Forum: Economic and Social Council

Issue: Mitigating the inflationary impact stemming from energy price dynamics

Student Officer: Gabin Kim

Position: President

Introduction

The recent fluctuations in energy prices have been influential to not only the trends in consumption but also the health of the global economy, ultimately causing vast inflationary impacts. Since the first oil crisis in 1973, the significance of changes in energy prices have been put under more attention. In fact, high energy prices drive intractable, high inflation in several ways. Energy prices can raise inflation rates both directly and indirectly—energy sources come together as a major economic input, and factors such as transportation costs, fuel prices, plastic products all attribute to consumer prices and further inflation.

Governments often implicate measures deemed appropriate to address this issue, varying from the moderation pricing mechanisms to the search for new energy supplies; however, these several methods resulted in exacerbating the problem instead. One irony in the policy responses of the governments is that many of the solutions that the government carries out are based on fossil fuel subsidies. Since these measures encourage the consumption of fossil fuel, presences of further concerns regarding the climate and CO_2 emissions are inevitable. For instance, although the G7 and G20 pledged to phase out fossil fuel subsidies starting from 2009, in reality the policy responses carried out by the governments qualify as fossil fuel subsidies. Ultimately, the complicated web of factors that surround energy prices along with the magnitude of the energy crisis make the issue more than urgent to solve.

Definition of Key Terms

Inflation

Inflation in economic terms refers to the rise of price levels or the drop of purchasing power. Often represented as a percentage, different inflation rates define the change in effectiveness of a unit of currency. The root cause of inflation is often the increase in currency supply. The opposite term is deflation, which indicates the decline of prices and the increase of purchasing power.

Consumer Price Index (CPI)

The CPI is a measure that evaluates the weighted average of product and service prices, mainly those of the needs of consumers in areas such as food, shelter, and medical care. It is calculated through averaging the price changes in the products or services based on the relative weight. CPI is one of the most frequently used statistics in examining inflation or deflation.

Producer Price Index (PPI)

Historically, it was the PPI that oil prices exerted more influence on than the CPI. PPI, which measures the average change of prices that producers attain for their output, have exhibited a stronger correlation with oil prices compared to CPI. It forecasts inflation, evaluates escalator clauses, and helps track price changes and further associate wholesale and retail prices.

Energy

Energy in refer to the power or fuel derived from resources, mainly used to obtain light or heat. The creation and use of energy is crucial for the survival of humans. Energy can take several different forms and may be attained and processed in several different ways. Economically, energy plays a fundamental role in various ways, such as in production and manufacturing, innovation, as well as the standard of living. Ultimately, addressing issues regarding energy prices is vital to the economy and the world.

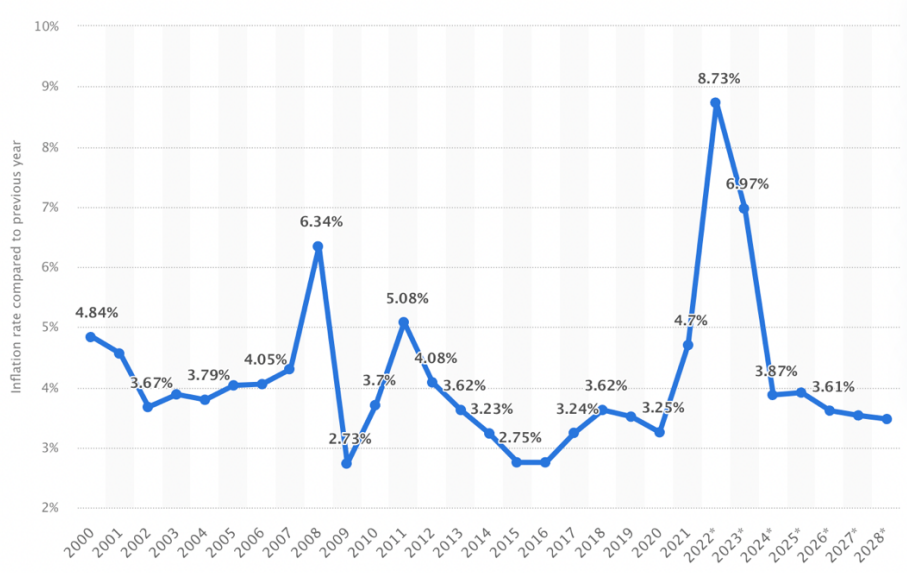
Energy subsidies

Energy subsidies are defined as financial incentives provided by the government to the energy sector. They moderate the price of energy—lower than the market rate for consumers and higher for producers. Direct payments, tax breaks, and price supports are all different forms of energy subsidies.

Background Information

Factors that affect energy price

Energy prices started to take on an increase since 2021 when demand for energy grew rapidly accompanying the recovery of the COVID-19. However, the supplies of nearly all primary energy sources faced constraints—with supply chain bottlenecks and restrictive rules induced from COVID-19, as well as oil production cuts caused by reluctances of finance investors on fossil fuels. Additional issues such as nuclear power plant outages in France, droughts in Norway, and the geopolitical war in Ukraine exacerbated the constraints in the supply.



Caption #1: 2000-2023 Global Inflation Rates with Forecasts

Supply and demand

Variations in energy demand as well as the availability of energy sources and fuels are often the most primary cause of fluctuations in energy price. Supply is often influenced by factors such as economic and population growth, and demand is affected by production levels and transportation infrastructure. When the demand for energy exceeds supply, the prices would increase; likewise, when the supply exceeds demand, prices tend to fall.

Production costs

Different levels of production costs may impact energy prices—increased production costs stemming from factors such as high labor costs may prompt producer to charge higher prices. Furthermore, increased investments in more advanced technology or renewable energy sources would also impact production costs.

Technological advancements

New advancements in technology often reduce production costs and increase efficiency. Developments such as drilling techniques that increase the supply of natural gas as well as advancements in renewable energy could heighten the competence of the energy sources.

Currency exchange rates

Energy is often traded in US dollars, and thus changes in exchange rates of US dollars would impact the prices of energy. This may cause energy exports to have different prices for different countries.

Geopolitical events

Geopolitical events, such as the recent Russo-Ukrainian War may greatly influence the enery prices, by causing disruptions in energy supply chains. One example other than the Russo-Ukrainian War are the political tensions in the Middle East, which disrupted supplies, ultimately causing prices to rise. Sanctions and embargoes can also impact the energy exports, by limiting the supply and raising the prices.

Natural disasters

Exposures to natural disasters are detrimental to energy infrastructure and stabilities of energy supplies. Although not in long term, occurrences of natural disasters can not only disrupt supply chains but also damage infrastructure such as oil drilling platforms and pipelines, which can limit supply and cause oil prices to rise. For instance, the Hurricane Katrina in 2005 damaged offshore oil and gas drilling operations, disturbing the energy supply and thus increasing the energy prices in a sudden rapid rate. This incident demonstrated how significant natural disasters can be to the energy market.

Inflation-induced results

Fluctuations of energy prices may have various impacts on the market, particularly in countries or businesses that have high dependence on energy imports. Often, due to the interconnectedness of energy prices and the economy, the effects are exhibited as a cycle. While there is a multitude of effects that energy price changes can cause, ultimately these impacts may accumulate and later cause an inflationary crisis.

Production costs

As there is a large number of companies that are dependent on energy to produce their goods and services, once the energy prices change, the production costs could also face a change. Once these costs change, the price in which the consumers buy the goods or services would also

change, resulting in an inflation or deflation. For instance, if the price of oil increases, the cost of producing and products that require the use of oil would also increase.

Transportation costs

Similarly, changes in energy prices could also change the cost of transportation, since transportation relies on energy. Transportation is a vital component of the supply chain, and thus the cost of it would be directly affected by the changes of oil prices. Changed transportation costs would then impact the prices of goods and services that went through transportation.

Purchasing power

With the change of energy prices, the consumers' cost of living would change, affecting demand and further impacting economic growth. If the energy prices increase, consumers would have less money to spend on other goods and services, and thus reducing demand and purchasing power. This can contribute to demand-pull inflation, in which the inflation is driven by the changed demand for goods and services.

Exchange rates effects

Countries heavily reliant on energy, such as net imports experience changes in trades, such as trade deficits when energy prices have risen. Risen energy prices would ultimately put a downward pressure on currency, and causing inflation as imports become more expensive. In contrast, countries that are net exporters of energy experience a trade surplus when energy prices increase. Instead an upward pressure would be put on their currency, causing deflation.

Price expectations

Continued changes in energy prices may lead to businesses and consumers expecting further consistency of the change in prices. If the prices increase, businesses may expect prices to continue to rise, and choosing to raise prices to maintain profit margins. This would ultimately cause a cycle in inflation.

Major Countries and Organizations Involved

Organization of the Petroleum Exporting Countries (OPEC)

Consisting of 13 member countries, OPEC is an intergovernmental organization that aims to stabilize the global petroleum market, and further provide relief to oil consumers. OPEC was formed in 1960 with five founding members: Saudi Arabia, Iran, Iraq, and Kuwait, and its original purpose was to

coordinate the actions of these countries as well as reclaim control of oil prices from oil companies. Recent updates of the OPEC include the fact that OPEC has increased coordination with a group of OPEC+ member countries, most being non-oil-producing countries.

United States (US)

The US in recent years faced high inflation rates especially in the recovery of the COVID-19 pandemic. In fact, electricity prices in the US surged 14.3% in 2022, which is double the overall inflation. The United States Federal Reserve that the US established plays a significant role in managing monetary policies in United States as well as adjusting interest rates to manage inflation caused from energy price dynamics.

European Central Bank (ECB)

As a major component of the Eurosystem and the European System of Central Banks, ECB is responsible for establishing monetary policies for the Eurozone and the European Union (EU), as well as administer exchange reserves of the EU member states. It aims to keep prices stable and thus keeping inflation under control, as well as invest in new technologies to create more secure bank systems.

China

China is the world's largest consumer of energy, and its market is heavily dependent on oil imports. Thus, inflation rates are prone to change by energy price dynamics. To respond to past inflation caused from energy price dynamics, the Chinese government implemented price controls or promote energy efficiency measures. Since the COVID-19 China further increased the magnitude of efforts made towards the use of renewable energy.

India

As another major consumer of energy, India's economy is often pressured from rising oil prices. The further occurring inflation rates led to the decrease in economic growth, and the increase of unemployments, prompting the government to adjust taxes and cut excise duties on fuel.

Timeline of Events

Date	Description of event
1973 - 1974	Oil prices took on a sharp increase as Arab oil producers imposed oil prohibitions on several countries, ultimately causing an oil crisis.

2008	An abrupt increase in oil prices in early 2008 lead to high production costs and low consumer demand. This economic recession impacted many countries with a period of deflation.
2014-2016	As global oil prices fell sharply from oversupply and weak demand, production costs and consumer prices were reduced.
2020	The COVID-19 pandemic caused a drop in energy demand and further energy prices. Although most countries at this time experienced low inflation, some went through high inflation due to supply chain disruptions.

Relevant UN Treaties and Events

The United Nations have consistently gathered efforts towards understanding trends in the respective economies of developing as well as developed countries. In its resolutions, UN presents evaluations of these trends as well as examine how adjustments of economics are managed.

- World Economic Survey, 1972: current economic developments, 1973 **(E/5310 ST/ECA/182)**
- Resource abundance: a curse or blessing?, June 2010 **(ST/ESA/2010/DWP/93)**
- World Development Report, 1981 **(IBRD(058)/W6)**

Previous Attempts to solve the Issue

Countries have employed various policies and strategies to address inflation occurred from energy price dynamics, such as using monetary policy tools, controlling the price, establishing reserves as well as providing subsidies. While these policies had several significant benefits, some also presented inevitable drawbacks, especially on the long run.

United States

On 1975, the United States responded to the 1973 oil crisis by establishing the Strategic Petroleum Reserve (SPR), a reserve of crude oil that in the future could be released to the public for events of supply disruption. Although the reserve was successfully used several times to stabilize oil prices, it was later realized that certain deficiencies the design led to a mismatch between the projection of the reserve's utility and its design.

Japan

Japan's response to the oil shocks in the 1970s was establishing an energy conservation program. The program included improvements of efficiency of energy usage in buildings as well as

promoting public transportation. Ultimately, it was successful in reducing dependence on oil as well as in improving energy security.

Venezuela

Venezuela have faced hyperinflation caused by increasing fuel prices, beginning from 2016. Through an implementation of a price control policy, the country aimed to mitigate the crisis; however, it rather led to a shortage of gasoline and fuel smuggling.

India

India's central government made an announcement in 2018 to cut excise duties on fuel to lessen the burden of consumers as well as reduce tax on fuel. This cut in fuel prices affected major sectors such as transportation and textiles, as well as the retail price of gasoline in India.

Germany

In order to promote renewable energy, Germany implemented policies such as feed-in tariffs and net metering. Although expensive, these policies not only helped increase the share of renewable energy in Germany's energy mix, but also helped reduce the country's dependence on fossil fuels.

Possible Solutions

Implementations of appropriate policies

Governments have an array of tools and solutions at their disposal in solving the dynamic fluctuations in energy prices. One example of the policies that can be used is the fiscal policy, which includes the involvements of government spending as well as taxation. Using the fiscal policy can allow for the use of subsidies or incentives in tax on consumers or specific sectors, the reduction of environmental costs in the production of energy through fuel and carbon taxes, as well as the allocation of government spending in energy production infrastructure. Another example of the policies is the monetary policy. In contrast to the fiscal policy, monetary policies focus on the adjustments of supply rates and interest rates. This policy may indirectly address the issue through the adjustments of interest rates, influences in exchange rates, and the maintain of economic stability. However, despite the possible advantages, it is worth noting that the use of economic policies should depend on the specific economic conditions and potential impacts the policies can have on the economy. Governments would need to pursuit a comprehensive approach that utilizes appropriate measures to tackle the situation.

Increased energy supply and conservation

Traditional fossil fuels are not only finite but also detrimental to the environment in the long term. Through investing in renewable energy sources such as solar, wind, and hydroelectric power, the energy supply can be replenished naturally. Additionally, the use of renewable energy can help stabilize energy prices as well as inflation. Further promotion of energy conservation measures such as implementations of energy-efficient technologies could help reduce energy demand and thus lower energy prices as well as stabilizing inflation rates. Ultimately, it could also be key to stimulating sustainable development and energy usage.

Balance between cooperation and competition

Rather than implementing various policies and controls that to mitigate inflation, it is more of a priority that governments and private enterprise and governments cooperate to share resources, reduce dependence on fossil fuels, and promote the use of renewable energy sources. If needed, encouraging competition in the energy market could be further taken into action. Appropriate levels of competition can help promote policies that encourage new entrants in the market and break monopolies, as well as stimulate innovation and reduce prices.

Bibliography

Nakhle, Carole. "Energy prices and inflation: Politics trump the economics." GIS Reports, 7 Dec. 2022, www.gisreportsonline.com/r/energy-prices/. Accessed 2 Aug. 2023.

Umbach, Frank. "How the pandemic is slowing the green energy transition." GIS Reports, 5 March 2021, https://www.gisreportsonline.com/r/pandemic-green-energy/. Accessed 2 August 2023.

Nakhle, Carole. "Energy policy confusion." GIS Reports, 23 August 2022, www.gisreportsonline.com/r/energy-policy-confusion/. Accessed 2 August 2023.

Prince Michael of Liechtenstein. "A body blow to Europe's electricity market." GIS Reports, 15 September 2022, www.gisreportsonline.com/r/europe-electricity-market/. Accessed 2 August 2023.

Nakhle, Carole. "Germany's Scramble to Revamp Its Energy Policy." GIS Reports, 17 Oct. 2022, www.gisreportsonline.com/r/germany-gas/. Accessed 2 Aug. 2023.

Kilian, Lutz and Zhou, Xiaoqing. "The inflationary impact of energy prices." CEPR VoxEU Column, 10 Feb 2023, https://cepr.org/voxeu/columns/inflationary-impact-energy-prices#:~:text=Our%20evidence%20suggests%20that%20an,positive%20gasoline%20price%20shocks%20cease. Accessed 2 Aug 2023.

Choi, Sangyup, et al. "Oil Prices and Inflation Dynamics: Evidence from Advanced and Developing Economies." IMF Working Paper, no. 2017/196, International Monetary Fund, 5 Sept. 2017, https://www.imf.org/en/Publications/WP/Issues/2017/09/05/Oil-Prices-and-Inflation-Dynamics-Evidence-from-Advanced-and-Developing-Economies-45180. Accessed 2 Aug. 2023.

Lioudis, Nick. "What Is the Relationship Between Oil Prices and Inflation?" Investopedia, 05 May 2022, www.investopedia.com/ask/answers/06/oilpricesinflation.asp#:~:text=In%20the%20short%20term.,could%20decline%20as%20a%20result. Accessed 02 Aug. 2023.

Majaski, Christina. "Producer Price Index (PPI): What It Is and How It's Calculated." Investopedia, 16 July 2023, www.investopedia.com/terms/p/ppi.asp. Accessed 2 Aug. 2023.

Fernando, Jason. "Inflation: What It Is, How It Can Be Controlled, and Extreme Examples." Investopedia, 20 July 2023, www.investopedia.com/terms/i/inflation.asp. Accessed 2 Aug. 2023.

Kenton, Will. "Consumer Price Index for All Urban Consumers (CPI-U) Explained." Investopedia, IAC Publishing, 16 July 2023, www.investopedia.com/terms/c/cpiu.asp. Accessed 2 Aug. 2023.

Oner, Ceyda. "Inflation: Prices on the Rise." Back to Basics, Finance & Development, International Monetary Fund, 2021, www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Inflation. Accessed 2 Aug. 2023.

International Monetary Fund. “Fossil Fuel Subsidies.” IMF, 2023, https://www.imf.org/en/Topics/climate-change/energy-subsidies. Accessed 2 Aug. 2023.

Cambridge University Press. “ENERGY SUBSIDY definition | Cambridge English Dictionary.” Cambridge Dictionary, Cambridge University Press, 2023, https://dictionary.cambridge.org/us/dictionary/english/energy-subsidy. Accessed 2 Aug. 2023.

Moerenhout, Tom. "Energy Subsidies." The Palgrave Handbook of International Energy Economics, edited by Anil Markandya and Andrea Bigano, Springer, 2022, pp. 545-565. doi: 10.1007/978-3-030-86884-0_27. Accessed 2 Aug. 2023.

UN. Department of Economic and Social Affairs. World Economic Survey, 1972: current economic developments. United Nations, 1973. UN Digital Library, https://digitallibrary.un.org/record/1286600?ln=en. Accessed 2 Aug. 2023.

Polterovich, Victor, et al. "Resource Abundance: A Curse or Blessing?" UN. Department of Economic and Social Affairs, June 2010, ST/ESA/2010/DWP/93. UN Digital Library, https://digitallibrary.un.org/record/3859085?ln=en. Accessed 2 Aug. 2023.

IBRD. World Development Report, 1981. The World Bank, 1981, https://digitallibrary.un.org/record/1305030?ln=en. Accessed 2 Aug. 2023.

Lore, Rachel. "The Good, the Bad, and the Ugly: The Strategic Petroleum Reserve." AAPG, 18 Feb. 2021, https://www.aapg.org/publications/news/spheresofinfluence/details/articleid/36728/the-good-the-bad-and-the-ugly-the-strategic-petroleum-reserve. Accessed 2 Aug. 2023.

Dutta, Prabhash K. "Why government is not cutting petrol, diesel prices." India Today, 17 Sep. 2018, https://www.indiatoday.in/india/story/why-government-is-not-cutting-petrol-diesel-prices-1341843-2018-09-17. Accessed 2 Aug. 2023.

"OPEC Countries." World Population Review, 2023, https://worldpopulationreview.com/country-rankings/opec-countries. Accessed 2 Aug. 2023.

Singer, Stephen. "Electricity prices surged 14.3% in 2022, double overall inflation: US report." Utility Dive, 19 Jan. 2023, www.utilitydive.com/news/electricity-prices-inflation-consumer-price-index/640656/. Accessed 2 Aug. 2023.

Kilian, Lutz and Xiaoqing Zhou. "A Broader Perspective on the Inflationary Effects of Energy Price Shocks." Working Paper 2224, Research Department, Federal Reserve Bank of Dallas, December 2022, https://www.dallasfed.org/-/media/documents/research/papers/2022/wp2224.pdf. Accessed August 2, 2023.

European Central Bank. "About." ECB, 2023, https://www.ecb.europa.eu/ecb/html/index.en.html. Accessed on August 2, 2023.

U.S. Energy Information Administration. "Prices and Factors Affecting Prices." Energy Explained, 2 Aug. 2023, www.eia.gov/energyexplained/electricity/prices-and-factors-affecting-prices.php#:~:text=Changes%20in%20prices%20generally%20reflect,Fuel%20costs. Accessed 2 Aug. 2023.

O'Neill, Aaron. "Global Inflation Rate from 2000 to 2028." Statista, 28 June 2023, www.statista.com/statistics/256598/global-inflation-rate-compared-to-previous-year/. Accessed 2 Aug. 2023.

Abuya, Kenn. "Kenya expands tax net by going after influencer and crypto earnings." *techcabal*, ©2023 techcabal, 27 June 2023, https://techcabal.com/2023/06/27/kenyas-finance-bill-2023-passed/#:~:text=The%20bill%20proposed%20to%20impose,that%20value%20downwards%20to%201.5%25. . Accessed 11 Aug. 2023.

Hufbauer, Gary Clyde. "How do digital services taxes work?" *PIIE*, © 2023, PIIE, 8 Mar. 2022, www.piie.com/research/piie-charts/how-do-digital-services-taxes-work . Accessed 11 Aug. 2023.

Kennedy, Joe. "Digital Services Taxes: A Bad Idea Whose Time Should Never Come." *Information Technology & Innovation Foundation*, @Work Series: Employment in the Innovation Economy, 13 May 2019, https://itif.org/publications/2019/05/13/digital-services-taxes-bad-idea-whose-time-should-never-come/ . Accessed 11 Aug. 2023.

"KENYA DIGITAL SERVICES TAX." *International Trade Administration*, @ International Trade Administration, www.trade.gov/market-intelligence/kenya-digital-services-tax#:~:text=The%20Kenya%20Finance%20Bill%202020,DST)%20recently%20passed%20in%20Kenya . Accessed 11 Aug. 2023.

"Programme of Work to Develop a Consensus Solution to the Tax Challenges Arising from the Digitalisation of the Economy." *OECD*, © Organisation for Economic Co-operation and Development, 31 May 2019, www.oecd.org/tax/beps/programme-of-work-to-develop-a-consensus-solution-to-the-tax-challenges-arising-from-the-digitalisation-of-the-economy.htm . Accessed 11 Aug. 2023.

"Understanding Digital Services Taxes & the OECD." *Bloomberg Tax*, © 2023 Bloomberg Industry Group, Inc. All Rights Reserved., 4 Jan. 2023, https://pro.bloombergtax.com/brief/understanding-digital-services-taxes-the-oecd/ . Accessed 11 Aug. 2023.

Appendix or Appendices

I. https://www.opec.org/opec_web/en/ (OPEC homepage)
II. https://www.federalreserve.gov/ (US Federal Reserve homepage)
III. https://www.ecb.europa.eu/home/html/index.en.html (ECB homepage)