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Highlights of Membership Data FY 2014-2015

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Membership Report Data

- 2014-2015 Data
 - Type of members
 - Multiple center members
- Membership Trends Over Time
 - Overview of factors affecting Membership
 - Total membership trends
 - By member type
 - Net Gain/Loss
 - Turnover



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Take Home Message

- Tracking “membership” is important because it may be the most important measure of success for centers and the IUCRC program
- But...
 - We need to be very careful in interpreting changes in membership overtime



Membership Summary

	Count	Percent	Industry/University Cooperative Research Centers
Total memberships	<i>1224</i>	<i>100%</i>	
Industry: large firms (500 + employees)	632	51.63	
Industry: small firms (< 500 employees)	334	27.29	
US Government: Federal	137	11.19	
US Government: State or local	44	3.59	
Non-US Government	5	0.41	
Non-Profit	40	3.27	
Other	32	2.61	
# of organizations with memberships ¹	868	--	

1. Many firms and agencies maintain more than 1 membership in the I/UCRC program. This count considers a firm or agency with multiple memberships as a single member. For example, the Army holds 20 memberships but is considered a single organization in this count.



Membership: Organizations with the Most Memberships

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N Memberships	Organizations
20	Army, NASA
17	Air Force
16	Boeing
13	Raytheon
12	Northrop Grumman
11	DoE, DoD
9	Intel Corporation, Lockheed Martin, National Security Agency
7	Honeywell, IBM, Qualcomm, Texas Instruments, Navy
6	GE, Samsung

No new companies
on this list



Membership: Organizations with the Most Memberships Over Time

1995		2000		2005		2013		2015		Industry/University Cooperative Research Centers
N	Name	N	Name	N	Name	N	Name	N	Name	
10	Dow Chem.	10	Motorola	17	DoE	28	Army	20	Army, NASA	
9	DuPont	9	Army	13	Army	23	Air Force	17	Air Force	
8	3M, Motorola, Ford	8	Lucent Tech., DoE	10	Boeing	19	DoE	16	Boeing	
7	General Motors	7	Boeing, IBM, Honeywell	8	Intel, Air Force	17	Boeing	13	Lockheed Martin	
6	Amoco, Boeing, Texas Inst.	6	Daimler Chrysler	7	Raytheon, HRL, DoD	13	Lockheed Martin, Raytheon	12	Northrop Grumman	
--	--	5	Ford	6	Honeywell, Navy	12	NASA	11	DoE, DoD	
--	--	--	--	5	Dow Chem., Siemens	9	Intel, GE	9	Intel, Lockheed Martin, NSA	
--	--	--	--	--	--	8	Navy, NSA, Samsung, Texas Instruments	7	Honeywell, IBM, Qualcomm, Texas Instruments, Navy	
<div style="border: 1px solid black; background-color: #e0f0ff; padding: 5px; display: inline-block;"> Increased defense/contractors & large companies </div>						5-7	DoD, GM, Honda, Honeywell, IBM, Northrop Grumman, Qualcomm, Nat'l Inst.	6	GE, Samsung	
						<i>Dropped:</i>		<i>Dow Chem., DuPont, 3M, GM, Amoco, Texas Inst., EPA, Navy</i>		<i>Motorola, Lucent Tech., IBM, Daimler Chrysler, Ford</i>
<i>New:</i>		<i>Lucent Tech., IBM, Honeywell, Daimler Chrysler, DoD</i>		<i>Intel, Air Force, Raytheon, HRL Labs, Dow Chem., Siemens, Navy</i>		<i>GM, Lockheed Martin, NASA, IBM, GE, NG, NSA, Honda, Qualcomm, NI, Samsung, Texas Inst.</i>				



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Understanding Membership Changes Over Time



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Interpreting Membership Changes Over Time

- Changes in membership numbers over time are influenced by changes at different levels:
 - Members: Individual members will leave a center and new members will be added.
 - Centers: mature centers will graduate (and their members will be dropped) and new centers will be created (and their members added).
 - Sites: Generally speaking, new sites are added to existing centers but not always
- Changes in program total and average can be due to any combination of these factors.
 - Totals are particularly unstable



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Example: 2012 IUCRC System Changes





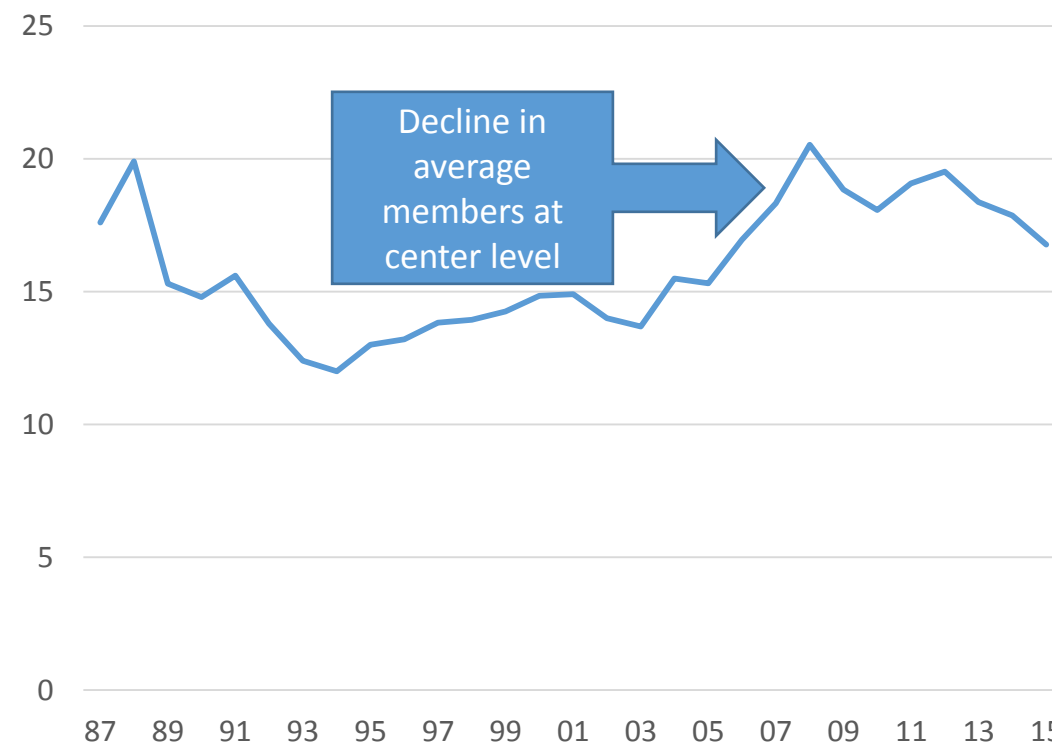
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Industrial Memberships by Year

Total Number of Members



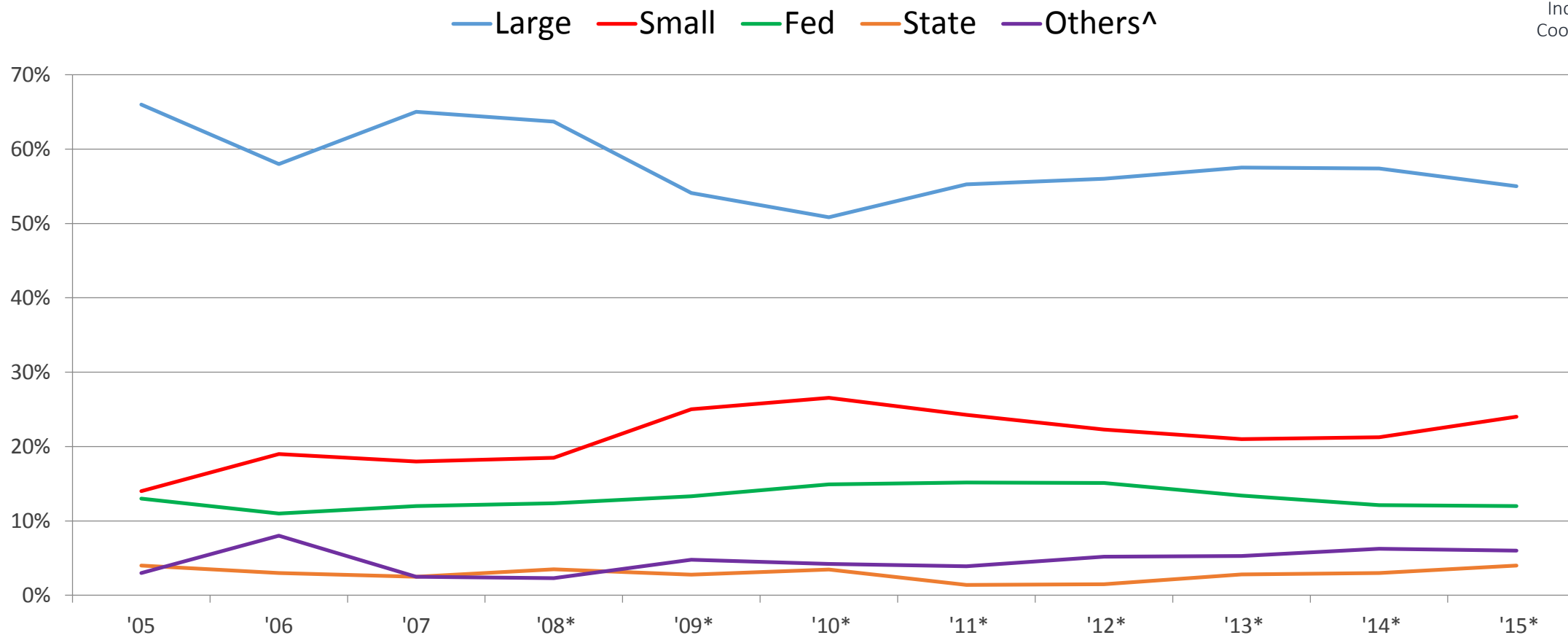
Average Number of Members per Center





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Member Composition 2005-2015*



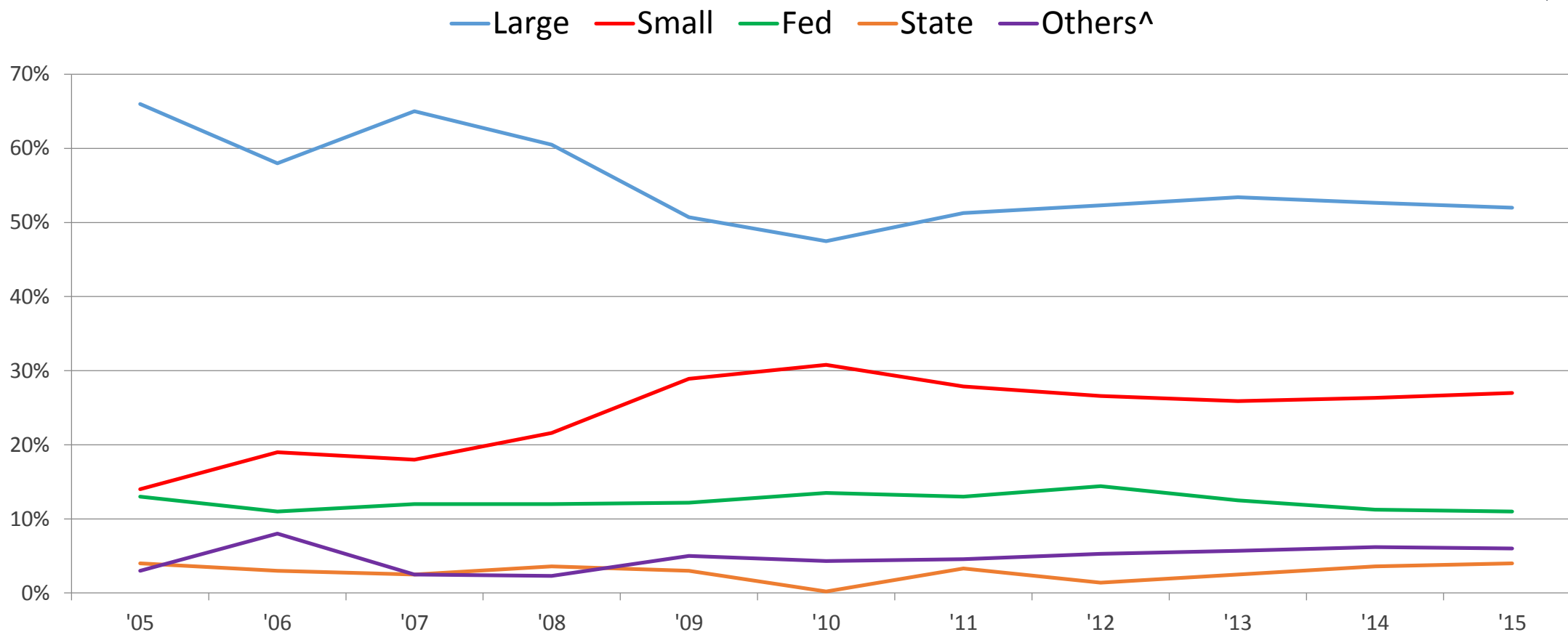
*Years Advanced Forestry excluded as a small business outlier: '08=36, '09=49, '10=57, '11=66, '12=71, '13=77, '14=86, '15=71.

^ Categories comprising Others include: non-profit, non-US gov't, and other org.



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Member Composition 2005-2015



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Membership Variables and Indicators

- **Members added:** number of members center reports adding during past year (may include new individual members or members from added site)
 - Does not include addition of new centers
- **Members left:** number of members a center reports leaving the center during past year (would only include site-level loss if site left center)
- **Member Net Gain/Loss:** the relative gain or loss of members (members added – members left) centers experience during each calendar year
- **Member Turnover:** percentage of a center's members from year x that leave the center the following year (year $x + 1$)



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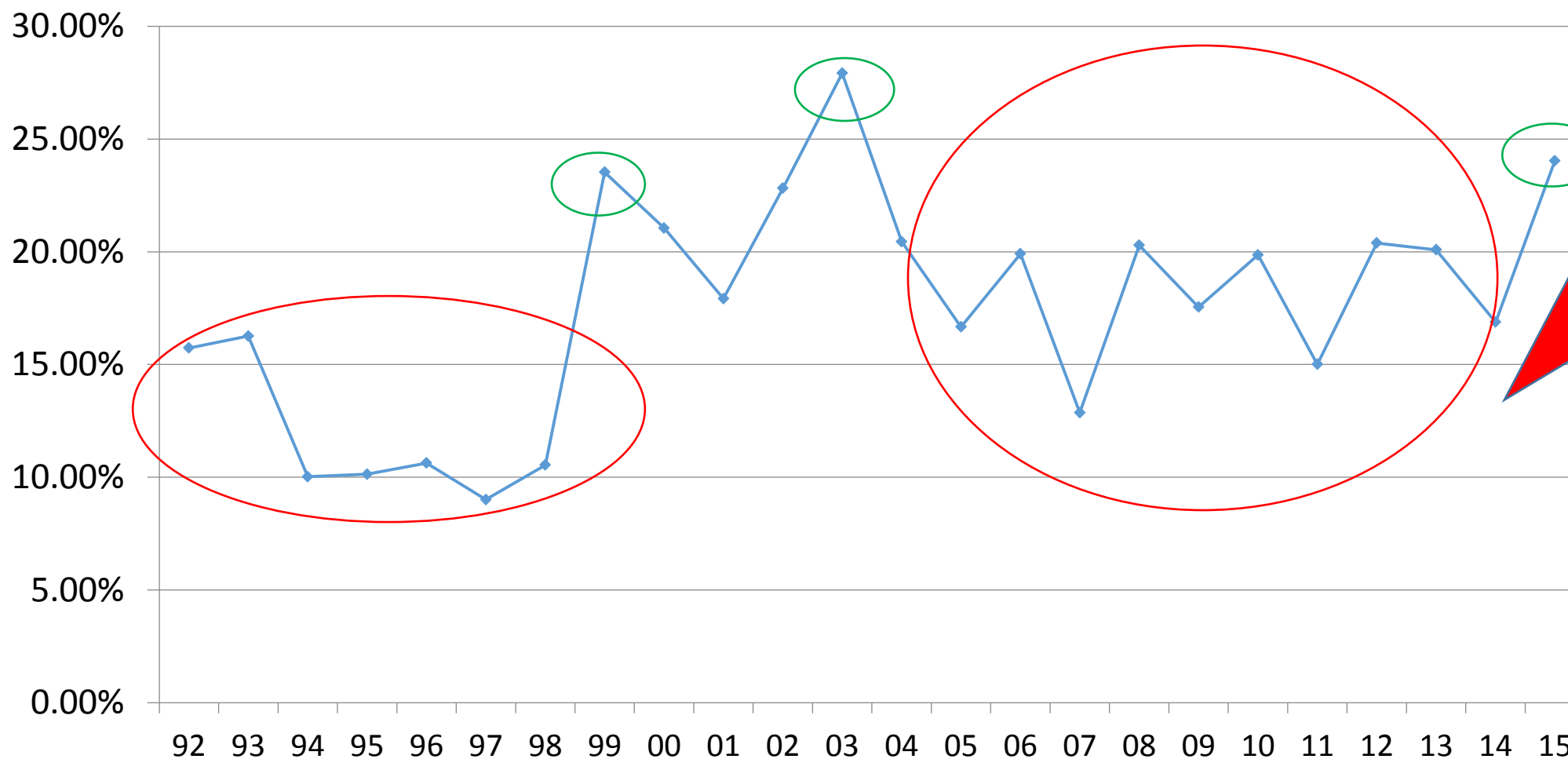
Average Center Membership Gain/Loss





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Member Turnover Rate – New Normal



Second
highest
turnover
rate

Turnover % = Members terminated in year X+1 / Total members in year X



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Conclusions: Turnover

- Membership growth and stability has not improved
 - Average number of members declined 3rd year in a row
 - More members leaving compared to being added
 - Membership turnover increased and is near 25% per year (second highest total ever)
- Possible explanations are:
 - Internal:
 - Newer smaller centers replacing older larger centers
 - Some new sites may be marginal and do not sustain
 - External: New Normal
 - Periodic recessions and mergers making memberships unstable
 - Economy has not stabilizing
 - Firms uncertain about value of pre-competitive research
- Membership is dynamic
 - Program level picture positive based on continuous growth in new centers and sites
 - Fewer members per individual center
 - Membership picture is volatile
 - Causal factors are hard to pin down
 - Explanations may reside with center level variables like leadership, technology salience, as well as structural issues like the churn of old and new centers, site transitions, etc.