Natural Gas Transits and Market Power – The Case of Turkey

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Executive summary

The Southern Gas Corridor (SGC) comprises planned pipeline projects that connect the natural gas producers in the Caspian region and the Middle East with the European natural gas markets. The European Union promotes the SGC for 2 reasons: (1) It wants to diversify its natural gas market and (2) it aims on closing its growing supply gap that arises due to decreasing indigenous production. Turkey has a key role in realizing the SGC, since Turkey's geographical location is between the producing countries and European gas markets. Instead of taking a pure transit role, BOTAŞ, the Turkish national oil and gas company, has the perception to buy gas arriving at the Eastern borders of Turkey and sell it at a profit to European customers. In economic terms, BOTAŞ wants to exercise market power with gas transits.

Whether Turkey exerts market power or not, is crucial for an economic assessment of the SGC. Hence, the article investigates this issue quantitatively using the global partial equilibrium gas market model COLUMBUS. An oligopolistic and a competitive supply structure in the European upstream market in 2030 are considered in the model based on calibrations to historical gas market situations. The main part of the analysis is based on an oligopolistic upstream setup. In such a market environment, 45 bcm would be shipped through Turkey in the case of competitive Turkish transits, i.e. a scenario in which upstream producers have to pay only transportation costs to ship gas through Turkey to European markets. However, the transits are reduced to 13 bcm in the case of Turkish market power. This results in higher prices with Turkish market power compared to competitive transits, in particular in South Eastern Europe (by approximately 6%). The loss of European consumer surplus due to Turkish market power is quantified to 8.2 billion EUR in 2030. However, in a competitive upstream market structure, the importance of the SGC and thus the potential of Turkish transit market power is limited.

The analysis illustrates that the economic raison d'être for the SGC is only given for a future EU gas market that is characterized by oligopolistic natural gas suppliers. However, in this oligopolistic environment, Turkey could benefit from exerting market power and hereby eliminate the potential benefits of the SGC for the EU.

Keywords: Natural Gas, Southern Gas Corridor, Transit Market Power, Mixed Complementarity Problem.

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