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« Maritime transport : initial assessments for 2022 and outlook 2023 »

The year 2022 was expected to signal a relative exit from the health crisis that had commenced two years prior. Rather than permanently eradicating the pandemic, a form of economic normalization was anticipated, including within the maritime transport sector. However, on February 24 (or late February), the violence and destruction of warfare made a stark reappearance in Europe. Beyond direct human and material casualties, the Russian war against Ukraine triggered a massive political and economic shockwave across the Old Continent, echoing worldwide. Consequently, the year 2022 took a turn for the maritime industry that was far from the expected normalization. In these initial days of January, let us sketch a primary maritime assessment of 2022 and outline a few perspectives for 2023.

A unique crisis for the shipping industry

At the dawn of 2020, an entirely unforeseen event altered the global order. Focusing strictly on maritime transport, the primary consequence faced with lockdown phenomena was the acute fear of a major global economic depression. While lockdowns were lifted relatively quickly for numerous businesses, they persisted for the most "social" activities (leisure, entertainment, tourism). Concurrently, governments multiplied economic aid packages to distressed sectors and individuals alike. What was anticipated to be a severe crisis mutated into a highly unique economic anomaly, driven by a surge in consumer spending, most notably in the United States. Hindered in selected leisure consumptions, Americans shifted their capital toward purchasing manufactured goods—a transition facilitated by the absence of an absolute economic collapse. The most striking outcome of this trend was reflected in the 26 million laden TEUs imported by the United States in 2021. On the European side, port volumes posted only marginal growth, translating into a relative caution among consumers on the Old Continent. This American consumption boom triggered a gigantic operational malfunction across global containerization throughout 2021: chronic port congestion, vessel delays, blank sailings, and severe shortages of empty containers. Liner shipping lost all semblance of regularity. Simultaneously, container freight rates surged to unprecedented heights. Driven by a consolidated supply among major carriers and an intense demand from shippers anxious about the arrival of their cargo, the balance of market power translated into skyrocketing freight rates, which multiplied by a factor of five compared to 2019. This era left a lingering bitterness among container shipping clients due to excessive operational disruptions and pricing extremes. Nevertheless, it must be recalled that the broader market environment remained fundamentally positive: manufacturers, distributors, and logistics operators profited extensively from this robust demand during the health crisis.

The defining image of this period remains the exceptional, record-breaking profits cleared by ocean carriers. Conversely, the preceding decade had been marked by a global crisis (2008), a European sovereign debt crisis (2011), and a sector-specific overcapacity crisis (2016), during which shipowners' returns had been largely unremarkable for ten years. This surge in freight rates transformed into a massive financial windfall for operators. The brand-new global number one MSC, alongside Maersk, CMA CGM, and Hapag-Lloyd, multiplied strategic corporate investments across air freight and contract logistics, port terminals, and greenfield newbuild vessels. Regarding this final point, the heavy influx of revenue is enabling them to invest massively in the highly efficient units demanded by the IMO's energy efficiency regulatory calendar. It also allows them to plan for the alternative energies of tomorrow, with numerous corporate announcements structuring future requirements for biofuels and e-fuels.

A new reversal of global market trends

One of the primary anxieties during the health crisis was the threat of a massive structural shutdown of China, its manufacturing plants, and its gateways. This fear justified the rush of orders by shippers for

nearly two years. Routine localized lockdowns demonstrated that the risk was real before Beijing's zero-Covid policy and local authorities in Shanghai placed one of the world's primary economic zones and China's leading port at a complete standstill in April. While container transit times were bound to degrade further, this disruption ultimately proved to be merely an epiphenomenon within the broader cyclical confusion of the container shipping market.

By 2022, the health crisis was destined to become little more than background noise on a global scale. For container shipping, the consumer shift back toward alternative forms of consumption (leisure, tourism), particularly in the United States, was expected to mitigate the widespread logistical dysfunction. Industry observers speculated on a smooth, soft landing. However, their primary contradiction arose from the sheer resilience of American consumption throughout 2022. According to Hackett Associates, it remained equivalent to 2021, hovering around 25.8 million laden TEUs (or alternative cumulative metrics). Nonetheless, the macroeconomic side effects of this economic overheating—namely soaring inflation and acute labor market shortages—gradually precipitated a slowing down of growth and a rapid collapse in containerized imports at the very end of the year.

On the European side, the concept of a market landing was already more nuanced, characterized by a less pronounced surge in demand and consequently a proportionally faster return to normal. Shippers on both the import and export sides were primarily awaiting the conclusion of operational malfunctions and a retreat from stratospheric freight rates. The year 2022 was, in any case, expected to restore order to the marketplace.

It goes without saying that the events of late February shifted the global landscape; nevertheless, the Russo-Ukrainian war cannot be viewed as the direct, mechanical cause of a global economic crisis. While the global economy can be affected by localized political conflicts, it cannot inherently be disrupted to its core—notwithstanding sector-specific disruptions arising from the commodity prominence of both Russia and Ukraine. However, the conflict was firmly treated as an act of aggression by Western nations. The EU implemented successive waves of sanctions against Russia through eight comprehensive packages, targeting among alternative assets Russian physical commodities (coal, iron, steel, timber, fertilizers, crude oil, and refined products) alongside the formal closure of EU ports to Russian-flagged or Russian-controlled vessels—a enforcement framework rendered complex by the operational delta between beneficial ownership and flag registries. To this matrix must be added the targeted sanctions restricting access to international financing and maritime insurance systems.

Regarding Russian products, the natural gas file remains highly complex, as the colossal volume of Russian methane was non-substitutable in the short term, thereby initially escaping formal sanctions. Russia leveraged this vulnerability by enforcing a mandatory requirement to pay in rubles for its pipeline-bound terrestrial gas, a strategic dictate that virtually halted energy flows. For Europe, this necessitated an immediate resort to marine LNG, though the long-term objective remains firmly to sever the bonds of structural dependence on Russian gas.

The war concurrently triggered an oil shock, characterized by a rapid escalation in crude pricing with two historical peaks breaching the \$120 per barrel threshold in March and June. While this sharp increase in oil prices weighs heavily on the European economy, the broader energy crisis was also severely exacerbated by skyrocketing natural gas prices, which directly inflated electricity costs. The structural outcome manifested as a record-breaking inflationary wave and the initiation of a crisis across the Eurozone, contracting its "post-Covid" 2022 growth trajectory to 3.2%.

These synchronized American and European economic slowings are weighing heavily on Chinese export volumes. While China's restrictive health policy generated negative cyclical consequences on the country's domestic operations, structural headwinds—namely intense household debt and the looming spectrum of a systemic real estate crisis—also cloud the Chinese economic horizon. The country's GDP growth slowed down to 3% in 2022. The "workshop of the world" is already witnessing a contraction in global demand, a trend clearly visible across the container shipping sector. The sole cyclical advantage of this landscape lies in driving crude prices down due to a weaker Chinese industrial energy demand. Conversely, natural gas pricing remains significantly more challenging to control: even as Asian demand softens, the imperative necessity for Europeans to identify alternatives to Russian gas is triggering an intense rush toward alternative global producers, securing cargoes only by paying a premium price.

New maritime corridors for oil and coal

For the crude oil tanker sector, the global health crisis represented a genuine recession. Following a brief speculative peak in the spring of 2020 driven by the absolute collapse of crude pricing, the

operational reality materialized as a sharp contraction in global energy demand. Seaborne crude oil trade plummeted by 7% in 2020 and fell by an additional 1% in 2021. Furthermore, the sharp escalation of oil prices throughout 2022 did not favor international maritime trade. It is consequently mandatory to unpack the subtle complexities and cascading sequences characteristic of the "Covid years," which render year-on-year statistical comparisons largely irrelevant. The sole clear takeaway remains that global crude oil seaborne volumes in 2022 (aggregating 2 billion tonnes) hovered 4% to 5% below 2019 levels, demonstrating that global refining capacities are directly restricted by the ongoing economic slowdown. Conversely, seaborne trades of refined products (stagnating around 1 billion tonnes) reportedly remained stable, while LPG (Liquefied Petroleum Gas) flows were powerfully sustained by urgent European demand.

The legacy Euro-Russian energy architecture relied fundamentally on geographical proximity. The EU continuously imported Russian crude oil and refined products until their respective comprehensive bans entered into force on December 5, 2022, and February 5, 2023¹. It goes without saying that structural bypass mechanisms and sanctions-evasion loops are at play; however, these operations fall within the opaque domain of the "dark fleet" or "dark shipping" inherently generated by maritime sanction policies. The shipping geography of global trades is shifting radically. Sourcing crude oil and refined fuels from alternative producers outside the European basin mechanically elongates maritime trade lanes in terms of tonne-miles. Since 2022, discounted Russian crude shipments have surged aggressively toward Asia: China expanded from 15% to 25% as a destination for Russian crude, while India spectacularly skyrocketed from 0% to 25% of the market share.

The global seaborne coal market is equally disrupted. Prior to the conflict, Russia accounted for 13.5% of the European Union's total coal supply, a dependency that triggered immediate logistical strains. Deemed less geostrategically sensitive for Europe than natural gas, Russian coal was rapidly sanctioned and is currently identifying greenfield alternative destinations. A review of market statistics compiled by Clarkson Research reveals that Europe contracted its imports of coking/metallurgical coal (-2%) due to the industrial manufacturing slowdown. Conversely, European imports of thermal coal surged by +20%, a massive increase deployed to compensate for the extreme financial premiums of natural gas in power generation. On the Asian chessboard, coking coal remained stable, as did thermal coal demands across the primary East Asian trio (Japan, South Korea, Taiwan). Crucially, while thermal coal demand plummeted by -17% in China due to its domestic industrial deceleration, it expanded spectacularly in India (+20%), heavily driven by the immediate availability of heavily discounted Russian coal cargoes.

The European race for LNG

In 2021, the EU imported 111 million tonnes of Russian gas via terrestrial pipelines and seaborne routes, representing 40% of its cumulative demand. Conversely, Russian LNG accounted for a mere 4% of the Union's total methane supplies. While Russian gas is not formally under sanction, it remains a strict political imperative for the EU to contract this structural dependence. In July, the Commission requested a 15% reduction in European gas consumption by the spring of 2023. Nations possessing operational LNG regasification capacities imported at maximum volumes throughout 2022; France, for instance, fully replenished its strategic storage reserves.

In 2022, wider Europe (encompassing the EU, the UK, and Turkey) is set to import approximately 125 million tonnes of LNG, up from 82 million tonnes in 2021 (+65%). On a global scale, the European market's share will expand from one-fifth to one-third of the total world trade. While Europe imported volumes of Russian LNG roughly equivalent to 2021, it turned almost exclusively toward the United States to secure this massive demand surge of 45 million tonnes. Crucially, global liquefaction capacity only expanded by a modest 16 million tonnes across 2021 and 2022 combined.

Concurrently, the Chinese industrial slowdown is contracting its domestic demand (-20%), enabling structural re-adjustments in global trades; yet, because Europeans are purchasing gas at a premium price, cargoes are systematically being diverted away from alternative consumer markets. India has already cut its demand (-6%), and various South American buyers are entirely vanishing from the marketplace. Naturally, charter rates—already heavily sustained by Asian demand in late 2021—multiplied twofold this year.

¹ The G7 also set a price cap on oil purchases that can still be transported by European operators to third countries.

The global natural gas equation is exceptionally complex: how can Europe substitute 100 million tonnes of terrestrial pipeline-bound Russian gas with seaborne LNG of various origins, given the persistent underlying demand from East Asian economies (China, Japan, South Korea, Taiwan, India), even as it temporarily recedes due to the current economic slowdown? For the LNG sector, the ultimate structural bottleneck lies not in the physical availability of natural gas reserves, but within the mechanical limitations of the logistics chain—namely, the processing capacities of liquefaction trains in producing nations (stagnating at 472 million tonnes per year in mid-2022), the physical size of the global LNG carrier fleet (650 vessels), and the existence of onshore or floating maritime import terminals².

This brand-new natural gas paradigm requires a rapid scaling up of both liquefaction facilities and LNG carrier orders. This market growth relies today predominantly on Qatar's flagship expansion project, aiming to elevate its production capacity from 77 million tonnes per year to 126 million tonnes per year by 2027. *QatarEnergy* is furthermore stimulating the shipbuilding market with massive orders for up to 150 LNG vessels across South Korean and Chinese shipyards, structured through long-term partnerships with leading global operators. The remainder of the greenfield supply will originate from the United States, Canada, and Mozambique.

Finally, the question of Russian gas remains paramount. LNG flows originating from the Russian Arctic (*Yamal LNG*) remain viable primarily for the proximate European market due to the extreme capital and operating costs characteristic of specialized ice-class LNG carriers. While Japan—which already imports LNG from Sakhalin—maintains a strategic interest in Russian Arctic gas projects, Western multinationals are aggressively divesting from these ventures. Over the long term, China will benefit from a brand-new terrestrial pipeline infrastructure in Eastern Siberia via the *Power of Siberia 2* project.

Grains: the most direct consequence of the warfare

The lands of Southern Russia and Ukraine rank among the most fertile agricultural regions in the world. Over the past decade, their productive capacities have ascended aggressively—accounting for 16% of major global grains—and inevitably, the warfare carries sweeping consequences. Foremost, it directly impairs a significant portion of Ukraine's domestic agricultural production and paralyzes its export gateways. It concurrently impacts Russia face to Western economic sanctions. In practice, Russia has successfully retained its international customer base, while Ukraine benefited from a joint diplomatic agreement brokered by Turkey and the United Nations to prevent a systemic global food crisis³.

According to Clarkson Research, global trade volumes for wheat and corn will contract by 3% in 2022, down to 360 million tonnes. While Russia is projected to maintain an export volume equivalent to 2021, Ukraine's grain shipments plummeted from 49 million tonnes to 28 million tonnes due to the direct impact of the conflict. North American and European agricultural exports are also experiencing a decline; however, surging supplies of Argentine and Australian wheat, alongside Brazilian corn, are successfully sustaining the global availability of both core cereals. Concurrently, the global soy trade—which remains largely shielded from the Ukrainian conflict theater—is nonetheless poised to contract (-5%), heavily driven by a weaker Chinese industrial import demand.

The fallout of the Ukrainian conflict across alternative dry bulks and conventional cargo sectors (namely steel, timber, and fertilizers) operates across several overlapping dimensions. The primary layer consists of structurally depriving European markets of Russian-manufactured steel products, chemical fertilizers, and timber. The second dimension centers on the economic recession locking itself into place, which mechanically depresses global industrial demand. This trend is vividly reflected in the contraction of European iron ore imports, dropping to 102 million tonnes (-6%). Concurrently, Chinese iron ore imports are stagnating around 1.1 billion tonnes (+1%), while alternative East Asian gateways are posting clear declines, led by Japan (109 million tonnes, -4%), South Korea (70 million tonnes, -6%), and Taiwan (25 million tonnes, -4%). According to Clarkson Research, the global dry bulk sector as a whole is projected to undergo a -2% contraction in 2022, representing a massive deficit of 100 million tonnes less than in 2021—though mitigated to a minor -0.7% decrease when evaluated strictly in terms of tonne-miles.

² For Europe, more terminals are required, deploying the rapid solution of Floating Storage and Regasification Units (FSRUs): in France at Le Havre, but also in Germany (5), Italy (3), the Netherlands (1), Finland/Estonia (1), and Greece (1). This represents a total LNG capacity of 36.4 million tonnes per year.

³ By early December, the Black Sea humanitarian corridor had involved 500 vessels transporting corn, wheat, and sunflower products (12 million tonnes). While the wheat is destined for developing countries, the corn is directed toward livestock feed in developed nations.

Containers: the party is over

With the unfolding energy crisis, the European economy is entering a challenging phase. As observed in 2009 and 2012, this landscape translates into a sharp contraction in containerized imports. Over a 10-month period, cargo volumes between Asia and Europe collapsed compared to last year (-8.3%) and fell significantly below 2019 levels. The crisis is firmly entrenched on the European side. Conversely, according to the National Retail Federation (NRF), the volume of containers imported into the United States in 2022 will match 2021 records, maintaining a +20% outperformance compared to 2019. Nonetheless, the downward reversal is underway: Transpacific flows contracted by 4.1% in October. According to BIMCO, global containerization is poised to recede by 4% compared to 2022 (remaining a mere 1% above 2019 levels), though a layer of uncertainty persists regarding the absolute drop in traffic at the very end of the year. For the time being, shippers are aggressively reducing their demand due to widespread overstocking and anticipation of poor retail sales during the winter.

In any case, the conclusion of logistical malfunctions does not stem from the expected economic normalization, but from a global crisis. Liner shipping is recovering its operational regularity—characterized by shorter waiting times at anchorage, fewer delays, and expedited repositioning of empty containers. However, blank sailings are proliferating as carriers deploy them as a real-time capacity management tool, overriding the structural reductions in capacity offered across various trade lanes. Ocean carriers are rapidly returning chartered vessels to tonnage providers and increasingly mothballing (désarmer) their own ships.

Nevertheless, the most eagerly anticipated shift was the collapse of container freight rates, tracked by the primary thermometer for Chinese outbound spot markets, the Shanghai Containerized Freight Index (SCFI). The year 2022 manifested as a protracted, relentless decline. After hitting an absolute zenith near 5,100 points at the beginning of the year, the SCFI plummeted in two distinct phases: drifting downward during the spring before crashing abruptly in the autumn. By the close of the year, it had returned entirely to its 2019 baseline. Logically, time-charter rates are following a identical downward path, sinking toward crisis levels.

The record-breaking profits cleared by liner operators commenced in the third quarter of 2020 and sustained themselves for a historic two-year window. The ongoing economic slowdown fundamentally changes the game, and corporate revenues are destined to plunge at the tail end of 2022. Conglomerates will have nonetheless locked in massive capital investments funded by these cash windfalls, securing terminal concessions but predominantly expanding their fleets. By the end of 2022, the global fleet aggregates nearly 5,700 container ships commanding a capacity of 26 million TEUs, backed by a massive order book of approximately one thousand vessels representing 7.5 million TEUs. Does this market reversal shatter the sector's structure? If the fleet must be contracted, data compiled by Alphaliner indicates that the volume of vessels over 20 years of age hovers around 1,100 units, which represent only 2.5 million TEUs. It is therefore highly probable that container shipping will face a severe return of structural overcapacity. Nonetheless, beyond pure capacity cycles, the fleet is heavily constrained by the IMO's regulatory efficiency calendar regarding carbon emissions for both existing ships (EEXI) and newbuilds (EEDI). The mandatory modernization of the containerized fleet will undoubtedly demand the demolition (démolition / déconstruction) of mid-aged vessels, a structural shift that the current minor crisis is set to accelerate.

Perspectives for 2023

The macroeconomic assessment of the year 2022 can be summarized by a handful of global figures: a decent GDP growth of 3.2% according to the IMF, and a global trade expansion of 3.5% according to the WTO. The maritime assessment is significantly less favorable, posting a mere +0.9% for total global seaborne trade, alongside a sharp contraction in containerization (-4%). The direct impacts of the energy crisis, the European industrial slowdown, and China's domestic headwinds are vividly visible across the oceans.

For 2023, the IMF projects global economic growth to slow down to 2.7%. While China is announced to return to a stronger growth path (4.3%), the Eurozone and the United States face a challenging year characterized by near-zero stagnation. The WTO forecasts global trade growth to contract to a modest 1% for 2023. European imports are projected to decline, while United States demand loses its former vigor. Executing container shipping projections remains a perilous exercise, and the spectrum of a destructive price war between ocean carriers is already being repeatedly announced.

On the oil front, China's domestic deceleration is contracting energy demand which, when coupled with the European economic slowdown, brought crude pricing down around \$80 per barrel—a positive macroeconomic point for the Old Continent. Nevertheless, extreme natural gas prices and structural deficiencies across the French nuclear fleet continue to heavily inflate electricity costs. A final variable impacting international trade is the euro-dollar exchange rate: while the European crisis historically penalized the common currency, negative shifts across the US economy are projected to stabilize the exchange rate around \$1.10.

Condemned to adapt to the cycles of global growth but continuously buffeted by economic and political crises, maritime transport remains gridlocked in the complex task of balancing supply and demand. Temporary bubbles of prosperity serve to balance out challenging eras. Looking ahead, tightening environmental mandates—namely carbon taxes and emissions quota surrenders—add a dense layer of complexity to mandatory capital investment requirements. For the time being, global maritime traffic will expand at a slower pace, forcing specific shipping segments (oil and gas tankers) to navigate significantly longer maritime routes.

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