft, weapons and assistance. With immediate effect, airspace bans for both European and Russian aircraft have been enforced, resulting in carriers rerouting or canceling their flights.

The low transportation costs for European businesses achieved in the last five decades cannot continue with the package of sanctions announced by the EU and the United States, and prices will surge for cargo shipments and commodities. These developments hold important implications not only for the air transport industry and cargo transport but also for European businesses trading with East Asia, as Russia serves as a key route for long cargo flights between the continents.

### Maintaining: Issues with Antonov and Volga-Dnepr Group

On the 25th of February, heavy fighting throughout Ukraine has led to the destruction of Hostomel airport, a key production facility owned by Antonov Airlines. The Ukrainian airline operates and manufactures two models of the largest cargo carriers in the airfreight industry with unique capabilities, the An-174 and the An-225 *Mriya*. The An-174 specializes in transporting large cargo such

as jet engines and satellites, while the An-225, capable of carrying 250 tons, played a crucial role in delivering humanitarian assistance to disaster zones and shipping COVID-related supplies, making Antonov's aircraft a critical node in international cargo freight. Ukrainian officials confirmed that Russian troops destroyed the An-225 located at Hostomel airport on the 27th of February. For the still intact aircrafts, Antonov will face difficulties maintaining flights because repairs and maintenance are located in production facilities within Ukraine.

The destruction of Antonov aircraft is exacerbated by the cancellation of Russian cargo airliners flying through Ukraine and Russia. Russian airspace is vital for connections between Europe and Asia. Due to Russian airspace bans, European airlines are canceling flights to China, Japan and Korea, and vice versa. Rerouted flights go through the Middle East and potentially high-risk areas, adding additional fuel pressures with an average of 1,5-2 extra hours flight time and insurances concerns, van Abs says. Volga-Dnepr Group, which includes AirBridgeCargo, the largest Russian freight airliner and one of the largest in the world, stopped all operations to Europe.

Outside of the specialist cargo and freight, according to Flexport supply chain services, both Antonov and Volga-Dnepr Group represented less than 0.5% of global airfreight carried in 2019. However, there are few substitutes for shipping large, specialized cargo and airfreight. Without Antonov and key Russian airliners transporting specialized goods, heavy-lift cargo around the world will become increasingly difficult in an industry already in distress.

## Aircraft leases, flight routes and insurances

The President of the European Commission, Ursula von der Leyen, announced sanctions restricting the ability of Russian companies to purchase aircraft, spare parts and equipment for Russian airlines. Western leasing companies will not be able to sign new leasing contracts and existing one need to be terminated within 30 days. Russian airlines lease the majority of their fleet from Western leasing companies, which in turn acquire planes from Airbus and Boeing. It is estimated that there are 515 lessor-owned aircraft operating with Russian airlines, with a [market value of \\$10bn](#). EU sanctions on key technologies and spare parts have led European lessors to [recall aircraft from Russia](#) but leased planes cannot be returned over EU and Russian airspace. This effectively shuts off key sources of revenue for lessor firms and leading European manufacturers.

Financially, the collapse of the value of the Russian Ruble and the exclusion of Russian banks from SWIFT payments adds considerable uncertainty to payment schedules for leased aircraft. Moreover, Moscow could refuse calls for returns of leased aircraft in retaliation for Western sanctions. Without maintenance, EU lessors face degradation of aircraft assets and declining revenues, expert Lars van Abs says. This will cause severe financial problems for lessors in Europe and the US and effectively shut off important assets for EU airlines and manufacturers.

Lastly, EU-wide airspace bans restrict the options for returning lessor planes to non-Russian companies. For now, European companies are finding ways around this problem as they seize leased aircraft from outside of Russia, [such as Istanbul](#). The problem will not end quickly, however.

The usual and crucial routes are unlikely to become available soon, as overflight problems usually last beyond ceasefires. In the case of Libya, even after its airspace ceased being a no-fly zone, insurance premiums remained considerably high. For key cargo airliners, insurance premiums will be almost unaffordable and companies face a risk of losing aircraft and revenues.

## Manufacturing and products sourcing

The escalation in Ukraine had dramatic consequences for oil and gas prices. On the first day of the Russian invasion, [headlines had already reported](#) oil prices rising above \$100 barrel for the first time since 2014. Even without explicit sanctions to the energy sector, oil, gas and coal exports [will be curtailed](#) as a result of the existing sanctions, since companies fear association with Russia and subsequent Western retaliation. Similarly, the price of LNG will further increase as more countries are looking for alternatives. The hiking of energy prices, especially oil, will add to the costs of longer-haul flights caused by Russian and EU member states airspace bans, as flights between Asia and Europe reroute.

The Ukraine crisis also leads to an acute shortage of several key minerals for the aviation industry. Titanium, a chemical element used for aircraft structures and landing gears, has been one of the first alarm bells rang by aviation experts. Boeing and Airbus are [heavily reliant](#) on Russian supplies of titanium, sourcing up to 35% and 65% respectively from Russian defense company VSPMO. Embraer is 100% reliant on VSMPO's titanium. While Boeing and Airbus have approached other suppliers of titanium in Japan and the US, these airlines will find it difficult to find

alternatives, and once they do, it will potentially take years to certify other suppliers.

## A fragile global economic recovery

Russia's invasion of Ukraine has upended the European security order underpinning economic globalization. Aviation will face severe challenges both in recovering from the COVID pandemic and the immense political and economic instability set in motion by Russia's actions. Globalization is

underpinned by low transportation costs that allow businesses, ideas and people to move anywhere in the world. Russia's invasion of Ukraine and the Western response to it have severely disrupted its mantra, and this will have serious consequences in the medium, and possibly longer, term.

### About the authors:

#### Jacob Dickinson

Jacob studies Global Political Economy at Leiden University. He is passionate about international development and is looking to expand his expertise in geopolitics and crisis management. Curious about other cultures, he has travelled in Europe and Asia for both academic study and professional purposes. His expertise includes subjects like the geopolitics of energy, China's international political economy, and the implications of globalised supply chains for industrial policy. He is particularly interested in the evolving political and economic relationships between China and ASEAN, and the consequences for regional development and security.

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### About DEWIS:

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