





CHAPTER 1

WELCOME



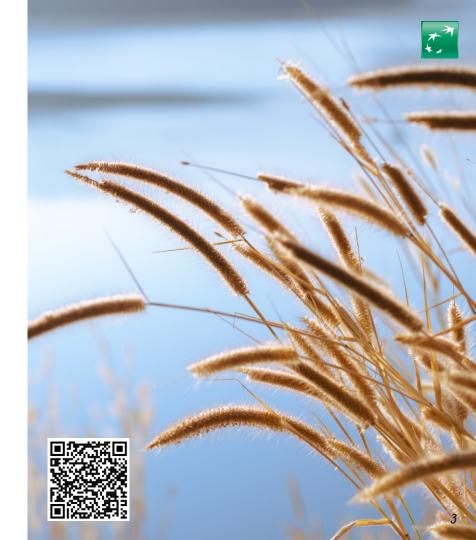
CHRISTA SYS

CHAIR TRANSPORT, LOGISTICS AND PORTS UNIVERSITY OF ANTWERP

BNP PARIBAS FORTIS CHAIR TRANSPORT, LOGISTICS & PORTS

Thema: creating a resilient maritime ecosystem





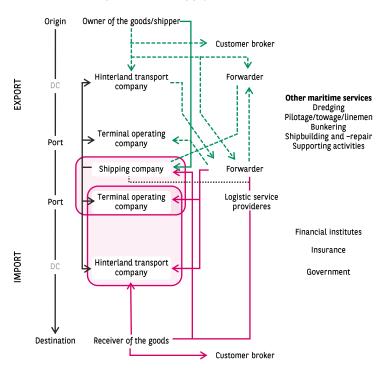


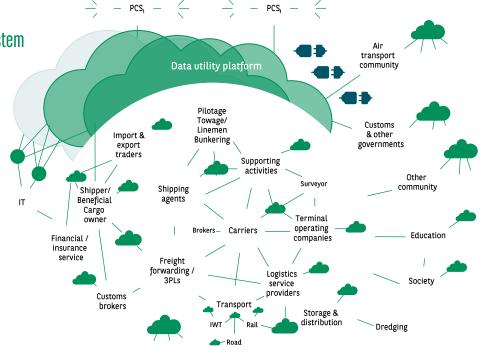
RESEARCH I FROM 'ACTOR' TO 'MARITIME ECOSYSTEM' THINKING



No longer optimal (i.e. the most efficient and the cheapest)

> rethink existing maritime supply chain structures > move to ecosystem



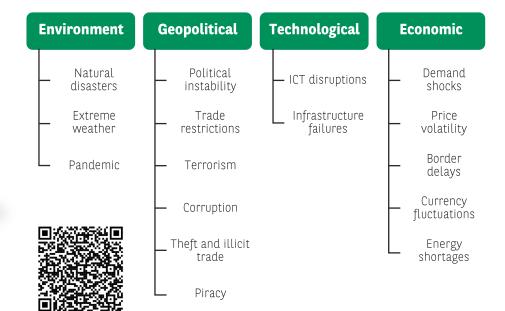






CREATING A RESILIENT MARITIME ECOSYSTEM

BNP Paribas Fortis Port Co.Innovation Happy hours







BNP PARIBAS FORTIS CHAIR CONNECTS



AGENDA



- Welcome by Prof. dr. Christa Sys, University of Antwerp
- Keynote speech by William De Vijlder, BNP Paribas Group Chief Economist
- What is the impact on the maritime ecosystem? by **Prof. dr. Christa Sys**, University of Antwerp
- Panel discussion with bank, academic and industry representatives
 - Frédéric Fontaine, Head of Transaction Banking, BNP Paribas Fortis
 - Philip Van gestel, President Noord Natie Holding
 - Sabine Cruypelans, Site Manager WND Willebroek Maersk
 - Prof. Thierry Vanelslander, University of Antwerp
- Q&A and wrap-up by **Koen Ceyssens**, Director Ports Practice BNP Paribas Fortis





CHAPTER 2

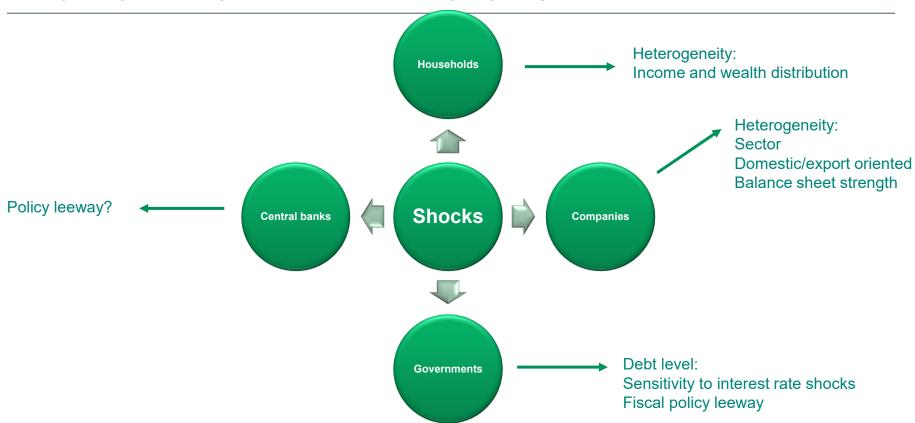
MULTIPLE SHOCKS FORCE RETHINK OF ECONOMIC POLICY AND BUSINESS STRATEGY



WILLIAM DE VIJLDER

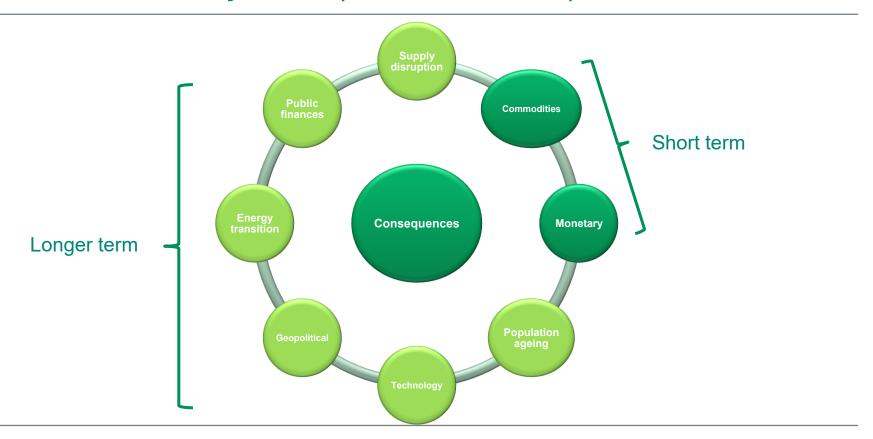
GROUP CHIEF ECONOMIST BNP PARIBAS

Everybody is hit by shocks, but to varying degrees





Shocks can have many causes (non-exhaustive list)





Energy price increase

Energy price increase	
Growth	negative
Inflation	up strongly
Distributional consequences	large
Company strategy	reducing energy intensity and increasing use of alternative
	energy sources
Central banks	looking through the shock
Governments	targeted support measures; accelerated energy transition
Comments	indirect and second round effects may force central banks to
	react by tightening policy



Price increase industrial metals and food

Industrial metals and food	
Growth	negative
Inflation	up
Distributional consequences	large
Company strategy	looking for alternatives, circular economy
Central banks	looking through the shock
Governments	targeted support measures; strategic autonomy; boosting
	circular economy
Comments	indirect and second round effects may force central banks to
	react by tightening policy



Monetary disruption

The inflation shock was supposed to be transitory but ended up becoming longer lasting (recurrent supply shocks, strong demand).

Central banks realised they were completely behind the curve so the tone of the Fed and the ECB changed fundamentally in a matter of months (between December last year and spring this year). The change in tone was followed by action.

Government bond yields moved higher due to rising inflation expectations (but these have now started to decline) and expectations of policy rate hikes.

Inevitably and as usual, media increasingly use the 'rword'.

RECESSION STORY COUNT AND 10 YEAR US TREASURY YIELD

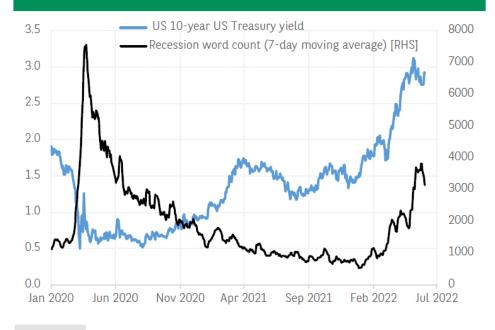


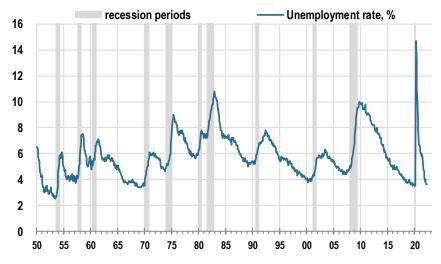
CHART 1

SOURCE: BLOOMBERG, BNP PARIBAS



US recession risk spotting

14 Unemployment rate since 1950



Source: BLS, NBER, BNP Paribas

The unemployment rate is one of the best indicators of imminent recession risk. It starts to rise when we're close to a recession.

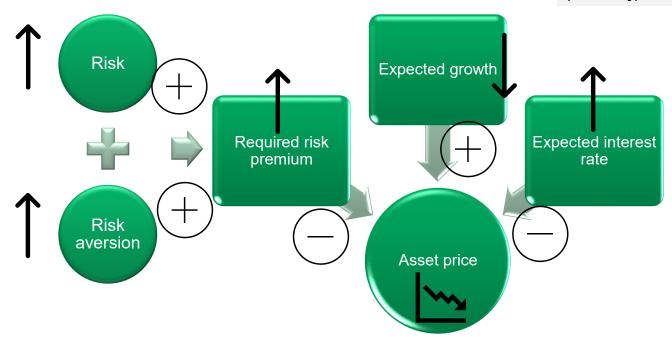
We're not in that situation. The labour market remains hot.



Growth fears influence investor behaviour

Circles show sign of correlation

Arrows show dynamics in a slowing growth/rising interest rate environment (like today)





Monetary tightening

Monetary tightening Growth negative Inflation down Distributional consequences limited Company strategy locking in financing conditions Central banks tightening to fight inflation

higher financing costs of gross

borrowing requirement

tightening raises recession fears



Governments

Comments

Population ageing is, in theory, ...flationary. Empirically, it is inflationary

Source: Paula C. A. M. de Albuquerque, Jorge Caiado & Andreia Pereira (2020) Population aging and inflation: evidence from panel cointegration, Journal of Applied Economics, 23:1, 469-484, DOI: 10.1080/15140326.2020.1795518

Inflationary

- Increased propensity to consume
- Shifting weights of young/middle-aged/old cohorts
- Respectively low/high/low savers
- Labour scarcity
- Slower productivty growth

Disinflationary

- Increased savings for longer retirement
- Slower growth (labour supply, productivity)
- Secular stagnation hypothesis

"This study shows the existence of a clear relation between demographic structure and inflation

These results are in agreement with the view that an advanced stage of population aging, where working-age categories are decreasing in importance and the older categories gain weight, is inflationary."



Population ageing

Population ageing	
Growth	negative (lower potential GDP)
Inflation	up
Distributional consequences	pressure on pay-as-you-go retirement system
Company strategy	changing customer needs
Central banks	depends on inflation
Governments	pressure on pay-as-you-go retirement system and health care
Comments	challenge of lower potential growth, more inflation and public finances under pressure

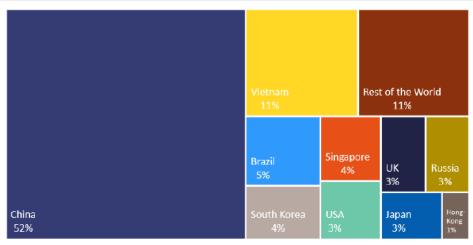


Technology



BNP PARIBAS

Graph 8: Share of EU imports value of dependent products



Source: European Commission based on BACI database

"Strategic dependencies affect the EU's core interests.

A bottom-up (quantitative) mapping using external trade flows for more than 5,000 products as its starting point identifies **137 products in the most sensitive ecosystems where the EU can be considered highly dependent** on imports from third countries (representing about 6% of the extra-EU import value of goods). The three main foreign sources of EU import value for these dependent products are **China** (representing about half of import value), **Vietnam** and **Brazil**.

Out of the 137 products identified as dependencies in the most sensitive ecosystems, 34 (representing 0.6% of extra-EU import value of goods) could be considered as potentially more vulnerable given their possibly low potential for further diversification as well as substitution with EU production."

Source: European Commission

A shopping list of opportunities: industrial ecosystems in the EU

(source: European Commission, Annual Single Market Report 202) EUR 275 billion per need for a strong year until 2030 is policy response to highly competitive needed to renovate overcome the need for up-skilling suffering from but needs a and decarbonise the industry's and attracting new significant stronger existing building fragmentation talent underinvestment investment stock Cultural and capacity Construction Agri-food Creative **Digital** Defence **Industries** Mobility-Energy-**Energy Intensive** Electronics Health Transport-Industries Renewables **Automotive** small semiconductor footprint; significant investment supply chains issues, For 2050, jobs are need to harness the potential needed to achieve green capacity constraints and expected to double to of new trends (e.g. Al) and digital transition unique fragmentation. 2.7 million in Europe expertise but supply Proximity, Social chain dependenc **Economy** and Retail **Textiles Tourism** e and Civil Security competition from Asia The shift to digital and new need for digitalization Over the last 10 years, investments to innovative activities/services but lack of financial the EU tourism accelerate sustainability resources and/or skills ecosystem lost world fosters local value loops and circularity market shares



Technology

Technology	
Growth	positive (increased efficiency, productivity)
Inflation	disinflationary
Distributional consequences	potentially large for certain types of jobs (robotisation);
	lowering bar for starting a business
Company strategy	increased investments (accelerated replacement of capital
	stock)
Central banks	neutral
Governments	support R&D, innovation, focus on financing of innovation
Comments	Technology may have a geopolitical dimension (leadership) that
	may create shift towards economic decoupling (US vs China)
	and deglobalisation



Supply disruption + geopolitics: reshoring, near-shoring, friend-shoring

ifo Institute: German Manufacturing Companies Want to Reduce Dependence on China

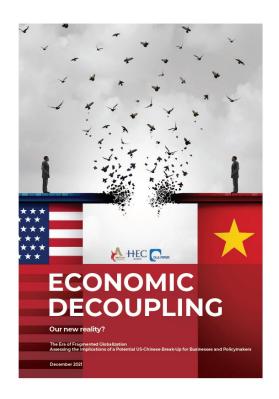
Munich, March 31, 2022 – Almost half of Germany's manufacturing companies are currently dependent on key inputs from China. Many of them want to reduce this dependence, finds an ifo Institute survey. "In German manufacturing, 46 percent of all companies say they source significant inputs from China. Of these companies, almost one in two is planning to reduce these imports from China in the future," says Lisandra Flach, Director of the Ifo Center for International Economics.

Secretary Yellen's remarks of April 13, 2022 spoke of "friend-shoring" – a commitment to work with countries that "have strong adherence to a set of norms and values about how to operate in the global economy and about how to run the global economic system."

For the White House, making "friends" is necessary due to the realization that it has become "increasingly difficult to separate economic issues from broader considerations of national interest, including national security."

The implication is that in the globalized economy, the United States has "unfriended" China.

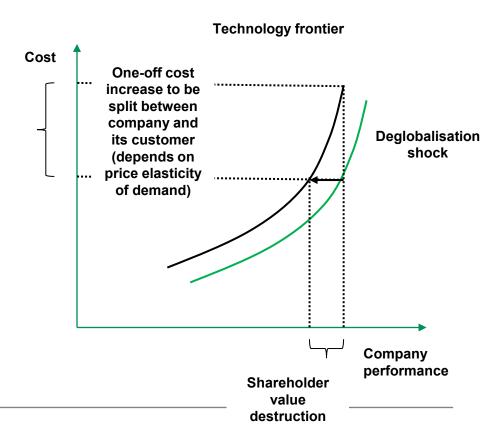
Source: International Economic Law and Policy Blog, Expert commentary on the law, politics and economics of international trade and investment, Posted by Mona Paulsen on April 21, 2022.





Deglobalisation (nearshoring, decoupling): probably limited impact on inflation

- The Covid-19 pandemic has confronted us with the fragility of long, complex global value chains and the war in Ukraine shows that geopolitics can be a major cause of supply disruption.
- As a consequence, enhancing strategic autonomy has become a focus of economic policy in the US, China, the EU.
- These developments raise the question whether we have moved into an era of economic decoupling and deglobalisation, and, if so, what this implies for the longer-term inflation outlook.
- Concerning the latter, it seems unlikely that major nearshoring or reshoring decisions would have a large impact lasting beyond a temporary increase in inflation.
- Concerning the former, one would expect companies to strive for more diversified supply chains, rather than opting for shorter but still concentrated value chains.





Supply disruption

Supply disruption	
Growth	speed limit
Inflation	up
Distributional consequences	moderate
Company strategy	enhancing value chain resilience
Central banks	looking through the shock
Governments	strategic autonomy
Comments	reshoring/nearshoring versus value chain diversification

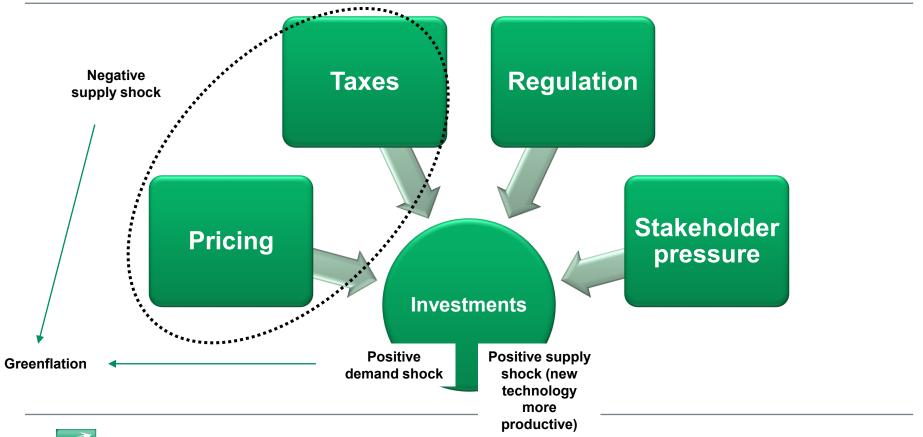


Geopolitical

Geopolitical	
Growth	negative (uncertainty, inflation)
Inflation	up (in case of supply disruption, commodity prices)
Distributional consequences	no direct effects. Indirect effects via inflation
Company strategy	how to organise global value chains? Which international
	markets to target?
Central banks	more cautious
Governments	strategic autonomy
Comments	Technology may have a geopolitical dimension (leadership) that
	may create shift towards economic decoupling (US vs China)
	and deglobalisation



Energy transition: accelerated replacement of old by new technology



Energy transition implies huge additional investments that need to be financed, in particular compared to normal financing flows (chart). This should put upward pressure on real interest rates

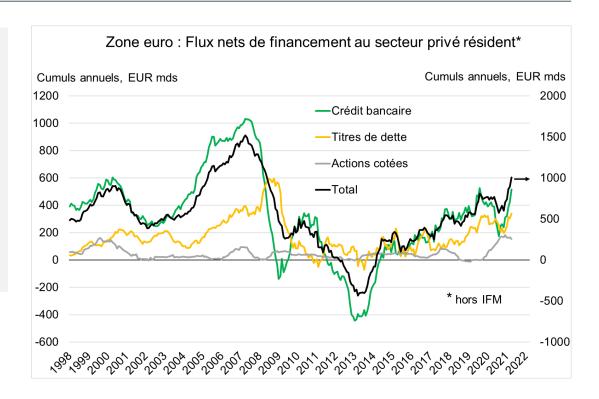
"In 2020, the Commission estimated that achieving the 55 % greenhouse gas emissions reduction target by 2030 would require additional annual investment in the energy system alone of around €350 billion.

In addition, the Commission estimated the overall environmental sustainable investment gap at between €100 billion and €150 billion per year, and social investments needs at €142 billion per year by 2030."

Source: Sustainable finance: More consistent FU action needed to redirect

finance towards sustainable investment, Special report of the

European Court of Auditors, 2021





Energy transition

Energy transition	
Growth	positive (investment needs)
Inflation	up (greenflation)
Distributional consequences	large
Company strategy	reducing carbon footprint
Central banks	tighter policy in reaction t greenflation and to the extent that
	demand growth is dynamic
Governments	targeted support measures to address distributional
	consequences; policy to foster energy transition
Comments	energy transition policy may interfere with trade policy (carbon
	border tax adjustment)



The big picture

Overall comments	
Growth	No clear conclusion
Inflation	Medium term somewhat higher inflation than in past ten years
Distributional consequences	Most shocks have distributional consequences
Company strategy	Reduced visibility (geopolitics, technological change, climate
	change) in combination with large investment and financing
	needs
Central banks	How to deal with supply-side inflation?
Governments	A bigger role; fiscal consolidation will be challenging given
	multiple demands; role for structural policy; need for
	fiscal/monetary policy coordination



Group Economic Research – Publications



CONJONCTURE

Structural or in news flow, two issues analysed in depth

EMERGING

Analyses and forecasts for a selection of emerging economies



PERSPECTIVES

Analyses and forecasts for the main countries, emerging or developed



ECOFLASH

Data releases, major economic events. Our detailed views...



ECOWEEK

Weekly economic news and much more..



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MULTIPLE SHOCKS, RETHINKING OF THE **MARITIME ECOSYSTEM?**



CHRISTA SYS

CHAIR TRANSPORT, LOGISTICS AND PORTS UNIVERSITY OF ANTWERP



STARTING FROM A DEFINITION

- Creating a resilient maritime ecosystem
- A clear definition: "to match supply and demand globally, efficient and effective <u>cargo</u>, information <u>and financial flows</u> are interconnected in a variety of multi-layered networks linking all actors and infrastructure (e.g. port, hardware,...) whilst
 - o reducing costs,
 - o improving (operational) efficiency,
 - o ensuring sustainability,
 - o complying with regulation and
 - o simultaneously improving customer satisfaction (e.g. reliability) to retain or increase market share" (Sys & Vanelslander, 2020)
- But does the practice follow? Ecosystem building? Making data available?
- ? Need to rethink the concept of maritime ecosystem







TODAY'S THEME

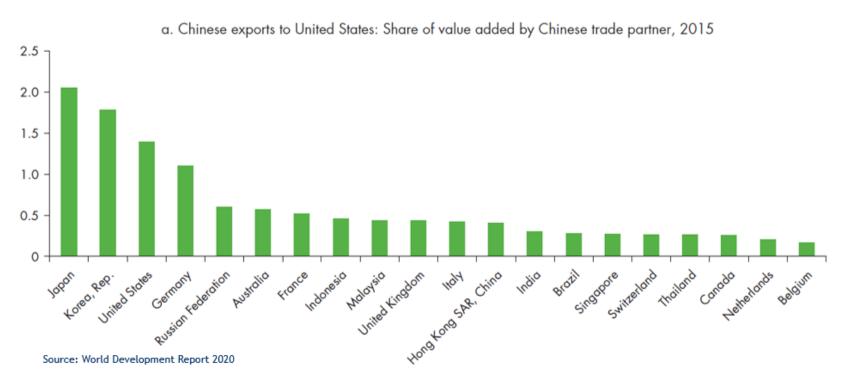
MULTIPLE SHOCKS, RETHINKING THE MARITIME ECOSYSTEM

- Trade war USA-China, Brexit, Covid-19, Suez canal incident, unprecedented demand growth and associated port congestion, Blue sky Beijing Winter Olympics policy, Invasion Ukraine, strict coronavirus lockdowns in China,...
- Shocks come at the cost of resilience
- Very interesting theme
- Keynote > also many suggestions (e.g. company strategy) were provided
- Only a successful/resilient maritime ecosystem will survive in this highly competitive market





THE MULTILATERAL DIMENSION OF THE US-CHINA TRADE WAR







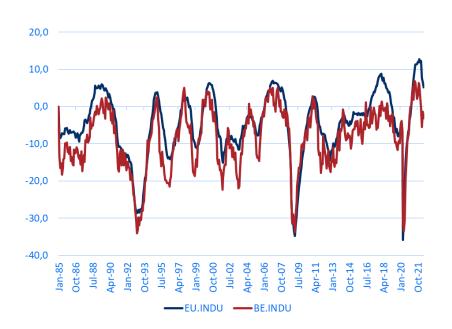
? NEED TO RETHINK

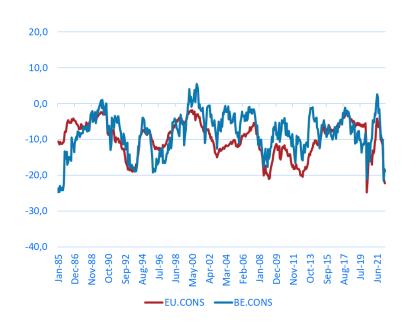
- Increasing input costs (e.g. oil, other key commodities)
- Significant demographic changes
- Increasing demand for maximum flexibility
- RESULT
 - Supply repositions towards demand
 - Increasing number of partnerships (based on the sharing of logistics 'assets', including people)





IMPACT ON BUSINESSES AND CONSUMERS





Businesses/consumers will adjust to supply-chain shocks in different ways.





SUPPLY DISRUPTION



IMPACT: Enhancing value chain resilience

REACTION: Adapting to changed shipper strategies

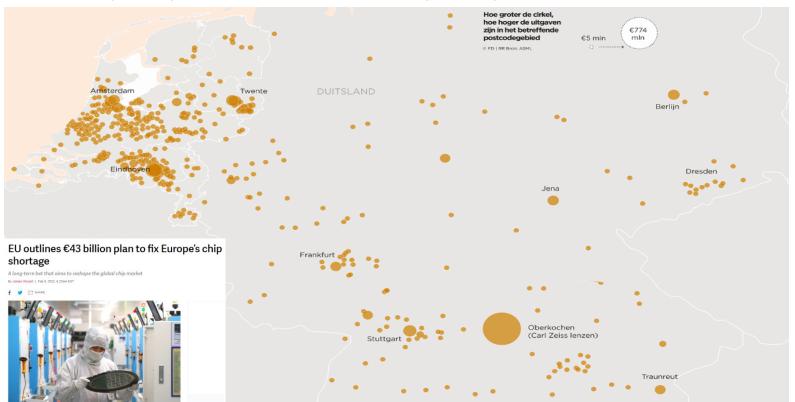
- Strategic stockbuilding
- Reshoring/Nearshoring ('friend shoring') vs. value chain diversification vs. automation
 - (re-)establishing the shorter/more regional/local supply chains will be costly in terms of growth
 - Diversification/automation involve adjustment costs/new investments
- Diversified warehousing



Classification : Interna



EXPENDITURE ASML IN THE NETHERLANDS AND GERMANY







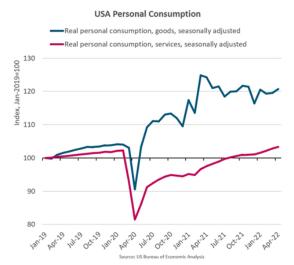
DEMAND SHIFT

IMPACT: at sector level

REACTION: Adapting to changed consumer behaviour

• E-commerce

More durable



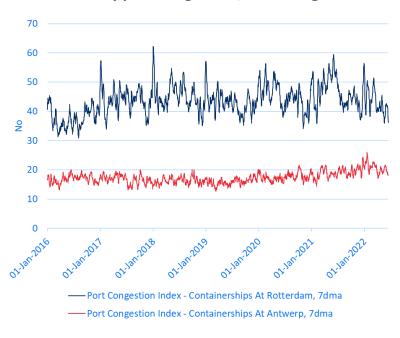


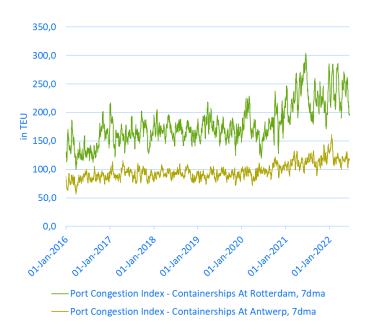




SUPPLY DISRUPTION, AND ASSOCIATED PORT CONGESTION

Unseasonality port congestion, increasing trend?





20 Source: Clarkson Research NV, 2022



Classification : Internal



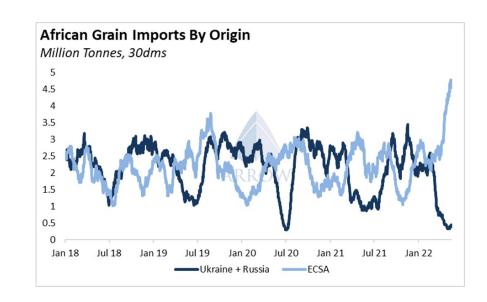
INDUSTRIAL METALS AND FOOD

IMPACT

- Looking for alternatives
- Circulary economy

REACTION:

Shifting equipment where market shift



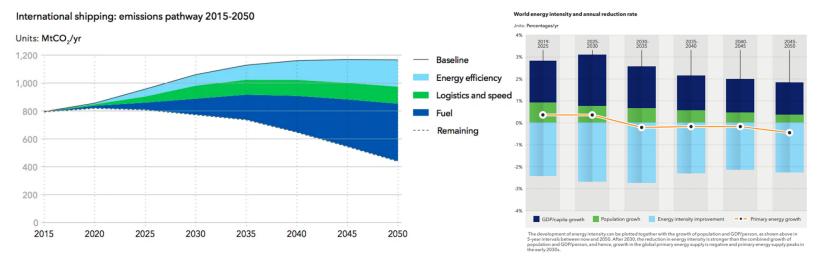




ENERGY PRICE INCREASE

IMPACT/REACTION:

- Reducing energy intensity (e.g. potential of smart grid)
- Increasing use of alternative energy sources



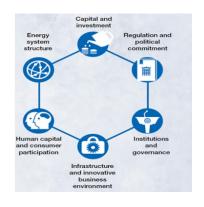




LONG TERM







TECHNOLOGY

IMPACT Increased investments REACTION

- More energy-efficient
- Sustainable
- Digitisation
- → Geopolitical dimension

GEOPOLITICAL

IMPACT

- How to organise value chains?
- Which international markets to target?

REACTION

- Direct towards new markets
- Integrate in the chain to control
- → Economic decoupling

ENERGY TRANSISTION

IMPACT

Reduced carbon footprint

REACTION

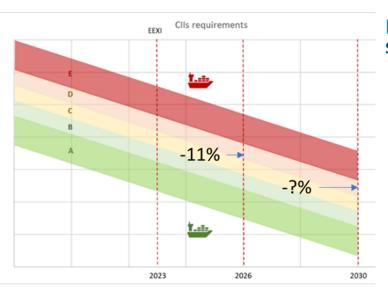
- Alternative fuels
- Energy efficiency
- → Interfere with trade policy





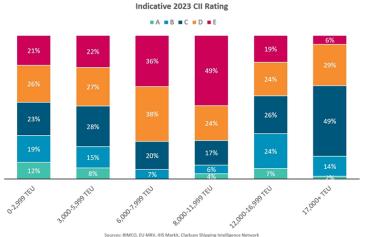
ENERGY TRANSITION

Interfere with trade policy (carbon border tax adjustment)



DecarbonisationSupply impact of EEXI, CII, and ETS in the EU remains unclear





- Based upon reported EU MRV data for 2020.
- Emissions data has been converted into CII rating using the currently agreed calculations.
- The ratings for the 1,812 vessels included in the MRV data have subsequently been extrapolated to the entire fleet.
- Extrapolation has been done by applying the ratings from the EU MRV data to all vessels of same age and size.





KEY TAKE AWAYS

- Maintain cash flow
- Improve risk controls
- Accelerate port co.innovation
- Increase investments (incl. digitisation)
- Ensure visibility upon the entire maritime ecosystem
- Ensure financial health





CHAPTER 4

PANEL DISCUSSION



SEXPERTS FROM THE MARITIME INDUSTRY,
THE ACADEMIC WORLD AND THE BANK



PANEL DISCUSSION WITH BANK, ACADEMIC AND INDUSTRY REPRESENTATIVES



Frédéric Fontaine

Head of Transaction Banking

BNP Paribas Fortis



Philip Van gestel
President
Noord Natie Holding



Sabine Cruypelans
Site Manager WND Willebroek
Maersk



Prof. Thierry Vanelslander

Panel or Moderator

University of Antwerp



JEMAND: CONSUMER BEHAVIOUR, MORE CHANGES AHEAD



SUPPLY: A MORE RESPONSIVE LOGISTICS
FROM THE PAST WILL BE NEEDED IN THE
FUTURE



DEVELOPMENTS SPEED UP THE ENERGY
TRANSITION, ALSO IN TRANSPORT AND
LOGISTICS



JEGOPOLITICS: GLOBALISATION IS DEAD,
DEGLOBALISATION AND FLEXIBLE
INTERCONTINENTAL ALLIANCES WILL BE
THE FUTURE





CHAPTER 5

Q&A AND CLOSING



KOEN CEYSSENS

DIRECTOR PORTS PRACTICE
BNP PARIBAS FORTIS





#PositiveBanking