

CLIMATE & DEBATES

Toward an EU Gas-Purchasing Cartel

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Anna Creti and Olivier Massol would like to highlight the work of P. Crampton, F. Lévêque, A. Ockenfels and S. Stoft, which follows the article published in Le Monde on April 18th, 2022, co-authored with François Lévêque. This special Climate & Debates is the result of the collaboration between the Gas Economics Chair (Mines Paris, Université Paris Dauphine, IFP School, Toulouse School of Economics) and the Climate Economics Chair.

"It's clear that we cannot give in to Russia's blackmail," said EU Vice President Dombrovskis, in response to Russia's cutting off gas supplies to Poland and Bulgaria. "We have to be ready for it [blackmail]," Mr. Scholz told reporters in Tokyo (April 28).

As has been clear since Feb. 24, responsible governance requires that the EU prepare for the possibility of a complete EU cut-off by Putin. Although significant steps are being taken, the Commission's proposed roadmap only envisions voluntarily cutting Russian gas imports from 155 bcm to 55 bcm by the end of 2022, while Putin might well enforce a cut to 0 bcm at any time—a rate of gas reduction 10 times greater than the Commission is considering.

While Frans Timmermans, the vice-president in charge of the EU Green Deal, claims this 2/3 reduction in eight months will "give us much-needed room to maneuver," his evaluation may prove less than visionary.

Although only one part of a responsible plan, a gas-purchasing cartel could play an essential role in protecting EU economies from Russian blackmail, and also in helping to keep the EU unified as Putin tries to fracture it, as he is already trying to. Its twin goals would be reducing the EU's financial support for Russia's Ukraine invasion and reducing Putin's ability to hold EU economies hostage to Russian gas supplies. It would do this through two mechanisms.

1. Collective purchasing of additional gas (leaving non-Russian long-term contracts undisturbed).
2. Coordination of payments made to an escrow account rather than immediately to Russia

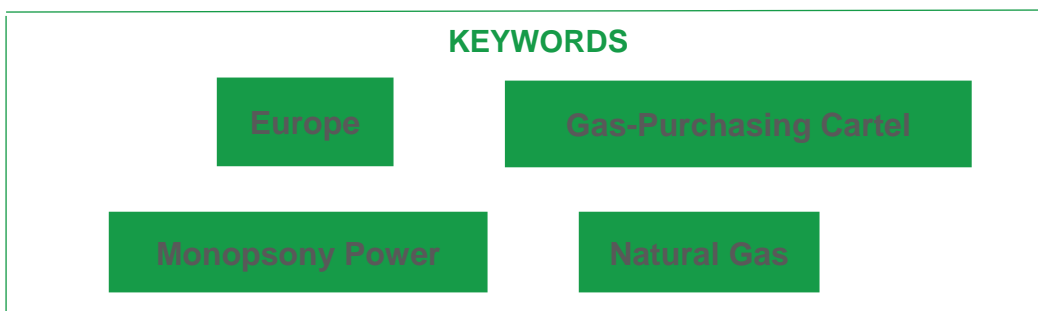
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Cramton and Ockenfels acknowledge funding through the research grant EXC 2126/1– 390838866 awarded by the German Research Foundation (DFG) under Germany's Excellence Strategy. Ockenfels gratefully acknowledges support by the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No 741409); the results reflect the authors' view; the ERC is not responsible for any use that may be made of the information it contains



Approach: A Framework for Facilitating Agreement

The greatest risk to implementing a successful cartel is not a poor design but rather no design at all due to lack of agreement. Agreement, we believe, is best facilitated at this stage by a simple framework which could be adopted as a starting point and which embodies sound economic principles.

For clarity, the framework will sometimes specify a possible simple approach to implementation. In most cases this will need, at a minimum, some adjustments to facilitate agreement and others to take account of real-world complexities.

Although we realized the final design will include a multitude of such adjustments, our experience in market design warns us that complexity, especially when the design time is too short for even rudimentary testing, endangers the integrity of the economic design. This is because of non-obvious interactions between design components and the difficulty of intuitively analyzing any system with multiple linkages. Hence we recommend placing a high value on simplicity as negotiations proceed.

Payments to an Escrow Account

Because the fastest way to put significant pressure on Putin is to simply hand him less cash, we first discuss the use of an escrow account for payments. The idea has two parts. First put some fraction of any payments into an escrow account with a stipulation that the funds would be turned over when some war-related condition (such as cessation of hostilities) is met. Second, to increase the incentive to end the war, the funds in escrow would be taxed at some rate (such as 5% per week).

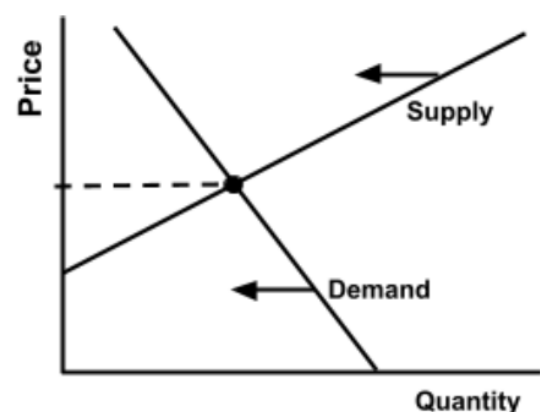
Delaying the availability of payments is obviously far quicker than reducing EU gas demand, but it is also more dangerous. Putin might retaliate by cutting exports faster or he might retaliate militarily. Both possibilities are beyond economic calculus, hence the cartel should only have the power to recommend specifics to the EU Commission, arrange for an escrow account, and monitor compliance.

Using an escrow account also has an advantage relative to the opposite extreme — simply paying less than the contract specifies. Paying less is even more likely to trigger retaliation and to be interpreted as a contract breach.

Principles of Collective Purchasing

Cartels exercise market power in order to change the market price. A supply (sellers) cartel, like OPEC, will shift the *supply* curve left (reduce quantity) in order to *raise* the price, while a demand (buyers) cartel will shift the *demand* curve left to *reduce* the price.

The key source of power for either is control over as much supply or demand as possible. If one buyer decides to buy less in order to reduce price, it can only reduce demand and price a little. So its price-savings is small. But if two buyers team up and each make the same quantity reduction, their price reductions will add



together and each will get double the benefit of acting alone. The more purchasing power that joins the cartel, the greater the total benefit.

Note that buyer cartels work better for steeper supply curves. Generally, supply curves only get steep when the supply starts to run out or supply is dominated by a very large supplier or a cartel. However, it should also be noted that when both buyers and sellers are exercising market power, either with a cartel or by virtue of their size, the economic analysis becomes murky as the market degenerates into a bargaining game. In spite of this, there are good reasons to believe buyers will be better off with additional market power (a cartel) when facing a highly anti-competitive group of suppliers.

A Framework for Collective Purchasing

We now turn to the framework for purchasing

1. As prescribed by the European Council (March 25, 2022) the cartel is voluntary.
2. The cartel will purchase on behalf of clients (public and private companies) that submit bids for quantities to be delivered (Q_{bid}) during specified time intervals. They do not specify price.
3. Periodically (e.g. monthly) the cartel will call for offers from supplies by a certain date.
4. Each supplier can submit a set of up to, for example, 6 price-quantity pairs.
5. The cartel, after converting offer prices, P , to “evaluation prices” by adding a tariff (T) to disfavored (e.g. Russian) parties, will select the least-cost set of offers (using $P+T$) that meets a cartel demand curve.
 - a. Favored suppliers can be given negative tariffs.
 - b. Cartel buys a maximum of Q_{tot} , such that: $Q_{tot} < \sum Q_{bid}$, and the $Cost(Q_{tot}) < P_{max} \times Q_{tot}$.
 - c. P_{max} is determined by cartel clients in a “voting” process weighted by Q_{bid} volumes.
 - d. Suppliers will be paid their bid prices for accepted quantities.
6. The cartel will then set a daily “market” price and will deliver gas to all its clients at that price.
 - a. If this price is based on $P+T$ then the tariff will help reduce demand.
7. If less gas has been purchased than was demanded by clients, it is rationed in proportion to its assigned country-based, Russian-supply factor, $R = (\text{Russian gas used in 2021})/(\text{Total gas used in 2021})$
8. Clients receiving less than requested will be free to purchase gas outside the cartel.

Countries (as opposed to EU companies) play two roles. First they vote for P_{max} . Second, to prevent companies from over-bidding in order to game the rationing mechanism, countries might be assigned a limited maximum bid quantity that they can parcel out to companies who are supplying them. That limit could be related to Russian imports in 2021 and to reductions in long-term contract volumes. The goal is to purchase as much as possible through the cartel.

As explained in “Cutting Putin’s Energy Rent” (Ockenfels, et al.) imposing a tariff will cause Russia to sell at a lower price, so the impact on consumers will be less than the tariff amount.

Pay-as-bid is recommended because of its simplicity. Hence it facilitates agreement on the design.

Recommended Reading

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La Chaire Économie du Climat est une initiative de l'Université Paris Dauphine, de la CDC, de Total et d'EDF, sous l'égide de la Fondation Institut Europlace de Finance

The Climate Economics Chair is a joint initiative by Paris-Dauphine University, CDC, TOTAL and EDF, under the aegis of the European Institute of Finance.