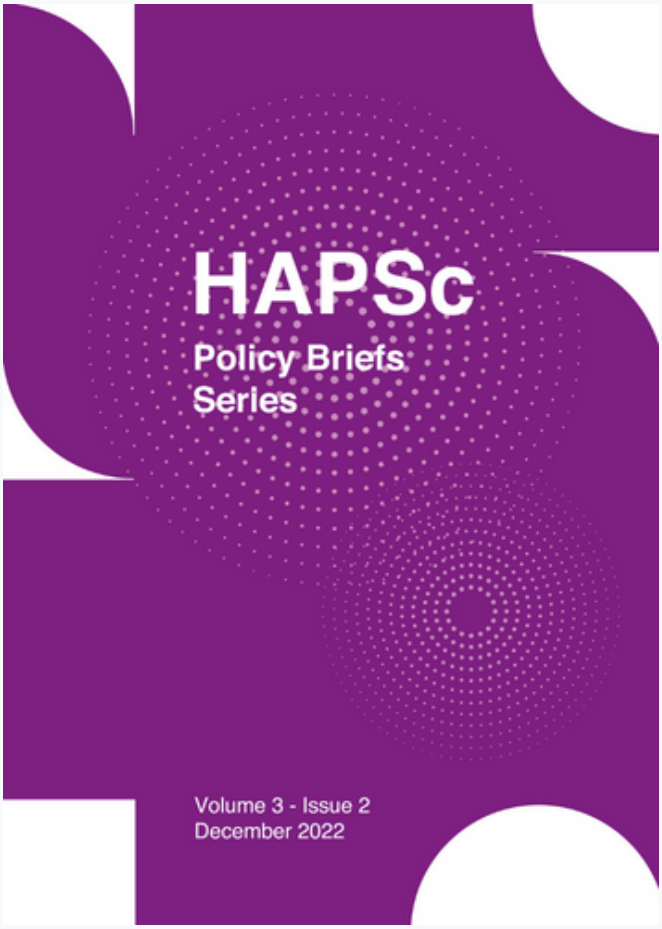
HAPSc Policy Briefs Series

Vol 3, No 2 (2022)

HAPSc Policy Briefs Series



Natural Gas Price Inefficiencies as an Obstacle in Taming EU Inflation

Ioannis Krompas

doi: 10.12681/hapscpbs.33794

To cite this article:

Krompas, I. (2022). Natural Gas Price Inefficiencies as an Obstacle in Taming EU Inflation. *HAPSc Policy Briefs Series*, *3*(2), 146–152. https://doi.org/10.12681/hapscpbs.33794

 ISSN: 2732-6578 (print version) 2732-6586 (online)

Natural Gas Price Inefficiencies as an Obstacle in Taming EU Inflation[1]

Ioannis Krompas[2]

Abstract

During both the Covid-19 and energy crises, EU member states were forced to dedicate a tremendous amount of financial support to ensure economic survival and recovery, which inadvertently triggered inflation pressures. But as countries opted to switch from targeted measures against high energy prices to horizontal ones due to both political and practical reasons, demand-side inflation began to determine core inflation to an extent equal to that of the supply-side. Given that EU member states cannot withdraw fiscal support at the moment, as natural gas prices remain extraordinarily high, the focus must shift towards addressing the inefficiencies of natural gas pricing in the EU. By correcting those inefficiencies, pricing will reflect actual supply conditions, out of which increased LNG availability is the most important one, thus allowing countries to roll back fiscal support and monetary authorities to address inflation.

Keywords: Inflation; TTF; Energy Crisis; European Union; Natural Gas.

Introduction

The European Union has been facing one crisis after the other over the last few years; From the outbreak of the pandemic to the reopening of the economies and the subsequent inflationary spikes, which have been largely attributed to supply-side factors such as the stress of the supply chain due to the global Covid-19 restrictions and the energy crisis that followed Putin's decision to invade Ukraine. The EU has tried to combat all those crises by deploying historically large fiscal measures: The Next Generation EU package and national policies to support Covid-19 recovery and various measures to ensure energy affordability during the energy prices spike, worth cumulatively c. 2 trillion euros[3] (14% of 2019 EU nominal GDP). But as the narrative that the Russian illiberal regime's choices and rising natural gas prices are to blame for the accelerating inflation prevails, the growing demand side factors' effect generated by those fiscal measures on inflation is overlooked. And while it is politically and morally justified for the EU to cut ties with a murderous regime, this should not act as a scapegoat to which all the blame for the inflation trend and the rising cost of living is attributed. At the center of this crisis is natural gas as it is its high price, which has increased 474% since the reopening of most economies in the first half of 2021 (World Bank, 2022) creates the need

[1] To cite this in APA style: Krompas, I. (2022). Natural Gas Price Inefficiencies as an Obstacle in Taming EU Inflation. *HAPSc Policy Briefs Series, 3*(2), 146-152. https://doi.org/10.12681/hapscpbs.33794

[2] NBG Economic Research, Greece.

[3] Author's calculations based on the Next Gen EU Budget, IMF (2021) for Covid-19 support and Sgaravatti et al. (2022) estimates for energy crisis support up to October 2022.

for continuous support (both directly for natural gas and indirectly for electricity prices) which in its turn acts as a demand-side inflation booster.

Thus, the purpose of this policy brief is to present the fact that demand-supporting policies such as energy bills subsidizing, while are easy answers both politically and practically, are fueling inflation from the demand side and undermine ECB's (and the rest EU central banks') attempt to tame it, and so only structural changes can help ease these inflationary pressures. This paper is organized as follows: Firstly, the setting of how the EU moved from the pandemic crisis to an inflationary macroeconomic environment is presented, followed by an analysis of how the post-pandemic inflation is generated by both the demand-side and the supply-side of the EU economy, with the former prevailing as months pass. The paper closes with an analysis of how the TTF price index is inefficient as a natural gas pricing benchmark as it does not reflect natural gas demand and supply conditions across the EU followed by how policy efforts must concentrate on reforming natural gas pricing, which will lead to lower energy prices, rendering energy subsides needless and thus easing inflationary pressures from both sides of the economy.

EU inflationary[4] developments from the pandemic onwards

The pandemic and the imposed lockdowns across Europe in 2020 forced the EU, national governments, and Central Banks to deploy one of the largest financial support schemes in history. To be more specific, the total amount devoted by the EU alone, along with nationally funded programs, amounted to c. 1.5 trillion euros, equal to 10% of the 2019 EU GDP (IMF, 2021). All of these were during a time when, cumulatively, EU real GDP shrunk by 6%. One would expect that under the dogma of "more money chasing fewer goods", the rapid increase of money in circulation combined with smaller economic activity would result in immediate inflationary pressures. However, it was not until the first half of 2021 that inflation began to accelerate, from 0,2% in December 2020 to 5,3% in December 2021. Inflation during the Covid-19 outbreak was "postponed" by the fact that businesses were closed, and people were either unable or unwilling to spend, which resulted in a significant percentage of the given support ending up being saved. As people adapted to the Covid-19 uncertainties and lockdown measures were beginning to ease, those accumulated savings fueled an increase in overall demand much stronger than that of supply, which at the time was crumpled due to the low-capacity utilization of the previous period, attributed to low demand and Covid-19 restrictions (Dabrowski, 2021). This resulted in rising supply chain pressures globally, as evidenced

[4] For the purposes of this paper inflation is defined as the YoY percentage change of the Eurostat's All-Items HICP index and price levels are the levels of the same index (with 2015=100), unless indicated otherwise.

by the global supply chain which by the end of 2021 had increased to historically high levels of 4.3 standard deviations higher than the long-term average (FED, 2022); Natural gas prices also started to increase during the same time, something that was attributed to base effects and stronger than expected economic recovery (ECB, 2021). Initially, ECB viewed inflation as transitory, and it was expected that as soon as excess savings were depleted, and supply chain pressures were relieved that prices would stabilize. However, as energy prices kept rising (natural gas rose in the second half of 2021 by 269% compared to the first half of the same year) some member states began to offer financial support. By March 2022 and the invasion of Russia into Ukraine, natural gas prices had increased a further 42% compared to the first half of 2021, which also fueled a similarly large increase in electricity prices. Households and businesses could not absorb such increases on their own thus fiscal support was once again deployed across the EU, which so far is equal to c 0.64 trillion euros[5] (Sgaravatti et al., 2022). This of course draws a direct parallel to the response to the Covid-19 crisis, but with no postponement effect.

Current situation

With energy prices still much higher than in 2019, national governments have no other option than to keep subsiding energy consumption to avoid socioeconomic turmoil. However, while European Commission suggested that national governments were to introduce support measures targeting only the most vulnerable (European Commission, 2021), many national governments have opted to legislate horizontal measures that acted as a relief for consumers both of lower and higher incomes for political reasons. Such measures include energy VAT reductions, energy price regulations, and direct subsidies (Sgaravatti et al., 2022). On top of those, other inflation and income-boosting policies are implemented that, while not connected to energy prices per se, have a similar impact (Belgium's automatic wage indexation is an example of such a policy). This non-discretionary approach results in a demand increase, as the share of consumers who could afford unsubsidized energy prices essentially receive an income boost which is spent across products. Evidence of the effect of this income increase across products can be found in analyzing core inflation[6] trends, where in 2022 demand side factors have grown to have about the same impact on core inflation as supply-side factors, which is in contrast with what happened in 2021 when core inflation was mostly supply driven (Goncalves & Koester, 2022).

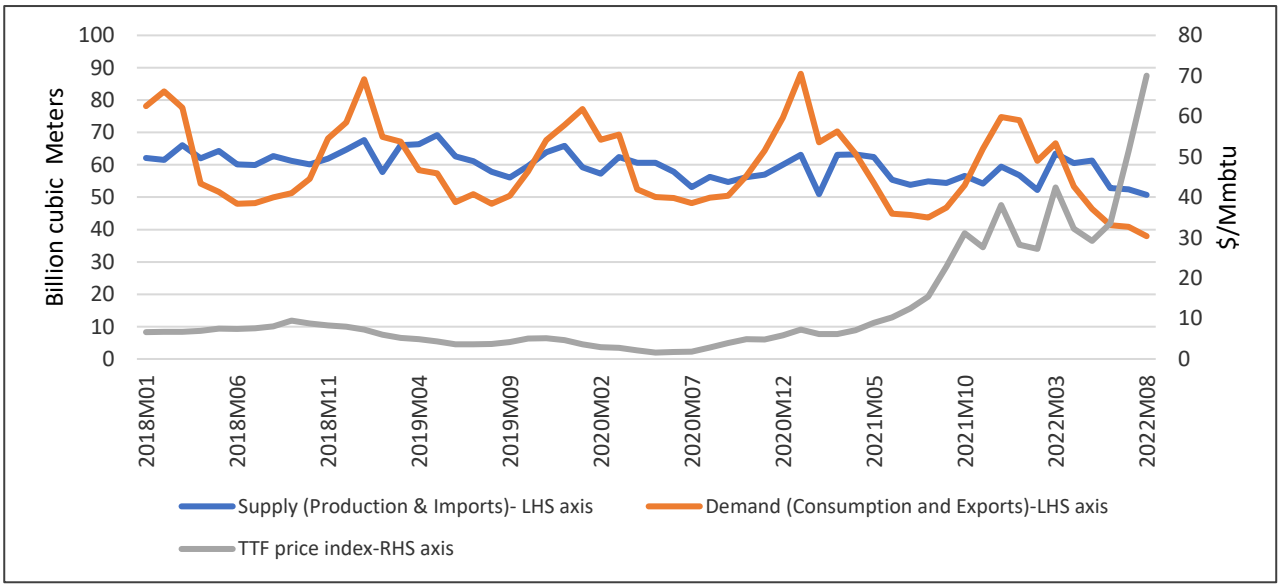
[5] Estimates are up to October 2022 as at most countries support is ongoing.
[6] Inflation of all products excluding energy and food, as measured by the corresponding HICP index.

 ISSN: 2732-6578 (print version) 2732-6586 (online)

For as long as energy prices remain high, national governments will be forced to provide support to households and businesses for both actual and political reasons. This in its turn will not only undermine central banks' attempts to tame prices but will further increase inflationary pressures creating a vicious cycle. Thus, the only way for national governments to be able to withdraw fiscal support and reduce inflation is to address the inefficiencies in natural gas pricing, especially the TTF index, which acts as a natural gas benchmark across the continent.

Why the TTF index is inefficient

Figure 1: EU-27 Natural Gas Demand and Supply Conditions



Source: World Bank and Eurostat

As evidenced in Figure 1 demand and supply quantities in the EU have been broadly the same over the last few years. And despite the fact both demand and supply remain stable, natural gas prices have begun skyrocketing since mid-2021, which was initially reflecting the dynamics described in the previous sections and later the reduced flows from Russia to Europe. This market reaction is normal, but as the Russian flows were to a large extent halted both in Germany through Nord Stream and in some countries neighboring Russia, the fear of the repercussions of the limited gas supply was not realized due to measures undertaken by the EU Commission and member states and, most importantly, by the fact that natural gas supply was restructured with LNG now accounting for 21% of imports compared to 13% in 2021 (Eurostat, 2022). This change in natural gas supply structure seems not to be "taken under consideration" by the TTF index, which seems to only reflect northern pipeline flows, something also admitted by the EU Commission (European Commission, 2022).

One could argue that despite the structuring of supply with the LNG scale-up, prices reflect the global tightness of LNG markets, but such tightness would have global price effects, and prices in other major gas hubs, have increased but the magnitude of this increase is not anywhere near TTF's skyrocketing (203% for Henry Hub's price and 105% for Japan's hub price compared to 2019 average price, with TTF increasing 1131% compared to the same period (World Bank, 2022)).

Another source of price inefficiency for the TTF index is the high churn factor[7] of the corresponding hub, which was c. 97 in 2019 (Heather, 2020). This means that the total number of natural gas trades is nearly 100 times more than those involving physical delivery of the product as many participants in that market are trading in the hub for speculation or hedging. Given that the uncertainty of the situation generated price volatility and thus many trading signals, such participants were highly likely to trade for profit, thus driving prices further up[8].

Moving away from the TTF

It is evident from the above, that with the current market conditions, the TTF as an index is not serving its role as a benchmark for natural gas pricing across Europe. Indeed, the EU Commission has proposed measures to address this issue mainly by planning to introduce a dynamic price cap on the TTF, but this will only prevent prices from further increasing as it does not provide a way of lowering TTF prices. There is little to no literature as to how to move from TTF to a new natural gas pricing benchmark, but to lower natural gas prices in the near medium to long term, the EU could potentially work on three basic axes:

1. **Introduce a mechanism to phase out speculative trading in energy derivatives in times of crisis:** While somewhat difficult to implement the EU should find a legal way to prevent trading not involving physical delivery or hedging for energy companies. In this way market prices will not be generated by speculative expectations but will reflect actual supply and demand conditions and thus will be more informative as to the actual extent of the emergency. Such a measure was proposed at the beginning of the energy crisis by some EU countries.

2. **Cost of production or hub of origin price indexation:** A similar measure is already proposed for EU gas and electricity production companies which, as they face no change in the cost of production, enjoy excess profits from the high natural gas prices (the latter, because the high natural gas prices

[7] Churn factor is a measure of a natural gas hubs' liquidity and is defined as the ratio between the volume of traded gas over the volume of actually delivered gas.
[8] This is not to imply that any market manipulation took place, as this was ruled out by the Dutch Financial Markets Authority which is responsible for overseeing the TTF index.

determine electricity prices, but not all electricity, is produced from natural gas). These companies will be taxed with a 90% rate on those excess profits. A similar measure could be applied to non-EU gas suppliers, whose imported gas volumes should at least partially and temporarily be priced based on the production cost of the gas they supply or the hub the gas is from. Such contracts should include only direct physical delivery, to avoid creating arbitrage conditions. This way, the average price of gas will decline, and it will also discourage events reported during this crisis such as long-term contract breaking with developing nations to sell LNG in Europe due to the extremely high prices (Financial Times, 2022), which could create new humanitarian crises or geopolitical tensions. The profit margin in such contracts, however, should be carefully decided so as not to risk the security of the gas supply.

3. **Develop peripheral benchmark prices to better reflect supply conditions across the EU:** The TTF failed because it could not capture the change in supply conditions as northern EU countries where the hub is placed have limited access to LNG. Furthermore, none of the 15 peripheral natural hubs in the EU have a price that acts as a benchmark for long-term contracts (EFET, 2021). By developing the peripheral hubs of the EU to act as benchmarks, their prices will better reflect LNG availability in countries that have the relevant infrastructure. Furthermore, provided that a sufficient degree of pipeline integration (or virtual clearance of gas trading) is achieved in the EU, arbitraging across hubs will ensure both price convergence across EU countries and that natural gas is delivered where it is most needed.

Conclusions

In this paper, it was examined how the extensive government support across the EU to combat both Covid-19 and the energy crisis has begun generating demand-side inflation across products. As governments are forced to keep subsiding energy consumption to avoid social turmoil, and with their support being horizontal and not targeted for practical and political reasons, the only way to lower energy prices is to address the inefficient way natural gas is priced. Being able to reduce speculative trading, indexing portions of natural gas deliveries on their production cost or their hub of origin price, and encouraging the development of EU's peripheral natural gas hubs are ways to lower natural gas prices (and therefore electricity prices). In this way governments will be able to roll back fiscal support and allow monetary policy to tame inflation.

References

Dabrowski, M. (2021). Monetary arithmetic and inflation risk. Bruegel. Available at: https://www.bruegel.org/blog-post/monetary-arithmetic-and-inflation-risk (Accessed: 05/10/2022).

ECB (2021). Inflation in the short term and in the medium term. ECB. Available at: https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp211108~c915d47d4c.en.html (Accessed: 15/10/2022).

European Commission (2021). Tackling rising energy prices: a toolbox for action and support. Brussels: European Commission.

European Commisssion (2022). Questions and Answers on proposals to fight high energy prices and ensure security of supply. Brussels: European Commission. Available at : https://ec.europa.eu/commission/presscorner/detail/en/qanda_22_6226 (Accessed: 15/10/2022).

European Federation of Energy Traders (2021). 2021 Review of Gas Hub Assessment. European Federation of Energy Traders. https://www.efet.org/home/documents?id=19 (Accessed: 17/10/2022).

Eurostat (2022). Imports of natural gas by partner country - monthly data. Eurostat. Available at: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_ti_gasm&lang=en (Accessed: 04/10/2022).

Federal Reserve Bank of New York (2022). Global Supply Chain Pressure Index. Federal Reserve. Available at: https://www.newyorkfed.org/research/policy/gscpi#/overview (Accessed: 15/10/2022).

Financial Times (2022). Europe's appetite for LNG leaves developing nations starved of gas. Financial Times. Available at: https://www.ft.com/content/752b1285-3174-4cf1-83c0-b1151888bf4e (Accessed: 15/10/2022).

Goncalves, E., & Koester, G. (2022). The role of demand and supply in underlying inflation - decomposing HICPX inflation into components. *Economic Bulletin Issue* 7/2022, ECB.

Heather, P. (2020). *European Traded Gas Hubs: The supremacy of TTF*. Oxford: Oxford Institute for Energy Studies.

IMF. (2021). Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic. IMF. Available at: https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19 (Accessed: 05/10/2022).

Sgaravatti, G., Tagliapietra, S. & Zachman, G. (2022). National fiscal policy responses to the energy crisis. Bruegel. Available at: https://www.bruegel.org/dataset/national-policies-shield-consumers-rising-energy-prices (Accessed: 05/10/2022).

World Bank (2022). World Bank Commodity Price data (The Pink Sheet). World Bank. Available at: https://www.worldbank.org/en/research/commodity-markets (Accessed: 10/11/2022).