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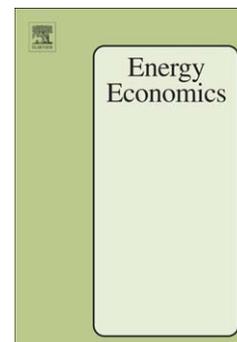
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European Union gas market development

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Abstract

The recently announced Energy Union by the European Commission is the most recent step in a series of developments aiming at integrating the European Union's (EU) gas markets in order to increase social welfare and security of gas supply. Based on simulations with a spatial partial equilibrium model, we analyze the changes in consumption, prices, and social welfare up to 2022 induced by the infrastructure expansions planned for this period, for the current market, as well as for three hypothetical scenarios: a halt of Russian gas deliveries to the EU during the winter period (*RU-*); a simultaneous doubling of available LNG (*LNG+*); and for *Brexit*, in which the United Kingdom market is isolated from the EU. In the case of the current market, the new infrastructure leads to a slight decrease of wholesale prices. Moreover, the potential of suppliers to exert market power decreases significantly, particularly in the Baltic states and Finland which are the most exposed countries today, and consumer surplus increases by 17.4% in the EU. In the *RU-* scenario, consumer surplus decreases across Europe, with the largest losses occurring in the Baltic states, as well as in Finland, Poland and Romania. In the *LNG+* scenario, the gains in consumer surplus are primarily found in Western Europe. However, the planned infrastructure expansions distribute the gains and losses in consumer surplus more evenly over all EU member states, with the exception of Romania. In the *Brexit* scenario, consumer surplus decreases by up to 5.1% in the United Kingdom, 19.2% in Ireland, and 3.6% in the other EU countries. Our results allow us to distinguish three categories of projects: (i) Change in gas availability, leading to a general increase or decrease of social welfare all over the EU. The only project increasing social welfare in all scenarios in most countries is the Trans-Anatolian Gas Pipeline (TANAP); (ii) Existing gas sources made available to additional countries. This leads to an increase of social welfare in the newly connected countries, while social welfare drops slightly everywhere else; (iii) Projects with a marginal effect on the market. Most notably, the recently announced Turkish Stream falls into this category. Our results indicate that

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