

Low flows and impacts on navigation

CHR symposium “Low flows in the Rhine catchment”

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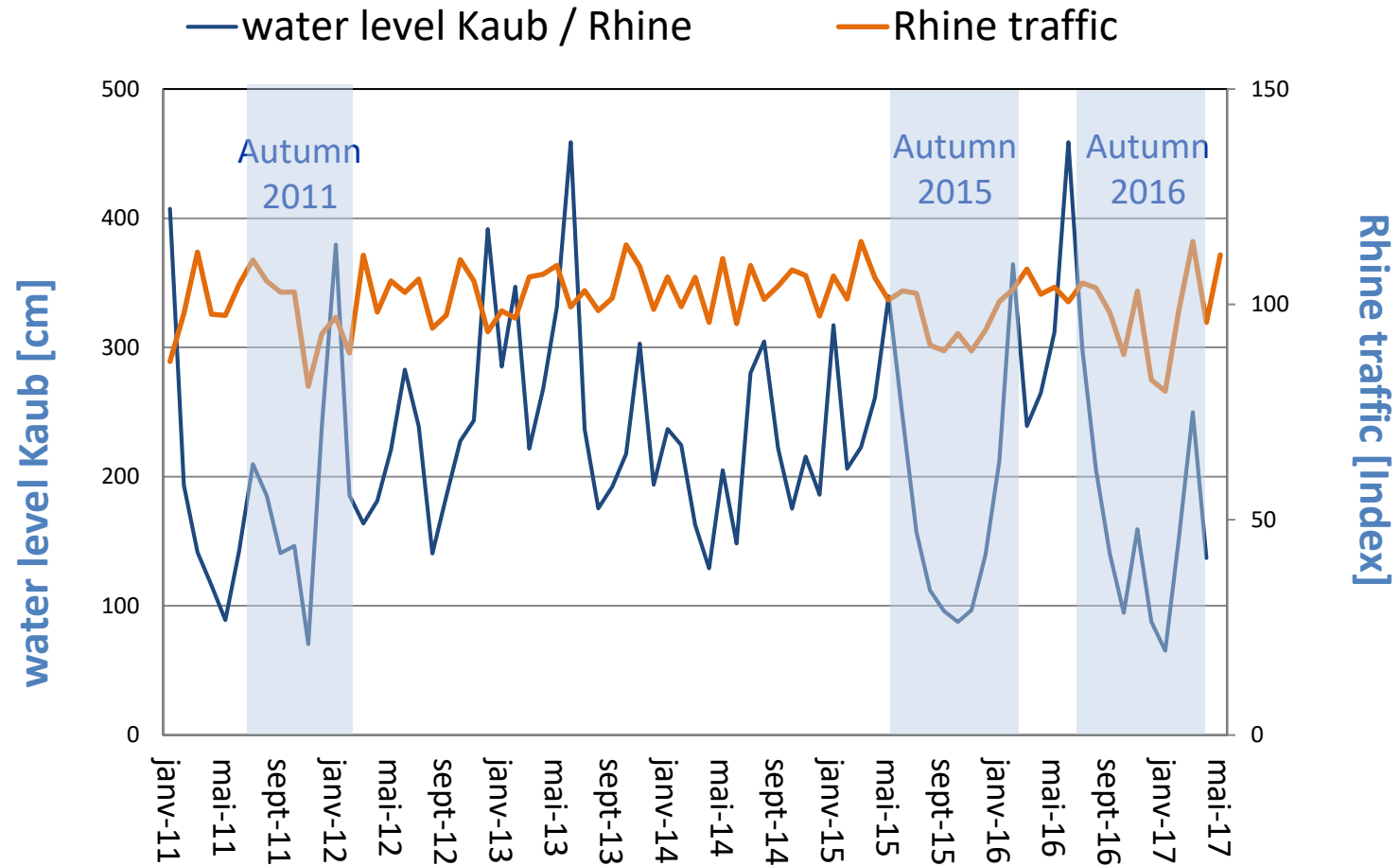


01

Impacts of low flow periods on inland navigation



Low flow periods compared to Rhine traffic Index



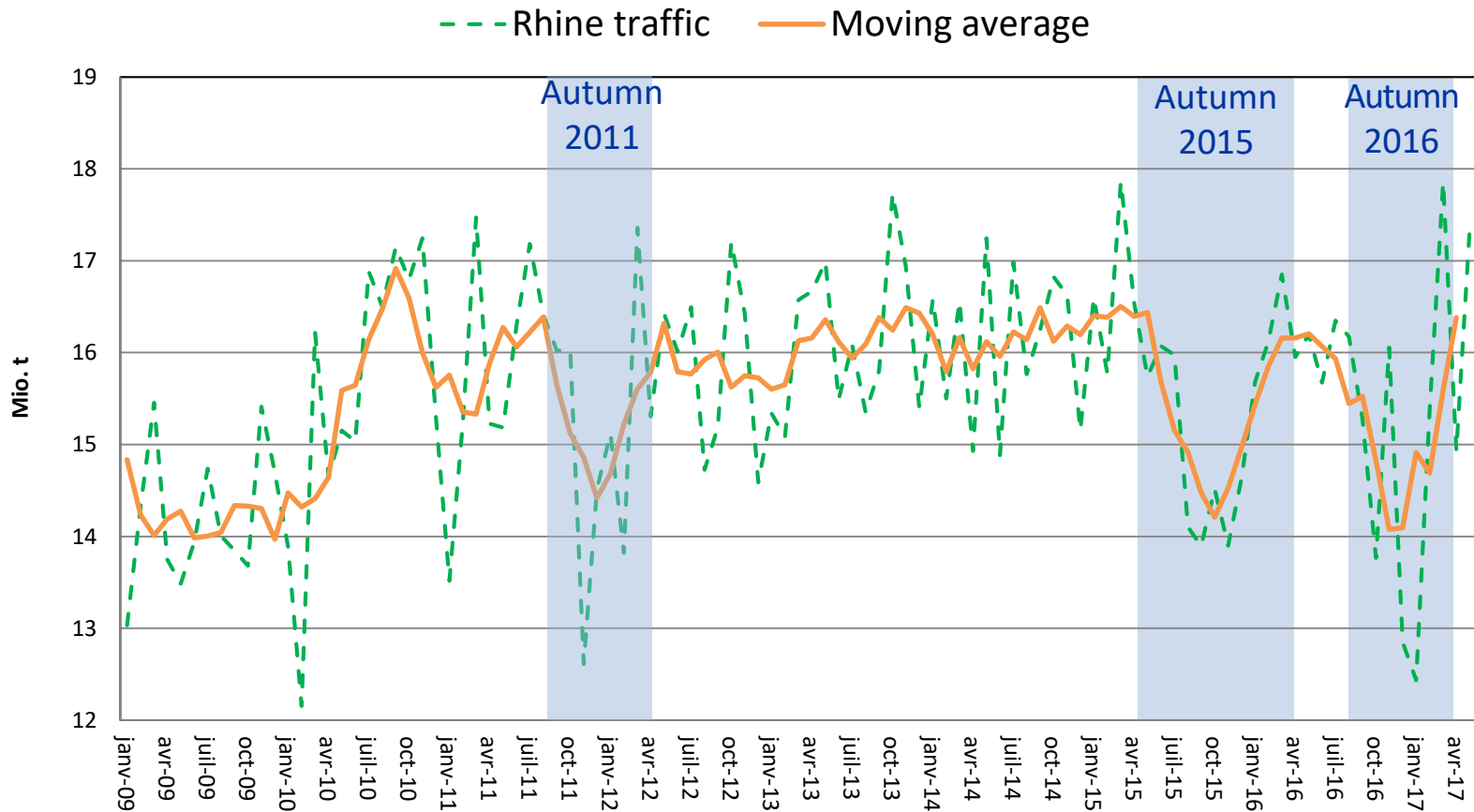


Monthly goods traffic on the traditional Rhine [Mio. t] (Jan/2009-May/2017)

Low flow periods

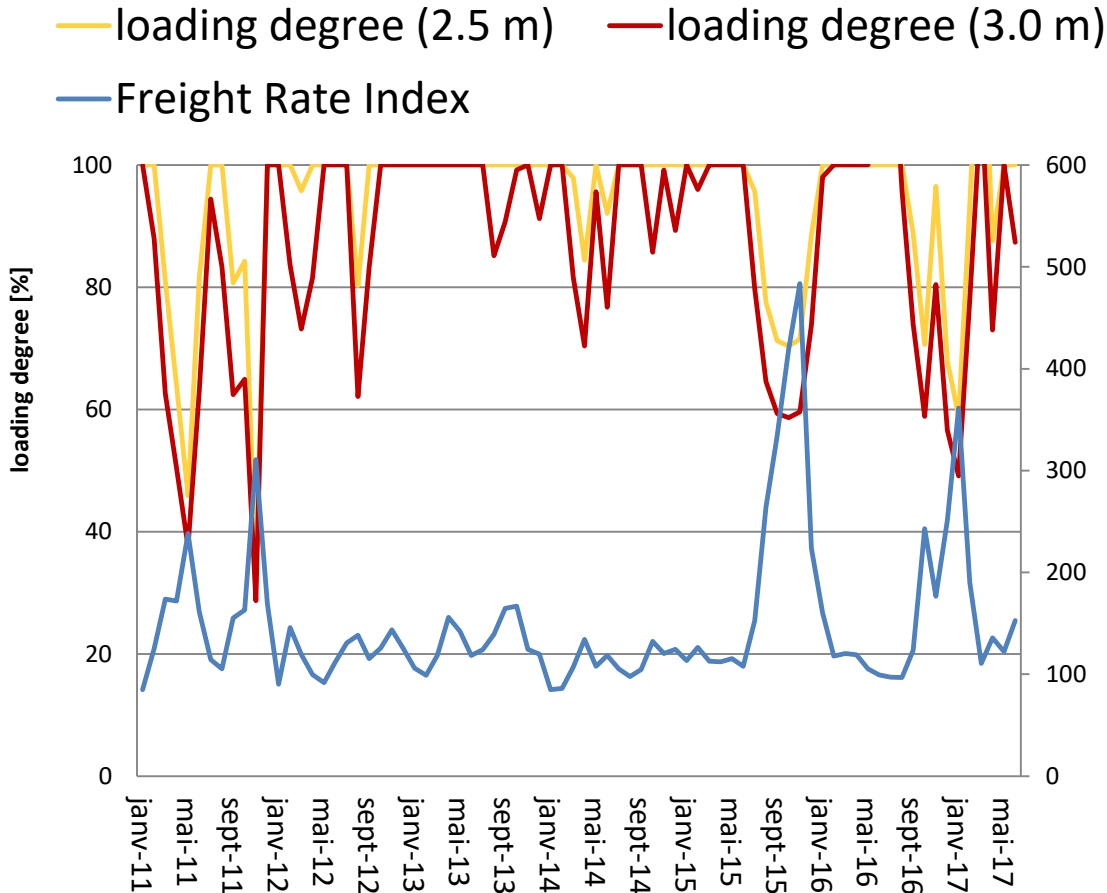


Negative impact on transport evolution





Impact on vessels' loading degrees and transport prices*



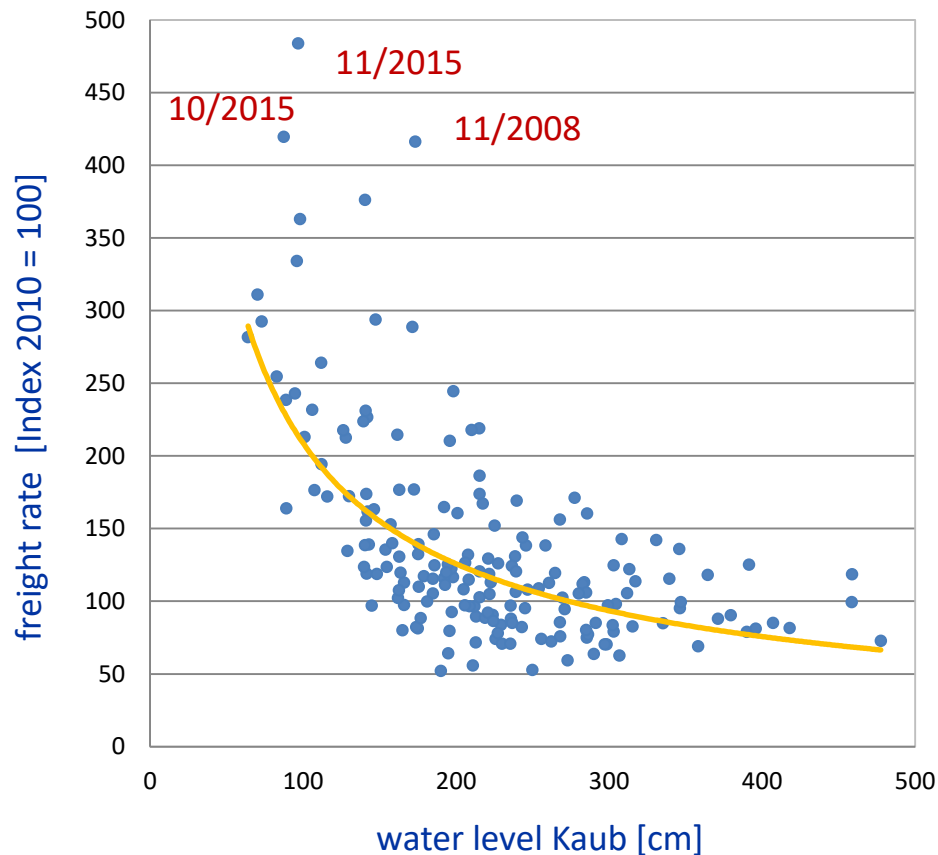
- Low flow periods
- Reduced loading degree
- Supply side contraction
- Increase in freight rates (transport prices)

* Maximum loading degrees at Kaub/ Middle Rhine for vessels with a draught of 2.5 and 3 meters, compared with freight rates Index*; Prices (Freight Rates) in Tanker shipping

Source: Calculation CCNR based on daily means data from German Inland Waterway Administration, German Office for Hydrology, PJK International



Long run relationship between water levels and freight rates – Jan/2002-May/2017

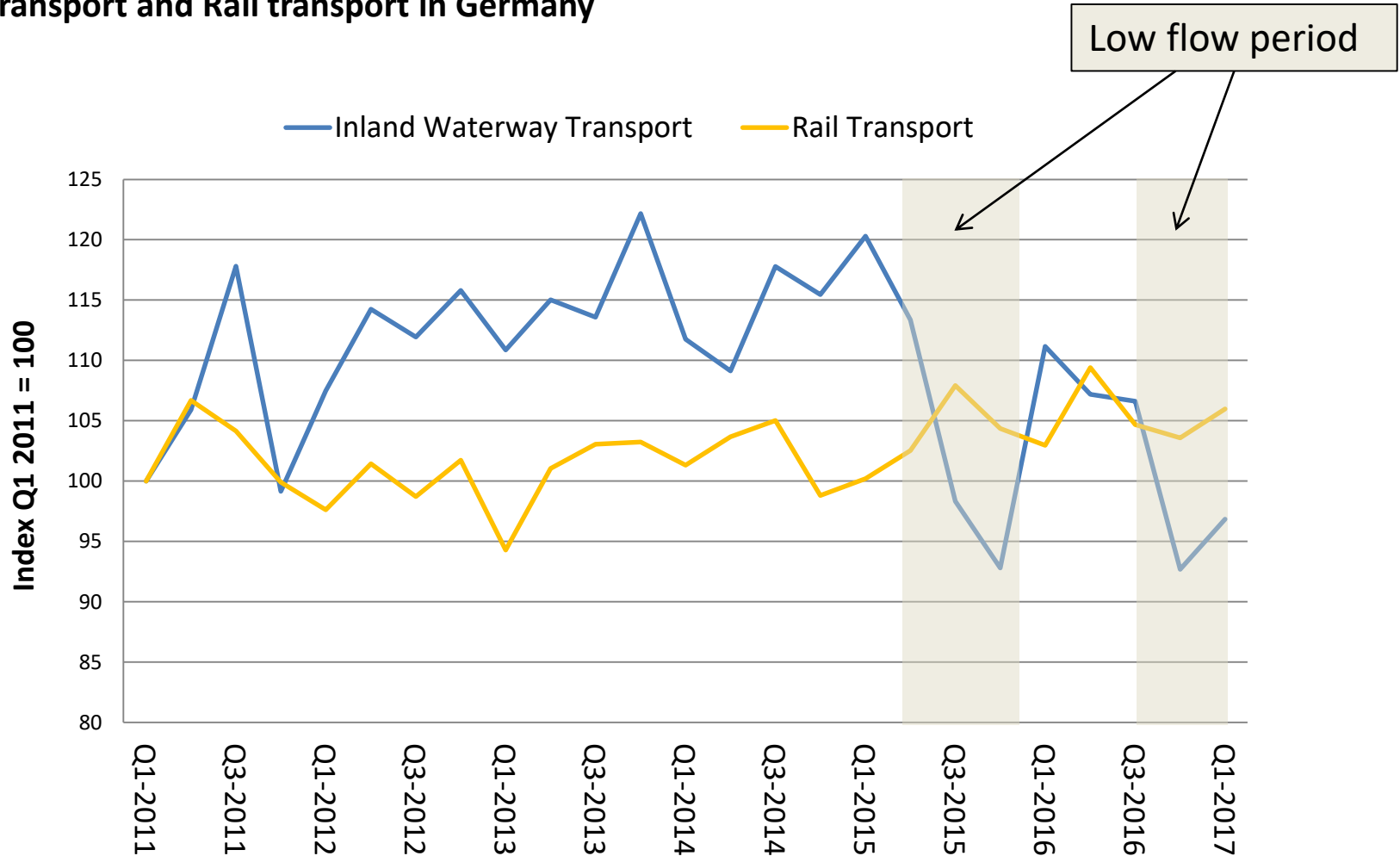


- Relationship is negative and non-linear: low flow periods increase prices
- Level of prices in autumn 2015 was on a multi-annual record level.



Low flow periods cause modal shift towards rail transport

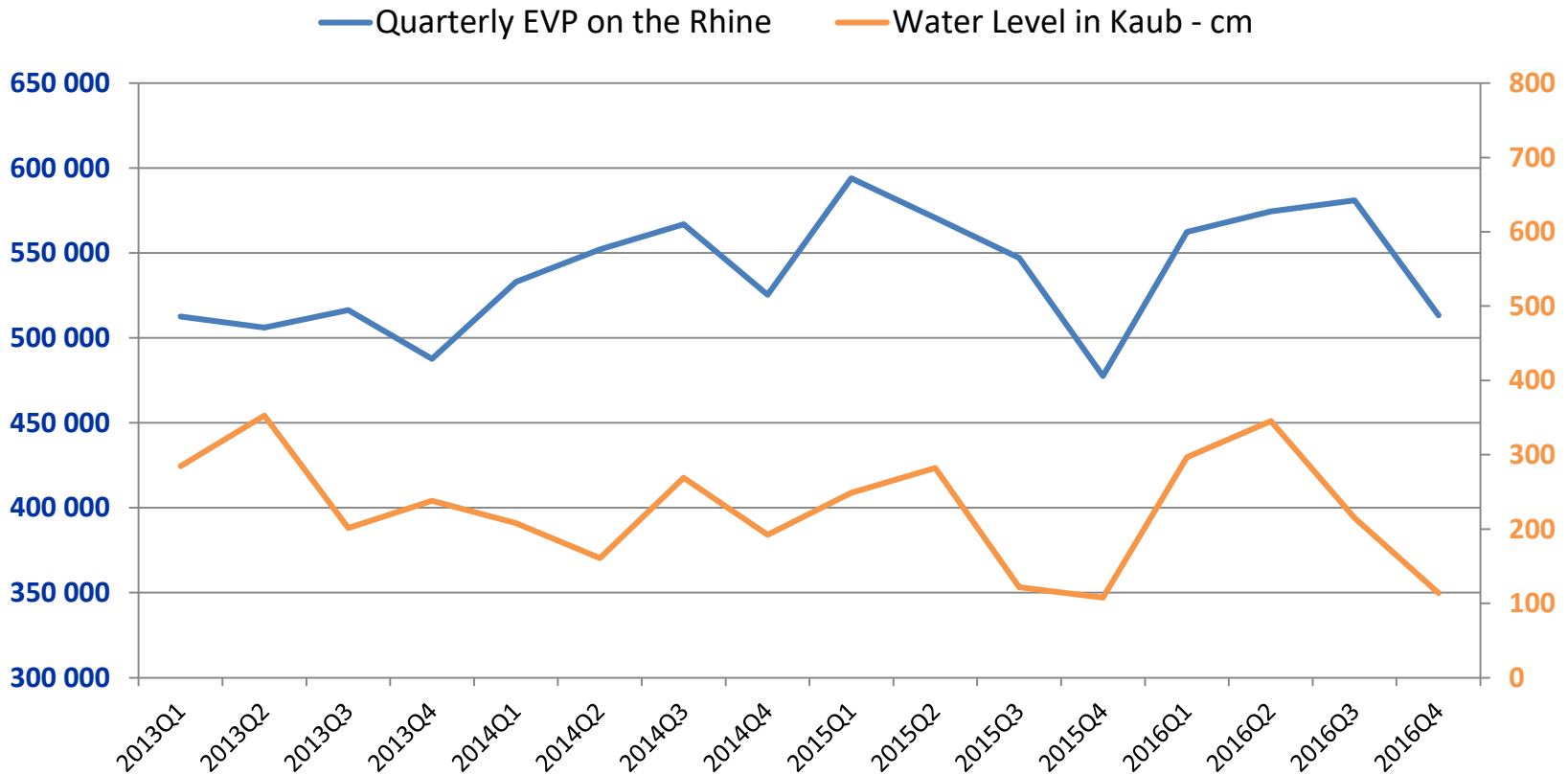
IWT transport and Rail transport in Germany





Container transport is sensible towards low flow periods

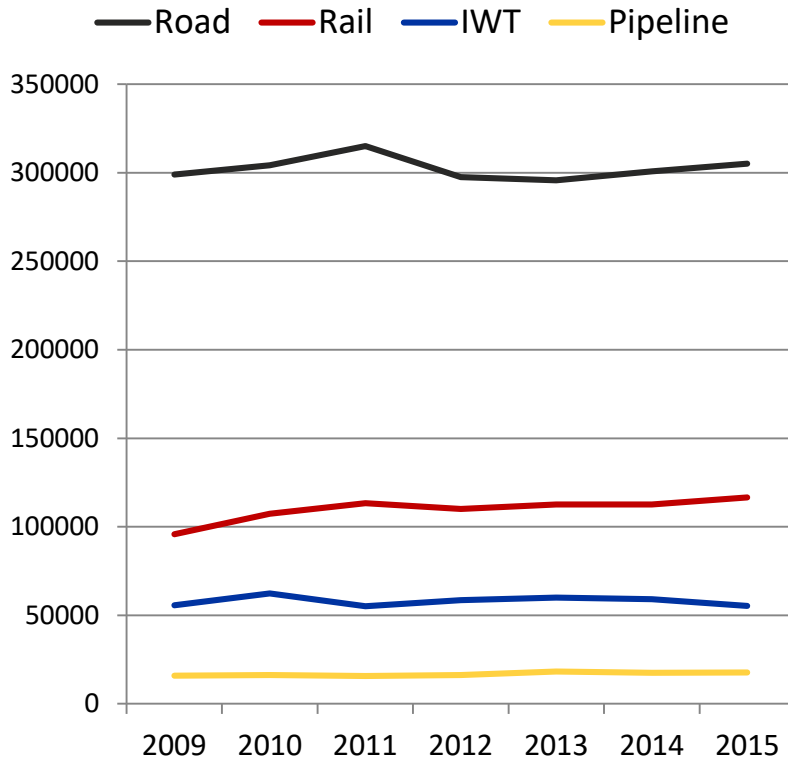
Container transport and water level on the Rhine



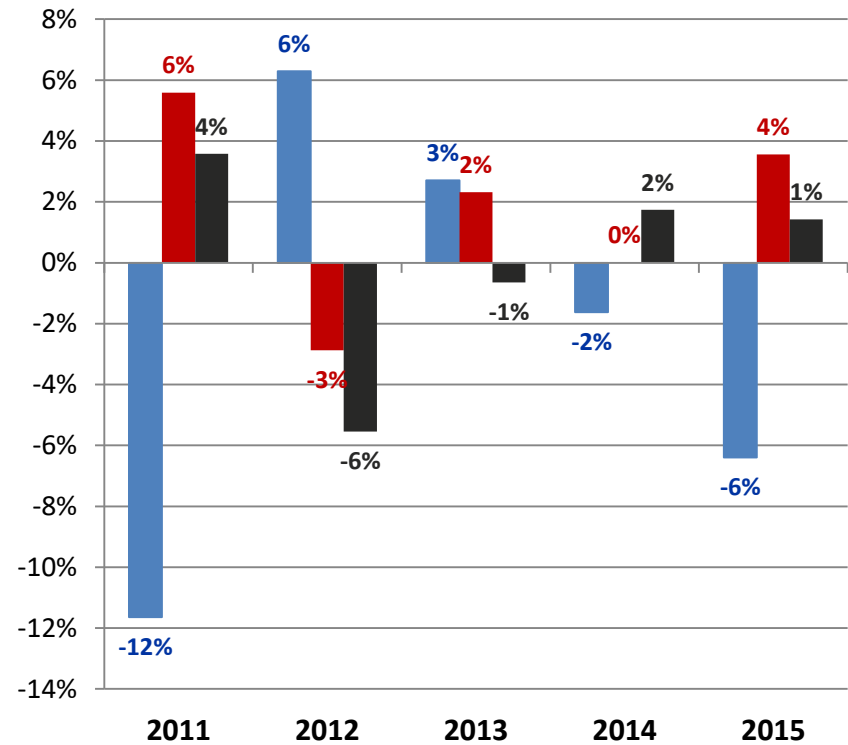


IWT belongs to a multimodal environment - Focus on Germany

Total goods transport performance in Germany
(Yearly transport performance in million TKM)



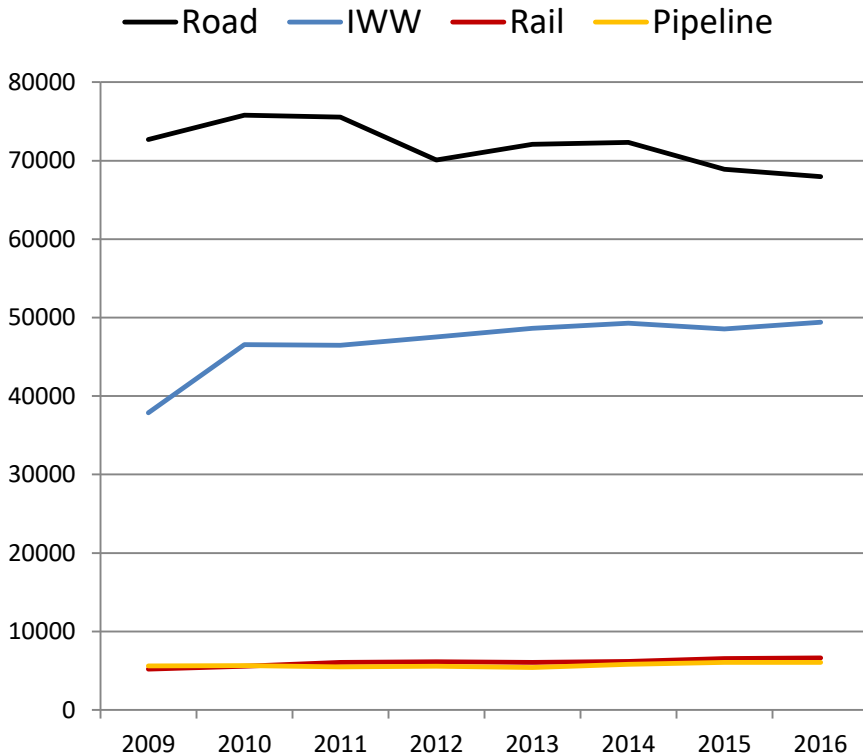
Yearly rate of change



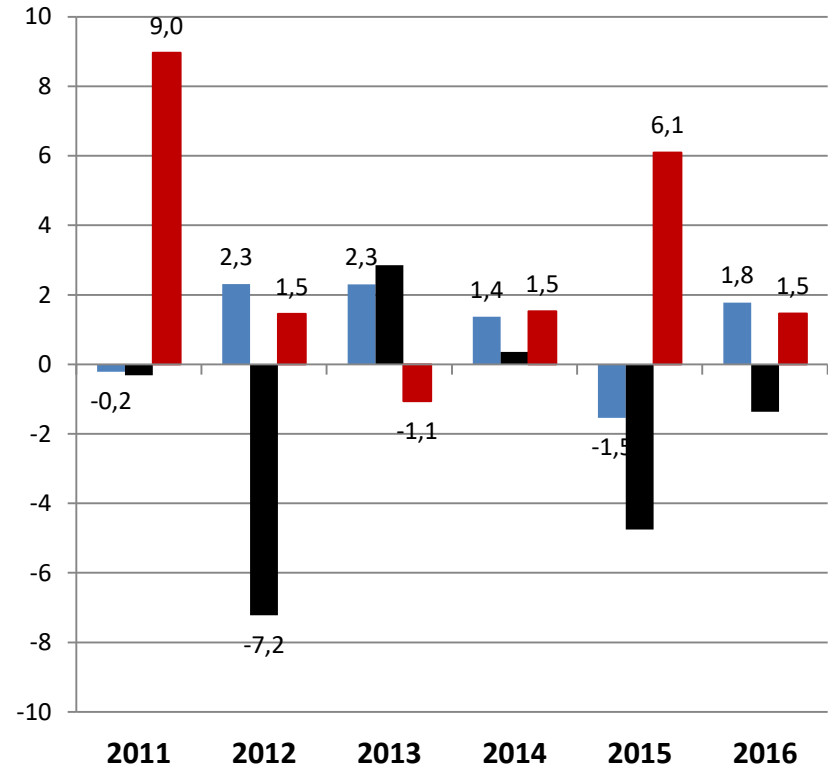


IWT belongs to a multimodal environment - Focus on the Netherlands

Total goods transport performance in the Netherlands
(Yearly transport performance in million TKM)



Yearly rate of change

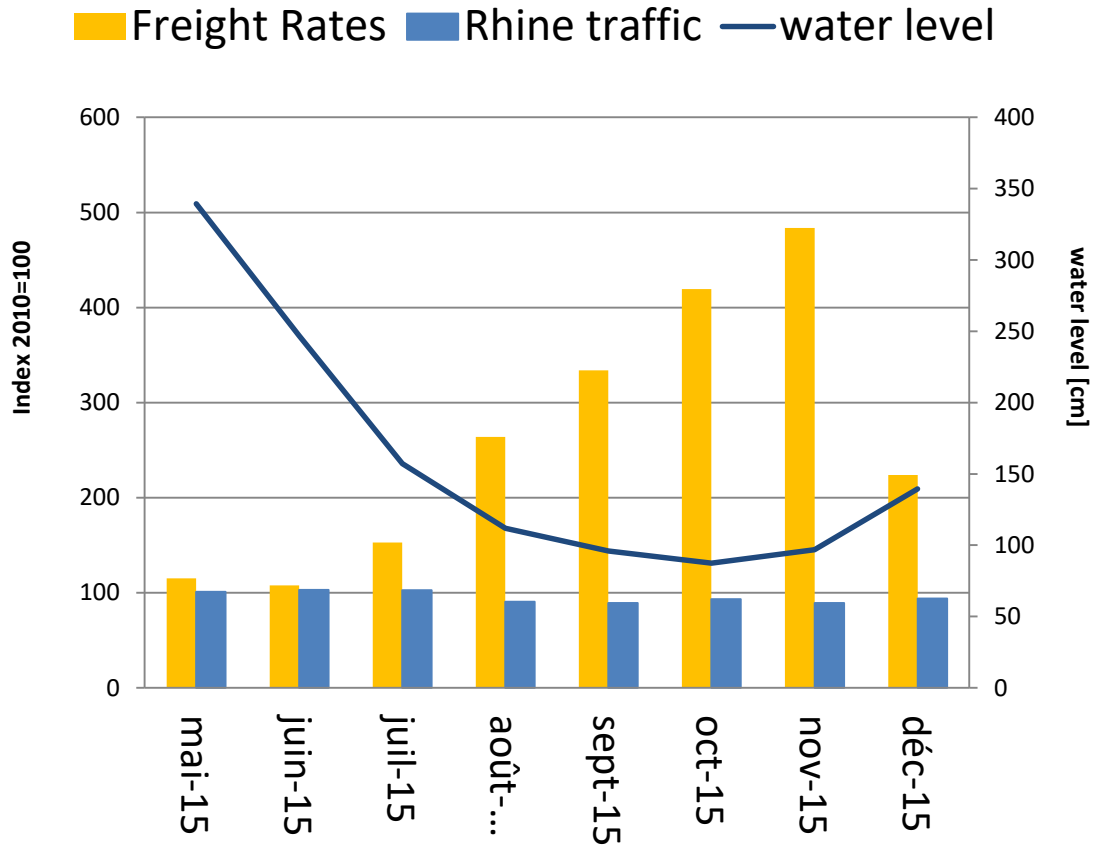


02

Focus on low water periods in autumn 2015 and 2016



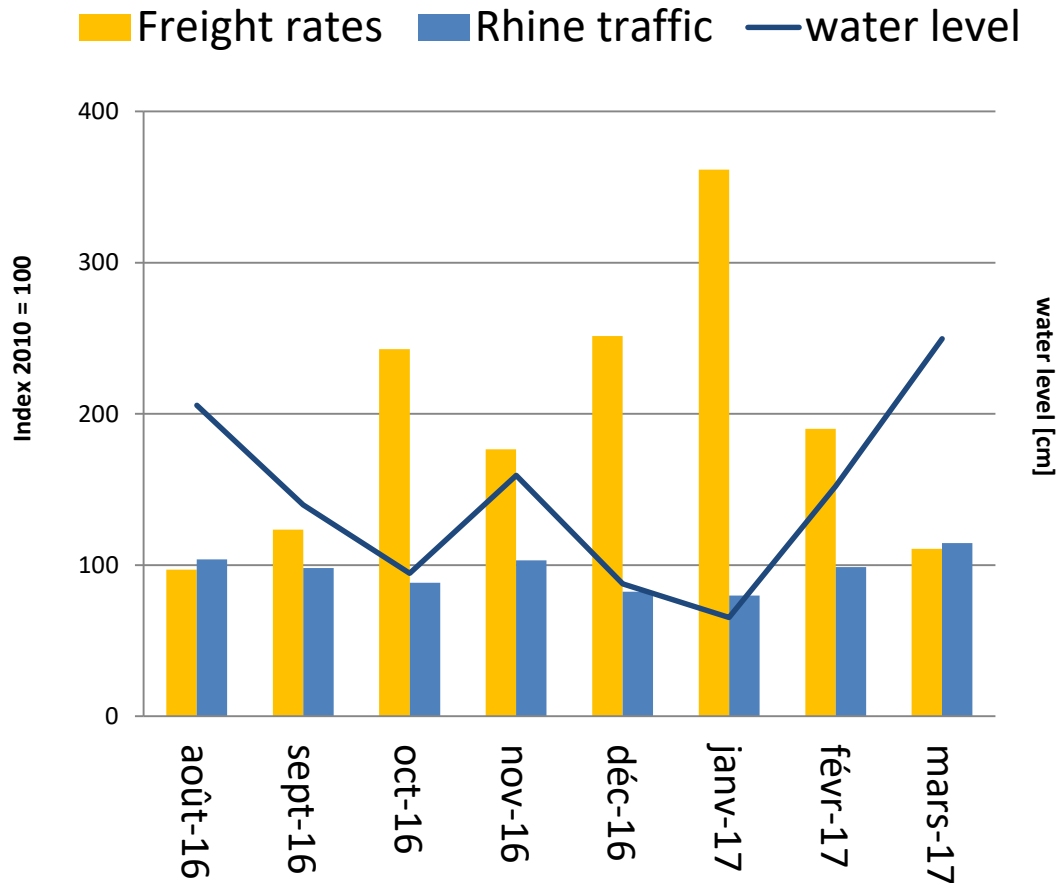
Low flow period in Autumn 2015



- Strong increase of prices
- Limited decrease of volumes



Low flow period in autumn/winter 2016/2017



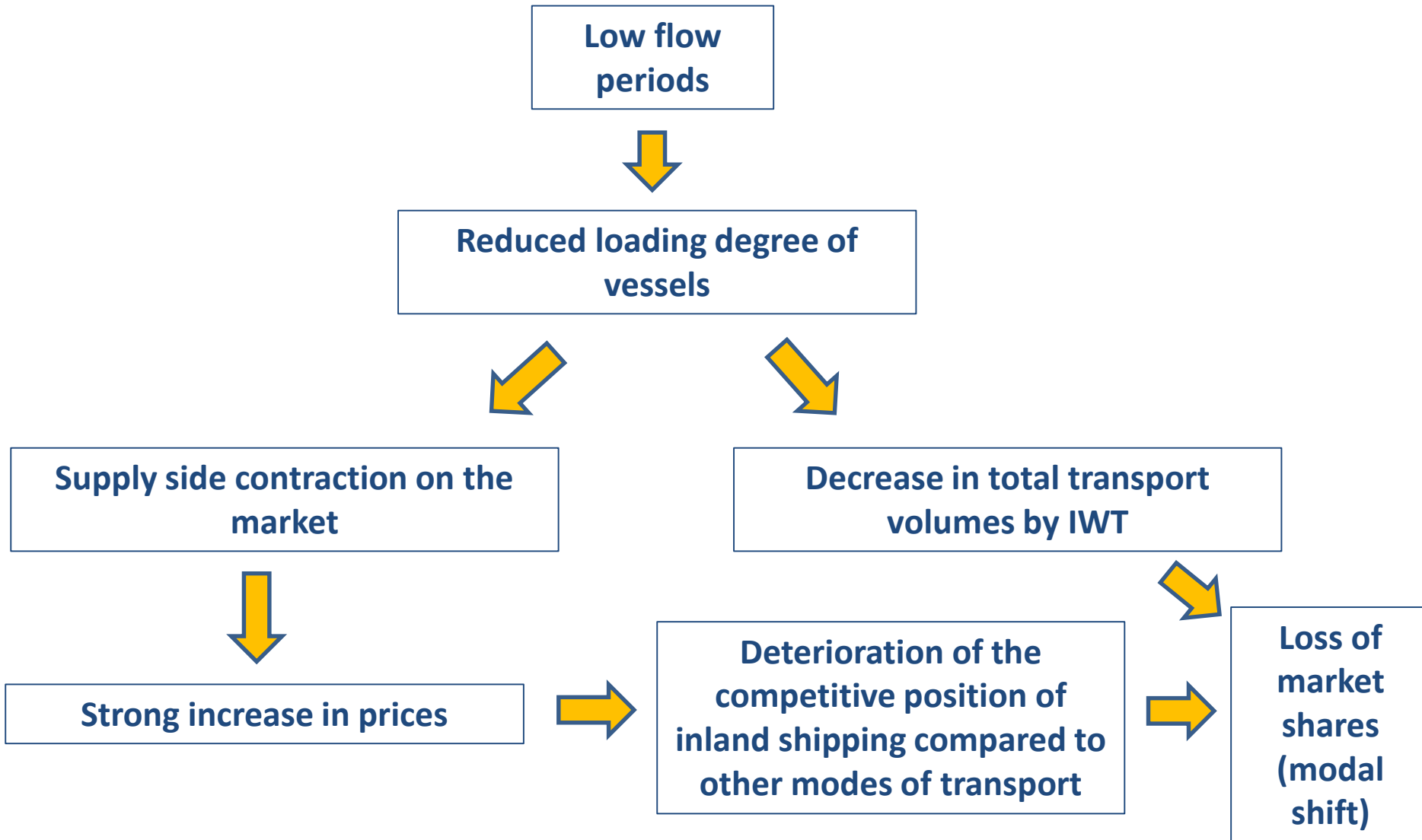
- Again strong increase of prices
- Impact on volumes this time stronger, but of shorter duration
- Explanation: low flow period was even more extreme than in 2015, but lasted not as long

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Summary



Summary – main impacts of low flows on navigation





THANK YOU VERY MUCH FOR YOUR ATTENTION

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