

Independent Review of BIS Research  
Final Report

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and José De Gregorio

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## Executive Summary

An important element of BIS's activities is research into issues of interest to central banks and other policy makers. In 2016, BIS senior management commissioned an external review panel (Franklin Allen, Sir Charles Bean and José De Gregorio) to undertake an independent review of these activities, largely carried out in the Monetary and Economic Department (MED). The panel were asked to evaluate in particular: the quality of BIS research in comparison with other central banks; and its value for policy analysis. The panel chose to adopt a broad view of what constitutes research, encompassing work carried out for bi-monthly Governors' meetings and the *Annual Report*, as well as more scholarly material intended for the BIS Working Papers and external publications.

In order to carry out its task, the panel was given access to a large number of relevant internal BIS documents, as well as research and analysis already in the public domain. The panel also made use of bibliometric information from the Research Papers in Economics (RePEc) website. According to the standard RePEc rankings, BIS lies 45<sup>th</sup> out of more than seven thousand research institutions worldwide, a very creditable performance. Moreover, BIS research clearly 'punches above its weight' compared to its central bank peers. Finally, the relative performance of the BIS has clearly improved over the past five years, a tribute to the influence of the previous (Steve Cecchetti) and current (Claudio Borio and Hyun Shin) leadership of MED.

In addition, the panel conducted a survey of external users of BIS research: central bank governors; chief economists and heads of financial stability; and professional economists in academia and the financial sector. This survey suggested that BIS research is highly valued within the central bank community and is generally regarded as being of high quality. However, several respondents noted a tendency for analysis and research to be slanted to support the 'house view', especially in regard to monetary policy; that theme also emerged in some responses from the wider economics community.

Finally, the panel conducted a series of in-depth and highly informative interviews with staff during two site visits to the BIS. Staff were open and candid throughout and gave a picture of an organisation that, for the most part, provided a congenial environment for research. The panel are grateful for the unfailing co-operation offered by staff at all levels of the BIS.

Building on this evidence base, together with a selective reading of BIS papers and publications, the panel judge that BIS research is generally of a high professional standard. Moreover, for a relatively small organisation, it spans a broad range of topics: banking and financial market structure; financial stability and financial crises; international finance; and macroeconomics and monetary policy. Some of this research has been genuinely path-breaking.

As always, however, there is room for improvement. The panel believe that several changes could result in a research effort that adds more value and has greater impact. The key themes are as follows:

- The research programme should have a more clearly defined long-term focus, be less driven by short-term needs, and seek to be more holistic in approach.
- The internal culture should be more open to challenge and research should avoid focussing on generating results to support the 'house view'.
- Consideration should be given to acquiring an in-house macroeconomic forecasting and simulation capability to bolster the credibility of BIS policy recommendations, especially in respect of monetary policy.

- More of the internal analysis for Governors meetings, etc., should be put into the public domain; the *Annual Report* and *Quarterly Review* could be re-structured to facilitate this, as well as to increase impact.
- BIS research should be made more accessible through the addition of non-technical summaries to working papers and the introduction of a research web portal.
- More credit should be given for publication in professional outlets, both as a kite-mark of quality and to increase impact in the broader economics profession.
- Outsider involvement in BIS research is already high, but could be taken further, e.g. through increased use of research networks.
- Hiring should be tilted more towards experienced researchers with a proven track record.
- Line managers should rotate out to the line periodically in order to maintain research skills and to ensure continued freshness in approach.
- Research assistants are presently overworked and undervalued; this needs to be addressed.
- Gender imbalance is a problem and more women are needed, particularly in senior roles.

These themes are underpinned by 24 specific recommendations in the body of the review.

## Introduction

In December 2015, BIS senior management commissioned an independent external review of the organisation's research activities, largely carried out in the Monetary and Economic Department (MED). The members of the review panel ('the panel') were: Franklin Allen (Professor of Finance and Economics and Executive Director of the Brevan Howard Centre at Imperial College, London); Sir Charles Bean (Professor of Economics, London School of Economics and former Deputy Governor, Bank of England; Chairman); and José De Gregorio (Professor of Economics, Universidad de Chile, non-resident Senior Fellow at the Peterson Institute for International Economics, and former Governor, Central Bank of Chile). The expertise of the panel therefore encompasses both academic research and senior policy-making responsibilities within a central bank.

Under the terms of reference (see Annex A), the panel were asked to evaluate the performance of the research function at the BIS according to the following two main criteria:

- The quality of the research carried out by BIS staff in comparison with other central banks and similar institutions ('quality');
- The extent to which BIS research is valued as a source of information for policy analysis for central banks and in international policy fora ('utility').

Although not confined to these attributes, the panel were asked in particular to consider the following aspects of BIS research:

- Relevance;
- Scientific quality and value added;
- Publication of papers written by BIS economists in external reviews with editorial committees;
- Interaction with the academic community, policy-making institutions and private sector economists;
- Effectiveness of internal processes.

In undertaking the review, the panel chose to adopt a broad view of what constitutes research. So, as well as longer-term research projects finding their way into BIS Working Papers, conference proceedings and economic journals, the panel also took account of the conjunctural analysis and notes provided to support discussions at the bi-monthly meetings of central bank Governors, as well as the research and analysis underpinning the *BIS Annual Report*.

## Research at the BIS: What is it for?

At the outset, it is necessary to be clear about the nature and purpose of research carried out at central banks and official institutions, such as the BIS, IMF and OECD, as this determines the standards by which it should be judged.

Research in universities is intended to advance the boundaries of knowledge, both theoretical and applied. In economics and finance (and no doubt other disciplines too), rigour and methodological novelty are highly prized, while practical relevance is frequently seen as less relevant. Subsequent publication of research in highly regarded peer-reviewed journals provides, in effect, a kite-mark of quality and so represents the litmus test for such academic research. But going through the hoops necessary to satisfy referees and editors can be quite time-consuming, so earlier versions published as working or discussion papers in practice provide a far more important channel for dissemination.

That is particularly important if the research relates to a topical issue (as is often the case for research carried out in central banks and international organizations).

The objectives of research in policy-making institutions are necessarily somewhat different. Such activity is often quite short-term in focus and directed at underpinning policy decisions or – in the case of the BIS – discussions of immediate policy concern at the bi-monthly Governors’ meetings. Indeed, such conjunctural analysis would often not even merit being called research in the academic sense, though it frequently might draw on extant research findings. Even so, it should be conducted in a sufficiently rigorous fashion that the conclusions can be regarded as robust. Moreover, such analysis is often of interest to a broader audience, including economists in the private sector and financial journalists, even if it would not attract the attention of academic researchers, and for this reason merits public exposure.

But policy-making institutions typically also carry out research and analysis with a long-term perspective. This might, for instance, be directed at better understanding key issues and challenges, such as the reasons for, and consequences of, historically low long-term real interest rates. Or it may be directed to the appropriate conduct of policy, including the design and operation of policy frameworks. Such research will often draw on the latest tools and techniques developed in universities. And while it often lacks methodological novelty, it may nevertheless represent an important addition to knowledge and so merit wider exposure to other official institutions, academia, private-sector economists and the financial media.

In some cases, unexpected developments may even put economists at policy-making institutions right at the frontier, ahead of their academic counterparts. That was the case, for instance, in understanding the causes of the financial crisis and crafting appropriate policy responses, such as the design and analysis of quantitative easing. Similarly, the initial implementation of inflation targeting regimes preceded research efforts; only later did academic economists get interested. In such cases, the research carried out in policy-making institutions can be central in setting the agenda for others to follow. Effective promulgation to the profession at large is clearly important in such circumstances.

In the panel’s view, the primary purpose of research at the BIS should be to support the work of the institution and to serve the institution’s stakeholders, namely the central bank governors and their staffs. But that does not mean that the research can be carried out in a vacuum. Strong interaction with outside researchers, both in the official sector and the wider economics profession facilitates the absorption of new ideas, as well as providing a conduit for the transmission of BIS’s own thinking. It is also important that BIS research is subject to critical evaluation, not only internally but also externally through exposure at conferences and, where appropriate, through publication in high-quality peer-reviewed outlets.

Such exposure is especially important in the case of heterodox or controversial research lying outside the mainstream. The BIS was notable for being almost the only official institution to warn of the growing risks from the build-up of debt ahead of the 2007-8 financial crisis (e.g. White, 2006), as well as the early advocacy of the application of macro-prudential policy to curb the credit cycle (e.g. Crockett, 2000) and the deployment of a ‘leaning-against-the-wind’ (LAW) monetary policy (Borio and Lowe, 2002). While this work had some exposure within the central banking fraternity through international meetings, it garnered less recognition and credibility in the broader profession. It is an open question whether this work might have had more traction earlier if more of the research

underpinning the 'BIS view' had been subject to peer review and found its way into professional journals.

## Evidence base for the review

The panel's deliberations and recommendations rest on a substantial and diverse evidence base comprising:

- Meetings with staff during two site visits to the BIS;
- A large volume of relevant documents, including research outputs;
- Bibliometric data relating to BIS research;
- A survey of key stakeholders and other users of BIS research.

## Meetings

The panel spent four days at the BIS in early May 2016, undertaking an intensive programme of approximately 40 meetings with BIS staff. They included meetings with BIS and MED senior management and each of the main BIS teams concerned with research, either as producers or consumers, and video-conferences with staff of the Asian and American offices of the BIS. The panel made it known that they were available to meet with anyone who wished to raise matters of concern privately and a number of individual staff members took up this opportunity. The panel also visited the BIS in September to give an informal briefing to the Governors and took the opportunity to conduct some follow-up discussions.

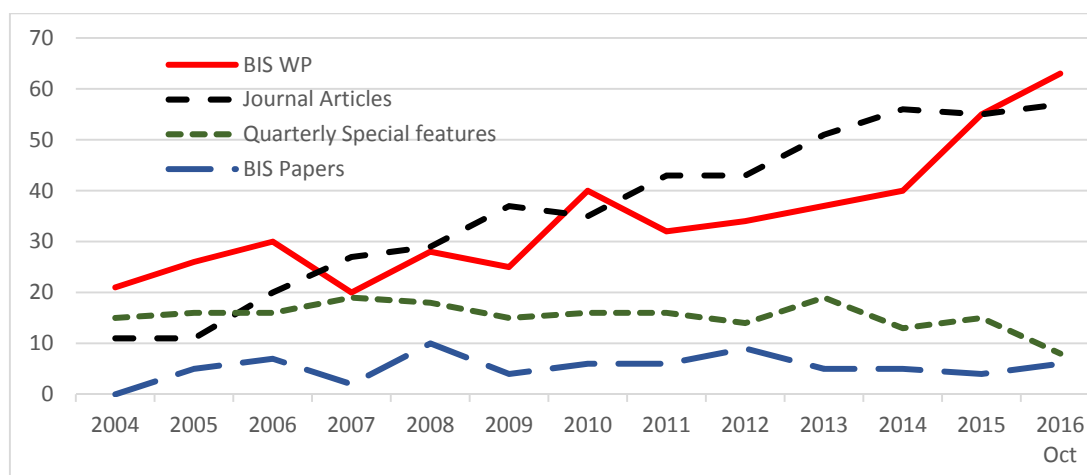
The panel are extremely grateful for the openness and engagement of the many BIS staff they met with during the two site visits, and several of the recommendations occurring later in the report draw on what the panel heard at these meetings. The panel are particularly grateful to Kaushik Jayaram and Leonardo Gambacorta for organising the programme, as well as providing all the documentation requested by the panel.

## Documents: research outputs

At the outset, the panel were provided with an extensive array of relevant BIS documents, covering matters such as research organisation, activities and initiatives, together with a large number of individual research outputs. During the course of their investigations, the panel requested sight of several additional documents and these were invariably provided openly and swiftly.

As far as information on research outputs go, Chart 1 below shows the evolution over the past decade of a variety of BIS publications. Both the number of working papers produced annually and the number of articles published annually in professional journals has roughly tripled, from around 20 to around 60. It is striking that this rising trend has been maintained despite the heightened pressures on the institution since the 2007-8 financial crisis, for instance to support the regulatory agenda of the Basel Committee on Banking Supervision. As there are roughly 60 researchers at the BIS, the present level of activity corresponds to an average of one working paper and one external publication per researcher per year (though obviously a working paper produced in one year may subsequently become a journal publication in another).

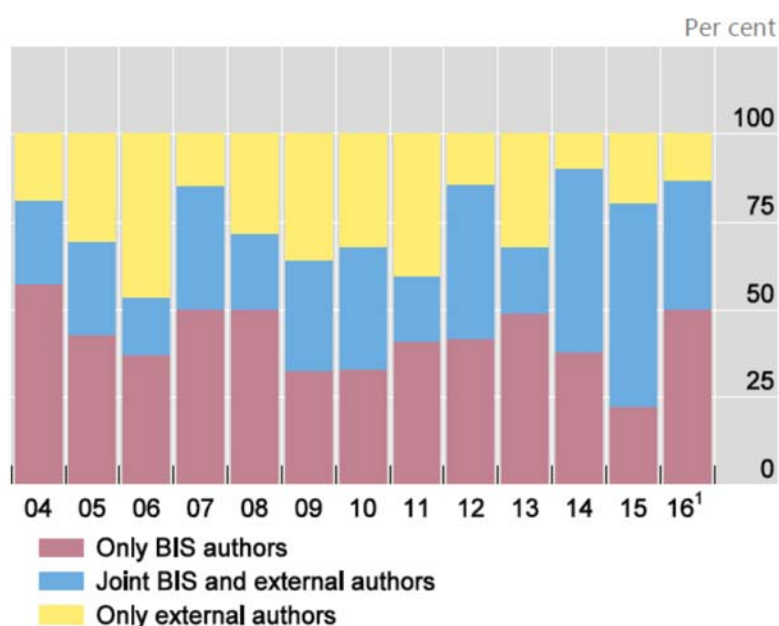
Chart 1: BIS Publications by Type



Annex B provides further information, including place of publication, of the more notable publications in professional journals over the past three years, while Annex C provides a list of BIS Working Papers produced during 2016. Together, this represents a substantial body of work.

The panel did, however, observe that many publications listed in Annexes B and C involved one or more external co-authors. Chart 2 provides further information on the authorship of BIS Working Papers: around a half involve one or more external authors and a significant minority involve no BIS authors at all. On the one hand, the involvement of external co-authors shows a commendable willingness to collaborate. On the other hand, it means that the raw numbers of research outputs produced somewhat overstate the true extent of *BIS* research activity. Moreover, there are some BIS authors that reappear quite frequently in Annexes B and C, implying that the publication rate for the *typical* (median) BIS researcher is probably rather lower than one working paper and one external publication annually.

Chart 2: Authorship of BIS Working Papers



Note: <sup>1</sup> Based on data from the first part of the year only.

## Bibliometric data

The volume of economic research produced by the BIS has risen steadily over the past decade. But it has risen in many other research institutions over the past decade too, particularly in academia. Moreover, it is not only the volume of BIS research output that matters, but also its quality and standing in comparison with that produced by peer institutions.

The Research Papers in Economics (RePEc) web site contains bibliometric information on publications, citations, etc., for almost 50 thousand authors across more than seven thousand institutions. RePEc also provides rankings of both individuals and institutions according to a variety of criteria, as well as an aggregate ranking constructed from an average (harmonic mean) taken across the various individual criteria<sup>1</sup>. Although RePEc provides a wealth of comparative information that is used widely in professional circles, one has to be careful not to employ it too mechanically: it provides an indicative measure of comparative performance, but needs to be supplemented by other information, married to expert judgement<sup>2</sup>.

*Table 1: RePEc ranking of BIS and peers*

Institution	Rank	Authors	Institution	Rank	Authors
World Bank	3	470	Deutsche Bundesbank	124	94
IMF	4	378	Banco d'España	133	55
ECB	13	178	De Nederlandsche Bank	167	82
FRB Board of Governors	16	151	CB of the Republic of Turkey	191	118
FRB of New York	19	83	Sveriges Riksbank	194	41
Banca d'Italia	30	179	Banco Central de Colombia	196	107
OECD	32	226	Banco de Portugal	232	48
FRB of Chicago	42	62	FRB of Boston	261	26
BIS	45	64	Swiss National Bank	268	68
Banque de France	66	137	Czech National Bank	273	84
Bank of England	84	157	Oesterreichische Nationalbank	343	32
Bank of Canada	121	113			

As of September 2016, the BIS lay 45th according to this aggregate RePEc ranking<sup>3</sup>. Academic institutions at around the same level in the rankings include Boston University and the University of British Columbia. However, a comparison against official organisations that specialise in policy-related research is perhaps more meaningful. Table 1 puts BIS performance into context by placing it alongside 22 other major research-active central banks and official institutions, such as the IMF and World Bank

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<sup>1</sup> Using the number of distinct, rather than the absolute, number of works (to avoid double-counting) and also excluding the best and worst rankings (for robustness).

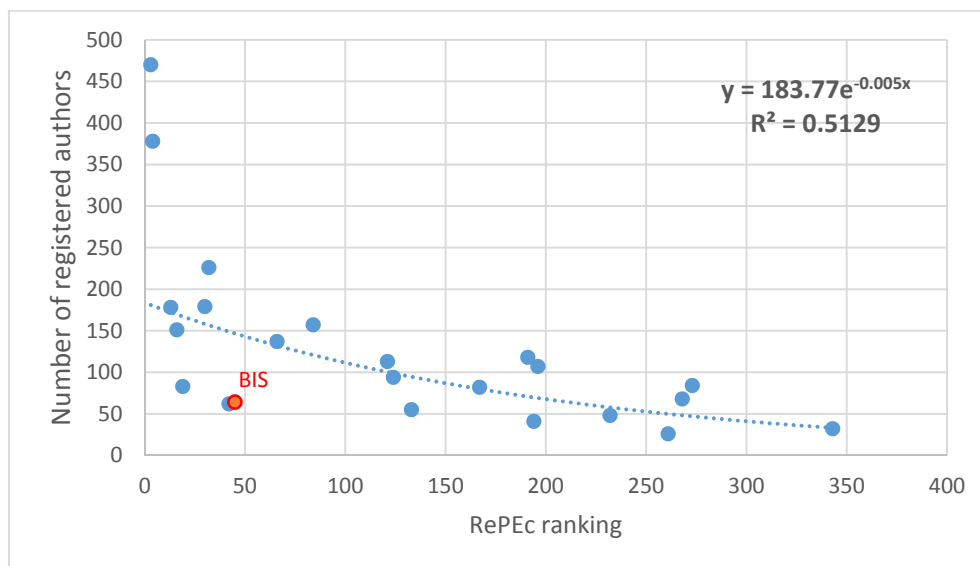
<sup>2</sup> For instance, universities draw on many sources of information other than bibliometric data in making their hiring and tenure decisions.

<sup>3</sup> The BIS ranks considerably higher (4<sup>th</sup> up to 8<sup>th</sup>) when attention is restricted to just the fields that BIS authors publish research in: banking; international finance; monetary economics; central banking. However, as noted in the text, the RePEc rankings reward both volume and quality and in these specialist fields the BIS is large relative to academic competitors. Hence it does well, for precisely the same reason that the IMF and the World Bank do exceptionally well in the basic rankings shown in Table 1. The field rankings therefore give a somewhat misleading picture of quality unless size is also controlled for.



(note that, for both of these institutions, economists throughout the organisation are included and not just those based in the respective research departments).

Chart 3: RePEc ranking against size

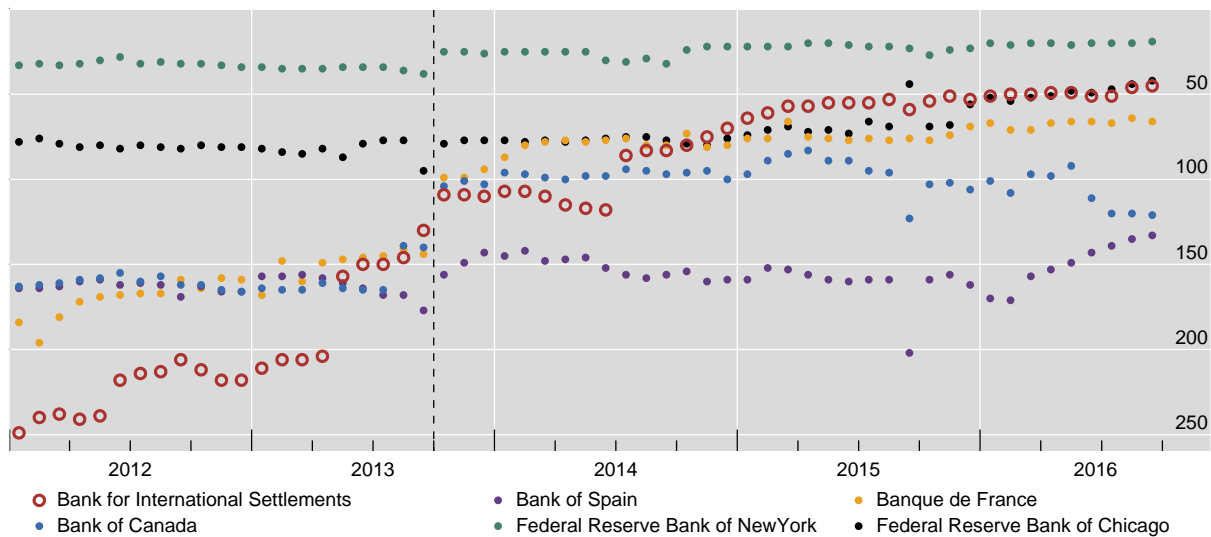


Larger institutions can be expected to produce more output, though the relationship with size may be complex. In order to control for size differences, Chart 3 above plots size (number of registered authors) against the RePEc ranking for these 23 institutions, together with a regression line (as the scatter plot suggests the relationship is indeed non-linear, this is assumed to be exponential in form). The important finding, however, is that the BIS lies well below the regression line, suggesting that the BIS is ‘punching above its weight’ as far as research goes; its ranking is consistent with an institution with roughly double the number of researchers. It should be remembered, though, that most of the peer institutions in this comparison have onerous policy-making responsibilities which may crowd out research activities at times.

The volume of BIS research output has risen steadily over the past decade, but has the BIS’s relative standing changed? Has it been improving? Or has it been getting worse? Chart 4 below shows the evolution of the BIS RePEc ranking over the past quinquennium, together with the rankings for a selection of central banks with a similar number of research-active economists (note that there is a series break in 2013).

The picture is quite clear: BIS research performance has improved not only absolutely, but also relative to its peers. Our discussions with staff pointed to several drivers of this improvement in relative performance. Some is a direct consequence of increased registration on RePEc by BIS researchers; this was relevant particularly in 2013, though the number of registered researchers has since been broadly stable. Some is the result of a deliberate attempt to raise quality, in part through a more active research programme, with greater involvement of outside expertise. And some is the result of improved visibility of research with rather more publications in top journals, in part associated with the recruitment of some individuals with particularly good publication records.

Chart 4: RePEc ranking of BIS and peers over time



Note: The average rank score is determined by taking a harmonic mean of the ranks in each method, except the first one (number of works), the best and the worst rank. Until September 2013 the rank is calculated based on information from all previous years. From October 2013 the ranking is based on statistics that refer to the last 10 years. The break is indicated with vertical dotted line.

## Stakeholder survey

The panel supplemented this oral and documentary evidence by carrying out, by e-mail, an extensive survey of the views of the consumers of BIS research. The constituencies surveyed comprised:

- Central bank governors (including a number of recently retired governors);
- Central bank chief economists and, where relevant, heads of financial stability;
- Selected participants in international fora, such as G20;
- Academic economists;
- Private-sector economists;
- Key financial journalists and media commentators.

The first three constituencies can be expected to be reasonably familiar with the work of the BIS and the survey questionnaire probed respondents in some detail on:

- The value provided by BIS research and analysis to their own work;
- The quality and utility of BIS outputs and publications;
- Views on what the BIS should do more or less of;
- Comparisons with similar material produced by other bodies.

The survey questionnaire sent to Governors appears at Annex D1; that sent to chief economists and heads of financial stability at Annex D2; and that sent to other participants in international fora at Annex D3. The questionnaires were very similar in structure, save for some minor tailoring to allow for the different roles and activities of the respondents. Responses were received from 58 present and former Governors and from 88 of their senior advisors, split roughly equally between the monetary policy (CE – chief economist) and financial stability (FS) sides. This corresponds to a response rate approaching three-quarters for the central bank constituency. There were just three responses from the participants in the international fora group.

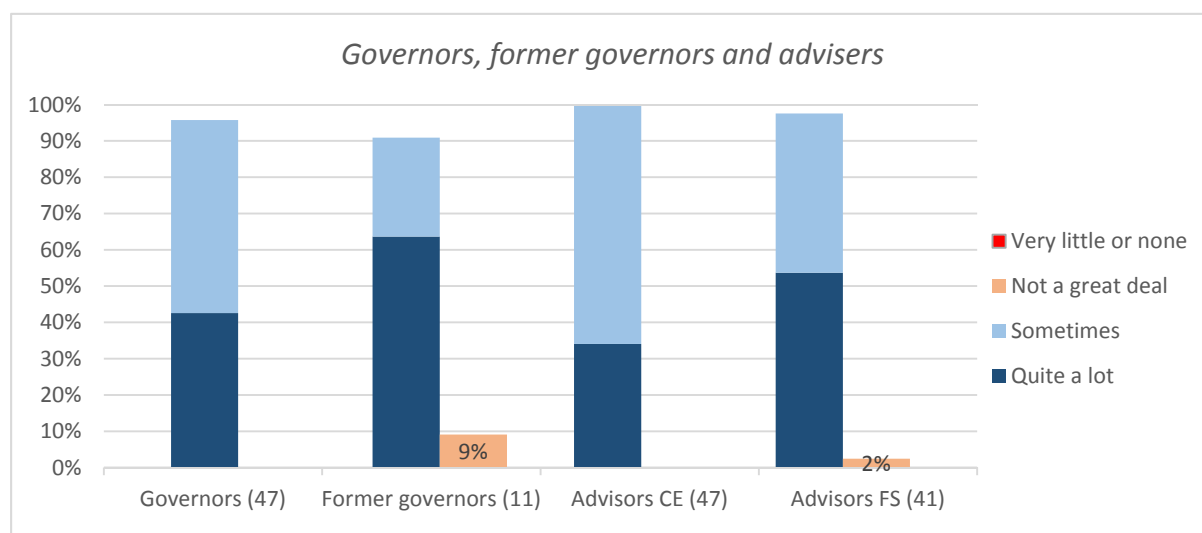
Economists from academia and the private sector, and financial journalists, might be expected to be less familiar with the work of the BIS. The questionnaire sent to these groups (see Annex E) was correspondingly much less detailed, in part to encourage a higher response rate, and concentrated on finding out about respondents’ awareness of the BIS and, when respondents did know of the BIS’s research, their general view on its quality and standing, rather than trying to probe their assessment of individual products. Respondents were given the chance to add their own thoughts about BIS research and considerable additional insight for these groups was provided by their free-form responses. Despite the questionnaire being short, the response of this group was somewhat disappointing with just 35 academics and 9 private-sector economists replying, implying a response rate of less than a quarter. It is consequently likely that there is some sample selection bias in the results for this group, as presumably those who did reply are more likely to be aware of, and interested in, the BIS’s research output. Only three journalists responded, too small a group to draw any concrete inferences about.

The respective survey questionnaires were sent out by the panel Chairman but processed at the BIS by David Archer and Paul Moser-Boehm in strict confidence. Respondents were told that BIS management would not have sight of the individual returns, so respondents had no reason not to answer truthfully<sup>4</sup>. The panel are particularly grateful for the efforts of David and Paul in the administration and processing of this survey.

### Survey results

The survey responses to some of the more detailed questions, particularly those from central banks and the official sector regarding key outputs, are discussed later, in the relevant sub-sections of the report. But it is helpful here to take stock of some of the more overarching results.

*Chart 5: How much difference does BIS research make to how you think about policy (CBs)?*



Notes: Figures in brackets indicate number of responses; CE=Chief economist/Head of monetary policy; FS=Head of financial stability.

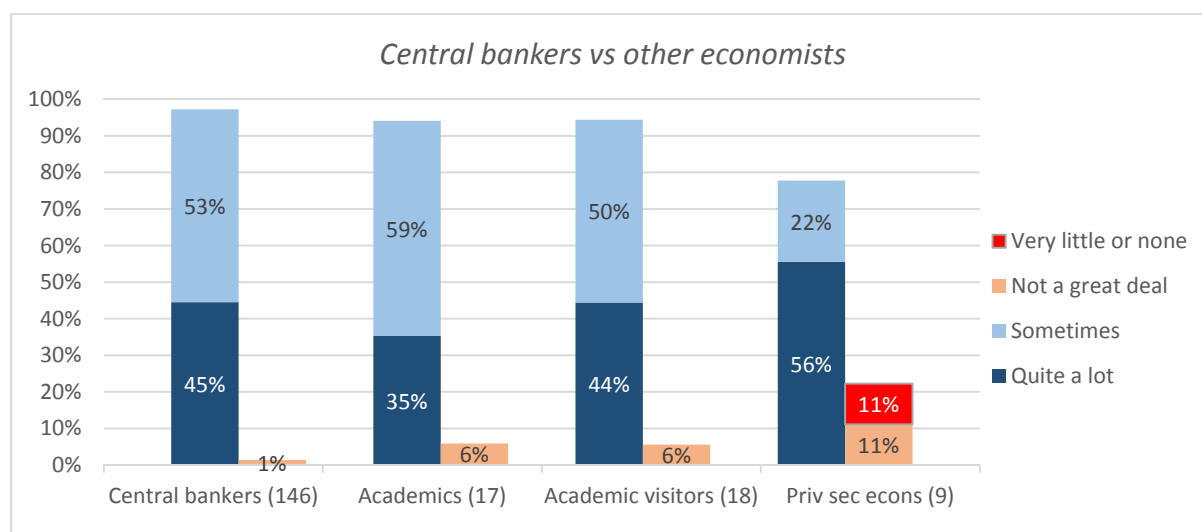
<sup>4</sup> Though – as with recommendation letters – respondents may nevertheless be inclined to pull their punches.

We begin by summarising respondents answer to the catch-all Q1: “How much difference does BIS research make to how you think about policy?” Chart 5 above gives the responses from the central banking community: almost all respondents said that it either made some or a lot of difference. Right at the outset, that suggests considerable value added from the BIS’s research effort, at least as far as its key stakeholder group are concerned.

The difference between the average assessments of the chief economists, who are usually more focused on monetary policy, and the heads of financial stability is worth noting. Though both award BIS research good marks, the ratings by the latter are rather higher. On the basis of the accompanying comments (discussed further below), we attribute this to the particular value attached to BIS work on financial issues, such as cross-border banking flows, coupled with the suggestion that some BIS work on monetary policy is deemed less convincing.

Chart 6 shows the responses to the same question from academic and private-sector economists, together with an aggregated response across all the central bank respondents for comparison. For the academic economists, we have split out those who have visited the BIS and might be expected to have a more favourable view of the BIS. Although the samples are small, the marks from academic and private-sector economists are just as impressive as from the central banking fraternity.

*Chart 6: How much difference does BIS research make to how you think about policy?*



Note: Figures in brackets indicate number of responses.

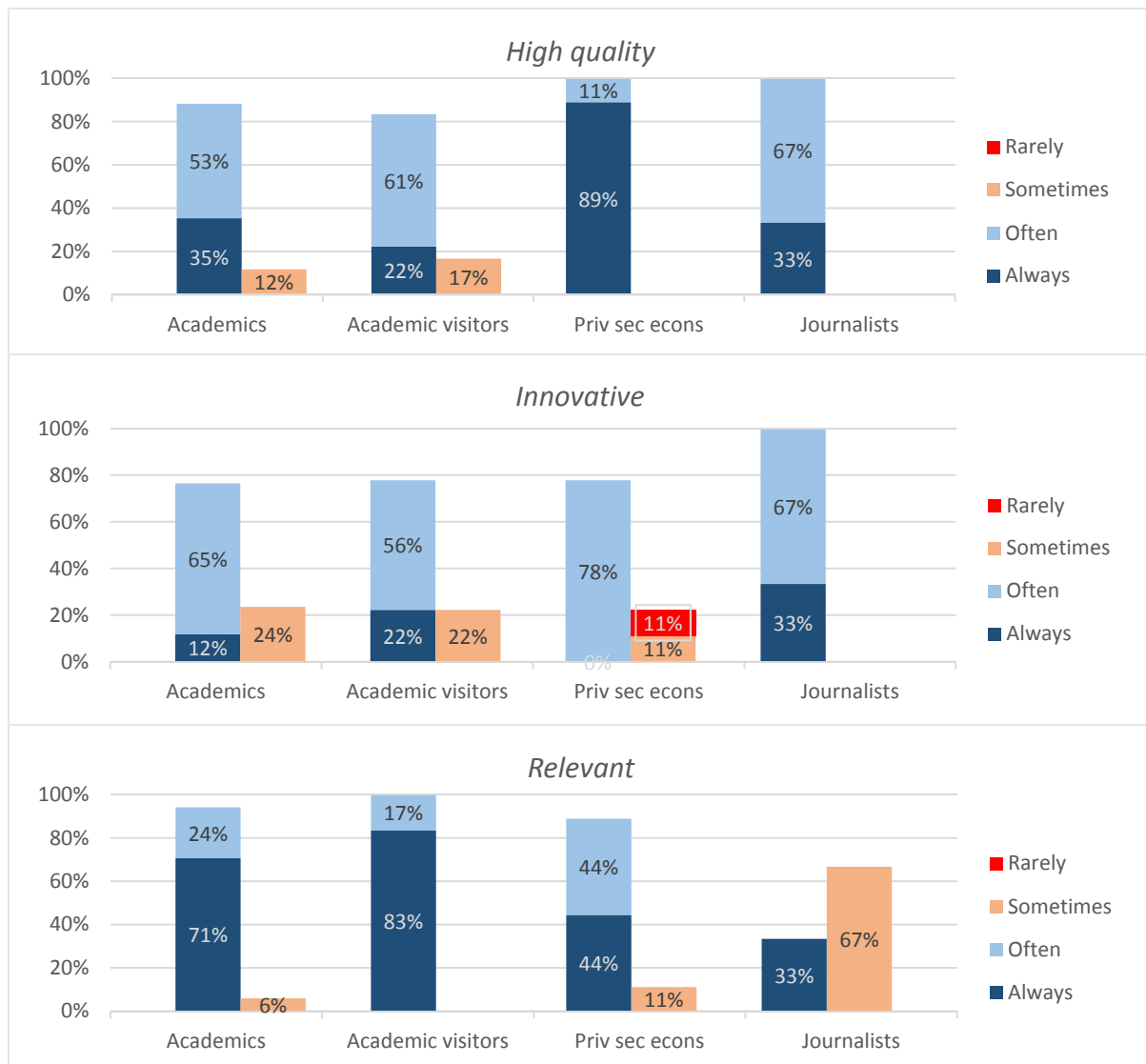
The survey thus suggests that the official sector gets significant overall value from BIS research. The same is generally true for the small pool of academic and private-sector respondents. But what do the respondents think about its quality and other attributes? Chart 7 below shows central bankers’ responses to Q3 of the survey, which ask for the respondent’s assessment of, respectively: quality; clarity; relevance; persuasiveness; and policy interest. These show high rankings for four of these five attributes, though the assessment is noticeably less favourable along the persuasiveness dimension.

Chart 7: Attributes of BIS research (Central banks)



The corresponding question to academic and private-sector participants asked about a slightly different set of attributes, more appropriate to their interests: quality; innovativeness; and relevance. The results appear in Chart 8. Not surprisingly, as far as academics are concerned, it does not rate so highly on the quality front, though the results are still quite commendable. And while the academics' scores for innovativeness are slightly lower again, given that BIS research does not generally aspire to methodological novelty, the results are still quite good in an absolute sense. The accompanying commentary (see below) suggests that this is associated with the BIS's knack of unearthing interesting, important and hitherto unknown or unappreciated, facts about the financial system<sup>5</sup>.

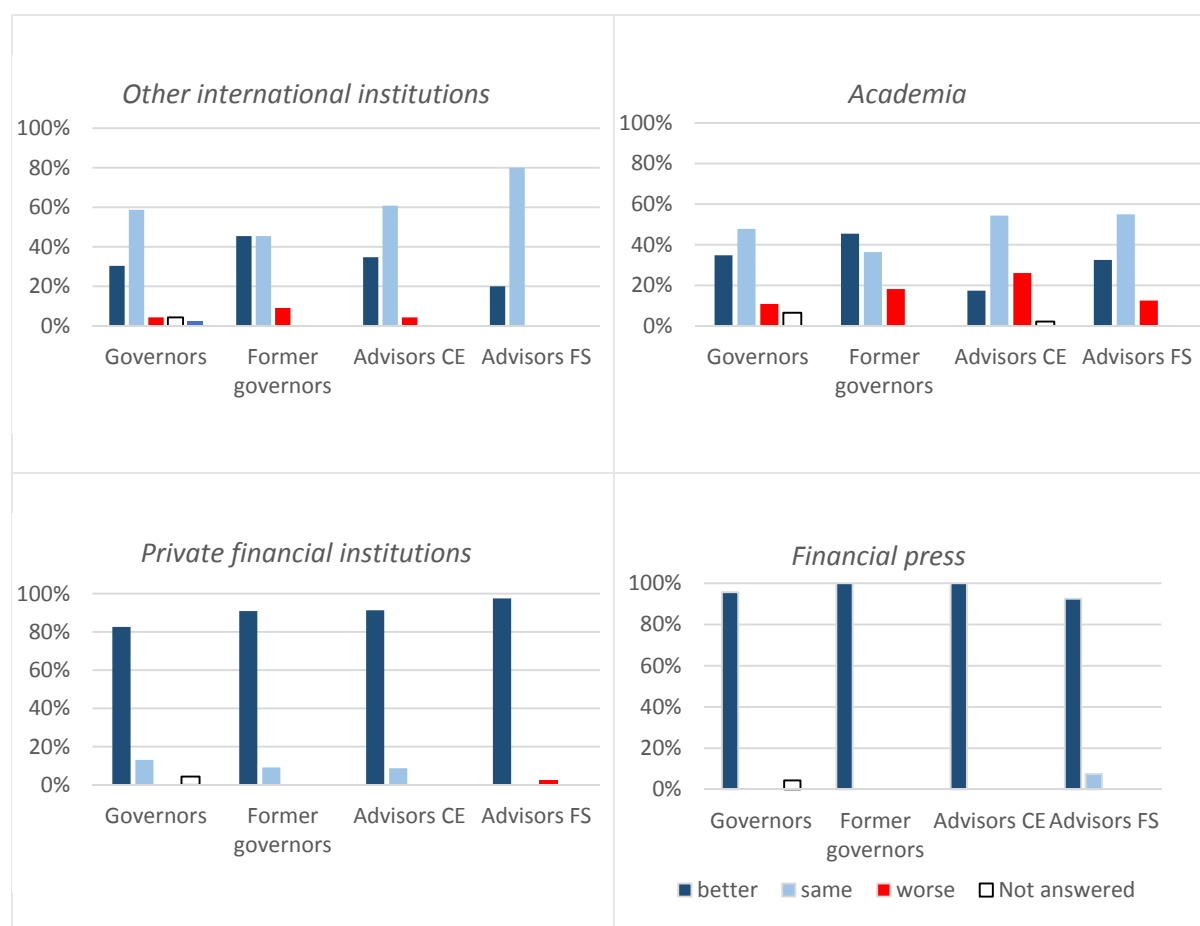
*Chart 8: Attributes of BIS research (Academics and private sector)*



<sup>5</sup> Consistent with this, a supplementary question to academics regarding the impact of BIS research on the academic research agenda finds that 26% of respondents believe that it has a large influence, while another 57% believe that it has some.

The survey sent to central banks also probes into the quality and relevance of BIS research and analysis compared to that produced by other bodies: other official institutions, such as the IMF; private-sector financial institutions; academia; and the financial press. The results for quality appear below in Chart 9. BIS research is generally seen as being at least as high quality as that produced by other official institutions. The one comparator group against which BIS research is somewhat less highly rated is in comparison with academia. That is hardly surprising, given the stress placed on quality and rigour in published academic research.

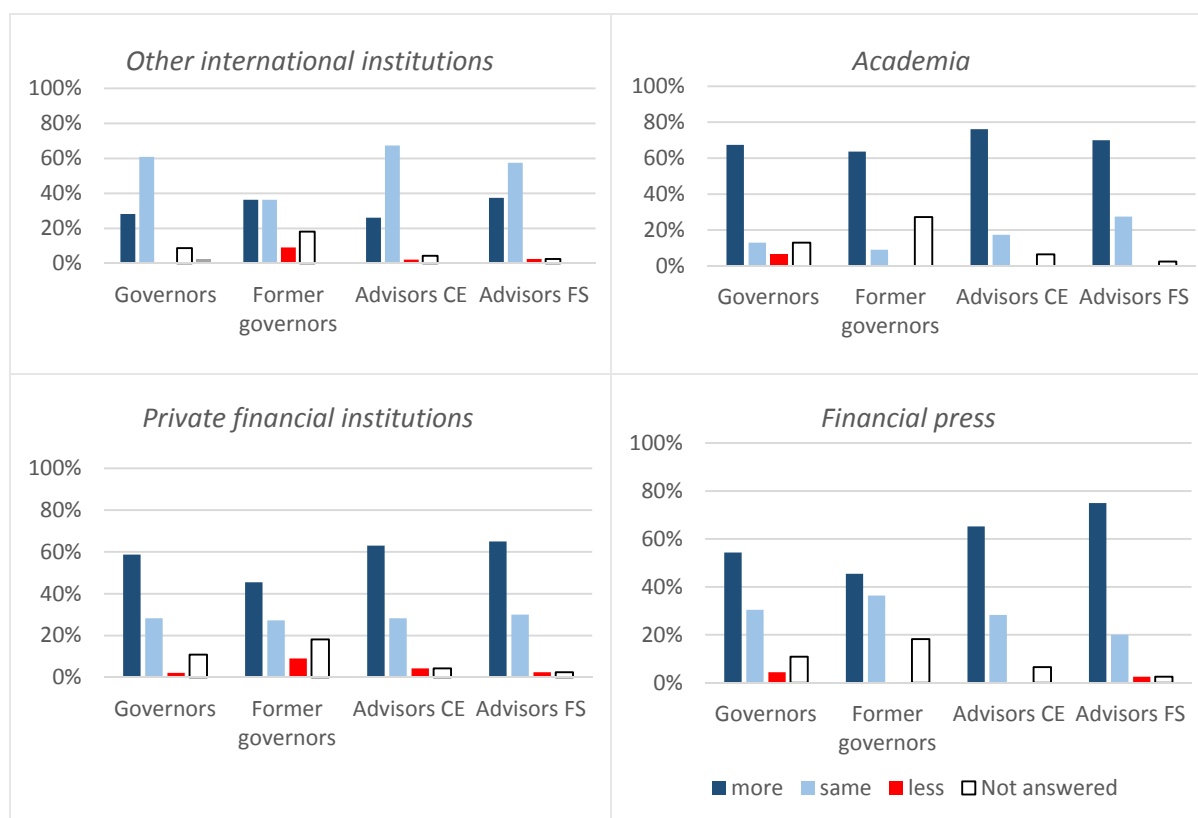
*Chart 9: Quality of BIS research, compared to:*



Notes: CE=Chief economist/Head of monetary policy; FS=Head of financial stability.

Chart 10 below provides the analogous results in respect of central bankers' comparative assessment of relevance. BIS clearly dominates relative to academia, and generally is also ranked ahead of the output of private financial institutions and the financial press. And broadly speaking, it is on a par – if not ahead – of the output of the IMF, OECD, etc.

Chart 10: Relevance of BIS research, compared to:



Notes: CE=Chief economist/Head of monetary policy; FS=Head of financial stability.

Turning to respondents' written comments, inevitably these cover a lot of territory – several pages worth, in fact! It is consequently all but impossible to do justice to the full range of opinions and suggestions expressed, so the aim here is simply to provide a flavour of some of the recurrent themes. But to ensure that valuable information is not lost, BIS senior management have also been provided with a bowdlerised and suitably anonymised version of those written comments.

The first thing to be said is that the central bank respondents' comments are generally positive, consistent with the encouraging survey scores. There is plenty of praise for the BIS's knack of identifying emerging issues in a timely fashion, especially in the financial stability sphere. Typical responses from Governors include:

*"We would like to congratulate the BIS for providing excellent, topical and policy-relevant research. This research has often been a relevant source of information in our own macro- and micro-financial assessments."*

*"The research work conducted by the BIS is generally very useful and appreciated for policy making and for our general knowledge base."*

*"Most research and data provided by the BIS is very relevant and high quality. BIS thinking on Basel II and III, and concentration risks has been very useful. Also helpful for getting up to speed on macro financial vulnerability, in particular the work by Claudio Borio."*

*"The research on financial stability issues, recently led by Hyun Shin, has been excellent in helping us think about the configuration of the global financial system after the financial crisis."*



And from advisors:

*“Among the international organizations, BIS is to be considered as a benchmark for the quality and the policy-relevance of its research activities. It is also striking how frequently BIS research timely anticipates serious policy issues.”*

*“The research at the BIS has carved out a niche highlighting at an early stage issues which have been neglected by other institutions, particularly in regard to the interactions between the financial sector and the broader economy... I think a great job has been done in exploiting its comparative advantage and bringing onto the table issues which have been underplayed by other institutions.”*

*“BIS research is an authoritative source of financial stability-related analysis both conceptual and policy-wise. I greatly value it, particularly given the pioneering nature of much of it.”*

However, a significant minority of respondents express some reservations. Eight out of the 41 written responses note a tendency for analysis and research to be slanted to support a ‘house view’, particularly in regard to monetary policy. Examples include:

*“...on occasion there appears to be a BIS ‘house view’ which permeates research output in such a way that the uncertainties around BIS research findings and policy positions are played down...this manifests itself through the interpretation of empirical or theoretical results in a way which is consistent with the BIS policy line, with little discussion of other interpretations.”*

*“Research credibility is hurt, and relevance limited, by unvarying support and advocacy of ‘house view’.”*

*“I am a supporter and admirer of BIS research...I have been less clear whether BIS’s judgement, eg on stance of monetary policy, has been quite as well grounded on research.”*

*“BIS would benefit from more even-handed presentation of key monetary policy issues.”*

A few respondents also note that relatively little BIS research finds its way into academic journals.

Turning to the responses from academics, similar themes emerge. Several respondents note the value of BIS data sets, particularly the international banking statistics, but also those for house prices, credit and exchange rates. Particular value is also placed on the ability to unearth interesting and previously unknown facts.

*“I view the BIS research output, at least in MED, and especially regarding financial markets, as superb. They provide a link between market practice (deep understanding of functioning of markets and instruments) and policy that no other international organization can match.”*

*“Despite an often strong meta prior (‘the world is coming to an end’), the work is nearly always interesting, and well informed.”*

*“On data, the BIS has stepped up quite a bit; besides the International Banking Statistics, which are unique in their own way and improving, BIS now put out data on house prices, credit series for non-financial corporations and households, as well as exchange rate indexes. This is generally good quality and useful, and indeed the BIS could do more, say on collecting indicators of financial sector policies.”*

As regards quality, while several respondents note that it is improving, they also note that it can be variable and that it is mostly not quite 'top notch'. Examples include:

*"The research meant for academic publications is not the very top notch stuff at this point. They should be willing to work with academics to produce the highest quality research with the great data they have."*

*"I think the quality and relevance of BIS research varies quite a bit. Some is very good and important, and other less so. I think the overall average is slightly below the quality at, say, the Federal Reserve Board or the European Central Bank."*

*"On research, it is much more mixed. Quality is ok and very diverse, with the main indicator is how little of it ends up in respected academic journals. As a consequence, it is taken less seriously, at least by academics...It is getting somewhat better with the new chief economist and some recent recruits, but still has a way to go, even compared to many central banks."*

*"I feel that the BIS research is under-appreciated and little read by the academic community. The researchers rarely present their work at academic conferences, and do not necessarily seek to publish the results in well-recognized academic journals. It is not surprising, therefore, that few academics – outside the top academics who may present at the annual conference or be invited to present – know about the BIS and its work."*

And several (six out of 22) again comment on the apparent slanting of research to support a house view. Typical examples include:

*"I have the feeling that some BIS research starts with a prior view for which evidence is sought. I think it would be desirable to reduce this bias in BIS research."*

*"The quality upward trend over the past few years is impressive....My only concern is that there is a 'BIS view', which is good, but may stifle research if pursued in a monolithic way."*

*"I have often the impression that the results of BIS research are somehow 'cooked' until they support the BIS policy views. Results that do not support the BIS view are rarely published."*

The panel's own broad assessment of the quality of BIS research, based on a reading of a selection of recent working papers and other publications, is broadly consistent with the above. BIS research is often at its most interesting when uncovering novel facts using new (or previously unexploited) data, particularly in respect of financial markets. Empirical work is generally competently executed, though usually employing standard techniques rather than exhibiting methodological novelty. Work of a more theoretical nature is sometimes less convincing, though there is relatively little of this in any case. Overall, while there are some excellent pieces of research of the highest quality, we judge the average quality to be at the level of a good economics department, albeit not a really top one. And compared to peer central banks and international financial institutions, the BIS also compares favourably. Sometimes, however, the link from research to policy prescription is not as convincing as it needs to be.

Taken together with the bibliometric data, the survey responses suggest that the BIS is already doing a lot right when it comes to its research effort. BIS research is not in any sense broken and that should be kept in mind throughout the remainder of this report. But, however good an operation is, one can always find scope for further improvement, and that is the task facing the review panel. If the

discussion that follows appears critical at times, it is only because we are seeking to increase further the utility and impact of an already highly effective research function.

## The research agenda

BIS research has spanned a very wide range of topics over the past few years. A flavour of the breadth of the research program is given by the titles in Annexes B and C. These pieces span – in roughly equal measure<sup>6</sup> – topics in the fields of: banking and financial market structure; financial stability and financial crises; international finance; and macroeconomics and monetary policy. The substantial body of work on international credit and capital flows and their implications for the risks to financial stability represent a particularly important contribution to the knowledge base of both policy makers and academia.

The breadth of the research effort is especially notable given that quantum of resources devoted to research at the BIS is just 60 people. That is quite modest compared to the research resources of major central banks and large international institutions (though, as noted earlier, they also have policy responsibilities that may crowd out research time). Plainly, BIS staff cannot be expected to cover every conceivable topic of interest in these fields. It is therefore important that research resources are deployed wisely and in a manner that exploits the comparative advantages of the BIS and seeks to complement, rather than replicate, research conducted elsewhere. As noted earlier, the BIS, as it lacks the significant operational responsibilities of its shareholding central banks, is particularly well-placed to stand back from the everyday hurly-burly of policy-making and adopt a somewhat broader perspective. Arguably it did exactly this during the years preceding the Global Financial Crisis, when BIS staff warned repeatedly of the growing risks from the build-up of debt.

Despite the laudable breadth of the research effort and recognising the constraints on resources, the panel were struck by three areas where research had been somewhat lacking. First, a major focus of policymakers' attention since the financial crisis has been on improving the robustness of financial institutions through regulatory and structural reforms. Given the BIS's prescient warnings ahead of the financial crisis of the building risks to financial stability, one might have expected to see the BIS in the vanguard of thinking about regulatory design questions, such as optimal minimum capital ratios and the design of liquidity regulation, which should surely be the first line of defence against the risk of financial instability, as well as undertaking more work on the practicalities of macroprudential policies. Instead, the focus was on the implications for the conduct of monetary policy.

The BIS has certainly provided considerable practical support to the post-crisis regulatory effort, in particular through the Secretariat of the Basel Committee on Banking Supervision (BCBS) and through the execution, at the behest of the BCBS, of the Quantitative Impact Study of the new regulations and their possible macroeconomic impact through the Macroeconomic Assessment Group. And BIS research on macro-prudential policies – in particular, the countercyclical capital buffer and capital add-ons for GSIBs – provided important inputs to the later stages of the Basel III process. It is notable, though, that there seems to have been relatively little relevant BIS research already on the stocks at the *outset* of the crisis and that much of the initial thinking by regulators was somewhat 'on the hoof';

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<sup>6</sup> Some pieces could be classified to more than one field, so any quantitative allocation is necessarily somewhat arbitrary.

the BIS input thus seems to have been predominantly reactive, rather than anticipatory. This suggests that it would be useful to try to think further ahead when drawing up the research agenda.

When the panel asked about this lack of research on regulatory topics before the crisis, we were told that researchers had been wary of venturing into this territory unless specifically directed by BIS senior management because only some shareholder central banks carried responsibility for supervision. Even so, given the willingness of BIS researchers to adopt a heterodox position ahead of the financial crisis and the centrality of bank regulation to reducing future risks to financial stability, the panel found the reluctance to initiate work in this area somewhat surprising.

Second, although the BIS was an early proponent of using macro-prudential policies to manage the credit cycle, much of the associated BIS research and policy advice continued to focus instead on the use of LAW in monetary policy to mitigate financial stability risks. Indeed, in the outside world, this is – for better or worse – the view that the BIS is probably most associated with. Yet so far the argument for LAW seems to have cut relatively little ice with those actually responsible for setting monetary policy. In part, that is because of the lack of convincing evidence that the expected benefits outweigh the expected costs. Given the BIS's prominent stance on this issue, including in the *Annual Report*, the panel thought there could have been more research analysing exactly *how and when* monetary policy should respond to excessive credit growth, with more attention paid to quantifying the costs and benefits of such a policy.

Instead, it has been mainly researchers outside the BIS who have sought to quantify the costs and benefits, e.g.: Ajello et al. (2015); Gourio et al. (2016); and Svensson (2016). Moreover, that body of work generally suggests the cost-benefit calculus is rather unfavourable to LAW unless the costs of financial crises are really very large indeed. Only quite recently have BIS researchers engaged on this, with Boxes IV.B and IV.C of the latest *Annual Report* drawing on internal research that only became publicly available as a working paper nearly six months later (Filardo and Rungchareonkitul, 2016). Again, a more strategic view of what research is needed might have led to more timely work of this nature. It also raises a related question about in-house modelling capabilities (see Recommendation 5 below).

More generally, most of the research prompted by the financial crisis – including at the BIS – has focussed on what went wrong. But the financial systems in many countries, especially but not exclusively in emerging markets, proved resilient. To what extent did that resilience result from tougher regulation, idiosyncratic characteristics of those financial systems, or the pre-emptive use of monetary policy to curtail incipient financial imbalances? Perhaps more analysis of what went right might prove instructive.

A third area where the panel thought the BIS might have done more research was on the impact of the persistently low interest rate environment on the business models of banks, asset managers and insurers and on the structure of financial markets. This would seem to be a natural complement to the BIS's work on its impact on risk-taking and financial imbalances. Moreover, the BIS is in a particularly good position to take a cross-country view of this issue, drawing on evidence from many jurisdictions. The review panel noted with approval, however, that more work had been undertaken on this topic recently and that more is planned for the future.

There is, of course, no shortage of potential research areas and topics that BIS staff might reasonably seek to investigate. Indeed, that comes out quite clearly in our survey of central bank governors and

their senior staff. This report is not the right place to opine on the BIS's future research agenda. But given the limited resources available, the panel believes that BIS research should seek to exploit areas where it has a comparative advantage relative to central banks and academia. These would seem to be:

- An international vantage point on current and emerging financial issues;
- An ability to stand back from immediate policy concerns to focus on the medium and long-term dimension;
- And the exploitation of its cross-country financial data sets, such as those on international banking, house prices, credit and exchange rates.

### Setting the research agenda

This leads naturally to the question of how the research agenda is set, and by whom. In principle, ideas for research projects can originate from (at least) four quarters: from the senior management of BIS and MED (top-down); from the researchers themselves (bottom-up); as a by-product of the bi-monthly meetings of governors; and in response to developments in the wider economics profession. Not surprisingly, the first two channels dominate, though governors' discussions also have some indirect influence. During our meetings with staff, the panel heard that the process had been quite bottom-up during Steve Cecchetti's time but that there had been rather more top-down influence since his departure. Moreover, processes were still evolving.

Given the surfeit of research questions and the scarcity of research resources, the panel believe that there needs to be essentially two stages to the identification of the research agenda. The first stage is to identify the main themes and questions that need to be investigated. This exercise should be strategic in nature, starting by identifying the key gaps in knowledge that need to be filled by research over the next two to five years. It should be forward-looking, tackling knowledge gaps and emerging issues, rather than revisiting past battles. This constitutes the research *agenda*.

While the delineation of the research agenda could (and ideally would) be informed by discussion within the institution, the ultimate responsibility for it must rest with BIS/MED senior management. It would therefore necessarily have a significant top-down element. That research agenda should be updated annually on a rolling basis. We also think it valuable for it to be endorsed periodically by the Board of Directors. The Board emphatically would *not* be expected to engage in the micro-management of the BIS research effort. Rather, consultation is intended to allow the stakeholders to point up any major gaps and to provide endorsement of the general direction of travel.

In November 2013, senior management provided a report to the Board on MED's research activities. Among other things, the report identified three key themes for future research:

- The (changing) characteristics of financial intermediation;
- Post-crisis monetary and financial stability policy frameworks;
- The global economy and international policy spillovers.

We understand that this was the first time such a research agenda had been submitted to the Board. These themes were subsequently re-iterated in the Board document entitled *Strengthening research at the BIS*, dated November 2014.

The panel thought that these were sensible broad research themes at the current juncture. In particular, as noted above, the panel would like to see more work on the consequences of persistently low interest rates for the structure and operation of financial markets (it can be thought of as representing a sub-component of the first theme).

While the November 2013 and November 2014 Board papers outlined broad research themes, they were rather light on the specific questions to be investigated. Future research agenda documents should contain a rather fuller description of these. They should not, however, get into the detail of exactly how the constituent questions would be investigated, i.e. the specifics of individual projects, though management would need to be confident that progress was possible. There is, after all, no point in posing questions that are unanswerable!

- ❖ *Recommendation 1:* Senior BIS/MED management should articulate a clear strategic vision of the issues that the BIS research programme will seek to address over the following five years; that research agenda should be submitted to, and endorsed by, the Board of Directors, on an annual basis.

### Devising the research programme

The second stage involves turning the list of questions in the research agenda into a list of specific individual research projects: the research *programme*. That should contain elements of both top-down and bottom-up approaches. MED management will no doubt have ideas of suitable projects, but so too will individual researchers and allowing room for ideas for projects to ‘bubble up’ is central to generating a vibrant and innovative research environment.

The panel is less convinced that this second stage has worked as well as it could. As described in the document entitled *Research co-ordination process in 2015-16: An assessment* (Gambacorta, 26 June 2016), during the most recent completed annual cycle the process started with a high-level post-mortem evaluation of the themes and issues that emerged during the preparation of the *Annual Report*. This provided the starting point and was followed by a brainstorming meeting within MED to identify a set of projects to pursue over the next year or so, with a view to generating not only research output suitable for the Working Paper series but also material that could be drawn on for the following year’s *Annual Report*.

There thus appears to be a strong link between the *Annual Report* and research programme cycles. Indeed, we were told in discussion that which research projects were undertaken was rather reactive and quite heavily influenced by short-term needs. The link with the research agenda identified in the Board papers seems to be at best indirect (though obviously the *Annual Report* will be preoccupied with similar issues). It is, of course, entirely appropriate that the BIS’s research activities should be responsive to emerging issues identified in the *Annual Report*, as well as to the current interests of the stakeholder central banks. But our impression is that too much of the BIS’s research activity has a short-term focus, whereas the BIS is unusually well placed to adopt a longer-term perspective.

The lack of connection to the high-level research agenda is also reflected in the work programme being classified under just two headings (‘Integrating financial stability into monetary policy framework’; and ‘Financing the real economy’), while a subsequent brainstorming meeting was organised around four themes (‘Financing and financial intermediation’; ‘Monetary transmission’; ‘Monetary policy frameworks’; ‘Global macro-financial issues’)! Although related to the three themes of the research

agenda, this hardly suggests a process that is joined up. At a minimum, having so many different organising frameworks makes it harder to track progress and enforce accountability for delivery.

Turning to the programme itself, we were provided with a list of no less than 230 supposedly active research projects (again organised under four broad thematic headings, not the three themes of the high-level agenda). At first glance, this is witness to an amazingly active research environment, with an average of roughly five projects per researcher. However, during our meetings, we were told that this was, in practice, more in the nature of a 'wish list' and the actual number of projects under way was rather fewer. The roster of chosen projects should be realistically achievable and broadly stuck to, rather than an excessively long wish list.

The panel also thought that in some cases the research programme appeared somewhat 'one-eyed' and not very ambitious. For instance, Annex C of *Research co-ordination process in 2015-16: An assessment* lists nine projects that correspond to the theme 'Integrating financial stability into monetary policy frameworks'. The first and (to some extent) the fifth seem motivated primarily by a desire to overturn Svensson's (2016) conclusion on the inadvisability of LAW, while five of the others, though interesting, appear to be reasonably conventional macroeconomic exercises without any particular link to financial stability and which might be carried out in any central bank. Only the third and seventh seem to have a distinctive financial stability angle.

One would think that an attack on this issue might usefully come from a microeconomic as well as a macroeconomic perspective. For instance, several European banks are in trouble and another round of bank failures may be in prospect. The flattening of the yield curve, in part through quantitative easing, has contributed to the squeeze on banks profit margins and made it harder for them to rebuild capital organically. So one would have expected at least one project to look at the effect of low (including negative) policy rates and quantitative easing on banks' profitability and solvency. The impact on other financial institutions, such as insurers and pension funds, would also be of interest. Such analysis would shed more light on the costs of stimulatory monetary policy at the current juncture and might also point to other mitigating actions.

As it is, the research effort under the theme of 'Integrating financial stability into monetary policy frameworks' seems excessively focussed on building the case for LAW, rather than also investigating the scope for other policy actions to address financial stability risks. Moreover, it also seems unduly concentrated on the experience of advanced economies, when the experience of emerging and developing economies also offers lessons. The BIS ought to be well placed to undertake such international research.

❖ *Recommendation 2*: The research programme should be: linked more transparently to the research agenda; less motivated by short-term objectives; more holistic; and realistically achievable.

The panel understands that the 2015-16 research priorities exercise represented something of a transition year and this year's research priorities meeting, which took place in late September just as the panel was finalising its report, has already moved somewhat in the direction of Recommendation 2. Naturally, we welcome this and hope that progress will be maintained in 2017.

The panel also believe that there may be scope for more interaction with the wider economics profession in regard to both the identification of the research agenda and its pursuit under the

research programme. This is discussed later in the section entitled *Interaction with outside researchers*.

### Executing the research programme

Turning to the execution of the research programme, our interviews with staff generally suggested that the BIS provides a congenial and mutually supportive environment for the conduct of research. Several staff members said that they liked working in an institution that sought to integrate research into policy making and where “*out of the box*” thinking was possible. The panel were also told that the BIS was commendably flexible in accommodating staff needs, e.g. working from home when needed.

Several staff, however, noted that on some questions – especially in relation to monetary policy – there was a ‘house view’ that was justified by only rather flimsy theory or limited evidence. Examples given to us included: the need for monetary policy to incorporate financial stability concerns; the presence of diminishing returns to unconventional monetary policies; and the importance of taking account of international spillovers in setting policy. Staff said there was sometimes implicit pressure to deliver research findings supporting the ‘house view’, which could distort the choice and design of research projects and the way research was conducted. As one staff member put it, “*the Annual Report is the theory on which our work is based*”. It is notable that these comments about the influence of the ‘house view’ in guiding research echo some of the critical responses to the survey that were cited earlier.

Now the panel recognises that a ‘house view’ probably constrains research to some degree in many, if not all, official institutions. Senior management is bound to have prior views and it is natural that they should influence the institution’s research. But it is crucial that those views are also open to refutation. The BIS has often staked out a somewhat heterodox position at variance to the conventional wisdom. Indeed, several respondents to our survey in their written comments particularly applauded this, even though they simultaneously disagreed with the BIS’s stance (see, for instance, some of the earlier quotations from the survey responses)! If the BIS is to adopt a critical or unconventional stance with respect to its stakeholder central banks, it should also be prepared to expose its own views to critical evaluation. This should start with ensuring that its own in-house research is always conducted in an open and unbiased fashion, rather than tailored to support the ‘house view’.

- ❖ *Recommendation 3*: Individual research projects should be conceived and conducted with an open mind as to the outcome and the tailoring of research to support the house view avoided.

The panel would like to stress the distinction between the key role that senior management has in setting the research agenda (Recommendation 1) and the subsequent open-minded pursuit of that agenda by the staff (Recommendation 3). That distinction is key if the institution is to avoid itself falling foul of ‘group think’.

Accordingly, the panel believes that the development and conduct of research needs to build in more scope for challenge and for the results of research to shape the house view, rather than being shaped by it. There are a variety of ways this can be fostered. Some are already in place, for instance the recently instituted half-hour seminars to present work at an early stage and the use of external referees on potential working papers. Innovations might include assigning a formal ‘Devil’s Advocate’ to advance a contrarian view in some meetings, such as those developing the material for the *Annual*



*Report*. But the most important thing is that senior and line management sends a clear signal that it values research that challenges the house view, as well as research that supports it.

❖ *Recommendation 4*: Foster a more self-critical culture that welcomes challenge.

Turning to research capability, BIS research staff are generally highly able and suitably qualified, with a range of specialist skills and knowledge appropriate to the task. Earlier, however, we noted that BIS research and analysis so far appeared to have had only limited traction with actual policy makers. In only a few instances has monetary policy been conducted with a concern for financial stability, and even then has been treated as exceptional. In part, that reflects the lack of a persuasive cost-benefit analysis. But more generally BIS policy advice is often generic (e.g. ‘a long period of low interest rates engenders financial stability risks’) rather than specific (e.g. ‘the US Federal Reserve should tighten policy more rapidly this year’)<sup>7</sup> and is consequently less persuasive than it could be; this is consistent with the survey responses (see Chart 7).

In the panel’s view, the BIS would therefore benefit from having a more effective bridge from its research and analysis to practical and concrete policy advice, in the form of a macroeconomic forecasting and simulation capability. Such a capability might also facilitate the BIS’s engagement with a wider range of current economic challenges. For instance, in some jurisdictions the primary issue remains how to add sufficient stimulus, rather than negotiating the exit from unconventional policies or mitigating financial stability risks (see, for example, the most recent IMF *World Economic Outlook*).

The panel does *not* recommend that the BIS invest in building and maintaining its own model. That would require the diversion of a rather large share of the total quantum of resources for research into macroeconomic modelling. However, it is possible to buy in such capability at relatively low cost. For instance, a number of organisations, including the Bank of England, employ NiGEM<sup>8</sup> for the production of international economic forecasts and the simulation of alternative policies. No doubt there are alternatives.

Summing up, for BIS policy recommendations to have more traction, a fuller analytical and quantitative framework is desirable.

❖ *Recommendation 5*: The BIS should consider investing some of its research resources in establishing a macroeconomic modelling and simulation capability, most probably based around an extant external model (or models).

## Communication of analysis and research

The BIS communicates the results of its research efforts through a variety of routes. These include: tailored notes specially prepared for the bi-monthly Governors meetings and, on occasion, for international meetings; the *Annual Report*; the *Quarterly Review*; the Working Paper series; and publications in external outlets, including professional journals and conference proceedings. This section of the Report assesses the effectiveness of these various channels and, where appropriate, makes suggestions for improvement.

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<sup>7</sup> We recognise, of course, that such advice might sometimes be better delivered privately in Governors’ meetings, rather than publicly in the *Annual Report*.

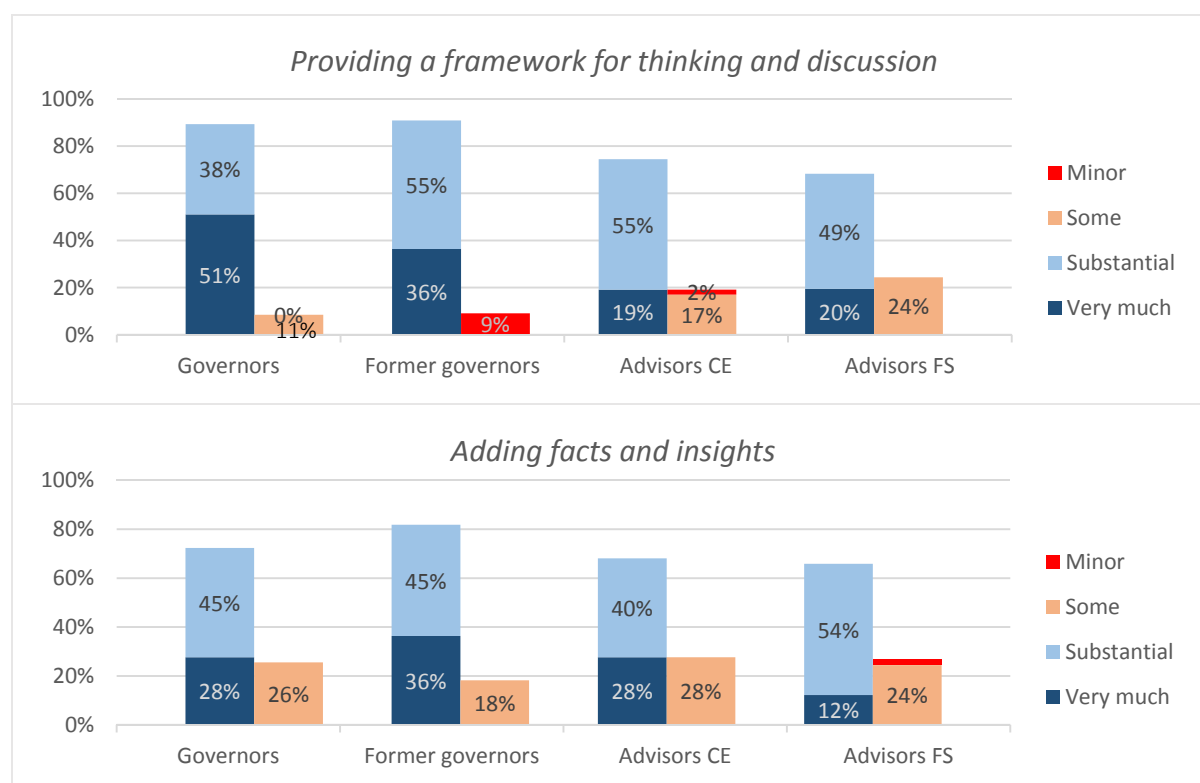
<sup>8</sup> NiGEM is the Global Economic Model maintained by the National Institute for Economic and Social Research in London.

## Meeting papers

Chart 11 below shows central bank respondents' assessment of the notes prepared for Governors' meetings. For the most part, these appear to hit their mark. These notes are, of course, a long way short of what would pass muster as research in academia, though sometimes they may be subsequently developed into something more substantial. Moreover, they will often be prepared under considerable time pressure and for that reason may be somewhat superficial. On the other hand, some of them contain facts and ideas that are potentially of interest to a broader audience. For this reason, where confidentiality is not an issue, we advocate putting more of this work into the public domain (a possible home is in the *Quarterly Review*; see below).

- ❖ *Recommendation 6:* Confidentiality and quality permitting, place more of the analysis contained in meeting notes into the public domain and in a timely manner.

Chart 11: Attributes of meeting notes



Notes: CE=Chief economist/Head of monetary policy; FS=Head of financial stability.

## Annual Report

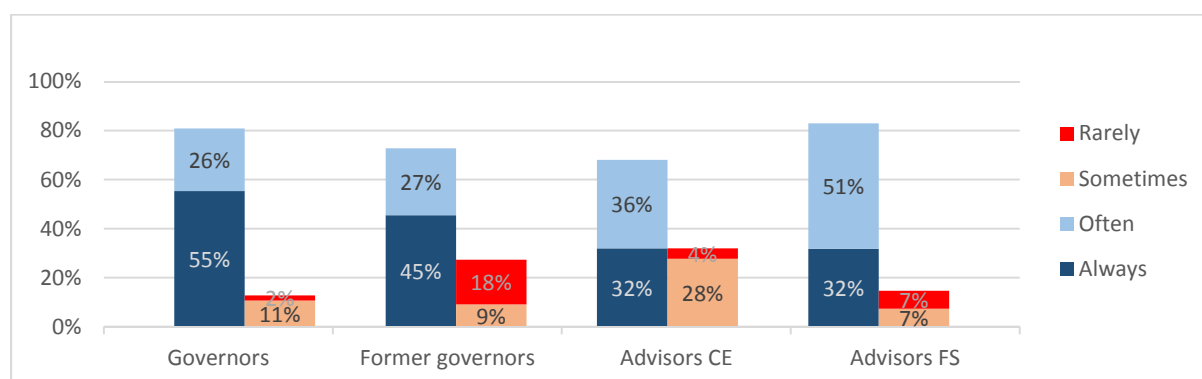
The *Annual Report* represents the primary channel for presenting the BIS's view of the world externally, as well as a vehicle for the necessary presentation of the Bank's financial accounts and reporting on other operational matters. It is a long document, with the economic commentary taking up around 120 pages, and the accounts, etc., also taking up around the same. Historically, the *Annual Report* focussed on enumerating the challenges and risks facing central banks. More recently, it has also tended to push a stronger view on the appropriate policy responses.

The *Report* attracts attention in central banks and other official institutions. It sometimes also attracts the attention of the financial media and private-sector financial institutions, though rather less so than the IMF's *World Economic Outlook*. It gets relatively little traction in academia. For comparison purposes, the *Annual Report* gets about the same number of downloads from the web as the Bank of England's *Inflation Report*. Since the *BIS Annual Report* should be of international interest, while the Bank of England's *Inflation Report* is primarily just of interest to people in the United Kingdom, this seems rather disappointing.

Chart 12 below gives central bank respondents' evaluation of the usefulness of the *Annual Report*. While still positively regarded, attitudes are a little more lukewarm than for the meeting notes.

Clearly, the organisation needs to produce an annual report containing its accounts and details of other operational matters. There is also a good case for a regular document setting out the institution's current view of the world and the policy challenges. However, they do not need to be in the same publication, and splitting the two would generate a free-standing document on the economy that would, at least in appearance, be more digestible. It might also allow some of the preparatory work for the *Report* to be distributed more evenly over the year.

Chart 12: Value of Annual Report



Notes: CE=Chief economist/Head of monetary policy; FS=Head of financial stability.

The production of the *Report* is also, we were told, quite resource-intensive. In part, that appears to be a consequence of the need to ensure that what is quite a long discussion is internally consistent and coherent with the house view. Consideration should be given to producing a shorter and more concise discussion of the economic and financial outlook and the policy challenges facing central banks. This could then be supplemented by a small number of thematic pieces, exploring key issues in more depth, drawing on in-house research and analysis. The main authors of these pieces could be indicated in each of these notes. Such a publication would thus follow the format of the IMF's *World Economic Outlook*, though with the focus on monetary and financial matters, and would, we believe, be more attractive to readers, less resource-intensive to produce, and offer an outlet to showcase more of the BIS's own research and analysis. At the same time, some re-consideration might be given to ways of increasing the impact of the launch of the *Annual Report*, for instance having a panel to discuss the main themes therein.

- ❖ *Recommendation 7:* Consider splitting the *Annual Report* into separate ‘economic’ and ‘management’ documents and replacing the present long discussion of the economic outlook, risks and policies with a shorter, more focussed, piece, supplemented by individual pieces on topical themes.

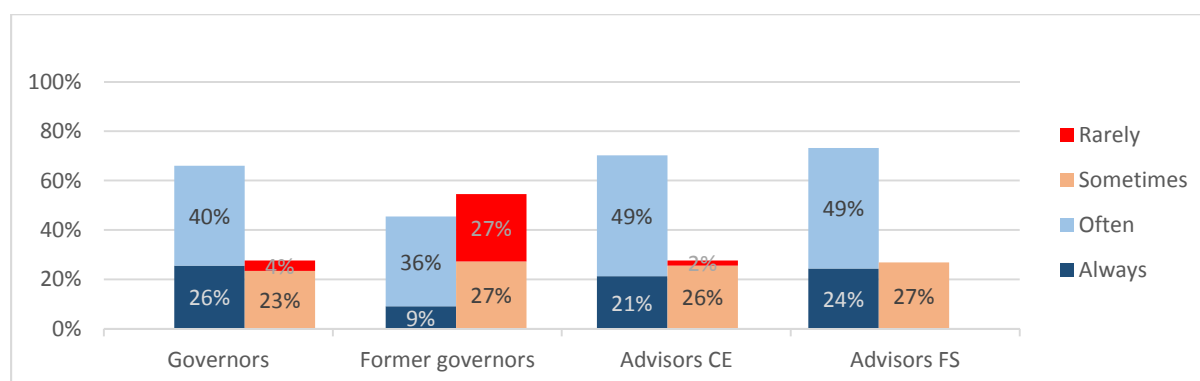
As noted earlier, Box IV.B of the latest *Annual Report* drew on recent internal research that was not placed into the public domain until a long time afterwards. It is laudable that BIS policy publications draw on staff research, but it is crucial that such research is easily accessible to outsiders and can thus be scrutinised. This may have been an isolated instance of bad practice, but in future BIS should ensure that all internal work referenced in publications such as the *Annual Report* and the *Quarterly Review* is readily available.

- ❖ *Recommendation 8:* All BIS documents cited in policy publications should be available, with links embedded in the corresponding digital versions.

### Quarterly Review

The *Quarterly Review* contains commentary on economic developments, thematic applied pieces and regular statistics. Chart 13 below shows central bank stakeholders’ evaluation of its value, which is lower than for most of the BIS’s other products. The panel believe that the *Review* contains some useful material, but judged it to be somewhat uneven, both in quality and content. In sum, it comes across as a bit of a rag-bag, which may help to account for why it seems to command little attention in the economics profession at large.

Chart 13: Value of Quarterly Review



Notes: CE=Chief economist/Head of monetary policy; FS=Head of financial stability.

The panel believe that it would be worth considering whether the appeal of the *Review* could be increased by re-launching it with a more clearly defined identity and in a more reader-friendly format. A variety of models are possible. At one end of the spectrum, one could imagine something like the New York Federal Reserve Bank’s *Quarterly Review* or the Bank of England’s *Quarterly Bulletin*, both of which seek to be accessible to an economically literate, but non-academic, audience. At the other end of the spectrum lies the *IMF Economic Review*, formerly *IMF Staff Papers*, which is rather more like an academic journal. Given the desirability of publicising more of the material produced for Governors’ meetings, something closer to the former seems more appropriate. Each issue of such a

re-launched *Review* could then start with the BIS take on recent economic and market developments, drawing on more of the material prepared for the Governors’ meetings, followed by a selection of accessible articles describing the results of significant BIS analysis and research projects. This would not be so far from the present format, but with a little work it could be turned into a vehicle attracting more widespread attention.

- ❖ *Recommendation 9:* Use a re-launched *Quarterly Review* as a vehicle for publicising more of the BIS’s in-house policy-related analysis and research.

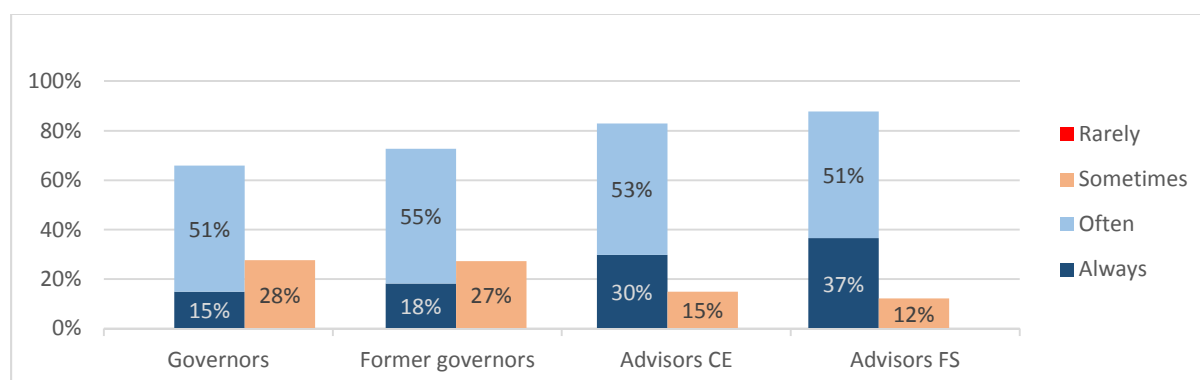
## Working Papers

Working papers represent the classic route whereby economists in both academia and the official sector communicate the results of their research to the profession. The BIS already has a successful working paper series that appears to get reasonably good penetration with central bank economists though perhaps less than one would like in academia. Chart 14 below shows the value placed on BIS Working Papers by the central bank survey respondents. As one might expect of more technical publications, advisors find them more useful than Governors.

There have been several changes to the management of the Working Paper series in recent years, the object being to streamline processes. At present, there is a two-track process in operation, with light oversight of work by experienced researchers or which has already been exposed to external scrutiny, but the employment of (possibly external) referees to scrutinise the work of less experienced researchers. The panel thought this was a broadly sensible approach. At present, the responsibility for providing permission to put research out as a working paper lies with the relevant line manager. The panel heard, however, that there was some heterogeneity in standards across line managers, with some being much more cautious and conservative than others. The panel do not wish to introduce unnecessary extra bureaucracy, but recommend that an editor of the Working Paper series – presumably the Research Advisor – be appointed with overall responsibility for ensuring that a common quality standard is maintained.

- ❖ *Recommendation 10:* While maintaining the existing processes for scrutinising and authorising potential working papers, an overall editor of the Working Paper series be appointed with the objective of maintaining a common quality standard.

*Chart 14: Value of BIS Working Papers*



Notes: CE=Chief economist/Head of monetary policy; FS=Head of financial stability.

A relatively straightforward addition to working papers that would potentially increase accessibility would be to include a non-technical abstract comprehensible to a broader audience, as well as the present short technical abstract suitable for an academic audience. Several other working paper series already incorporate such a non-technical abstract, e.g. Discussion Papers produced by the Centre for Economic Policy Research. Such non-technical abstracts might also provide the basis for material for the *Quarterly Review*.

- ❖ *Recommendation 11*: Add a non-technical summary at the front of all working papers; these non-technical summaries should also appear on the BIS website.

## External publications

As noted at the outset, the annual publication rate in external outlets is currently around one per researcher, though the preponderance of papers with external co-authors and the fact that a few BIS authors are particularly productive, means that the effective<sup>9</sup> publication rate for the typical BIS researcher is rather fewer. Now, as we also recognised above, the publication of research output in conference volumes and peer-reviewed journals should not be the primary objective of BIS research. That would run the risk of distorting the research programme away from issues of interest to central banks. But while the BIS should not produce research *solely* for the purpose of publication in academic journals, publication nevertheless fulfils three important roles:

- It provides external quality control and validation of a piece of research, so adding to its credibility;
- It helps to bring the research to the attention of academia, in a way that publication as a mere working paper may not;
- And it increases the reputation of both researcher and institution, facilitating recruitment and retention.

So, where research is of sufficiently high standard and interest, there are good grounds for going the extra mile to seek publication in an external outlet.

Securing external publication in good-quality academic journals typically requires additional effort after the primary aspects of the research have been completed. So it is important to provide researchers with both the incentive and the space to carry this out. As far as incentives go, some central banks, such as the ECB, more or less explicitly link a researcher's salary and/or career progression to success at publication, with a sliding scale of points according to the quality of the journal. While it may be useful to calculate such indicators for the purpose of monitoring, the panel are wary of having too mechanical a link because of the risk of skewing the type of research carried out towards safer journal-worthy research and away from the more exploratory research that the BIS excels at.

Moreover, from what we heard from staff, the issue is less that researchers are reluctant to put in the effort to secure external publication but more that line managers give the impression that they do not believe that publication is worthwhile. The panel believe, therefore, that the key requirement is for senior and line management to demonstrate that external publication is valued. As well as making clear that publications weigh in the staff annual performance review, simple actions, such as public

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<sup>9</sup> So that a paper with one external co-author gets a half weight, with two external co-authors gets a third weight, etc.

celebration of publication in a good journal – for instance, by sending round a celebratory e-mail – can help to encourage a culture that fosters research and publication.

- ❖ *Recommendation 12:* Line managers should encourage external publication by their staff and ensure that it receives due recognition.

Equally important is the provision of time to carry out the additional work necessary for publication. As a researcher gains kudos from publication, it is reasonable to expect them to put some extra effort in privately. But the reputation of the BIS also benefits, so there is a case for the institution to help by providing some space. In the panel's view, the Research Rotation Scheme is an excellent innovation for ring-fencing research time, including the extra time needed to polish research for publication. In practice, however, it appeared from our meetings with staff that line managers are sometimes loath to release staff onto the Scheme. The onus in rectifying this must rest with MED senior management, for instance by giving line managers the explicit aim of boosting their unit's publication record in their own objectives and then holding them accountable for subsequent delivery.

- ❖ *Recommendation 13:* MED senior management should ensure that the importance of external publication of high-quality research is recognised and acted on by line managers.

### A staff 'research portal'

In recent years, academic, and also official-sector, economists have increasingly relied on the use of blogs and web portals to communicate their thinking, such as VoxEU. This is a very effective way to communicate ideas and research findings in a timely and digestible fashion, with little resource cost. Several BIS economists have already published pieces on VoxEU. However, access to VoxEU is restricted and controlled by the VoxEU editor at the Centre for Economic Policy Research. Moreover, while an author's affiliation is recorded, publication through the portal does not provide a strong signal of the BIS 'brand'.

For these reasons, some central banks have set up their own portals through which their economists can communicate with the wider economics profession. The Bank of England, for instance, has recently set up such a portal (called 'Bank Underground'), which has been welcomed by outside economists and the press. The BIS should consider setting up an analogous portal through which its economists can communicate research findings at an early stage, subject to light-touch oversight.

- ❖ *Recommendation 14:* Consider establishing a BIS research web portal.

### Interaction with outside researchers

Strong interaction with outside researchers, both in the official sector and in academia, is extremely helpful in injecting fresh ideas, keeping up skills, maintaining high standards, increasing BIS exposure, and aiding recruitment. The BIS already does much in this space, with a long track record of attracting visitors from central banks and academia. For example, in the past three years, the BIS has engaged no less than 61 different individuals (54 from academia and 7 from official institutions) as Technical Advisers on 86 different projects, in each case spending around a week at the BIS. Chart 2 and Annexes B and C also highlight the high degree of external collaboration.

Several recent initiatives have sought to strengthen these interactions, including the setting up of:

- The Central Bank Research Fellowship Programme, which seeks to facilitate visits of up to three months by central bank economists with an established track record researching into issues of strategic importance to central banks;
- The BIS Research Network, an informal ‘standing committee’ of active researchers drawn from academia and central banks who meet regularly to share research findings on monetary and financial stability;
- An informal Advisory Panel of established researchers to advise the BIS on emerging issues and to form the nucleus of a collaborative group researching key questions of interest to central banks.

These are thoroughly sensible innovations, which the review panel strongly endorse. In particular, establishing a network of researchers to work on a topic of shared interest seems a fruitful approach, especially when the BIS itself has only limited resources at its disposal. The European Central Bank has had good experience running several of these. And, of course, the Asian and American BIS offices have functioned successfully as the node in local networks of central bank researchers. We would therefore encourage the BIS head office to take this innovation further.

❖ *Recommendation 15:* Intensify use of research networks for collaborative research on topics of interest.

There are several further initiatives that the panel would recommend. First, regarding the development of the research agenda and the associated research programme, we think it would be worthwhile to seek the views and suggestions of the Advisory Panel (indeed, this may already be envisaged). As with the involvement of the Board of Governors (Recommendation 1), the Advisory Panel’s role in shaping the research agenda should only be advisory, though they might have a more active role in helping to shape the research programme itself.

In addition, we think it would be valuable to publicise the research agenda by posting it on the BIS website, in order to encourage outside researchers to work on similar topics and, potentially, to collaborate with BIS researchers. The Bank of England has recently tried this with its ‘One Bank’ research agenda and found it effective in stimulating academic interest, as was an associated one-day launch conference.

❖ *Recommendation 16:* The research agenda should be publicised through the BIS website and other avenues.

External researchers could also be given a more direct role if the proposal to restructure the annual Report in Recommendation 7 is adopted. At the IMF, the thematic chapters in the *World Economic Outlook* and *Global Financial Stability Report* sometimes employ external researchers as consultants. That model could also be adopted by the BIS.

❖ *Recommendation 17:* If Recommendation 7 is adopted, give consideration to involving external researchers in the preparation of thematic chapters of the *Annual Report*.

Finally, while there are many outside visitors and inward secondees to the BIS, it appears that BIS economists are rather less prone to visit central banks or academia. If such ‘reverse’ visits are well chosen, they can be effective in helping a researcher build knowledge or skills in a particular area. While the panel were not made aware of any particular obstacles to such outward visits (other than the obvious need to cover work gaps), the panel recommend BIS management to be alert to such opportunities and to be open to requests from staff to make external visits.



- ❖ *Recommendation 18:* As well as maintaining the existing vibrant programme of visits to BIS by outside researchers, senior and line management should also be open to external visits by BIS staff.

## Recruitment and career paths

Our discussions with MED staff suggested that most find BIS a congenial place to work and are relatively happy with their lot. In many central banks, operational pressures often crowd out time for longer-term research. That did not come across as a serious issue, though the need to ring-fence the time for research was mentioned by some (and which the Research Rotation Scheme is meant to address). So the panel does not see a need to change the broad balance of time devoted to various activities, merely the need to try to manage time allocation more effectively to minimise distraction to meet short-term needs.

Most central banks recruit their economists primarily straight out of university, relying on in-house training and experience to give them the necessary practical skills and institutional knowledge to complement their technical training. Later in their careers, some will move out, for instance to the financial sector, where the financial rewards are so much greater. Mid-career recruitment is relatively unusual. Our impression is that the BIS has a similar approach, though it probably benefits from having more experienced inward secondees than most central banks, as well as some recruits from academia. Given the unique position of the BIS, however, and its freedom to undertake more long-term research, the panel did wonder whether it might make sense to shift the mix in favour of more experienced hires with a proven track record of carrying out high-quality applied research.

- ❖ *Recommendation 19:* Consider shifting the balance of recruitment in favour of more experienced hires with a proven track record.

As with many central banks and other official institutions, career progression usually requires taking on greater administrative and management responsibilities and progressively leaving research behind. As a result, though they may have gained valuable experience, line managers may also become stale and less open to new ideas. As noted earlier, the BIS is especially well placed to undertake research that questions the conventional wisdom because it stands outside the hurly-burly of everyday policy making. It is particularly important that this advantage is not offset by internal structures that stifle novel ideas. One way to do this would be to adopt more fluid career paths, in which managers are periodically rotated out into a research role, or else into a sabbatical period in academia or another institution during which they can refresh their research skills. This is a variant of the model that is usual in academia, where management roles typically are rotated. Such an approach was adopted a few years ago by the Federal Reserve Bank of New York and is felt to have been a success. Rotating leadership of departments also helps foster a more open and critical environment as people will be more willing to disagree with line managers if they know these people will change roles periodically.

- ❖ *Recommendation 20:* Rotate managers out of management periodically in order to refresh their skills and create an environment more conducive to a range of views.

## Some management issues

The panel's meetings with BIS staff exposed several issues relating to the management and organisation of research that should be addressed.

First, the present organisational structure has, in effect, two heads of MED, with Claudio Borio focussing on the more conjunctural side of MED's work and the management of MED and Hyun Shin on the direction of research. That appears to suggest that MED is now organised on matrix-management organisational lines. However, the panel heard that below the senior level, MED is organised and operates as a conventional hierarchical organisation with single, rather than multiple, reporting lines. The panel's impression is that the current arrangements work effectively, but that is likely to be down in large part to the collegial and collaborative natures of both Claudio Borio and Hyun Shin. These would not necessarily be replicated in their successors. The panel would therefore advise caution in maintaining the present arrangements after the present incumbents move on.

❖ *Recommendation 21:* The BIS should keep an open mind as to the future organisational structure at the top of MED once the present incumbents move on.

Second, the organisation of research assistance appears not to be working as well as it might. Our interviews with the Research Assistants (RAs) suggested that they are frequently overworked, ineffectively utilised, and undervalued by the rest of the organisation. That assessment is supported by the results of a recent internal survey that the panel were given sight of, which suggested that a significant minority of RAs feel they are given insufficient opportunities to develop and that the majority derive little sense of accomplishment from their jobs. In order to address this, the panel recommend embedding most RAs within teams in order to integrate them better and to make them feel more valued, rather than drawing from a central pool as at present. This is the model used in most other similar organisations though, of course, mechanisms need to be in place to allow RA capacity to be redeployed as business needs dictate.

❖ *Recommendation 22:* Embed RAs within teams and ensure that their contribution to BIS analysis and research is properly acknowledged.

Also, it makes little sense to have economists with PhDs spending the bulk of their time doing relatively mundane tasks such as producing charts. The panel endorse the recent shift towards recruiting more people with good Masters degrees as RAs. Such individuals would often expect to work as an RA for just a few years before moving on to further study. This is the model for RA support employed by many central banks and the BIS would seem to offer a rather attractive place of employment for such people. The current arrangements also run the risk of leading to an unbalanced allocation of RA time if the most powerful managers are able to corner the time of the best RAs.

❖ *Recommendation 23:* Recruit RAs predominantly from the pool of high-quality Masters programmes.

Finally, the paucity of senior women at BIS is notable. That is a problem shared with many central banks. The panel recognise that BIS senior management has every wish to address this gender deficit, but it is important that management 'walk the talk'. Even one or two senior female hires would make a lot of difference and help to provide suitable role models for younger female staff. An explicit target (though not a quota) for female representation at senior levels would be a concrete way of signalling senior management intent.

❖ *Recommendation 24:* Strengthen efforts to boost the recruitment of female economists and managers, including at senior levels.

## Regional offices

During our site visit, the panel had the opportunity to question representatives of both the Asian and American BIS offices. Survey responses from central bank governors and advisors in those regions suggest that both operations play an important and useful role. In particular, they both highlight how a small base of resources can be leveraged up through creating research networks with local central banks and regional multilateral agencies. Our impression is that both offices are working well and the panel has no specific recommendations to make in respect of their operation.

## Concluding remarks

By way of conclusion, the panel would like to reiterate that the starting point for this review is already one that BIS and MED management should take considerable satisfaction and pride in. The institution already produces an admirably large volume of policy-relevant analysis and research spanning a broad range of topics, and which the panel judge to be generally of a high professional standard. Moreover, both the quality and quantity of that research has been steadily increasing over time. Bibliometric data suggests that the BIS ‘punches above its weight’ relative to its peers. And our survey suggests that BIS research is highly valued by stakeholder central banks and also attracts attention more broadly in the profession.

Nevertheless, we believe that there is still scope for improvement and some changes could result in a research effort adding even more value and having even greater impact. The key themes are as follows:

- The research programme should have a more clearly defined long-term focus, be less driven by short-term needs, and seek to be more holistic in approach.
- The internal culture should be more open to challenge and research should avoid focussing on generating results to support the ‘house view’.
- Consideration should be given to acquiring an in-house macroeconomic forecasting and simulation capability to bolster the credibility of BIS policy recommendations, especially in respect of monetary policy.
- More of the internal analysis for Governors meetings, etc., should be put into the public domain; the *Annual Report* and *Quarterly Review* could be re-structured to facilitate this, as well as to increase impact.
- BIS research should be made more accessible through the addition of non-technical summaries to working papers and the introduction of a research web portal.
- More credit should be given for publication in professional outlets, both as a kite-mark of quality and to increase impact in the broader economics profession.
- Outsider involvement in BIS research is already high, but could be taken further, e.g. through increased use of research networks.
- Hiring should be tilted more towards experienced researchers with a proven track record.
- Line managers should rotate out to the line periodically in order to maintain research skills and to ensure continued freshness in approach.
- Research assistants are presently overworked and undervalued; this needs to be addressed.
- Gender imbalance is a problem and more women are needed, particularly in senior roles.

These themes are underpinned by the 24 specific recommendations above.

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Gourio, F, A K Kashyap and J Sim (2016). "The trade-offs in leaning against the wind". Paper presented at the Jacques Polak Conference of the IMF.

Svensson, L E O (2016). "Cost-benefit analysis of leaning against the wind: are costs larger also with less effective macroprudential policy?", IMF Working Paper WP/16/3.

White, W R (2006). "Is Price Stability Enough?", BIS Working Paper 205.

## Annex A: External Research Review – Mandate

This note describes the terms and conditions of an external evaluation of the quality of BIS research activities. The evaluation will be carried out by a panel of three/four independent experts, consisting of one evaluation coordinator and two/three other academics, selected in consultation with the coordinator (hereafter the “panel”). The panel members will sign a contract with the BIS including confidentiality and non-disclosure agreements. The final report and all the intellectual rights associated with this work will be the exclusive property of the BIS, to be used in any manner at its discretion.

### Term of reference for external review

The team will present a report assessing the research function at the BIS based on the following two main criteria:

- The quality of research carried out by BIS staff in comparison with other central banks and similar institutions.
- The extent to which BIS research is valued as a source of information for policy analysis for central banks and in international policy forums.

The report of the panel will cover the following specific aspects:

- Relevance;
- Scientific quality and value added;
- Publication of papers written by BIS economists in external reviews with editorial committees;
- Interaction with the academic community, policy-making institutions and private sector economists;
- Effectiveness of internal processes (eg, coordination, focus, prioritisation, incentives, use of resources).

### Conditions

**Deliverables:** The panel is expected to deliver a final report to BIS Management with an overall assessment of research activities at the BIS along with their recommendations for improvements.

The panel is expected to express its opinion candidly and impartially, and will be free to take into account or ignore any suggestions made to it.

Following submission of the final report, the panel should be available, if required, for discussions with BIS Management.

The panel will initially submit a draft report to MED. MED will provide feedback. MED may also organise a meeting between the panel and BIS staff to discuss the draft findings.

**Duration:** The team will start the work as of 1 April and complete it by 1 December 2016.

**Information gathering:** The panel will be free to interact with the Bank’s senior management as well as the research staff in MED at any stage of their evaluation. The panel can request all non-confidential information as needed for their evaluation, including bibliometric databases, work processes and may avail themselves of information from sources outside the BIS. The panel may, at its discretion, consult with external peers and users of the BIS research output.

**Support:** The MED will provide all necessary logistical and secretariat support to the team.

**Intellectual property:** The databases, documents and methodological tools constructed or developed for the mandate will remain the property of the BIS. This in particular covers the assessment report, which the BIS shall be able to freely use. The BIS further reserves the right to publish the report, as well as any comments in response to the relevant part of the evaluation.

**Confidentiality:** The team will not disclose any confidential information or material coming to their knowledge as a result of the mission under any circumstances, and will refrain from making statements about their duties except with the prior consent of the BIS.

It is understood and agreed that all the results of the mission, including the final report, and all the information provided to the team or acceded by them in any circumstances within the frame of their mission have to be considered as confidential information.

The team agrees that the prohibition of disclosure is applicable to their own organisation or business, whatever hierarchical links they could have.

The prohibition of disclosure will end only if the concerned information is made public by the BIS.

## Annex B: Selected publications by BIS economists 2014-2016

### External journals

"Bank Capital and Dividend Externalities" (V. Acharya, H. Le, and H.S. Shin), **The Review of Financial Studies**, forthcoming.

"Global dollar credit and carry trades: a firm-level analysis" (V. Bruno and H.S. Shin), **The Review of Financial Studies**, forthcoming.

"Currency value" (A Schrimpf, L Menkhoff, M Schmeling and L Sarno), **The Review of Financial Studies**, forthcoming.

"Common belief foundations of global games" (Hyun Shin, S Morris and M Yildiz), **Journal of Economic Theory**, vol 163, May, pp 826-48, 2016.

"When the walk is not random: commodity prices and exchange rates" (A Schrimpf, E Kohlscheen and F Avalos), **International Journal of Central Banking**, forthcoming.

"Do oil prices drive food prices? The tale of a structural break" (F Avalos), **Journal of International Money and Finance**, forthcoming.

"Corporate governance and risk management at unprotected banks: National banks in the 1890s." (CW Calomiris and M Carlson), **Journal of Financial Economics**, vol. 119, no 3, 512-532, 2016.

"Booms and banking crises" (F Boissay, F Collard and F Smets), **Journal of Political Economy**, vol. 124, no 2, 489-538, 2016.

"Information flows in foreign exchange markets: dissecting customer currency trades" (L Menkhoff, L Sarno, A Schrimpf and M Schmeling), **Journal of Finance**, vol 71, no 2, 601-634.

"Mortgage risk and the yield curve" (A Malkhozov, P Mueller, A Vedolin and G Venter), **Review of Financial Studies**, forthcoming.

"Interbank markets and banking crises: new evidence on the establishment and impact of the Federal Reserve" (M Carlson and D Wheelock), **American Economic Review**, forthcoming.

"Relationship and transaction lending in a crisis" (P Bolton, X Freixas, L Gambacorta and PE Mistrulli), **Review of Financial Studies**, forthcoming.

"Asymmetric information in securitization: an empirical assessment" (U Albertazzi, G Eramo, L Gambacorta and C Salleo), **Journal of Monetary Economics**, vol 71, April, 33-49, 2016.

"Does variance risk have two prices? Evidence from the equity and option markets" (L Barras and A Malkhozov), **Journal of Financial Economics**, vol 121, no 1, 79-92, 2016.

"A search-based model of the interbank money market and monetary policy implementation" (M Bech and C Monnet), **Journal of Economic Theory**, forthcoming.

"The response of tail risk perceptions to unconventional monetary policy" (M Hattori, A Schrimpf and V Sushko), **American Economic Journal: Macroeconomics**, vol 8, no 2, 2016.

"Risk attribution using the Shapley value: methodology and policy applications" (N Tarashev, K Tsatsaronis and C Borio), **Review of Finance**, vol 20, no 3, 1189-1213, 2015.

"Breaking free of the triple coincidence in international finance" (S Avdjiev B Mc Cauley and HS Shin), **Economic Policy**, vol 31, no 87, 409-451, 2016.

"Are bank capital ratios pro-cyclical? New evidence and perspectives" (M Brei and L Gambacorta), **Economic Policy**, vol 31, no 86, 357-403, 2016.

"Banks and capital requirements: Channels of adjustment" (BH Cohen and M Scatigna), **Journal of Banking and Finance**, vol 69, sup 1, s56-s59, 2016.

“Liquidity risk and the credit crunch of 2007-2008: evidence from micro-level data on mortgage loan applications” (A Antoniadou), **Journal of Financial and Quantitative Analysis**, forthcoming.

“Dealer financial conditions and lender-of-last-resort facilities” (V Acharya, M Fleming, W Hrungr and A Sarkar), **Journal of Financial Economics**, forthcoming.

“News Driven Business Cycles and data on asset prices in estimated DSGE models” (S Avdjiev), **Review of Economic Dynamics**, forthcoming.

“Financial crisis, US unconventional monetary policy and international spillovers” (F Zhu, A Filardo, Q Chen and D He), **Journal of International Money and Finance**, forthcoming.

“Assessing the CNH-CNY pricing differential: role of fundamentals, contagion and policy” (M Funke, C Shu, X Q Cheng and S Eraslan), **Journal of International Money and Finance**, forthcoming.

“Self-oriented monetary policy, global financial markets and excess volatility of international capital flows” (R Banerjee, M B Devereux and G Lombardo), **Journal of International Money and Finance**, forthcoming.

“How do global investors differentiate between sovereign risks? The new normal versus the old” (M Amstad, E Remolona and J Shek), **Journal of International Money and Finance**, forthcoming.

“On the centrality of the current account in international economics” (C Borio), **Journal of International Money and Finance**, forthcoming.

“Cross-border banking and global liquidity” (V Bruno and H S Shin), **Review of Economic Studies**, vol 82, no 2, 2015.

“Capital flows and the risk-taking channel of monetary policy” (V Bruno and H S Shin), **Journal of Monetary Economics**, vol 71, 2015.

“Global dollar credit: links to US monetary policy and leverage” (R McCauley, P McGuire and V Sushko), **Economic Policy**, vol 30, 2015.

“Credit availability and the collapse of the banking sector in the 1930s” (M Carlson and J Rose), **Journal of Money, Credit, and Banking**, vol 47, no 7, 2015.

“Global liquidity through the lens of monetary aggregates” (H S Shin, K Chung, J E Lee, E Loukoianova and H Park), **Economic Policy**, vol 82, 2015.

“Joint dynamics of house prices and foreclosures” (Y Arslan, B Guler and T Taskin), **Journal of Money, Credit and Banking**, vol 47, no 1, 2015.

“International reserves and gross capital flow dynamics” (E Alberola, A Erce and J M Serena), **Journal of International Money and Finance**, vol 60, 2015.

“Liquidity hoarding and inefficient abundant funding” (E Kharroubi), **International Journal of Central Banking**, vol 11, 2015.

“Official FX interventions through derivatives” (E Kohlscheen and S Andrade), **Journal of International Money and Finance**, vol 47, 2015.

“Responses to the financial crisis, treasury debt, and the impact on short-term money markets” (J Seligman and W Hrungr), **International Journal of Central Banking**, vol 11, 2015.

“Does the US dollar confer an exorbitant privilege?” (R McCauley), **Journal of International Money and Finance**, vol 57, 2015.

“Assessing the CNH–CNY pricing differential: Role of fundamentals, contagion and policy” (M Funke, S Chang, C Xiaoqiang and E Sercan), **Journal of International Money and Finance**, vol 59, 2015.

“Sudden floods, macroprudential regulation and stability in an open economy” (P-R Agénor, K Alper and L A Pereira da Silva), **Journal of International Money and Finance**, Vol. 48, 2014.



“Procyclical leverage and value-at-risk” (T Adrian and H S Shin), **Review of Financial Studies**, vol 27, no 2, 2014.

“Cyclical fiscal policy, credit constraints, and industry growth” (P Aghion, D Hémous and E Kharroubi), **Journal of Monetary Economics**, vol 62, 2014.

“Dividend predictability around the world” (J Rangvid, M Schmeling and A Schrimpf), **Journal of Financial and Quantitative Analysis**, vol 49, no 5–6, 2014.

“International diversification benefits with foreign exchange investment styles” (A Schrimpf, T Kroencke and F Schindler), **Review of Finance**, vol 18, no 5, 2014.

“The financial cycle and macroeconomics: What have we learnt?” (C Borio), **Journal of Banking and Finance**, August 2014.

“The effectiveness of unconventional monetary policy at the zero lower bound” (L Gambacorta, B Hofmann and G Peersman), **Journal of Money Credit and Banking**, vol 46, no 4, 2014.

“Bank heterogeneity and interest rate setting: what lessons have we learned since Lehman Brothers?” (L Gambacorta and P E Mistrulli), **Journal of Money Credit and Banking**, vol 46, no 4, 2014.

“Understanding global liquidity” (L Gambacorta, B Hofmann and S Eickmeier), **European Economic Review**, vol 68, 2014.

“Interbank tiering and money center banks” (B Craig and G von Peter), **Journal of Financial Intermediation**, vol 23, no 3, 2014.

“Should monetary policy lean against the wind? An analysis based on a DSGE model with banking” (L Gambacorta and F Signoretti), **Journal of Economic Dynamics and Control**, vol 43, 2014.

“Trade linkages and the globalisation of inflation in Asia and the Pacific” (R A Auer and A Mehrotra), **Journal of International Money and Finance**, vol 49, 2014.

“Globalisation, pass-through and the optimal policy response to exchange rates” (J Yetman and M Devereux), **Journal of International Money and Finance**, vol 49, 2014.

“The impact of monetary policy on the exchange rate: A high frequency exchange rate puzzle in emerging economies” (E Kohlscheen) **Journal of International Money and Finance**, vol 44, 2014.

“Does monetary policy affect bank risk?” (Y Altunbas, L Gambacorta, D Marques-Ibanez), **International Journal of Central Banking**, March 2014.

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How have central banks implemented negative policy rates? (ML Bech and A Malkhozov), **BIS Quarterly Review**, March 2016.

“Why does financial sector growth crowd out real economic growth?” (SG Cecchetti and E Kharroubi), **BIS Working Papers**, no 490, 2014.

“Why bank capital matters for monetary policy” (L Gambacorta and HS Shin), **BIS Working Papers**, no 558, 2016.

“Sovereign yields and the risk-taking channel of currency appreciation” (B Hofmann, I Shim and H S Shin), **BIS Working Papers**, no 538, 2015.

“Labour reallocation and productivity dynamics: financial causes, real consequences”, (C Borio, E Kharroubi, C Upper and F Zampolli), **BIS Working Papers**, no 534, 2015.

“Capital flows and the current account: Taking financing (more) seriously” (C Borio and P Disyatat), **BIS Working Papers**, no. 525.

“The hunt for duration: not waving but drowning?” (D Domanski, H Shin and V Sushko), BIS Working Papers, no 519, 2015.

“The influence of monetary policy on bank profitability”, (C Borio, L Gambacorta and B Hofmann, BIS Working Papers, no 514, 2015.

“Leverage dynamics and the real burden of debt” (M Juselius and M Drehmann), BIS Working Papers, no 501, 2015.

“The costs of deflations: a historical perspective” (C Borio, M Erdem, A Filardo and B Hofmann), BIS Quarterly Review, March 2015.

“Oil and debt” (D Domanski, J Kearns, M Lombardi and HS Shin), BIS Quarterly Review, March 2015.

“A new database on general government debt” (C Dembiermont, M Scatigna, R Szemere and B Tissot), BIS Quarterly Review, September, 2015.

“Calibrating the leverage ratio” (I Fender and U Lewrick), BIS Quarterly Review, December, 2015.

“Understanding the challenges for infrastructure finance” (T Ehlers), BIS Working Papers, no 454, 2014.

“A shadow policy rate to calibrate US monetary policy at the zero lower bound” (M Lombardi and F Zhu), BIS Working Papers, no 452, 2014.

“A parsimonious approach to incorporating economic information in measures of potential output” (C Borio, P Disyatat and M Juselius), BIS Working Papers, no 442, 2014.

“The global long-term interest rate, financial risks and policy choices in EMEs” (P Turner), BIS Working Papers, no 441, 2014.

“Bank business models” (R Roengpitya, N Tarashev and K Tsatsaronis), BIS Quarterly Review, December, 2014.

“Forward guidance at the zero lower bound” (A Filardo and B Hofmann), BIS Quarterly Review, March 2014.

“The credit-to-GDP gap and countercyclical capital buffers: questions and answers” (M Drehmann and K Tsatsaronis), BIS Quarterly Review, March 2014.

“Financial structure and growth” (L Gambacorta, Y Jang and K Tsatsaronis), BIS Quarterly Review, March 2014.

## Annex C: BIS WPs published in 2016

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## Annex D1: Survey of central bank Governors

### 1. How much difference does BIS research make to how you think about policy?

- Quite a lot
- Sometimes
- Not a great deal
- Very little or none

### 2. How much value does BIS Research add for you to the bi-monthly BIS meetings?

	Very much	Substantial	Some	Minor
<b>Meeting notes:</b>				
Providing a framework for thinking and discussion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adding facts and insights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Published research:</b>				
Providing a framework for thinking and discussion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adding facts and insights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 3. In your view, BIS Research has the following attributes:

	Always	Often	Sometimes	Rarely
High quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Persuasive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Of policy interest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Any other property you deem important (please specify below)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....				



**4. How valuable do you find the following:**

	Always	Often	Sometimes	Rarely
BIS Annual Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BIS Quarterly Review	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BIS Papers and Working Papers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BIS data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Can you name any particular publications, working papers or meeting notes that you found especially valuable?

.....

**5. Are there any particular topics on which BIS Research should do more, or do less?**

More: .....

Less: .....

**6. How do you rate BIS Research and analysis, compared to research and analysis provided by:**

	Quality			Relevance		
	better	same	worse	more	same	less
Other international institutions (IMF, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Private financial institutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Academia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial press	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**7. We would highly value any additional comments you care to make:**

Thank you very much! Please send your response to [IndepResearchReview@bis.org](mailto:IndepResearchReview@bis.org)

## Annex D2: Survey of Governors' advisers

### 1. How much difference does BIS research make to how you think about policy?

- Quite a lot
- Sometimes
- Not a great deal
- Very little or none

### 2. How much value does BIS Research add for you?

	Very much	Substantial	Some	Minor
<b>Meeting notes:</b>				
Providing a framework for thinking and discussion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adding facts and insights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Published research:</b>				
Providing a framework for thinking and discussion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adding facts and insights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 3. In your view, BIS Research has the following attributes:

	Always	Often	Sometimes	Rarely
High quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Persuasive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Of policy interest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Any other property you deem important (please specify below)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....				

**4. How valuable do you find the following:**

	Always	Often	Sometimes	Rarely
BIS Annual Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BIS Quarterly Review	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BIS Papers and Working Papers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BIS data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Can you name any particular publications or working papers that you found especially valuable?

.....

**5. Are there any particular topics on which BIS Research should do more, or do less?**

More: .....

Less: .....

**6. How do you rate BIS Research and analysis, compared to research and analysis provided by:**

	Quality			Relevance		
	better	same	worse	more	same	less
Other international institutions (IMF, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Private financial institutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Academia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial press	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**7. We would highly value any additional comments you care to make:**

Thank you very much! Please send your response to [IndepResearchReview@bis.org](mailto:IndepResearchReview@bis.org)

## Annex D3: Survey of selected participants in international policy fora

### 1. How much difference does BIS research make to how you think about policy in your area?

- Quite a lot
- Sometimes
- Not a great deal
- Very little or none

### 2. How much value does BIS Research add for you to the BIS-relevant international meetings in which you participate?

	Very much	Substantial	Some	Minor
<b>Meeting notes:</b>				
Providing a framework for thinking and discussion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adding facts and insights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Published research:</b>				
Providing a framework for thinking and discussion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adding facts and insights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 3. In your view, BIS Research has the following attributes:

	Always	Often	Sometimes	Rarely
High quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Persuasive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Of policy interest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Any other property you deem important (please specify below)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....				

**How valuable for your work do you find the following:**

	Always	Often	Sometimes	Rarely
BIS Annual Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BIS Quarterly Review	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BIS Papers and Working Papers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BIS data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Can you name any particular publications or papers that you found especially valuable?

.....

**4. Are there any particular topics on which the BIS should do more, or do less?**

More: .....

Less: .....

**5. How do you rate BIS research and analysis, compared to research and analysis provided by:**

	Quality			Relevance		
	better	same	worse	more	same	less
Other international institutions (IMF, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Private financial institutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Academia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial press	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**6. We would highly value any additional comments you care to make:**

Thank you very much! Please send your response to [IndepResearchReview@bis.org](mailto:IndepResearchReview@bis.org)

## Annex E: Survey of Academics, Private-sector economists and Media

### 1. Is BIS research on your radar screen?<sup>10</sup>

- Yes, definitely
- On occasion
- Not really
- Who or what is the BIS?

If you picked the third or the fourth option, please proceed to the last question.

### 2. How much of a difference does BIS research make in how you think about policy issues?

- Quite a lot
- Some
- Not a great deal
- Very little or none

### 3. How much of a difference does BIS research make for the academic research agenda/ for your own research and analysis/for your own writing?

- Quite a lot
- Some
- Not a great deal
- Very little or none

### 4. In your view, BIS research has the following attributes:

	Always	Often	Sometimes	Rarely
High quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Innovative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 5. We would highly value any additional comments you may want to make:

Thank you very much! Please send your response to [IndepResearchReview@bis.org](mailto:IndepResearchReview@bis.org)

<sup>10</sup> For academics who had visited BIS, this question was replaced by one asking them to rate the value to them of their visit.