National Institute of Economic and Social Research

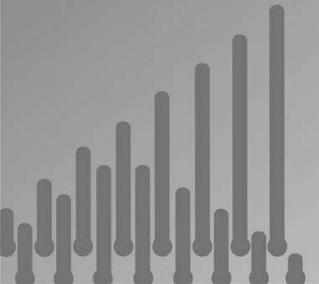# THE OBR'S APPROACH TO FORECASTING THE IMPACT OF EXITING THE EUROPEAN UNION

A Submission to the Treasury Committee of the UK Parliament

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The OBR's Approach to Forecasting the Impact of Exiting the European Union

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Abstract

Written evidence submitted to the [Treasury Committee](#) on 29th November 2017

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Introduction

Economic forecasts are essentially devices for planning as they provide consistent measure on the current state of the economy and its short term prospects and so allow us to understand the need for and likely impacts of policy actions. A forecast typically results from a set of linked statements, otherwise known as a model or set of models, about the evolution of aggregate variables such as consumption, investment, employment, inflation and interest rate, as well as a number of assumptions about key economic variables that are outside the model e.g. oil prices or equity prices. And our knowledge about the present is less than complete so that any forecast also contains a considerable element of both backcast and nowcast. In this and much more the OBR follows standard practice.

All forecasts, or projections as I prefer to call them, are subject to great uncertainty and should be treated by their users (consumers, for example HMT) with caution. They are subject to revision as information about the state of the economy accrues over time. Forecasts are also subject to errors from the basic structure of the model, its estimation errors and the extent to which data itself is noisy. Thus there are errors not only as a result of an unknowable future but also because the estimation of the linked statements, or equations, and their parameters are estimated with some degree of uncertainty. Indeed one way to treat a forecast is that it simply provides us with a structure for decomposing economic news into genuine shocks and choices that reflect behavioural responses to that news.

Furthermore we should understand how we might measure that uncertainty by providing explicit measure on the risks to the forecast in the form of density forecasts. These forecasts are depictions of the probability of many states rather than just the central tendency of the model. At the Institute these risks are constructed by using many simulations of the model to arrive at various possible paths, or futures, which then allows the density to be drawn. I shall return to this point below.

Forecasting the Exit

Many of these problems are brought to the fore when forecasting (or considering) the consequences of a unique event such as exiting the European Union, where forecasters are faced with a number of problems. How to understand the impact of a "unique" event on the economy is perhaps the most obvious. No nation has previously left the EU, so can we know the consequences? But we might wish understand what specific events exit might imply e.g. a compression in trade with the European Union or an increase in uncertainty or a fall in the exchange rate and we might actually have a good understanding of how such events might be responded to by households, who may face higher prices for their consumption basket, and for firms who may have to buy more expensive domestic labour, and by monetary and fiscal policy makers.

And in trying to understand the impact forecasters have to weave a narrative that sets out a view of what leaving the European Union might involve, when that exit might occur and which are the safest assumptions to adopt about behavioural responses. For example, is it reasonable to assume that firms will face uncertainty and that this will lead to a delay in investment? And when considering the impact on trade that any exit from the EU may bring about is it reasonable or not to assume that any compression in trade will negatively affect productivity.

Forecasters tend to deal with such complexities by splitting the central case with the risks within the context of their density function. This density function is the set of outcomes multiplied by their likelihood. The most likely scenarios lie at the central tendency and the less likely but quite possible scenarios near the tails. Consumers of forecasts tend to concentrate their interpretation on the former and use that to inform their responses to forecasts. But most producers of forecasts, will articulate the risks to their forecasts and also discuss the skew of risks i.e. whether worse outcomes are more likely than better outcomes. One mistake that can be made is to confuse the central tendency with the risk. And so it is often better to place the possible but unlikely in the risk part of the forecast.

The possibility of multiple outcomes can though make it hard for the policymaker, as consumer, to know what to do with a forecast. Prior to the referendum the Institute produced two cases for the UK economy: one in case of a Leave vote and one in case of Remain. Given that both paths were more or less independent, it made sense to trace the consequences as we saw them for the UK economy in each scenario separately because after the vote we would go in one particular direction not both. Subsequently the economy has broadly followed the path we envisaged under a Leave vote but now in constructing our revised views we have to deal with the type and speed of exit, which is still not completely clear, as well as ongoing news on global developments.

A forecaster might regularly have to aggregate across several unlikely scenarios and produce a central tendency from those scenarios. If the scenarios are sufficiently different then the central tendency may itself be quite unlikely but this path may still provide a useful guide for policymakers. This is because the central tendency of a number of possibilities, if used as the intermediate target for policy, will tend to be the path that minimises the variance of movements in policy instruments when the true state of nature is eventually revealed. Under many circumstances we may not wish to have significant variance in policy as a result of economic developments so this path may, even though it is imaginary, still be helpful for framing policy.

The OBR's assumptions

In constructing their forecast of the impact of exiting the EU, the OBR have made several key assumptions:

- that the UK will leave the EU on April 2019;

- the rate of import and export growth slows for next 10 years;

- the UK adopts a somewhat tighter migration regime;

- that there is some depression in investment;

- but there is no further impact on productivity growth from lower investment and FDI;

- that fiscal transfers under the EU budget will continue until 2018-19 and that beyond 2019-20 "any reduction in expenditure transfers to the EU would be recycled fully into extra domestic spending".

The OBR have to wrestle with a number of uncertainties and chosen a sensible middle path; that the UK will leave two years after Article 50 is triggered and that as a result trade with and migration from the EU will stutter somewhat for a prolonged period and that uncertainty will delay investment is a standard result in economics. The question is whether all these assumptions might generate further falls in productivity growth. Such a possibility is certainly a risk because much of the economic literature suggests a strong link between trade and productivity, but given that productivity has been hard to explain whilst in the EU, it might be hard to take a view on its central tendency once the UK has exited.

And at the same time the OBR have come to a view alongside a number of other macroeconomic institutes, including NIESR, the IMF and the OECD, that aspects of the productivity slowdown may be more persistent than we had originally thought. This revision downwards has implied a lower path for economic growth, limited growth in real incomes, and the appearance of supply-side constraints. As a central case this choice seems quite appropriate and it implies choosing a prudent fiscal path. Accordingly, we see risks on both the upside and downside from these assumptions. The uncertainty around Brexit presents the most important downside near term risk to the economy, particularly in the event of an exit involving a sudden stop, while the judgments on productivity provide risks on the upside from a return to previous trends, as well as the prospects for a sustained world recovery.

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29TH NOVEMBER 2017