Cost to the UK Economy of the Russian Invasion of Ukraine – a scenario analysis

A Cebr report

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1 Introduction and summary

1.1. Introduction

This is a short note trying to quantify the main impacts of the Russian invasion of Ukraine on the UK economy taking account of the knock-on economic impacts including sanctions. Clearly, to make such an assessment at this early stage, one has to make assumptions which in a fast-moving situation will almost certainly have to be updated. As such the following figures are a scenario, illustrating the potential economic impact on the assumption that the initial impact in commodity markets accurately reflects the medium term impact and that fiscal policy does not change to absorb some of the impacts.

This is not meant to be even a worst case set of assumptions. At time of writing most spot commodity markets are actually above the prices assumed and the threat of an oil embargo by Russia, with the potential to raise the price of oil possibly to $300, is not addressed in this report.

The note looks at UK trade with Russia and Ukraine; describes the key assumptions made about sanctions both internationally and from the UK; describes the main assumptions made about the Russian and Ukrainian economies and those about energy and commodity prices in the light of the new situation. The report concludes with estimates of the cumulative impact on the UK economy.

1.2. Summary

Russia's invasion of Ukraine is likely to have a large effect on the UK economy. The scale of this effect is likely to be in the mind of Chancellor of the Exchequer Rishi Sunak when he releases his Spring Forecast Statement on 23 March 2022.

Based on our scenario analysis which assumes a high transmission of sanctions to global commodity prices and UK inflation, we estimate that GDP growth this year will be halved – down from a previously forecast 4.2% in 2022 to 1.9%. And growth in 2023 is reduced from 2.0% to 0.0%. The reduction in real GDP in 2022 is £51.4 billion; that in 2023 is £42.5 billion. Cumulatively this is a reduction in GDP of more than £90 billion.

The main channels for these impacts are the rising cost of living, a reduction in consumption and reduced exports because of sanctions on Russia.

The effect of higher commodity prices reduces the level of disposable income by 1.9% in 2022 and by 2.1% in 2023. As a result we estimate that disposable incomes will fall in 2022 by 4.8% with a further fall of 1.4% in 2023. The fall in 2022 is the largest since records started in 1955[1]. The forecast fall in living standards this year is an estimated £71 billion – which amounts to £2,553 per household. The part of it due to invasion of Ukraine is about

1 The fall in consumption in the UK during WW2 was 17.3% between 1938 and 1943 according to calculations based on research by S.N. Broadberry and W.P. Howlett in https://warwick.ac.uk/fac/soc/economics/seminars/seminars/conferences/conf/broadberry.pdf. The fall in consumption is a better measure of wartime austerity than real disposable incomes since part of the fall was through forced savings through lack of availability of goods.

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half - £35 billion (£1,259 per household) - but there is a further reduction from this source in 2023 of £29 billion (£1,043 per household).

The combined effects of sanctions and slower world trade growth reduce export growth in 2022 by 2.1% and by 0.5% in 2023. Export growth was previously predicted to be 3.0% this year and 0.4% next so these combined impacts more or less wipe out the predicted export growth.

Inflation by Q4 2022 is likely to be 4.1 percentage points higher than we previously forecast.

Our earlier forecasts had quarterly CPI inflation peaking at 7.3% in Q2 2022 and then falling back quite sharply as the inflationary momentum disappeared. We now expect quarterly CPI inflation to hit 8.7% in Q2 and to remain above 7% until Q1 2023.

2 Trade with Russia and Ukraine

This section describes the current state of UK trade with Russia and Ukraine and the impact of the conflict and the relevant sanctions.

2.1 UK trade with Russia

UK trade with Russia has fallen in real terms since sanctions were last imposed in 2014. Between 2014 and 2015 exports to Russia fell by a quarter in cash terms and have remained depressed. Imports from Russia fell very sharply in 2015 and 2016 but subsequently recovered to pre-2014 levels in cash terms, though much of this may reflect higher prices for commodities and energy.

Table 1 Value of UK trade with Russia, £ billion

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Exports	6.4	6.5	6.5	6.0	4.5	4.4	5.0	4.5	4.8	4.1
Imports	9.1	9.6	8.7	8.0	5.7	5.3	6.3	9.0	9.4	9.2

Source: Government Factsheet[2]

The exports are roughly evenly split between goods and services:

The top 5 service types exported from the UK to Russia in the four quarters to the end of Q3 2021 were:

Other Business Services (£450 million or 26.9% of all UK services exported to Russia)

Telecommunications, computer and information services (£277 million or 16.6%)

Financial (£269 million or 16.1%)

Intellectual property (£149 million or 8.9%)

Insurance and Pension (£126 million or 7.5%)

These areas of service trade reflect the strong involvement of various Russian individuals with the City of London.

In addition, there are exports of high-end cars, pharmaceuticals and various types of specialised machinery.

2 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1055049/russia-trade-and-investment-factsheet-2022-02-18.pdf

The largest single category of imports is ‘unspecified goods’, which often means gold or other precious objects. Most of the rest is energy and metals[3].

We have assumed that exports will be cut by 75% and imports by 25%.

2.2 Trade with Ukraine

The UK has signed a political free trade and strategic partnership with Ukraine. But trade levels are low – annual exports are £0.7 billion and imports £0.8 billion.

During the invasion, UK involvement with Ukraine has probably risen with exports of weapons and military assistance although we assume that they have been bought with credit. But the quantities and terms have not yet been disclosed. There is also within the strategic partnership a facility for £1.7 billion from UK Export Finance to purchase UK naval equipment.

We have made the assumption that for the foreseeable future trade with Ukraine remains low.

2.3 Trade with other countries

We have assumed that the uncertainty caused by the invasion will reduce world trade in the short term and we have cut our forecast by 2% in both 2022 and 2023.

[3] Probably not included in these figures and possibly not affected by sanctions is a large amount of trade on the internet where Russian IT experts sell coding to the UK. At a Foreign Office seminar in 2019, a paper from the Oxford Internet Institute estimated from web searches that there might be 750,000 enterprises selling such coding to the UK each year’.

3 Details of sanctions

This section describes the sanctions package and the likely impact on the Russian economy.

The sanctions package is comprised of a variety of measures targeting Russian exports, assets of oligarchs and the banking sector. Germany has announced that Nordstream 2, the gas export pipeline from Russia to Germany, will not be put into operation. Several of the main Russian banks have been excluded from the SWIFT network. The UK has placed sanctions on various named oligarchs.

But rather more important than sanctions are the actions of companies. Russia has become a pariah state and companies are cutting business ties, closing offices, and scrapping investment plans with unprecedented speed.

The scope of financial sanctions announced is unique in modern history with the US' 'maximum pressure' campaign on Iran being the only example coming close to the barrage of measures infliction upon Russia in the past week.

3.1 Impact on the Russian economy

We have modelled the impact of the sanctions based on analysis of other sanctions regimes.

The nearest parallel is Iran: US sanctions on Iran were tightened in late 2018 with a further ratcheting up in 2019, which included freezing the country out of the international financial system. As a consequence, Iran's economy contracted sharply, shrinking by 6.0% in 2018 and a further 6.8% in 2019; inflation shot up from 8% in 2017 to just under 50% in 2020 and still stands around 35% today.

In Russia, the early fall-out from the implementation of financial sanctions could be seen this week with the ruble losing a third of its value against the US dollar and rating agencies downgrading Russian bonds to 'junk' status. The ban on some Russian banks using the SWIFT messaging network, the freeze of Russian central bank assets held abroad and further sanctions on the Russian banking system all have the aim of starving the financial system of access to foreign currency. Taken to their extreme the sanctions could bring about the total collapse of the ruble and the Russian banking system. However, the Russian central bank has likely been instructed to prepare for a wide range of potential Western sanctions. By doubling the bank rate to 20%, imposing a 30% commission on foreign currency purchases by individuals and ordering exporting firms (including Russia's energy giants Gazprom and Rosneft) to sell 80% of their forex revenues on the market to stabilise the currency, the Russian Central Bank has prevented an even more catastrophic devaluation of the ruble thus far.

The latter point is crucial – as long as Russia can still sell its oil and gas to Europe, the US and their allies, it will be impossible to starve the country entirely of hard currency.

Accordingly, Cebr expects that the West will expand sanctions to include at least some Russian energy exports in the not too distant future, despite the high cost this will entail especially for European countries dependent on Russian gas. It remains to be seen what other measures the West can implement to inflict even further economic pain.

However, the example of Iran also shows that despite the concentrated financial might of the Western world, there is no guarantee that sanctions can force the desired change in a country's leadership or behaviour. We estimate that Iran lost just under 20% of potential output in the two years following the imposition of sanctions, taking into account not only the actual GDP contraction but also the forgone growth in GDP over that period. Given the higher resilience assumed for the Russian economy, our latest estimates show a somewhat smaller extent of damage, coming to 14% of lost output over a two-year period compared to a scenario in which Russia did not invade Ukraine[4].

Inflation will likely be rampant, reaching similar levels as seen in Iran. This would wipe out the savings of the Russian middle-class and lead to serious impoverishment for the less well-off. Should the West get serious about weaning itself off of Russian oil and gas completely through a combination of a faster rollout of renewables, reducing overall demand, and greater use of domestic energy sources, the damages to the Russian economy would increase considerably.

3.2 Impact on UK trade with Russia

We assume that most exports to Russia will eventually disappear both as a result of sanctions and of the actions of companies. But these take time to have their full effect and so we assume a drop of only 75% initially.

Imports are often of critical minerals or energy. While alternative sources can be found for some of these, it will be hard to replace them at an early stage. We have therefore only assumed a reduction of 25%, the same scale that took place when action was last taken against Russia.

4 A similar methodology was used in Cebr's report on the cumulative cost of Russian aggression in Crimea and Donbas between 2014 and 2020 commissioned by the Ukrainian Ministry of Finance

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4 Commodity prices

Russia is a major producer of commodities and as a result spot commodity prices have risen sharply.

This section describes our key assumptions about the impact of the invasion on commodity prices. Essentially the scenario assumes that the short term rises in the spot market are fully reflected in the prices paid for the relevant commodities though by the time this report was completed the spot market prices for many commodities have risen further to levels even higher than those assumed in this report.

4.1 Key assumptions

We make the following assumptions:

- The price of oil will average $105 through the rest of 2022 and 2023
- The price of gas will average 400p a therm for the same period
- All metals rise in price by 30% for the rest of this year but falling back during 2023 to their pre-invasion levels
- The price of wheat is 50% higher for the rest of this year and 25% higher next year
- Some sympathetic price rises for other products which might be substitutes, e.g. foods.

5 Economic impact

We have applied the above assumptions to 'shock' Cebr's UK economic model UKMOD to calculate the effect. The forecasts are based on the latest published Cebr UK Forecasts released on March 3 2022.

We have factored in the impact of sanctions, the drop in exports and the impact on commodity prices, which in turn feed into domestic inflation.

We have also adjusted our assumptions on interest rates.

5.1 Impact on GDP

The simulation shows a dramatic impact on GDP. There are two main sources for this – the impact on commodity prices squeezes disposable income and reduces consumption and the impacts of sanctions on Russia and reduced world trade bring down exports.

There are knock-on effects on investment and other economic variables but these are less substantial (although it is likely that there will also be a direct impact of sanctions on Russian investment into the UK).

The simulation reduces GDP by 2.3 percentage points in 2022 and by 1.9 percentage points in 2023. Comparing this to our baseline forecast from 28th February this means that GDP growth would be reduced from a previously forecast 4.2% in 2022 to 1.9%. And growth 2023 would be reduced from 2.0% to 0.0%.

5.2 Impact on disposable incomes and consumption

The effect of higher commodity prices and the resulting inflationary shock reduces the level of disposable income by 1.9% in 2022 and by 2.1% in 2023 compared to our baseline scenario. In year-on-year terms, we estimate that disposable incomes will fall in 2022 by 4.8% with a further fall of 1.4% in 2023. The fall in 2022 is the largest since records started in 1955 and probably has only been exceeded in wartime.

Because high inflation tends to boost savings, the forecast reduction in consumption expenditure levels is higher than this – 2.7% and 2.9% in the respective years. Consumption growth had previously been predicted to be 6.0% in 2022 as part of the post-pandemic recovery. Under the above assumptions, growth is now forecast to be 3.3% in 2022 followed by a contraction of 1.4% in 2023.

5.3 Impact on exports

The combined effects of sanctions and slower world trade growth reduce export growth in 2022 by 2.1 percentage points and by 0.5 percentage points in 2023. Exports were previously predicted to expand at a rate of 3.0% this year and 0.4% next so these combined impacts more or less wipe out the predicted export growth for the next couple of years.

5.4 Impact on inflation

UK inflation was already forecast to reach quite high levels even before the military escalation. But the effects of the invasion are both to raise the peak level of inflation and also keep inflation higher for much longer. Table 2 shows the impact on both CPI and RPI. The biggest impact is late this year and early next as the rises in commodity prices feed into finished goods. It slows a bit thereafter but it is worth remembering that the higher prices are on top of those a year earlier.

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Our base forecasts had quarterly CPI inflation peaking at 7.3% in Q2 2022 and then falling back quite sharply as the inflationary momentum disappeared. We now expect quarterly CPI inflation to hit 8.7% in Q2 and to remain above 7% until Q1 2023.

It is worth noting that these forecasts assume that the impact of the rises in commodity prices are fully reflected in consumer prices. When the wholesale price of gas rose in advance of the setting of the price cap in April 2022, the government intervened to subside the cost of living. It is possible that in the face of such a severe prospective deterioration in the cost of living that the government might intervene again.

Table 2 Differential effect on inflation resulting from the invasion of Ukraine

		CPI	RPI
2022	**Q1**	0.3%	0.3%
2022	**Q2**	1.4%	1.3%
2022	**Q3**	2.5%	2.2%
2022	**Q4**	4.1%	3.7%
2023	**Q1**	4.1%	3.7%
2023	**Q2**	1.8%	1.6%
2023	**Q3**	1.6%	1.5%
2023	**Q4**	1.3%	1.2%
2024	**Q1**	1.2%	1.0%
2024	**Q2**	0.4%	0.4%
2024	**Q3**	0.4%	0.4%
2024	**Q4**	0.4%	0.4%

5.5 Impact on interest rates

In an inflationary environment we had previously expected the Bank Rate to average 1% in 2022, 1.7% in 2023 and reach 2% by 2024.

The Bank of England's Monetary Policy Committee could argue that the higher inflation outlook would justify a tighter stance. But it traditionally does not try to respond to one off shocks and we think that the path of output, with GDP growth falling to zero next year, would not justify additional tightening and in fact we expect that in the new environment there would be less tightening than we had previously calculated.

We now forecast the bank rate to average 0.7% for 2022, 1% for 2023 and 1.25% in 2024.

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