Orders of importance: gas, renewables and the macroeconomy *

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Abstract

The 2022/2023 inflationary episode highlighted the importance of natural gas shocks as a driver of inflation. Some countries, notably the UK, experienced even more severe bouts of inflation, due to their heavy reliance on natural gas, and the pivotal role of natural gas in setting electricity prices. The latter is driven by the use of the 'merit order' electricity pricing system, where gas is typically the marginal generator, setting prices. We embed a stylized merit order electricity pricing system into a canonical New Keynesian framework to show the amplification of gas shocks and how monetary policy responses need to be more contractionary under this electricity pricing system. The substantial rise in renewables production has increased the disconnect between the price setting power of gas, relative to its smaller role in producing electricity. We show that during the transition to a greener electricity system, the merit order could substantially amplify renewable intermittency and increase the impact of electricity price shocks. However, in the long term, a green electricity system should deliver greater price stability.

Keywords: energy transition; gas price shocks; monetary policy; renewable intermittency.
JEL codes: E32; E52; Q43.

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