



# *Gazprom and market power in European gas markets*

*Kong Chyong*

*Cambridge Judge Business School  
University of Cambridge*

*EPRG Virtual Winter Seminar  
09 December 2021*

## Market power and long-term gas contracts: the case of Gazprom in Central and Eastern European Gas Markets

EPRG Working Paper 2115

Cambridge Working Paper in Economics 2144

Chi Kong Chyong, David M Reiner and Dhruvak Aggarwal

### Abstract

We explore a major European competition decision, the 2012-18 Gazprom case, using a global gas market simulation model. We find that access to LNG markets alone is insufficient to counterbalance Gazprom's strategic behaviour; central and eastern Europe (CEE) needs to be well interconnected with bidirectional flow capability. 'Swap deals' created by the decision facilitate CEE market integration, while limiting Gazprom's potential market power. Such deals may increase the diversity of contracted gas and number of market players, but do not improve physical supply diversity. In the next five years, swap deals could marginally impact negatively the utilization of strategic assets in CEE, but since Gazprom's commitments expire by mid-2026, utilization of these strategic assets may fall considerably, especially if Gazprom withholds supplies. As an unintended consequence, CEE markets may disintegrate from the rest of Europe. Avoiding such outcomes will require further gas market reforms, particularly, market design for gas transportation.

**Keywords** Gazprom; European Commission, Market Power; Natural Gas; Security of Supply; Competition; Long-term contracts; Swap deals

**JEL Classification** L95; L42; D47; D42; C63 ; P28

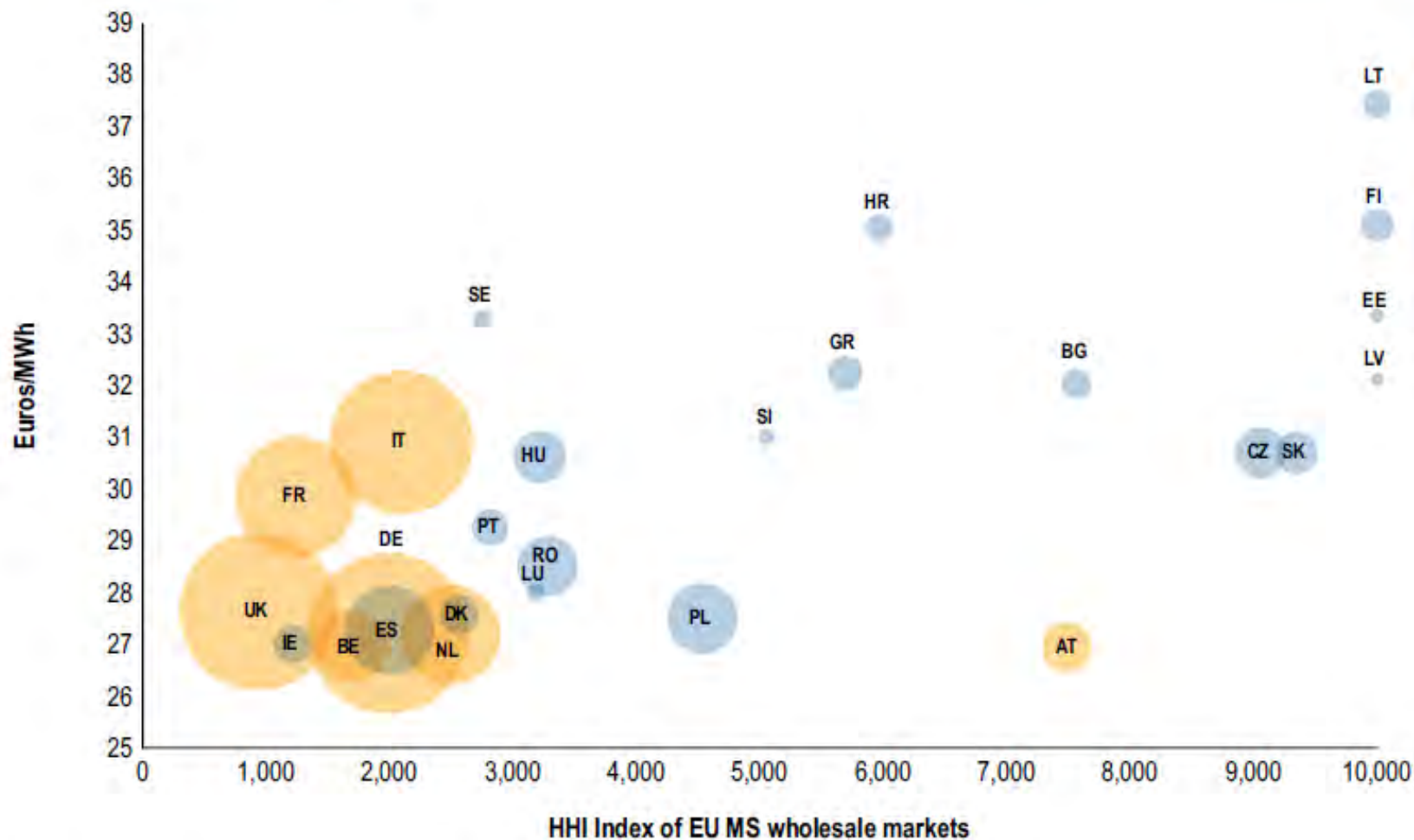
# Agenda

---

- Background
- Key results from the paper
- Conclusions

# Background – 2013 price differentials

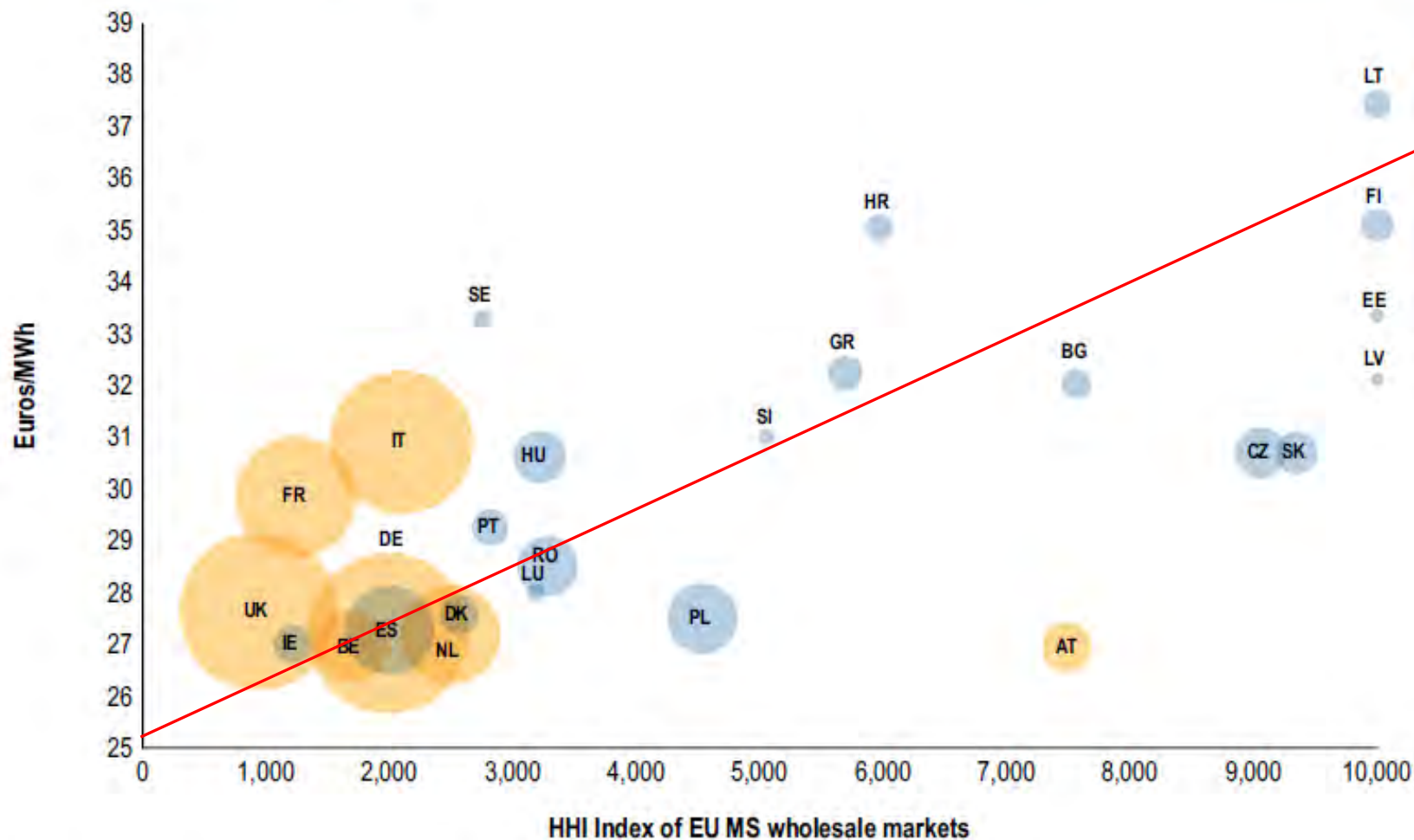
Figure 73: Gas wholesale prices in EU MSs compared with market concentration and gas demand – 2013 (euros/MWh)



Source: Eurostat, Comext, Platts, Frontier, and NRAs data (2014) and ACER calculations

# Background – 2013 price differentials

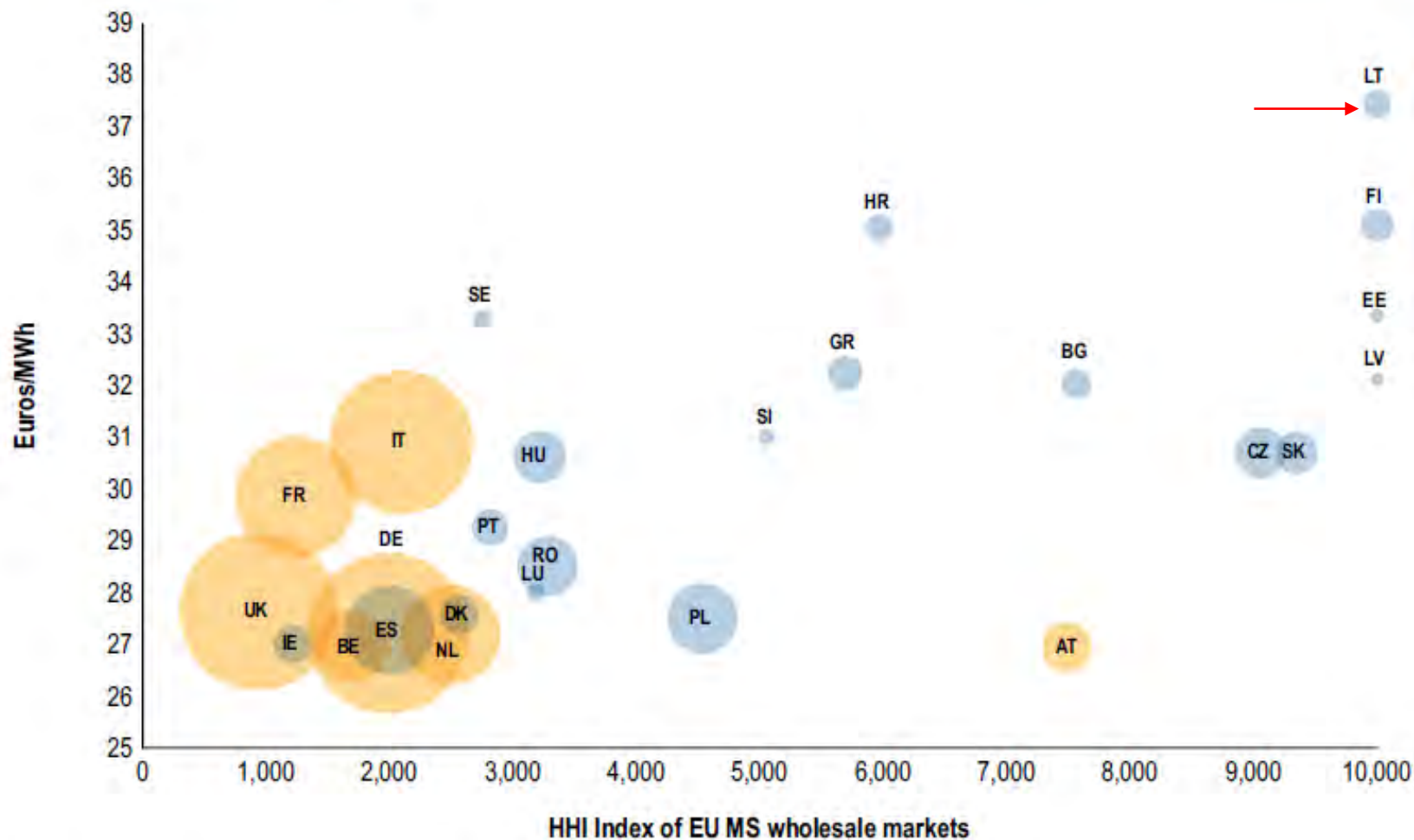
Figure 73: Gas wholesale prices in EU MSs compared with market concentration and gas demand – 2013 (euros/MWh)



Source: Eurostat, Comext, Platts, Frontier, and NRAs data (2014) and ACER calculations

# Background – 2013 price differentials

Figure 73: Gas wholesale prices in EU MSs compared with market concentration and gas demand – 2013 (euros/MWh)



Source: Eurostat, Comext, Platts, Frontier, and NRAs data (2014) and ACER calculations

# Background

- In April 2015, DG COMP began a formal investigation into Gazprom's suspected violations of EU antitrust rules by issuing its statement of objections:
  1. *Territorial restrictions* in Gazprom's contracts with Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland and Slovakia (CEE)
  2. *Unfair pricing policy* in five MS - Bulgaria, Estonia, Latvia, Lithuania and Poland (five MS)
  3. *Obtaining unrelated commitments* concerning gas transport infrastructure – Yamal-Europe pipeline (Poland) and the South Stream project (Bulgaria)

# Background

- In April 2015, DG COMP began a formal investigation into Gazprom's suspected violations of EU antitrust rules by issuing its statement of objections:
  1. *Territorial restrictions* in Gazprom's contracts with Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland and Slovakia (CEE)
  2. *Unfair pricing policy* in five MS - Bulgaria, Estonia, Latvia, Lithuania and Poland (five MS)
  3. *Obtaining unrelated commitments* concerning gas transport infrastructure – Yamal-Europe pipeline (Poland) and the South Stream project (Bulgaria)
- On 13 March 2017, DG COMP published Gazprom's proposed commitments to address the Commission's competition concerns which is then followed by a 'market test'
- In March 2018, after receiving comments from interested parties, Gazprom revised its proposed commitments and in May these commitments were made legally binding for a period of 8 years (until 2026)



## RESEARCH QUESTIONS



1. Can Gazprom profitably raise prices in the five MS?
2. if so, would the proposed changes in delivery points limit Gazprom's market power in the five MS?
3. How would the proposed changes in delivery points impact 'strategic' gas infrastructure in CEE & SEE?

## OBJECTIVES



- to analyze the economics of Gazprom's proposed changes in delivery points to address DG COMP's concerns

## RESEARCH QUESTIONS



1. Can Gazprom profitably raise prices in the five MS?
2. if so, would the proposed changes in delivery points limit Gazprom's market power in the five MS?
3. How would the proposed changes in delivery points impact 'strategic' gas infrastructure in CEE & SEE?

## OBJECTIVES

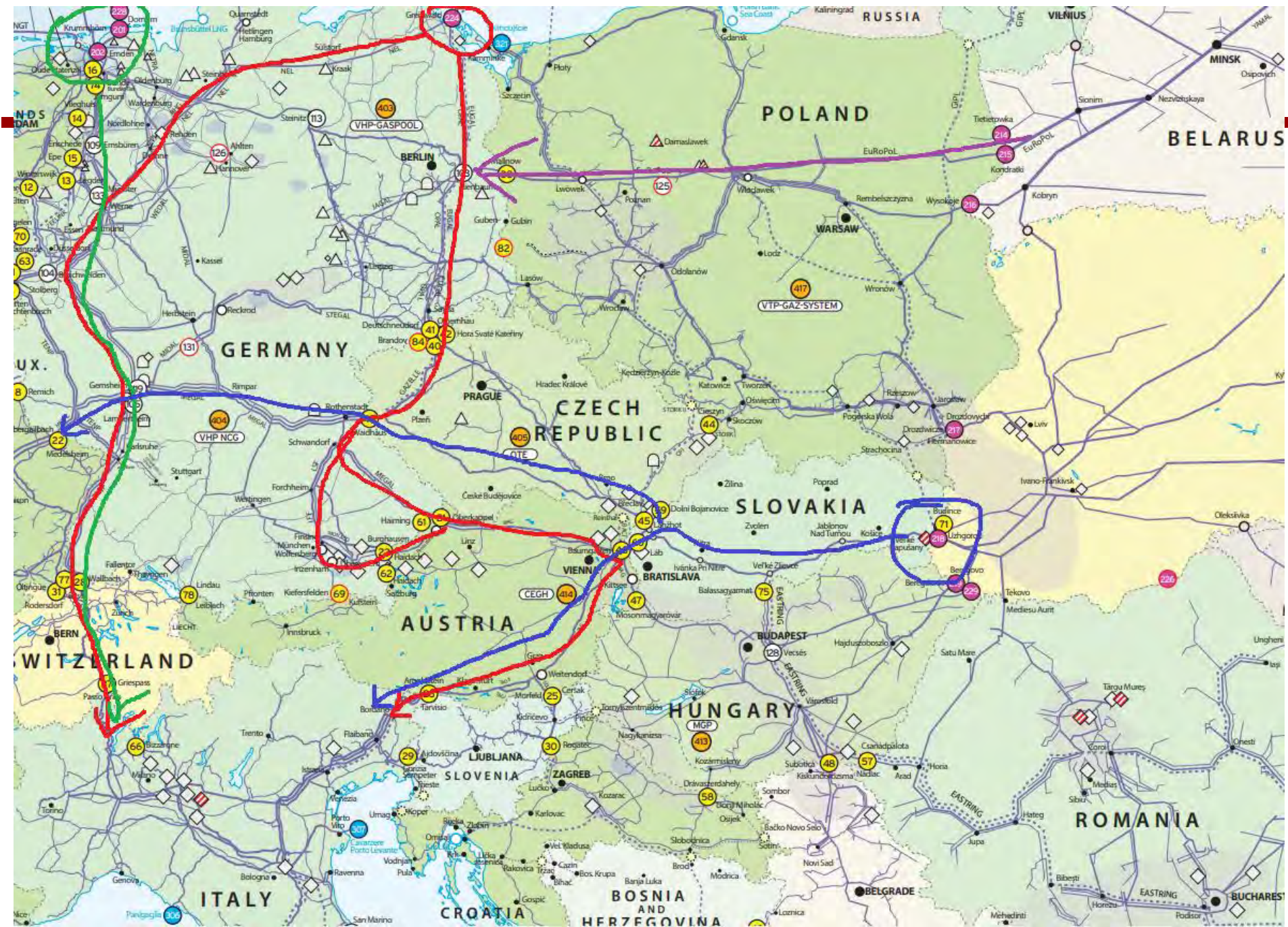


- to analyze the economics of Gazprom's proposed changes in delivery points to address DG COMP's concerns

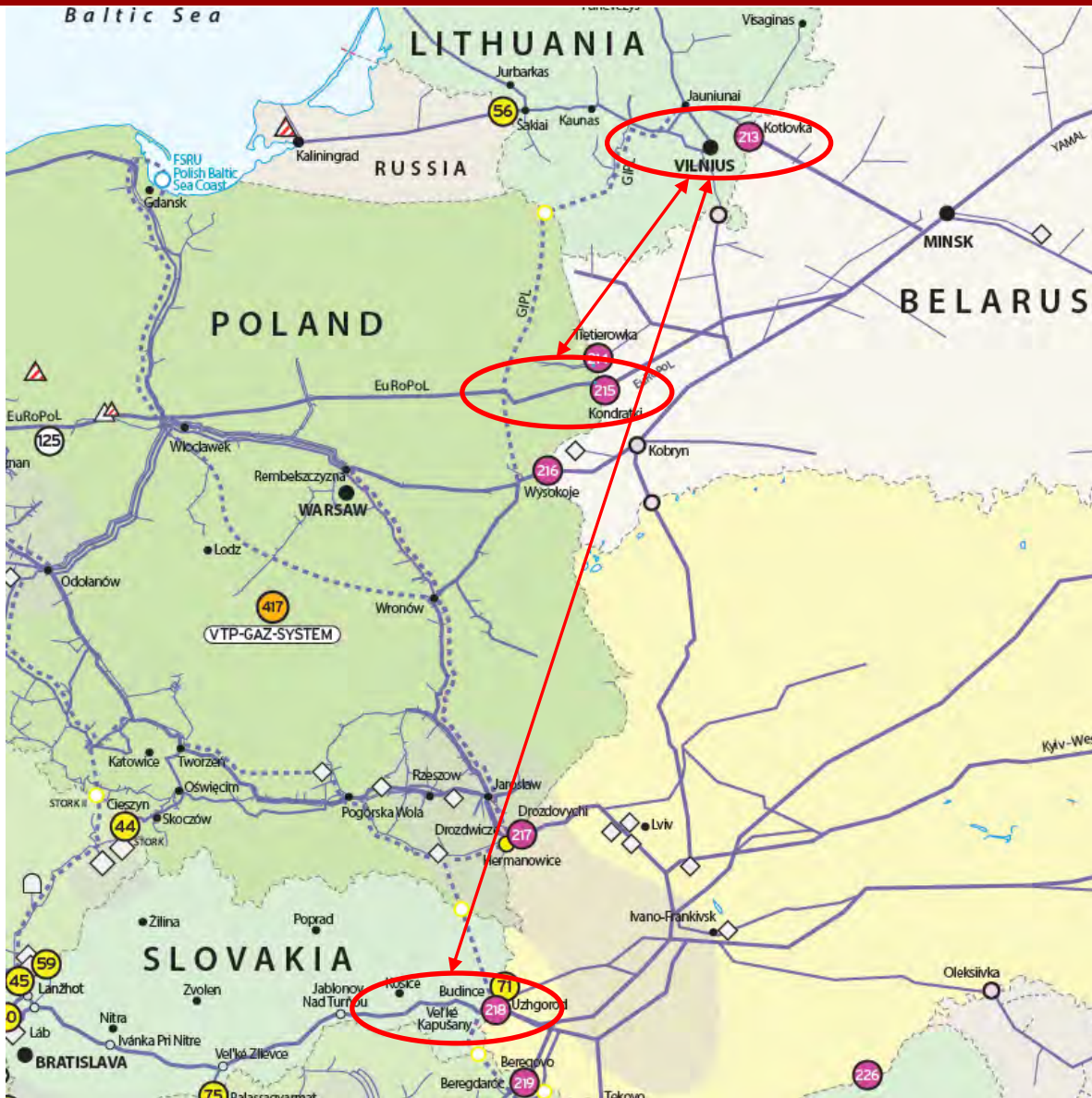
# The Analytical Framework

---

1. Scenario A: Define competitive benchmark
2. Scenario B1: Simulate Gazprom's market power in the five MS
3. Scenario B2: same as B1 but with the proposed changes in delivery points between
  1. Slovakia and Bulgaria
  2. Slovakia and the Baltic States (Latvia, Lithuania, Estonia)
  3. Hungary and Bulgaria
  4. Poland and the Baltic States







# Key findings

1. **Gazprom's profit is ca. 3% higher** when it exercises market power in the five MS (Scenario B1) compared to its profit under the competitive benchmark case (Scenario A)
2. The proposed changes in delivery points (Scenario B2) **can substantially mitigate the potential market power arising from Gazprom's dominant position in MS5:**
  - for Bulgaria wholesale gas prices reduced by 53% (i.e., by a factor of two)
  - for Poland and the three Baltic markets by ca. 20%.
  - Wholesale prices in MS5 is now very close to TTF prices
3. Thus, the possibility of changing delivery points addresses DG COMP's concern of unfair pricing policy by Gazprom in CEE
4. In terms of wider geographic impact, we find that in ca. two thirds of the period TTF price increases by 0.5-8.0% when changes in delivery points are allowed

# Key findings

	LNG marginal supply cost to Europe (\$/mmBtu)		Total European LNG imports (mmcm/day)	
	Competitive benchmark (Scenario A)	Monopolistic behaviour (Scenario B2)	Competitive benchmark (Scenario A)	Monopolistic behaviour (Scenario B2)
<b>Minimum</b>	2.310	2.332	62.5	62.5
<b>Average*</b>	3.306	3.310	269.8	274.2
<b>Maximum</b>	4.336	4.362	469.2	483.7
<b>Coefficient of variation</b>	21.6%	21.8%	38.4%	37.6%

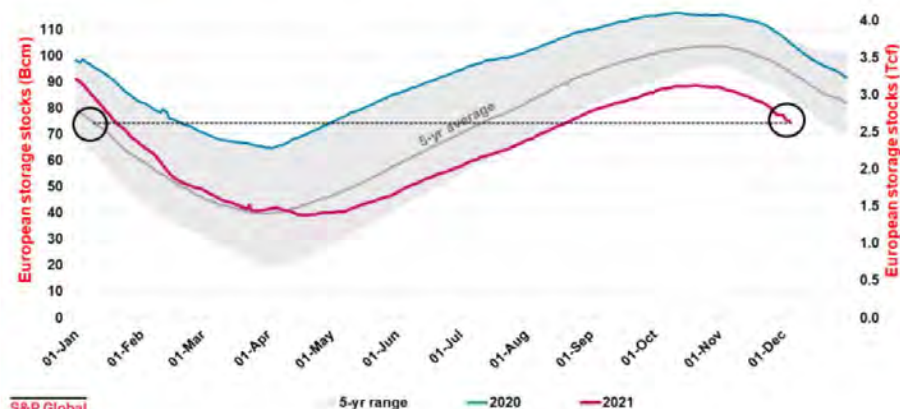


# Conclusions

1. We found that Gazprom's commitments and the possibilities for CEE customers to change delivery points to new locations (in Poland, Baltics and Bulgaria) can substantially limit Gazprom's potential market power in these markets;
2. This in turn should facilitate regional price convergence and offer a rather efficient way to 'connect' (virtually) these markets to more liquid NWE markets;
3. While the possibility to change delivery points improve market efficiency in CEE by limiting **Gazprom's strategic** behaviour they *do not* improve total social welfare;
4. By acting strategically, Gazprom reduces supplies to CEE, and, while the ability to change delivery points increases those supplies in CEE close to the level of competitive benchmark, **they do so by 'pulling' additional, more expensive, LNG into Europe;**
5. However, this results in overall loss in welfare for the whole of Europe.

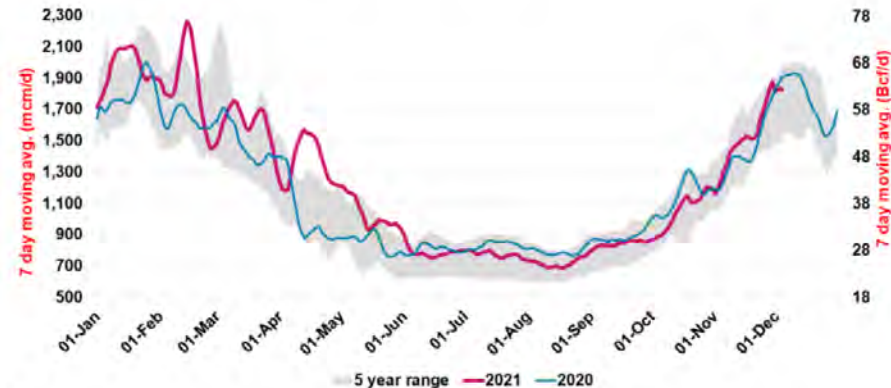
# European gas 'crisis' in 4 charts

Platts Analytics: European Gas Storage



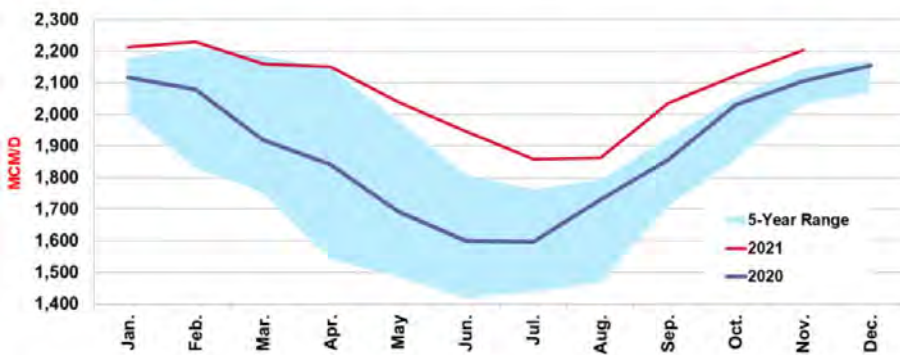
S&P Global  
Platts

Platts Analytics: European Gas Demand



Platts

Platts Analytics: Russian Gas Production



S&P Global  
Platts

Platts Analytics: Global Liquefaction Utilization



S&P Global  
Platts

# Global LNG supply and demand balance to 2025

	2019	2020	2021	2022	2023	2024	2025
	<b>LNG Supply capacity</b>						
USA	73.40	98.00	104.80	118.40	124.60	132.80	149.20
Australia	117.80	117.80	117.80	117.80	117.80	117.80	117.80
Qatar	104.90	104.90	104.90	104.90	104.90	104.90	149.70
Russia	35.50	36.80	38.80	38.80	65.50	81.20	81.20
East Africa (Mozambique)	-	-	-	4.60	4.60	22.10	42.80
Other LNG	244.82	246.86	247.54	252.71	256.11	279.23	288.75
<b>Total LNG Export capacity</b>	<b>576.42</b>	<b>604.36</b>	<b>613.84</b>	<b>637.21</b>	<b>673.51</b>	<b>738.03</b>	<b>829.45</b>
	<b>LNG Demand</b>						
Northeast Asia	264.43	273.13	280.96	295.73	310.51	325.29	340.07
of which China	82.00	91.00	94.60	108.60	122.60	136.60	150.60
South Asia	62.34	67.90	68.47	76.23	84.00	91.76	99.52
Europe	119.15	118.59	121.85	139.64	157.43	175.22	193.02
Americas	23.11	19.64	21.42	20.45	19.48	18.51	17.53
Middle East	9.86	9.79	9.02	7.68	6.33	4.98	3.64
<b>Total Demand</b>	<b>478.88</b>	<b>489.06</b>	<b>501.72</b>	<b>539.73</b>	<b>577.75</b>	<b>615.76</b>	<b>653.78</b>
<b>Supply margin</b>	<b>20%</b>	<b>24%</b>	<b>22%</b>	<b>18%</b>	<b>17%</b>	<b>20%</b>	<b>27%</b>

Source: Eikon Terminal.

Notes : supply margin is defined as % of supply less demand divided by demand

On the supply side, the forecast is based on all FID committed projects and those that are already under construction. On the demand side, we took a simple linear extrapolation of demand trends seen in the last 5 years