

If you are a hammer everything is a nail – The case against energy price caps

Carlo Stagnaro, Research and Studies Director at Istituto Bruno Leoni

As energy prices soar this year, policymakers in the European Union and the United Kingdom have proposed various measures aimed at limiting energy inflation. These include both price controls (such as price caps on natural gas or electricity) and windfall profit taxes on energy companies.

However well-intentioned, these policies are unlikely to succeed. In fact, they might exacerbate the current crisis. High prices are not a market failure; they are the tool through which well-functioning markets convey a crucial piece of information regarding the scarcity of energy supply relative to the demand. High prices incentivise investments to increase the supply of energy while disincentivising consumption.

This briefing reviews the proposed price caps and windfall taxes and explains why they are short-sighted measures with long-term costs that are likely to exceed expected benefits. It closes by suggesting targeted measures to support low-income households and energy-intensive businesses while reducing red tape and other obstacles that prevent a rapid rise in the supply of energy, including renewable energies, nuclear power, and domestic production of natural gas.

If you are a hammer, everything is a nail

British and European policymakers seem to believe that most, if not all, energy-related problems can be solved by capping the prices of power and gas.

One underlying idea is that the market price of natural gas does not reflect the fundamentals. The balance of demand and supply – the argument goes – has not changed significantly since the beginning of 2022, whereas prices have been volatile. This must be due to speculation. To stop it, an emergency break should be introduced to protect energy markets from frenzies.

Second is the political imperative to address high prices. With businesses furloughing operations and staff – and elderly, vulnerable citizens having to choose between heating and eating – price controls are appealing due to their immediacy, even if they may give rise to worse problems down the line. Those are problems for future politicians, representing different electorates.

This briefing addresses the main proposals concerning price caps or other forms of price controls. It starts by discussing the economic role of high prices in well-functioning markets. In a time of scarcity, high prices are a feature, not a bug, of the market. Then, the briefing reviews the main proposals concerning price caps on natural gas and electricity as well as the proposals on windfall profit taxes. The briefing concludes by suggesting how governments may address the threat of a recession induced by high energy prices without tampering with prices and ultimately exacerbating the crisis.

The role of high prices

Policymakers in both the European Union and the UK are struggling to find ways to forcibly reduce wholesale and retail energy prices. This may be achieved either by capping prices or taxing the revenues of energy companies to fund redistributive policies. All these attempts consider high prices a problem to be addressed – and possibly to be cancelled out – rather than a tool by which markets pursue a more sustainable equilibrium between demand and supply. The main assumption, however, is that governmental interventions targeting the prices (either absolute or relative) of energy products shall only – or mainly – have redistributive, not allocative, consequences.

This is plainly wrong. Prices are not independent of the current and forecasted demand and supply. They reflect (actual or expected) scarcity. The current energy prices in Europe suggest that there is less energy (particularly less natural gas) than what Europeans would like to have. Therefore, the price system tells consumers that energy is becoming more scarce – and therefore, more precious – than before and that, therefore, they should use less of it. Any artificial reduction of energy prices will induce consumers to consume more energy than optimal, exacerbating the crisis rather than helping fix its causes.

The same applies to whatever happens on the supply side. High prices and (the quest for) high profits attract new suppliers whose efforts will ultimately provide consumers with the amount of energy they need. New supplies may take different forms: additional supplies of natural gas, investments in alternative energy sources (such as renewables), more efficient technologies that deliver better outputs per unit of energy consumed, and innovative tools to produce energy. If price caps or taxes reduce expected profits, investors will be less keen to

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risk their money in the European market, therefore making the crisis longer. While prices today are hitting record levels, as demand and supply adjust over time, they will tend to revert to historical means. Therefore, the business plans of energy companies will factor in the fact that high revenues in the short run will be followed by lower revenues in the longer run. If the former are capped, the incentive to invest as soon as and as much as possible is reduced. Some investments may even be cancelled if the combination of capped prices in the short run and lower prices in the long run is not profitable enough.

Everyone got their cap

Policymakers have proposed various measures to deal with these issues by controlling natural gas or power prices. In both cases, the aim is to limit the high rents that low-cost producers of natural gas or electricity producers are enjoying. This is particularly the case for natural gas producers operating in already-existing fields and electricity generators using sources such as renewables and nuclear power, which experienced a small (or no) increase in the cost of production. To these agents, high prices are equivalent to unprecedented rent. Therefore, it is assumed that they will continue producing the same amount of output even though the rent is capped (or taxed away).

With regard to natural gas, for example, EU Commission President Ursula von der Leyen has proposed placing a cap on imports from Russia (Abnett, 2022). Others have suggested capping all pipeline imports. Others, including Italy and several member states, support a market-wide price cap (MiTE, 2022) that would apply to both pipeline and liquefied natural gas (LNG) imports as well as to any intra-EU gas trade. The proponents acknowledge that while Europe may exercise a sort of monopsony on piped gas, the same does not apply to LNG. Therefore, a claw-back mechanism has also been proposed to allow LNG importers that need to pay a price above the cap to recover the difference via governmental transfers.

The argument is slightly different when it comes to electricity. Most would concede that the increases in power prices are not due to an inherent malfunctioning of electricity markets. However, electricity prices are set in wholesale markets according to the marginal cost of generation, i.e., they reflect the variable cost of the costliest plant, which is necessary to meet the demand at any given point (i.e., its fuel and CO₂ costs). Booming gas prices result in skyrocketing power prices, but several generators – including those that use renewable and nuclear sources – have not witnessed any significant increase in their production costs; so, they are capturing oversized rents. Likewise, the cost of coal has increased, but it is nowhere close to natural gas, so even coal-fueled power plants are taking advantage of the gas-driven bonanza. It follows that the price-formation mechanism should be changed to set a cap.

The first to introduce pricing caps were Spain and Portugal. They adopted (and the EU Commission cleared (EC, 2022a) a mechanism to reduce wholesale prices of electricity (MITECO, 2022). In practice, the mechanism entails an implicit subsidy to natural gas-fueled power generators. The subsidy allows these plants to bid a lower price, driving down the whole cost curve and therefore downsizing the so-called inframarginal rents, i.e., the difference between (disproportionately high) market prices and the (more or less normal) production costs of power producers other than those who rely on natural gas. Greece followed suit, submitting a proposal (EUCCO, 2022) to split power exchanges by creating separate negotiating spaces for programmable and non-programmable sources. Each negotiation would result in a separate price, with the actual price of energy being their weighted average. Finally, the Commission itself weighed in, releasing a draft proposal (EC, 2022b) for a new regulation that would cap inframarginal rents at a predetermined level (i.e., 180 euro/MWh, well above historical peak prices in most EU member states but well below current prices). Similar mechanisms have already been adopted in Italy, Spain, and Romania. (Gianni & Origoni, 2022; Weekes, 2021; CMS, 2021).

These proposals are substantially different from each other, but they aim at reducing power prices by making the price of electricity more reflective of average generating costs rather than the marginal cost of generation. As meaningful as this may seem, it overlooks the fact that marginal pricing is not an oddity of power markets; it is the norm in all commodity markets (Hirth, 2022). Marginal pricing aims to attract new investments so that the supply increases enough (and rapidly enough) to balance the demand. A cap on the price of natural gas or power may make some resources too costly to be developed, thereby prolonging the crisis rather than fixing it.

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High prices convey a strong, positive signal for investment in the cheaper forms of power. However, problems arise due to political interference with such signals. For example, in the previous decade, the price mechanism would have incentivised investments in domestic sources of gas in Europe. Politicians disliked this and so prioritised and targeted renewables when assessing investment cases: they downplayed their intermittency and connection costs, they subsidised them and gave them priority access to the grid. Simultaneously, they overstated the risks of nuclear power and thereby amplified today's problems. The signal is now reversed and now incentivises investments into renewables and nuclear, and, where possible, coal. However, the latter has a pariah status, and the former has overly generous market terms. All of them suffer from planning and permitting regulations that slow down deployment. The cap then becomes a solution to a problem created by political interference, but one in which investment signals are further undermined. On top of this, average pricing is likely to encourage the retention of older, less-efficient means of energy production while dampening the pull for newer cheaper forms. In this sense, price caps are not only detrimental to solving the current crisis but also to the long-term efforts to decarbonise the economy.

Kick the cap down the road

The cap proposals cited above intend to limit the wholesale prices of natural gas and electricity so that retail prices follow suit. Some have proposed capping retail prices too.

Two cases stand out. Both provide a clear message that retail price caps do more harm than good. The first example is that of

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Great Britain, which introduced a price cap on electricity well before the current crisis started. In 2016, the CMA (British antitrust body) conducted an investigation (CMA, 2018) of energy markets on behalf of the energy regulator, Ofgem. It found that the largest suppliers exercise “unilateral market power” to the detriment of some vulnerable customers. To prevent excessively high prices from being charged to customers that are not willing (or able) to switch to cheaper offers, the CMA introduced a price cap on some specific groups of customers. Slightly after, the Tory government took up the flag of energy price caps and broadened the cap. (BEIS, 2022). Despite the many criticisms (Littlechild, 2021), the cap remained in place. In a way, it did what it was supposed to do by limiting the margins of energy retailers. However, in the past few months, wholesale prices have grown sooner and faster than expected, making the cap unsustainable for many suppliers. This contributed to the failure of about half of all active suppliers, which left millions without a supplier and billions to pay (Gillespie & Paoli, 2022).

In a similar vein, France required its large supplier – state-controlled EdF – to sell a large share of the energy it produced⁴ below cost. This happened while the company was experiencing serious financial and operational problems due to the long, unprogrammed shutdowns of 32 out of 56 nuclear reactors to perform extraordinary maintenance (Pellegrin, 2022). As a consequence, the company’s balance sheet came under severe stress, forcing the government to announce EdF’s full-fledged renationalisation (Aloisi & Rosemain, 2022).

Not only did retail price caps not work where they were implemented, energy suppliers are also struggling because of uncertainties in the market, high prices, and the subsequent financial constraints they are subject to (Simon, 2022). Some EU member states – for example, Germany, Finland, and Sweden – are providing financial aid or guarantees to energy suppliers (Steitz & Käckenhoff, 2022; Mukherjee & Lehto, 2022). The EU Commission proposed an emergency mechanism to provide liquidity to energy suppliers (Morison, 2022), following a proposal from the Czech Republic (Euractiv, 2022).

If you can’t cap it, tax it

An alternative – or, in some cases, a complement – to capping prices to prevent energy companies from reaping exceptional profits is to go after the same companies and impose an exceptional tax. Several member states, including Italy, Romania, and Spain, have introduced windfall profit taxes that aim at capturing the excess profits of some energy companies (Reuters, 2022a; Sarbadus, 2022; Thykjær & Aguado, 2022). The Spanish tax also targets some financial entities, such as banks, who have supposedly benefitted from high energy prices. The UK introduced a windfall profit tax on oil and gas producers as well (Reuters, 2022b). The EU Commission has also proposed a windfall profit tax on fossil fuel companies, which is supposed to replace the existing taxes in member states (Perkins, 2022).

These taxes differ in terms of some fundamental features. Firstly, some cover all energy companies (plus banks in the Spanish case), while others are limited to some of them: the British tax and the European proposals are only directed at fossil fuel producers. Secondly, the taxable income consists of profits in some cases, while in other cases, it is calculated based on gross revenues or added value. Thirdly, the tax rates are very different; even though a comparison is hard, what ultimately matters is the interaction between the tax rate and the taxable base. A lower rate on a broader tax base may generate greater revenues than the other way around.

While price caps are *ex-ante* market interventions that either explicitly or implicitly change the market design and therefore alter operators’ incentives in the short run, a windfall profit tax does not formally have this kind of effect. However, it may shift the long-run incentives of energy companies, not necessarily in a way that is considered to be socially desirable. This has been clear to economists for a long time. Economist John Cochrane (2022) recalls that windfall profit taxes on energy companies were mentioned as an example of a bad policy in the 1977 seminal paper by Nobel laureates Finn Kydland and Edward Prescott on rules vs discretion:

“Still another area is the current energy situation. We suspect that rational agents are not making investments in new sources of oil in the anticipation that price controls will be instituted in the future. Currently there are those who propose to tax away ‘excessive’ profits of the oil companies with the correct argument that this will not affect past decisions. But rational agents anticipate that such expropriations may be made in the future, and this expectation affects their current investment decisions, thereby reducing future supplies.” (Kydland & Prescott, 1977).

High production taxes are not necessarily a problem for the industry. Given the relatively rigid demand, they are, to a large extent, passed down to final consumers. What really matters from an industry perspective, is the stability and predictability of the tax system. Norway, for example, has a high tax that hasn't changed in nearly three decades. The UK has changed its rates on multiple occasions since the 1970s and has seen cycles of boom and bust as a result. The recent debates and decisions have been incoherent. The UK government first resisted calls for a windfall tax (Thomas, 2022), then implemented one only on the North Sea (Coleman, 2022), and is now considering extending it to power producers (Lawson, 2022), while the opposition – who may be in power in two years – rejects the latter and would extend the former (Starmer, 2022). Of course, this strongly reduces the operators' willingness to invest and take risks. The paradoxical outcome is that they enjoy the current high rents but they are disincentivised from investing in exploration for, and production of, new resources.

Conclusion: What to do?

The fact that price caps or windfall taxes are unlikely to work does not mean there is no role here for governments whatsoever. The point is that governments should support, rather than hinder, markets as long as markets point spontaneously towards a solution to the problem. Governments should remove unjustified limits, such as bans on domestic resources of natural gas (including fracking), red tape on new renewable plants and LNG terminals, and distortionary taxes and subsidies (Booth & Stagnar, 2022). Governments may also play a more active role in supporting low-income households, energy-intensive industries, and liquidity-constrained energy suppliers, i.e., they should try to protect the economy while improving the supply of energy and making consumers more resilient.

Capping prices or over-taxing energy suppliers will not deliver a solution to the current energy crisis but will only make it deeper and longer.

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