

Analyzing Ocean Carrier Alliances

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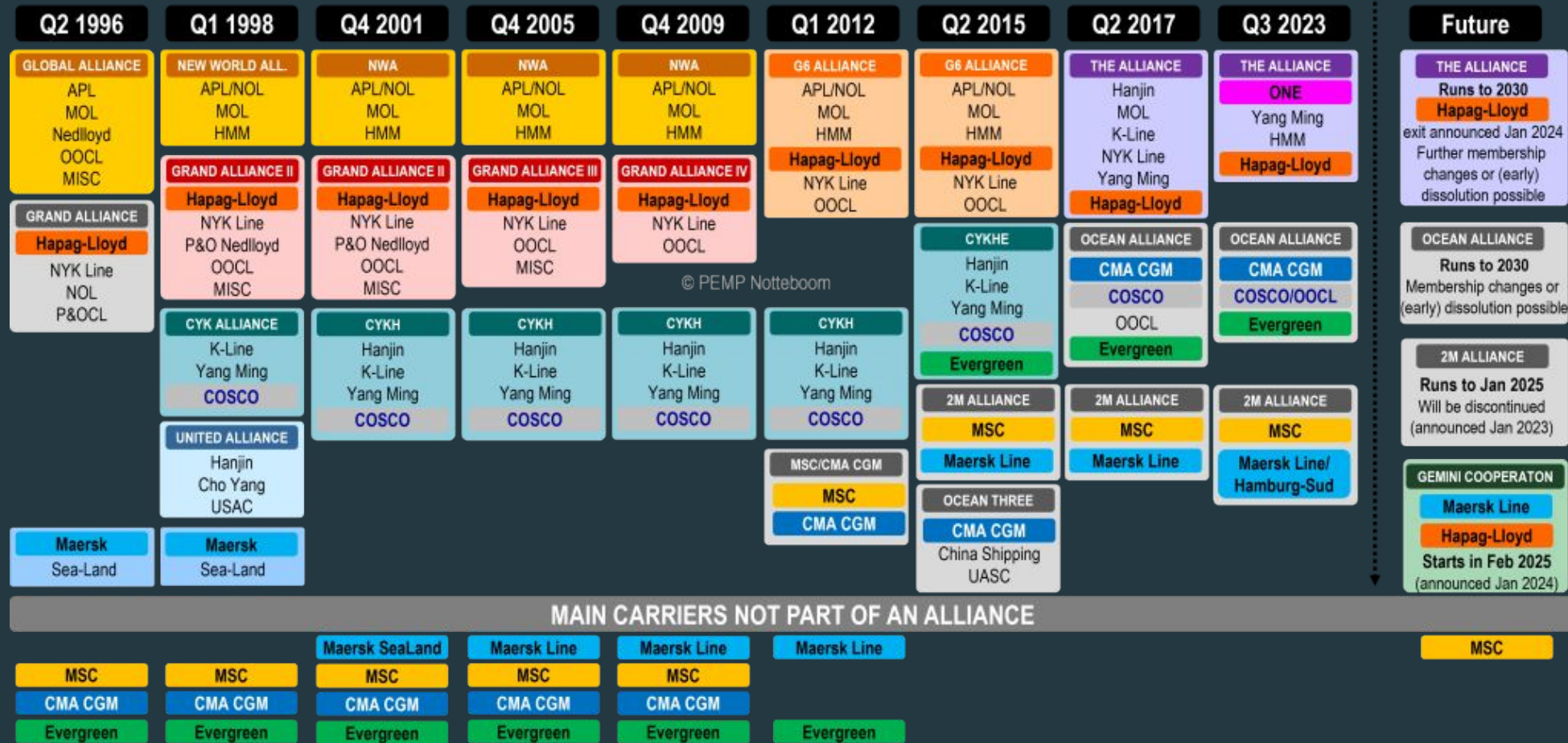


What are Ocean Carrier Alliances?

- Cooperative sharing agreements between maritime freight carriers
 - e.g., Maersk will carry some cargo for Mediterranean and vice versa
 - Alliances allow carriers to offer additional services (e.g., additional lanes) and more efficiently allocate capacity.
 - Carriers can utilize larger ships by filling volume from other carriers.
 - The impact on shippers/consumers is not well studied.
 - For example, carriers sometimes offer very low prices on otherwise-used capacity in order to minimize empty haul. Under an alliance agreement, this capacity might be sold at normal prices to another carrier.
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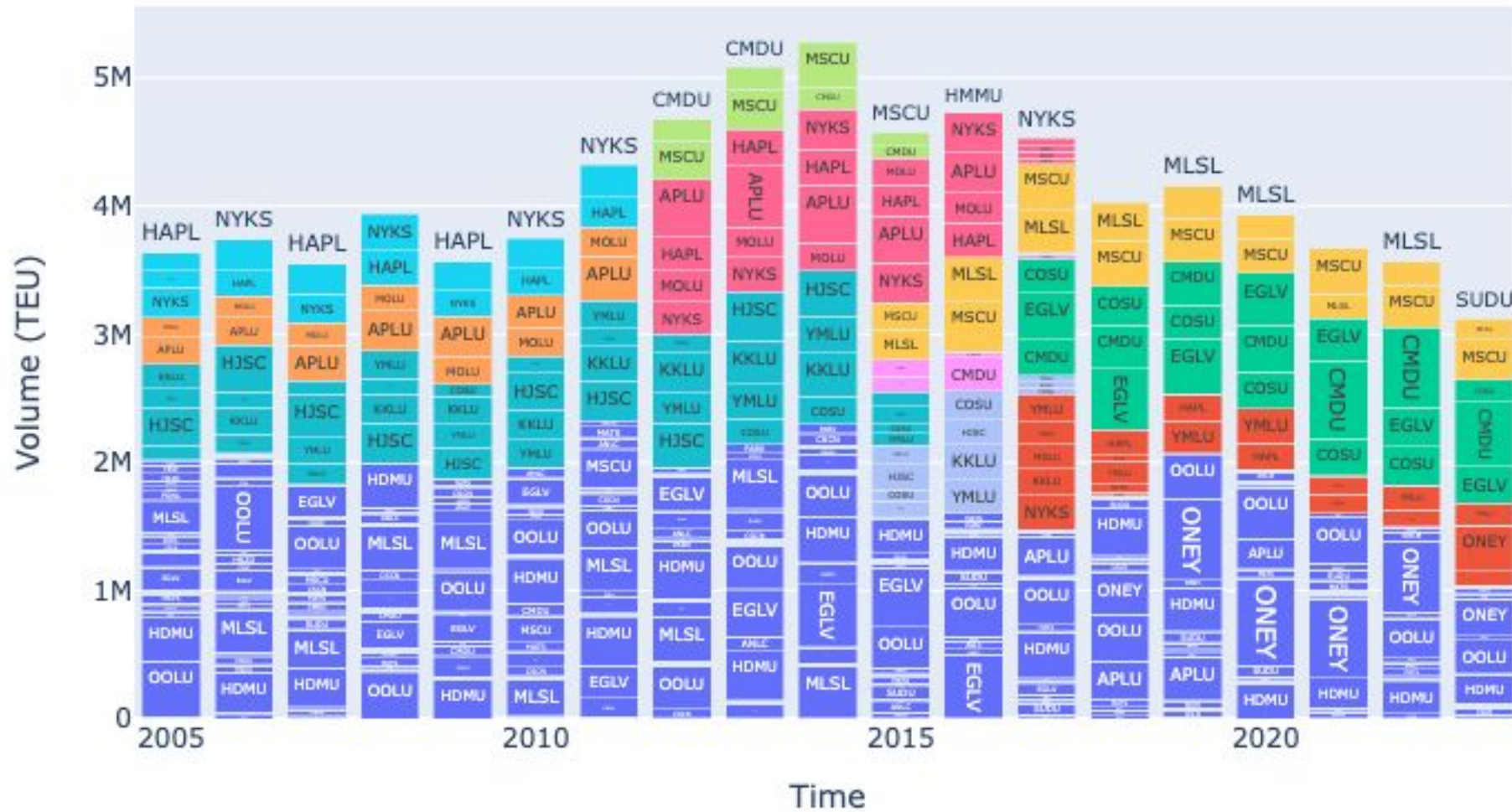
A Brief History of Alliances

Critical juncture in Oct 2023: EU decision not to extend Consortia Block Exemption Regulation (CBER) beyond April 25, 2024



Source: Theo Notteboom, PEMP

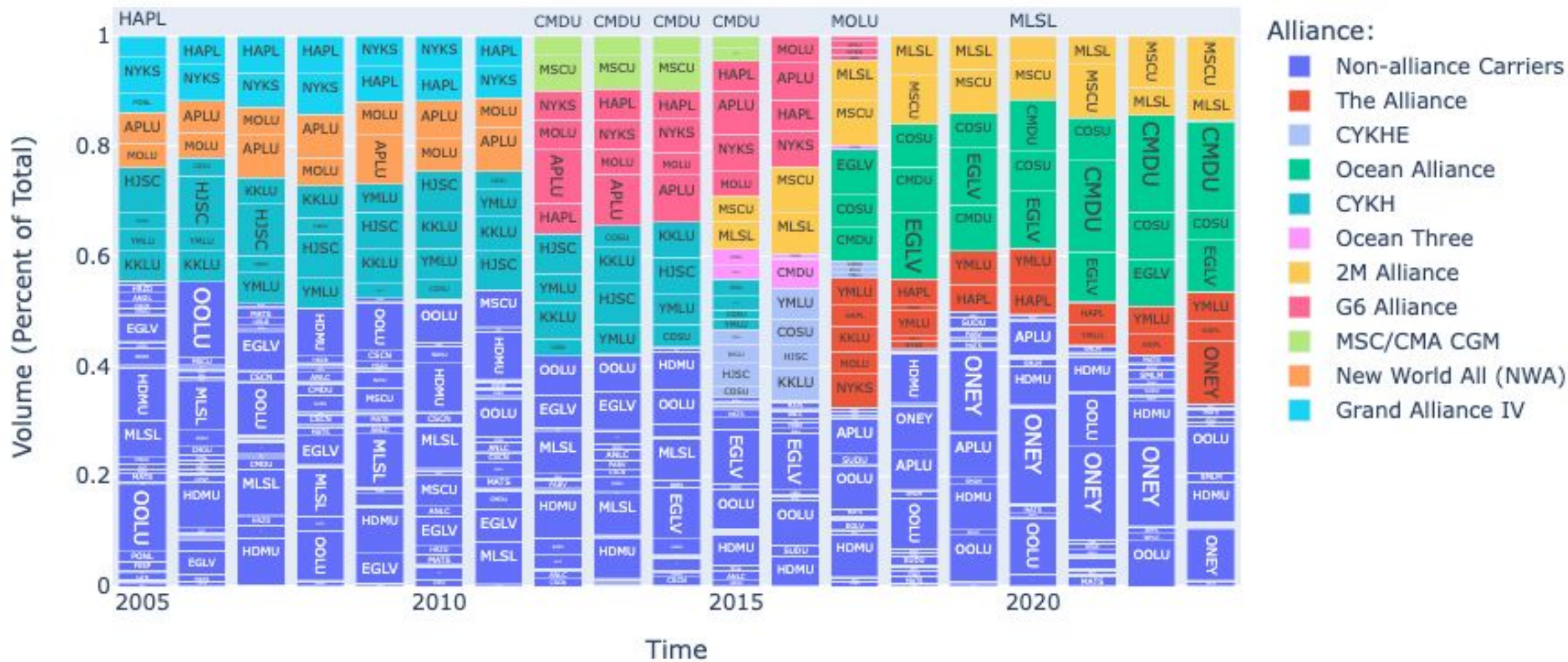
West Coast Export Volumes Over Time



Alliance:

- Non-alliance Carriers
- The Alliance
- CYKHE
- Ocean Alliance
- CYKH
- Ocean Three
- 2M Alliance
- G6 Alliance
- MSC/CMA CGM
- New World All (NWA)
- Grand Alliance IV

Percent of West Coast Export Volumes Over Time



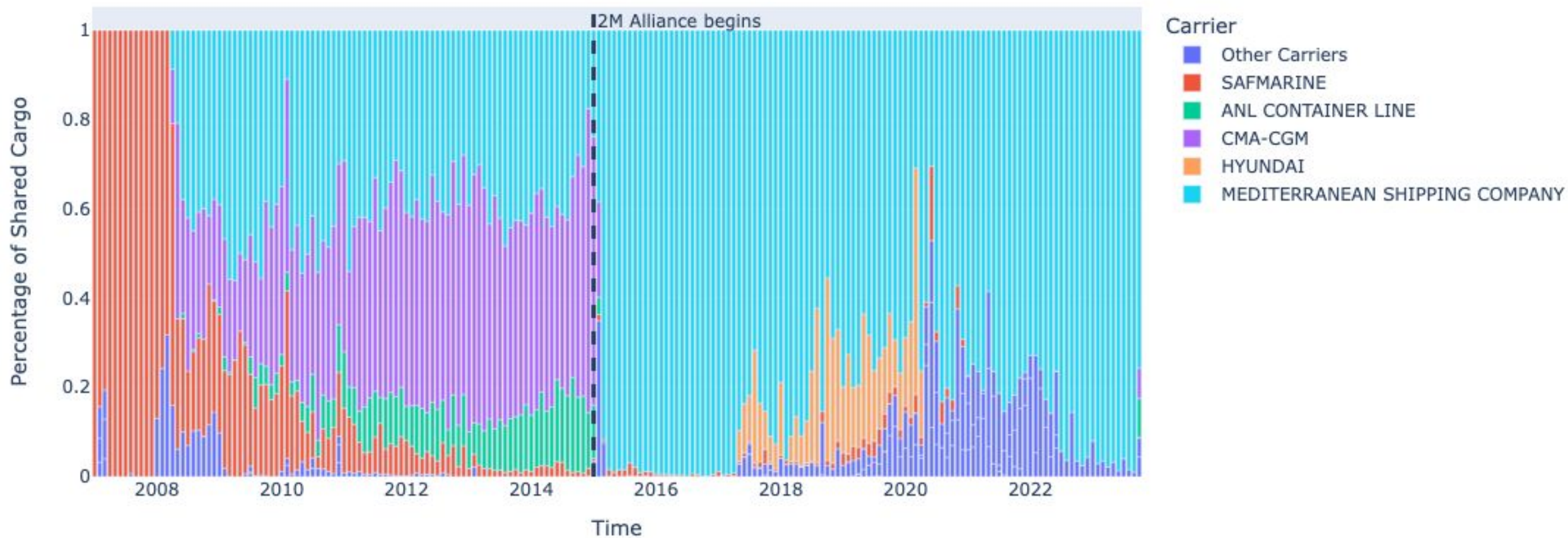
Do Alliances Reduce Competition?

- Carriers argue that alliances increase efficiencies, helping keep costs down and allowing them to provide better service.
- Shippers and regulating bodies are concerned that Alliances give carriers too much market power
 - Anecdotal reports from US producers include high prices, reductions in frequency of service, and reduced delivery windows
- Alliances have historically been exempt from antitrust regulation
- This tide may be changing: EU exemption expired in April, and US is investigating similar moves

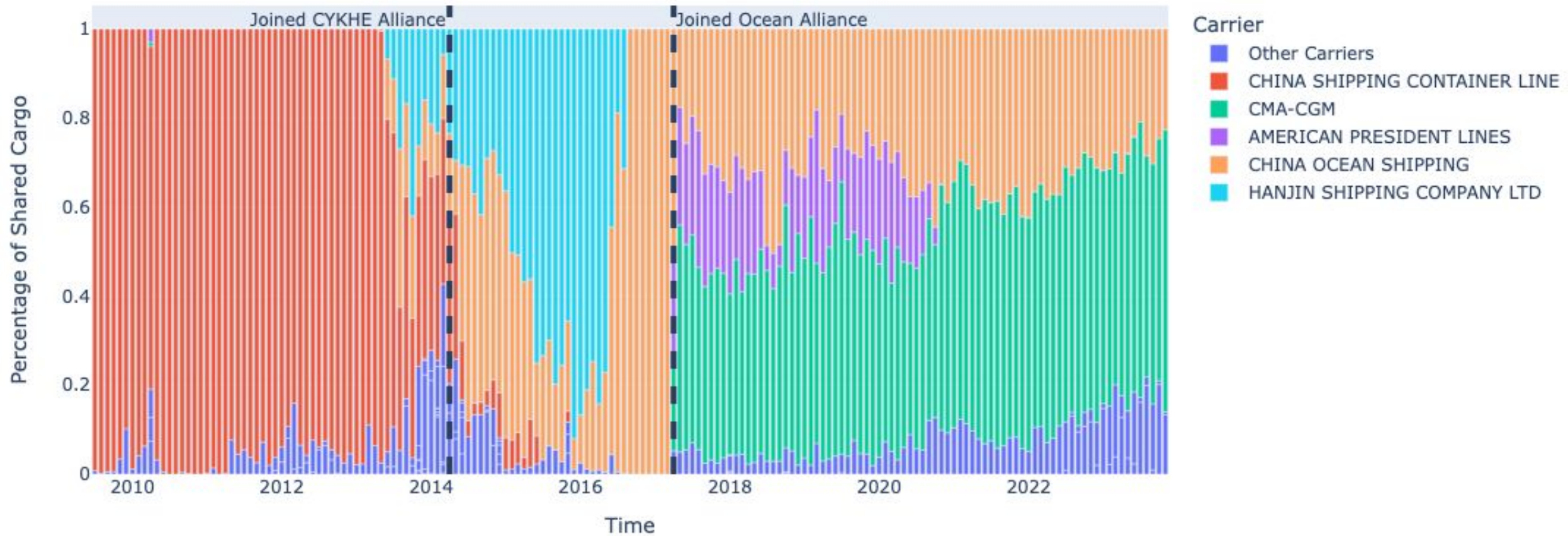
Why should we care?

- 90% of world trade (Source: OECD)
- 3% of global green house gas emissions (Source: UNCTAD)
- Small changes make big differences
 - Experimental wing design on a single ship saved 3 tonnes of fuel per day and 11.2 tonnes of carbon emissions
- Competitive markets are assumed to be more efficient
 - This should be held in balance with physical efficiencies and environmental impacts
- Alliances aren't just bureaucratic paperwork! Carriers change their behavior dramatically based on alliance membership.

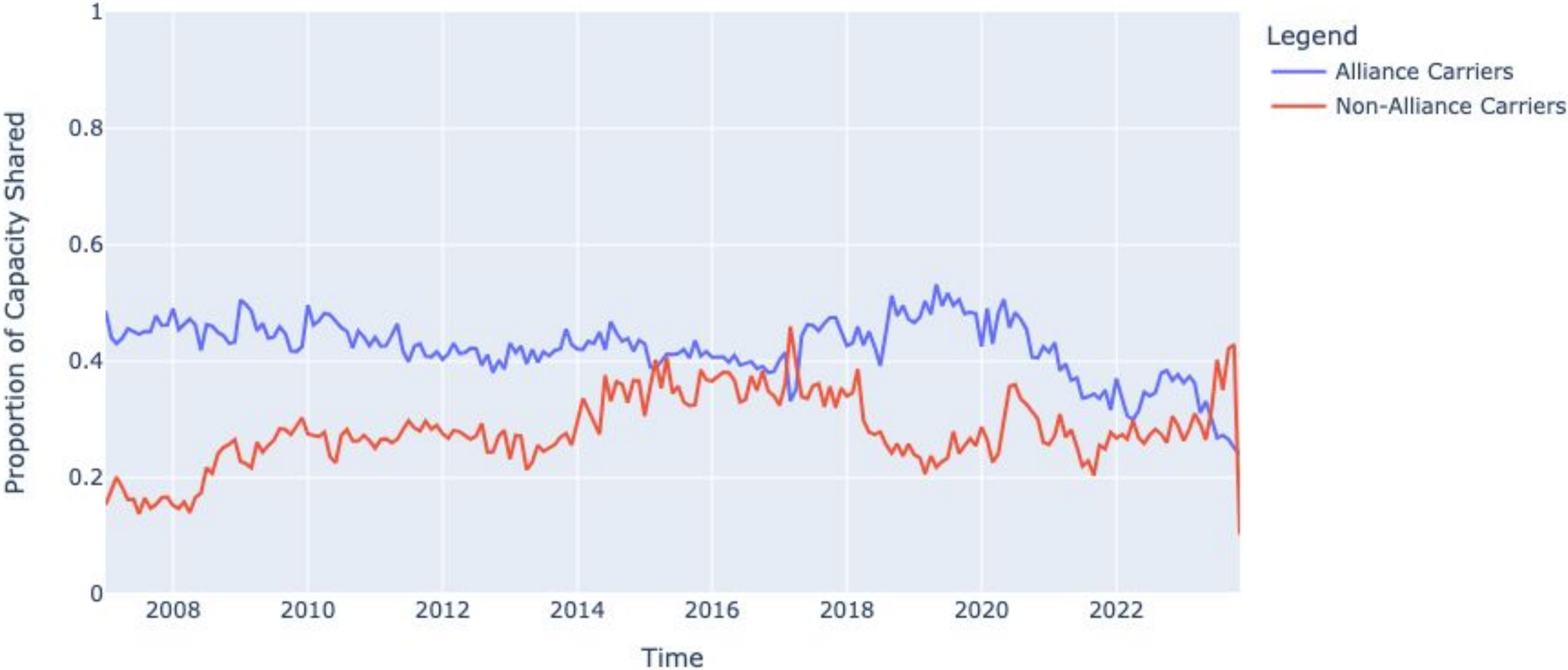
Proportion of shared cargo on Maersk Line ships by Carrier



Proportion of shared cargo on Evergreen ships by Carrier



Cargo Sharing by Alliance Membership



Measuring Alliance Activity

- Do Alliances make maritime shipping more efficient?
- Do Alliances give carriers too much market power?
- None of these concerns are well-studied in peer-reviewed literature.
- Premise: Impacts of alliances depend on how much carriers utilize the alliance
 - To our knowledge, this has not been done.



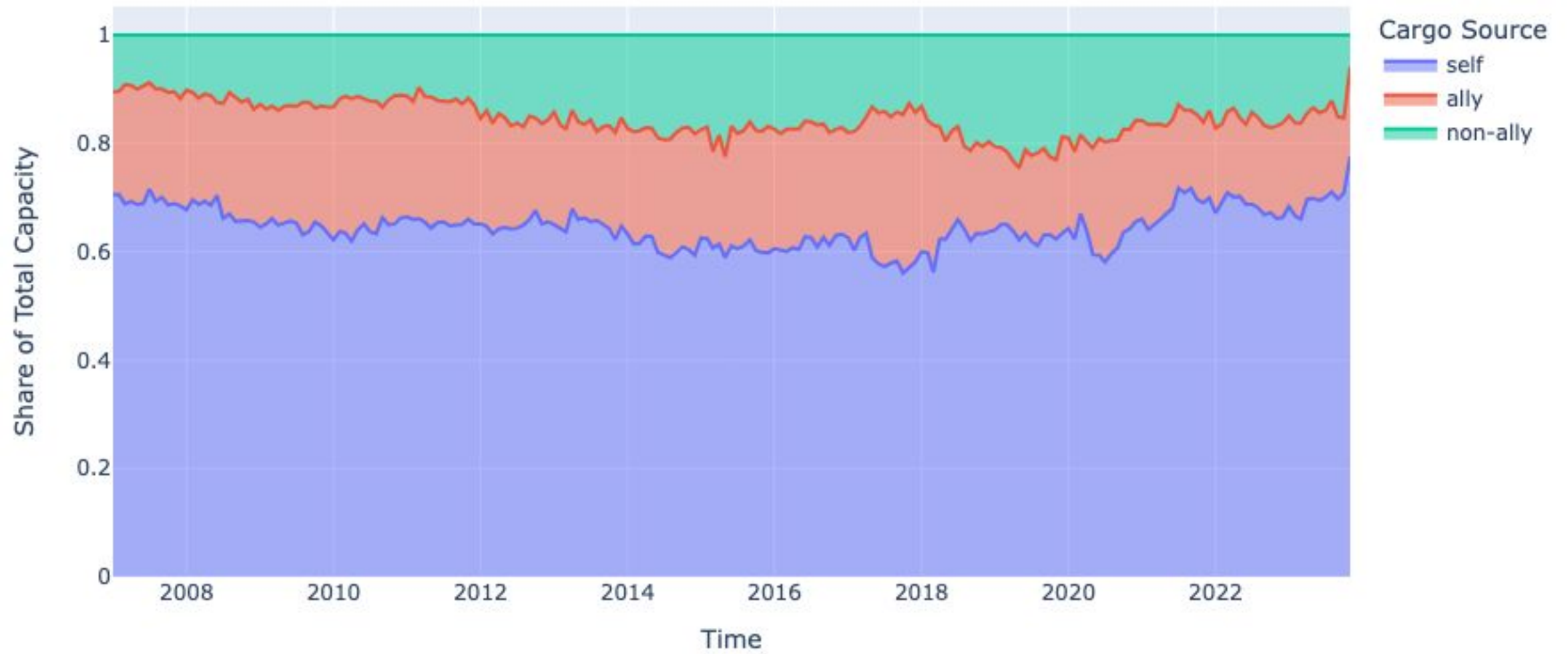
Measuring Utilization

- Alliances are not utilized on all lanes, and utilization varies over time.
- Premise: Impacts of Alliances on a given lane are proportional to utilization
- We are developing a metric for Alliance utilization based on cargo sharing behavior

$$\textit{Alliance Utilization} = \frac{\textit{Capacity Shared with Allied Carriers}}{\textit{Total Capacity Shared}}$$



Cargo Source Over Time



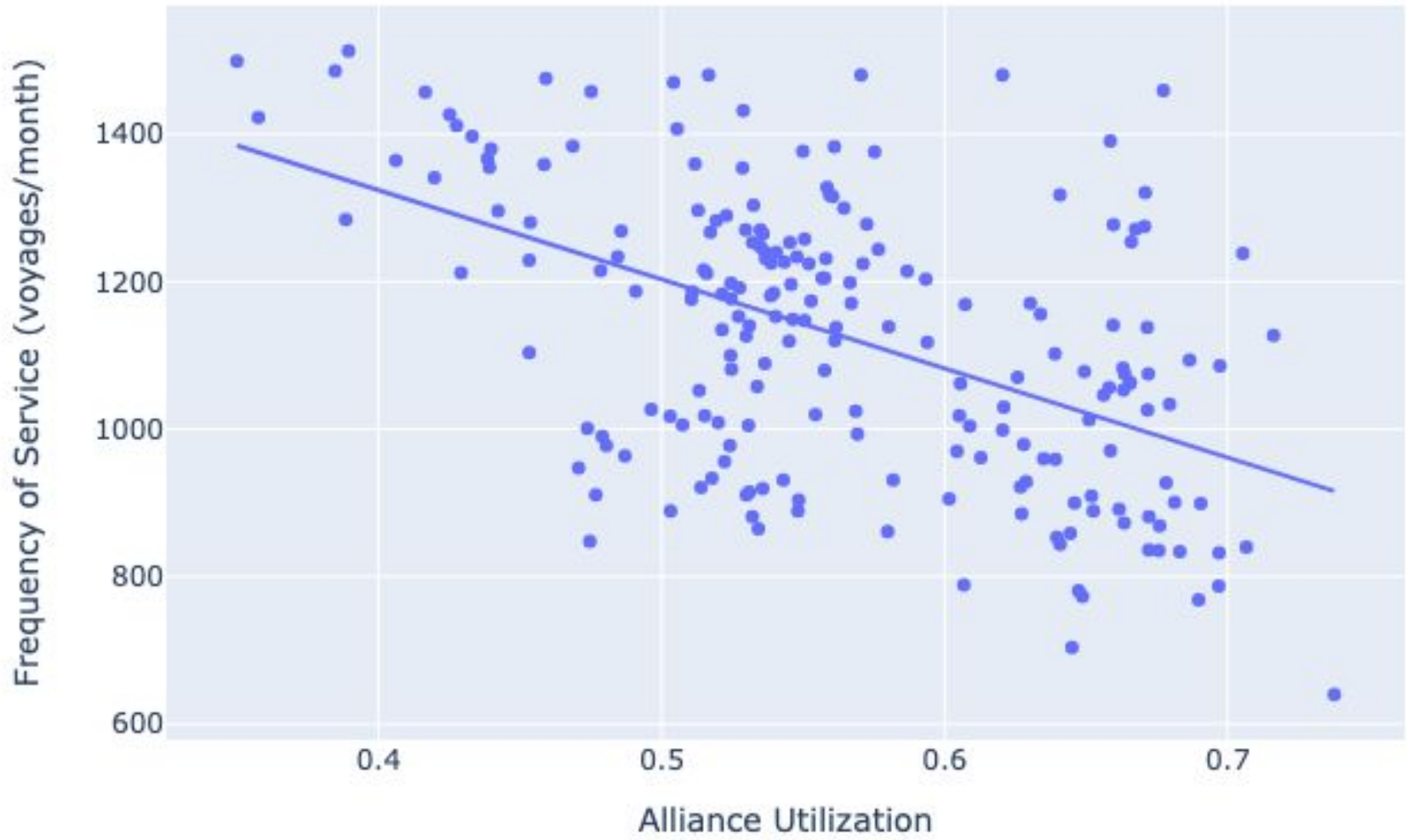
Source of Shared Cargo Over Time



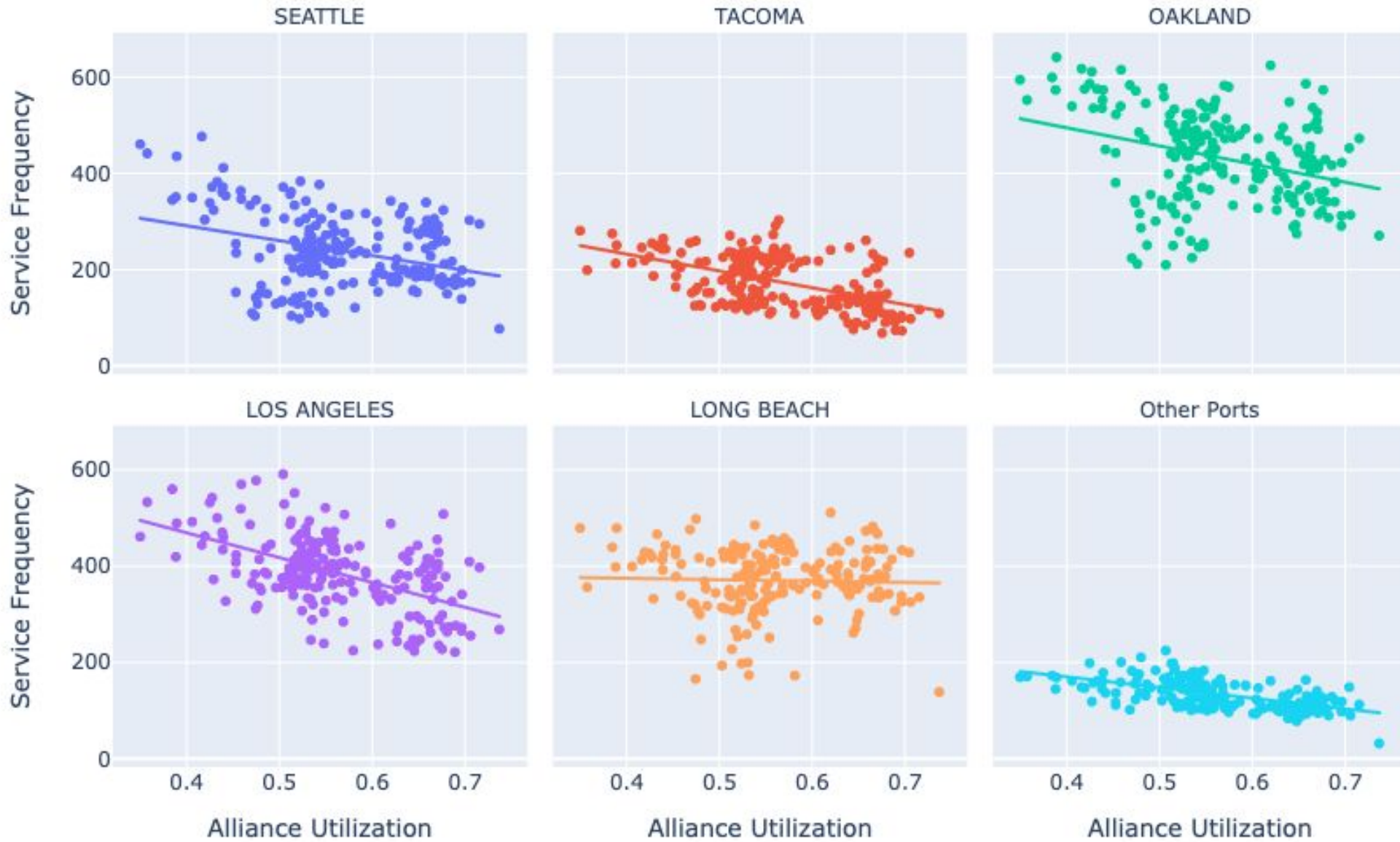
Alliance Utilization Over Time at Major West Coast Ports



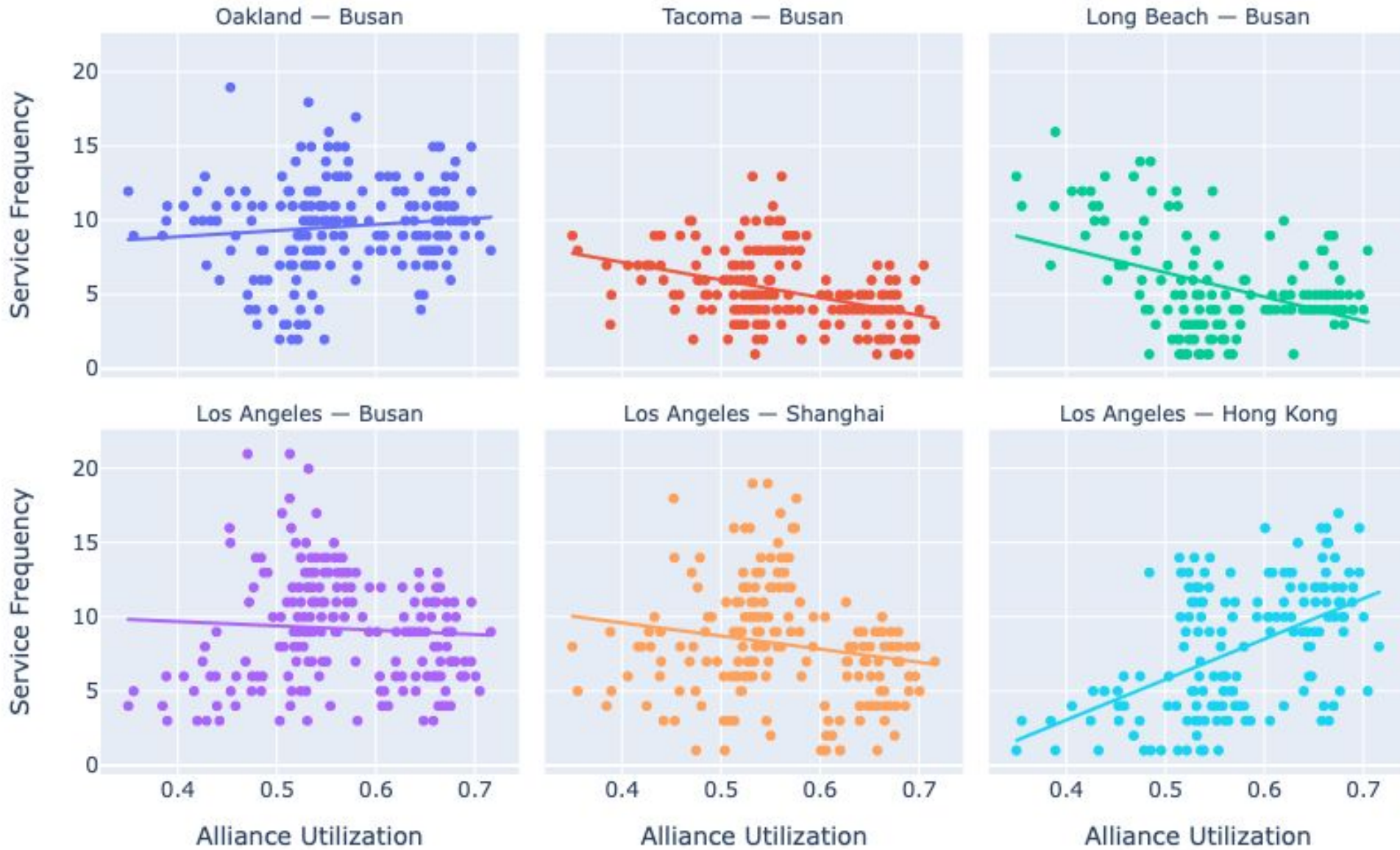
Frequency of Service vs Utilization




Frequency of Service vs Utilization



Frequency of Service vs Utilization (Hyundai Merchant Marine)



Limitations

- The PIERS data do not include empty haul
 - We also have a few data integrity issues to iron out
 - Utilization metric does not perfectly capture all alliance behaviors (e.g., carriers may deploy larger ships with more room to share)
 - Alliances are only one form of vessel sharing agreements; we do not observe any other form of these agreements.
 - Other limitations, probably. We'd love to hear from you!
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Concluding Remarks

- Carrier Alliances are a big deal.
- Policy makers need better research to make difficult decisions.
- Alliance utilization varies over time and across lanes
- Impacts on producers depend on utilization of the alliance.
- Questions and comments welcome!

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