

September 9, 2008

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RE: Comments on National Science Foundation Business R&D and  
Innovation Survey (BRDIS)

The Kauffman Foundation, as the nation's largest foundation devoted to furthering understanding of entrepreneurship, has a strong interest in high-quality social science research relating to the conditions under which entrepreneurs are most likely to succeed. Given the relationship between science, technology, and R&D and company growth, the NSF BRDIS is of great interest to us. NSF's leadership in developing statistics around R&D and innovation are to be commended. Over the past decade they have systematically undertaken a thorough review process meant to update their R&D data collection for the 21<sup>st</sup> century. It is essential that data collection be expanded on R&D/innovation in both established and emerging firms as well as the nature of R&D/innovation across firm boundaries. The NSF R&D Survey redesign appears to have made major steps forward in that regard.

Significant improvements have been made to the R&D Survey questionnaire because of the hard work of professionals at both NSF and Census. Taking this as a given, we will instead focus on areas of general concern in BRDIS which we would respectfully suggest need further consideration:

- *Complexity and burden of respondent:* The addition of many important questions/topics to BRDIS has resulted in a nearly 50 page questionnaire. It is our belief that one of two directions should be pursued: 1) reduction of questionnaire length through the elimination of some granularity (suggested questions 2.24, 3.13, 3.15) or 2) full transition of the survey to web-only completion. In our opinion, option two would be a far superior path to collection of BRDIS data. The complexity of the survey would be immensely reduced if data entered by one individual or in one spot on the survey could easily be pre-populated for the respondent to use, as well as the obvious ease in adding skip patterns. Currently NSF/Census are planning to offer a web-response option in addition to a paper response. With the redesign it is our opinion the NSF/Census would be well-served to move towards a web/CATI (phone) modality. These are complicated topics which in the first few years, in particular, firms may need phone assistance and coaching in order to complete. At the Kauffman Foundation, we have had incredible success in

using web/CATI modalities in combination for our Kauffman Firm Survey, resulting in increased participation by companies and significantly reduced costs to data collection.<sup>1</sup> We understand from the FR notice that “a final round of testing on the entire questionnaire will be conducted in July and August 2008.” These tests should be good input to NSF and OMB in looking at this issue.

- *Innovation:* While we applaud the intent of NSF in adding the general topic of innovation to the survey, BRDIS appears to only introduce one question off of the harmonized Community Innovation Survey.<sup>2</sup> Considering the size of companies which BRDIS typically targets, we are skeptical that the question introduced (5.1) will offer enough granularity to allow for particularly meaningful comparison to data from the CIS.
- *Coverage of New/Small Businesses:* We were pleased to see question 2.45a which deals with age of the business, and we are aware of NSF’s interest to expand coverage of young/small businesses. Just including these businesses in the survey frame will only go so far in encouraging their participation. Movement to an electronic survey instrument combined with tweaking the instructions/terminology in the survey could go a long ways towards not scaring away these firms. The paper survey, as it appears currently uses language that is undeniably targeted at multinational, large firms, the mainstay part of NSF’s R&D survey historically. It appears that two versions will be administered and we reiterate the importance of this. For small firms, we view a Web/CATI option as the ideal means of collection.
- *Marketing and Endorsement:* The implementation of the revised BRDIS must quickly turn to marketing and endorsements. We believe that NSF/Census should look to build-off of what we perceived was a much stronger than usual marketing campaign for the 2007 Economic Census. In this effort, Census officials developed very appealing and meaningful content to speak to the business community about why the survey was important and what information they’d be getting back. To our knowledge, the R&D survey has never had a push to this degree. If BRDIS is to be successful, NSF/Census must shift gears significantly from redesign to deployment, endorsement from business groups, and truly open up to connecting with American businesses on the important topics of this survey.
- *Pilot Nature of Survey, Delayed Release:* In light of the fact that this is a pilot, OMB and users should be give the opportunity to review and evaluate the

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<sup>1</sup> Documentation on the KFS and many of our survey methodology experiences are available at [http://papers.ssrn.com/sol3/JELJOUR\\_Results.cfm?form\\_name=journalBrowse&journal\\_id=1008679](http://papers.ssrn.com/sol3/JELJOUR_Results.cfm?form_name=journalBrowse&journal_id=1008679). Further details on cost savings achieved using a web/CATI combination in creating a longitudinal panel of businesses are available upon request.

<sup>2</sup> [http://www.foranet.dk/upload/measures\\_of\\_innovation.pdf](http://www.foranet.dk/upload/measures_of_innovation.pdf)

2008 experience and identify implications for 2009 instrument. Further, the rationale for delaying release of 2008 data is unclear.

In addition to our general areas of concern, we have several specific survey design suggestions for the existing questionnaire which might be more immediate points of consideration.

- Overview materials and instructions
  - The survey is referred to inconsistently throughout the document as the “Business R&D and Innovation Survey” and “Business Research and Development Survey” which could confuse participants.
  - On page 1, there is a typo under “Advantages” with an extraneous bullet.
  - The voice which answers the phone number given to contact a survey analyst only refers to the name of the old survey. This is likely already in the queue to be updated.
- Company Information
  - Under “Date owner purchased,” is it necessary to specify an equity threshold? As many small companies have many equity owners, this might need to be clarified.
- R&D Finance
  - We suggest moving 1.3 and 1.4 to the beginning of section so flow of questions is about general operations and then goes to R&D expenses (currently 1.1 and 1.2 and then stays with R&D for 1.5).
  - Question 1.5 is very confusing although we don’t have any specific suggestions for improvement.
  - Question 1.8 should be moved up before 1.6 (or possibly earlier) so that 1.6, 1.7, and 1.9 can keep main focus on domestic R&D.
- R&D Management and Strategy
  - Questions 2.2 and 2.3 would seem better closer to the questions in which they are actually needed.
  - Question 2.6 seems too complicated a question to be reliable.
  - Question 2.7 introduces the term “markets” without a clear definition.
  - Question 2.8 introduces the concept of an “R&D project” but without any guidance as to defining a project.
  - Questions 2.12 – 2.16 could be reformatted more like 2.7.
  - Questions 2.17 – 2.19 don’t attempt to determine if agreements were with companies in the U.S. or not but it seems from some of the response categories that domesticity of institutional agreements seems important.
  - Question 2.24, like 2.6, seems too complicated to be reliable.

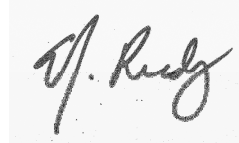
- Questions 2.26 – 2.39 would seem more easily answered if reformatted more like 2.7. Additionally, only one example is given and that example is partway through the series.
- Question 2.44 might be better in section 5 so that responses were also gathered from non-R&D performing companies.
- Question 2.45 would seem better placed under “company information”
- R&D Funded or Paid for by Others
  - Why the section header before question 3.4? Question 3.3 seems also about same or very similar topics to questions 3.4 – 3.6.
  - Would questions 3.11 and 3.13, be more answerable as a percentage distribution?
  - Questions 3.16 and 3.17 change the time period of reference to 2009, interrupting the flow of the questions before and after. 3.18 should reestablish the reference period or 3.16 and 3.17 should be moved to the end of the section.
  - Why is the list in questions 3.20 – 3.26 so much shorter than 2.26 – 2.39?
  - Question 3.28 is a duplicate to 3.19.
- R&D Human Resources
  - Would question 4.4 be more answerable as a percentage distribution?
  - The placement of question 4.10 seems confusing to know if “engaged in R&D activities” is to include just a and b from 4.6 or a-d from 4.6.
- Intellectual Property, Technology Transfer, and Innovation
  - In question 5.1, what does “introduce” mean? Introduce to the market? Does it matter if it was introduced to the U.S. market? Or to a non-U.S. market? Or Both?
  - We suggest moving question 5.7 before 5.2 as it’s a more engaging question with which to start.
  - Is question 5.5 meant to include patents that were licensed in from other companies?
  - Question 5.9 might require an example to make it clearer.
  - In question 5.10, does it matter to determine if the exchange of IP was for money, trade, or other? Is yes/no sufficient for analysis or is a sense of scale important?
  - IP is not well defined. The questions imply IP is only patents but that is only one common interpretation. Even for small firms, we know that IP is much more than just patents as copyrights and trademarks are more common forms of formal IP.
  - On question 5.11, it might seem advisable to ask the question so as to differentiate between domestic and worldwide activity.

We are very enthusiastic about this redesign and offer all of the above suggestions as engaged partners in trying to collect better data in this area. Please feel free to contact us to clarify any of these comments or request additional information.

Sincerely,



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