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# The Impacts of COVID-19 on Logistics, Shipping and Ports: Singularity or New Normal?





HOFSTRA

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# Impacts of Disruptions on Supply Chains



Adjustments in supply, demand and distribution



# Coronavirus (COVID-19) Reported Daily New Cases, 2020



# Supply Chain Shocks: The Deferred Demand Trap

#### Supply Shock

#### Propagation

- Decline in induced demand (Chinese production).
- Lockdown of most of the workforce.
- Shortages in key sectors (pharmaceuticals and medical equipment).
- Industrial base shut down between mid January and early March 2020.

#### Back-propagation

**Demand Shock** 

- Decline in global derived demand.
- Switch to basic goods & hoarding.
- Lockdown of a large consumer base.
- Less commercial demand.
- Collapse of travel and tourism.
- Began in mid-March and lasted until May 2020.

#### Dual Propagation

**Adaptation** 

- Decline in economic activity and income.
- Diversion of savings and capital.
- (+) lockdown = (-) deferred demand.
- Rebalancing of supply and demand.
- Until July 2020.

### Back-propagation

Divergence

- Divergence in epidemiological outcomes.
- Quick bounce-back (deferred demand).
- Rolling defaults and bankruptcies.
- Consumption pattern: material products vs. dematerialization
- Ongoing.



# Impact of Recessions on Consumption, Production and Trade





# US Jobless Claims by Industry, April 2020





# Selected Supply Chain and Trade Indicators, 2007-2020 (2007=100)



# Impact on (trans)port networks and cargo routing



Reduction/reconfiguration of transport supply: e.g. blank sailings

Changes in modal split: shipping vs. long-distance rail vs. air freight

Disruptions in local/regional inland logistics and transport

Changes in route choice (e.g. Cape route vs. Suez route) and port choice

Balance hubs vs. secondary nodes

Rise of e-commerce flows in distribution networks



## Impact on vessel calls

How would you describe the number of vessel calls in your port in the past week, compared to activity during normal conditions?



Source: Notteboom, T., Pallis, A. (2020), IAPH-WPSP Port Economic Impact Barometer, October 2020



# Global Container Vessel Calls (2020 vs. 2019)



# Rate of Blank Sailings, Asia – United Sates, and FBX Index



#### Peak freight rates due to strong recovery of demand Shanghai Containerized Freight Index (SCFI, export China) W1 2016 to W41 2020





### Carriers much better off than during financial crisis Average operating margin of main container carriers by quarter (1Q 2008 to 2Q 2020)



Note: Average of CMA CGM (incl APL to 2Q 2016), CSCL (to 1Q2016), COSCO (from 3Q 2018), Evergreen, Hanjin (to 3Q 2016), Hapag-Lloyd (incl CSAV to 2014), HMM, Maersk, ONE (from 2Q 2018, formerly K-Line, MOL and NYK), Wan Hai, Yang Ming and Zim.

Source: own compilation based on data Alphaliner



#### Short-term impact of COVID-19 crisis and financial crisis on container ports Comparison of TEU growth H1 2020 and 2009 – EUROPE





#### Short-term impact of COVID-19 crisis and financial crisis on container ports Comparison of TEU growth H1 2020 and 2009 – AMERICAS





Source: own compilation based on TEU throughput data individual ports

#### Short-term impact of COVID-19 crisis and financial crisis on container ports Comparison of TEU growth H1 2020 and 2009 – ASIA





Source: own compilation based on TEU throughput data individual ports

#### Short-term impact of COVID-19 and financial crisis on container ports Regional clustered comparison of top container ports







# The US West Coast and East Coast: Fast Recovery or Deferred Demand?





#### Impact of COVID-19 on hinterland transportation Ports reporting hinterland transport delays compared to normal activity (%)



#### CAPH WPSP

By: Theo Notteboom - Thanos Pallis



T. Notteboom, J-P. Rodrigue BIPC2020, 5-6 Nov 2020

#### Impact of COVID-19 on availability of port workers Ports reporting shortage of port-related workers



Source: Notteboom, T., Pallis, A. (2020), IAPH-WPSP Port Economic Impact Barometer, October 2020



# The Post-COVID Great Reset for the Logistics Sector





# Conclusion: Singularity or New Normal?



Migration to Vietnam, Indonesia, Bangladesh, India, and other countries in South Asia (new port centric logistics clusters).

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Growth of intra-regional trade could counter-balance.

**KOREA** 



#### ROUTLEDGE

#### Port Economics, Management and Policy

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# Thank you for your attention!

For more information: <u>https://porteconomicsmanagement.org/</u>