



The impact of the new Kerch strait bridge on Ukraine's trade

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Introduction

- The Russian Federation is presently building a bridge over the strait of Kerch to link Crimea to Russia's mainland
- Bridge will span the only entrance to the Sea of Azov from the Black Sea and is to be completed by end-2018
- Two Ukrainian ports on the sea of Azov and depend on the Kerch strait for incoming and outgoing traffic: Mariupol and Berdyansk
- **Key question of this PB:** Will the bridge – during construction and after completion– affect Ukrainian trade from the ports of Mariupol and Berdyansk?

New Kerch strait bridge may constrain ship traffic

Before the Bridge

- Kerch strait only has a narrow and shallow shipping channel to enter the Sea of Azov
- Maximum ship dimensions:
 - 8 m draft
 - 252 m length

Impact of bridge

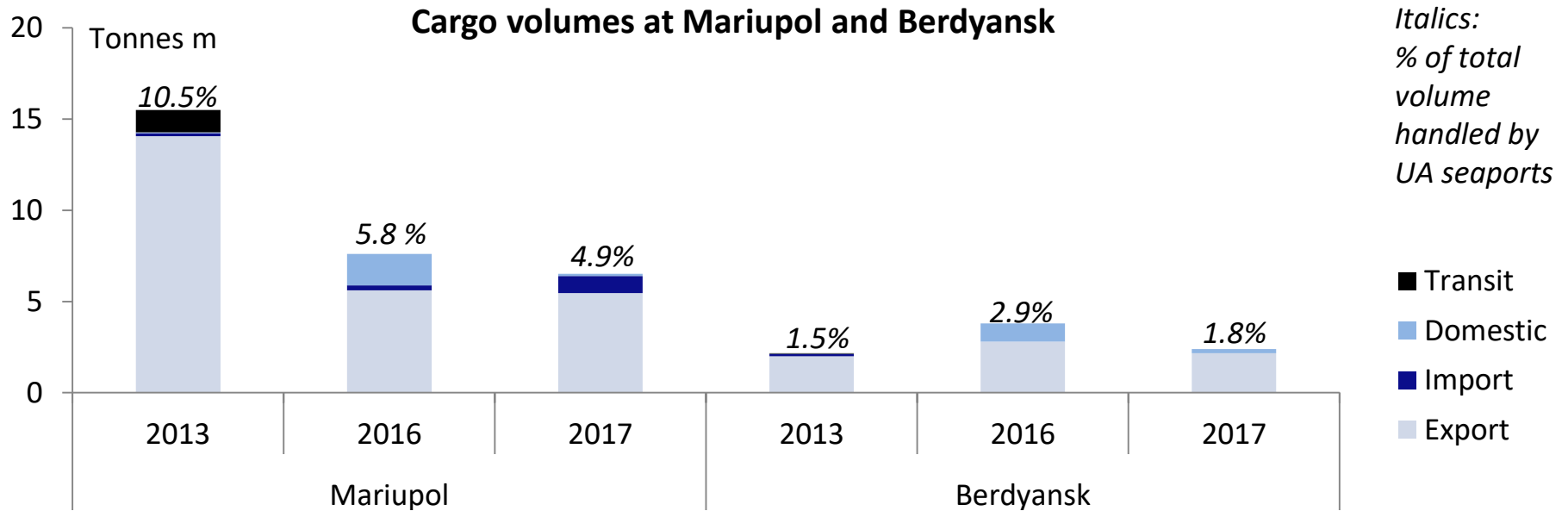
- Construction: Several 24-72 hour traffic prohibitions in Aug-Oct 2017, 7 days in total
- After completion:
 - Max height (air draft) of ships 35 m
 - Max top-to-bottom height (air + deep draft) of ~40 m to allow sufficient clearance

Seaports of Ukraine



Source: Ukraine Port Assessment, goo.gl/8Wzo1T

Current UA trade through the Azov Sea



Source: Sea Port Administration, authors' calculations

Main importance of both ports

- Exports, 2016: combined 7.7 % share of total UA sea exports (vs 16% in 2013)

Development 2013-2017

- Decreased role of Mariupol
- Berdyansk (temporary) increase in importance
- Loss of transit traffic especially for Mariupol
- Increased domestic shipments in 2016 due to problems with rail connections to Donbas

Exports through Azov Ports in 2017

	Exports from Mariupol, m tonnes	Exports from Berdyansk, m tonnes	Sum, m tonnes	% of exports in <u>product group</u> (by weight)	% of UA total exports (by value, est.)
Total	5.5	2.2	7.6	-	6.3
<i>including</i>					
Grain and grain products	0.8	1.1	1.8	4.3	0.7
Ferrous metals and products thereof	4.4	0.3	4.7	24.7	5.5
Construction materials	0.2	0.7	0.8	11.1	0.1

Source: Sea Port Administration, Ukrstat, authors' estimates

Main importance for Ukraine: Steel exports

- Quarter of metals exports 2017 through Sea of Azov ports
- Mostly through Mariupol, main customer: MetInvest

Further export goods

- Berdyansk: Mostly grains and construction materials
- Small share of grains exports in Mariupol cargo volumes

Azov ports capacities and facilities

	Mariupol	Berdyansk
Handles	Mainly bulk carriers, can accept container ships	Mainly bulk carriers, also tankers
Main cargoes / facilities	Steel, coal, minerals, grain (no specialized terminal), fertilizers, limited container facilities	Coal, grain (no specialized terminal), clay, steel, can handle gasoline and other oil products
Berths	18 main and 4 additional berths, total length 3900m	9 berths, total length 1700 m
Max. ship dimension	length: 240 m, draft: 8m (12 m at anchor in approach channel)	length: 220m, draft: 7.9 m
Highest observed past cargo volume / max capacity	15.5 m tonnes per year (2013) Max capacity: 18.3 m tonnes	4.5 m tonnes per year (2015) Max capacity: 5.6 m tonnes

Source: Sea Port Administration, Mariupol port website, Ministry of Infrastructure

- Ca. 1240 ships handled by two ports in 2016
- Ports mainly built for and used by medium-sized ships
 - Mainly mini- and handysize bulk carriers
 - Few larger Handymax and Panamax bulk carriers handled
 - These larger ships could not pass Kerch strait fully loaded before the bridge

Impact of bridge on trade by Azov ports

Short term: Construction period

- Closures do not significantly hinder traffic of non-time-critical cargoes
- Minimal impact

Medium term: Completed bridge

- Max. top-to-bottom height of 40 m is an additional constraint
- Over 90% of ship traffic can pass the bridge without a problem
- Problems may arise for larger ships, i.e. Handymax and Panamax bulk carriers (see Annex for ship classifications and sizes)
 - Could already previously not pass Kerch strait fully loaded (draft)
 - Substitution by smaller ships probably possible
- Hence mainly logistical difficulties, some effect on potential capacity
- Impact likely very limited

Substitution possibilities

- Unlikely that bridge will be a binding constraint on the Azov seaports' capacity
 - Nevertheless, would capacities exist to substitute cargo volumes now shipped from Mariupol and Berdyansk?
 - A. Shipping from Black Sea ports
 - Capacity to process additional cargo is present in Black Sea ports
 - BUT:**
 - Rail capacity to access Mariupol remains limited
 - Delays in Ukrzaliznytsia operations may further limit capacity
 - Added costs for rail or other transshipment
 - B. Shipping cargo overland:
 - Cargo from Azov seaports heavy & for long-distance destinations
 - Shipping by rail or truck will be too expensive
 - Unlikely that this would be a practical option
- Capacity to substitute Azov seaports exists, but may require investments in railroad infrastructure and would lead to increased transport costs

Conclusions

Importance of Sea of Azov ports

- Declining importance since 2013 due to situation in Donbas
- Especially decline of Mariupol freight volumes

Impact of Strait of Kerch bridge

- Very limited immediate impact of bridge on ship traffic to Azov seaports
- However, limitations to theoretical capacity of Azov ports

Policy recommendations

- Bottlenecks in rail infrastructure and handling by Ukrzaliznytsia should be removed so goods can be transported to Black Sea ports by rail if necessary
- This would become especially important if Eastern Donbas is reintegrated into Ukraine (increase of cargo volumes in Azov Sea region)



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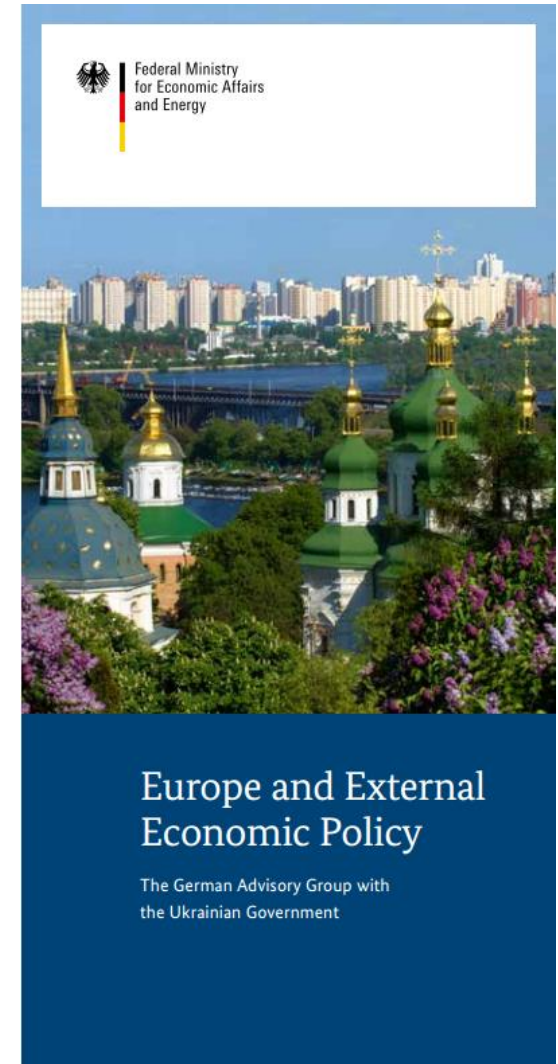
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Annex: Ship classification

Dry bulk and ore carriers are usually classified by cargo they carry

- Capesize bulk carrier - 100,000+ deadweight tons (dwt)
- Panamax bulk carrier - 65,000–99,999 dwt
- Handymax bulk carrier - 40,000–64,999 dwt
- Handysize bulk carrier - 10,000–39,999 dwt
- Mini bulk carrier - <10000 dwt

Note: Deadweight refers to weight of cargo, fuel, supplies, equipment when ship is loaded to waterline,

Dry bulk carriers carry dry cargo such as grain, coal, ore, steel “in bulk” i.e. not in standard containers