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Supplemental Opportunity for SBIR/STTR Membership in IUCRCs Evaluation Study: Preliminary Findings

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Overview



- Background on Supplement
- Evaluation Objectives
- Objective 1 Methodology and Findings
- Objective 2 Methodology and Findings
- Objective 3 Methodology
- Next Steps

Background on the “SBIR Supplement”



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- Supplemental funding opportunity first announced in 2007 (updated in 2008)
- Objective stated as:
 - *The supplements are intended to accelerate the innovation process by partnering industry-relevant academic research with commercialization focused small business research.*
- Invited current Phase II SBIR/STTR awardees to request a supplement they could use to join an IUCRC (including graduated IUCRCs)
 - NSF would pay all but \$5k of membership for two years
- As of 2013 72 SBIR/STTRs have taken 124 membership years in 26 Centers
- 2012 Cost of program is: ~ \$805K
- Total cost of program is: ~\$4.45M

Evaluation Objectives



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- **Goal:** To understand whether there are synergistic benefits from integrating IUCRC and SBIR programs: “combinatorial innovation”
 - **Objective 1:** *To understand the impact of the “SBIR Supplement” on the IUCRC program’s membership profile*
 - **Objective 2:** *To understand how directors identify and recruit SBIR members and what they perceive to be the pros and cons of their participation*
 - **Objective 3:** *To understand what the outcomes and impacts of participation in an IUCRC are for SBIR supplement members and what factors influence the receipt of those benefits*

Objective 1: Impact on IUCRC Membership Profile



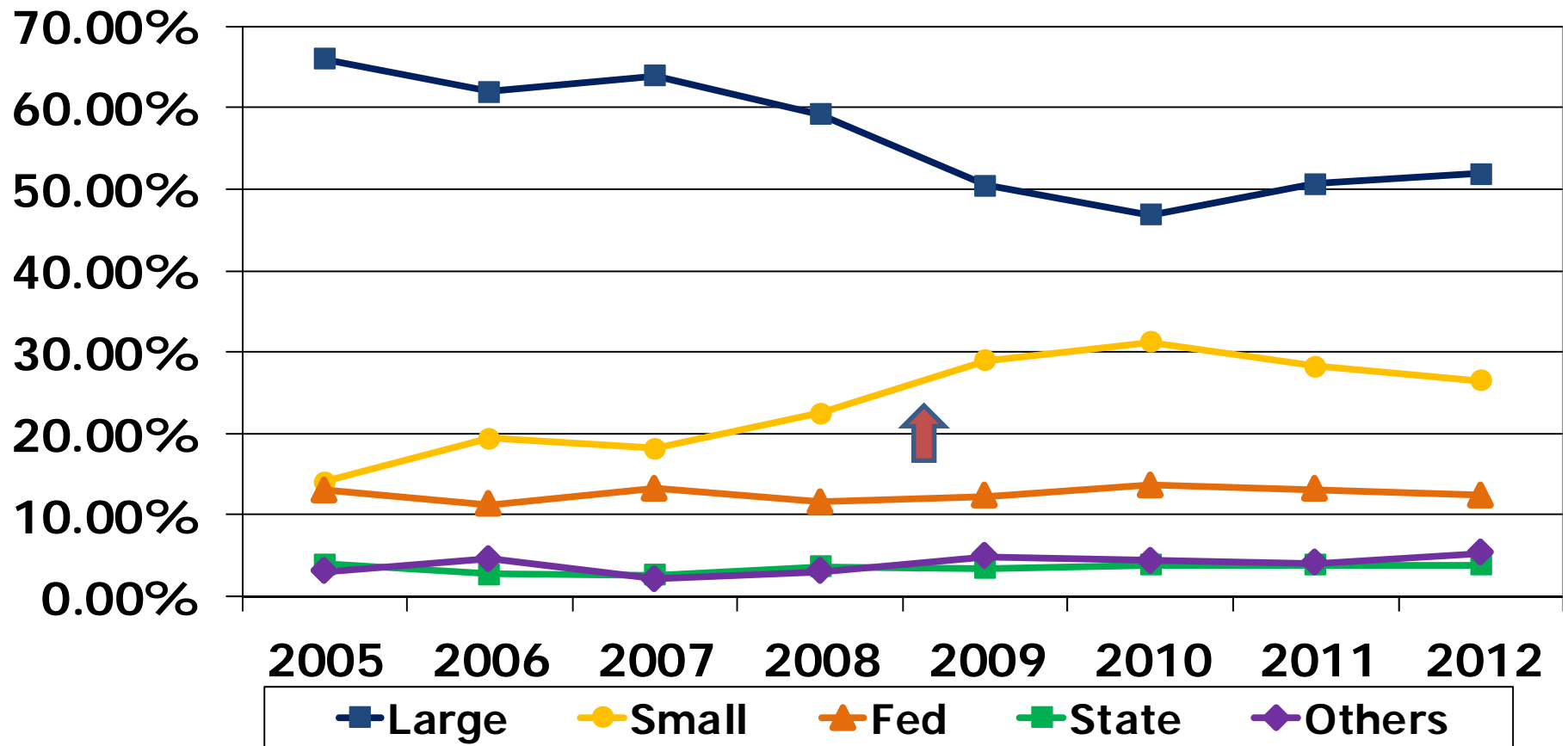
- Methodology
 - Data:
 - Archival data provided by NSF on identity of SBIR members
 - IUCRC archival data on Small Business (SB) members since 2008
 - Archival data from Hoover's database and web providing detailed characteristics (size, ownership, revenues, etc.) on SBIR and SB firms
 - Sample:
 - SBIR: all members (N=62)
 - SB: random sample of SB joining IUCRCs from 2008 matched on year (N=61)
 - Analysis:
 - Descriptive and comparative statistics (SBIR vs. SB)



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SBIR Impact on Member Composition

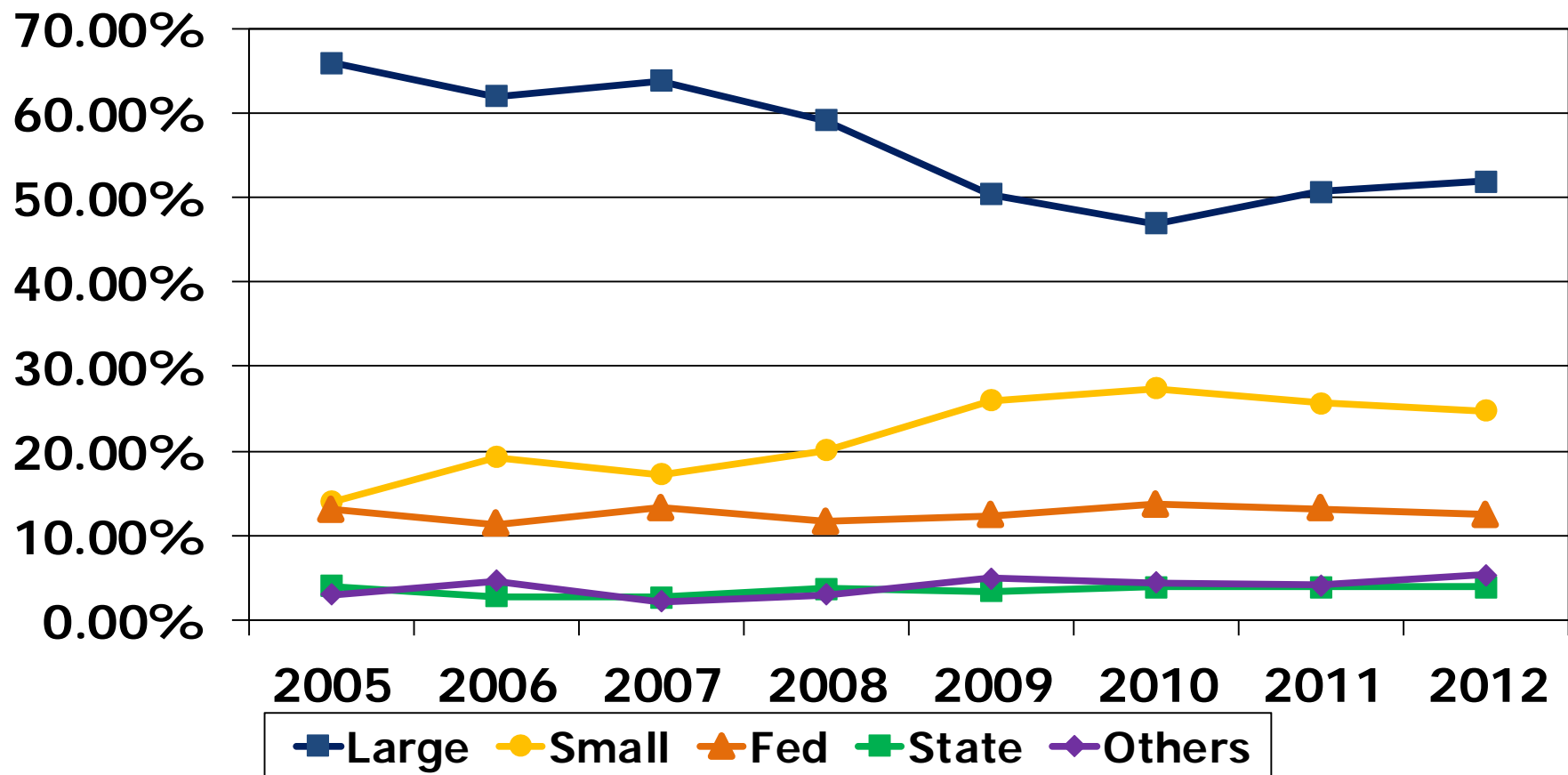
Member Composition 2005-2012 : Percentage of All Members



^ Categories comprising Others include: non-profit, non-US government, and other organization

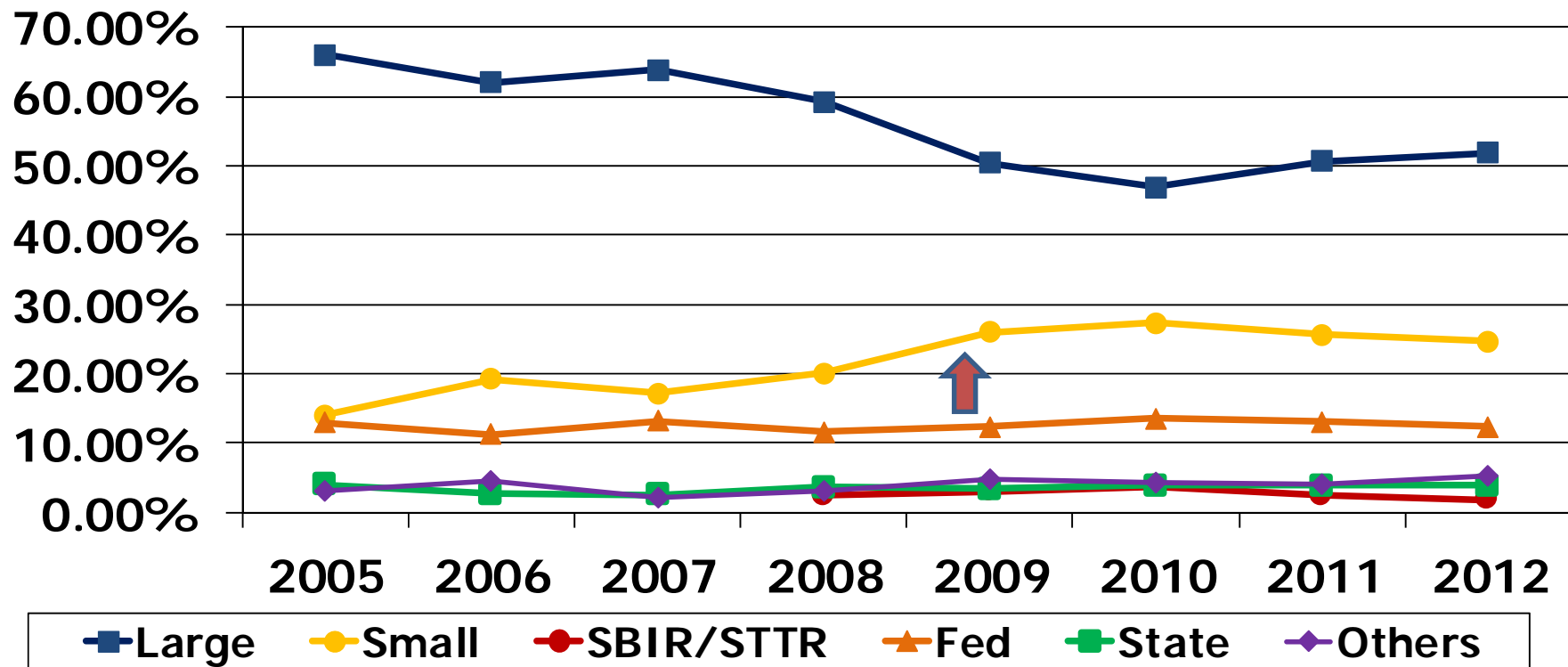


Member Composition 2005-2012: SBIR/STTR Removed



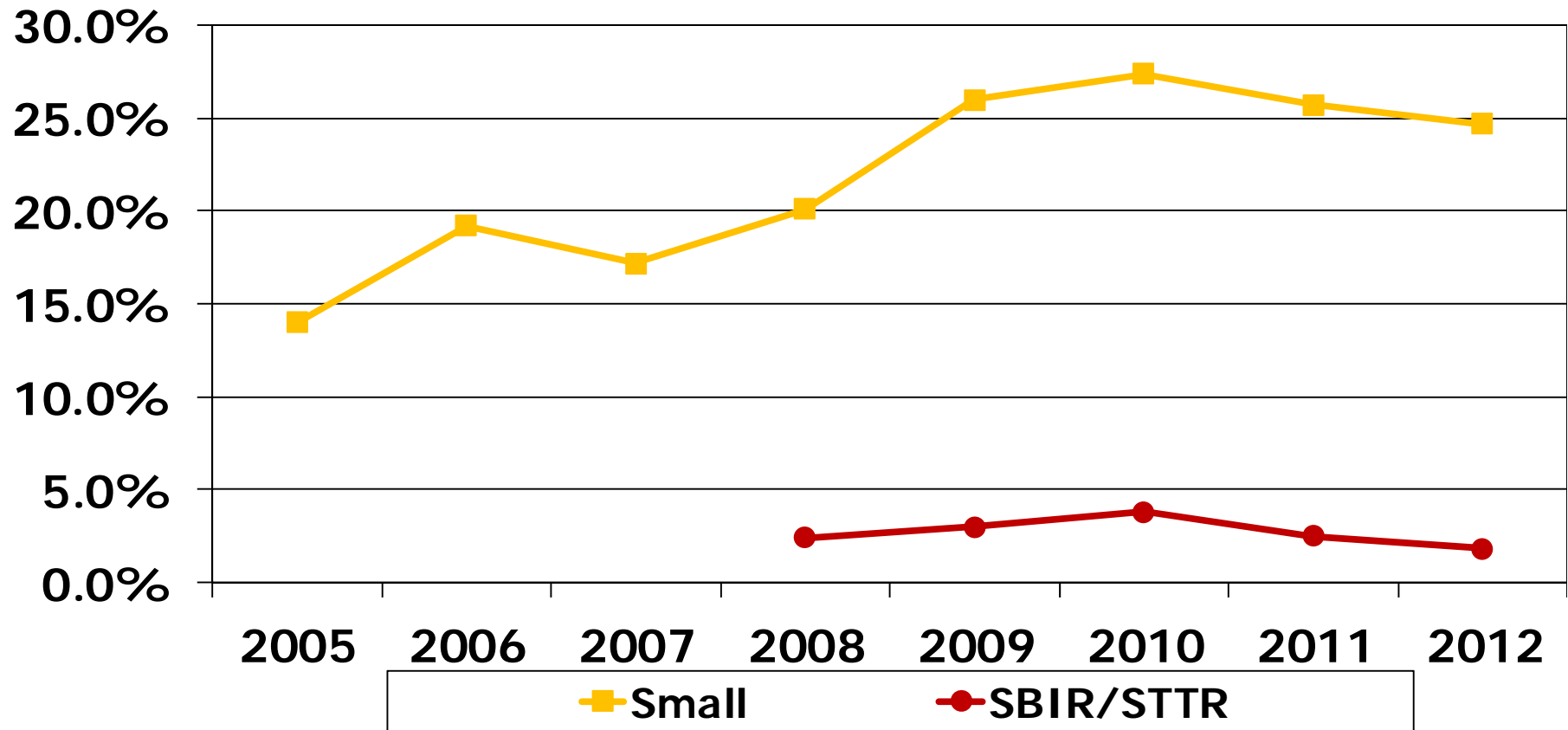
^ Categories comprising Others include: non-profit, non-US government, and other organization

Member Composition 2005-2012: SBIR/STTR disaggregated from Small



^ Categories comprising Others include: non-profit, non-US government, and other organization

Member Composition 2005-2012: Small & SBIR/STTR Only

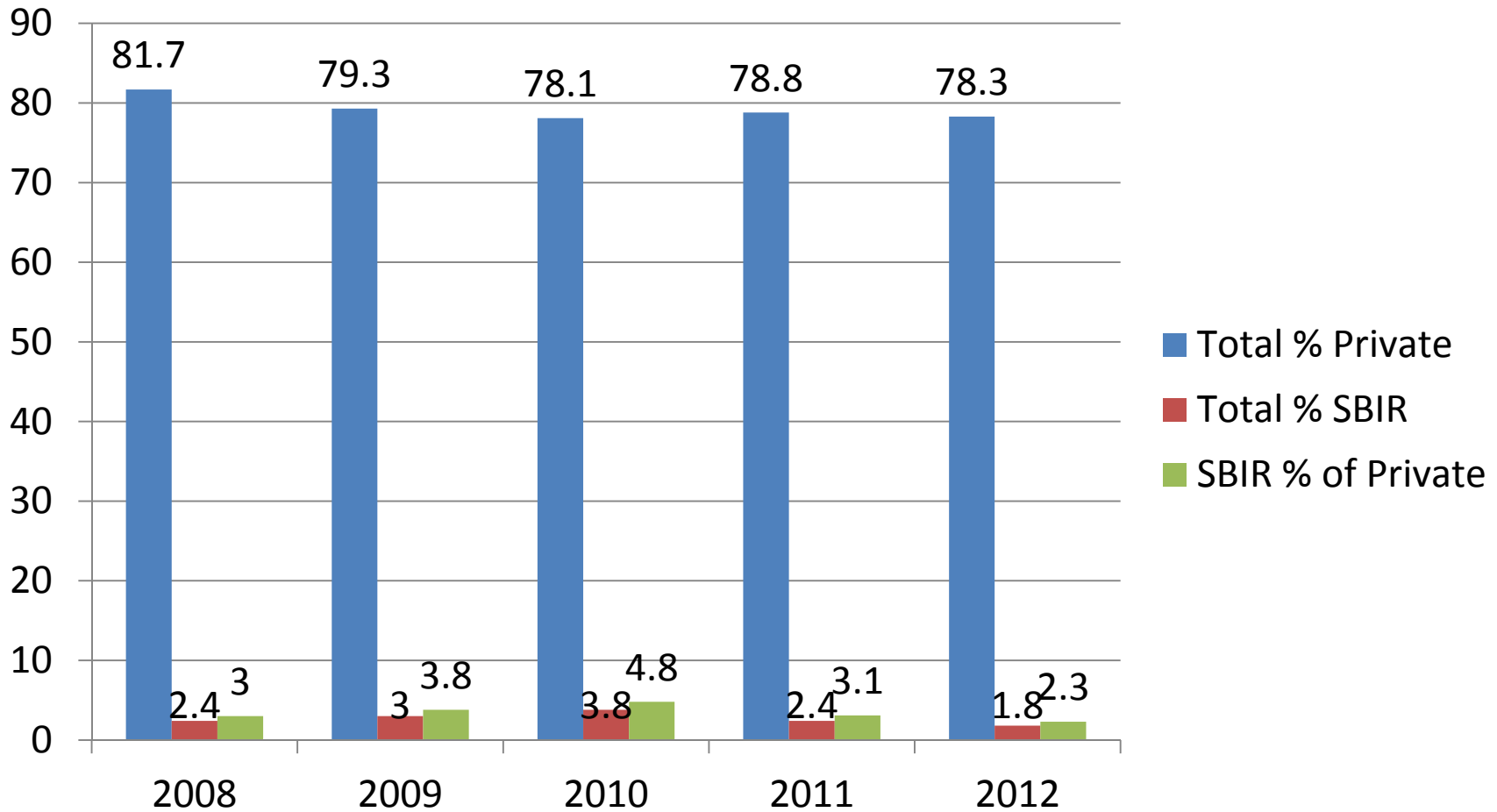


^ Categories comprising Others include: non-profit, non-US government, and other organization

SBIR Impact on Private Sector Participation: Percentage of All Members



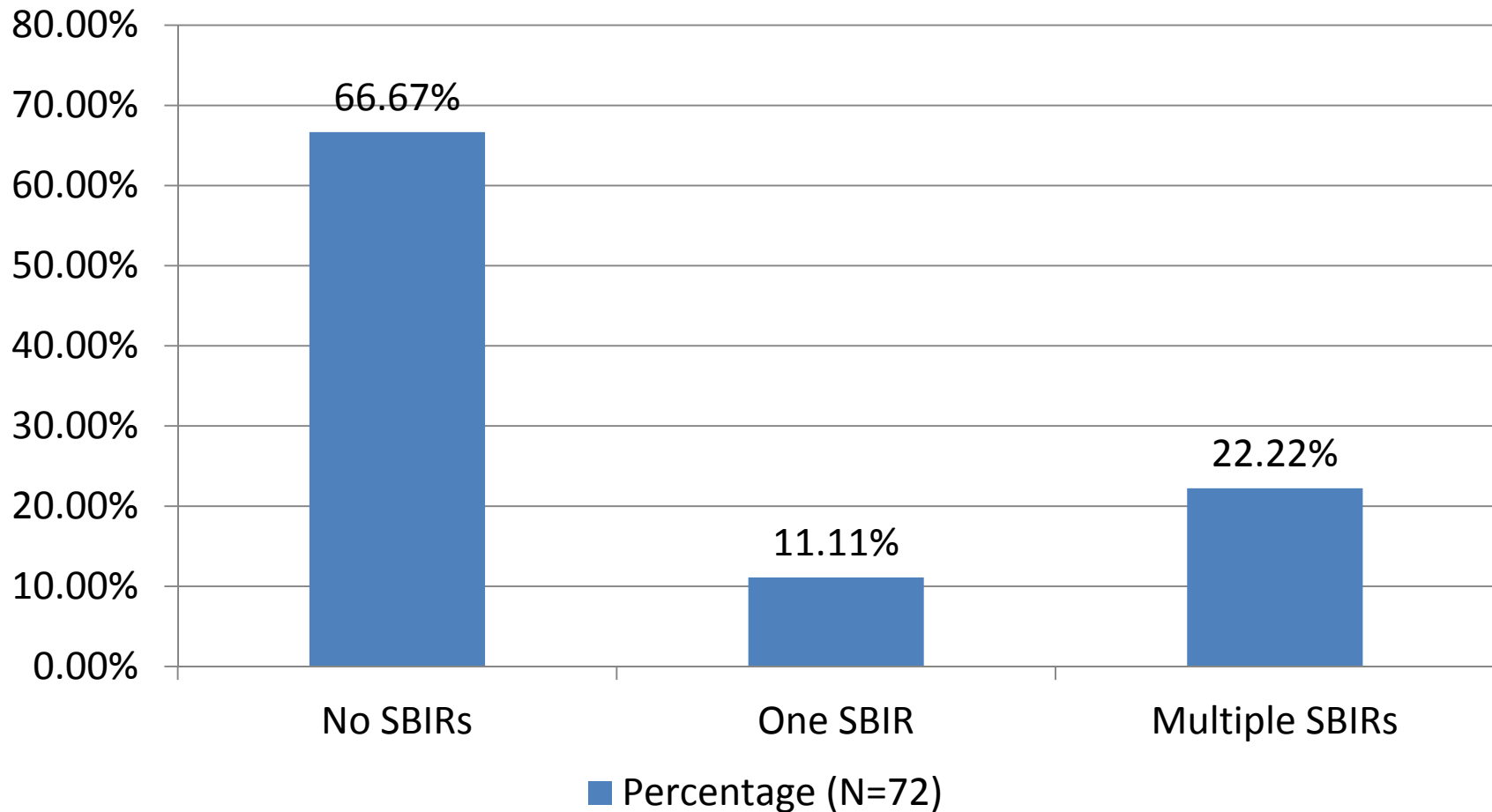
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Percentage of Centers with SBIR members



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Comparing SBIR vs SB Members



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	Small Business	SBIR	Sig.
Annual Sales	\$10.79M	\$3.05M	$F = 10.51(p < .05)^*$
N of Employees	63	22	$F = 28.21(p < .01)^*$
Year Founded	1993	1999	$F = 7.75(p = .06)^{\wedge}$
Women/Minority Owned	9(14.8%)	17(27.4%)	$\chi^2 = 6.52(p < .05)^*$
Headquarters of a multi-site firm vs. Single Location	Headquarters = 15(24.6%)	Headquarters = 5(8.1%)	$\chi^2 = 6.97(p < .05)^*$

Objective 2: Director's Assessment of SBIR Memberships



- Methodology
 - Data
 - Web-based questionnaire completed by directors directly responsible for recruiting SBIR (forced choice; open-ended)
 - Dimensions: background, identification and recruiting strategies; benefits, costs, recommendations
 - Sample:
 - All centers with an SBIR → Director responsible for recruitment
 - Procedure: Letter from NSF/IUCRC; Letter from Project Team; Request for IAB information on SBIR; Confirmation of recruiting director; Email request to complete web survey
 - N = 34/48
 - Analysis:
 - Descriptive statistics
 - *Content analysis*
 - *Predictive based on center characteristics*

Involvement in Recruiting SBIR members



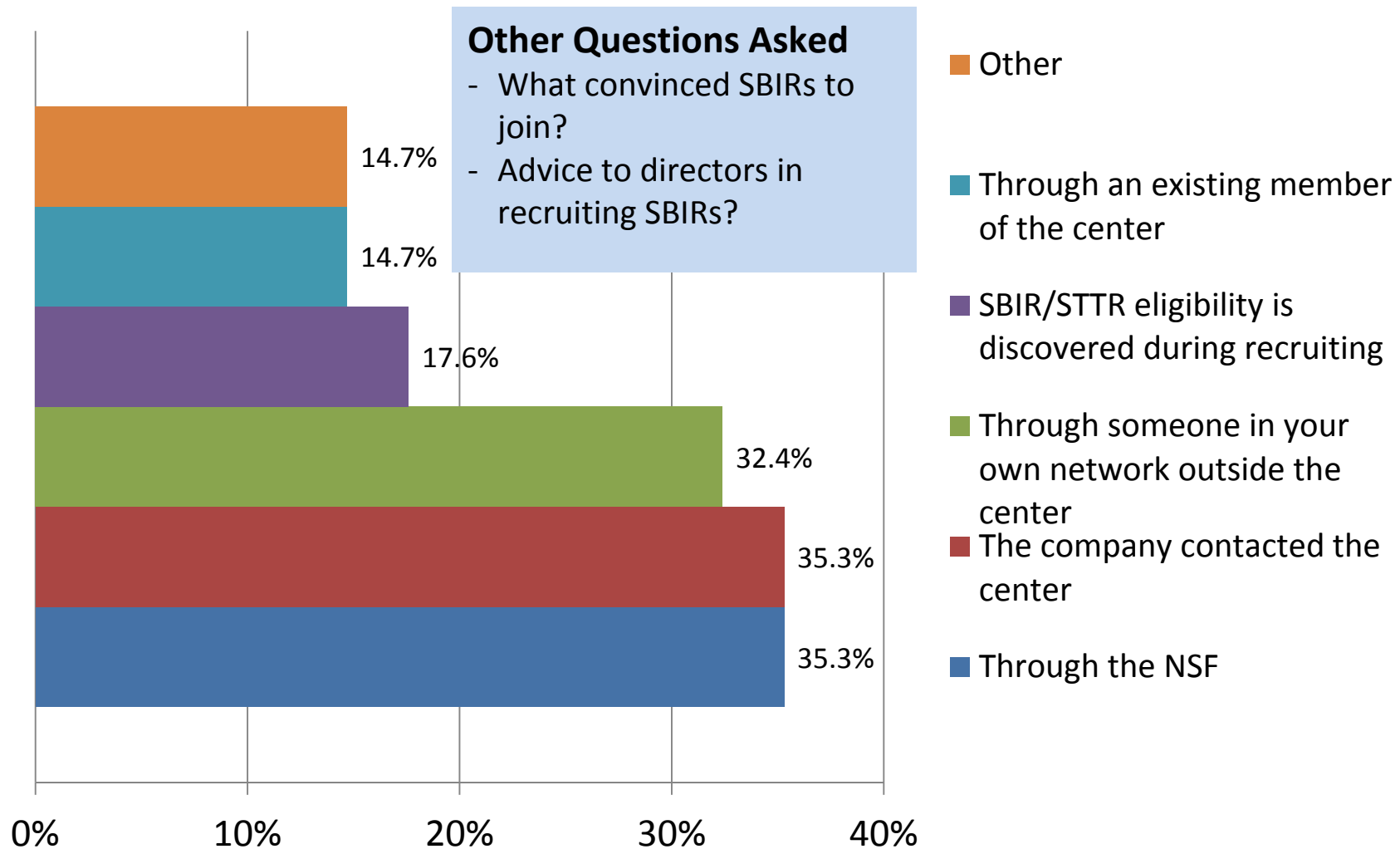
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How did you identify potential SBIR members (Select all that apply)?



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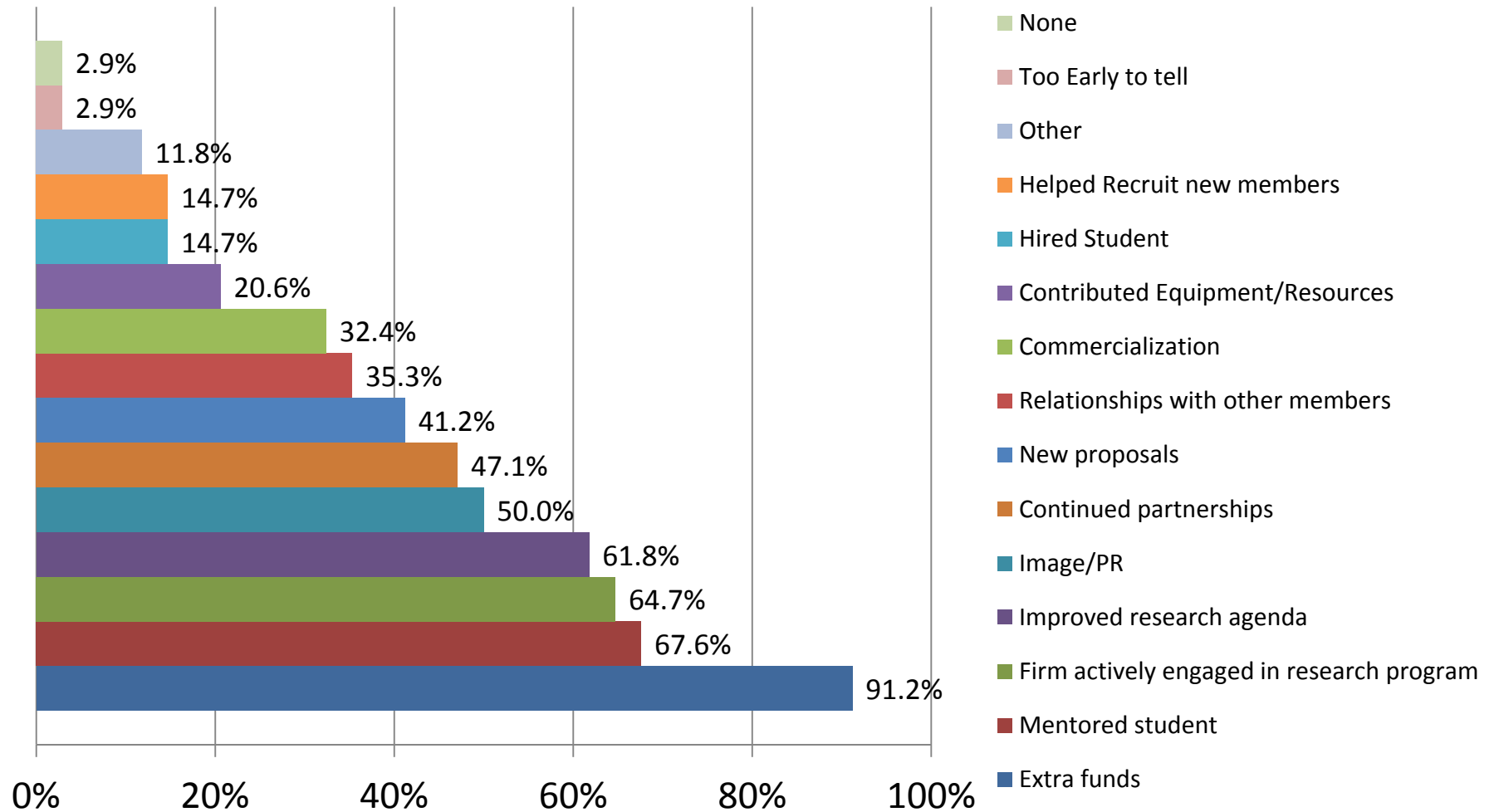
Other Questions Asked

- What convinced SBIRs to join?
- Advice to directors in recruiting SBIRs?

Benefits of having an SBIR member



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Comments on Benefits



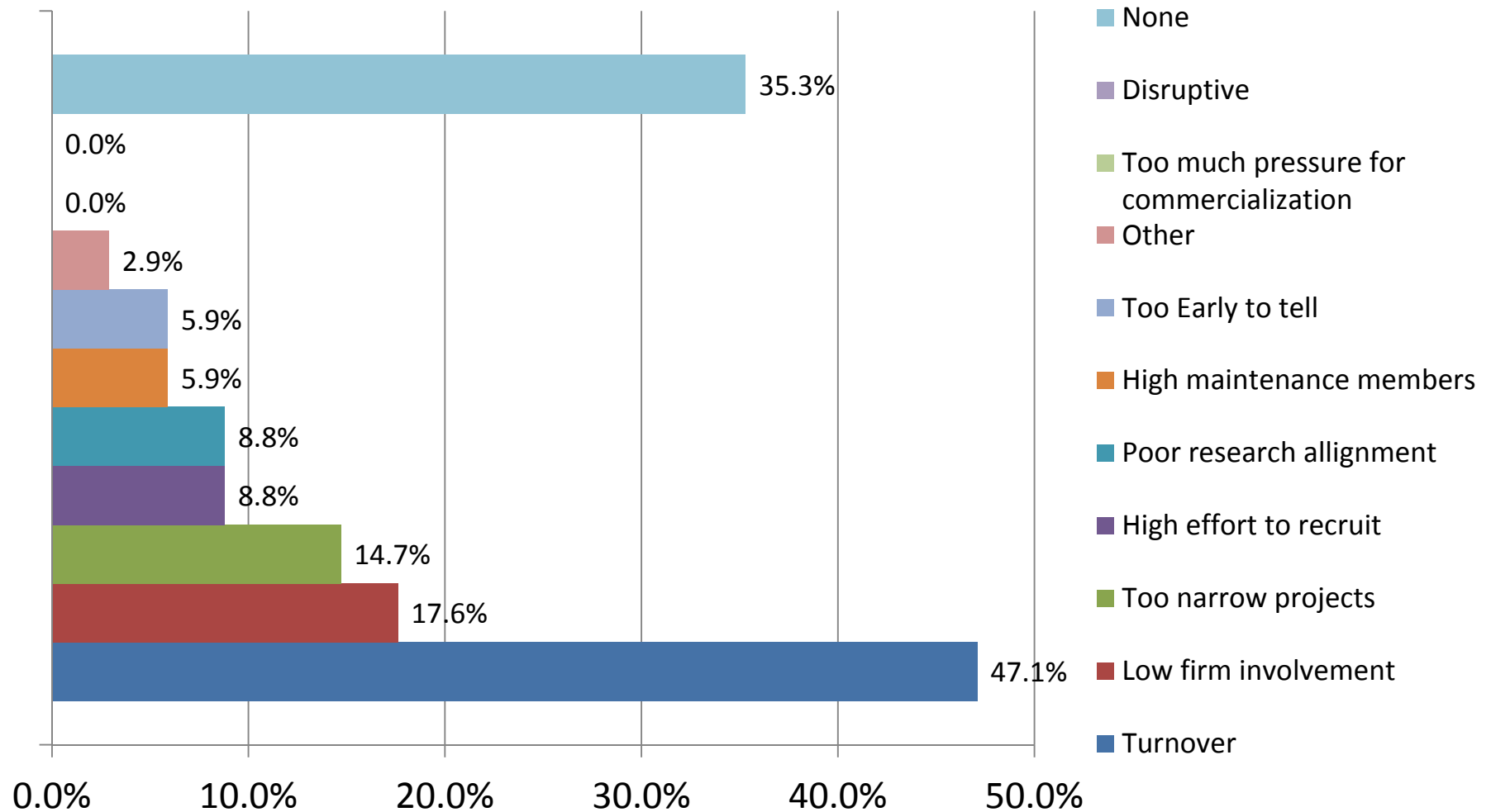
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- *A recent SBIR member has a female founder/CEO. We would like to have her involved in mentoring female STEM undergrads and get them involved in I/UCRC projects*
- *Group dynamics....a small company who takes the time to get and stay engaged adds to the culture of innovation that rubs off on our graduate students.*
- *The SRIR/STTR firms bring in "commercialization" aspect of the research to us. Especially, it is very beneficial for our students to interact with these members to learn things from different aspects.*
- *...creates investment/collaboration opportunities for these larger members.*
- *SBIR companies bring dynamic relations and motivation to the center because they have very specific and urgent needs. They contribute by facilitating and speeding the processes.*
- *Provided role models to our students interested in tech entrepreneurship.*

Costs of having and SBIR member



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Comments on Negatives



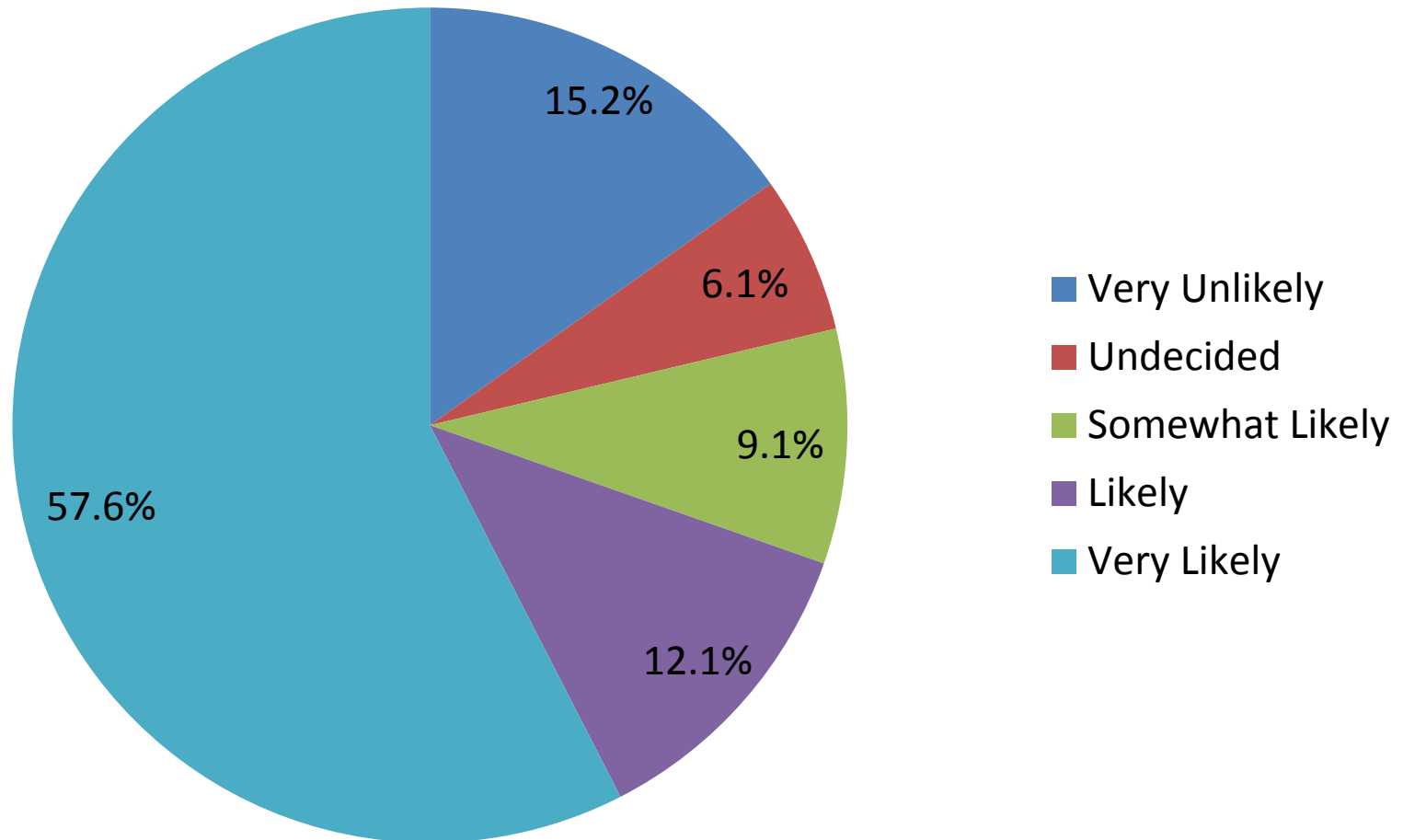
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- *...the major issue that must be confronted is the likelihood that a small company could reasonably jump from a \$5,000 annual membership fee to one at \$50,000 (current Center annual membership fee). I believe that this gap limits the term of SBIR membership to two years (the duration of NSF subsidy).*
- *... they tend to terminate their membership once their SBIR award expired. However, we have been trying to team up with some of them for new collaboration and new proposal submissions.*
- *Even with a positive experience, these companies can not afford the annual membership fee on their own. It also greatly increases the Center Director workload by needing constantly to focus on recruiting.*
- *Two members have been widely disparate in their responses, with one being mostly in the "benefits" category and another begin more in the "negative" aspects category. So we've experienced both ends of the spectrum.*

Likely to recruit SBIR/STTR again?



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Objective 3: SBIR Assessment of Supplement



- Methodology
 - Data
 - Structured interview with IAB representative from SBIR firm (forced-choice and open-ended): 30 minutes
 - Archival information on firm and SBIR abstract
 - Dimensions: background; recruitment process; meeting assessment; benefits (realized/anticipated); problems/negatives; continued membership; overall evaluation; recommendations
 - Sample
 - All SBIRs awarded effective fall 2013
 - Procedure: Letter from NSF/SBIR; Letter from Project Team; Email request to schedule telephone interview; Assignment to interviewers; Interview
 - Population: $N = 72$
 - Analysis
 - Descriptive and predictive
 - Status
 - 100% invited to participate
 - 34 interviews completed
 - Interviews being scheduled

Findings



- Too early to say
 - Caution: Not clear if early responders are more or less favorable
- Overall feedback has been positive
- Renewal of membership may be an issue
- Issues:
 - Support for travel may be a barrier to more interaction
 - Length of membership support may not be long enough to lock-in IP rights for new projects

Preliminary Findings



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The SBIR supplement has ...

- Had a limited impact on the rate of SB memberships in the program
 - Had impact on type of SB: SBIR firms tend to be smaller (rev and headcount) and more likely to be women/minority owned, compared to SBs
- SBIR firms are most likely to find an I/UCRC via the NSF info, or to contact the center directly (based on NSF lead)
- The most frequently cited benefits to the center (>50%): Additional funds, Actively Mentored Graduate Students, Actively Engaged Firms, Improved Research Agenda
- The most frequently cited cost to the center: Turnover
- Almost 80% of responding directors would recruit an SBIR firm again
- Initial feedback from SBIRs suggests very positive experiences with the IUCRC program
- Both directors and SBIR firms would like to see a longer supplemental funding period

Next Steps



- Objective 1
 - Conduct some predictive analyses (e.g., center characteristics)
- Objective 2
 - Content analysis
 - Predictive analysis (e.g., center and director characteristics; questionnaire variables)
- Objective 3
 - Complete data collection
 - Descriptive analysis;
 - Content analysis
 - Predictive analysis (e.g., center characteristics; interview characteristics)
- Report Preparation
 - Estimate mid/late-March



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Questions