'Nowcasting' the Scottish economy

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Introduction and overview

In 1956, when he was Chancellor of the Exchequer, Harold Wilson observed that: "…some of our [economic] statistics are too late to be as useful as they ought to be. We are always, as it were, looking up a train in last year's Bradshaw [timetable]". In some respects little has changed, the timeliness of official statistics of economic performance continues to be a concern with initial estimates of key macroeconomic variables (e.g. GDP, or the equivalent at the subnational level in the UK, GVA) being released long after the end of quarter they refer to. This delay has fostered an interest in providing short term forecasts or even 'nowcasts': forecasts of the current state of economy. Nowcasting was well defined in a recent *Commentary* (Volume 37 No 2) article by Andrew Ross as the attempt to "provide real time assessment of current activity i.e. to nowcast rather than forecast[1]" or as Hal Varian, Chief Economist at Google puts it, nowcasting is about 'predicting the present'[2].

While producing timely economic indicators is a difficulty at the UK level, it is more of a problem for the regions and nations of the UK. Though Scotland is particularly well served in terms of the production of economic data within the UK, even here the initial estimate of Scottish GVA for the second quarter of 2014 was not released until 15 October, 2014 (and this initial estimate is liable to be revised in upcoming months). Thus, policymakers in 2014Q2 did not know the *current* value of GVA when making decisions and would not know what it actually was until over three months after the end of the quarter.

Given these prolonged delays in the release of data, nowcasting is of particular interest at the sub-national level. However, producing nowcasts poses particular challenges, mostly related to the timeliness of predictors and the availability of data. One additional dimension, which we are at the early stages of exploring, is the importance of developments in neighboring regions.

This short note is intended to highlight some work currently being undertaken by a group within the Department of Economics at the University of Strathclyde, including members of the Fraser of Allander Institute, whose aim is to produce nowcasts of the Scottish economy. While this research is very much a work in progress, we are keen to highlight the potential of such approaches to improve our understanding of the *current* performance of the Scottish economy.

Methods

Nowcasting methods have been utilized in many countries. Perhaps the best-marketed example of this is found on the website: http://now-casting.com, which was established by two academic leaders in the field of nowcasting: Domenico Giannone and Lucrezia Reichlin. Several excellent surveys of nowcasting (or closely related topics such as short-term forecasting) have recently appeared. These include

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[1] https://pure.strath.ac.uk/portal/files/30683812/FEC_37_2_2013_RossA2.pdf
[2] https://www.thinkwithgoogle.com/articles/predicting-the-present.html

Banbura, Giannone and Reichlin (2011)[3], Banbura, Giannone, Modugno and Reichlin (2013)[4], Camacho, Perez-Quiros and Poncela (2013)[5] and Foroni and Marcellino (2013)[6].

Methods of nowcasting involve the use of different econometric models (for instance those developed by Ghysels et al[7] which we also use and are known as the MIDAS - Mixed Data Sampling). An important issue is that the variable being nowcast (GVA) is calculated on a quarterly basis, while many variables we use to inform our nowcasts (e.g. business and consumer surveys, employment statistics) are calculated on a monthly basis. This mismatch between the frequencies of variables poses econometric issues that must be addressed.

The nowcasts for Scotland that we aim to produce will rely upon a range of predictors. These will cover a range of factors, which we feel, are likely to be important in predicting the evolution of the Scottish economy. Examples include: trade data (e.g. on exports from Scotland), retail sales index, index of services, and employment data. A full list of variables will be included in the working paper.

This short note is not the place to discuss issues of methodology in more detail. However, a website/blog (http://nowcastingscotland.com/) has been established for this project which will go live in the near future. There will be a working paper available on this site which will provide comprehensive details on the data and methodology that will be used in this project.

Release of nowcasts

While this project is only at the pilot stage, we intend to release some experimental results in the coming months and refine both our methodology and the data used. Readers should expect experimental monthly nowcasts to appear on the blog, and in due course we will provide a transparent evaluation of the performance of this type of model on the blog. If things go well, our goal is to provide regularly updated (and non-experimental) nowcasts on the blog site and add nowcasts to the set of forecasts produced in the Fraser of Allander Institute Economic Commentary.

Concluding thoughts

Given the significant lag between the end of a quarter and the release of Scottish GVA estimates, there are considerable advantages to be gained from improvements in short term forecasting or nowcasting. In addition, with the planned devolution of further economic powers to the Scottish Parliament, a better understanding of the nature and evolution of the Scottish economy is likely to be particularly valuable. In the coming months we will begin to release estimates of Scottish GVA using our nowcasting model, and we hope that this work will be of interest and use to readers of the Fraser Economic Commentary.

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[4] Banbura, M., Giannone, D., Modugno, M. and Reichlin, L. (2013). Nowcasting and the real time data flow, chapter 4 in the Handbook of Economic Forecasting, Vol 2A, edited by G.Elliott and A. Timmermann. Elsevier-North Holland:Amsterdam.
[5] Camacho, M., Perez-Quiros, G. and Poncela, P., (2013). Short-term forecasting for empirical economists: A survey of the recently proposed algorithms, Bank of Spain Working Paper 1318.
[6] Foroni, C. and Marcellino, M. (2013). A survey of econometric methods for mixed frequency data, Norges Bank Research Working Paper 2013-06.
[7] Ghysels, E., Sinko, A. and Valkanov, R. (2007). MIDAS regressions: Further results and new directions, Econometric Reviews, 26, 53-90

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