

The Effects of Brexit and Covid-19 on Food Inflation in the United Kingdom

Stephane Hlaimi

Dr., Exeter Üniversitesi PhD, University of Exeter

Ekonomi Bölümü Department of Economics

s.hlaimi@exeter.ac.uk <https://orcid.org/0000-0001-6529-5178>

Abstract

This paper has two purposes: Firstly, it addresses the observed effects of both Brexit and the Covid-19 pandemic on food inflation in the United Kingdom (UK). Secondly, it uses statistics and data from different sources to explore the effect of the exchange rate, the imports costs and the real wages, and to show how those events have contributed to increased price volatility that the pressures on supply and demand can explain. The Covid-19 has created new shortages and additional costs for consumers and producers. In addition, the pandemic can be the starting point of a change in consumers' and producers' behaviours as it has put forward new challenges in terms of different modes of consumption and production as well as new constraints. The situation is still uncertain and unstable where the ultimate impacts of both Brexit and Covid-19 are yet to be concluded. However, there is a consensus that a spell of inflation will persist, at least in the short term. The combined effects of shortage and disruption in both supply and demand have induced an increase in food prices. The nature of such effects can be compensated by different policy measures such as the stimulus package that aimed to support both producers and consumers. However, the efficiency of these instruments needs to be assessed in order to see if inflation will lead to high deficits and possible risks linked to the downgrading of the UK's credit rating. In this case, the risks of currency depreciation and of inflation can be seriously harmful to the British economy.

Keywords: Brexit and inflation, food inflation, UK food inflation, Covid-19 and food inflation

Introduction

Five years ago, the United Kingdom (UK) had voted for a historic decision to leave the European Union (EU). The so-called Brexit vote has signalled a significant shift in both national and international economic policies and marked a new turn in the western liberal approach where isolationism took place over the cooperative and enlarged market. The return of protectionism is not without any consequences and after the decisions of former US President Donald Trump to impose tariffs on imported products in the USA and the retaliation of both China and the European Union by imposing tariffs on the American exports, the UK, with the Brexit, has voted de facto the retreat from both the European economic area and the Single Market. However, the referendum vote has also involved subsequent changes in expectations about the future of the UK economy with reference to both supply and demand. In terms of supply, the possible risks of shortage regarding raw materials and regulation on both production and exports are likely to affect the level of prices.

Similarly, in terms of demands, the risks of shortage regarding imports as well as consumption can seriously affect the level of prices. The strategic and necessary case of the food market is particularly important for consumers, policymakers and social scientists not only as a scientific subject but also as a political target that involves vital questions of food security, sovereignty, living standards and purchasing power (Schanbacher, 2010; Hongladarom, 2015). Insufficient capacity in domestic food production, just-in-time supply chains and Brexit-related challenges or even the Covid-19 pandemic has weakened the UK's food system and revitalised the debate on the importance of the food system for the UK and its resilience regarding such issues (Garnett et al., 2020).

Accordingly, understanding the economic consequences of Brexit is important not only to shed light on a crucial topic but also to provide knowledge for the public debate and decision making. The study of Brexit and the Covid-19 pandemic and their effects on inflation provide a worthy opportunity to learn how a modern economy adjusts to the decision linked to supply and demand. Over the last decades, the UK's food economy has become closely entwined with the European countries, where the part of the UK imports from the EU has reached 74% of all its food imports in 2019 (European Commission, 2019). Table 1 shows the value of exports from European countries of the main groups of food types between 2018 and 2020. Except for meat, dairy and eggs, the food exports from Europe have all increased between 2018 and 2019, the case of 2020 is associated with the lockdown and the associated restrictions in terms of trade and sales. Withdrawing from the common institutional and legal framework of a single market has definitely involved serious changes for the British economy and the British consumer. One major aspect that has received surprisingly little attention is the impact the British withdrawal from the EU could have on the food sector in the UK (Lang and Mckee, 2018), and its implications for supply and demand. Currently, about one half of all food consumed in the UK, by value, is produced domestically, 30% is imported from the EU, and 20% is imported from countries outside of the EU. In

addition, the UK dependence on fresh food consumption is particularly high. For example, more than 90% of fruits and vegetables and 50% of meat consumed in the UK are imported (Springmann and Freund, 2018) and about 30% of all the food consumed in the UK comes from the EU (British Retail Consortium, 2020).

Imports	Product type	2018	2019	2020
01	Meat and meat preparations	7,431	7,084	6,239
02	Dairy and eggs	3,700	3,547	3,230
03	Fish and Fish Preparations	3,449	3,675	3,226
04	Cereals and cereals preparations	4,421	4,524	4,448
05	Fruits and vegetables and preparations	11,990	12,259	11,419
06	Sugar and sugar preparations	1,270	1,278	1,117
07	Coffee, tea, etc.	4,040	4,047	3,926
08	Animal feed	2,554	2,588	2,540
09	Miscellaneous edible preparations	3,533	3,685	3,654
11	Beverages	6,327	6,383	5,941
22+S4	Oils/fats and Oilseeds	2,022	2,038	2,217
	Total	50,647	51,109	47,957

Table 1: UK Food and Drinks Imports

Source: Agriculture in the United Kingdom (2020)

Such a situation is particularly critical and has consequences in terms of inflation and food security. Concerns about food security have already been by scholars, economic actors and consumers associations (Barons and Aspinall, 2020). The ability of the country to satisfy the demand for food without any possible extra cost associated with the withdrawal from the single market is particularly perceived as a big challenge. This objective is now confronted with the Covid-19 pandemic and its restrictions on international trade. Both causes are likely to deeply affect the prices volatility as well as the terms of trade. Food prices are the outcome of many components that include the price of raw ingredients, energy prices, transportation costs, exchange rates, trade and customs charges, and the administrative costs of manufacturing. All these determinants fluctuate and are sensitive to both Brexit and Covid-19. Therefore, it is useful and important for both researchers and policymakers to bring both issues together in the study of inflation.

The analysis of both Brexit and Covid-19 effects on the rate of inflation is important for many reasons. Firstly, Brexit and Covid-19 have involved and even imposed greater burdens on economic conditions and social for British firms and consumers. This has translated into rising costs, higher prices and reduced competitiveness and forced the UK government to undertake a variety of measures that aim to support both producers and consumers. Therefore, assessing the effect of inflation is valuable to examine a common denominator of both supply and demand in the vital sector of food. Secondly, the post-Brexit deal has put forward new tensions between the European Union and the United Kingdom regarding supply chain and trade where the pandemic has exacerbated such rigidities. Dealing with both effects is, therefore, a twofold analysis that addresses the effects of two different but complementary shocks on

the same analytical framework. Finally, the study of food inflation puts forward key issues associated with the UK's economic, social, and political challenges. Combining both Brexit and Covid-19 is undeniably a relevant method to highlight the importance of food inflation on the economy and society. Using statistics and data on food inflation and its determinants, this paper studies the effects of Brexit and Covid-19 on food inflation by focusing on the causes and consequences of both issues in terms of food prices variability. To do so, it is important to explore the effect of the exchange rate, the imports costs, and the real wages. In addition, the analysis of the consequences of the Covid-19 pandemic will help understand the mechanisms by which inflation fluctuates and influences food prices.

1. The Effect of Brexit on Food Inflation

Brexit has involved substantive economic costs for the UK (Tetlow and Stojanovic, 2018). Most projections analyse long-term effects based on the assumption that economic barriers with the EU will increase after Brexit (Dhingra et al., 2017). However, the long-term economic consequences of Brexit are still unestablished even if certain changes can be assessed in the short term. If we look at the economic behaviours, we can see that the referendum increased uncertainty and led to a weakening in the likely future openness of the UK to trade, investment and immigration with the EU. Such expectations have induced a downgrading by financial markets following their UK's economic prospects, leading to a decline in the currency. Rising concerns about the long-term effects of Brexit have then been formulated on the consequences for both supply and demand as well as the rise of inflation (Chang, 2018; Breinlich et al., 2021). The UK has set an inflation target of 2% and the Central Bank has the effective independence to achieve this target in different ways (Tang et al., 2019). However, the price of goods in the UK has risen and may continue to rise and the recent levels of inflation in the UK's economy have been well above this 2% inflation target. As the Brexit deal has been signed between the UK and the EU, the debate on how the UK's economy will be affected in the long run in terms of GDP level, Foreign Direct Investment and inflation. However, economists and the Bank of England have a high level of acceptance that inflation will persist above the 2% target over the next two to three years (Broadbent, 2017). The Bank of England has stated in its recent August 2021 Monetary policy report, that inflation rose to 2.5% in June, and it is expected that it will pick up further around 4% in 2021 and 2022 (Bank of England, 2021). Figure 1 illustrates this tendency where the rate of inflation of August 2021 has reached 4.4%. Earlier, the Brexit vote of June 2016 has already engaged a price increase dynamic where prices rose more quickly in the UK than in the Euro area (Breinlich et al., 2021).

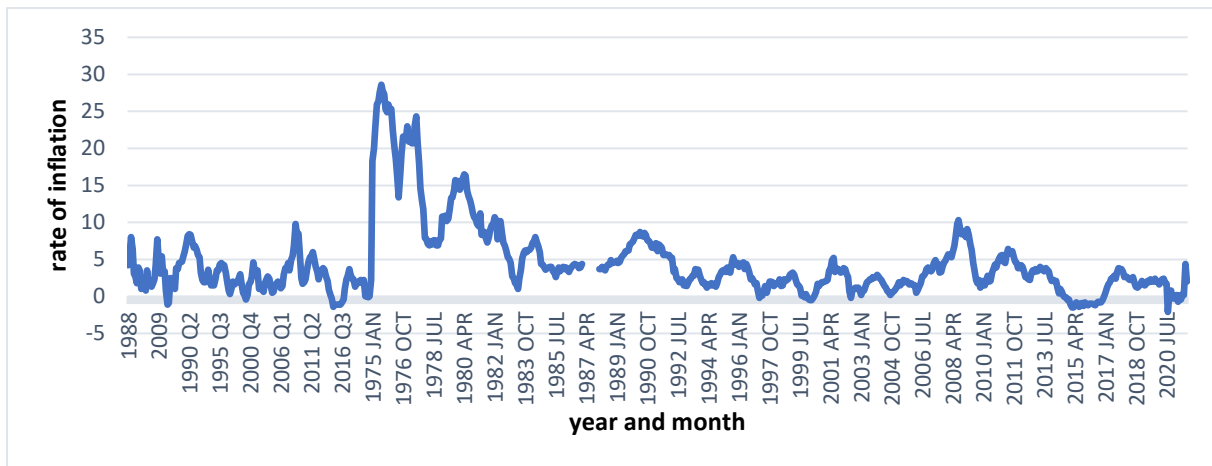


Figure 1: The Evolution of Food Inflation in the United Kingdom

Source: Office of National Statistics, September 2021.

The rise in prices is particularly pronounced for food products, where several factors are combined to create tensions between the supply and the demand. The Brexit context has created shortage and disruption leading to a hike in food prices. The shortage of lorry drivers and increasing regulatory checks on food imports combined with rising prices for fuel, freight and raw materials has led to serious issues regarding the supply chain and risks of prices hike (Eley, 2021). But the inflation in the food market is the outcome of both national and international factors, micro and macro settings that interact and shape in different ways the price changes. In particular, exchange rate, trade and real wages are used by economists to understand better the inflationary pressures (Breinlich et al., 2020, Tetlow and Stojanovic, 2018).

1.1. Exchange rate:

When examining the relationship between exchange rate and domestic prices, certain settings should be underlined, such as market density, import volume, import substitute and domestic production channels (Dornbusch, 1987). Agenor and Montiel (2015) suggest four major transmission mechanisms of how exchange rate fluctuations affect inflation: Firstly, an open economy can directly affect the price of imported substitute goods and goods subject to trade. Secondly, it can indirectly increase the price of the final goods through imported input prices. Thirdly, due to exchange rate volatility, the uncertainties regarding foreign currency values can affect domestic price makers and increase domestic prices. Fourthly, it increases the prices by means of wages. Accordingly, the exchange rate changes affect the relative price between domestic and foreign food products (Svensson, 2000). This is particularly important for imported products, where the consumer can pay more for imported products if the rate of exchange decreases.

For the UK, the sterling pound (GBP) value follows a free-floating regime and is solely determined by market forces of demand and supply of foreign and domestic currency, and where government intervention is totally inexistent (Bootle and Mills, 2016). The inflation rate can have a major impact on

the value of the country's currency and the rates of foreign exchange it has with the foreign currencies. However, inflation is only one factor among many that combine to influence a country's exchange rate. Therefore, the relationship between exchange rate and inflation is very important for the study of the food market. Exchange rate variations can significantly affect prices (Svensson, 2000; Dornbusch, 1976). When the exchange rate, defined as the rate of change between two national currencies, increases, this will induce an increase in national prices. When the exchange rate decreases, the domestic currency appreciates, and prices are expected to fall at the general level. Accordingly, the variation of exchange rates can involve a change in the production costs regarding both imports and exports of food products. Such a correlation puts forward the relationship between the exchange rate and inflation.

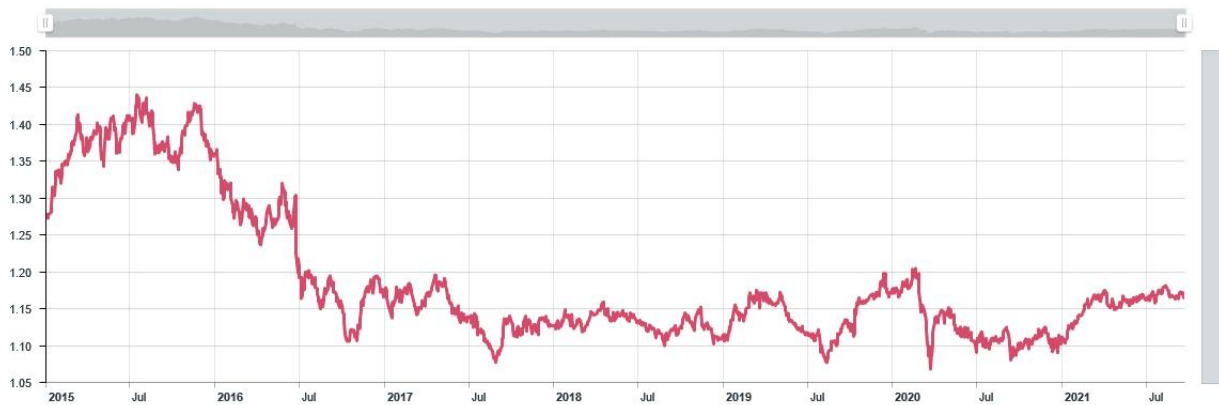


Figure 2: The Trends of Exchange Rate GBP-Euro between 2015 and 2021

Source: Bank of England, August 2021

Figure 2 shows that at the start of 2021, the GBP was approximately 15% weaker relative to the Euro than it was on the eve of the referendum on the UK's membership of the EU in June 2016. Sterling was also 20% weaker than it was when the EU Referendum Act received Royal Assent in December 2015. Over the last five years, Brexit has been one of the key factors influencing exchange rate volatility and the pound's value against other leading currencies. The effect of Brexit was particularly evident immediately after the referendum result, as sterling experienced its largest fall within a single day in 30 years. There were two further substantial and sustained falls in 2017 and 2019, bringing the value of sterling to new lows against the Euro and the dollar in August 2019.

This largely happened because expectations of increased trade frictions between the UK and its largest trade partner, as well as increased uncertainty and persistent political instability linked to the post-Brexit negotiations, have led financial institutions to sell the pound. Therefore, the value of the GBP was driven down relative to other currencies. The deterioration of GBP since the Brexit vote is, to an extent, an indication that the vote caused market participants to take a more negative perspective on the strength of the UK economy. However, the changing value of the currency has different effects on different parts of the economy. A weaker GBP will raise the price of imports, which feeds through into higher prices for consumers – particularly for those products (such as many types of food) that are sourced from

abroad and which UK businesses would struggle to produce. It has been estimated that the depreciation of sterling since the Brexit vote has increased inflation by 1.7 percentage points (Breinlich et al., 2020). In addition, sterling's depreciation will raise the cost of any inputs to the production process that are either imported or priced globally in USD. This will raise costs for businesses that use inputs that at some point have come from overseas. Conversely, and all else being equal, the depreciation of sterling boosts businesses that sell their products abroad. This is because a UK-produced good or service will become cheaper to foreign buyers. Many politicians and commentators have emphasised this benefit. However, while the depreciation of sterling in the early 1990s (when the UK government stopped trying to defend sterling's peg to the Deutschmark) provided a significant boost to the economy, more recent experience suggests that currency depreciations have done little to help exporters.

As soon as the result of the UK referendum on EU membership became clear, GBP depreciated sharply. After the vote, UK inflation increased noticeably. How much of the rise in inflation was due to the referendum? The Brexit referendum result amounts to a permanent annual cost of £404 for each UK household (Breinlich et al., 2020). This increase in living costs arose due to the increase in the prices of imported goods where households who buy on average 30% of imported goods have faced bigger price rises than households that mostly purchase products produced in the UK (Levell et al., 2017). There is slight variation across the income distribution, with all income groups hitting fairly evenly. However, there is regional variation. Northern Ireland suffered the most significant rise in living costs due to its exposure to trade with the Republic of Ireland, while London suffered the least due to the high fraction of non-tradable services in the typical London consumer basket.

Brexit is forecast to have substantive economic costs for the UK. Most forecasts analyse long-term effects based on the assumption that economic barriers with the continent will increase once Brexit occurs (Aichele and Felbermayr, 2015; Dhingra et al., 2017). However, it will be many years before the long-term economic consequences of Brexit become clear. However, this does not mean it is soon for the Brexit vote to be affecting the UK economy. Economic behaviour depends upon both the current state of the world and expectations about the future. The referendum increased uncertainty and led to a decline in the likely future openness of the UK to trade, investment and immigration with the EU. Consequently, financial markets downgraded their expectations about the UK's economic future, leading to a decline in sterling. Through this channel, concerns about the long-term effects of Brexit have already impacted the UK economy.

1.2. Trade costs and inflation

The new trade agreement between the UK and the EU needs to be addressed with the greatest care. The negotiations are not achieved and will remain until 2025, knowing that the choice of the agreement adopted inevitably conditions the economic and financial activity of the two zones because of the degree

of proximity in terms of exports, imports, labour mobility and foreign direct investment abroad. From a macroeconomic perspective, Brexit and the negotiation phase of the agreement have greatly increased economic, political and institutional uncertainty, which is causing negative macroeconomic repercussions, especially for the trade between both partners (Tetlow and Stojanovic, 2018). Persistent confusion in financial markets and rising risk aversion could have serious macroeconomic repercussions, including through trade difficulties. Leaving the EU has important implications for the UK economy and most European countries through several transmission channels: trade in goods and services, investment, immigration, productivity, and tax costs.

For the United Kingdom, the trade channel is obviously impacted due to the access to the European single market. Imported and exported goods and services all over the EU are now the subjects of restrictions and even tariffs. Therefore, trade links between the UK and the EU have weakened and disrupted most sectors, leading to a trade decline, particularly regarding the food market (Garnett et al., 2020). Moreover, foreign direct investment, particularly from Europe, will decline as EU market access restrictions may lower the returns to investment in the UK, and the costs for the UK economy are due to higher tariffs on trade with the European Union; the loss of access to the EU Market and the negative effect of restrictions in terms of visas, stay permits and agreements (Jafari and Britz, 2020). The benefits could ultimately be avoiding EU regulations and the ability to conclude new agreements with other countries (Tetlow and Stojanovic, 2018). However, this last benefit is not very relevant for the food market because of the particularities of food products. Importing vegetables and fruits from far countries such as American or Asian countries is likely to increase their transportation cost and reduce their durability. In both cases, the British consumer could face a rise of prices. Moreover, Brexit is also likely to increase non-tariff border barriers (customs procedures and rules of origin). These barriers would be particularly costly for companies with international supply chains. As there will be regulatory differences between the UK and the EU after Brexit, exporters will also face additional costs to comply with EU product standards.

1.3. Inflation and Real wages

Since the financial crisis of 2007, real wages and living standards in the UK have been deeply affected. Real wages have fallen by almost 5% since 2008, while real family incomes for families of working age have just about recovered to pre-crisis levels. Nevertheless, living standards have also been affected in the aftermath of the financial crash due to the sterling pound depreciation, the price rise of imported goods price of imported goods (Bootle, 2016). Between 2014 and 2017, inflation has fallen and wage growth picked up, leading to positive growth of real wages. However, this is being overturned by the depreciation of the Pound post-Brexit referendum and continued low growth in nominal wages (Browne and Hood, 2016).

Voting for Brexit led to an increase in inflation. Higher inflation will lead to a decline in living standards if it causes a reduction in real incomes – that is, a reduction in the ratio of nominal incomes to the price level. By contrast, living standards would be unaffected if the referendum caused incomes to grow by the same amount as prices. Therefore, to determine the impact of the Brexit vote on living standards, we need to know whether the average household. We focus on wage income, which makes up 71% of gross income wage and inflation rate in the UK between 2006 and 2021:

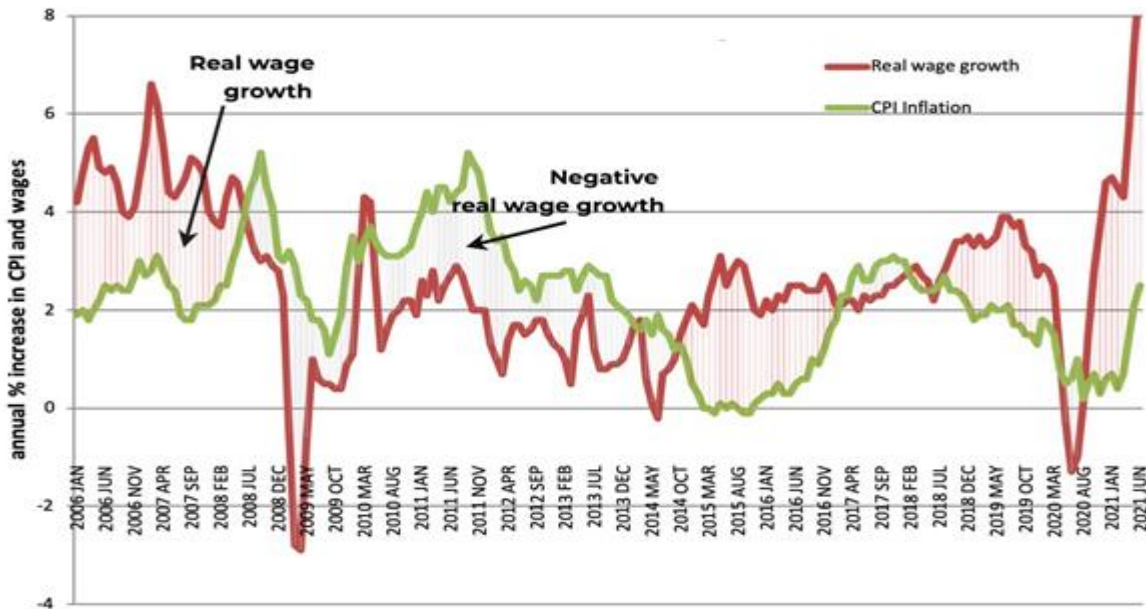


Figure 3: The Evolution of Real the referendum Affected Nominal Income Growth. Source: ONS, 2021

Figure 3 shows growth in both real wages and inflation after the Brexit vote. But clearly after August 2020, the growth of real wage has been higher than the inflation path. Such difference can be explained by the decisions of the British government to increase the minimum wages. ONS (2021) reports that much of the wage growth observed in the UK is due to the changing composition of employment, with lower wage workers more likely to have become unemployed during the pandemic. In particular, the low-wage workers have benefited from minimum wage increases as they are more sensitive to the impact of inflation (Costa and Machin, 2017). The increase in inflation due to the Brexit depreciation has not been accompanied by faster income growth. Higher inflation after the referendum led to a decline in real wage growth. After the referendum, real wages dropped from a pre-referendum annual growth rate of 1.1% to less than 0.1%. Costa et al. (2019) show that real wage stagnation has involved a loss of purchasing power for the bottom of the wage distribution. In particular, low paid workers spend more on food than the UK average and are therefore more sensitive to price changes (Kidd, 2020).

2. Covid-19 Pandemic and Food Inflation

As the Covid-19 pandemic expands, the UK economy is experiencing a shock regarding both supply and demand. The pandemic particularly affects the food market because of the restrictions imposed on both consumption and production. There are downward demand pressures on the UK economy, such as the fall of consumption because of the lockdown, but also upward supply pressures, such as the closure of factories and the general reduction in production. The persistent impact of Covid-19 may affect the consumer price of food. Moreover, we are likely to observe consumer and producer prices moving in opposite directions, again in contrast to previous crises. While some of the factors will impart short-run impacts on food prices, others will be more long-lasting, framing policy responses towards agriculture and the food sector alongside other substantive issues including climate change and, more specifically to our focus on the UK, Brexit.

The impact of the Covid-19 pandemic on economic activity is obviously negative, and the doubts revolve around the magnitude and duration of the impact for UK. However, its effect on inflation raises more questions. There are downward tensions linked to the consumption itself, but also upward tensions associated to the supply side with the partial or total closure of factories and the involved fall in production. To better understand this impact, we must distinguish between the short-term effects, medium-term effects and long-term effects.

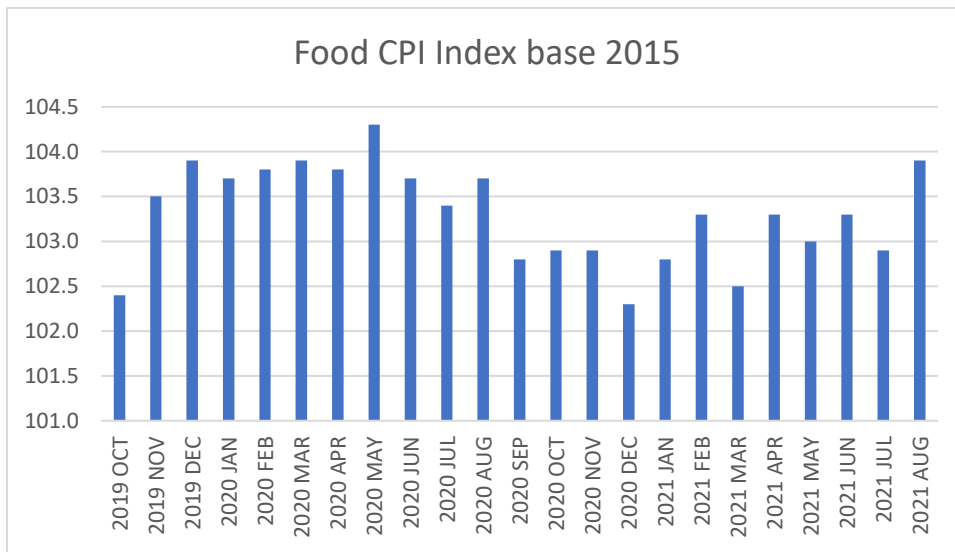


Figure 4: The Food Consumer Price Index (CPI) in the UK between 2019 and 2021
Source: ONS, 2021

Figure 4 shows that between February and May 2021, the short-term impact of the pandemic can be seen regarding the evolution of the consumer price index and, therefore, regarding inflation. Before the lockdown, there was a slight decline in food inflation overall. Inflation continued to decline rapidly, falling from 1.2% in February 2020 to 0.1% in May 2020 as lockdown measures were enforced in the UK and most European countries. The fall can be seen both in energy prices and in the set of goods

that determine core inflation. In particular, inflation fell both among industrial goods and in the services sector.

In contrast, non-processed food prices have increased rapidly due to shortages and disruption in logistical and production chains. These opposing movements illustrate the influences of both supply and demand in the determination of food inflation. The rise in inflation in unprocessed food such as fruit and vegetables has been abnormally high, with an inflation rate exceeding 3% as a result of panic buying and stockpiling and a fall of production and supply chains during the rise of the pandemic. However, the drop in energy prices reflects a collapse in demand for energy sources as a result of the shutdown of several economic sectors, such as transportation, restaurants, pubs, unnecessary shopping, schools, and leisure businesses.

In the medium term, inflation has followed a more uncertain pattern, and there is a possibility that the disruptions to production and supply chains caused by the pandemic outbreak will engender rising pressure on prices. However, the extent of the decline in demand is such that inflation is likely to remain low over the coming months. In other words, the difference between the evolution of demand and supply in the various markets will continue to generate deflationary pressure. For instance, the inflation rate was reached 3.7% in August 2020 before decreasing to 2.3% in December 2020 and increasing again at the beginning of 2021. Such a dynamic can be explained by the stimulus package voted by the British government in order to support both consumption and production, but also by the disruption linked to the supply chain as well as the shortage in the workforce for the agricultural and farming sector.

Finally, the coronavirus crisis could affect inflation in the longer term, as it could lead to structural changes in the UK economy. This can be seen through the expected food inflation trends for 2022 and 2023, where new voices have alerted about the inflationary risks. Goodhart and Pradhan (2020) argue that deflationary pressures combined with low-interest rates have been supported by a longer-term demographic cycle that is close to turning. The five-year inflation projection implies a level in June between 3 and 3.5%. The Bank of England, in their latest Monetary Policy Report, conclude that most measures of inflation expectations have been broadly stable and that inflation expectations remain well-anchored (Bank of England, 2021).

Several explanations can be formulated regarding these expectations. Firstly, the expansion of money supply through the massive stimulus packages has topped records levels since the financial crisis of 2007-2008. The reason for this expansionary monetary policy is to stimulate the demand, especially in sectors hard-hit by social distancing, improve the UK's internal market and infrastructure and compensate those made unemployed to find work. In particular, the food economy is targeted by such measures as it has been deeply affected by the pandemic and involved restrictions (Congreve et al., 2021). Furthermore, as more people are vaccinated and the economy begins to reopen, there is a strong

pent-up demand for goods and services from consumers as generous government support for both consumption and production has allowed many to build up their savings and reduce their debts. As unemployment begins to fall and consumer confidence recovers, this pent-up demand should boost spending and feed into higher inflation. However, the pandemic has also destroyed capacity in some sectors of the economy, and thus a strong and sudden rise in demand from a reopening economy could also lead to higher input prices and higher costs linked to the new rules of hygiene and social distancing. In addition, several food businesses have engaged new investments to switch into online selling systems where such additional expenditures are likely to increase prices.

To resume, the coronavirus crisis could have deep effects on inflation and lead to structural changes in the UK economy and consumers and producers' behaviours. This pandemic has revealed the fragility of global supply chains, which are highly vulnerable to major shocks, and this could lead companies to rethink the geographical distribution of their production structures by privileging more local circuits and food security. Furthermore, the local production of strategic goods, such as medicines and food, is likely to be encouraged as a matter of sovereignty. This force can reverse the disinflationary effect of globalisation the western countries have faced during the recent decades. Finally, the Covid-19 pandemic could also have a lasting impact on the behaviour of consumers and businesses, which may become more cautious in their consumption and investment patterns and can give birth to new practices of consumption. An incentivising approach aiming at stimulating consumer spending and business investment – is an effective tool to reduce the effect of inflation and to reduce the risks of a recession. The most effective stimulus policies can be introduced to encourage people to spend money now, such as increasing benefit payments to the lowest income families and temporarily cutting taxes on consumption and production. Nevertheless, the issues of supply chains and shortage require a more structural approach to trade with the European Union as well as a suitable immigration policy that targets the needs of the economy and its most vital sectors.

Conclusion

This paper has reviewed the observed effects of both Brexit and the Covid-19 pandemic on food inflation in Britain. Brexit has changed UK firms' economic conditions, and the pandemic has slowed down most key sectors of the economy. UK trade fell dramatically in 2020 and 2021. UK producers and consumers are experiencing issues in trading with the EU, such as delays at the border and new expenses and restrictions. This has translated into rising costs, higher prices, and reduced competitiveness or shortage risks.

The Brexit vote has also involved changes in terms of the exchange rate, trade relations and real wages. The tensions between supply and demand can explain the observed increasing price volatility. The Covid-19 pandemic is the first world crisis where the different economic engines have been reduced or

stopped. Such a situation has involved disruptions for both supply and demand, creating additional charges for producers and consumers. For the producers, the supply chains have suffered from lockdowns and the different restrictions imposed in the UK.

Moreover, the cost for the economy has been observed in terms of reduced growth and inflation. In particular, the food sector has been particularly affected where the inflationary pressure is a major threat for the UK economy. The next months are still uncertain as the pandemic is still rising and the risks of further prices hike could persist at least over the medium term. This situation calls for efficient policy measures in terms of support to both supply and demand. Therefore, the UK government and Bank of England should work to address the long-term and structural factors that can pin inflation consistently high with the risks of supply and demand shocks such as new Covid-19 variants or economic shortages. Therefore, the role of monetary and budget policies can be two-fold. Firstly, the monetary policy can help producers and consumers avoid liquidity problems by enhancing the borrowing capacities of the economy. Secondly, the fiscal policy will help tackle the short and medium terms disruption and shortages, especially as a compensation mechanism to the inflationary pressures for consumers. However, it is important to assess the effectiveness of both fiscal and monetary instruments in order to prevent the risks of excessive budget deficits or the variability of interest and exchange rates. Accordingly, it is clear that the durable consequences of both Brexit and the pandemic cannot be accurately predicted now. The future will depend not only on the severity of Covid-19 or the Brexit deal but also on the consequences on unemployment, inequalities and the extent of the stimulus policies.

References

- Agénor, P. R., and Montiel, P. J. (2015). *Development Macroeconomics*. Princeton University Press.
- Agriculture in the United Kingdom (2020). Retrieved at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1034693/AUK-2020-19nov21.pdf
- Aichele, R. and G. Felbermayr (2015). "Costs and Benefits of a United Kingdom Exit from the European Union," *Guetersloh: Bertelsmann Stiftung*. Retrieved at:
http://aei.pitt.edu/74082/1/Costs_and_benefits.pdf
- Bank of England, (2021). Monetary Policy Report, August 2021, retrieved at:
<https://www.bankofengland.co.uk/-/media/boe/files/monetary-policy-report/2021/august/monetary-policy-report-august-2021.pdf>
- Barons, M. J., and Aspinall, W. (2020). Anticipated impacts of Brexit scenarios on UK food prices and implications for policies on poverty and health: a structured expert judgement approach. *BMJ open*, vol 10(3), pp 32-376.
- Bootle, R. P., and Mills, J. (2016). *The Real Sterling Crisis*. London: Civitas, Retrieved at:
<http://www.civitas.org.uk/content/files/The-Real-Sterling-Crisis.pdf>

- Breinlich, H, Leromain, E., Novy, D. and Sampson, T. (2020). The Brexit vote and inflation: updated evidence, voxEU column, retrieved at: <https://voxeu.org/article/consequences-brexit-uk-inflation-and-living-standards-first-evidence>
- Breinlich, H., Leromain, E., Novy, D. and Sampson, T. (2021), The Brexit vote, Inflation and UK Living standards. *International Economic Review* <https://doi.org/10.1111/iere.12541>.
- British Retail Consortium. (2020). Fair deal for Consumers: Why Tariffs are bad news for UK consumers, July 2020. Retrieved at: https://brc.org.uk/media/675160/fair-deal-for-consumers_july2020_final_v2.pdf
- Broadbent, B. (2017). Brexit and Interest Rates. London: Bank of England. Retrieved at: <https://www.bankofengland.co.uk/-/media/boe/files/speech/2017/brexit-and-interest-rates-speech-by-ben-broadbent.pdf>
- Browne, J., and Hood, A. (2016). *Living standards, poverty and inequality in the UK: 2015-2016 to 2020-2021*, NR114, IFS Report. Retrieved at: <https://www.econstor.eu/bitstream/10419/171978/1/851708609.pdf>
- Chang, WW. (2018). Brexit and its economic consequences. *World Economy*. Vol 41, pp 2349-2373. <https://doi.org/10.1111/twec.12685>
- Congreve, E., Haldane, S., and Kumwenda, M. (2021). The policy response to Coronavirus: theory and application. *Fraser of Allander Economic Commentary*, vol 45(1). Retrieved at https://strathprints.strath.ac.uk/75834/1/FEC_45_1_2021_CongreveE_HaldaneS_KumwendaM.pdf
- Costa, R., and Machin, S. (2017). Real wages and living standards in the UK. *CEP Election Analysis*, 36. Retrieved at: <https://cep.lse.ac.uk/pubs/download/EA036.pdf>
- Costa, R., Dhingra, S. and Machin, S. (2019), trade and worker deskilling, NBER Working Paper N 25919 <http://www.nber.org/papers/w25919>.
- Dhingra, S., Machin, S., and Overman, H. (2017). Local economic effects of Brexit. *National Institute Economic Review*, 242, R24-R36.
- Dornbusch, R. (1987). Exchange Rates and Prices. *The American Economic Review*, 77(1), pp 93–106.
- Dornbusch, R. (1976). Expectations and exchange rate Dynamics. *The Journal of Political Economy*, vol 84(6), pp 1161-1176.
- Eley, J. (2021). UK retail trade signals prospect of higher food prices. Financial Times. August, 29th, 2021. <https://www.ft.com/content/ed511b7d-229a-494f-82d0-e86ef69af5b3>
- European Commission (2020). EU agriculture and the withdrawal of the United Kingdom from the EU. (n.d.). European Commission - European Commission. Retrieved 23 September 2021, from https://ec.europa.eu/info/food-farming-fisheries/farming/eu-agriculture-and-brexit_en
- European Commission (2019), “EU agriculture and the withdrawal of the United Kingdom from the EU”, available at: https://ec.europa.eu/info/food-farming-fisheries/farming/eu-agriculture-and-brexit_en
- Food and drink federation of the United Kingdom. (2021). Exports snapshot: H1 2021. Retrieved at: <https://www.fdf.org.uk/fdf/resources/publications/exports-reports/exports-h1-2021/>
- Garnett, P., Doherty, B. and Heron, T. (2020). Vulnerability of the United Kingdom’s food supply chains exposed by COVID-19. *Nature Food*, vol 1, pp 315–318.

- Goodhart, C., and Pradhan, M. (2020). *The great demographic reversal: Ageing societies, waning inequality, and an inflation revival*. Springer Nature.
- Hongladarom, S. (2015). *Food Security and Food Safety for the Twenty-first Century*. Springer.
- Jafari, Y., and Britz, W. (2020). Brexit: an economy-wide impact assessment on trade, immigration, and foreign direct investment. *Empirica*, vol 47, pp 17–52.
- Kidd, C. (2020). Family spending in the UK: April 2018 to March 2019. Office of National Statistics. Retrieved at:
<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/bulletins/familyspendingintheuk/april2019tomarch2020>
- Lang, T., and McKee, M. (2018). Brexit poses serious threats to the availability and affordability of food in the United Kingdom. *Journal of public health*, vol 40(4), pp 608-610.
- Levell, P., O’Connell, M. and Smith, K. (2017). "The exposure of households’ food spending to tariff changes and exchange rate movements and exchange rate movements." *IFS Briefing Note BN213*.
- Office for National Statistics, ONS (2021). Average weekly earnings in Great Britain: October 2021. Retrieved at:
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/averageweeklyearningsingreatbritain/october2021>
- Schanbacher, W. D. (2010). *The politics of food: the global conflict between food security and food sovereignty*. ABC-CLIO.
- Springmann, M., and Freund, F. (2018). *The impacts of Brexit on agricultural trade, food consumption, and diet-related mortality in the UK*. Oxford Martin School Working Paper. Retrieved at:
https://www.oxfordmartin.ox.ac.uk/downloads/academic/201810_Springmann_Freund_Brexit_WP.pdf
- Svensson, L. E. (2000). Open-economy inflation targeting. *Journal of international economics*, vol 50(1), pp 155-183.
- Tang, H., McEvoy, A., and Zhang, C. (2019). How the inflation targeting system can deal with the economic effects of Brexit. *Economic and Political Studies*, vol 7(1), pp 1-34.
- Tetlow, G., and Stojanovic, A. (2018). Understanding the economic impact of Brexit. *Institute for government*, 2-76. Retrieved at:
[https://www.instituteforgovernment.org.uk/sites/default/files/publications/2018%20IfG%20%20Brexit%20impact%20\[final%20for%20web\].pdf](https://www.instituteforgovernment.org.uk/sites/default/files/publications/2018%20IfG%20%20Brexit%20impact%20[final%20for%20web].pdf)