BIS Working Papers
No 1378

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by Enisse Kharroubi

Monetary and Economic Department

September 2026

JEL classification: E23, E24, E31, E32, E52, J64

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This publication is available on the BIS website (www.bis.org).

ISSN 1020-0959 (print)
ISSN 1682-7678 (online)

Maritime Chokepoints and the Global Economy: Evidence from the Strait of Hormuz*

Enisse Kharroubi†

Bank for International Settlements

August 2026

Abstract

The conflict in the Middle East and the subsequent disruption of traffic in the Strait of Hormuz have triggered an unprecedented shock to the global economy. Using historical data from the IMF/University of Oxford Portwatch database on maritime traffic, this paper empirically examines some of the potential economic and financial consequences of disruptions to traffic in the Strait of Hormuz. The analysis highlights the role of this chokepoint as a global supply indicator, with traffic disruptions acting as a global stagflation-inducing force. While commodity prices — especially energy prices — tend to increase after an adverse shock to traffic in the Strait of Hormuz, such negative shocks are systematically followed by a combination of lower global output and higher global consumer prices. In addition, negative shocks to traffic in the Strait of Hormuz tighten financial conditions, with spreads on both advanced economies (AEs) corporate bonds and emerging market economies (EMEs) sovereign bonds widening significantly. These findings underscore the Strait of Hormuz's critical role in the global economy and highlight avenues for future research on chokepoint shocks.

Keywords: Chokepoints, Strait of Hormuz, maritime traffic, global supply shocks, financial conditions.

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*The views expressed in this publication are those of the author and do not necessarily reflect the views of the BIS or its member central banks. I am grateful for comments and suggestions from seminar participants at the BIS, and in particular Ibrahim Alshehri, Ryan Banerjee, Gianluca Benigno, Torsten Ehlers, Leonardo Gambacorta, Giovanni Lombardo, Benoit Mojon, Ko Munakata, Daniel Rees, Phurichai Rungcharoenkitkul and Leanne Zhang. All potential errors are mine.

†Email: enisse.kharroubi@bis.org.

"La politique de toutes les puissances est dans leur géographie." Napoléon Bonaparte. 10 novembre 1804 (19 brumaire an XIII), lettre adressée au roi de Prusse Frédéric-Guillaume III.

1 Introduction

The Strait of Hormuz, a narrow waterway between the Persian Gulf and the Gulf of Oman, is one of the most critical chokepoints in global trade.[1] Facilitating the transit of more than 20% of the world's crude oil supply each day, it is vital for transporting oil, liquefied natural gas (LNG), and other key commodities from major Middle Eastern exporters (US EIA (2023)). Disruptions to Hormuz traffic can send shockwaves through global markets, potentially cutting energy flows and economic activity (Komiss and Huntzinger (2023)). The start of the conflict in the Middle East in late February 2026 brought these risks into sharp focus. The war has resulted in a near-complete halt in vessel traffic through the Strait of Hormuz, triggering what the International Energy Agency (IEA) described as "the largest energy crisis the world has ever faced."[2]

This paper seeks to address three interrelated research questions that are central to understanding some of the economic and financial implications of disruptions to maritime traffic in the Strait of Hormuz. First, given the critical role of Hormuz in facilitating the global energy trade, this paper investigates how disruptions to traffic in this strategic waterway affect commodity prices. Second, given its importance for the global economy, I examine how traffic disruptions in the Strait of Hormuz affect global economic activity and inflation. By analysing the relationship between maritime traffic and key macroeconomic indicators such as global industrial production (IP) and consumer price inflation (CPI), the analysis seeks to quantify the broader economic impact of traffic disruptions in the Strait of Hormuz. Third, given the impact of traffic in the Strait of Hormuz on commodity and consumer prices as well as on output, I investigate the potential implications for financial conditions. Insofar as traffic disruptions weigh on global activity and raise the cost of some key inputs, one can expect credit quality to deteriorate and yield spreads to widen. To investigate this possibility, I will focus on spreads on corporate and government bonds.

The motivation for this study stems from the unique position of Hormuz as a barometer of global supply conditions. While previous research has examined the impact of energy shocks and supply chain disruptions, few studies have systematically analysed the role of chokepoint traffic. Leveraging the IMF/University of Oxford Portwatch dataset, which tracks maritime traffic worldwide, this paper

[1] In this paper, chokepoints are defined as narrow, strategic geographical features, such as straits, canals, mountain passes, or bridges, that force traffic, trade, or military forces to compress into a restricted space, creating critical bottlenecks.

[2] See IEA Executive Director's speech at the MIT Energy Initiative's (MITEI) Earth Day Colloquium on Apr. 8, 2026.

provides new insights into the economic and financial consequences of traffic disruptions.[3]

Consistent with these intuitions, the prima facie evidence indeed suggests that disruptions to maritime traffic in the Strait of Hormuz come hand-in-hand with major developments, in particular on the financial side. Figure 1 below showcases the strong association between the halt to maritime traffic in the Strait of Hormuz and the steady increase in the 10-year yields on US government debt since the start of conflict in the Middle East.

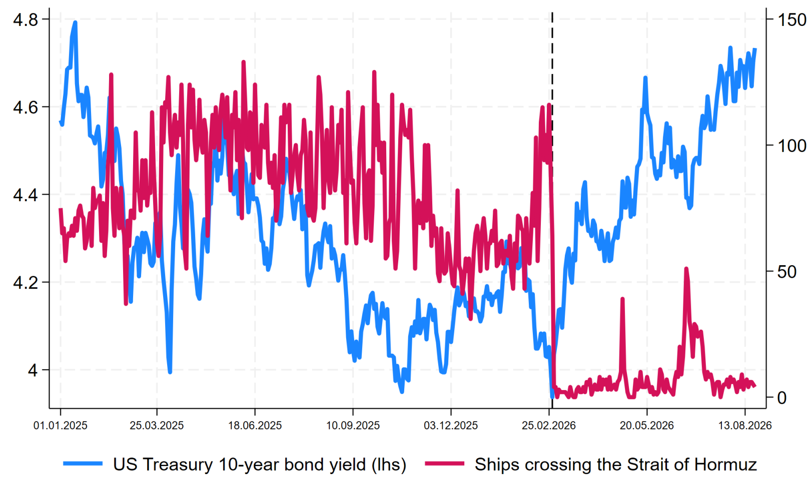


Figure 1: US Treasury 10-year yield take 90 basis points since the start of the conflict. The blue and the red lines respectively plot the daily average yield on 10-year US Treasury bonds and the daily number of ships crossing the Strait of Hormuz, since Jan. 1, 2025. The bond yield follows the left-hand scale. The vertical dashed line plots the start of the war. **Sources: BIS, Portwatch, author's calculations.**

This paper makes three contributions. First, I compile data on daily traffic across the twelve busiest chokepoints around the world since 2019, which I use to extract traffic shocks, i.e. changes in traffic through a given chokepoint that are unrelated to (i) the evolution of traffic through other chokepoints; and (ii) to global demand conditions. To do so, I first compute traffic deviations from historical norms, as the difference in the number of vessels transiting through a given chokepoint and the historical averages across other chokepoints and over time. After performing the same calculation for the tonnage of ships transiting through each chokepoint, I estimate in a second step, the relationship between deviations in the number of vessels and deviations in the tonnage of transiting vessels. The residual of this regression is my first measure of a traffic shock. For instance, when the actual number of vessels falls below the predicted number —for a given tonnage—, I interpret this as evidence that a ”supply” constraint is reducing the number of vessels in transit, reflecting, for instance, constraints on the availability of ships or elevated prices for operational inputs (manpower, fuel, insurance, etc.).

[3] The Portwatch dataset has primarily been used to provide a better, more timely and more accurate, description of trade flows. See for instance Arslanalp et al. (2021), Pilgrim et al. (2024) or Arslanalp et al. (2025).

Second, leveraging the fact that Hormuz traffic is overwhelmingly dominated by tankers transporting oil and gas, I use externally identified global oil supply shocks from Baumeister and Hamilton (2019) and Kanzig (2021) to further isolate further the supply-driven deviations in Hormuz traffic. Specifically, I do this in two ways. The first relies on sign-based identification. Considering a given global oil supply shock, I identify deviations in Hormuz traffic with the same sign as the global oil supply shock as supply-driven. The other deviations —those with the opposite sign to the global oil supply shock— are then classified as demand-driven. The second approach relies on regression-based identification. In this approach, I run a non-parametric regression of Hormuz traffic deviations on the relevant global oil supply shock and classify the predicted and residual components as supply- and demand-driven traffic fluctuations, respectively.

Last, I use these "shocks" to document Hormuz's role in the global economy. Specifically, my main result is that (traffic in) the Strait of Hormuz differs from other chokepoints, insofar as it appears to be a significant proxy for global supply conditions. Unlike traffic at other straits or canals, negative shocks to Hormuz traffic are systematically followed by a combination of lower global output *and* higher global consumer prices, with significant effects materialising within four to six months. Evidence from commodity markets supports these findings: lower traffic through the Strait of Hormuz is associated with large and persistent inflation in energy and fertiliser real prices, i.e. after controlling for higher consumer prices globally. Finally, consistent with these stagflation forces, negative shocks to traffic in the Strait of Hormuz are followed by tighter credit conditions, as spreads on corporate and government bonds widen significantly, up to one year ahead.

1.1 Background and related literature

The literature on chokepoints highlights their dual role as facilitators of trade and sources of vulnerability (Verschuur et al. (2022)).[4] Chokepoints enable the efficient transport of goods, reducing costs and fostering economic integration (see, for example, Bailey and Wellesley (2017) and Verschuur et al. (2025)). However, their geographic and operational constraints make them susceptible to disruptions caused by geopolitical conflicts, natural disasters, piracy, or technical failures (Pratson (2023)). As a result, chokepoints are often described as "single points of failure" in global trade networks (Spence (2026) and Amavilah (2026)).

Although some recent papers have started using maritime traffic data systematically (see, for instance, Juhász et al. (2026) studying the structure and evolution of maritime networks, Bai et al. (2024) analysing supply chain disruptions or Bodenschatz et al. (2025) assessing Germany's reliance on

[4] Labh (2025) provides a review of three case studies of traffic disruptions at global chokepoints, namely the Suez Canal Blockage in 2021, the Panama Canal in 2025, and the Blockade of the Strait of Bab-el-Mandeb in late 2023.

global chokepoints), a substantial part of the literature focuses on geopolitical risk as a driver of global oil markets (Coates Ulrichsen and Krane (2026)). Rather than focusing on shipping throughput alone, many papers measure disruption risk indirectly through risk proxies—e.g., conflict intensity, threat indicators, event studies, or geopolitical risk indexes—and then link these to oil prices, volatility, and macro variables (Caldara and Iacoviello (2022)).

Hence, despite the valuable insights provided by the existing literature on the economic implications of energy shocks and chokepoint disruptions, several gaps remain. In particular, few studies have systematically analysed the role of chokepoint traffic as a global supply indicator.[5] This paper demonstrates that traffic fluctuations in the Strait of Hormuz provide valuable information about global supply conditions, with implications for output, inflation, and commodity prices. I therefore tighten the link between operational disruptions and market/real-economy outcomes by extracting direct traffic shock measures from actual maritime traffic data, rather than relying on indirect proxies (e.g., realised reductions in shipping flows, re-routing incidence, or delays). Moreover, I show that traffic disruptions act as multi-channel events that affect both real (global growth and global inflation) and financial outcomes (commodity prices and bond spreads).

A related strand of the energy-economics literature studies how oil supply shocks affect macroeconomic outcomes and financial variables. Classic macro-energy research (e.g., the oil shock/macro transmission literature) establishes pathways from oil prices to consumption, investment, inflation, and —via discount rates and risk premia— to equity valuations and credit conditions. For instance, early studies, such as Hamilton (1983), established a strong link between oil price shocks and economic recessions, particularly in Advanced Economies (AEs). Later, Kilian (2009) refined this analysis, showing that the economic impact of oil shocks depends on their underlying cause, with supply-driven oil price shocks being more costly than demand-driven ones. Baumeister and Hamilton (2019) went one step further, linking the anticipation of supply shortages to price spikes even before physical disruptions occur, as market participants adjust their expectations and stockpile resources. In the same vein, Kanzig (2021) builds on recent developments in high-frequency identification to extract an oil supply news surprise based on OPEC announcements and investigates how these expectation shocks affect oil prices and the macroeconomy at large.

I contribute to this literature in two ways. I first build a measure of maritime traffic shocks that represents an alternative to the standard oil shocks mentioned above. Second, I show that, in the case of the Strait of Hormuz, maritime traffic shocks contain valuable information for subsequent global macroeconomic and financial developments, over and above oil price shocks, be they on the supply

[5] In a recent paper, Brockhaus et al. (2026) combines data from several sources to assess the cost and who bears the cost, of traffic disruption through the Strait of Bab el-Mandeb.

or the demand side. I therefore show that the mapping from Hormuz maritime traffic shocks to real and financial conditions tends to dominate the corresponding mapping from pure oil shocks to these outcomes. In other words, unlike other papers that stop at "oil prices" as the mediating variable, this paper measures the real and financial impact of shipping-route disruption itself.

By addressing these gaps, this paper contributes to a deeper understanding of the economic risks associated with chokepoint disruptions and provides a foundation for future research on global trade and energy security.

The remainder of this paper is structured as follows. Section 2 describes the data and the identification strategy used in the analysis. Section 3 reviews the empirical specifications used to estimate the economic and financial implications of traffic disruptions in the Strait of Hormuz, while Section 4 provides some simple stylised facts on major chokepoints around the world. Section 5 then presents the main empirical results, covering first commodity prices, then global output and consumer prices and, finally, corporate and sovereign bond spreads. Section 6 concludes by summarising the paper's key insights and outlining directions for future research.

2 Data and Methodology

This section outlines the data sources, the key variables, and the empirical methodology used to analyse the economic and financial implications of traffic disruptions in the Strait of Hormuz. The study combines real-time maritime traffic data with macroeconomic and financial indicators.

The analysis relies on multiple high-frequency and publicly available datasets, which I summarise below. The primary dataset for this study is the IMF/University of Oxford's Portwatch database, a real-time maritime traffic monitoring system that tracks vessel movements through major global chokepoints using GPS and AIS vessel signals.[6] The key features of the dataset are as follows. Starting with coverage, the database includes vessel counts and tonnage data for the 28 busiest chokepoints worldwide, including the Strait of Hormuz, the Suez Canal, the Strait of Bab el-Mandeb, and the Strait of Malacca. I restrict the analysis to the 12 busiest chokepoints in terms of the average annual number of transit calls (see Figure 2 in Section 2.2 for the list of chokepoints included in the analysis.).[7] Data are available on a daily basis starting from January 2019, allowing for detailed analysis of traffic patterns over this period. The dataset includes information on the number of vessels in transit as

[6]Note that traffic may be underestimated especially during periods of heightened geopolitical tensions, as vessels may turn off their transponders to avoid being targeted by one party or the other.

[7]I limit the analysis to the 12 busiest chokepoints mainly because this list includes all the chokepoints relevant to developments in the Strait of Hormuz, while ensuring that minor chokepoints whose traffic is largely irrelevant, remain outside the analysis.

well as on vessel types, i.e. tankers, container ships, dry bulk carriers, and general cargo ships. This information will turn out to be crucial for the identification scheme: because vessel traffic in Hormuz consists predominantly of tankers moving oil and gas, I will be able to use global oil supply and demand shocks to identify which fluctuations of traffic in the Strait of Hormuz can be associated with the former (*supply-driven*) or the latter (*demand-driven*).

Turning to economic and financial data, macroeconomic indicators such as global industrial production (IP) and the global consumer price index (CPI) are sourced from the IMF's World and country aggregates (IMF-IFS (2026)). These variables serve as proxies for global economic activity and global inflation. I source data on commodity prices from the World Bank Pink Sheet (World Bank (2026)) which provides composite price indices for energy and fertilisers. Financial data on corporate bonds spreads and Emerging Market Economies (EME) sovereign bond spreads are from Bank of America (BofA) and J.P. Morgan, respectively. The BofA data provide corporate spreads on USD- and EUR-denominated bonds for both investment-grade (IG) and high-yield (HY) bonds, while I use the EMBI index as a proxy for the spread on EME sovereign bonds. Finally, as indicated above, I make use of global oil supply and demand shocks as estimated by Baumeister and Hamilton (2019) and Kanzig (2021). Specifically, Baumeister and Hamilton (2019) provides four different shocks: (i) an oil demand shock related to global economic activity, (ii) an oil demand shock related to global oil consumption demand, (iii) an oil demand shock related to global oil inventories, and (iv) a generic global oil supply shock. These four shocks are extracted using a Structural VAR. Conversely, Kanzig (2021) provides an oil supply surprise and an oil news shock, both constructed using high-frequency identification around OPEC supply announcements.

While the macroeconomic data and the global oil shocks are available at a monthly frequency, the financial data on bond spreads are available at a daily frequency. I therefore average the spreads by month and obtain a dataset with macroeconomic, financial and maritime traffic data at a monthly frequency, starting in January 2019.

2.1 Key variables and methodology

In this section, I introduce some notation to describe how I build the traffic shock series. To this end, let me denote N_d^c as the number of ships transiting through chokepoint c (inbound or outbound) on a given day d. Similarly, let T_d^c be the tonnage associated with the N_d^c vessels transiting through chokepoint c on day d. Moreover, let $\mathbf{C}$ be the total number of chokepoints included in the dataset and $\mathbf{D}$ the total number of days for which traffic data, i.e. the number of vessels N and the associated tonnage T, are available in the dataset.

I then run a simple variance decomposition exercise to extract deviations in the number of vessels in transit N and the associated tonnage T, relative to averages across chokepoints and time. Formally, I extract deviations in the number of vessels transiting through chokepoint c $\Omega_d^{N,c}$ and deviations in the associated tonnage for vessels transiting through chokepoint c $\Omega_d^{T,c}$ as follows:

$$N_d^c = N_\cdot^c + N_d^\cdot + \Omega_d^{N,c} \text{ and } T_d^c = T_\cdot^c + T_d^\cdot + \Omega_d^{T,c} \tag{2.1}$$

$$\text{with } X_\cdot^c = \frac{1}{\mathbf{D}} \sum_{d=1}^{\mathbf{D}} X_d^c \text{ and } X_d^\cdot = \frac{1}{\mathbf{C}} \sum_{c=1}^{\mathbf{C}} X_d^c \text{ for } X = \{N; T\} \tag{2.2}$$

I then estimate a panel regression across chokepoints and time to filter deviations in the number of vessels crossing a given chokepoint $\Omega^{N,c}$, using deviations in the tonnage $\Omega^{T,c}$ of the vessels in transit:

$$\Omega_d^{N,c} = \alpha^c + \alpha_d + \beta \Omega_d^{T,c} + \omega_d^c \tag{2.3}$$

The residual ω_d^c of this regression measures the extent to which vessel traffic through a given chokepoint is unusually high or low relative to (i) average traffic through *this* chokepoint, (ii) average traffic across *other* chokepoints, and (iii) the tonnage of the vessels in transit. As such, the residual ω_d^c measures the extent to which vessel traffic is abnormally low or high at a given chokepoint on a given day d. For instance, when vessel traffic falls relative to average traffic across time and other straits, and after controlling for vessel tonnage, i.e. $\omega_d^c < 0$, then this would be indicative of some disruption in maritime flows, i.e. a constraint forcing down the number of vessels in transit, reflecting, for instance, limited availability of ships or elevated prices for functional inputs (fuel, manpower, insurance, etc). Conversely, when many ships are transiting through a given chokepoint relative to "normal" traffic and, even after considering the tonnage of these ships and the vessel traffic through other chokepoints, ω_d^c would be positive, indicating unusually high traffic through this chokepoint.

2.2 Leveraging global oil shocks for identification

Because I am investigating the economic and financial implications of maritime traffic disruptions, my goal is to isolate traffic fluctuations that emanate from changes in supply conditions and abstract from those that reflect demand conditions.[8] The variance decomposition exercise in the previous section goes some way towards achieving this, by considering traffic through a given chokepoint *relative* to traffic at other major chokepoints, since the latter average is arguably a reasonable proxy for global demand conditions.

[8]Importantly, demand-driven traffic fluctuations are more likely to reflect the impact of global economic and financial developments on maritime traffic rather the impact of maritime traffic on global economic and financial developments.

I now go one step further and identify, which of the traffic deviations ω_d^c, can be classified as supply- or demand-driven. To do so, I leverage a specific feature of the Strait of Hormuz, namely that traffic through this chokepoint is overwhelmingly dominated by tankers moving oil and gas. According to Figure 2 below, the Strait of Hormuz not only ranks first among the 12 busiest chokepoints around the world, in terms of tanker traffic, but tankers account for 60-70% of total maritime traffic in the Strait of Hormuz, compared with around 40% or less at other chokepoints. As a result, global oil demand and supply shocks are good candidates for classifying fluctuations in Hormuz traffic —the ω_d^H shocks estimated following the methodology laid out in Section 2.1— as demand- or supply-driven. Specifically, I build two versions of this classification, each based on a different approach. The next paragraphs provide more details on each.[9]

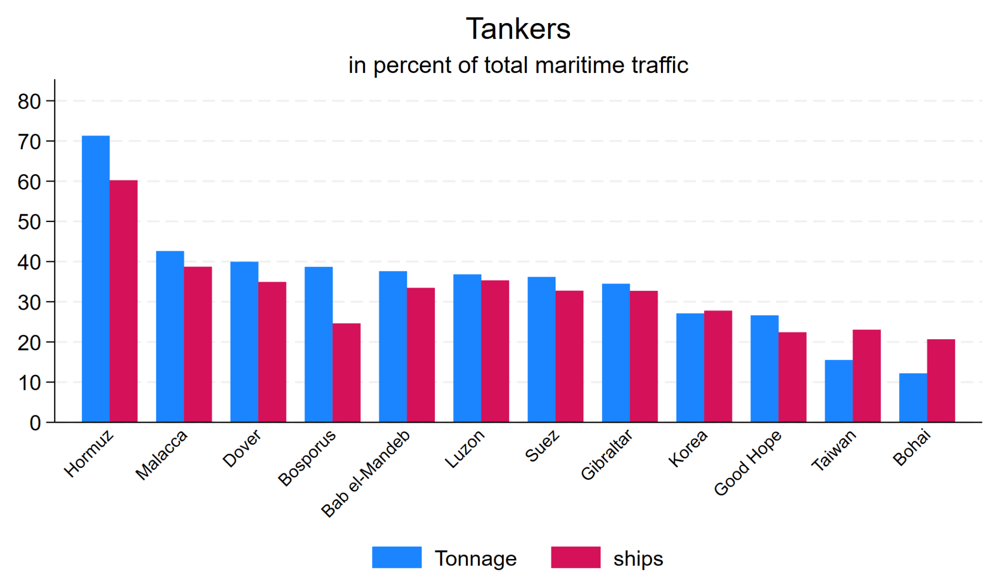


Figure 2: Tankers account for the majority of traffic in the Strait of Hormuz

Notes: Bars plot the share of tankers in total traffic for each of the 12 busiest chokepoints worldwide, over 2019-2025. Chokepoints are ranked in descending order by average tanker tonnage in total traffic tonnage. **Sources: Portwatch, author's calculations.**

2.3 Sign-based identification

I first rely on sign-based identification. Specifically, I identify deviations in Hormuz traffic as supply-driven (non-supply-driven) when they have the same (opposite) sign as a given global oil supply shock. Let Z_t^s denote a global oil supply shock at time t, where Z^s is a variable observed at a monthly frequency, with high (low) readings indicating easy (tight) supply conditions. In addition, I average daily traffic deviations ω_d^H by month, and denote by ω_t^H the monthly version of traffic fluctuations

[9] Tankers still account for a sizeable part of traffic in several chokepoints including the Strait of Malacca, the Strait of Dover or the Bosporus Strait, even if it barely exceeds 40%.

in the Strait of Hormuz, i.e. $\omega_t^H = \mathbb{E}_{d \in t}[\omega_d^H]$. The supply- and demand-driven deviations in Hormuz traffic, respectively denoted $\omega_t^{H,s}$ and $\omega_t^{H,d}$, are given by:

$$\omega_t^{H,s} = \omega_t^H \mathbf{1}_{[\omega_t^H \times Z_t^s \geq 0]} \text{ and } \omega_t^{H,d} = \omega_t^H \mathbf{1}_{[\omega_t^H \times Z_t^s \leq 0]} \tag{2.4}$$

where $\mathbf{1}_{[x]}$ is equal to one if x is true and zero otherwise.[10] Intuitively, abnormally high traffic, i.e. a positive traffic deviation ω_t^H, is supply-driven if it happens at a time when global oil supply is strong and the global oil supply shock Z_t^s is positive. Conversely, abnormally low traffic, i.e. a negative traffic deviation ω_t^H, is demand-driven if it happens at a time when global oil supply is strong and the global oil supply shock Z_t^s is positive.[11] Similarly, the same logic can be applied to the case of a global oil demand shock Z_t^d, except that the sign restrictions to identify demand- and non-demand-driven or supply-driven deviations in Hormuz traffic are the opposite of those used in the case of supply shocks:

$$\omega_t^{H,d} = \omega_t^H \mathbf{1}_{[\omega_t^H \times Z_t^d \geq 0]} \text{ and } \omega_t^{H,s} = \omega_t^H \mathbf{1}_{[\omega_t^H \times Z_t^d \leq 0]} \tag{2.5}$$

Abnormally low traffic is then supply-driven if it happens at a time when global oil supply is weak and the global oil supply shock is negative. Conversely, abnormally low traffic is demand-driven if it happens at a time when global oil supply is strong and the global oil supply shock is positive.[12]

2.4 Regression-based identification

An alternative approach to separating demand- and supply-driven fluctuations in Hormuz traffic consists of regressing traffic deviations ω_t^H on a global oil supply shock to isolate the supply-driven component from the non-supply-driven component, the latter corresponding to the demand-driven part of Hormuz traffic (deviations). Formally, considering a global oil supply shock Z_t^s, the supply- and demand-driven components of traffic deviations $\omega_t^{H,s}$ can be identified using a non-parametric regression approach, in which $\omega_t^{H,s}$ is simply the conditional expectation of ω_t^H given the Z_t^s shock:

$$\omega_t^H = \omega_t^{H,s} + \omega_t^{H,d} \text{ where } \omega_t^{H,s} = \mathbb{E}\left[\omega_t^H | Z_t^s\right] \text{ and } \mathbb{E}\left[\omega_t^{H,d}\right] = 0 \text{ and } cov\left(\omega_t^{H,s}; \omega_t^{H,d}\right) = 0 \tag{2.6}$$

[10] I slightly abuse the terminology since I label non-supply-driven traffic fluctuations as demand-driven while other (non-oil) supply shocks could be driving what I refer to as demand-driven traffic fluctuations.

[11] As noted in the main text, this description rests on the assumption that the global oil supply shock correlates positively with supply conditions, which is the case for the global oil supply shock of Baumeister and Hamilton (2019). By contrast, the global oil supply news shock of Kanzig (2021), because it is defined in terms of price changes, correlates negatively with supply conditions. In this case, equations (2.4) above are simply inverted, with supply-driven traffic fluctuations being those with the opposite sign to the shock Z_t^s.

[12] Equations (2.5) apply insofar as the Z_t^d shock correlates positively with demand conditions, with high (low) readings corresponding to strong (weak) demand. Note also that for the sake of brevity, I do not report in the paper the empirical results in which supply- and demand-driven Hormuz traffic shocks are identified using global oil demand shocks. Results are available upon request.

The supply-driven component of Hormuz traffic deviations, $\omega_t^{H,s}$ is therefore the predicted value of the non-parametric regression, while the demand-driven component is the difference between the observed traffic deviation ω_t^H and the predicted value $\mathbb{E}\left[\omega_t^H \mid Z_t^s\right]$. Note that using a non-parametric regression instead of a simple linear regression allows for some flexibility in the relationship between Hormuz traffic and the global oil supply shock, and in particular allows for non-linearity in the relationship between the two. This in turn reduces the risk that estimates of the supply-driven component of traffic face the usual weak instrumentation problem.

An alternative to this approach consists of using a global oil demand shock Z_t^d. In this case, one can estimate the predicted value of Hormuz traffic conditional on this global oil demand shock as $\mathbb{E}\left[\omega_t^H \mid Z_t^d\right]$, and compute the supply-driven component of Hormuz traffic as the difference between observed and predicted traffic:

$$\omega_t^{H,s} = \omega_t^H - \mathbb{E}\left[\omega_t^H | Z_t^d\right] \tag{2.7}$$

However, it turns out that global oil demand shocks correlate only weakly with the Hormuz traffic variable ω_t^H. As a result, under this approach, the vast majority of variation in Hormuz traffic ends up being attributed to non-demand factors, i.e. supply-side factors. Consequently, estimates for *observed* traffic deviations ω_t^H and estimates for *supply-driven* traffic deviations $\omega_t^{H,s}$ end up being very similar and hence quite uninformative about the respective importance of supply and demand-driven fluctuations in Hormuz traffic.

Finally, while this methodology provides valuable insights, it is also subject to certain limitations. Two are of particular importance in this context. First, while the use of external instruments helps to identify causal relationships, the possibility of omitted variable bias cannot be entirely ruled out. Second, as noted above, the methodology described here naturally applies to the Strait of Hormuz because of the large share of tanker traffic. However, it may be less informative when applied to other chokepoints with different trade structures and dynamics.[13]

3 Regression specifications

After developing the methodology used to estimate shocks to the maritime traffic in the Strait of Hormuz, I now turn to the description of the second part of the empirical analysis, namely the assessment of the implications and consequences of adverse shocks or disruptions to traffic in the Strait of Hormuz. I do so by considering three possible margins. The first concerns commodity

[13]Indeed, because there are no clear instruments that would allow me to separate supply- and demand-driven traffic fluctuations at other chokepoints, I have to rely on a single estimate of traffic deviations, with no possibility of contrasting supply- and demand-driven fluctuations.

prices. Because the majority of traffic in the Strait of Hormuz consists of energy flows, I consider how prices of key commodities, namely energy and fertilisers, evolve after a traffic disruption in the Strait of Hormuz. Second, I take a global perspective and look at the evolution of global industrial production and global consumer prices after shocks to Hormuz traffic. Finally, I investigate the financial spillovers of traffic disruptions in the Strait of Hormuz, focusing on yield spreads on bonds issued by AE corporates and EME sovereigns.

3.1 Commodity prices

To estimate how disruptions to Hormuz traffic affect commodity prices, namely energy (E) and fertilisers (F), I estimate the following Local Projection (LP) regressions:

$$\ln\left(\frac{P^i_{t+m}}{P^{\text{cpi}}_{t+m}}\right) = a^i_m + b^i_m \ln\left(\frac{P^i_t}{P^{\text{cpi}}_t}\right) + d^{H,i}_m X^H_t + d^{C,i}_m X^C_t + e^i_{t,m} \quad \text{for } i = \{E;F\} \text{ and } m = \{1;...;12\} \tag{3.1}$$

where P^i_t is the global price index for commodity i ($i \in \{E;F\}$) at time t, P^{cpi}_t is the global consumer price index at time t, and m is the horizon expressed in months. Turning to the explanatory variables, X^H_t stands for Hormuz traffic deviations. These may be headline traffic deviations, i.e. $X^H_t = \omega^H_t$ or the respective supply- and demand-driven components, i.e. $X^H_t = \left(\omega^{H,s}_t;\omega^{H,d}_t\right)'$. Similarly, X^c_t stands for traffic deviations at other chokepoints, or any other relevant control variable.

As is clear, I test the relationship between Hormuz traffic and "real" commodity prices. Insofar as shocks to Hormuz traffic affect the availability or the supply of such goods or inputs, their prices should move accordingly not simply in absolute terms but also *relative* to the prices of other goods, hence the focus on "real" prices. The coefficients of interest will therefore be $d^{H,i}_m$ and $d^{C,i}_m$ which measure the change in real commodity prices i, m months after a deviation in maritime traffic in Hormuz or at any other chokepoint.

3.2 Global output and global CPI

Similarly, I estimate a set of LP regressions where the dependent variable is the m-month ahead growth rate of global industrial production or the m-month ahead inflation rate of the global consumer price index. Denoting global industrial production by Y and $Q \in \left\{Y;P^{\text{cpi}}\right\}$, the regression specification writes as:

$$\ln\left(\frac{Q_{t+m}}{Q_t}\right) = a^Q_m + b^Q_m \ln(Q_t) + d^{H,Q}_m X^H_t + d^{C,Q}_m X^C_t + e^Q_{t,m} \quad \text{for } Q \in \left\{Y;P^{\text{cpi}}\right\} \text{ and } m = \{1;...;12\} \tag{3.2}$$

In these regressions, the coefficient of interest is $d_m^{H,Q}$. It measures the percentage change in global industrial production or in the global consumer price index that follows a change in traffic in the Strait of Hormuz, whether the change concerns headline traffic or the supply-driven component. Moreover, as in the case of commodity prices, each regression includes a set of control variables in the vector X_t^C, which may include either traffic at other chokepoints, or any relevant control variable, for instance oil demand or supply shocks, given that they may directly affect global industrial production and global consumer prices, irrespective of any fluctuation in maritime traffic at any chokepoint.

3.3 Financial conditions and bond spreads

Last, I estimate a set of LP regressions where the dependent variable is the yield spread on a given bond index, *m*-months ahead. As noted above, I consider bonds issued by AE corporates and EME sovereigns. For the former, I analyse both USD and EURO-denominated bonds, distinguishing between IG and HY bonds. The yield spread on EME sovereign bonds comes from the composite Emerging Markets Bond Index (EMBI). Denoting by S_t^j the yield spread on asset j at time t, the regression specifications is:

$$S_{t+m}^j = a_m^j + b_m^j S_t^j + d_m^{H,j} X_t^H + d_m^{C,j} X_t^C + e_{t,m}^j \quad \text{for} \quad m = \{1; ...; 12\} \tag{3.3}$$

In these regressions, as in the previous ones, the coefficients of interest are $d_m^{H,j}$ and $d_m^{C,j}$. They measure the change in the additional remuneration that investors require to hold asset j, m months after a change in traffic in the Strait of Hormuz or at another chokepoint C.

Finally, for each of the dependent variables analysed above (commodity prices, global output and inflation and bond spreads), I also estimate a quantile regression version of regressions (3.1)-(3.3) where the dependent variable is a specific quantile of the historical distribution, rather than the mean.[14] This allows for a finer characterisation of the impact of traffic disruptions, by shedding light on the specific part of the distribution that shifts in the aftermath of a traffic shock.

4 Chokepoints around the world

Before turning to the main regression results, I provide in this section some details about the traffic data, highlighting their main properties along several dimensions. First, I consider the 12 busiest chokepoints around the world, as indicated on the world map in Figure 3 below.

It shows that all the chokepoints included in this analysis are located outside the Western Hemisphere,

[14]Note that, in the case of quantile regressions, the dependent variable is always taken as a first-difference or as a first-log-difference. This ensures that both the historical and the simulated distributions will be meaningful.

with six (out of twelve) located in Asia (including the Strait of Hormuz), four located either in Africa (Suez) or along the coasts of the African continent (the Strait of Bab el-Mandeb, the Strait of Gibraltar, the Cape of Good Hope) and two either in Europe (the Strait of Dover) or along the European coasts (the Bosporus Strait). That said, as is clear from Figure 3, 9 of the 12 busiest chokepoints are located in or border the Asian continent, with only the Strait of Dover, the Strait of Gibraltar and the Cape of Good Hope being non-Asian chokepoints.

Figure 3: Panama and the 12 busiest chokepoints around the world

Notes: The black circles display the location of each of the 12 busiest chokepoints around the world. The red circle displays the location of the Panama canal. The use of this map does not constitute, and should not be construed as constituting, an expression of a position by the BIS regarding the legal status or sovereignty of any territory or its authorities, the delimitation of international frontiers and boundaries, and/or the name and designation of any territory, city or area. **Source: Encyclopedia Britannica**.

One reason why this analysis does not include chokepoints in the Western Hemisphere is that traffic there appears to be limited compared with traffic through the chokepoints included in this analysis. For instance, the average number of transit calls for ships crossing the Panama canal, the busiest chokepoint in the Western Hemisphere, is about half that for the Strait of Bab el-Mandeb (see Figure 4 below). Figure 4 also shows that the Strait of Hormuz, despite its strategic importance for energy flows, is significantly less important than the busiest chokepoints in the world in terms of overall maritime traffic, in particular those located in East Asia, i.e. the Strait of Taiwan or the Strait of Korea.[15]

My sample, which tracks the 12 busiest chokepoints around the world, captures about 80% of global maritime traffic. Among these 12 chokepoints, four, all located in Asia (The Straits of Taiwan,

[15] By comparison, in the Panama Canal, the average daily tonnage was about 860 thousand tons over 2019-2025 while the average daily number of ships was about 31 ships per day.

Korea, Malacca and Bohai) account for about 40% of total world maritime traffic transiting through chokepoints. Conversely, the 12 least active chokepoints around the world account for about one tenth (11.5%) of global maritime traffic transiting through chokepoints.[16]

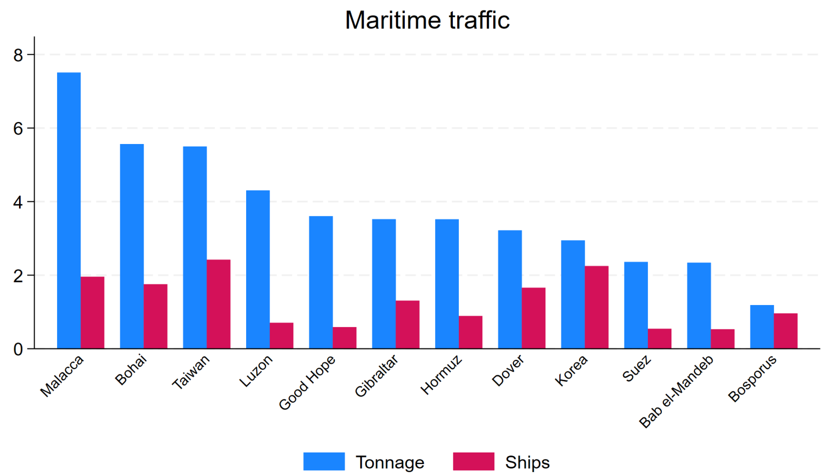


Figure 4: Average annual maritime traffic

Notes: The blue and red bars respectively show the average daily tonnage and the average daily number of vessels transiting through each of the 12 busiest chokepoints worldwide, over 2019-2025. Tonnage figures are in millions of tons, vessels figures are in hundreds. **Sources: Portwatch, author's calculations.**

4.1 Maritime traffic across world chokepoints: some stylised facts

Maritime traffic across chokepoints has undergone several notable changes since 2019, the starting point of our sample (see Figure 5 below). First, there has been a tendency for traffic through several chokepoints to increase over time, likely reflecting ongoing globalisation and expanding international trade in goods. This upward trend is clearly visible for traffic in the Strait of Malacca, as well for traffic in the Strait of Hormuz, although to a lesser extent. Second, the slow-moving upward trend in maritime traffic that was also apparent in the Strait of Bab el-Mandeb or the Suez Canal, stopped abruptly in early 2024, as the conflict in Palestine prompted retaliation from several countries in the region. Since then, traffic has remained significantly depressed, with no clear trend, except for a stabilisation at extremely low levels (less than 20 ships transiting per day through both chokepoints). By contrast, traffic off the Cape of Good Hope, which had hovered for years at around 20 ships per day, increased significantly in early 2024, coinciding with the significant drop in traffic in the Strait of Bab el-Mandeb and the Suez Canal. However, there are no signs that traffic in the Strait of Malacca

[16]Ranked by maritime traffic, these chokepoints are: the Strait of Bering, the Strait of Magellan, the Strait of Torres, the Mona Passage, the Strait of Balabac, the Strait of Ombai, the Windward Passage, the Strait of Kerch, the Strait of Sunda, the Panama canal, the Strait of Lombok and the Yucatan channel.

or in the Strait of Taiwan was affected in either direction.

In the Strait of Malacca in particular, the number of ships as well as the associated tonnage were broadly stable in 2024 and increased by about 10% in 2025, from about 200 to 220 ships crossing every day. Last, the upper-left panel shows that the current disruption to Hormuz traffic, which started in late February 2026, is unprecedented in the sense that there is no historical precedent in the sample for traffic at a major global chokepoint dropping to zero within days. Even the sharp fall in traffic in early 2024 in the Strait of Bab el-Mandeb and in the Suez Canal did not match the complete halt in traffic in the Strait of Hormuz since March 2026.

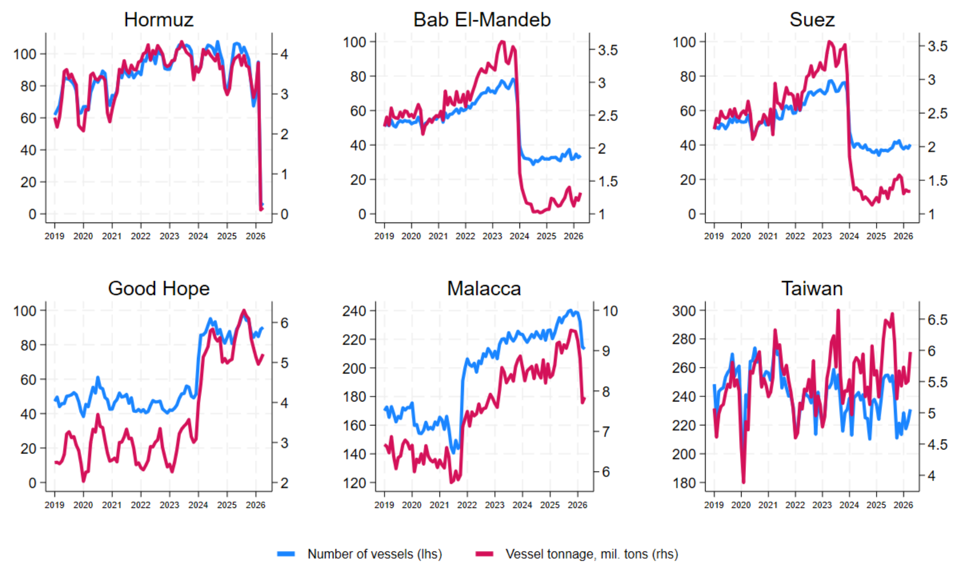


Figure 5: Vessel traffic and associated tonnage across six different chokepoints.

Notes: Vessel traffic and associated tonnage across six different chokepoints around the world over 2019-2025. The number of vessels is reported in the left-hand scale. Lines report monthly averages of the original daily data. **Sources: Portwatch, author's calculations.**

Turning now to the measure of traffic shock built in section 2.1, Figure 6 below plots the daily shock to traffic in the Strait of Hormuz, —the residual ω_d^H as estimated from specification (2.3)— between Jan. 1, 2026 and Apr. 13, 2026. The graph shows that this shock measure was roughly 2 standard deviations above neutral in the days preceding the start of the conflict. It then dropped abruptly to 2 standard deviations below neutral when the conflict started and remained significantly depressed throughout mid-April 2026. The measure of Hormuz traffic shock therefore fell by a cumulative 4 standard deviations, with roughly half reflecting abnormally strong traffic prior to the conflict —likely some form of front-loading as news about upcoming military hostilities were intensifying— and the other half reflecting from abnormally low traffic in the aftermath of the conflict, as military attacks brought traffic to a halt.

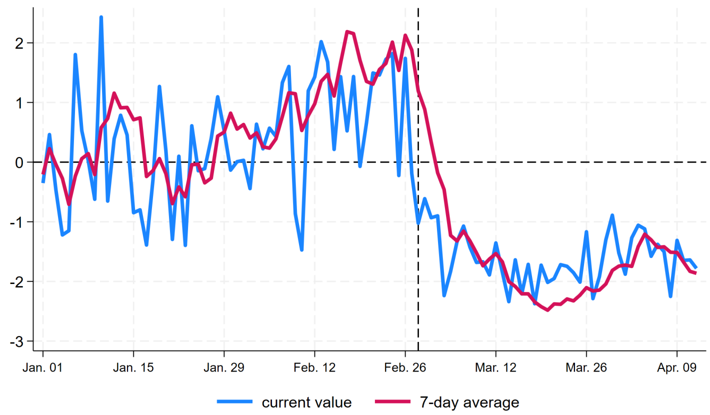


Figure 6: Daily shocks to maritime traffic in the Strait of Hormuz.

Notes: Lines plot deviations in the number of vessels crossing through the Strait of Hormuz from averages across time and chokepoints, controlling for tonnage, and normalised by historical standard deviations. The vertical line plots the start of the war. **Sources: Portwatch, author's calculations.**

Figure A1 in Appendix A provides the monthly counterpart of the shock series displayed in Figure 6 above. It shows some events that took place early in the sample in particular the hits to ships anchored in the Strait of Hormuz in May 2019 or the Covid-19 lockdowns in March 2020 were associated with negative traffic shock readings. Conversely, the conflict in Ukraine, which arguably increased demand for energy from the Middle East is rather associated with positive readings. Later in the sample, the conflict in Palestine and the closure of the Strait of Bab el-Mandeb, a key chokepoint for energy flows from the Strait of Hormuz on their way to Europe, also coincided with a sharp fall in the series shock. Finally, with negative (positive) value being more pre-eminent at the beginning (end) of the sample period, the trend in the shock series could reflect a move over time towards using smaller —yet more numerous— ships.[17]

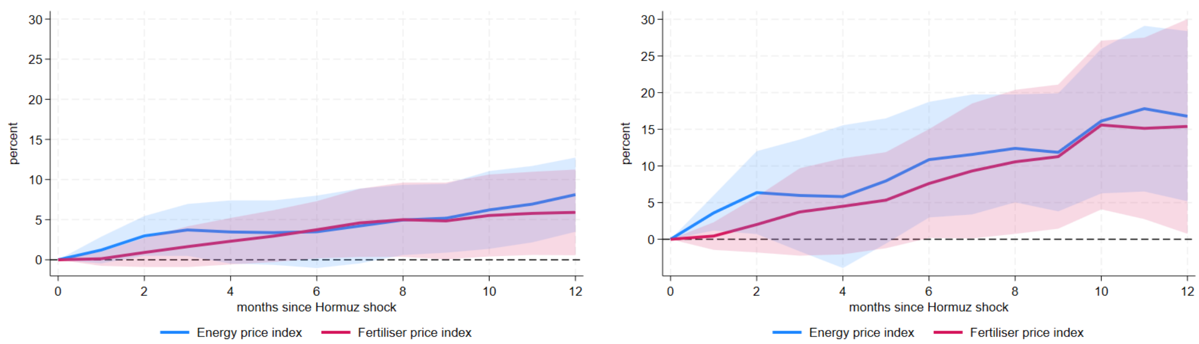
5 Empirical analysis

This section is divided into three parts. I start by looking at commodity prices, estimating how they evolve in the aftermath of maritime traffic shocks in the Strait of Hormuz. Second, I focus on global output and consumer prices and provide evidence that fluctuations in Hormuz traffic, unlike those at other chokepoints, act as global supply shocks, shifting global output and prices in opposite directions. Finally, I turn to financial markets and show that yield spreads on AE corporate bonds and EME sovereign bonds tend to widen in the aftermath of reductions in Hormuz traffic.

[17]This feature could have been attenuated by considering time varying averages for traffic in the Strait of Hormuz as opposed to a unique average for the whole time period.

5.1 Commodity prices

To investigate how commodity prices evolve in the aftermath of a change in maritime traffic in the Strait of Hormuz, I estimate a set of LP regressions as detailed in specification (3.1) in Section 3, where the real price of a commodity, m months ahead, depends on the current real price of that commodity and a measure of maritime traffic in the Strait of Hormuz.



(a) : Negative shocks to Hormuz traffic (b) : Supply-driven negative shocks to Hormuz traffic

Figure 7: Commodity real prices in the aftermath of a fall in maritime traffic in the Strait of Hormuz. Figure 7 plots the percentage change in the real prices of energy and fertilisers in response to a standardised negative deviation from average across time in maritime traffic through the Strait of Hormuz, controlling for vessel tonnage. Panel (a) considers all traffic deviations; Panel (b) considers traffic deviations consistent with oil supply surprises as identified by Kanzig (2021). Blue and red areas plot 90% confidence bands. **Sources: Portwatch, World Bank Pink Sheet, author's calculations.**

Let me start with the case where maritime traffic is the deviation in the number of vessels transiting through the Strait of Hormuz, relative to averages across chokepoints and time, controlling for vessel tonnage, i.e. the residual ω_t^H in regression (2.3). Empirical estimates suggest that a negative shock to maritime traffic in the Strait of Hormuz is typically followed by higher energy and fertiliser real prices subsequently. For instance, panel (a) in Figure 7 above shows that energy and fertiliser prices are about 4 per cent higher relative to global CPI some 6 months after a standardised reduction in maritime traffic in the Strait of Hormuz. After 12 months, energy and fertiliser prices end up, respectively, about 8 and 6 per cent above their pre-shock levels.

Going one step further, I refine the measure of maritime traffic by separating supply- and demand-driven fluctuations using sign-based identification as detailed in expressions (2.5) and (2.4). Specifically, I use oil supply surprises as estimated by Kanzig (2021) to separate demand- from supply-driven fluctuations in maritime traffic in the Strait of Hormuz.[18] Focusing on the latter, supply-driven fluctuations, panel (b) in Figure 7 confirms that reductions in traffic in the Strait of Hormuz that are consistent with oil supply surprises are typically associated with higher subsequent energy and fertiliser real prices. In addition, the price increases that follow supply-driven reductions in maritime

[18]Using oil supply news surprises instead of oil supply surprises turns out to provide very similar results.

traffic are about twice as large as than those estimated when considering all traffic fluctuations. This is consistent with the view that demand-driven reductions in maritime traffic, which are associated with *lower*, rather than *higher*, commodity prices, tend to reduce the impact of overall reductions in Hormuz traffic. Stripping them out therefore naturally leads to larger estimates. Quantitatively, a standardised supply-driven reduction in traffic in the Strait of Hormuz is associated with a 15-17 per cent increase in the real prices of energy and fertilisers after 12 months.

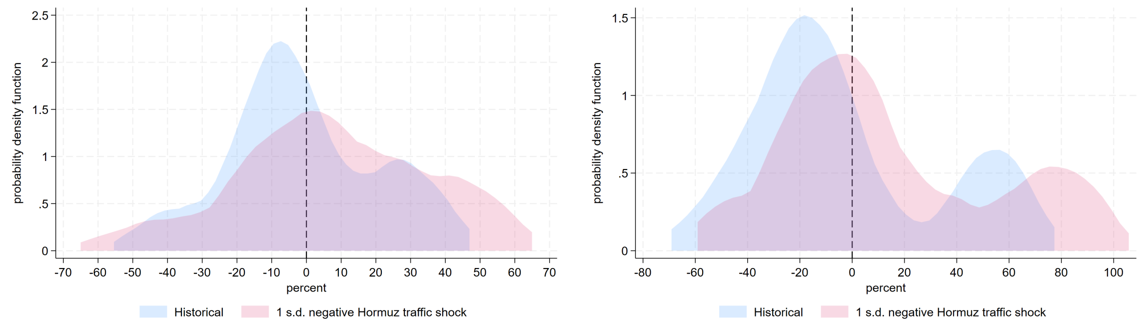
5.1.1 The distribution of commodity price risks

While Figure 7 provides evidence that negative shocks to traffic in the Strait of Hormuz tend to raise *average* energy price inflation, another important question is how the *distribution* of energy price inflation shifts in the aftermath of traffic shocks in the Strait of Hormuz. In particular, the question is whether negative Hormuz traffic shocks increase average energy inflation by suppressing downside risks, thereby cutting the left tail of the energy inflation distribution, or because they add to upside risks by pushing the right tail (of the energy inflation distribution) further out. To answer this question, I estimate a set of quantile regressions focusing on the 6- and the 12-month horizons and considering supply-driven shocks to maritime traffic in the Strait of Hormuz, which I compute, as above, using sign-based identification and oil supply surprises from Kanzig (2021).

The graphs in Figure 8 below plot the *historical* distribution of energy inflation outcomes (in blue) at 6- and 12-month horizons and the *hypothetical* distribution of energy inflation that would be observed under a standardised reduction in Hormuz traffic (in red). Comparing these two distributions provides two main results. In the short-run, i.e. up to six months ahead, negative shocks to Hormuz traffic raise energy inflation essentially by pushing up the right tail further to the right while barely affecting the left tail (panel (a)). For instance, Hormuz traffic shocks barely move the first quartile of the distribution of energy price inflation (from -14% to -10%), while the third quartile increases significantly, from 17.5% to 30.5%. By contrast, over longer horizons, i.e. at the 12-month horizon, negative shocks to Hormuz traffic shift the whole distribution of energy inflation to the right, including the left tail. To put things in perspective, a standardised negative shock raises both the distribution's first and third quartiles substantially, from -29% to -19% for the former lower quartile and from 30% to 51% for the latter higher quartile.

5.1.2 Global commodity prices, Hormuz maritime traffic and global oil shocks

Next, I test the impact of Hormuz traffic shocks against global oil shocks. Focusing on the relationship between supply-driven fluctuations in Hormuz maritime traffic and commodity prices at 6- and 12-month horizons, the idea is to test whether fluctuations in Hormuz maritime traffic matter for



(a) : 6-month ahead percentage change

(b) : 12-month ahead percentage change

Figure 8: The distribution of energy price inflation following a supply-driven fall in maritime traffic in the Strait of Hormuz. Figure 8 plots the historical distribution of real energy price inflation (in blue) and the distribution under a standardised reduction in the Strait of Hormuz' maritime traffic (in red). The left-hand panel plots distributions at a 6-month horizon, the right-hand panel plots distributions at a 12-month horizon. **Sources: Portwatch, World Bank Pink Sheet, author's calculations.**

commodity prices over and above shocks to global oil markets. Specifically, I consider four oil shocks from Baumeister and Hamilton (2019): (i) an oil demand shock related to global economic activity, (ii) another related to global oil consumption demand, (iii) one related to global oil inventories (iv) and a generic global oil supply shock. These four shocks are extracted using a Structural VAR. In addition, I also estimate specifications that include the oil supply surprise and the oil news shock as estimated by Kanzig (2021), which rely on high-frequency identification using OPEC supply announcements.

Table 1 below focuses on the relationship between energy prices and maritime traffic in the Strait of Hormuz, with the supply- and demand-driven maritime fluctuations constructed using sign-based identification, the conditioning variable being oil supply surprises as estimated by Kanzig (2021). The estimation table provides three main results. First, supply-driven reductions to maritime traffic in the Strait of Hormuz are systematically associated with significant increases in real energy prices. Conversely, demand-driven shocks to maritime traffic tend to have a smaller impact on energy prices, especially over shorter horizons.

Second, positive global oil demand shocks, especially those related to global economic activity and oil consumption demand, are associated with higher real energy prices, with the impact lasting up to 12 months ahead. Conversely, oil demand shocks associated with the build-up of oil inventories and the different oil supply shocks display a much weaker correlation with subsequent energy prices, even if the relationships are qualitatively consistent with the general impact of supply shocks. Last, and most importantly, the significant relationship between supply-driven fluctuations in Hormuz traffic and subsequent energy prices proves to be robust to the inclusion of oil demand and supply shocks. Specifically, except for column (6), estimates in Table 1 all show that supply-driven reductions in

Dependent variable:	**Energy real price index, 6-month ahead**							**Energy real price index, 12-month ahead**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Energy real price index	0.606^{a}	0.603^{a}	0.558^{a}	0.569^{a}	0.621^{a}	0.604^{a}	0.602^{a}	0.103	0.103	0.036	0.024	0.119	0.101	0.102
	(0.073)	(0.071)	(0.074)	(0.078)	(0.073)	(0.073)	(0.072)	(0.078)	(0.066)	(0.079)	(0.085)	(0.077)	(0.080)	(0.079)
Hormuz, demand	-3.49	-2.90	-5.42	-3.83	-5.69^{c}	-5.21	-4.20	-8.16^{b}	-7.40^{b}	-10.81^{b}	-8.87^{b}	-10.02^{a}	-9.35	-8.30^{b}
	(3.25)	(3.09)	(3.91)	(3.44)	(3.17)	(4.70)	(3.25)	(3.13)	(3.01)	(4.76)	(3.70)	(3.28)	(6.69)	(3.58)
Hormuz, supply	-10.86^{b}	-12.39^{b}	-10.31^{b}	-10.99^{b}	-11.28^{b}	-8.94	-10.15^{b}	-16.78^{b}	-19.65^{a}	-15.65^{b}	-16.47^{b}	-17.88^{b}	-15.43^{c}	-16.53^{b}
	(4.78)	(5.24)	(4.63)	(4.77)	(4.74)	(6.33)	(4.70)	(7.03)	(7.37)	(6.48)	(6.34)	(6.93)	(9.18)	(7.39)
Oil demand, Eco. Act.		4.28^{b}							5.43^{a}					
		(1.92)							(1.92)					
Oil demand, Cons. D.			4.46^{c}							6.23^{c}				
			(2.64)							(3.28)				
Oil demand, Inv.				-3.23							-6.85^{b}			
				(2.61)							(3.33)			
Oil supply shock					-4.55							-3.94		
					(2.96)							(2.50)		
Oil supply surprise						2.04							1.37	
						(4.03)							(7.30)	
Oil supply news surprise							1.78							0.364
							(2.35)							(3.47)
Observations	76	76	76	76	76	76	76	73	73	73	73	73	73	73
R-squared	0.389	0.407	0.407	0.399	0.410	0.392	0.392	0.080	0.107	0.113	0.120	0.094	0.081	0.080

Notes: Energy real price index is the World Bank price index for energy deflated using world CPI index and expressed in logs. **Hormuz, demand** is equal to the Hormuz shock when it is the same sign as the Kanzig (2021)'s oil supply shock. **Hormuz, supply** is equal to the Hormuz shock when it is the opposite sign to the Kanzig (2021)'s oil supply shock. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. Both **Hormuz, demand** and **Hormuz, supply**, as well as global oil demand and supply shocks are normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts ^{a}, ^{b} and ^{c} respectively indicate statistical significance at the 1, 5 and 10% levels.

Table 1: Energy prices, maritime traffic in the Strait of Hormuz and global oil shocks

Hormuz traffic are followed by significantly higher real energy prices, with the price increase ranging from about 10% after 6 months to about 16-17% after 12 months.[19] In other words, changes in maritime traffic in the Strait of Hormuz do seem to matter for energy prices over and above global oil demand and supply shocks.[20]

Table B1 in Appendix shows that similar results hold for fertiliser prices. In particular, separating fluctuations in maritime traffic in the Strait of Hormuz into supply- and demand-driven —using sign-based identification—shows that a standardised supply-driven contraction in traffic in the Strait of Hormuz raises real fertiliser prices by about 7-8% after 6 months and about 15% after 12 months. In addition, positive oil demand shocks related to global economic activity tend to be followed by significantly higher fertiliser prices, although the price increase tends to be less than half that observed for a standardised fall in Hormuz traffic. Apart from this shock, other global oil demand

[19]Lower statistical significance in column (6) likely reflects collinearity as the oil supply surprise shock is both a control variable as well as a conditioning variable (to separate supply- and demand-driven traffic fluctuations).

[20]Note that given the estimation sample period, several specific events, including the Covid-19 crisis, the conflict in Ukraine or in Palestine could be driving the empirical results. Estimation results based on sub-samples excluding each of these specific events are available upon request.

and supply shocks do not display a consistently significant correlation with the subsequent evolution of fertiliser prices. Global oil demand shocks relating to oil consumption demand do put some upward pressure on fertiliser prices up to six months ahead, but the impact loses significance at a one-year horizon. Conversely, global oil demand shocks relating to the build-up of inventories do not correlate significantly with fertiliser prices 6-months ahead. However they do correlate negatively with fertiliser prices at one year horizon, suggesting that an inventory build-up helps bring at some point additional fertiliser supply online. Last, as was the case for energy prices, supply-driven fluctuations in Hormuz traffic tend to lose significance, especially at a 6-month horizon, when the oil supply surprise —which is used to separate supply- and demand-driven traffic fluctuations— is added as a control variables, most likely reflecting, as above, a collinearity problem since none of the oil supply surprise nor the oil supply news surprise variables are significant either at a 6- or at 12-months horizon.

5.1.3 Global commodity prices and maritime traffic at global chokepoints

Next, I look at the impact of fluctuations in Hormuz traffic on energy prices, controlling for maritime traffic at other chokepoints. In addition to the Strait of Hormuz, Table 2 below includes six other chokepoints, namely the Suez Canal, the Strait of Bab el-Mandeb, the Strait of Malacca, the Cape of Good Hope, the Strait of Gibraltar and the Strait of Taiwan. I therefore test the impact of the supply-driven fluctuations in maritime traffic in the Strait of Hormuz on energy prices against fluctuations in maritime traffic at each of these six chokepoints. Moreover, unlike in Table 1, supply- and demand-driven fluctuations in Hormuz traffic are estimated using a non-parametric regression-based identification.[21]

Table 2 below shows that the variable capturing supply-driven fluctuations in Hormuz traffic is significant and negatively related to real energy prices both at a 6- and at a 12-month horizons, with the impact being around +5-7%, six months after a standardised reduction in traffic in the Strait of Hormuz. Interestingly, traffic at another chokepoint, the Strait of Malacca, does also display a significant and negative correlation with subsequent real energy prices. Fluctuations in maritime traffic at this chokepoint have a negative impact on subsequent energy prices, both at a 6- and at a 12-month horizons, with the increase in energy prices —in the case of a reduction in traffic— being quantitatively similar to that of a standardised drop in traffic in the Strait of Hormuz. Reductions in maritime traffic off the Cape of Good Hope are also associated with higher energy prices, although the

[21] As detailed in expressions (2.6) in section 2.4, the supply-driven component of Hormuz traffic is the expectation of traffic deviation in the Strait of Hormuz conditional on Kanzig (2021)'s global oil surprise shock, while the demand-driven component is simply the difference between Hormuz traffic deviations and the expectation of traffic deviations conditional on the global oil surprise shock.

relationship is only statistically significant at a 12-month horizon. That said, these last two results — relating to the Strait of Malacca and the Cape of Good Hope — are subject to an important limitation. Because there are no obvious instrument with which to separate supply- from demand-driven traffic fluctuations at these chokepoints, the specification implicitly assumes that energy prices respond similarly to the two types of changes, an assumption that is not borne out in the data, in the specific case of traffic in the Strait of Hormuz.[22]

Dependent variable:	**Energy real price index, 6-month ahead**							**Energy real price index, 12-month ahead**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Energy real price index	0.611^{a}	0.649^{a}	0.590^{a}	0.717^{a}	0.586^{a}	0.613^{a}	0.624^{a}	0.135	0.148^{c}	0.102	0.310^{a}	0.071	0.051	0.131
	(0.075)	(0.073)	(0.075)	(0.067)	(0.077)	(0.079)	(0.076)	(0.084)	(0.088)	(0.093)	(0.095)	(0.087)	(0.106)	(0.107)
Hormuz, demand	-0.707	1.312	-1.444	3.107	-1.085	-0.603	-0.140	-4.688^{c}	-3.946	-5.921^{b}	1.405	-5.617^{c}	-9.887^{a}	-4.845
	(2.934)	(3.499)	(2.706)	(3.496)	(2.971)	(3.350)	(3.215)	(2.789)	(3.089)	(2.473)	(3.258)	(2.950)	(3.343)	(3.236)
Hormuz, supply	-7.028^{a}	-6.297^{a}	-7.327^{a}	-5.522^{b}	-7.316^{a}	-7.015^{a}	-6.958^{a}	-14.68^{a}	-14.30^{a}	-15.56^{a}	-11.82^{a}	-14.59^{a}	-14.35^{a}	-14.71^{a}
	(2.473)	(2.330)	(2.743)	(2.495)	(2.337)	(2.496)	(2.510)	(3.262)	(3.674)	(3.701)	(3.250)	(3.257)	(3.424)	(3.542)
Suez		-3.947							-1.433					
		(3.027)							(4.337)					
Bab El-Mandeb			2.425							4.059				
			(2.972)							(3.483)				
Malacca				-7.852^{b}							-12.94^{b}			
				(3.358)							(4.941)			
Good Hope					-3.223							-7.548^{b}		
					(2.165)							(3.404)		
Gibraltar						-0.213							11.66^{b}	
						(2.866)							(4.608)	
Taiwan							1.016							-0.282
							(3.605)							(4.861)
Observations	76	76	76	76	76	76	76	73	73	73	73	73	73	73
R-squared	0.398	0.408	0.403	0.431	0.408	0.398	0.399	0.165	0.166	0.178	0.250	0.215	0.256	0.165

Notes: Real commodity prices are deflated using world CPI index and expressed in logs. **Hormuz, supply** and **Hormuz, demand** are respectively computed as predicted and residual values from the non-parametric regression of the Hormuz traffic shock on Kanzig (2021)'s oil supply news surprise. The **Hormuz shock** is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. The **Hormuz, demand**, the **Hormuz, supply** as well as the traffic variables at other chokepoints are all normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts [a], [b] and [c] respectively indicate statistical significance at the 1, 5 and 10% levels.

Table 2: Energy prices and maritime traffic at global chokepoints

Let us now turn to the analysis of fertiliser prices in Table B2 in the Appendix, which estimates the relationship between fluctuations in maritime traffic at key chokepoints, and subsequent real fertiliser prices (6 and 12 months ahead). The table confirms that supply-driven disruptions in traffic through the Strait of Hormuz are systematically associated with higher fertiliser prices. This is consistent with the view that such disruptions, by raising the price of fertiliser inputs, especially energy commodities such as natural gas, feed through the supply chain and end up putting upward pressure on fertiliser prices. In contrast, demand-driven shocks to Hormuz traffic have mixed effects, with estimated coefficients mostly insignificant. Similarly, traffic disruptions at other chokepoints, such as the Suez Canal or the Strait of Bab el-Mandeb, generally show limited or inconsistent effects on fertiliser prices. There is, however, evidence, as for energy prices, that disruptions to traffic in the Strait of Malacca affect fertiliser prices, both at a 6- or at a 12-month horizons.

[22]If anything, fluctuations in maritime traffic in the Strait of Malacca are likely to reflect the ebbs and flows of global international trade, most of which would be demand-driven.

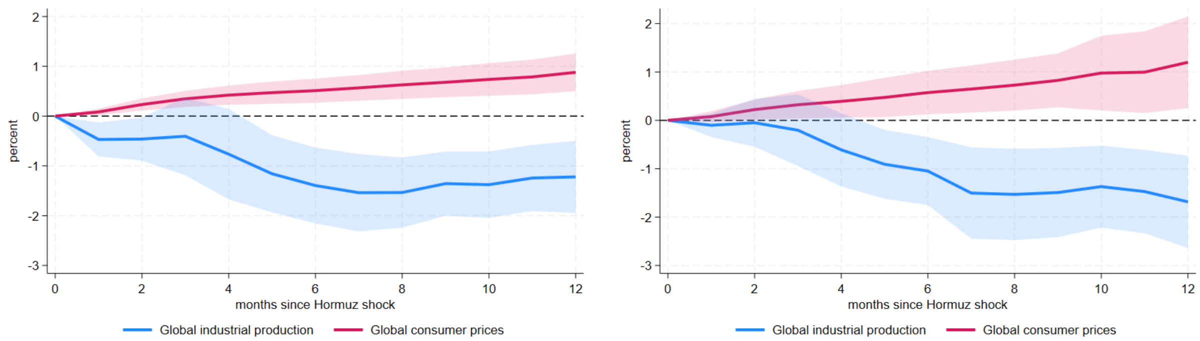
Interestingly, this impact, perhaps because the analysis does not distinguish between supply- and demand-driven shocks, tends to be large. At a 12-month horizon, the impact is about twice as large as the impact of disruptions to traffic in the Strait of Hormuz. This highlights that while traffic in the Strait of Hormuz is critical in shaping the dynamics of fertiliser prices, traffic at other chokepoints, e.g. the Strait of Malacca, also matters.

5.2 Global output and prices

If traffic fluctuations in the Strait of Hormuz can significantly affect commodity prices, in particular energy and fertiliser prices, then the impact of such fluctuations is likely to extend beyond the commodity space and spill over into global output and prices. For this reason, I turn in this section to analysing the relationship between global supply conditions, i.e. global output and prices, and maritime traffic in the Strait of Hormuz.

To do so, I follow the template used so far for the analysis of commodity prices. Using this approach, I first provide evidence that negative shocks to maritime traffic in the Strait of Hormuz, in particular supply-driven shocks, reduce global output and raise global consumer prices. In a second step, focusing on 6- and 12-months horizons, I investigate how the distributions of output growth and CPI inflation respond to shocks to maritime traffic in the Strait of Hormuz. Finally, I conduct a series of horse-race exercises, testing the impact of fluctuations in maritime traffic in the Strait of Hormuz on global output and prices against that of global oil supply and demand shocks or maritime traffic at other key chokepoints. The main takeaway from this section is simple. The Strait of Hormuz appears to be unique in that it is the only chokepoint among the world's 12 busiest that acts as a proxy for global supply conditions, with negative shocks to traffic in the Strait of Hormuz reducing global output and raising global prices

Figure 9 below, based on estimates of specification (3.2) in Section (3.2), provides the gist of the argument. It plots the response of global industrial production and global consumer prices to a standardised reduction in maritime traffic in the Strait of Hormuz, with Panel (a) including all traffic fluctuations while Panel (b) focuses on supply-driven traffic fluctuations. The empirical evidence suggests that such a fall in maritime traffic in the Strait of Hormuz is typically associated, after 12 months, with a reduction in global industrial production of about −1.5%, together with an increase in the global consumer price index of about +1%, with both impacts being statistically significant some 5 months after the shock to maritime traffic. Moreover, as is visible from the panels in Figure 9, considering either all traffic fluctuations or only the supply-driven ones provides very similar estimates for both output and prices, even if confidence bands tend to be somewhat wider for estimates relating to supply-driven traffic fluctuations.



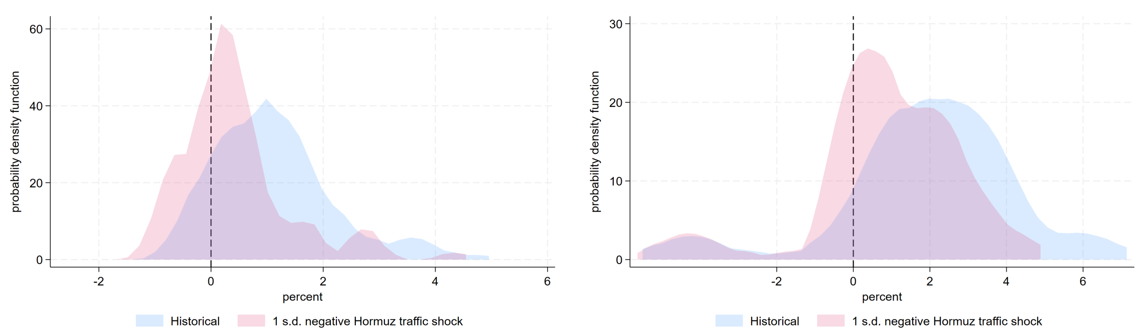
(a) : Negative shocks to Hormuz traffic

(b) : Supply-driven negative shocks to Hormuz traffic

Figure 9: Global IP and CPI in the aftermath of a fall in maritime traffic in the Strait of Hormuz. Figure 9 plots the percentage change in global industrial production and in global consumer price index in response to a standardised negative deviation from average across time and chokepoints in the Strait of Hormuz' maritime traffic, controlling for vessel tonnage. Panel (a) considers all traffic deviations; Panel (b) focuses on traffic deviations consistent with oil supply surprises as identified by Baumeister and Hamilton (2019) (for IP) and Kanzig (2021) (for CPI). Blue and red areas plot 90% confidence bands. **Sources: IMF, Portwatch, author's calculations.**

5.2.1 The distribution of stagflation risks

Next, I investigate which parts of the distributions of industrial production growth and global CPI inflation move in response to a shock to maritime traffic in the Strait of Hormuz. To do so, I estimate, as previously, a set of quantile regressions, where the dependent variables are the quantiles of the distribution of global industrial production growth or global CPI inflation, either at the 6- or at the 12-month horizons.



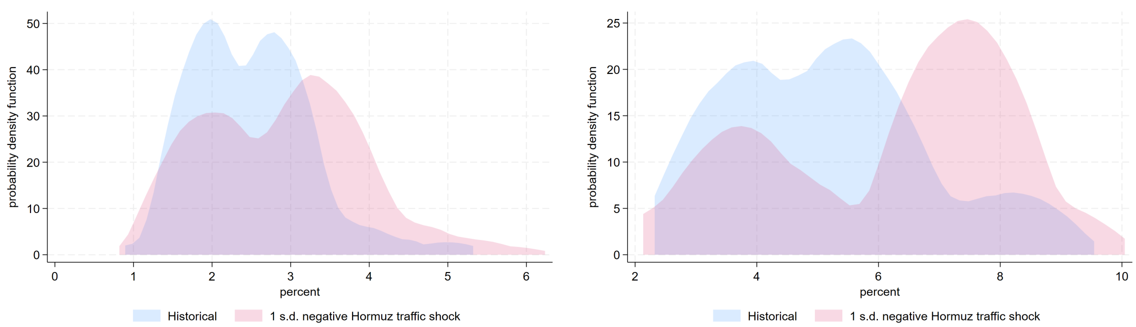
(a) : 6-month ahead global IP growth

(b) : 12-month ahead global IP growth

Figure 10: Supply-driven reductions in maritime traffic in the Strait of Hormuz and the distribution of global IP growth. Figure 10 plots the historical distribution of global CPI inflation (in blue) and the same distribution under a standardised reduction in the Strait of Hormuz' maritime traffic (in red). The left-hand panel plots distributions for 6-month ahead inflation, the right-hand panel plots distributions for 12-month ahead inflation. **Sources: IMF, Portwatch, author's calculations.**

Figure 10 above shows that negative shocks to traffic in the Strait of Hormuz tend to shift the whole distribution of industrial production growth to the left, consistent with Panel (a) in Figure 9. However, the downward shift in industrial production growth is generally more pronounced for higher quantiles, especially over a one-year horizon. For instance, while a standardised negative shock to Hormuz traffic cuts the 25th percentile of the distribution of industrial production growth by about 80 basis points over a 12-month horizon (-50 basis points over a 6-month horizon), the 75th percentile actually falls by about 120 basis points over the same 12-month horizon (-90 basis points over 6 months).

Turning to global inflation, Figure 11 below shows similar results to those for global industrial production growth. Specifically, negative shocks to traffic in the Strait of Hormuz tend to raise disproportionately the higher quantiles of the distribution of CPI inflation. In other words, it is when inflation is high globally, arguably when global demand is already significantly outstripping global supply — that disruptions to Hormuz maritime traffic tend to produce the largest price pressures. For instance, considering 6-month ahead inflation, a negative shock to Hormuz traffic turns out to have little to no effect on the first quartile of the distribution.



(a) : 6-month ahead global CPI inflation

(b) : 12-month ahead global CPI inflation

Figure 11: Supply-driven reductions in maritime traffic in the Strait of Hormuz and the distribution of global CPI inflation. Figure 11 plots the historical distribution of global CPI inflation (in blue) and the same distribution under a standardised reduction in the Strait of Hormuz' maritime traffic (in red). The left-hand panel plots distributions for 6-month ahead inflation, the right-hand panel plots distributions for 12-month ahead inflation. **Sources: IMF, Portwatch, author's calculations.**

By contrast, such a shock typically raises the median and the 75th percentile by 55 and 65 basis points, respectively. And the same pattern also holds for 12-month ahead inflation, with the 25th percentile responding significantly less than the upper quantiles, although with one important qualification: the inflationary impact of negative Hormuz traffic shocks seems to peak at quantiles close to the median. In other words, Hormuz traffic shocks seem to matter little when global inflation is very low —likely because global supply is far outpacing global demand— or when global inflation is high —possibly because the global economy is already facing significant price pressures. By contrast, when global inflation is close to the median outcome, then shocks to traffic in the Strait of Hormuz can tip the balance between global supply and global demand, thereby having a material impact on global inflation. Quantitatively, the difference in impacts across quantiles is large. At the median, a standardised Hormuz traffic shock can raise global inflation by as much as 200 basis points. Conversely, the same Hormuz traffic shock raises global inflation by about 40-50 basis points at the 25th percentile (and by 120-130 basis points at the 75th percentile).

5.2.2 Hormuz maritime traffic, global oil shocks and global output and prices

I now turn to analysing the relationship between global output and prices on the one hand, and Hormuz traffic and global oil shocks on the other hand.

Dependent variable:	**World industrial production, 6-month ahead**							**World industrial production, 12-month ahead**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
World IP index	0.630^{a}	0.625^{a}	0.638^{a}	0.653^{a}	0.696^{a}	0.625^{a}	0.625^{a}	0.578^{a}	0.579^{a}	0.589^{a}	0.603^{a}	0.596^{a}	0.568^{a}	0.572^{a}
	(0.142)	(0.137)	(0.150)	(0.140)	(0.137)	(0.145)	(0.144)	(0.163)	(0.163)	(0.172)	(0.159)	(0.159)	(0.164)	(0.165)
Hormuz, demand	0.931	0.918	0.932	0.858	0.687	0.969	0.963	0.581	0.585	0.607	0.502	0.490	0.571	0.649
	(0.600)	(0.563)	(0.609)	(0.606)	(0.489)	(0.604)	(0.596)	(0.873)	(0.851)	(0.856)	(0.887)	(0.779)	(0.886)	(0.923)
Hormuz, supply	1.771^{b}	1.796^{a}	1.710^{b}	1.671^{b}	1.699^{b}	1.828^{b}	1.790^{b}	1.629^{a}	1.624^{a}	1.550^{a}	1.532^{a}	1.609^{a}	1.750^{a}	1.656^{a}
	(0.676)	(0.670)	(0.721)	(0.709)	(0.656)	(0.707)	(0.687)	(0.458)	(0.438)	(0.469)	(0.458)	(0.488)	(0.493)	(0.484)
Oil demand, Economic Activity		0.225							-0.043					
		(0.685)							(0.699)					
Oil demand, Consumption D.			-0.219							-0.285				
			(0.447)							(0.428)				
Oil demand, Inventories				0.389							0.348			
				(0.398)							(0.419)			
Oil Supply shock					-0.910							-0.258		
					(0.605)							(0.698)		
Oil Supply Surprise						0.183							0.386	
						(0.292)							(0.419)	
Oil Supply News Surprise							0.205							0.310
							(0.383)							(0.575)
Observations	76	76	76	76	76	76	76	72	72	72	72	72	72	72
R-squared	0.592	0.593	0.593	0.597	0.619	0.593	0.593	0.421	0.422	0.424	0.425	0.424	0.426	0.425

Notes: World industrial production index is the log-value of the IMF index for world industrial production. **Hormuz, demand** is equal to the Hormuz shock when it is the same sign as the Kanzig (2021)'s oil supply shock. **Hormuz, supply** is equal to the Hormuz shock when it is the opposite sign to the Kanzig (2021)'s oil supply shock. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. Both **Hormuz, demand** and **Hormuz, supply**, as well as global oil demand and supply shocks are normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts ^{a}, ^{b} and ^{c} respectively indicate statistical significance at the 1, 5 and 10% levels.

Table 3: World industrial production, maritime traffic in the Strait of Hormuz and global oil shocks

Table 3 above, which focuses on global industrial production, shows that supply-driven fluctuations in Hormuz traffic display a positive correlation with subsequent global IP growth, even after controlling for global oil supply and demand shocks.[23] Importantly, controlling for such shocks brings little change to the estimated impact of maritime traffic in the Strait of Hormuz on global industrial production. In particular, comparing estimates in column (1) with estimates in columns (2)-(7) shows that a standardised supply-driven negative shock to Hormuz traffic is typically associated with a 1.6-1.8 per cent reduction in global IP, either over a 6- or over a 12-month horizon, irrespective of the specific oil shock controlled for. Consistent with the stable coefficients across the different

[23]In this table and the next, the supply- and demand-driven components of Hormuz traffic are computed using sign-based identification following the methodology laid out in section 2.3.

specifications, the regressions show that none of the oil shock variables considered display a significant correlation with global IP growth at any horizon.

Turning now to global consumer prices, Table 4 above provides three main results. First, unlike the demand-driven component, the supply-driven component of Hormuz traffic correlates negatively with subsequent global CPI inflation, irrespective of the specific oil shock variable controlled for. In addition, estimated coefficients for the supply-driven component of traffic in the Strait of Hormuz show remarkable stability across specifications.

Dependent variable:	**World consumer price index, 6-month ahead**							**World real price index, 12-month ahead**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
World CPI index	1.019^{a}	1.020^{a}	1.023^{a}	1.022^{a}	1.024^{a}	1.019^{a}	1.018^{a}	1.018^{a}	1.019^{a}	1.025^{a}	1.023^{a}	1.024^{a}	1.018^{a}	1.017^{a}
	(0.010)	(0.010)	(0.010)	(0.009)	(0.010)	(0.010)	(0.010)	(0.020)	(0.020)	(0.020)	(0.019)	(0.020)	(0.020)	(0.020)
Hormuz, demand	-0.376	-0.353	-0.569^{a}	-0.442	-0.490^{c}	-0.405	-0.434^{c}	-0.592	-0.551	-0.957^{a}	-0.722^{c}	-0.764^{c}	-0.660	-0.687^{c}
	(0.297)	(0.297)	(0.203)	(0.287)	(0.263)	(0.269)	(0.236)	(0.434)	(0.433)	(0.331)	(0.415)	(0.383)	(0.527)	(0.351)
Hormuz, supply	-0.574^{b}	-0.650^{b}	-0.562^{b}	-0.606^{b}	-0.618^{b}	-0.539	-0.500^{c}	-1.200^{b}	-1.402^{a}	-1.161^{b}	-1.241^{a}	-1.307^{b}	-1.121	-1.024^{c}
	(0.272)	(0.251)	(0.235)	(0.248)	(0.253)	(0.337)	(0.265)	(0.573)	(0.485)	(0.459)	(0.468)	(0.530)	(0.701)	(0.579)
Oil demand, Economic Activity		0.204^{c}							0.369^{b}					
		(0.119)							(0.183)					
Oil demand, Consumption D.			0.336^{a}							0.660^{a}				
			(0.103)							(0.171)				
Oil demand, Inventories				-0.284^{b}							-0.602^{a}			
				(0.112)							(0.188)			
Oil Supply					-0.175							-0.275		
					(0.152)							(0.221)		
Oil Supply Surprise						0.036							0.079	
						(0.170)							(0.463)	
Oil Supply News Suprise							0.164							0.253
							(0.128)							(0.211)
Observations	76	76	76	76	76	76	76	73	73	73	73	73	73	73
R-squared	0.991	0.992	0.992	0.992	0.992	0.991	0.992	0.972	0.973	0.975	0.975	0.972	0.972	0.972

Notes: World consumer price index is the log-value of the IMF index for world consumer prices. **Hormuz, demand** is equal to the Hormuz shock when it is the same sign as the Kanzig (2021)'s oil supply shock. **Hormuz, supply** is equal to the Hormuz shock when it is the opposite sign to the Kanzig (2021)'s oil supply shock. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. Both **Hormuz, demand** and **Hormuz, supply**, as well as global oil demand and supply shocks are normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts ^{a}, ^{b} and ^{c} respectively indicate statistical significance at the 1, 5 and 10% levels.

Table 4: World consumer prices, maritime traffic in the Strait of Hormuz and global oil shocks

Second, oil demand shocks typically correlate significantly with subsequent global CPI inflation. Yet, while the estimated coefficients for the oil demand shocks related to economic activity or consumption demand are in line with expectations, with positive demand shocks being followed by higher inflation, the negative coefficient for the demand shock related to oil inventories is more surprising, possibly reflecting the fact that such shocks predominately occur in low-inflation environments, when firms and countries take advantage of low oil prices to build inventories. Finally, it is worth noting that none of the oil supply shocks seem to have a significant impact on global CPI inflation. While the lack of a significant effect of the oil supply shock (third to last row) may reflect a genuine absence of impact, the fact that the oil supply surprise shock and the oil supply news surprise shock are insignificant may instead reflect some collinearity with the Hormuz traffic variables, insofar as the supply vs. demand identification relies on those variables.

5.2.3 Hormuz maritime traffic, global chokepoints and global consumer prices

Let us now compare how traffic in the Strait of Hormuz affects global output and consumer prices relative to traffic at other global chokepoints. Table 5 below focuses on the relationship between global IP and maritime traffic in the Strait of Hormuz and six other chokepoints around the world, at 6- and 12-month horizons. In addition, I separate the supply- and demand-driven components of maritime traffic in the Strait of Hormuz, using regression-based identification (see specification (2.6) in Section 2.4) where the supply-driven component is the predicted value of Hormuz traffic, based on a non-parametric regression using oil supply shocks as explanatory variables, and the demand-driven component is the residual.

Dependent variable:	**World industrial production index, 6-month ahead**							**World industrial production index, 12-months ahead**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
World IP index	1.006^{a}	0.962^{a}	0.949^{a}	1.149^{a}	1.004^{a}	0.891^{a}	0.933^{a}	1.031^{a}	0.924^{a}	1.010^{a}	1.212^{a}	0.978^{a}	0.555^{a}	0.882^{a}
	(0.104)	(0.129)	(0.102)	(0.141)	(0.109)	(0.123)	(0.099)	(0.191)	(0.202)	(0.198)	(0.309)	(0.174)	(0.129)	(0.181)
Hormuz, demand	0.442	0.326	0.330	0.517	0.446	0.323	0.303	0.442	0.099	0.375	0.584	0.542	-0.043	0.110
	(0.321)	(0.339)	(0.274)	(0.336)	(0.320)	(0.358)	(0.291)	(0.427)	(0.406)	(0.400)	(0.417)	(0.384)	(0.385)	(0.456)
Hormuz, supply	1.064^{c}	1.092^{c}	1.059^{c}	1.049^{c}	1.060^{c}	1.052^{c}	1.047^{c}	0.795^{b}	0.873^{b}	0.797^{b}	0.774^{b}	0.722^{b}	0.749^{a}	0.763^{b}
	(0.598)	(0.604)	(0.569)	(0.615)	(0.602)	(0.615)	(0.595)	(0.352)	(0.357)	(0.360)	(0.366)	(0.352)	(0.246)	(0.341)
Suez		0.323							0.768					
		(0.363)							(0.461)					
Bab El-Mandeb			0.697^{b}							0.286				
			(0.342)							(0.365)				
Malacca				-0.740^{c}							-0.929			
				(0.387)							(0.664)			
Good Hope					-0.026							-0.527		
					(0.220)							(0.557)		
Gibraltar						0.720^{c}							2.965^{a}	
						(0.384)							(0.604)	
Taiwan							-0.522							-0.990
							(0.405)							(0.597)
Observations	72	72	72	72	72	72	72	68	68	68	68	68	68	68
R-squared	0.718	0.719	0.732	0.724	0.718	0.728	0.722	0.578	0.586	0.580	0.587	0.586	0.734	0.591

Notes: World industrial production index is the log-value of the IMF index for world industrial production. **Hormuz, supply** and **Hormuz, demand** are respectively computed as predicted and residual values from the non-parametric regression of the Hormuz traffic shock on Kanzig (2021)'s oil supply news surprise and Baumeister and Hamilton (2019)'s oil supply shock. The Hormuz traffic shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. Both **Hormuz, demand** and **Hormuz, supply**, as well traffic shocks at other chokepoints are normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts ^{a}, ^{b} and ^{c} respectively indicate statistical significance at the 1, 5 and 10% levels.

Table 5: World industrial production and maritime traffic at global chokepoints

Estimation results in Table 5 provide three main takeaways. First, (negative) supply-driven shocks to maritime traffic in the Strait of Hormuz tend to lower global IP growth, both at a 6- and at a 12-month horizons, with the impact of a standardised reduction in Hormuz traffic reducing global IP growth by 0.7-1%, depending on the horizon considered. Second, based on the supply-demand identification scheme considered in these regressions, demand-driven fluctuations in traffic in the Strait of Hormuz typically seem to have little to no significant impact on global IP growth. Third, considering other global chokepoints, it turns out that for many, maritime traffic shocks do not display any significant correlation with subsequent global IP growth. One exception, however, is Gibraltar. Traffic shocks at this chokepoint, which commands access to major Northern European ports, are positively and significantly associated with global IP growth especially at a 12-month horizon. By contrast, traffic at other chokepoints, e.g. the Suez Canal or the Strait of Malacca, does not display any consistent correlation with global activity.

Dependent variable:	**World consumer price index, 6-month ahead**							**World consumer price index, 12-month ahead**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
World CP index	1.037^{a}	1.027^{a}	1.026^{a}	1.038^{a}	1.030^{a}	1.038^{a}	1.011^{a}	1.047^{a}	1.049^{a}	1.032^{a}	1.121^{a}	1.030^{a}	0.993^{a}	1.030^{a}
	(0.011)	(0.015)	(0.012)	(0.024)	(0.011)	(0.028)	(0.022)	(0.020)	(0.028)	(0.022)	(0.039)	(0.021)	(0.045)	(0.032)
Hormuz, demand	-0.427^{a}	-0.446^{a}	-0.454^{a}	-0.427^{a}	-0.410^{a}	-0.427^{a}	-0.469^{a}	-0.662^{a}	-0.658^{a}	-0.704^{a}	-0.708^{a}	-0.622^{a}	-0.613^{a}	-0.692^{a}
	(0.131)	(0.139)	(0.128)	(0.127)	(0.132)	(0.137)	(0.133)	(0.205)	(0.213)	(0.206)	(0.212)	(0.200)	(0.210)	(0.208)
Hormuz, supply	-0.259^{b}	-0.271^{b}	-0.280^{b}	-0.259^{b}	-0.269^{b}	-0.260^{b}	-0.236^{c}	-0.806^{a}	-0.800^{a}	-0.887^{a}	-0.698^{b}	-0.786^{a}	-0.700^{b}	-0.814^{a}
	(0.112)	(0.119)	(0.120)	(0.114)	(0.104)	(0.118)	(0.119)	(0.269)	(0.286)	(0.292)	(0.273)	(0.249)	(0.283)	(0.280)
Suez		0.174							-0.034					
		(0.169)							(0.321)					
Bab El-Mandeb			0.329^{a}							0.436^{c}				
			(0.121)							(0.232)				
Malacca				-0.012							-0.910^{c}			
				(0.309)							(0.487)			
Good Hope					-0.259^{a}							-0.540^{a}		
					(0.090)							(0.162)		
Gibraltar						-0.010							0.690	
						(0.279)							(0.437)	
Taiwan							-0.387^{c}							-0.247
							(0.229)							(0.315)
Observations	76	76	76	76	76	76	76	73	73	73	73	73	73	73
R-squared	0.992	0.992	0.992	0.992	0.992	0.992	0.992	0.974	0.974	0.975	0.976	0.976	0.975	0.974

Notes: World consumer price index is the log-value of the IMF index for world. **Hormuz, supply** and **Hormuz, demand** are respectively computed as predicted and residual values from the non-parametric regression of the Hormuz traffic shock on Kanzig (2021)'s oil supply news surprise. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. Both **Hormuz, demand** and **Hormuz, supply**, as well as global oil demand and supply shocks are normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts ^{a}, ^{b} and ^{c} respectively indicate statistical significance at the 1, 5 and 10% levels.

Table 6: World consumer prices and maritime traffic at global chokepoints

Turning now to global consumer prices, Table 6 illustrates the claim that traffic in the Strait of Hormuz is a proxy for global supply conditions, as its fluctuations move global output and prices in opposite directions. Specifically, Table 6 shows that supply-driven falls in Hormuz traffic are associated with higher global consumer prices at 6- and 12-month horizons, with the impact of a standardised reduction raising from 25 basis points after 6 months to 80 basis points after 12 months. Second, looking at the impact of traffic at other chokepoints, only traffic around the Cape of Good

Hope and through the Strait of Taiwan displays a negative relationship with global prices, consistent with the intuition that higher traffic, insofar as it is supply-driven, should weigh on global consumer prices. In addition, In the case of the Cape of Good Hope, the magnitude of the associated effect is very comparable to the impact of supply-driven fluctuations in traffic through the Strait of Hormuz (although there is no separation between supply- and demand-driven traffic at chokepoints other than Hormuz, which may blur the results). Conversely, the impact of traffic at other chokepoints is either insignificant or even positive, suggesting that those effects may be predominantly demand-driven.

5.3 The global financial effects of disruptions to Hormuz traffic

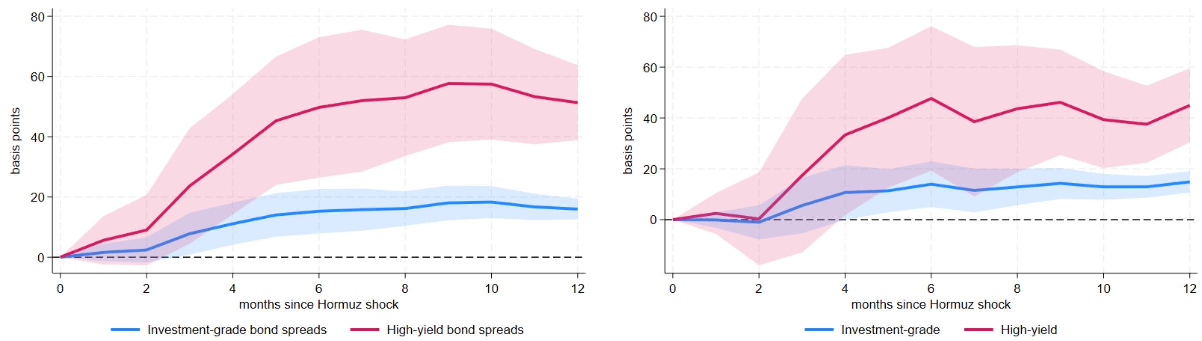
With negative shocks to Hormuz traffic raising commodity and consumer prices while weighing on global output, it is natural to expect financial assets to react accordingly, as deteriorating credit risk prompts investors to demand greater compensation for bearing these risks. To test this possibility and provide a tentative quantification of the financial impact of fluctuations in maritime traffic in the Strait of Hormuz, I now estimate the impact of changes in maritime traffic across different chokepoints around the world on financial variables.

Specifically, I start this section, by focusing on funding conditions for corporates, considering yield spreads on USD- and EUR-denominated corporate bonds and distinguishing between IG and HY bonds.[24]

Figure 12 below, reports the response of the yield spreads on USD-denominated corporate bonds, IG (in blue) and HY (in red). It shows that a standardised drop in maritime traffic in the Strait of Hormuz tends to be followed by increases in the yield spread on USD IG and HY corporate bonds by around 15 and 50 basis points (bps), respectively, after 6-12 months. These increases become discernible, i.e. significantly different from zero, after about 3 months (see panel (a)). Interestingly, when fluctuations in maritime traffic in the Strait of Hormuz are separated into demand- and supply-driven components, then estimates barely change. More precisely, identifying supply-driven changes in maritime traffic as those coinciding with oil supply shocks in the same direction, panel (b) in Figure 12 provides a very similar picture to Panel (a). In particular, yield spreads on IG and HY corporate bonds still widen by about 15 and 50 bps after 6-12 months, even if confidence bands tend to be somewhat wider, implying that it takes somewhat longer for supply-driven shocks to maritime traffic to translate into statistically significant widening of spreads.[25]

[24]The empirical analysis which follows, focuses on USD corporate bonds. Corresponding figures for EUR corporate bonds are available in Appendix C.

[25]A similar remark applies to EUR bond spreads. As is visible in Figure C2, the confidence bands on the estimates for the impact of supply-driven traffic shocks being significantly wider than those for the impact of all traffic shocks.



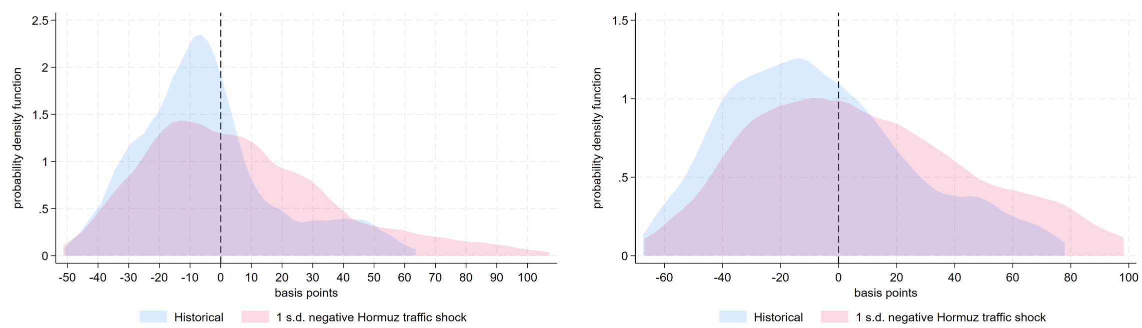
(a) : Negative shock to Hormuz traffic

(b) : Negative supply-driven shock to Hormuz traffic

Figure 12: Change in spread on USD corporate bonds in the aftermath of a supply-driven fall in maritime traffic in the Strait of Hormuz. Figure 12 plots the change in basis points in yield spreads on USD corporate bonds in response to a standardised negative deviation from average across time and chokepoints in the Strait of Hormuz' maritime traffic, controlling for vessel tonnage. Panel (a) considers all traffic deviations, panel (b) focuses on traffic deviations that coincide with oil supply news surprises as estimated by Kanzig (2021). Areas plot 90% confidence bands. **Sources: Bank of America, Portwatch, author's calculations**. References to individual firms and projects are for illustrative purposes and should not be construed as any statement on the soundness or the legal or regulatory status of any firm or project.

Interestingly, Figure 13 suggests that the increase in spreads documented in Figure 12, essentially reflects a shift in the right tail of the distribution of spread changes, while the left tail looks barely affected. To put things in perspective, according to estimates from quantile regressions, the 25$^{\text{th}}$ percentile of the distribution of changes in USD IG spreads increases by less than 4 bps after 6 months and by about 9 bps after 12 months. By contrast, the 75$^{\text{th}}$ percentile increases by about 17 and 21 bps, respectively, after 6 and 12 months. Looking at the 90$^{\text{th}}$ percentile, the increase is about 22-26 bps depending on the horizon considered. In addition, other corporate bonds, e.g. USD HY or EUR IG, behave similarly, with the differential response of higher quantiles relative to lower ones being even more pronounced (see Figure C3 and Figure C4 in Appendix C). For instance, the 25$^{\text{th}}$ percentile of the distribution of EUR IG bond spread changes increases by less than 5 bps at a 12-month horizon, while the 90$^{\text{th}}$ percentile can shift by up to 40 bps over the same horizon. The takeaway is hence that shocks to maritime traffic in the Strait of Hormuz act more as an amplifier, widening spreads further when they are already wide. By contrast, when spreads are low, the effects of shocks to traffic in the Strait of Hormuz typically tend to be more muted.

Turning to emerging markets, Figure 14 below, shows the response of the EMBI spread on EM government bond yields to a standardised reduction in the Hormuz traffic, considering, either overall or supply-driven traffic fluctuations (blue and red lines). The empirical evidence confirms that EM government bonds behave very similarly to AE corporate bonds. First, the EMBI spread tends to widen significantly 3-4 months after a reduction in Hormuz traffic and 4-5 months after a supply-driven reduction in Hormuz traffic. Second, the quantitative increase in the EMBI spread lies between



(a) : 6-month ahead USD IG bond spread

(b) : 12-month ahead USD IG bond spread

Figure 13: Change in spread on USD IG corporate bonds in the aftermath of a supply-driven fall in maritime traffic in the Strait of Hormuz. Figure 13 plots the distribution of changes in basis points in yield spreads on USD IG corporate bonds in response to a standardised supply-driven negative deviation from average across time and chokepoints in the Strait of Hormuz' maritime traffic, controlling for vessel tonnage. Panels (a) and (b) respectively plot the distribution of changes in spreads at 6- and 12-month horizons. Supply-driven traffic deviations identified as those that coincide with oil supply news surprises as estimated by Kanzig (2021). **Sources: Bank of America, Portwatch, author's calculations**. References to individual firms and projects are for illustrative purposes and should not be construed as any statement on the soundness or the legal or regulatory status of any firm or project.

those of IG and HY bonds, i.e. 30 bps for EM government bonds compared with 15 and 50 bps, respectively, for IG and HY USD corporate bonds. Third, negative shocks to Hormuz traffic typically raise the yield spread on EM government bonds because they shift the whole distribution of yield changes, but particularly the right tail, with the 75th percentile of the distribution of yield changes increasing by more than twice as much as the 25th (40 vs 16 bps at a 12-month horizon).[26] In other words, as with other financial assets, shocks to Hormuz traffic act as an amplifier, widening spreads further when they are already wide, rather than acting as a regime shifter, which would have been the case had the largest increases been concentrated in the lowest quantiles.

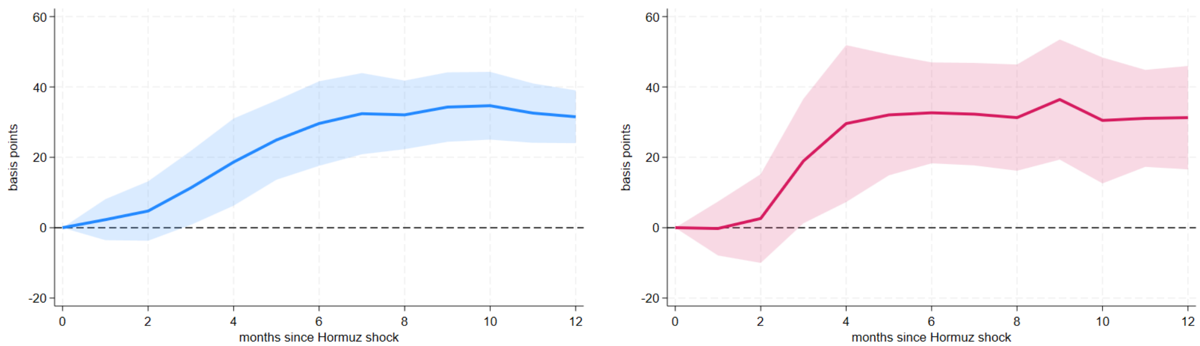
5.3.1 Hormuz maritime traffic, global oil shocks and bond spreads

In this section, I test for the impact of shocks to traffic in the Strait of Hormuz against a series of oil shocks, on either the demand or supply side. We start with the case of high yield USD corporate bonds and then turn to EM sovereign bonds. In both cases, I find that global oil demand or supply shocks add little explanatory power for changes in bond spreads once fluctuations in maritime traffic in the Strait of Hormuz have been accounted for.

The case of AE corporate bonds. Let us start with the case of high yield USD corporate bonds.[27] As noted above, the spread on these bonds typically increases by about 50 basis points 6-12 months after

[26]See Figure C6 in Appendix C for a comparison between the historical distribution of EMBI spread changes and the hypothetical distribution under a standardised negative shock to Hormuz traffic.

[27]Table C3 in Appendix C provides the empirical results in the case of EUR HY bonds.



(a) : Negative shock to Hormuz traffic (b) : Negative supply-driven shock to Hormuz traffic

Figure 14: Change in spread on EMBI government bonds in the aftermath of a fall in maritime traffic in the Strait of Hormuz. Figure 14 plots the change in basis points in yield spreads on EMBI government bonds in response to a standardised negative deviation from average across time and chokepoints in the Strait of Hormuz' maritime traffic, controlling for vessel tonnage. Panel (a) considers all traffic deviations, panel (b) focuses on traffic deviations that coincide with oil supply news surprises as estimated by Kanzig (2021). Areas plot 90% confidence bands.**Sources: J.P. Morgan, Portwatch, author's calculations**. References to individual firms and projects are for illustrative purposes and should not be construed as any statement on the soundness or the legal or regulatory status of any firm or project.

a standardised fall in Hormuz traffic (see column (1) in Table 7 below). Yet, adding to the empirical specification, global oil demand shocks (columns (2)-(4)) has relatively little effect: the coefficients on the supply-driven fluctuations in Hormuz traffic are very stable, while global oil demand shocks do not display strong statistical significance, especially over short time horizons. Moreover, even when these shocks become statistically significant at a 12-month horizon, estimated coefficients show conflicting signs, with demand shocks associated with oil consumption being associated with higher spreads on HY corporate bonds, while demand shocks associated with inventories build-ups are associated with lower spreads.

Looking at global oil supply shocks, they also provide little information over and above that provided by fluctuations in maritime traffic in the Strait of Hormuz. Only the oil supply surprise variable displays some significant (negative) correlation with subsequent spreads on HY corporate bonds. Yet, because the correlation is negative, it would imply, somewhat counter-intuitively, that spreads fall after a negative oil supply surprise shock.[28] This would be the case only if, following such shock, yields on HY corporate bonds increased less rapidly than yields on benchmark —risk-free— assets, which may be a pattern specific to the 2019-2025 sample, during which oil shocks elicited a strong response from inflation expectations and hence of benchmark yields, while corporates enjoyed relatively stable funding conditions, with the revaluation of inflation expectations not translating into higher corporate credit risk.

[28] Recall that oil supply surprise and oil supply news surprise shocks being measured in terms of prices, positive readings are associated with negative supply shocks.

Dependent variable:	USD high-yield spread, 6-month ahead							USD high-yield spread, 12-month ahead						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
USD high-yield spread	0.094	0.091	0.109	0.105	0.100	0.082	0.101	-0.286[a]	-0.286[a]	-0.211[b]	-0.247[a]	-0.288[a]	-0.341[a]	-0.275[a]
	(0.084)	(0.095)	(0.102)	(0.089)	(0.085)	(0.091)	(0.088)	(0.072)	(0.075)	(0.093)	(0.074)	(0.074)	(0.076)	(0.079)
Hormuz, demand	-52.14[a]	-53.14[b]	-52.90[a]	-51.30[b]	-51.38[a]	-52.90[a]	-54.15[b]	-58.79[a]	-59.08[a]	-62.47[a]	-55.71[a]	-59.12[a]	-62.37[a]	-61.76[a]
	(19.67)	(20.33)	(19.85)	(20.70)	(19.03)	(19.98)	(22.30)	(11.37)	(11.47)	(11.92)	(11.83)	(11.46)	(11.00)	(10.99)
Hormuz, supply	-47.68[a]	-45.95[b]	-45.50[b]	-47.16[a]	-48.21[a]	-49.39[a]	-44.76[b]	-44.94[a]	-44.45[a]	-34.37[a]	-43.02[a]	-44.72[a]	-52.94[a]	-40.63[a]
	(17.20)	(17.63)	(17.96)	(16.94)	(17.36)	(17.99)	(18.42)	(8.800)	(8.960)	(10.12)	(8.530)	(8.780)	(8.580)	(12.94)
Oil demand, Economic Activity		-14.45							-4.108					
		(11.80)							(6.125)					
Oil demand, Consumption D.			3.611							17.53[c]				
			(10.31)							(9.736)				
Oil demand, Inventories				-4.655							-17.04[c]			
				(9.918)							(8.911)			
Oil Supply shock					4.534							-1.922		
					(10.42)							(6.496)		
Oil Supply Surprise						-4.082							-19.16[b]	
						(8.835)							(7.422)	
Oil Supply News Surprise							4.131							6.096
							(10.82)							(13.59)
Observations	76	76	76	76	76	76	76	76	76	76	76	76	76	76
R-squared	0.255	0.273	0.256	0.257	0.257	0.257	0.256	0.180	0.182	0.196	0.202	0.180	0.206	0.182

Notes: The dependent variable, (**USD high-yield spread**), is expressed in basis points. **Hormuz, demand** is equal to the Hormuz shock when it is the same sign as the Kanzig (2021)'s oil supply shock. **Hormuz, supply** is equal to the Hormuz shock when it is the opposite sign to the Kanzig (2021)'s oil supply shock. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. The **Hormuz, demand**, the **Hormuz, supply** and the oil demand shock variables from Baumeister and Hamilton (2019) are all normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts [a], [b] and [c] respectively indicate statistical significance at the 1, 5 and 10% levels.

Table 7: USD HY corporate bond spreads, maritime traffic in the Strait of Hormuz and global oil shocks

The case of EM sovereign bonds. Looking at EM sovereign bonds, the empirical results are very similar to those detailed above for HY corporate bonds. First, fluctuations in Hormuz maritime traffic exert a negative and significant impact on the EMBI spread index, which tends to widen by about 20-30 basis points for each standard- deviation reduction in traffic in the Strait of Hormuz.

Second, over a 6-month window, none of the oil shocks, whether on the supply or demand side, is a statistically significant predictor of EMBI spread index. One interpretation is that oil shocks, to the extent that they matter, take time to percolate through EM government bond spreads. Another explanation relates to the composition of the EMBI index, which includes both energy-importing and energy-exporting economies. While oil shocks, in particular negative supply shocks, usually adversely affect credit quality, some energy-exporting EMEs may actually benefit, as higher revenues compress their risk premia. With some countries facing higher spreads and others facing lower spreads, the EMBI index may end up broadly unchanged in the immediate aftermath of oil shocks. Third, while empirical results in Table 8 suggest that the EMBI spread index does not respond significantly to oil *supply* shocks, at 6- or at 12-month horizons, oil *demand* shocks do correlate significantly with the EMBI spread index at a 12-month horizon. However, as was the case for corporate bonds, conflicting signs make interpretation difficult. In particular, oil demand shocks associated with strong oil consumption demand are associated with *higher* spreads, while those associated with oil inventory build-up are associated with *lower* spreads over a 1-year horizon. On the one hand, it could be that demand shocks associated with inventory build-up are associated with greater resilience down the road, thereby weighing on future risk premia. However, the positive coefficient for demand shocks associated with consumption demand is somewhat more difficult to rationalise, as it would imply that positive global oil demand shocks specifically related to strong oil consumption demand, as opposed to strong economic activity or strong inventory build-up, are followed by higher spreads on EM government bonds.

Dependent variable:	**EMBI spread, 6-month ahead**							**EMBI spread, 12-month ahead**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EMBI spread	-0.023	-0.033	0.022	-0.011	-0.019	-0.016	-0.013	-0.126	-0.128	-0.022	-0.088	-0.130	-0.141	-0.117
	(0.110)	(0.118)	(0.119)	(0.114)	(0.108)	(0.115)	(0.112)	(0.118)	(0.119)	(0.120)	(0.104)	(0.118)	(0.125)	(0.121)
Hormuz, demand	-31.96[a]	-32.67[a]	-34.49[a]	-31.39[a]	-31.78[a]	-31.73[a]	-36.62[a]	-35.85[a]	-35.94[a]	-41.74[a]	-33.91[a]	-36.06[a]	-36.35[a]	-40.35[a]
	(11.14)	(11.46)	(11.20)	(11.76)	(10.85)	(11.23)	(12.47)	(7.011)	(7.013)	(6.193)	(6.908)	(6.965)	(7.743)	(6.645)
Hormuz, supply	-27.60[a]	-26.75[a]	-23.16[a]	-27.30[a]	-27.73[a]	-26.89[a]	-22.06[a]	-27.80[a]	-27.69[a]	-17.46[a]	-26.77[a]	-27.65[a]	-29.31[a]	-22.44[a]
	(7.913)	(8.168)	(7.727)	(7.861)	(7.956)	(8.184)	(8.278)	(5.863)	(5.925)	(6.023)	(5.836)	(5.894)	(6.409)	(7.859)
Oil demand, Economic Activity		-7.972							-1.053					
		(5.673)							(5.451)					
Oil demand, Consumption D.			8.431							19.64[a]				
			(5.612)							(6.017)				
Oil demand, Inventories				-4.645							-15.84[a]			
				(5.591)							(4.910)			
Oil Supply shock					1.081							-1.214		
					(5.400)							(6.423)		
Oil Supply Surprise						1.958							-4.201	
						(4.101)							(8.698)	
Oil Supply News Surprise							8.438							8.160
							(6.939)							(8.188)
Observations	76	76	76	76	76	76	76	76	76	76	76	76	76	76
R-squared	0.243	0.261	0.258	0.249	0.243	0.244	0.256	0.200	0.200	0.263	0.255	0.200	0.204	0.209

Notes: The dependent variable, (**EMBI spread**), is expressed in basis points. **Hormuz, demand** is equal to the Hormuz shock when it is the same sign as the Kanzig (2021)'s oil supply shock. **Hormuz, supply** is equal to the Hormuz shock when it is the opposite sign to the Kanzig (2021)'s oil supply shock. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. The **Hormuz, demand**, the **Hormuz, supply** and the oil demand shock variables from Baumeister and Hamilton (2019) are all normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts [a], [b] and [c] respectively indicate statistical significance at the 1, 5 and 10% levels.

Table 8: EMBI spread, maritime traffic in the Strait of Hormuz and global oil shocks

5.3.2 Maritime traffic in the Strait of Hormuz, bond spreads and global chokepoint shocks

I now explore how bond spreads relate to fluctuations in maritime traffic at chokepoints other than the Strait of Hormuz. Specifically, the aim is to examine whether traffic shocks at other chokepoints have comparable effects to those observed for the Strait of Hormuz. The results, presented in Tables 9 and 10, provide important insights into the relative importance of Hormuz traffic disruptions and their unique role for global financial markets.[29]

Empirical results in Table 9 below confirm that supply-driven reductions in Hormuz traffic have a significant and consistent impact on USD HY corporate bond spreads and EMBI spreads. For USD HY

[29] Table C4 in Appendix C provides the estimation results for the case where the dependent variable in the spread on EUR HY bonds.

corporate bonds, a one-standard-deviation reduction in Hormuz traffic leads to an increase in spreads of approximately 20 basis points at a 6-month horizon and 20 to 30 basis points at a 12-month horizon (see the third row in Table 9). These effects are statistically significant across all specifications, i.e. irrespective of which other chokepoint is considered, underscoring the robustness of the relationship between corporate credit markets and traffic disruptions in the Strait of Hormuz. Similarly, for EMBI spreads, supply-driven reductions in Hormuz traffic result in an increase of 15 to 18 basis points at a 6-month horizon and 14 to 18 basis points at a 12-month horizon (see the third row in Table 10). Note that the magnitude of the impact of Hormuz traffic fluctuations is roughly comparable to that observed for USD HY corporate bonds, unlike in previous regressions controlling for global oil shocks, where USD HY corporate bonds displayed greater sensitivity to Hormuz traffic.

Dependent variable:	**USD high-yield spread, 6-months ahead**							**USD high-yield spread, 12-months ahead**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
US high-yield spread	0.081	0.095	0.078	0.105	0.086	0.065	0.105	-0.288^{a}	-0.328^{a}	-0.295^{a}	-0.335^{a}	-0.289^{a}	-0.369^{a}	-0.352^{a}
	(0.089)	(0.095)	(0.094)	(0.084)	(0.095)	(0.091)	(0.096)	(0.090)	(0.097)	(0.092)	(0.093)	(0.094)	(0.095)	(0.105)
Hormuz, demand	-44.89^{a}	-50.38^{a}	-42.96^{a}	-53.03^{a}	-44.48^{a}	-37.93^{b}	-52.74^{a}	-45.60^{a}	-30.21^{a}	-41.74^{a}	-29.04^{a}	-45.69^{a}	-10.05	-24.64^{b}
	(14.62)	(16.58)	(13.07)	(14.11)	(14.93)	(16.54)	(12.46)	(7.755)	(9.406)	(7.431)	(8.921)	(8.612)	(12.29)	(10.61)
Hormuz, supply	-19.01^{b}	-18.51^{b}	-18.73^{b}	-21.24^{b}	-18.83^{b}	-20.61^{b}	-18.80^{b}	-22.24^{b}	-23.64^{b}	-21.68^{b}	-17.69^{c}	-22.28^{b}	-30.46^{a}	-22.80^{b}
	(8.950)	(9.038)	(9.324)	(8.704)	(9.221)	(9.576)	(8.562)	(10.30)	(10.31)	(10.40)	(9.725)	(10.54)	(9.786)	(9.540)
Suez		9.623							-26.95^{c}					
		(14.03)							(14.98)					
Bab El-Mandeb			-6.084							-12.21				
			(12.19)							(11.35)				
Malacca				16.84^{c}							-34.24^{a}			
				(8.982)							(12.33)			
Good Hope					1.929							-0.4436		
					(8.868)							(15.57)		
Gibraltar						-12.90							-65.97^{a}	
						(11.67)							(20.16)	
Taiwan							-14.21							37.95^{b}
							(13.32)							(16.56)
Observations	75	75	75	75	75	75	75	75	75	75	75	75	75	75
R-squared	0.242	0.247	0.245	0.258	0.242	0.251	0.253	0.179	0.214	0.189	0.241	0.179	0.409	0.249

Notes: The dependent variable, (**USD high-yield spread**), is expressed in basis points. **Hormuz, supply** and **Hormuz, demand** are respectively computed as predicted and residual values from the non-parametric regression of the Hormuz traffic shock on Kanzig (2021)'s oil supply news surprise. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. The **Hormuz, demand**, the **Hormuz, supply** and the oil demand shock variables from Baumeister and Hamilton (2019) are all normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts ^{a}, ^{b} and ^{c} respectively indicate statistical significance at the 1, 5 and 10% levels.

Table 9: USD high-yield spread and maritime traffic at global chokepoints

Tables 9 and 10 also show that traffic disruptions at other chokepoints, including the Strait of Malacca, the Strait of Gibraltar, or the Strait of Taiwan, can matter. For USD HY corporate bonds for instance, traffic deviations at the Strait of Malacca or the Strait of Gibraltar have a significant impact, especially at a 12-month horizon. A reduction in traffic at the Strait of Malacca is associated with a 34 basis point increase in U.S. HY spreads after 1 year. And traffic disruptions in the Strait of Gibraltar have an even larger impact, about 66 basis points, on USD HY spreads at a 12-month horizon, making these two straits among the few chokepoints besides Hormuz that show significant effects on USD

HY corporate bond spreads.

Dependent variable:	**EMBI spread, 6-months ahead**							**EMBI spread, 12-months ahead**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
EMBI spread	-0.065	-0.074	-0.066	-0.085	-0.075	-0.063	-0.069	-0.119	-0.109	-0.114	-0.085	-0.168	-0.167	-0.116
	(0.113)	(0.113)	(0.111)	(0.107)	(0.114)	(0.115)	(0.104)	(0.138)	(0.142)	(0.145)	(0.147)	(0.156)	(0.135)	(0.143)
Hormuz, demand	-25.19[a]	-33.21[a]	-25.36[a]	-32.56[a]	-25.53[a]	-25.65[a]	-35.29[a]	-28.33[a]	-19.66[a]	-27.41[a]	-16.08[b]	-29.92[a]	-15.37[c]	-19.41[b]
	(7.461)	(9.350)	(6.876)	(7.647)	(7.560)	(8.625)	(7.018)	(4.479)	(7.412)	(5.102)	(6.464)	(5.239)	(7.801)	(7.333)
Hormuz, supply	-17.79[a]	-17.82[a]	-17.84[a]	-20.53[a]	-18.03[a]	-17.68[a]	-18.40[a]	-15.03[b]	-15.00[b]	-14.77[b]	-10.47	-16.15[b]	-18.09[b]	-14.49[b]
	(5.156)	(4.849)	(5.217)	(4.834)	(5.276)	(5.397)	(4.437)	(6.956)	(7.100)	(7.043)	(6.515)	(6.834)	(6.915)	(6.847)
Suez		12.92[c]							-13.97					
		(7.529)							(8.643)					
Bab El-Mandeb			0.489							-2.605				
			(5.794)							(7.279)				
Malacca				13.65[b]							-22.71[a]			
				(5.541)							(8.436)			
Good Hope					-1.683							-7.873		
					(4.782)							(9.661)		
Gibraltar						0.835							-23.44[b]	
						(7.147)							(11.73)	
Taiwan							-16.73[a]							14.78
							(6.117)							(9.029)
Observations	75	75	75	75	75	75	75	75	75	75	75	75	75	75
R-squared	0.258	0.288	0.258	0.294	0.259	0.258	0.309	0.210	0.237	0.211	0.287	0.222	0.290	0.240

Notes: The depend variable, (**EMBI spread**), is expressed in basis points. **Hormuz, supply** and **Hormuz, demand** are respectively computed as predicted and residual values from the non-parametric regression of the Hormuz traffic shock on Kanzig (2021)'s oil supply news surprise. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. The **Hormuz, demand**, the **Hormuz, supply** and the oil demand shock variables from Baumeister and Hamilton (2019) are all normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts [a], [b] and [c] respectively indicate statistical significance at the 1, 5 and 10% levels.

Table 10: EMBI spread and maritime traffic at global chokepoints

For EMBI spreads, Table 10 above shows that similar findings emerge. The Strait of Malacca and the Strait of Gibraltar in particular exhibit notable impacts at a 12-month horizon. There are, in addition, three points worth noting in Table 10. First, traffic fluctuations in the Strait of Taiwan do have an impact on the EMBI spread at a 6-month horizon, with lower traffic leading to a 17 basis-point increase in the EMBI spread. This impact, however, fades and disappears after one year. Second, a reduction in traffic at the Strait of Malacca or at the Strait of Gibraltar increases the EMBI spread by about 23 basis points at a 12-month horizon, which is somewhat, but not significantly higher than the 15-basis-point impact of a standardised fall in Hormuz traffic. Third, the regression testing Hormuz vs. Malacca (see column (11)) suggests that traffic in the Strait of Malacca is more important than traffic in the Strait of Hormuz for EMBI spreads, since the latter becomes marginally insignificant. That said, it is important to note that this result mainly reflects the asymmetry between the two chokepoint variables: In Table 10, Hormuz traffic is separated into supply- and demand-driven components, with supply-driven traffic defined as expected traffic conditional on the oil supply surprise shock of Kanzig (2021). Conversely, traffic fluctuations in the Strait of Malacca are considered as a whole. There is hence a possibility that traffic disruptions in the Strait of Malacca do not affect the EMBI bond spread, as much as expectations of higher spreads reduce maritime traffic in the Strait of Malacca.

Despite the significance of other chokepoints, the Strait of Hormuz therefore remains the dominant one in terms of its impact on credit conditions. The effects of Hormuz traffic disruptions on both USD HY and EMBI spreads are consistent across horizons and specifications, highlighting its unique role in driving global financial conditions. In contrast, the effects of other chokepoints, while occasionally significant, are less robust and more context-dependent, suggesting a more limited scope of influence on financial conditions.

The findings also highlight the regional and market-specific sensitivities of financial markets to chokepoint disruptions. While the Strait of Hormuz has a global reach due to its critical role in energy trade, other chokepoints, such as the Strait of Malacca and Gibraltar, appear to exert more localised effects based on their respective trade flows. For example, the impact of disruptions at Gibraltar may be tied to its role in facilitating access to major Northern European ports, while the effects of the Strait of Malacca likely reflect its importance in Asia's trade and energy supply chains.

In summary, the results underscore the critical importance of the Strait of Hormuz for global financial stability. While traffic disruptions at other chokepoints can influence bond spreads, their effects are neither as consistent nor as significant as those observed for Hormuz. This reinforces the notion that Hormuz traffic disruptions act as a global financial shock, amplifying credit risk and tightening financial conditions across advanced and emerging markets. The unique role of Hormuz as a chokepoint for global energy flows makes it a key variable in assessing financial vulnerabilities, calling for continued vigilance in managing chokepoint risks.

6 Conclusion

This paper highlights the critical importance of the Strait of Hormuz for the global economy and financial markets. Using data from the IMF/University of Oxford on maritime traffic and a range of commodity, macroeconomic and financial indicators, the analysis shows that disruptions to traffic through Hormuz act as a global supply shock, with far-reaching implications for commodity prices, economic activity, inflation, and financial conditions.

The empirical analysis reveals that negative shocks to Hormuz traffic lead to significant increases in the real prices of energy and fertilisers, with supply-driven traffic disruptions having particularly large and persistent effects. These commodity price shocks spill over into the broader economy, reducing global industrial production and raising global consumer prices. In financial markets, reductions in Hormuz traffic tighten global financial conditions by widening spreads on corporate and sovereign bonds. US HY corporate bond spreads and EMBI spreads for emerging market sovereign bonds are particularly sensitive to Hormuz disruptions, reflecting heightened credit risk and deteriorating funding conditions in the aftermath of supply shocks.

The quantile regression analysis further shows that disruptions to Hormuz traffic disproportionately affect the upper tails of the distributions of inflation and financial spreads. For instance, when inflation and bond spreads are already high, Hormuz traffic shocks amplify these pressures, pushing the right tails of these distributions further out. In contrast, the effects on the lower tails are much more muted, suggesting that Hormuz shocks act as amplifiers during periods of heightened economic stress.

Comparisons with other chokepoints, such as the Strait of Malacca, the Suez Canal, and the Strait of Gibraltar, indicate that while these chokepoints occasionally exhibit significant effects on commodity prices and financial conditions, their influence is neither as consistent nor as global as that of Hormuz. This reinforces the unique role of Hormuz as a barometer of global supply conditions and a key source of economic and financial risk.

The Strait of Hormuz is a vital node in the global economy, and its traffic disruptions can have profound, far-reaching consequences. By providing a detailed analysis of the real and financial implications of Hormuz traffic shocks, this paper contributes to a deeper understanding of chokepoint risks and provides a foundation for future research on global trade and energy security.

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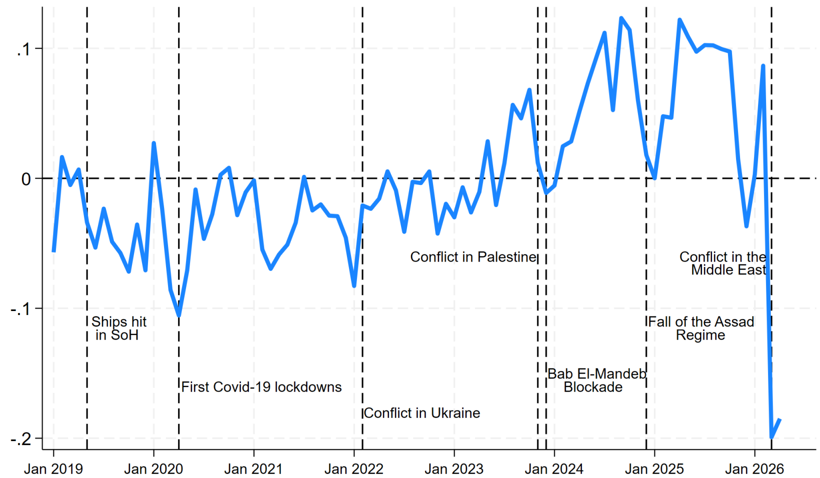
A The Strait of Hormuz traffic shock series



Appendix Figure A1: Monthly shock for maritime traffic in the Strait of Hormuz. Figure A1 plots the monthly average for the deviation in the number of ships transiting through the Strait of Hormuz, relative to the average across time and chokepoints, and controlling for vessel tonnage. Vertical lines indicate significant global or regional developments that are likely to have affected maritime traffic in the Strait of Hormuz. **Sources: Portwatch, author's calculations.**

B Fertiliser prices and traffic in the Strait of Hormuz

Dependent variable:	Fertiliser real price index, 6-month ahead							Fertiliser real price index, 12-month ahead						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fertiliser price index	0.728[a]	0.724[a]	0.694[a]	0.694[a]	0.729[a]	0.729[a]	0.723[a]	0.226[a]	0.216[a]	0.193[b]	0.160	0.229[a]	0.227[a]	0.227[a]
	(0.063)	(0.062)	(0.066)	(0.075)	(0.063)	(0.063)	(0.063)	(0.084)	(0.080)	(0.092)	(0.101)	(0.084)	(0.084)	(0.085)
Hormuz, demand	1.440	1.867	-1.453	0.725	1.010	-1.765	0.318	0.036	1.032	-2.766	-1.327	-1.335	-4.067	0.278
	(1.864)	(1.918)	(3.542)	(2.166)	(2.060)	(5.757)	(2.107)	(2.269)	(2.161)	(5.204)	(2.975)	(3.015)	(7.935)	(2.848)
Hormuz, supply	-7.604[c]	-8.784[c]	-7.186[c]	-8.059[c]	-7.680[c]	-4.048	-6.576	-15.39[c]	-19.38[b]	-14.96[c]	-16.08[c]	-16.14[c]	-10.83	-15.77[c]
	(4.495)	(4.710)	(4.160)	(4.302)	(4.504)	(6.677)	(4.295)	(8.875)	(9.491)	(8.291)	(8.157)	(8.836)	(10.20)	(9.200)
Oil demand, Economic Activity		3.219[b]							7.383[a]					
		(1.529)							(2.434)					
Oil demand, Consumption D.			5.821[c]							5.738				
			(2.929)							(4.191)				
Oil demand, Inventories				-3.976							-7.750[b]			
				(3.089)							(3.734)			
Oil supply shock					-0.923							-3.022		
					(1.728)							(2.887)		
Oil supply surprise						3.775							4.659	
						(6.745)							(8.370)	
Oil supply news surprise							2.701							-0.579
							(2.415)							(3.515)
Observations	76	76	76	76	76	76	76	73	73	73	73	73	73	73
R-squared	0.583	0.591	0.607	0.594	0.584	0.590	0.588	0.111	0.151	0.134	0.153	0.117	0.122	0.111

Notes: Fertilisers real price index is the World Bank price index for fertilisers deflated using world CPI index and expressed in logs. **Hormuz, demand** is equal to the Hormuz shock when it is the same sign as the Kanzig (2021)'s oil supply shock. **Hormuz, supply** is equal to the Hormuz shock when it is the opposite sign to the Kanzig (2021)'s oil supply shock. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. Both **Hormuz, demand** and **Hormuz, supply**, as well as global oil demand and supply shocks are normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts [a], [b] and [c] respectively indicate statistical significance at the 1, 5 and 10% levels.

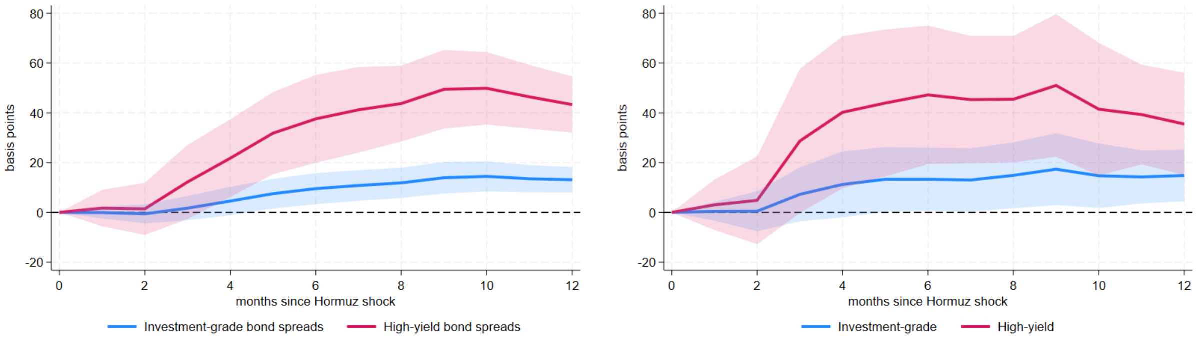
Appendix Table B1: Fertiliser prices, maritime traffic in the Strait of Hormuz and global oil shocks

Dependent variable:	Fertiliser real price index, 6-months ahead							Fertiliser real price index, 12-months ahead						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Fertiliser real price index	0.727[a]	0.781[a]	0.764[a]	0.905[a]	0.731[a]	0.714[a]	0.864[a]	0.227[a]	0.304[a]	0.243[a]	0.490[a]	0.188[c]	0.196[b]	0.426[a]
	(0.060)	(0.062)	(0.063)	(0.066)	(0.063)	(0.065)	(0.075)	(0.082)	(0.073)	(0.086)	(0.077)	(0.096)	(0.090)	(0.090)
Hormuz, demand	-0.432	2.965	0.790	8.490[a]	-0.376	-1.250	6.672[b]	-1.373	3.526	-0.857	11.55[a]	-2.010	-3.182	8.986[a]
	(2.176)	(2.736)	(2.067)	(2.633)	(2.217)	(2.773)	(2.619)	(2.993)	(3.353)	(2.922)	(3.107)	(3.163)	(3.859)	(3.298)
Hormuz, supply	-8.335[b]	-7.003[b]	-7.778[b]	-4.488	-8.291[b]	-8.469[b]	-7.075[b]	-18.82[a]	-15.96[a]	-18.41[a]	-11.38[a]	-19.01[a]	-18.90[a]	-15.51[a]
	(3.861)	(3.483)	(3.636)	(2.896)	(3.907)	(3.852)	(2.908)	(3.926)	(3.863)	(4.009)	(3.177)	(3.884)	(4.074)	(2.870)
Suez		-6.219[c]							-8.797[c]					
		(3.379)							(4.530)					
Bab El-Mandeb			-3.607							-1.510				
			(3.048)							(3.637)				
Malacca				-16.77[a]							-24.55[a]			
				(3.540)							(3.912)			
Good Hope					0.367							-3.927		
					(2.272)							(3.559)		
Gibraltar						1.582							3.779	
						(2.768)							(4.334)	
Taiwan							11.78[a]							17.06[a]
							(3.431)							(4.330)
Observations	76	76	76	76	76	76	76	73	73	73	73	73	73	73
R-squared	0.622	0.638	0.629	0.733	0.622	0.623	0.670	0.256	0.291	0.258	0.506	0.266	0.264	0.363

Notes: Real fertiliser prices are deflated using world CPI index and expressed in logs. **Hormuz, supply** and **Hormuz, demand** are respectively computed as predicted and residual values from the non-parametric regression of the Hormuz traffic shock on Kanzig (2021)'s oil supply news surprise. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. The **Hormuz, demand**, the **Hormuz, supply** and the chokepoint traffic deviation variables are all normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts [a], [b] and [c] respectively indicate statistical significance at the 1, 5 and 10% levels.

Appendix Table B2: Fertiliser prices and maritime traffic in global chokepoints

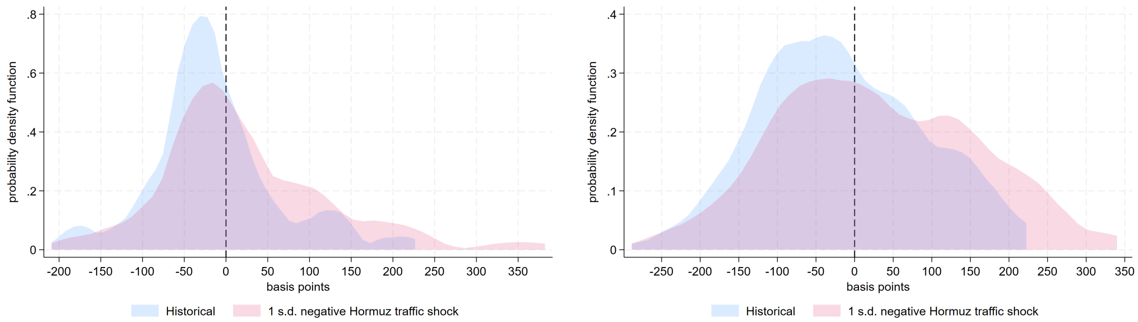
C Corporate bonds



(a) : Negative shock to Hormuz traffic

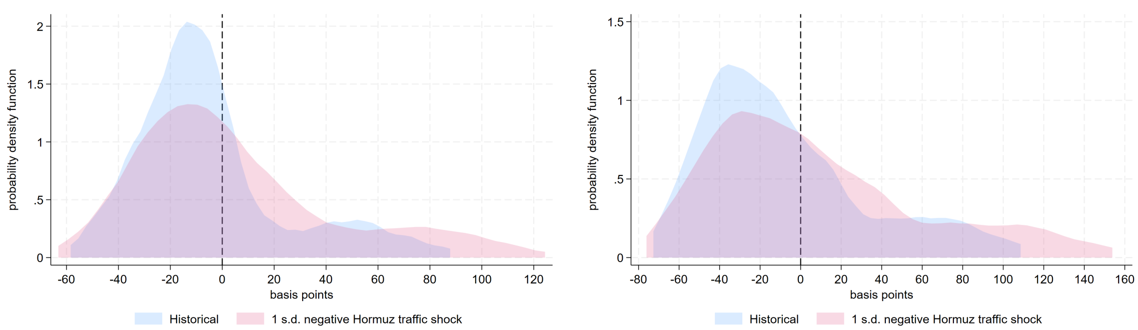
(b) : Negative supply-driven shock to Hormuz traffic

Appendix Figure C2: Change in spread on EUR corporate bonds in the aftermath of a supply-driven fall in maritime traffic in the Strait of Hormuz. Figure C2 plots the change in basis points in yield spreads on EUR corporate bonds in response to a standardised negative deviation from average across time and chokepoints in the Strait of Hormuz' maritime traffic, controlling for vessel tonnage. Panel (a) considers all traffic deviations, panel (b) focuses on traffic deviations that coincide with oil supply news surprises as estimated by Kanzig (2021). Areas plot 90% confidence bands. **Sources: Bank of America, Portwatch, author's calculations**. References to individual firms and projects are for illustrative purposes and should not be construed as any statement on the soundness or the legal or regulatory status of any firm or project.



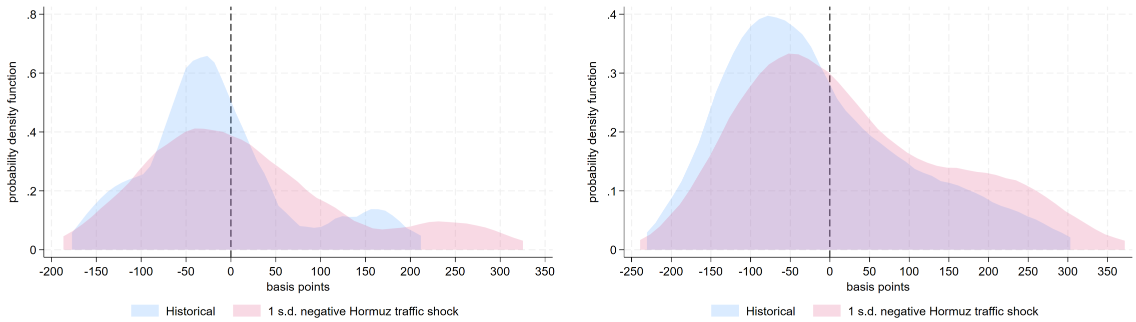
(a) : 6-month ahead change in USD HY bond spread (b) : 12-month ahead change in USD HY bond spread

Appendix Figure C3: Change in spread on USD HY corporate bonds in the aftermath of a supply-driven fall in maritime traffic in the Strait of Hormuz. Figure C3 plots the distribution of changes in basis points in yield spreads on USD HY corporate bonds in response to a standardised supply-driven negative deviation from average across time and chokepoints in the Strait of Hormuz' maritime traffic, controlling for vessel tonnage. Panels (a) and (b) respectively plot the distribution of changes in spreads at 6- and 12-month horizons. Supply-driven traffic deviations identified as those that coincide with oil supply news surprises as estimated by Kanzig (2021). **Sources: Bank of America, Portwatch, author's calculations**. References to individual firms and projects are for illustrative purposes and should not be construed as any statement on the soundness or the legal or regulatory status of any firm or project.



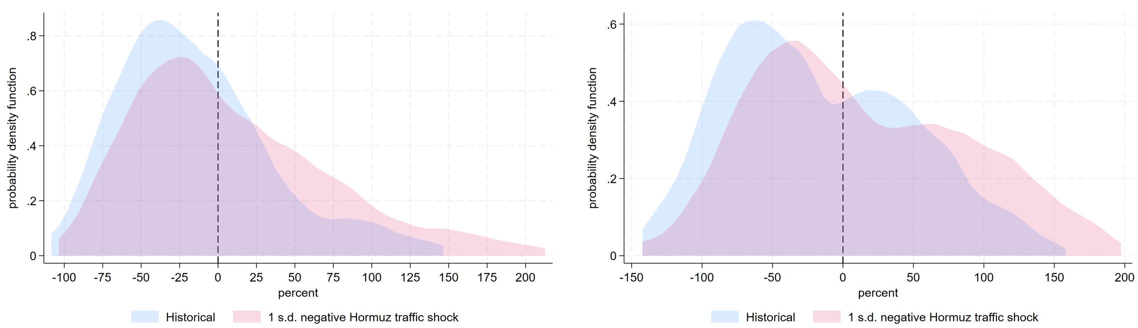
(a) : 6-month ahead change in EUR IG bond spread (b) : 12-month ahead change in EUR IG bond spread

Appendix Figure C4: Change in spread on EUR IG corporate bonds in the aftermath of a supply-driven fall in maritime traffic in the Strait of Hormuz. Figure C5 plots the distribution of changes in basis points in yield spreads on EUR IG corporate bonds in response to a standardised supply-driven negative deviation from average across time and chokepoints in the Strait of Hormuz' maritime traffic, controlling for vessel tonnage. Panels (a) and (b) respectively plot the distribution of changes in spreads at 6- and 12-month horizons. Supply-driven traffic deviations identified as those that coincide with oil supply news surprises as estimated by Kanzig (2021). **Sources: Bank of America, Portwatch, author's calculations**. References to individual firms and projects are for illustrative purposes and should not be construed as any statement on the soundness or the legal or regulatory status of any firm or project.



(a) : 6-month ahead change in EUR HY bond spread (b) : 12-month ahead change in EUR HY bond spread

Appendix Figure C5: Change in spread on EUR HY corporate bonds in the aftermath of a supply-driven fall in maritime traffic in the Strait of Hormuz. Figure C5 plots the distribution of changes in basis points in yield spreads on EUR HY corporate bonds in response to a standardised supply-driven negative deviation from average across time and chokepoints in the Strait of Hormuz' maritime traffic, controlling for vessel tonnage. Panels (a) and (b) respectively plot the distribution of changes in spreads at 6- and 12-month horizons. Supply-driven traffic deviations identified as those that coincide with oil supply news surprises as estimated by Kanzig (2021). **Sources: Bank of America, Portwatch, author's calculations**. References to individual firms and projects are for illustrative purposes and should not be construed as any statement on the soundness or the legal or regulatory status of any firm or project.



(a) : 6-month ahead change in EMBI spread (b) : 12-month ahead change in EMBI spread

Appendix Figure C6: Change in spread on EMBI bond index in the aftermath of a supply-driven fall in maritime traffic in the Strait of Hormuz. Figure C6 plots the distribution of changes in basis points in the yield spread on the EMBI bond index in response to a standardised supply-driven negative deviation from average across time and chokepoints in the Strait of Hormuz' maritime traffic, controlling for vessel tonnage. Panels (a) and (b) respectively plot the distribution of changes in spreads at 6- and 12-month horizons. Supply-driven traffic deviations identified as those that coincide with oil supply news surprises as estimated by Kanzig (2021). **Sources: J.P. Morgan, Portwatch, author's calculations**. References to individual firms and projects are for illustrative purposes and should not be construed as any statement on the soundness or the legal or regulatory status of any firm or project.

Dependent variable:	EUR high-yield spread, 6-month ahead							EUR high-yield spread, 12-month ahead						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EUR high-yield spread	0.134	0.132	0.184^{c}	0.149	0.139	0.141	0.152	-0.271^{b}	-0.271^{b}	-0.179	-0.233^{b}	-0.269^{b}	-0.299^{b}	-0.255^{b}
	(0.102)	(0.107)	(0.109)	(0.100)	(0.103)	(0.103)	(0.104)	(0.126)	(0.127)	(0.122)	(0.109)	(0.128)	(0.137)	(0.128)
Hormuz, demand	-39.26^{a}	-40.06^{a}	-44.37^{a}	-38.01^{b}	-38.68^{a}	-38.87^{a}	-46.93^{a}	-51.01^{a}	-51.03^{a}	-60.26^{a}	-47.84^{a}	-50.86^{a}	-52.47^{a}	-57.49^{a}
	(14.09)	(14.52)	(14.54)	(14.99)	(13.85)	(14.19)	(16.13)	(9.915)	(9.903)	(10.04)	(9.798)	(9.953)	(11.10)	(10.24)
Hormuz, supply	-36.15^{b}	-34.54^{b}	-28.41^{b}	-35.66^{b}	-36.73^{b}	-35.00^{b}	-26.77^{c}	-36.75^{a}	-36.70^{a}	-22.73^{b}	-35.51^{a}	-36.90^{b}	-41.11^{a}	-28.83^{b}
	(14.16)	(14.86)	(13.36)	(14.11)	(14.12)	(14.35)	(14.82)	(9.638)	(9.579)	(9.686)	(9.292)	(9.849)	(9.762)	(12.56)
Oil demand, Economic Activity		-12.68							-0.403					
		(10.95)							(10.03)					
Oil demand, Consumption D.			16.05							29.06^{a}				
			(10.06)							(9.197)				
Oil demand, Inventories				-11.38							-28.74^{a}			
				(8.317)							(7.655)			
Oil Supply shock					3.917							1.031		
					(9.509)							(9.420)		
Oil Supply Surprise						3.429							-13.03	
						(7.095)							(13.50)	
Oil Supply News Surprise							14.32							12.10
							(13.02)							(13.43)
Observations	76	76	76	76	76	76	76	76	76	76	76	76	76	76
R-squared	0.194	0.211	0.214	0.208	0.196	0.195	0.208	0.193	0.193	0.253	0.272	0.193	0.208	0.201

Notes: The dependent variable, (**EUR high-yield spread**), is expressed in basis points. **Hormuz, demand** is equal to the Hormuz shock when it is the same sign as the Kanzig (2021)'s oil supply surprise shock. **Hormuz, supply** is equal to the Hormuz shock when it is the opposite sign to the Kanzig (2021)'s oil supply surprise shock. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. The **Hormuz, demand**, the **Hormuz, supply** and the chokepoint traffic deviation variables are all normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts ^{a}, ^{b} and ^{c} respectively indicate statistical significance at the 1, 5 and 10% levels.

Appendix Table C3: EUR high-yield spread, maritime traffic in the Strait of Hormuz and global oil shocks

Dependent variable:	EUR high-yield spread, 6-months ahead							EUR high-yield spread, 12-months ahead						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
EUR high-yield spread	0.116	0.088	0.105	0.031	0.085	0.112	0.061	-0.250^{c}	-0.248^{c}	-0.262^{c}	-0.211	-0.335^{b}	-0.240	-0.242^{c}
	(0.106)	(0.104)	(0.105)	(0.099)	(0.112)	(0.106)	(0.090)	(0.136)	(0.141)	(0.143)	(0.143)	(0.132)	(0.145)	(0.141)
Hormuz, demand	-30.11^{a}	-45.55^{a}	-32.10^{a}	-51.25^{a}	-31.57^{a}	-36.05^{a}	-54.66^{a}	-38.42^{a}	-37.65^{a}	-40.89^{a}	-28.64^{a}	-42.44^{a}	-23.61^{b}	-35.05^{a}
	(10.74)	(13.33)	(10.31)	(11.55)	(10.91)	(12.52)	(10.78)	(6.734)	(10.59)	(7.723)	(9.389)	(7.337)	(10.88)	(9.962)
Hormuz, supply	-27.61^{b}	-27.94^{a}	-28.18^{b}	-36.07^{a}	-28.45^{b}	-26.77^{b}	-30.08^{a}	-22.02^{c}	-22.01^{c}	-22.73^{c}	-18.11	-24.33^{b}	-24.11^{b}	-21.69^{c}
	(10.90)	(10.25)	(10.75)	(9.399)	(10.76)	(10.70)	(8.640)	(11.77)	(11.87)	(11.66)	(11.64)	(10.50)	(12.02)	(11.83)
Suez		24.68^{b}							-1.226					
		(11.91)							(13.59)					
Bab El-Mandeb			5.665							7.028				
			(9.824)							(11.33)				
Malacca				38.57^{a}							-17.83			
				(10.16)							(14.85)			
Good Hope					-8.187							-22.53^{c}		
					(7.722)							(12.53)		
Gibraltar						10.27							-25.58	
						(10.69)							(16.71)	
Taiwan							-39.83^{a}							5.453
							(10.47)							(13.93)
Observations	75	75	75	75	75	75	75	75	75	75	75	75	75	75
R-squared	0.221	0.261	0.224	0.323	0.227	0.228	0.327	0.198	0.198	0.202	0.218	0.240	0.241	0.200

Notes: The dependent variable, (**EUR high-yield spread**), is expressed in basis points. **Hormuz, supply** and **Hormuz, demand** are respectively computed as predicted and residual values from the non-parametric regression of the Hormuz traffic shock on Kanzig (2021)'s oil supply news surprise. The Hormuz shock is the deviation of vessel traffic from averages across choke-points and time, considering the 12 busiest choke-points worldwide and controlling for vessel tonnage. The **Hormuz, demand**, the **Hormuz, supply** and the chokepoint traffic deviation variables are all normalised using their respective historical standard deviation computed over 2019m1-2025m12. Robust standard errors in parentheses. Superscripts ^{a}, ^{b} and ^{c} respectively indicate statistical significance at the 1, 5 and 10% levels.

Appendix Table C4: EUR high-yield spread and maritime traffic at global chokepoints