That's your bloody post-truth

Edited by Ed Humpherson

ESCoE Occasional Paper 01

September 2019

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Introduction

Ed Humpherson

It was a professor of King's College London who first brought to a wider audience the phrase that gives this Occasional Paper its title. The "That's your bloody GDP" quote – or perhaps one might call it a meme – comes from an experience that Professor Anand Menon of King's described in the wake of the EU referendum.

The quote has taken on quite a life. I suspect there's a good paper simply on how it has evolved and been used. If you Google it you see the quote variously described as being an observation, a comment, a heckle or even a yell - all by people who weren't there when it was first said.

So it's best to go back to source. Here's the blog where Professor Menon first told the story: Writing at the end of 2016, he said:

> number one spot in my Brexit quotes list, was the attitude of a lady in Newcastle. I was in the northeast, discussing the economics of Brexit. The kind of drop in the United Kingdom's GDP predicted by most economists, I said, would dwarf any savings generated from curtailing contributions to the EU budget. "That's your bloody GDP," came the shouted response, "not ours."[1]

So King's was a very appropriate place to hold a discussion of trust in economic statistics as part of the 2019 Economic Statistics Centre of Excellence (ESCoE) Conference on Economic Measurement[2] in May 2019.

"That's your bloody GDP, not ours" has become emblematic of the way in which it is said that elites and experts have lost *contact* with the public and lost the *confidence* of the public. It's a standard exhibit in articles and books on what's become known as post-truth.

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[1] Anand Menon ,2016: A review, https://ukandeu.ac.uk/2016-a-review/
[2] The conference Scientific Committee was chaired by Martin Weale (King's College London, ESCoE) and Richard Smith (University of Cambridge, ESCoE). The conference was organised by Mary O'Mahony (King's College London, ESCoE) and ONS. I am grateful to the Scientific Committee and organisers for providing me and the speakers with the opportunity to explore these issues at a session as part of this conference.

The purpose of this Occasional Paper is not to go into the general realms of misinformation, fake news, trust in experts and the rest. That's well-trodden ground, perhaps even hackneyed, with at least three books published on 'post truth' in 2017 alone.[3]

The purpose is to ask: What should we do, if anything, to maintain confidence in economic statistics? To examine this question, this Occasional Paper collates four talks delivered at the ESCoE Conference on Economic Measurement at King's College London in May 2019, by:

- Dame Kate Barker, an influential economist, former member of the Monetary Policy Committee, and closely involved in a wide range of issues including housing market economics and inflation indices. Barker unpacks notions of truth, accuracy and interpretation. Her contribution argues against over-simplified thinking about economic statistics.

- Tony Curzon Price, former economic advisor at the Department of Business, Energy and Industrial Strategy and before that at the Competition and Markets Authority, who has thought and written on the economics of networks, data, and platforms. Curzon Price asks what we should understand by trust in economic statistics in an era of "omni-measurement" and the role that trust should play in our thinking about how we measure the economy.

- Mairi Spowage, formerly of the Scottish Government, then Deputy CEO of the Scottish Fiscal Commission, now in academia at the Fraser of Allender Institute, Scotland's leading independent economic research institute. She uses the case study of the Government Economic and Revenue Scotland statistics to outline the practical steps that can be taken to enhance trust in a major economic statistic.

- Rebecca Riley, the Director of the Economic Statistics Centre of Excellence (ESCoE), who has built ESCoE up very quickly into a hugely influential driving force for better economic statistics. She describes a linked set of concepts: trust, which depends on relevance, which in turn depends on investing in economic statistics, which is supported by communication of the value of economic statistics to the public.

This Occasional Paper reproduces remarks of each of these contributors more or less as they delivered them in the panel session on 8 May.

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[3] Matthew d'Ancona: Post-Truth: The new war on truth and how to fight back; Evan Davis: Post-Truth: Why we have reached peak bullshit and what we can do about it; James Ball: Post-Truth: How bullshit conquered the world.

The thoughts collected here are different from the standard pieces on post truth. They are resolutely focused on economic statistics. They do not consider the much wider range of statistics on society and the population produced by a wide range of official bodies in the UK. They seek to examine whether there are specific issues of trust in economic statistics, and what remedies there may be.

Many discussions of "post truth" tend towards the anecdotal – starting with one or two celebrated cases and then generalising from them. What's interesting about the four contributions here is that between them the authors are focused less on building from anecdote, and more on thinking about the conceptual issues involved and the practical steps that can be taken by producers of statistics. In that sense, by developing a conceptual model and considering practical applications, the four speakers are exemplifying an economist's approach to thinking about a problem.

Broadly speaking, Dame Kate Barker and Tony Curzon Price focus on the conceptual issues surrounding truth and interpretation (Barker) and trust (Curzon Price). Rebecca Riley and Mairi Spowage highlight the steps that can be taken to maintain and enhance trust in economic statistics, including the need to invest in economic statistics so that they remain relevant (Riley) and the benefits of adherence to the principles of the Code of Practice for Statistics (Spowage). Taken together, the talks balance conceptual clarity and practical application with brilliant agility.

Another striking feature of the talks is how well the authors locate issues around economic statistics in their context. Kate Barker emphasises the need to consider what judgements the statistics are being used to inform – the decision-making context; Mairi Spowage highlights the political dynamics surrounding an important fiscal statistic; and Tony Curzon Price thinks about the role played by non-official data in understanding the economy. And Rebecca Riley brings this contextual focus together crisply with her emphasis on the need for relevance in economic statistics.

The contributions provide practical advice for producers and users of statistics alike. Producers must: constantly invest in understanding the changing dynamics of the economy to avoid depreciation (Riley); engage fully with users, explaining concepts, limitations and seeking to understand what questions users want to answer (Spowage, who talks of a 'steady process' of building trust); innovate in the communication of concepts like uncertainty (Riley); and recognise the central role of trustworthiness (Curzon Price). In short, producers should comply with the principles and practices of the Code of Practice for Statistics.[4]

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[4] UK Statistics Authority, Code of Practice for Statistics, https://www.statisticsauthority.gov.uk/code-of-practice/

For users, there is a recurrent theme of not placing undue weight on statistics. This is the strong message of Barker's contribution, which sets the tone for all the papers, and it is echoed by Curzon Price (on peering into the "sausage factory" of producing national statistics, one sees that "Balancing items, models and adjustments abound") and Spowage (some users can regard a specific economic statistic as "if it were an attempt to measure a finite physical quantity, and not – as it in fact is – an estimate to inform useful understanding...").

In conclusion, it is worth considering whether the talks combine to provide us with a simple response to the following challenge: if there is a cancerous mistrust in all statistics and expertise, and it is infecting and undermining economic statistics, what should we do about it? Perhaps the talks do not offer any simple remedy. Perhaps indeed it is a multifaced challenge that cannot be addressed by simplistic solutions.

But by their exceptional blend of conceptualism and pragmatism, the four contributors certainly do direct us where we might look for answers: for users, not to place a weight on economic statistics they cannot bear; and for producers, to live up to the letter and the spirit of the Code of Practice for Statistics.

The elusiveness of "truth" for the economic policymaker

Kate Barker

My theme is the issues which arise when seeking to use statistics sensibly in policy making – which I have always tried to do, though I have been accused of policy-based evidence-making! I will draw on two main areas of my experience where statistics are important – the Monetary Policy Committee (MPC), with a focus on the short-term macro trajectory of the economy; and housing/planning, with a focus on the longer-term. But in addition to these policy perspectives, I also want to talk about my involvement in supporting the production of economic statistics, in two cases: following my time on the MPC I was asked to lead a review of National Accounts for the Office for National Statistics (ONS); and more recently to chair the ONS' stakeholder panel on the uncontroversial (!) topic of inflation measurement.

The challenge of immediacy

My time on the MPC and the review of National Accounts came the wrong way around: I would have appreciated a deeper understanding of National Accounts when on MPC. We spent a lot of time on the MPC (in my time – now long ago) looking at the most recent data – seeking explanations for trends that were often revised away quite swiftly. I look back on this as a chronic waste of time – but what is the alternative? Ignoring the latest estimate seems uncomfortable. Nevertheless, the very latest statistics sometimes received too much attention: we were once slightly wrong-footed by the latest Halifax house price data which was published in the middle of our meeting and turned out to have been miscalculated.

But by and large we were not misled by the data – with the exception of summer 2008 where early GDP estimates were too strong, and where the Purchasing Managers' Index survey data with hindsight looks to have been a better guide. This is not a plea for ONS to take note of the survey data – it is much better to have the two sources as they are. But it is a warning to policymakers that turning points may be picked up more quickly by business surveys. It's also worth looking at the ONS's very interesting analysis of the data around the 2008-9 turning point in GDP.[5] However, for

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[5] Office for National Statistics, Economic Review, April 2017, part 6 - Improvements to early estimates of GDP through the 2008 to 2009 downturn, (https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/economicreview/apr2017#improvements-to-early-estimates-of-gdp-through-the-2008-to-2009-downturn).

some events the business surveys can be more misleading than the early ONS estimates - for example business surveys weakened too sharply around the collapse of Long Term Capital Management in 1998.

The early estimate of quarterly GDP also may not have been helpful in public debate. Newsnight asked me several times to comment on the first estimate of GDP – but Newsnight editors became swiftly bored with my commenting that these estimates were uncertain and subject to revision. The later estimates never received the same publicity – so (assuming they paid attention or remembered) the public were generally hearing the least helpful bit of the story. That's even before we touch on how journalists present the information – often with too much stress on small changes. It's of note that in the NatCen research on public confidence in official statistics[6] there is a much lower level of trust in how politicians and media present data than in the production of the official statistics themselves. But the balance between questioning the data unfairly and treating it as 'truth' is a difficult one.

The challenge of interpretation

Even if we have all the data and believe it to be 'correct' there are questions about how to interpret it – what narrative to tell. The recent blog by Adam Tooze[7] on the problems around the estimation of the output gap brings this out very starkly, and is a more elegant and more academic account than my own comments on the unsatisfactory nature of this concept. We cannot give up attempts to assess the economy's capacity, but we can and should be more eclectic in modelling it over time – the Office for Budget Responsibility (OBR) has changed its method of estimating the output gap over time and that suggests welcome learning. Yet we should not believe that each change moves us closer to some underlying reality. Rather, each change may adopt a technique which is more apt for that moment.

It's even more difficult when we move on to consider forecasts – where the outputs from both the Bank and the OBR are of course the products of considerable serious research – but still almost certain to be wrong in several important respects. Again the coverage of these projections in the media is unhelpful to public understanding or trust, often missing out the important caveats. We

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[6] NatCen, Public Confidence in Official Statistics 2018, http://natcen.ac.uk/our-research/research/public-confidence-in-official-statistics/

[7] Adam Tooze, Output Gap Nonsense, Social Europe website, https://www.socialeurope.eu/output-gap-nonsense

should be aware of considering what it is reasonable to expect the public to conclude. On Brexit, I would be surprised if most people did not have an intuitive understanding that the economic consequences of any kind of Brexit would be adverse for at least an initial period.   Given any particular shape of Brexit, however, most people would surely struggle to form an opinion about how bad and how long. Economists themselves have found it hard to describe these future uncertainties clearly and for a number of forecasters (on both sides) it is unclear whether their view is entirely separable from their attitude towards EU membership.

We also know that well-being is not the same as income levels. GDP per head in the UK is up only 4.6% on its peak in Q2 2008 – but despite this slow growth the ONS well-being surveys have reported improvements steadily since 2012. And the poorest region, Northern Ireland, is persistently the happiest. Falling unemployment may be a contributor – unemployment is linked in the well being data with those who say they are least happy.   Does this explain why bad economic forecasts don't quite frighten people away from Brexit?

There is also a challenge of granularity. I've spent a lot of time thinking about housing policy. Here, discussion has often revolved around data at the level of the UK's countries. But serious analysis of the housing crisis and who is affected requires much more granularity at a local level and by income level. This can be hampered as there are major uncertainties in the housing data around significant issues such as the numbers of second homes, empty homes and the supply of different types of affordable housing. Considerable progress has been made already to improve this data and this continues.

Conclusion

In conclusion, a brief word on inflation statistics.   Having chaired the ONS' stakeholder panel on consumer prices for four years, I have been exposed to a range of radically different views on inflation which are held with sometimes extraordinary passion. Since, at the time of speaking, we are still waiting for HM Treasury and ONS to respond to the recent House of Lords report on the RPI[8] I won't say more here – save perhaps that this issue is one which matters greatly given the impact it has had on distribution within the economy. Perhaps the disagreements are fundamentally less

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[8] House of Lords Economic Affairs Committee, The use of the Retail Prices Index (RPI), January 2019. After the conference, the UK Statistics Authority responded to the House of Lords Economic Affairs Committee on 4 September 2019, and HM Treasury announced its intention to consult on making changes to the methods used in the calculation of the Retail Prices Index.

about measurement, and more about appropriate uses. There can be a suspicion that different groups like the method which they perceive suits their constituency best.

To sum up these various themes: while I have always known that data is uncertain – the closer I have come to looking at how it is measured the more reason there is to worry about it, to understand the inherent uncertainty of data however diligent ONS are, and to appreciate the elusiveness of the 'truth' we all think we are seeking.

Is there a newly urgent Trust/Accuracy trade-off for *national* economic statistics?

Tony Curzon Price

The Challenge of the Age of Omni-Measurement

Let me very quickly put the case that there is exactly that trade-off, and that we don't currently get it right. (Don't worry, I will then somewhat take apart the case I have sketched out).

Two French economists - one at the French central bank - recently established something that I think we all strongly suspected to be the case. In a working paper titled "When are Google data useful to nowcast GDP?"[9], they show that early in a quarter, before any public statistics have been made available, it is possible to use Google search queries to improve forecasts of what the national statistics will say that GDP was at that time. But once public statistics are released, the information content of the Google searches disappears.

Now, imagine away two currently large problems - first, that Google search queries are not publicly available; second, that even if they were, they could not be released without enormous care to be taken over privacy … Absent those two problems, should Google search queries and other such data be released as national statistics?

There is an obvious argument that they should. It goes like this:

1. they have value,
2. they are non-rivalrous,
3. they have almost zero incremental cost of reproduction,
4. So they are a classic public good and should be made publicly available - rather as are national statistics

The value, in this context, of the search queries, is that they give a better understanding of what is happening in the economy in real-time. In 1945, Hayek summarised his enormously influential argument about the dispersed nature of economic knowledge, arguing that:

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[9] Laurant Ferrara and Anna Simoni, http://www.oecd.org/naec/new-economic-policymaking/Ferrara_Simoni_OECDconf_Apr19.pdf

"the problem of what is the best way of utilizing knowledge initially dispersed among all the people is at least one of the main problems of economic policy—or of designing an efficient economic system… …knowledge of the kind which by its nature cannot enter into statistics and therefore cannot be conveyed to any central authority in statistical form"[10]

The challenge of the age of digital omni-measurement for national statistics could be put like this: now that much of this knowledge can be conveyed to central statistical authorities, should it be? And what should those authorities do with it?

In the example above, I picked Google searches because of the paper. More and more of our activity is recorded digitally and can be re-produced at almost zero cost, and that data will also fall under this argument. For example, I heard a presentation from a company that had launched enough satellites to provide a daily-updated snapshot of every place on earth in sufficient detail to estimate oil bunker stocks everywhere on earth by looking at the shadows cast by storage tanks.

It is hard to see the economic logic for resisting, in the public interest, the release of all these noisy data.

Is there a trade-off with trust in economic statistics?

Fine, but what has this got to do with trust in economic statistics? Why is there a trade-off at all?

The new data sources are noisy, and to release them - and perhaps estimates of the familiar statistics with which they will be found to be correlated - will almost certainly increase the number of revisions to National Statistics, and will no doubt create surprises. As anyone who has even peered into the sausage factory of the production of national statistics will know, the process of making numbers derived and estimated from disparate sources and using different methodologies to construct a particular series is an art, not a science. Balancing items, models and adjustments abound. Analytical coherence is a part of the quality assurance of statistics. These new data will almost certainly shine a light on that intricate process because they will challenge it. And as Dame Onora O'Neill pointed out in a prescient set of Reith Lectures almost 20 years ago - more light is very often not correlated with more trust.

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[10] Friedrich A. Hayek, The Use of Knowledge in Society, The American Economic Review, September 1945

So this is the case that there is a trust/accuracy trade-off for the production of economic statistics: the economic and behavioural data newly available because of the digital transformation could very easily reduce trust in old-fashioned National Statistics.

But the impact of omni-measurement could be worse still for national economic statistics: perhaps measures derived from the noisy data, perhaps not ones produced by the public sector, will turn out to be more useful for economic management, than National Statistics (capital "N", capital "S"). In that case, the aura of our national statistics may fade - another way of saying that we would put less trust in them, but not because they were too slow, although accurate, but because they turn out to be both slow *and* inaccurate. This is worse than a trade-off between trust and accuracy - it is the prospect of redundancy.

Why national data and statistics are still needed and can maintain trust

I said at the beginning that I would take parts of my argument apart. Here goes.

I think the argument works as far as the step claiming that the arrival of useful, raw, noisy data will undermine trust in national statistics.

If information is a tricky economic object, trust is even more so. As Oliver Williamson, the Nobel Laureate associated with trying to understand the relationship between economic transactions costs and social institutions, has argued, trust has an economic function - it can hugely reduce transactions costs - but no economic - that is, calculative - rationale.[11] Take the problem of crossing a bridge. If I were to see that it had been structurally assured by the Health and Safety Executive, and that before deciding to cross it, I worked out some subjective probability that the HSE might not have done their job properly, and having decided that was very low, continued on my way, then, argues Williamson, I am not trusting the HSE. And I have not reduced transactions costs in the way that trust so efficiently allows. The economic value and power of trust is precisely that it is non-calculative - it is an act of faith.

Just a word on the value of trust in national economic statistics. Perhaps this is obvious - a non-calculative acceptance of a description of the world makes acting on that description much easier. If we moved to a generally calculative mode with respect to many economic statistics, our politics would be much harder. If the materiality of the Global Financial Crisis had been up for grabs, could emergency action really have been taken? Imagine the sorts of bad arguments that tie-up the fringes

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[11] Oliver Williamson, Calculativeness, Trust and Economic Organization, Journal of Law and Economics, 1993

of climate change scepticism, and the delegitimising impact of these arguments on urgent policy action. By trusting economic statistics, we have the starting point of a common economic world to improve.

But retaining a non-calculative attitude cannot necessarily be undermined by the arrival of new calculative concerns, like "did this noisy data perform better than the national statistics?" or, "why did this adjustment get made when it seems as if early indications moved this series the other way?" Instead, the non-calculative attitude is maintained by the general character of the institutions: how do they communicate, rather than what they communicate.

So here are my basic recommendations for the production of national statistics for the age of omni-measurement:

1. Economically relevant data have the characteristics of public goods, and only exceptionally should they be kept entirely private - and almost never should they be exploited only by private corporate interests. If anything to do with statistics has the power to undermine trust in the public sector in general, it is this - the injustice in the distribution of the privilege of data access will be keenly felt. So the public sector should use to the full its powers under the Digital Economy Act (2016) to require any database for the purpose of the production of national statistics.

2. But it should go further than the 2016 Act. The extraction of useful signal from noisy data should not be the preserve only of the collectors of the data, nor only of national statisticians. Instead, we should aim to move to a system of providing, with appropriate access and use controls, national economic data that is distinct from national economic statistics. The coherence and quality of the latter are important and valuable, but should not impede the uses of the former.

3. The branding of National Data and National Statistics should be kept distinct. The former must be trusted for applying the correct usage restrictions and processes for collection and basic cleaning; the latter should be trusted for rigour and analytical coherence. They should share the "national" label to indicate that both are designed to promote the public good. And I do not mean branding to be taken lightly in any way - since trust is non-calculative, "brand" is what we now call the aura that attaches itself to non-calculated properties.

Building trust in a politicised environment

Mairi Spowage

I have played various roles in economic statistics in Scotland, including leading the production of the iconic Government Expenditure and Revenue Scotland (GERS)[12] Statistics; helping set up the Scottish Fiscal Commission; and now, being a user and commentator on economic statistics at the independent Fraser of Allender Institute at Strathclyde University.

I would like to focus on GERS as a case study in building trust in a politicised environment.

GERS in context

What is GERS? It is a statement of Scottish tax revenues raised and money spent for the benefit of Scottish citizens under current constitutional arrangements to come up with a notional "fiscal balance". Given this, it is an extremely politicised publication, used and abused by both sides of the constitutional debate in Scotland.

Trust in these statistics has been variable over the 25 editions of the publication. There are perhaps three reasons for this:

1. Origins of the publication: it was originally constructed in the early 1990s, with the clear political motivation at that point in time to undermine the case for Scottish fiscal autonomy. As a result, during the early years of its publication it tended to be regarded with suspicion by those who argued politically for greater autonomy and independence for Scotland.

2. Criticisms of the estimation techniques, including how revenues from oil are allocated to Scotland and how revenues and expenditure at the UK level are allocated to Scotland. Many of these questions have been ill-informed but they have been persistent and this has led to some suspicion of GERS. For example, income tax is allocated by the home address of the employee, but some misinformed commentators have claimed it is based on head office or payroll location.

3. Misunderstanding about what an estimate is. Some critics have regarded GERS as if it were an attempt to measure a finite physical quantity, and not – as it in fact is – an estimate to inform a useful understanding of the fiscal position of Scotland under current arrangements.

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[12] Scottish Government, Government Expenditure and Revenue Scotland,
https://www2.gov.scot/Topics/Statistics/Browse/Economy/GERS

This issue of confusing well-informed estimates with physical measurements is not unique to GERS. It dogs many economic statistics, and many statisticians walk that fine line between explaining that an informed estimate is not the same as a "guess" whilst also proportionately pointing out the limitations of the statistics. But it has played its role in criticism of GERS.

The steady process of building trust

Despite all this, I would contend that the trust in these statistics in the political and parliamentary establishment in Scotland and the UK has grown since its creation and is now relatively good. Why is this?

In my view, there are a several contributory factors, which have in common a steady process of building user confidence:

1. First, the statistics team responsible for GERS undertook a great deal of engagement activity with all users, including significant efforts across the UK, such as setting up a cross government group with HMRC, HMT, ONS and the Devolved administrations. This open approach assures that expert users feel that they can influence the development of the statistics, can express concerns and raise questions, and this openness in turn improves the credibility of the statistics.

2. Second, we successfully walked the tightrope of explaining the limits of the estimates, such as providing confidence intervals for the survey-based estimates. This had the effect of demonstrating that, while the notion of Government Expenditure and Revenue for Scotland was largely conceptual, the vast majority of the figures that populated our conceptual framework were actual figures, derived from public expenditure datasets. This therefore enabled us to argue that the utility of the statistics was actually very good.

3. Explaining – and challenging – completely reasonable misunderstandings head-on. For example we spent a lot of time explaining what the elements of "social protection" are (so essentially, social security spending plus adult social care), explaining accounting adjustments (essentially, that these are adjustments made mostly on both the revenue and expenditure side, so have no major influence on the fiscal balance), explaining why spending in GERS is not exactly the same concept as the Scottish Budget (for example, the Scottish budget doesn't include spending funded by Council Tax or local borrowing, as it is spent directly by Councils).

There are of course people who still do not trust these statistics. Part of being a statistician in the civil service is accepting the limits of your influence. I wouldn't spend too much time looking at Twitter commentary if you produce something like GERS – or at least have thick skin when you do! (Google #GERS whisky for some great examples.)

However, you can chip away at it. For example, we produced a Frequently Asked Questions document for GERS, which has been reproduced on Twitter many times in response to some of the claims made. We also moved to proactively published the responses to Freedom of Information requests about GERS in order to demonstrate transparency.

The Code of Practice for Statistics

As a statistician in Government, the key enabler of this positive behaviour is the Code of Practice. It both encourages, and indeed mandates, openness about limitations, engagement with users, and exploration of better analytical methods, and does so within a clear philosophy based on the concept of public confidence underpinned by trustworthiness, quality and value.

I therefore carried the philosophy that underpins the Code into my next role, in setting up a new analytical organisation, The Scottish Fiscal Commission (essentially the Scottish version of the Office for Budget Responsibility) in 2016/17. This is a forecasting organisation, and therefore not an official statistics producer, but we voluntarily adopted the principles and practices that are in the Code of Practice, as I felt it was a great way to work in a transparent manner. This has been instrumental in establishing a reputation as an open and transparent analytical institution.

The value of an external perspective

Now I am on the outside in the Fraser of Allander Institute! We at the Institute, given our reputation for applied public policy analysis, are able to support trust in official statistics by:

1. Analysing the use of evidence in policy making and evaluation;
2. Writing in support where official statistics are unfairly criticised or discredited; and
3. Challenging the misrepresentation of statistics by Ministers.

There are recent examples of all these on our Fraser of Allander blog[13]. For example, we have criticised the lack of analysis of the income tax reconciliation challenge to come over the next few

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[13] Fraser of Allender blog home, https://fraserofallander.org/

years, and written about our concerns in relation to VAT assignment; we have written several blogs over the years to explain the role of GERS and defend it from some of the nonsense; and we have recently challenged the presentation of GDP per head statistics by the Scottish Government.

Conclusion

To sum up, a key part of building an environment of trust in official statistics is to demystify methods of production and engage openly with users. The attitude of the statistician should always be – if they have misunderstood or misused, perhaps there is something we can do to reduce the chances of this happening in future.

Trust, relevance – and the need to invest in economic statistics

Rebecca Riley

Ed Humpherson asked us to think about trust in economic statistics. My comments draw mostly on current dialogue in the measurement and research community and on work being carried out under the ESCoE umbrella. I'm going to say that trust in economic statistics depends on their relevance, and I will suggest that their relevance depends on continual investment and communication.

Relevance

One of the issues that policymakers, statisticians and academics talk about a lot in the context of economic measurement at the moment is the importance (or not) of the digital economy. Rightly so. Because of the digital economy: we probably consume more free goods than we used to and these have substituted for goods that we previously paid for; activities have shifted across production boundaries that define economic activity in the national accounts; businesses increasingly use and build inputs such as software and databases to create value in ways which we neither fully measure nor fully understand. Moreover, digitisation has further facilitated production systems that are global in nature so that the nature of organisational contracts can have significant effects on national economic statistics. At the same time, we observe a slump in productivity growth, which on the face of it is difficult to reconcile with the pace of change we observe around us. The question that has arisen with these observations is whether or not economic statistics, as currently compiled, adequately measure what is going on in the economy. The underlying question that is being asked here is whether or not economic statistics remain **relevant**, i.e. whether economic statistics provide relevant and accurate descriptions of the economy we operate in and hence are worthy of our trust.

But, it is not just digitisation and globalisation that challenge the relevance of economic statistics as good descriptors of the economy. For example, other economic developments, such as the move from a manufacturing to a services economy, the IT revolution of twenty five years ago and the rising participation of women in the workforce over the last many decades, might equally have raised questions about relevance in the past. Perhaps even more important is the example that Ed gave at the beginning of this discussion: the remark made by an individual in Newcastle in the run up to the 2016 EU referendum, disowning GDP perhaps because it didn't appear to have anything to do with their own economic experience. Often quoted to demonstrate economic divisions and the frustration of some with expert (or economics) discourse, it demonstrates the need for economic

statistics to be **relevant** if they are to invoke any form of trust or if we are to describe them as trustworthy.

Investment

The simple point is that to engender trust in economic statistics, economic statistics need to keep up: with the changing economy that they aim to describe and with the concerns of users. The relevance of economic statistics will always be **depreciating** as the economy changes and as users' needs change and policy needs develop. So, if we view economic statistics as an important input into decision making, e.g. as a necessary input into the production of good policy and underpinning informed dialogue, this points to the need for **continual innovation and investment in economic statistics**. This has always been the case, but perhaps the current nature of economic change, digitisation and disillusionment with experts has highlighted this.

Recent changes in technology also illustrate the need for continual investment. The proliferation of new data and advances in computing are providing opportunities to improve economic statistics, in terms of their coverage, granularity and timeliness. This was the topic for discussion during a special session on "Economic Measurement with Big Data" organised by ESCoE and the Data Science Campus at the Royal Economic Society conference last month.[14] Of course, in economic statistics production, much as in other industries, the successful adoption of new technology is associated with the **depreciation** of some older technologies and skills, and with **investment** in new ones. Data scientists are currently in much demand in many industries.

So, without wanting to labour the obvious: Trust in economic statistics, the relevance of economic statistics, and the value of economic statistics in decision making is dependent on continual investment and innovation. **In recent years this has increasingly been recognised in the UK**, and also elsewhere. Indeed, that is one of the reasons why we are here today. For the many of us who care about economic measurement, let's hope that recognition remains.

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[14] Royal Economic Society Annual Conference 2019, University of Warwick: ESCoE-Data Science Campus Special Session at the RES: Economic Measurement with Big Data

Communication

Alternatively, we can proactively try to make sure that it remains by demonstrating what is at stake when we don't invest in economic statistics. I am going to make a few suggestions around the **communication** of economic statistics.

Much current research on economic measurement is essentially focused on bettering the relevance of economic statistics in the way I have just described, improving the ability of economic statistics to describe the modern economy and to address users' concerns. A number of academics have advocated for the construction and use of extended activity or welfare metrics, as well as distributional metrics, in addition to GDP. For example, my colleagues Andrew Aitken and Martin Weale have proposed a democratic measure of income growth, which unlike GDP growth weights the growth experience of income-rich and -poor households equally, going some way in addressing the concerns that GDP growth reflects the experience of but a few. If such metrics are to gain traction in the economics discourse, and increase the relevance of and trust in economic statistics, it will be important to **communicate**, release and publish such statistics **frequently** and **alongside** more established and familiar metrics such as GDP. In this way these may begin to feature more prominently in debate and in our consciousness.

Others on this panel have already highlighted the need for **communicating** the **uncertainty** around economic statistics, to avoid users placing undue weight on point estimates, for example, of GDP growth, in particular on early point estimates. In some ways information on limitations may reduce trust in a particular statistic, but I would view this as a good outcome as it should encourage educated and responsible use of the statistic, ultimately improving trustworthiness. Indeed, communication of uncertainty and limitations around statistics might be seen as a duty of producers of National Statistics and can set National Statistics apart from other statistics that might be less trustworthy. However, whether or not communicating uncertainty improves trust in economic statistics, particularly in an environment where trust in experts is waning, is unclear. But, some evidence suggests it might. This is highlighted in a review by David Spiegelhalter and others, including ESCoE colleagues Ana Galvao and James Mitchell, published today.[15] One of the unknowns is **whether the way in which uncertainty is communicated matters** for improving understanding and trustworthiness. In on-going research Ana and James are exploring this in the context of economic statistics (GDP growth). I very much look forward to the publication of these results, which

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[15] Royal Society Open Science, Communicating uncertainty about facts, numbers and science (Anne Marthe van der Bles, Sander van der Linden, Alexandra L. J. Freeman, James Mitchell, Ana B. Galvao, Lisa Zaval and David J. Spiegelhalter), 8 May 2019

will likely yield a number of practical recommendations for communicating the uncertainty around economic statistics.

Finally, particularly in a world of information proliferation, it might be incumbent upon economic statistics producers to **communicate** and demonstrate the **value** of their product **to invoke trust** (and to justify on-going investment). This is in any case the conclusion of a UN report[16] published in 2017. We know this is incredibly difficult, as with many public goods. We also know, from asking, that users of economic statistics value these very highly, even if they can't attach a number to that value. Basically, it is difficult to imagine a world without economic statistics.

We can try. Some progress towards monetising value can be made via case studies, although in most advanced economies these are not as straightforward as they might be in economies with a more limited set of statistics. In case studies the route to measuring value depends on: Can we show that economic statistics influenced decisions? If they did, can we measure the consequences of those decisions? We might take the example that Kate Barker mentioned, the case of the quarterly GDP figures for the UK that were slow to illustrate the arrival of the 2008 recession and its severity. We could ask monetary policy makers whether they might have set interest rates differently had they had available more timely evidence of recession in 2008. Alternatively, using a policy rule that relates the path of interest rates (a policy decision) to the GDP and inflation statistics, we can estimate what monetary policy might have looked like in 2008 had the 2008 GDP data then looked as they eventually did. Comparing this to what actually happened, or to a scenario for interest rates based on the same policy rule using the data available at the time, and estimating the impacts of monetary policy changes on economic outcomes, we can gauge the benefits of having more accurate and timely statistics of the kind ONS might now produce using new administrative data and other big data.

This is one way of demonstrating the value of better statistics. The broader point is that, in order to secure necessary investment to maintain relevance and trustworthiness, we might need to do more to demonstrate the value of economic statistics.

[16] United Nations Economic Commission for Europe, Recommendations for Promoting, Measuring and Communicating the Value of Official Statistics, http://www.unece.org/fileadmin/DAM/stats/publications/2018/ECECESSTAT20182.pdf

Conclusion

Trust in economic statistics depends on relevance, and the relevance of economic statistics, even those that are up to date, continually depreciates due to changing economic structures, user needs and advances in methods. This highlights the need for continual investment in research and development and human capital. I have made suggestions for how we might get this message across and how through the communication of statistics we might further build their relevance and trustworthiness.