

DINNER/DISCUSSION SUMMARY

Statistics in Government

Held at The Royal Society on 20th October, 2010

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Chair: **The Earl of Selborne KBE FRS**
Chairman, The Foundation for Science and Technology

Speakers: **Professor Bernard Silverman FRS**
Professor of Statistics, Oxford University and Chief Scientific Adviser, Home Office
Sir Michael Scholar KCB
Chair, UK Statistics Authority
Professor David Hand FBA
President, The Royal Statistical Society

PROFESSOR SILVERMAN said he would use crime statistics as a case study to demonstrate the problems in using statistics, and developing public understanding of their meaning. There were many users of crime statistics who had different perspectives and agenda - the media, academics, communities, Parliament, the police, the courts, and, of course, Ministers and their press offices. Crime statistics were derived from both surveys and administrative structures; he outlined the divergent approaches and coverage of the British Crime Survey, Police Recorded Crime, and the exercise of police powers. He considered the definition problems by example of the new (June 2009) statistics covering crime by those under 16.. What is a crime? What is anti-social? What is the role of other institutions (schools)? What is the law and its purpose? What are the public's expectations? If the law is the test of criminality, any theft or assault however minor, or wherever it takes place is a crime; but if schools are responsible for children in schools, then assaults or thefts in schools are not crimes; if assaults or thefts are minor, then that is what happens with kids, and the public would not regard them as a crime; but if the victim is outraged and regards himself as attacked, then perhaps it is a crime. Another example of difficult definition and understanding is e-crime; it could be identity theft, fraud, hacking into computers, or theft of IP. It is changing continuously, and faster than any legislation could cope with. Meanwhile the police record 27,000 cheque frauds, while the UK Cards Association cites 2.7m. Statistical analysis was essential for the understanding of how society functioned but the limitations of statistical statements should be accepted by policy makers.

SIR MICHAEL SCHOLAR outlined the pressures that had led to the Statistics Act of 2007, which set up the UK Statistics Authority. There was widespread belief that official statistics were manipulated by ministers (only 1 in 5 thought they were not, and 3 out of 5 thought they lacked honesty). The reasons were past evidence (remember the redefinitions of unemployment in the 1980s), healthy scepticism, unreal expectations, and basic lack of numeracy in the public. The job of the Authority was to provide reasons why official statistics were trustworthy, were suited to the needs of those who used them, were produced to high professional standards and were well explained, helpful and meaningful. But however trustworthy they were, building public trust would take a long time. The Authority had to establish its independence, support the professional skills of government statisticians and intervene when it considered statistics had been misused - as they had done over knife crime, and immigration. The immediate effect of such interventions might be to reinforce doubts about government statistics, but the long term benefit would be great. He had hoped that the new administration would strengthen the authority of the National Statistician as the head of profession over statisticians working in Government Departments, involve the Authority in

funding discussions, and tighten up on the pre-release of statistics, but government had not agreed to these requests. It was important that cuts in statistics capability, the effect of any cut in one area on service in another, or damage to the system as a whole should be monitored and reported to Parliament. There were also problems on the statistics on violent crime, unacknowledged changes in recording practices, and misleading aggregation of local statistics. The Authority, in its report, had suggested a non executive board to review crime statistics; the assimilation of crime and criminal justice statistics; and regular commentaries on statistical progress

PROFESSOR HAND said that surveys showed that people in the UK were more concerned about crime than those in Europe - 15 per cent against 8 per cent. So good statistics were vital. But what was a "good" or relevant or useful statistic depended on the perspective chosen; its purpose and the definitions lying behind it. Consider, for example, credit card fraud - what were the precise circumstances of the card use, what were the costs of the fraud - did they include opportunity costs - what would be the effects of possible deterrents? Not only were the definitions difficult, but any decision could have serious practical consequences. Remember, for example, the effect of changing from the Retail Price Index to the Consumer Price Index. The key was employing sources and procedures with differing perspectives - any single regulatory system was likely to collapse under pressure - so "revel in diversity". Diverse perspectives and sources of data were crucial for crime statistics. The UK had the lowest trust in statistics of European nations, but the task was not to build a total and unwitting trust in statistics, but to enable people to be able to make a critical assessment of any statistic, and understand what was its base, purpose and meaning. They should be able to appreciate the difference between professionally prepared official statistics, and popular "statistics" such as league tables. The role of the media was crucial as they mediate between statisticians and the public. Unfortunately, they always want a snap answer, and we need to explain that a snap answer is often wrong, and that effort needs to be put into understanding a statistic. They also need to understand that statistics change because measurements change and more information becomes available. Explanation of statistics was a central task for statisticians; they had to be able to explain to the public, which included politicians - why statistics were necessary, why material such as the census would produce statistics which could benefit society as a whole, and how constructively to criticize the use made of them.

A number of speakers in the ensuing discussion were concerned with the role of the media and public understanding of statistics. It was useless to pin blame on the media for wanting snap answers, for confusing populist surveys and official statistics, for wanting to

emphasize bad news and headlining political point scoring about good or bad outcomes, or "moving the goal posts". News to capture the ephemeral public interest was what they were there for. But much could be done to improve matters. First, official statistics must be explained when published. Statisticians already did this with press notices and explanatory documents covering statistical releases. But were they effective? A commentary needed to be very short - say half a page - to be read at all by busy journalists or politicians; it needed to be understandable by those who were (at any rate relatively) innumerate. Statistics were not just abstractions but have real effects on people - and statisticians themselves should be known as people who care deeply about their work so they needed to be prepared to go on TV or radio and explain themselves. Of course, there were difficulties; a junior official might say something unguarded, and find himself pilloried and his career jeopardised. But the remedy for this was media training, an expectation that the expert would be questioned and know how to defend himself; and for Ministers to know this was happening. Also, do not underestimate the public's ability to see that a hesitant and concerned official was more likely to be telling the truth and be trusted than a slick media performer. Second, the Royal Statistical Society (RSS) should continue their campaign to educate the media - their existing programme of discussions with them were popular and successful.

The deeply rooted public fear of numbers meant that it would take a long time and much effort to get a better understanding of statistics in the public. It had taken 10 years of hard and consistent pressure to get any improvement in the understanding of science; it would take equally as long for statistics. As always, the core of the problem lay in education; it was not only poorly taught maths that led many children to turn off when it came to figures, but often it was because the purpose of the figures escaped them. Here progress could be made; and perhaps, the illustration given about under 16 crimes, or e-crime could serve. But a valuable example was shown by the efforts of Slough to interest children (notably from ethnic minorities) in the purpose of the forthcoming census. They would explain to their parents why they should fill in census forms, and what some of the consequences of getting the right data could mean better benefits for them. The forthcoming BBC programmes on the census were welcomed. Public understanding could also be improved if it were easier to see trends over time. When definitions were changed (as they should often be) the relevant statistics for the earlier definitions should be more frequently displayed, so that there is no fear that the new definitions were being used as a cover up. The RSS campaign "Get Stats" was warmly welcomed.

Speakers also questioned the Authority's view that Ministerial pre-release access to statistics should be limited to one hour, instead of 24. Surely it was unreasonable that they should be expected to be briefed and explain figures with such a short time period? But the arguments for such a pre-release restriction were strong. It gave a level playing field for those concerned - opposition spokesmen, the media and others. And there was no need for Ministers to be expected to be able to respond immediately to new material. As had been said, snap answers were usually wrong, and politicians, as well as others, should recognize that it was more open, more honest and elicited more trust, if they said we must look at this information carefully before commenting. But it was unrealistic to expect Ministers not to seize any opportunity to spin material, and demonstrate that any new figures support their policy.

Speakers were concerned by Sir Michael's report that Ministers had not endorsed the Authority's views on the Chief Statistician, funding and pre-release of statistics. They were also concerned that his view that a much stronger Parliamentary oversight of statistical issues - the setting up of a statistics select committee - was unlikely to be implemented - although he still had some hopes for a committee of both houses. There should be a mechanism of Parliament to review statistical issues, and require Ministers to answer for criticisms that the Authority had made. The Authority itself had no authority over departmental statistics, and could only issue critical letters to those ministers it felt had abused them. But

there was a limit to the number and effectiveness of such letters, if they were not followed up by Parliamentary process.

Speakers welcomed the efforts to disaggregate statistics so as to give a better understanding of local and sector distribution. But inevitably, more such disaggregated material would incite pressure groups to produce more material to challenge figures which they disputed. This was a result, however, which could be welcomed. The more people used statistics, and understood how it affected them, the better.

In short, the discussion revealed concern that Parliament would not be effective in supporting the Authority's role, that there was great concern about any funding shortage which would reflect on the accuracy and timeliness of statistics, and that, in spite of their efforts, statisticians needed to be more proactive in educating the media and public, and be prepared to be more assertive in demonstrating personally the vital importance of good statistics.

Sir Geoffrey Chipperfield KCB

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