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Supplementary Analyses: Member Turnover and Dwell Time

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Goals

- Obtain a better understanding of the factors that might be affecting turnover of IUCRC members
 - Aggregate Statistics
- Obtain a better understanding of the factors that affect “dwell time” or the continuous maintenance of IUCRC membership
 - Individual Member Statistics

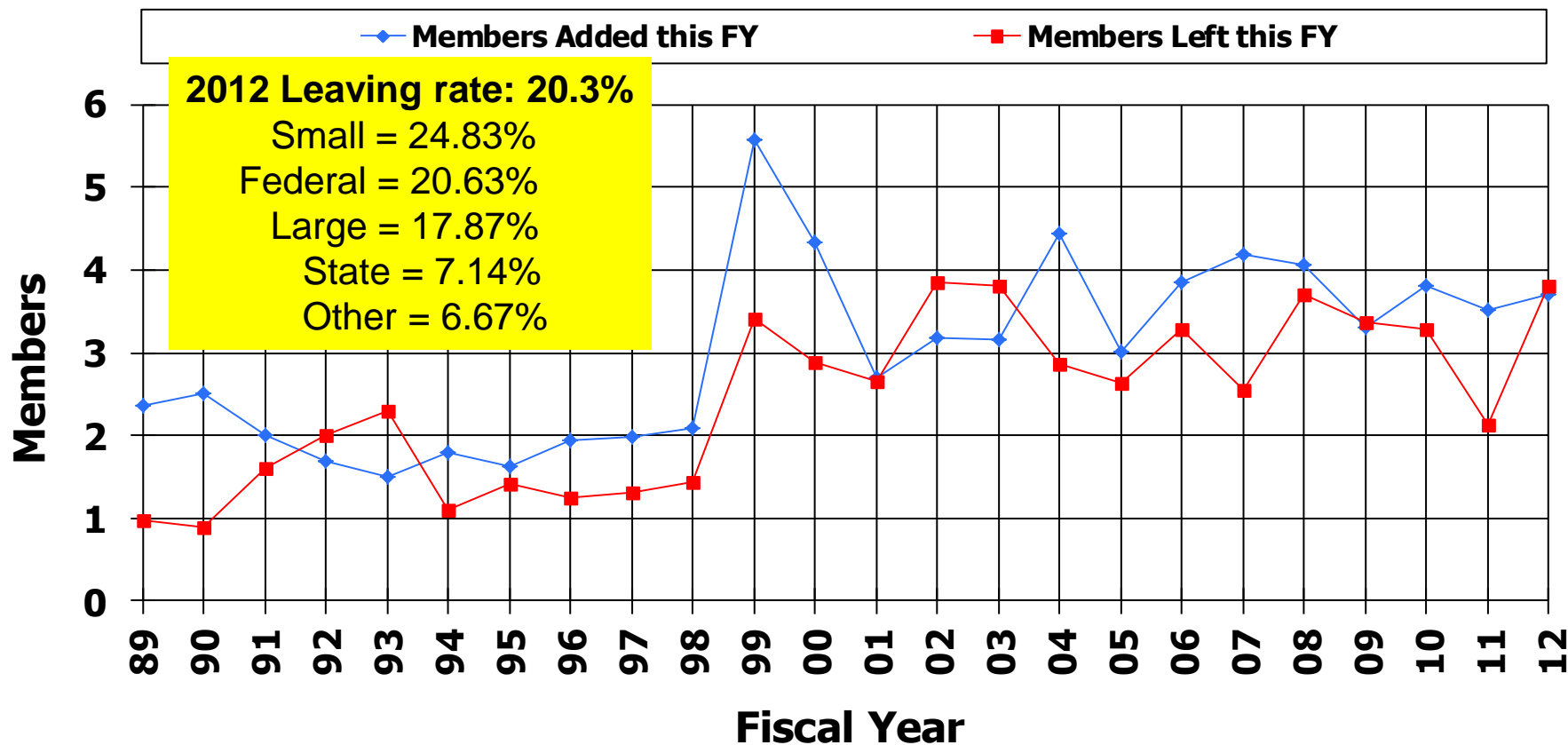
Average Membership Turn Over



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NEW CENTERS EXCLUDED

Lines crossing = usually means recession!

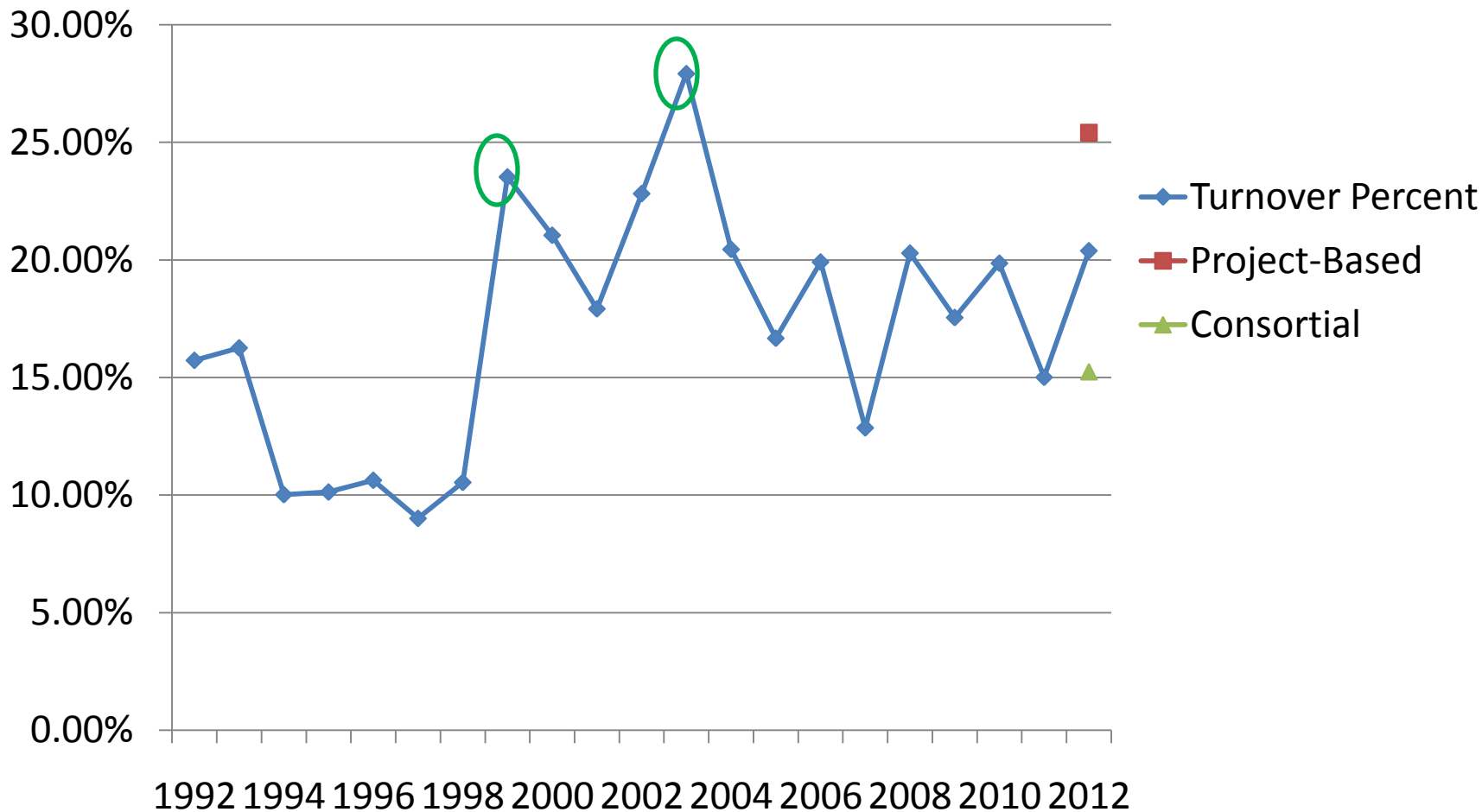


*Newly funded Centers' members are not counted as Members Added

FY2011-2012 NSF-I/UCRC Center Structure Database



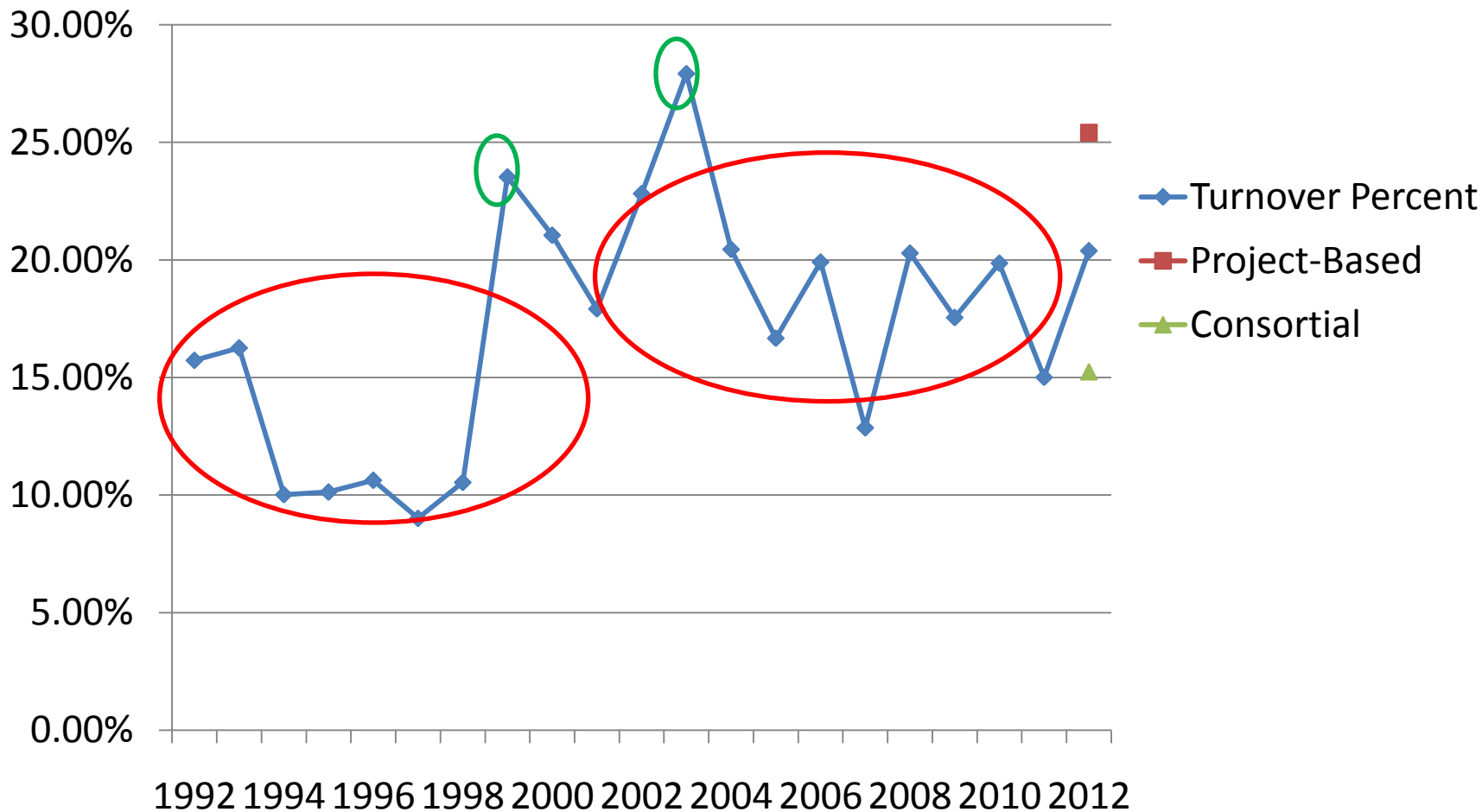
Member Turnover Rate



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



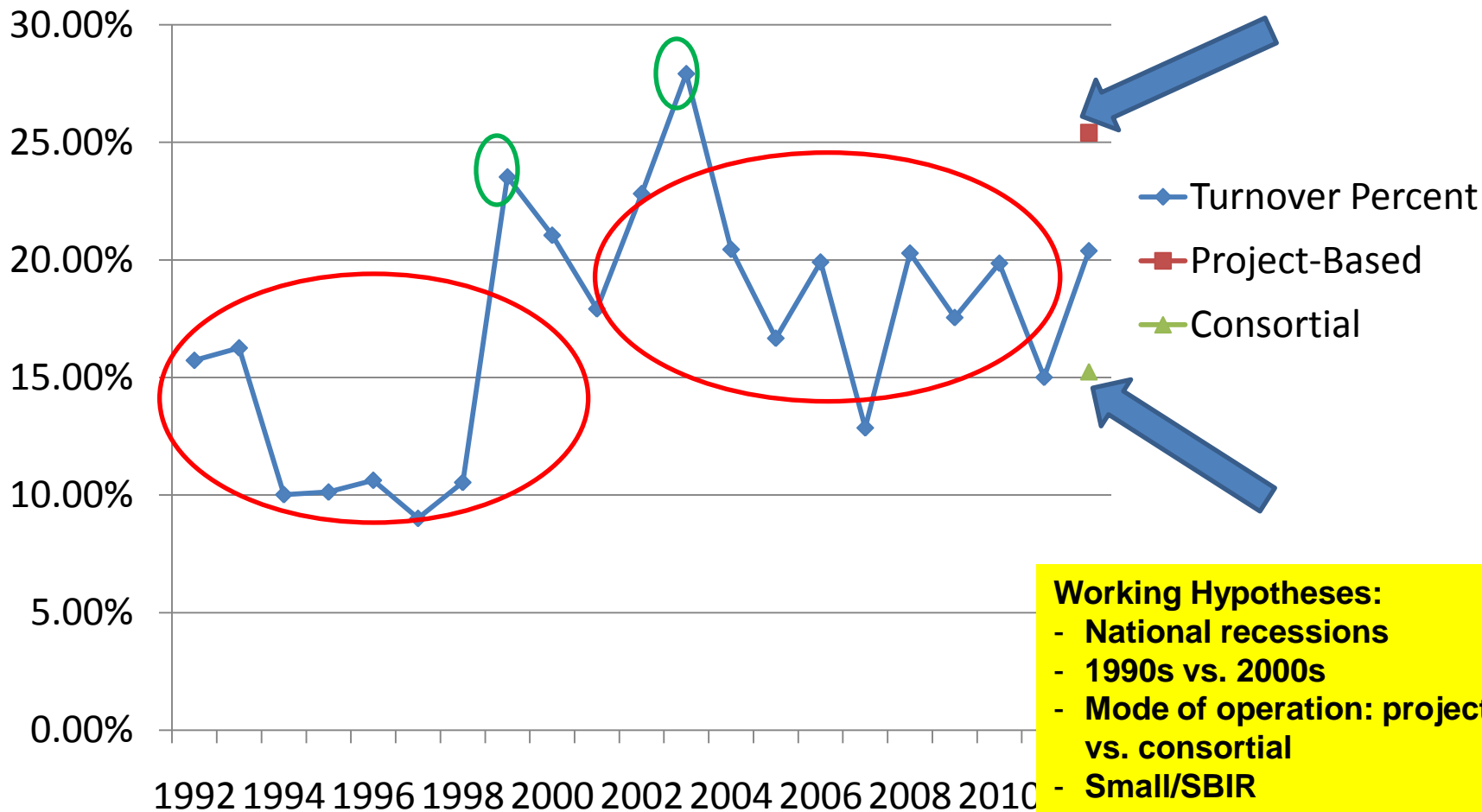
Member Turnover Rate – New Normal



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



Member Turnover Rate – New Normal



Working Hypotheses:

- National recessions
- 1990s vs. 2000s
- Mode of operation: project vs. consortial
- Small/SBIR

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



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Dwell Time Analyses

Method



Sampling & Time Period

- Centers that started between 1992 and 2001 and that had at least 9 years of NSF support (collection of data)
- Members of these centers between 1992 and 2011

Procedure

- Combine data from archival membership database (1992-2006) and the latest membership data from 2007-2011
- Assign an individual numeric code for each member
- Calculate consecutive years of membership
- Classify members into 7 categories:
 1. Large Industry (>500 employees)
 2. Small Industry (<500 employees)
 3. Government (non-US)
 4. Government (US Federal)
 5. Government (US State/Local)
 6. Non-Profit
 7. Other Organization [unidentified organizations]

Results



Descriptive

Total 2121 individual memberships were identified from which:

Large Industry – 55%

Small Industry – 14%

Government (U.S. Federal) – 10%

Government (U.S. State/Local) – 2%

Government (non-US) – 1%

Non-Profit – 4%

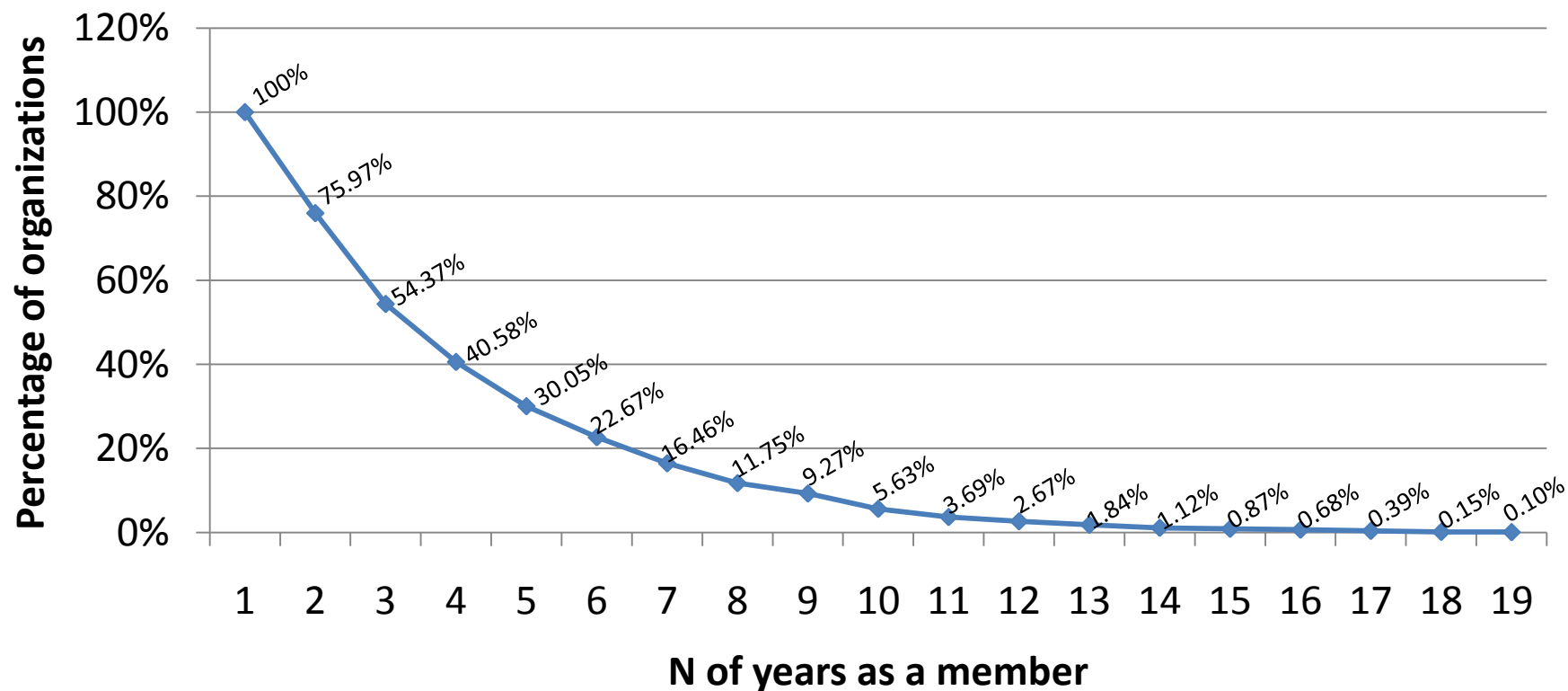
Other Organization – 14

Average of the consecutive years companies maintained their membership at I/UCRCs is 3.74



Member dwell time

**Percent of organizations maintaining an I/UCRC membership
for X number of years (Mean dwell time = 3.8)**

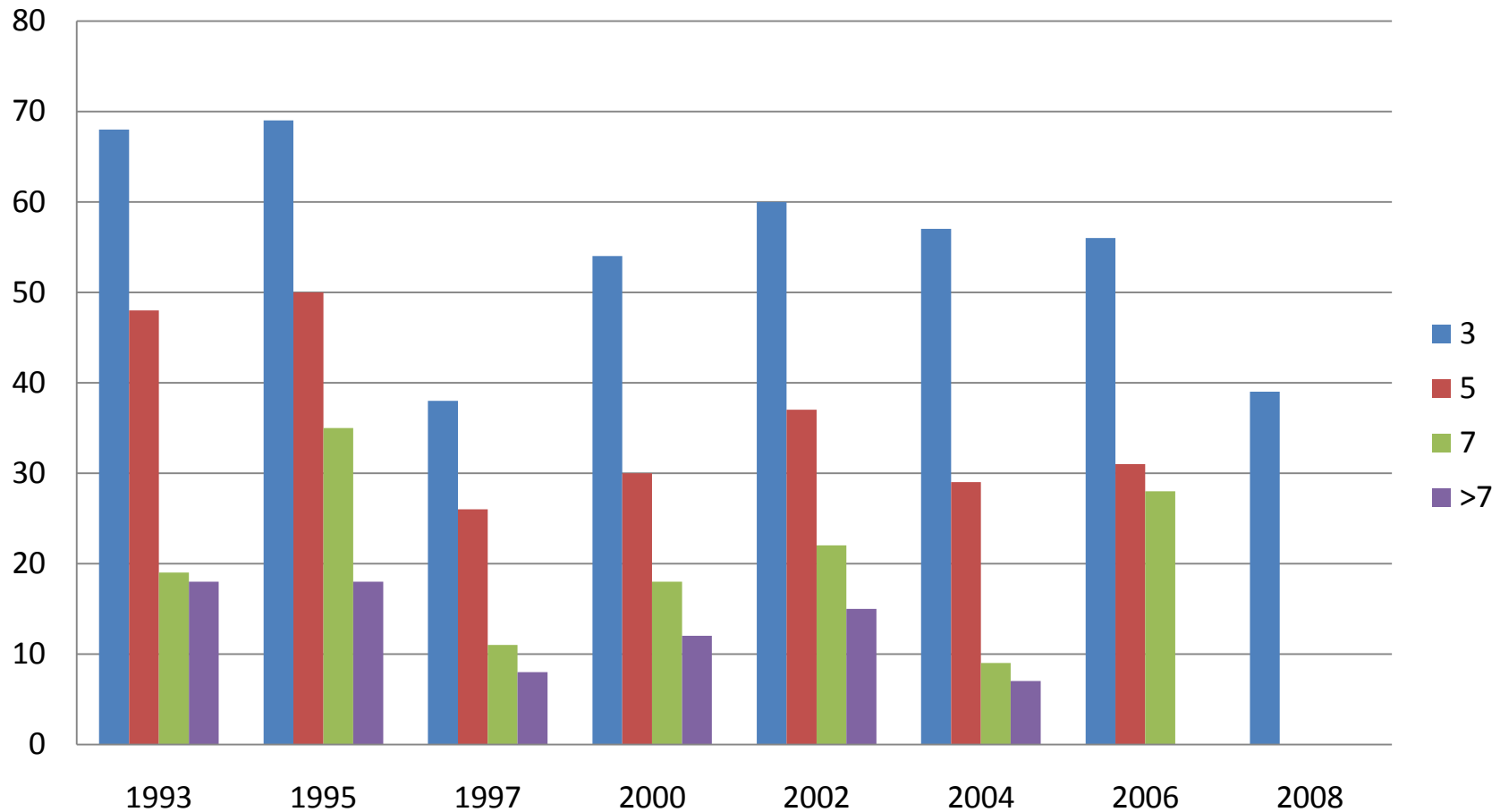


Dwell Time (Every Other Year) by Member Starting Year_(corrected for “5” in 1995)



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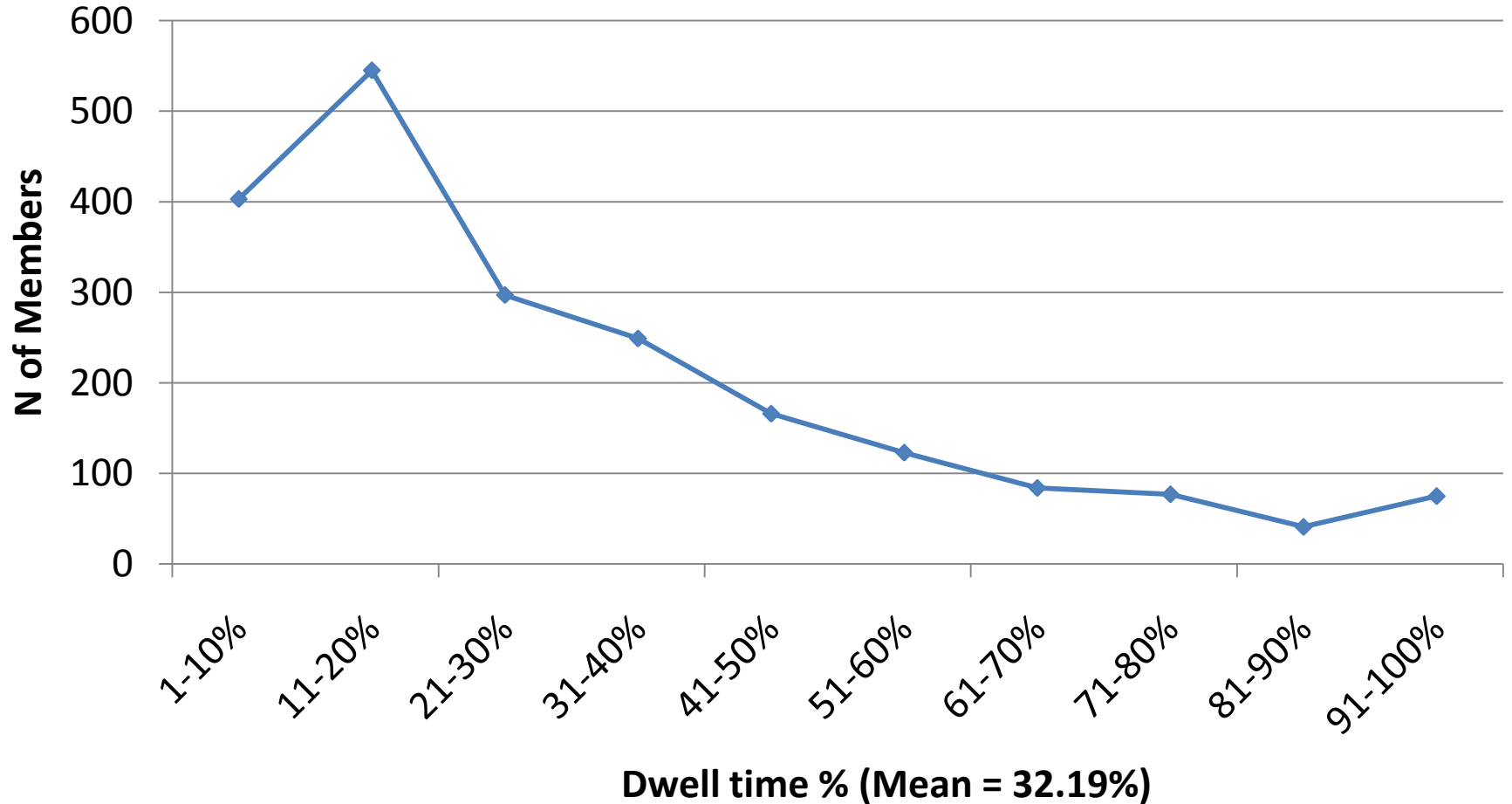
Membership Dwell Time of groups of companies from beginning years between 1993-2008 (every other year)



Members by percentage of possible dwell time



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Dwell time % = Total N of years as a member / Total possible N of years as a member

Limitations



- Missing years in membership data – imputed data
- Maddening variations in member names to reconcile
- Sample issues: exclude centers with less than 9 years data
- Different start and end years of the NSF funding that determines data collection by the NC State evaluation team
- Disaggregated analyses (by type of member and center) still remains!

Conclusions: Turnover

- Member turnover is becoming an increasingly big challenge for IUCRCs
 - Longitudinal data on membership turnover shows increased percentage of members leaving in recent years
- Possible explanations are:
 - Internal:
 - Increasing percentage of Small Businesses leaving after receiving the SBIR support and not being able to sustain membership independently
 - More Centers opting for a project-based mode of operation
 - External:
 - Globalization or development of communication technologies create more alternatives for companies.
 - Periodic recessions making memberships unstable



Conclusions: Dwell Rate

- Multiple indicator strategy for dwell rate
 - Percentage maintaining membership steadily declines over time
 - Average Dwell Rate = 3.8 years
 - Average member stays 32% of possible years
 - No discernible pattern by year members started membership (1993-2008)
- More detailed research needs to be done to identify increased turnover rate of the members using more precise classification of the members and centers