

Overview of Research at Memorial University

2010-2016

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Vice-President (Research)**

Revised September 14, 2016

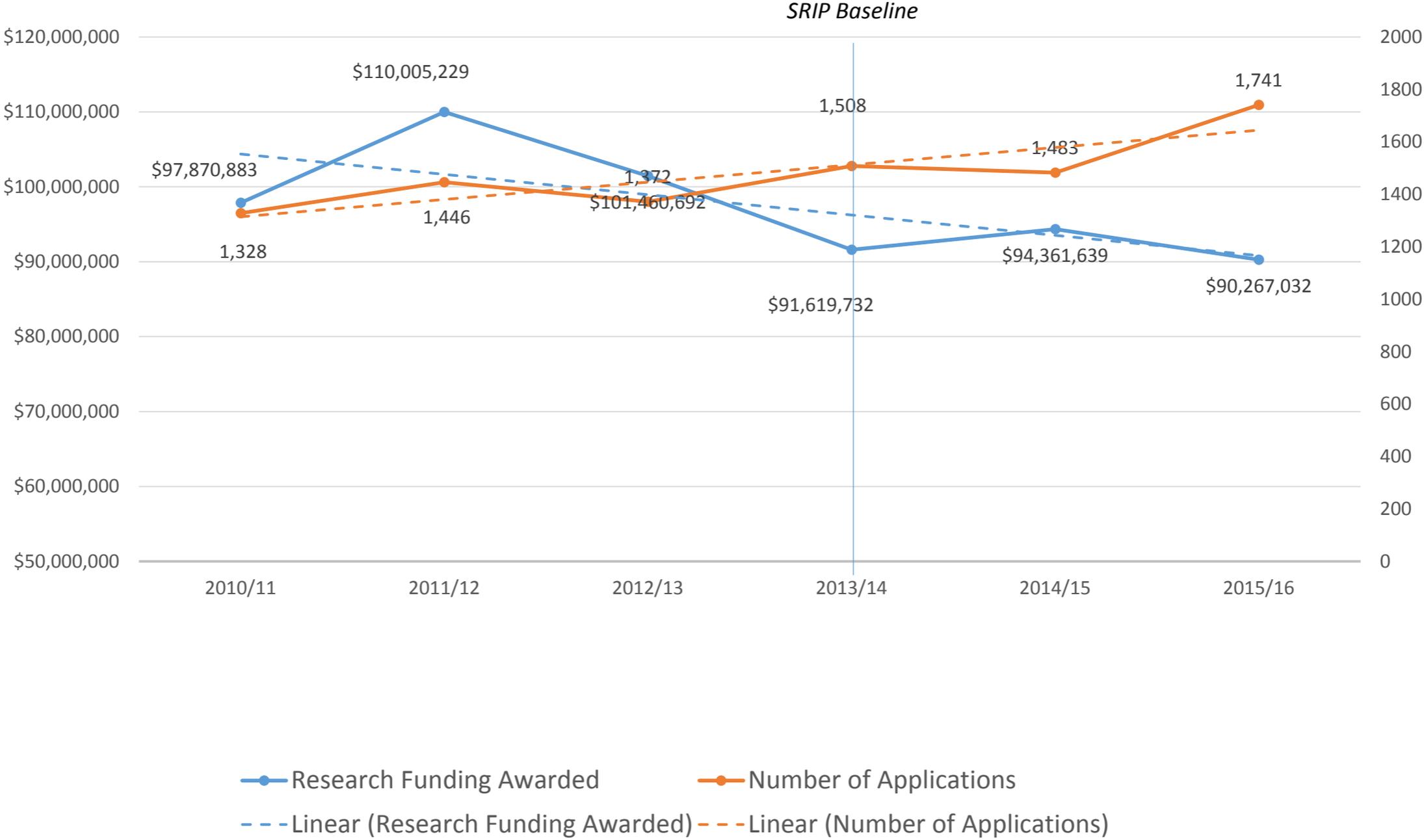
Overview

- Research Metrics
 - Research Grants and Contracts
 - Technology Transfer and Commercialization
 - Research Chairs
 - Graduate Programs
 - Graduate Students
 - Scholarly Dissemination
- VPR Portfolio Metrics
 - Research Grant and Contracts
 - CREAT
 - Animal Care
 - Technical Services
- Key Research Enablers
- Key Research Investments
- Key Research Partners
- VPR Objectives 2016-17
- Conclusion

Research Grants and Contracts

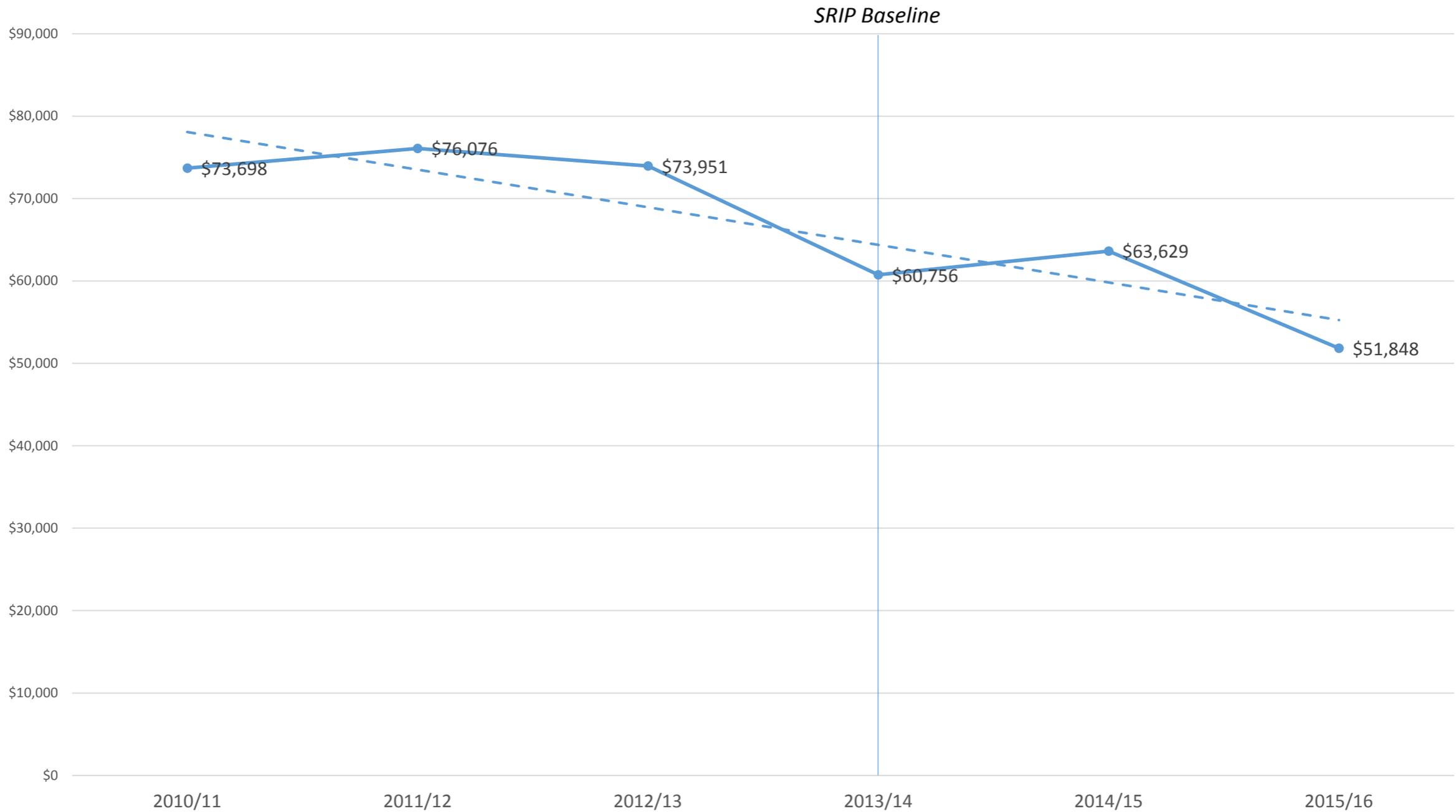
Research Grants and Contracts: Total Applications and Funding

\$: from -2.1% to -0.8% per year post SRIP



Research Funding per Application*

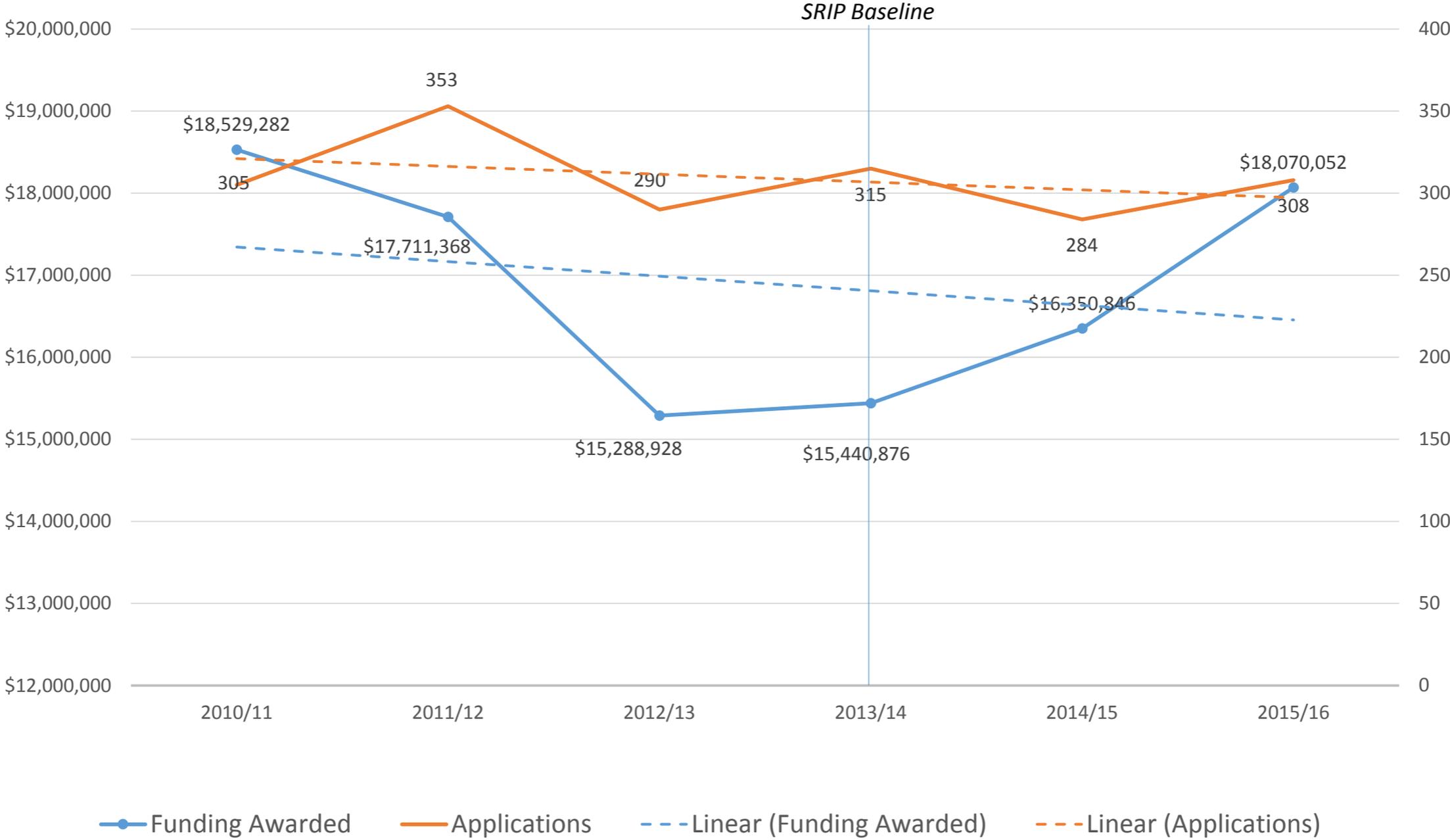
\$ per Application: from -6.3% to -5% per year post SRIP



* Based on Total Applications

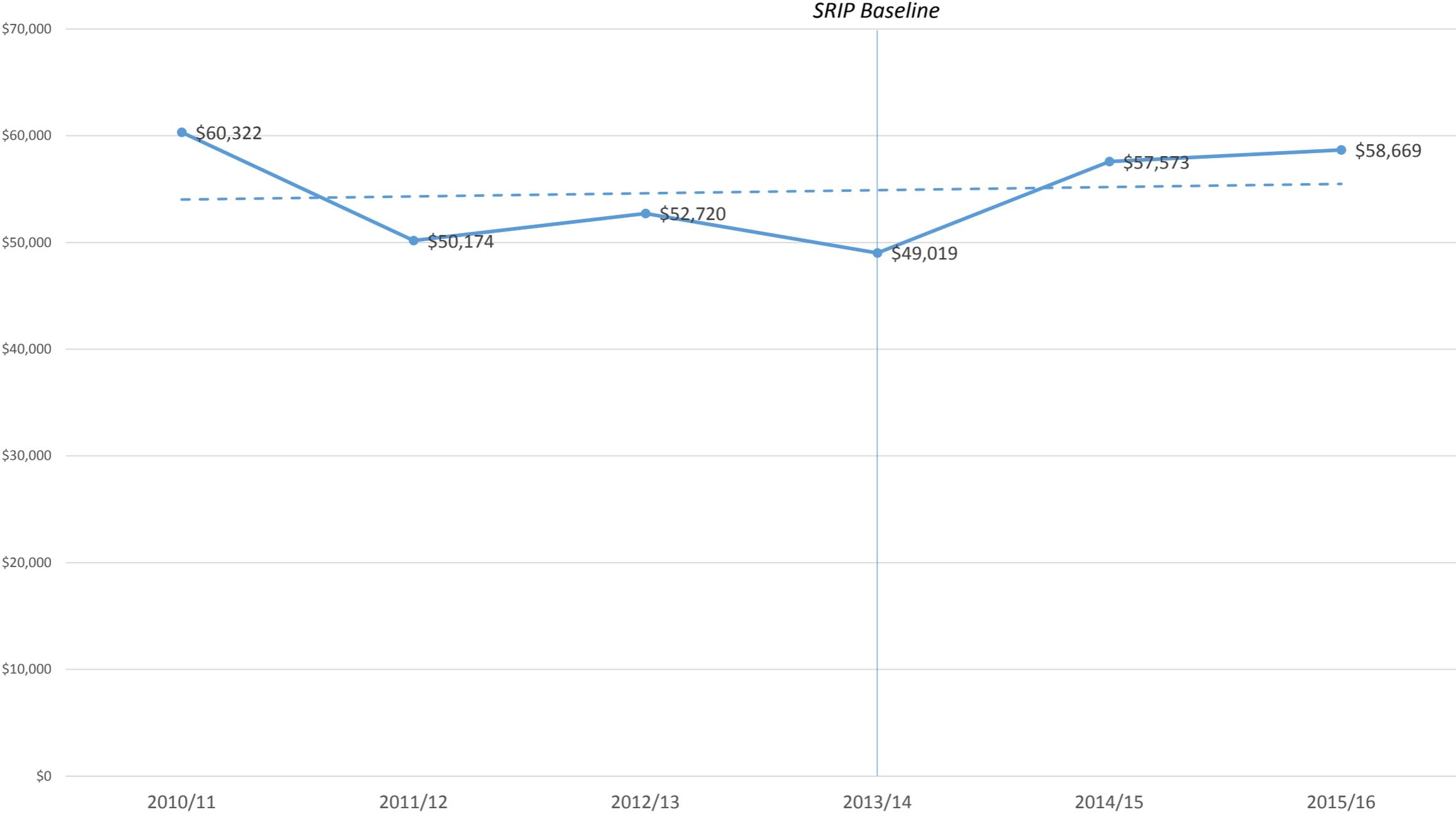
Tri-Agency Grants: Total Applications and Funding

\$: from -6% to +8.2% per year post SRIP



Tri-Agency Funding per Application*

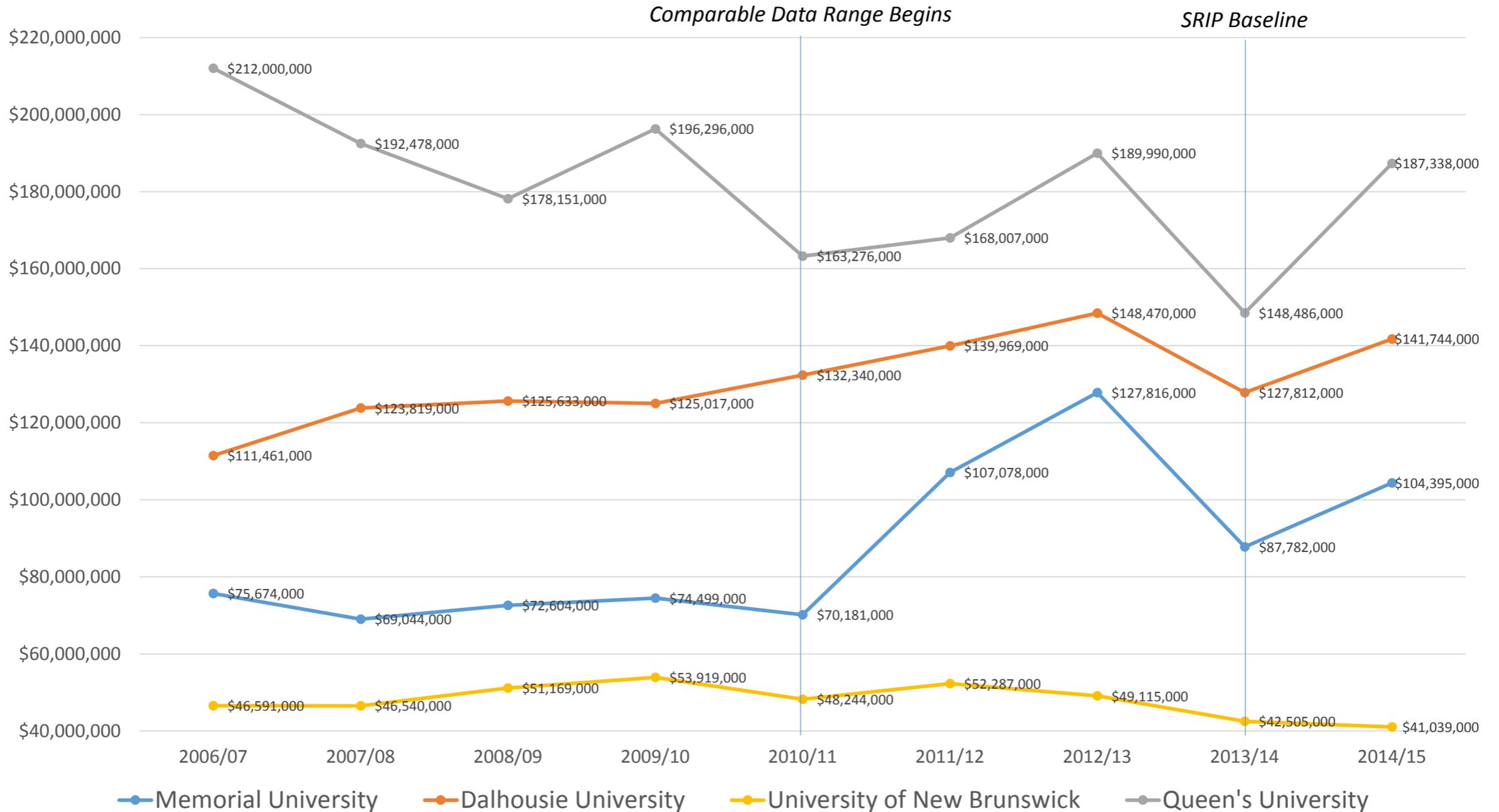
\$ per Application: from -6.7% to +9.4% per year post SRIP



* Based on Total Applications

Memorial vs Select Universities

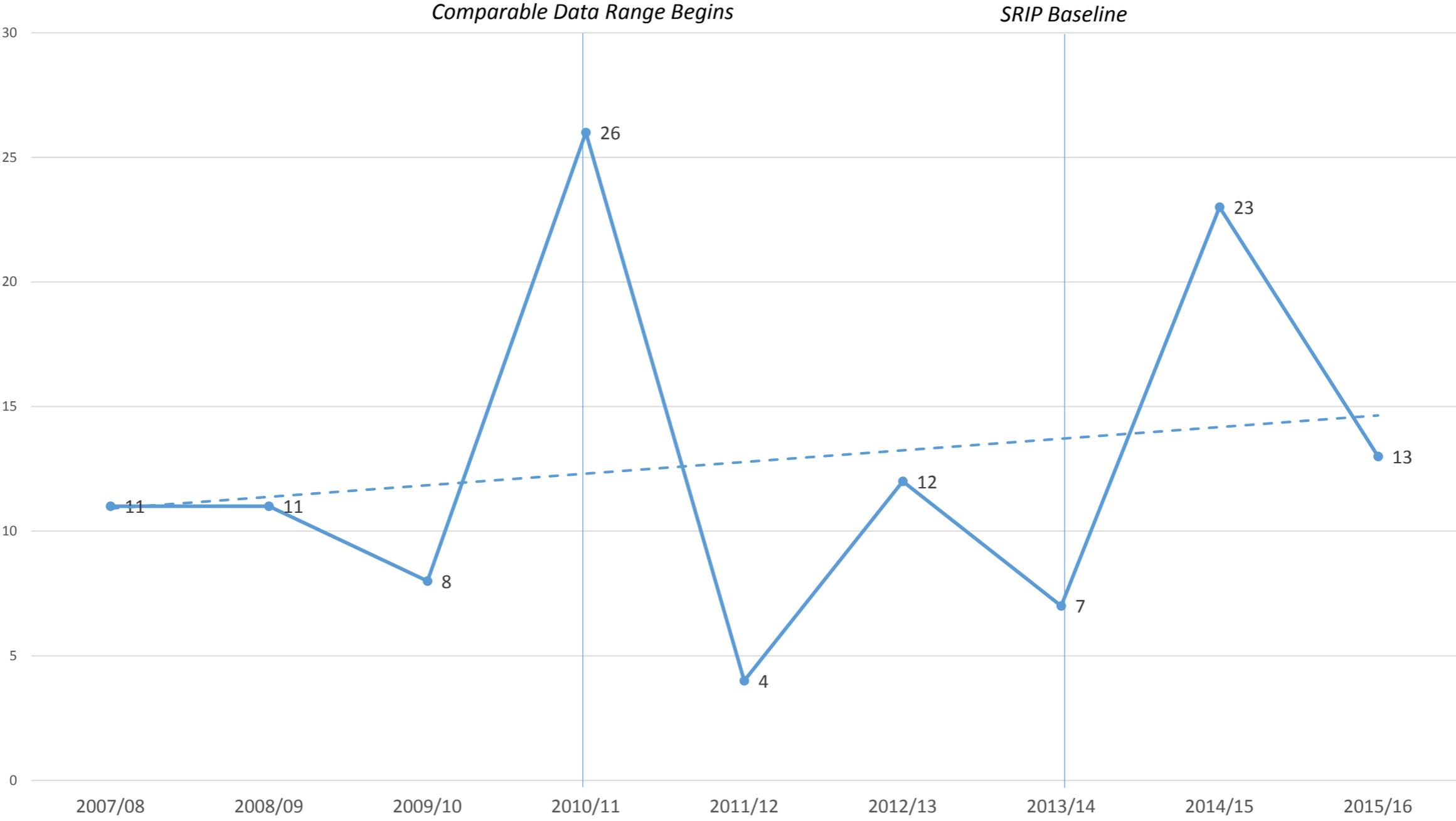
Sponsored Research Revenue (CAUBO): Memorial +19% post SRIP



Technology Transfer and Commercialization

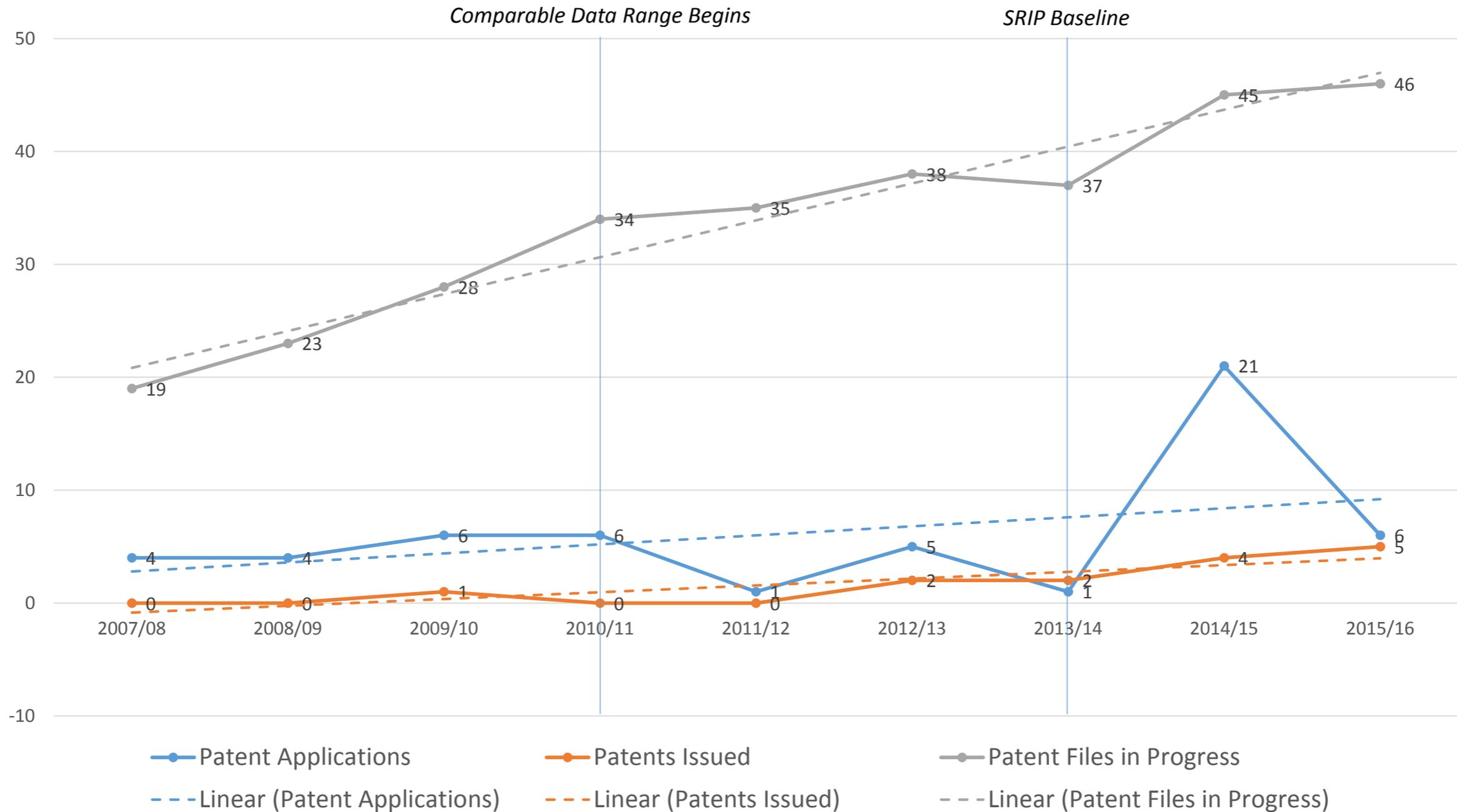
Technology Disclosures

Disclosures: from 12.3 to 14.3 average per year post SRIP



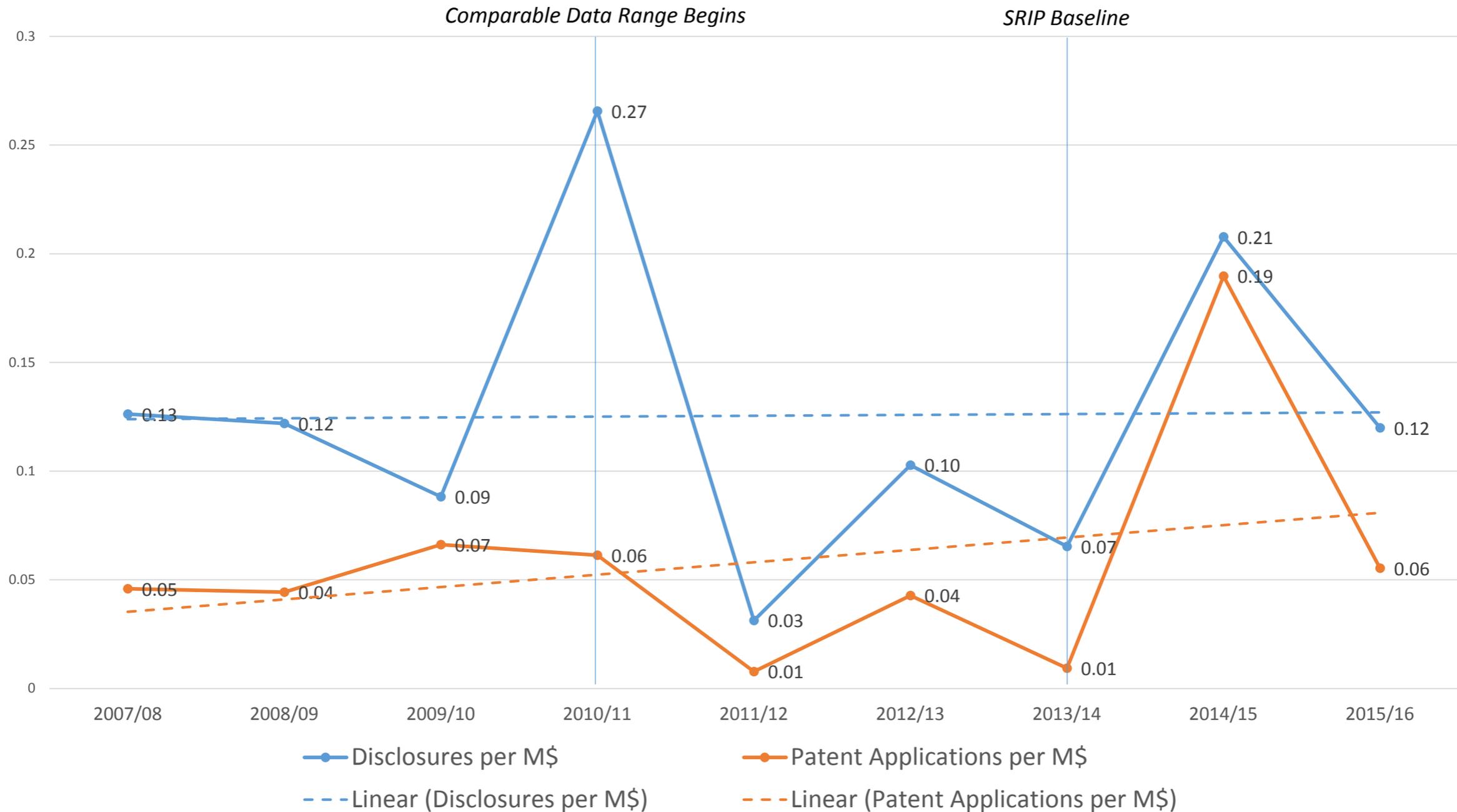
Patent Applications, Patents Issued and Patent Files in Progress

Applications: from 3.3 to 9.3 av. per year; Issued: from 1 to 3.7 av. per year; In Progress: from 36 to 42.7 av. per year post SRIP



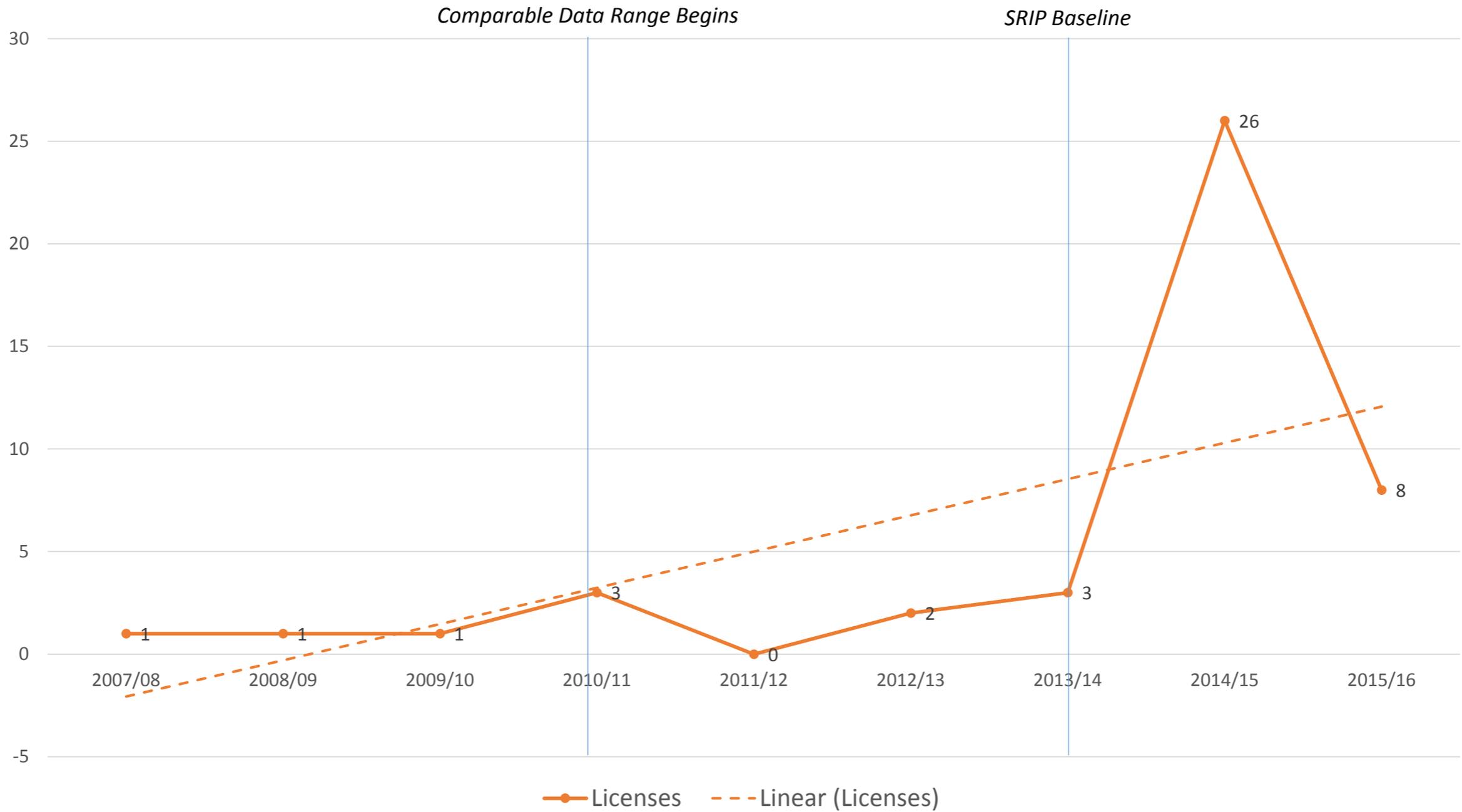
Disclosures and Patent Applications per M\$ Grants and Contracts

Disclosures per M\$: from 0.12 to 0.13 average per year; Patent Applications per M\$: from 0.03 to 0.087 average per year post SRIP



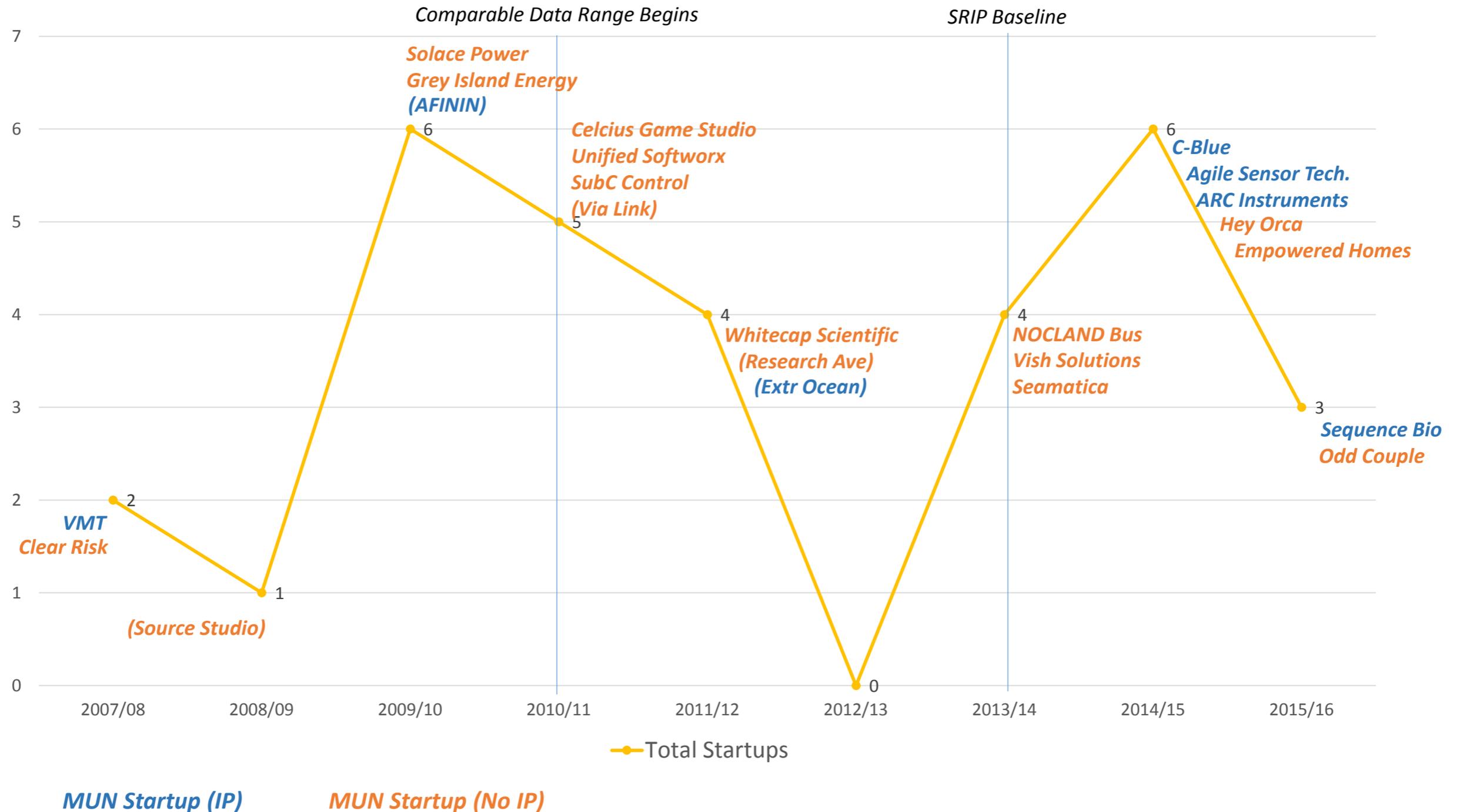
Licenses

Licenses: from 2 to 12.3 average per year post SRIP



Genesis Centre: New Start-ups

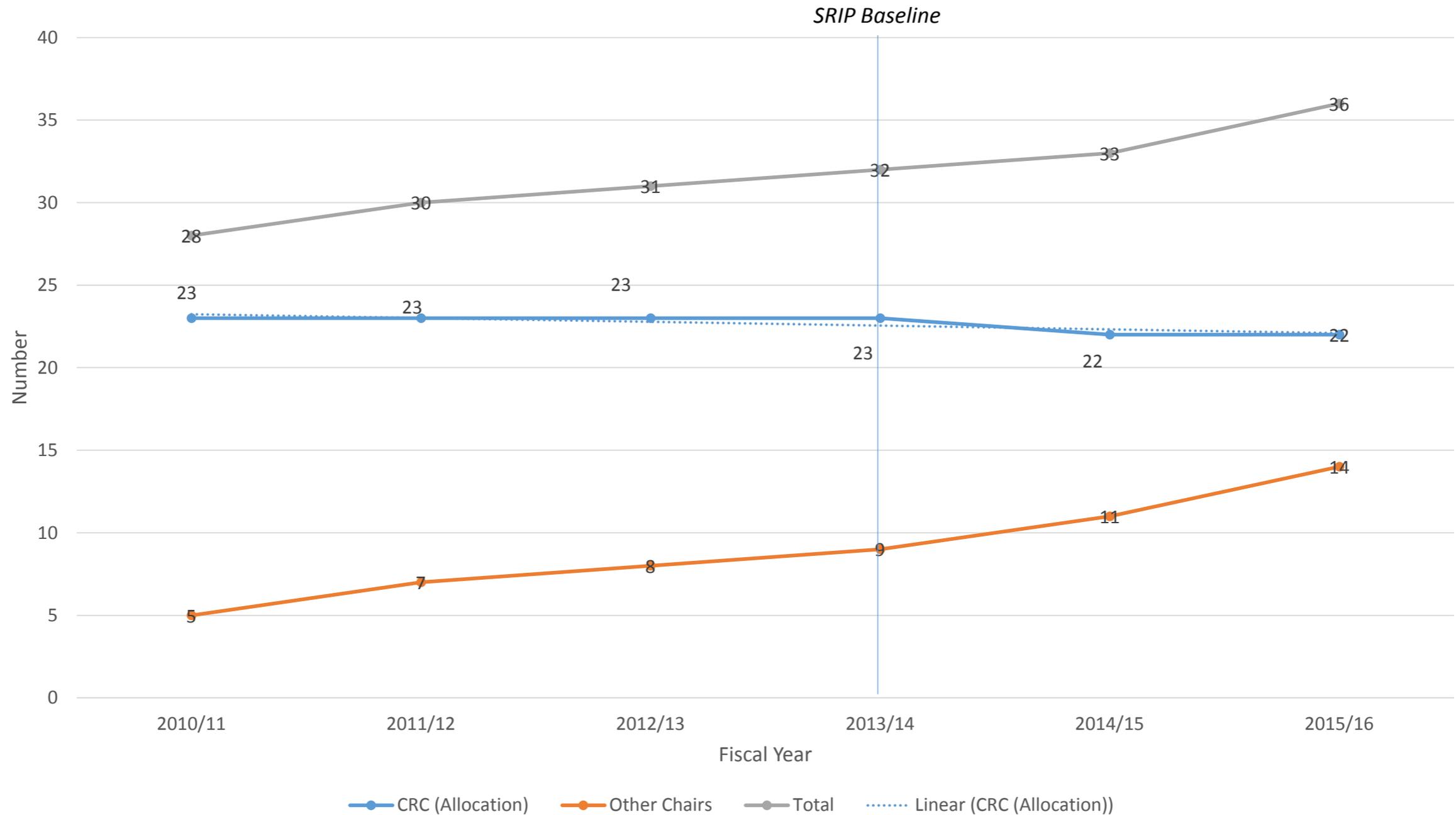
New start-ups: from average of 3.3 to 4.3 per year post SRIP



Research Chairs

Canada Research Chairs (Allocated) and Other Research Chairs

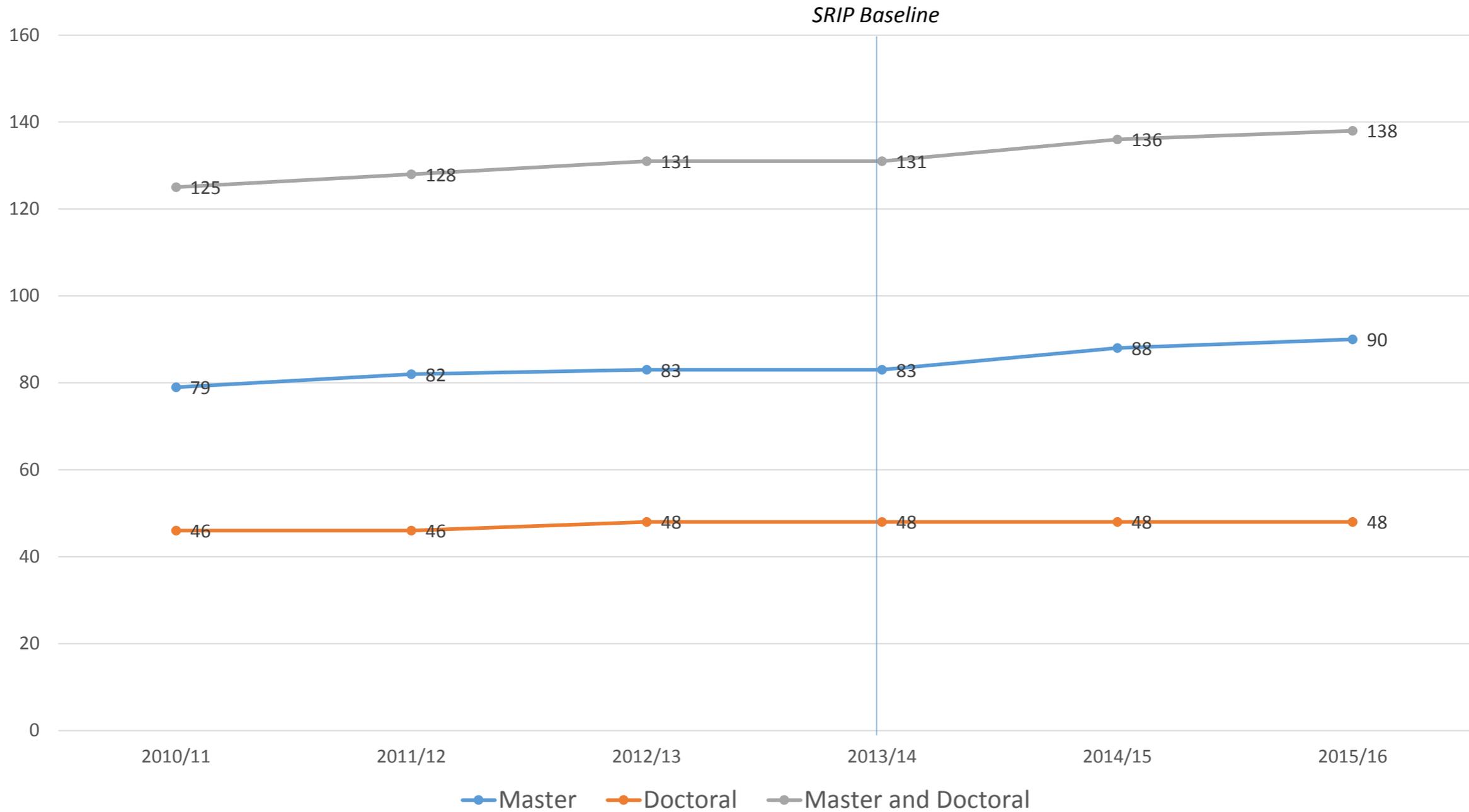
Total: from +4.5% to +6.1% per year post SRIP Baseline



Graduate Programs

Graduate Programs

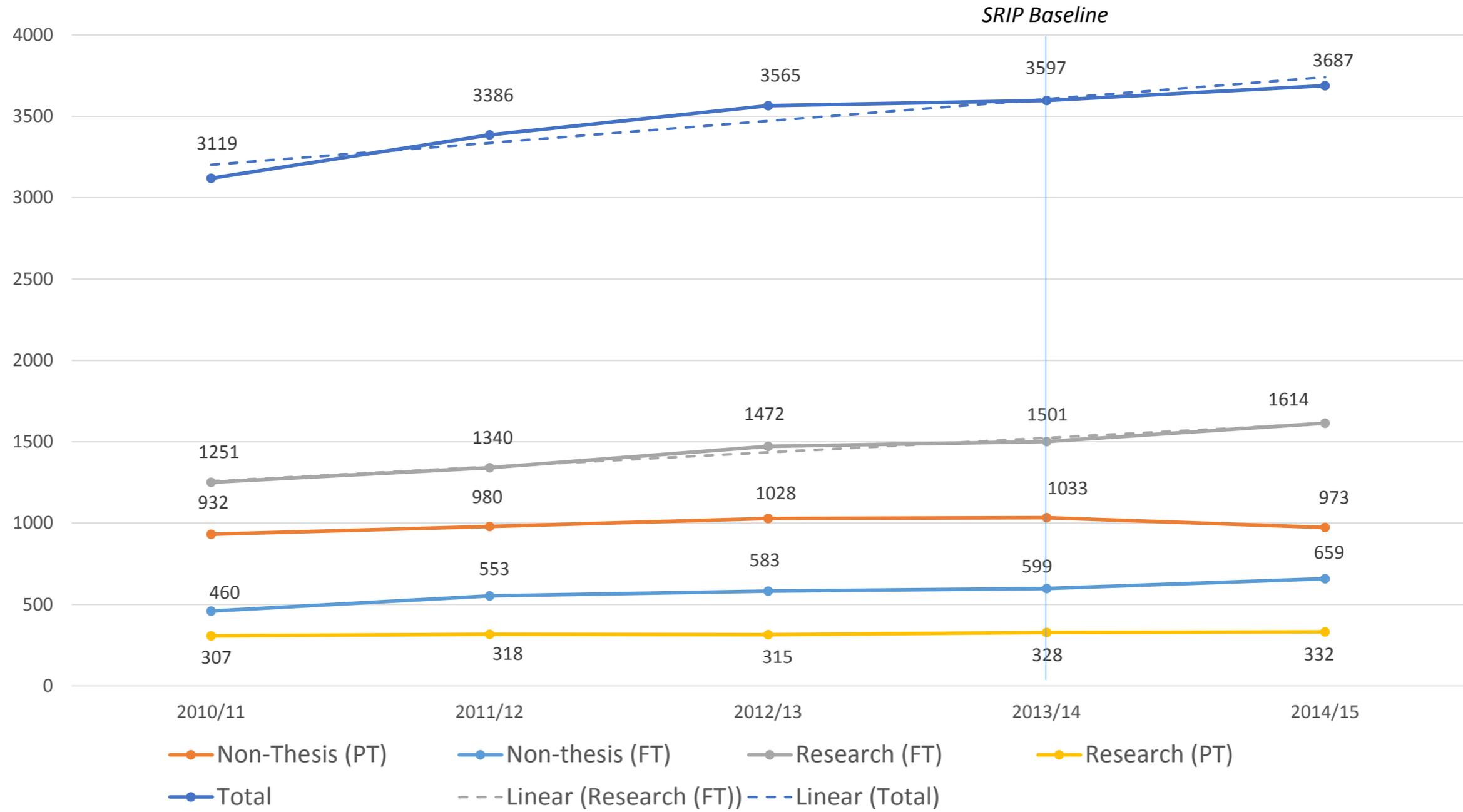
Total: from 1.6% to 2.6% per year post SRIP



Graduate Students

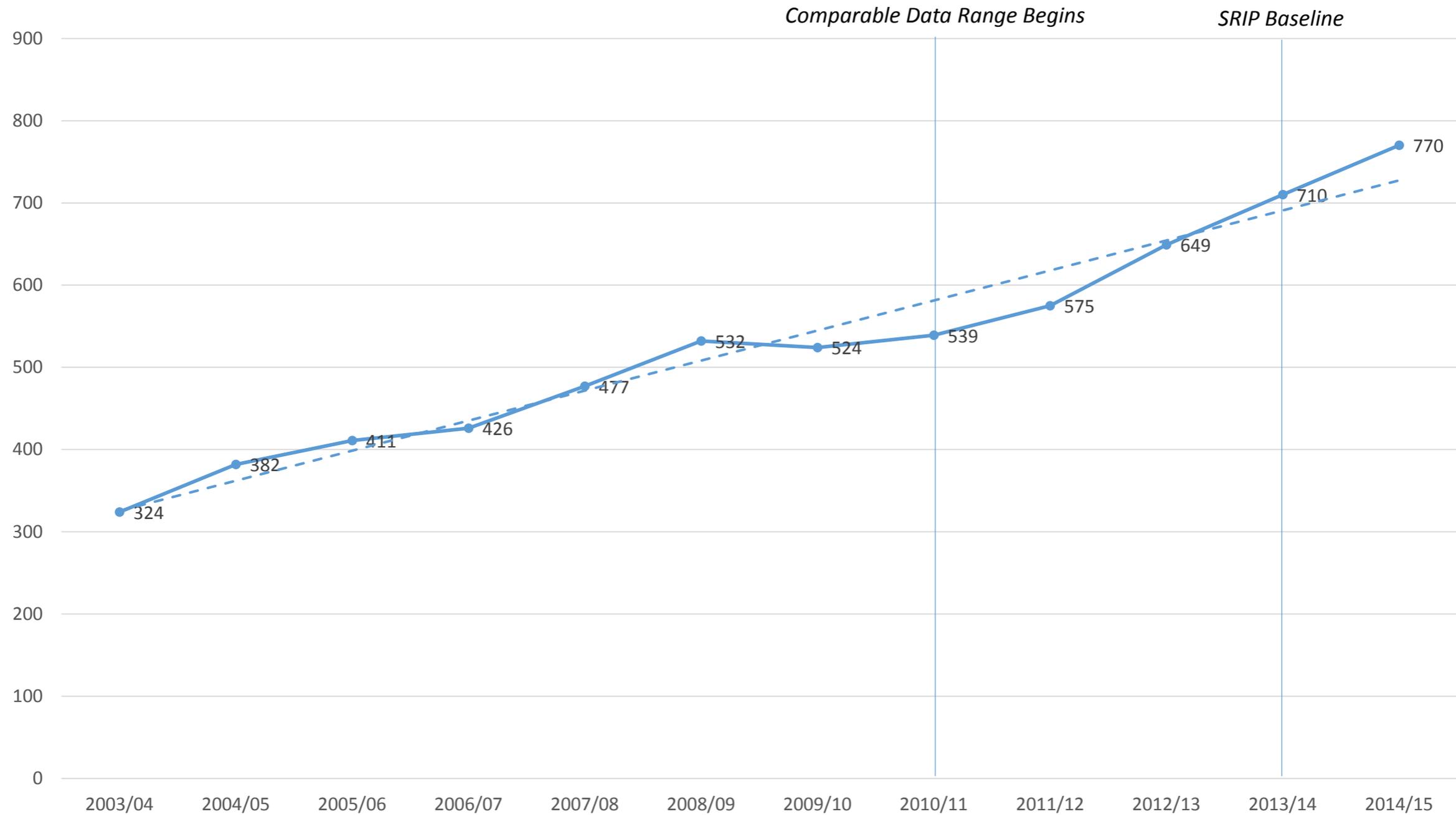
Graduate Student Enrolment

Total: from +5% to 2.5% per year post SRIP; Research Students: from +6.3% to 7.5 per year post SRIP



Doctoral Enrolment*

Doctoral: 8.5% per year post SRIP (+6.3% per year 12-year trend)



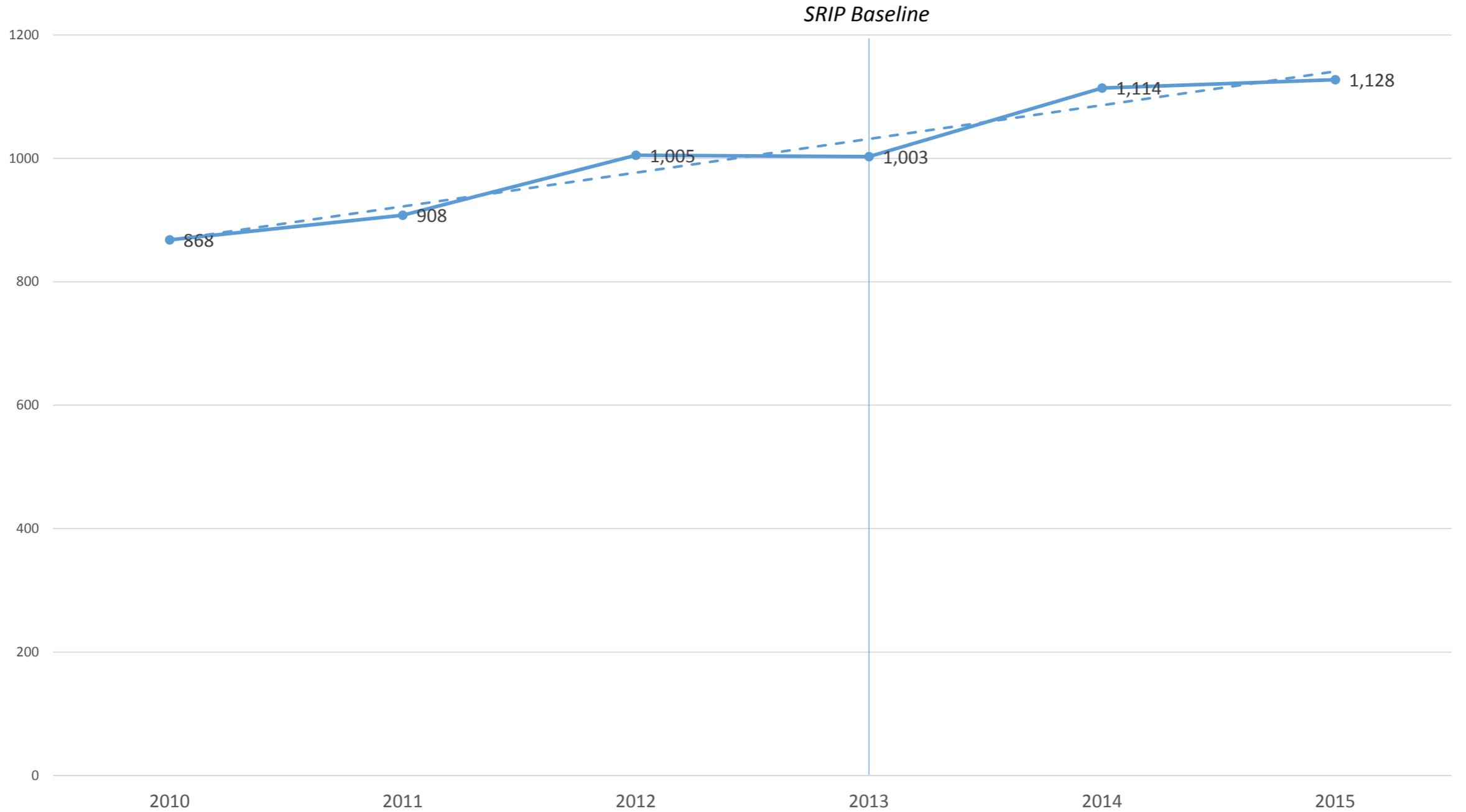
* Combined full time and part time enrolments

Fall Semester Enrolments

Scholarly Dissemination

Publications Index*

From +5% to +6.1% per year post SRIP



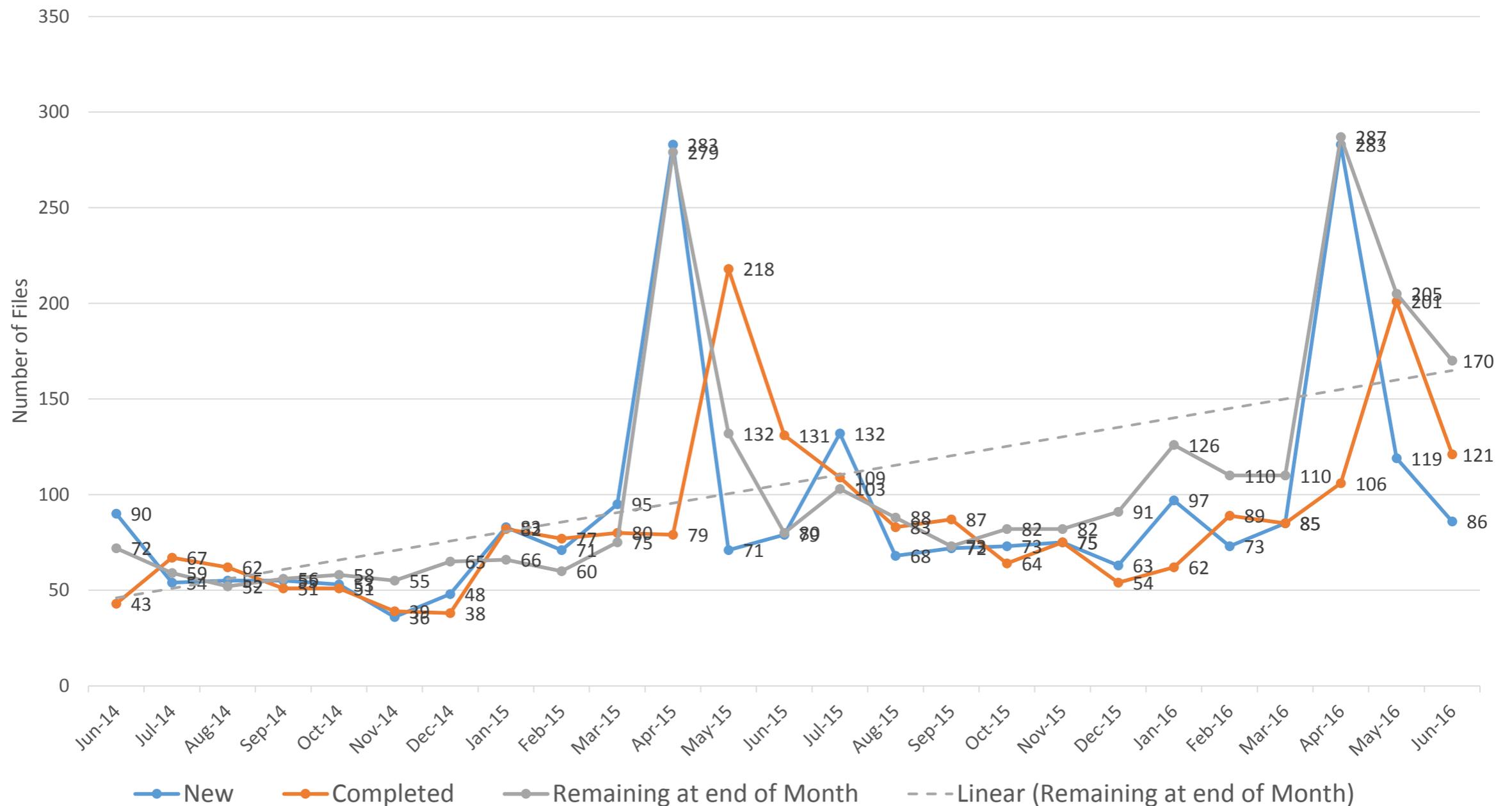
* Average of two bibliographic database software: *Scopus* and *Web of Science*

Calendar Year

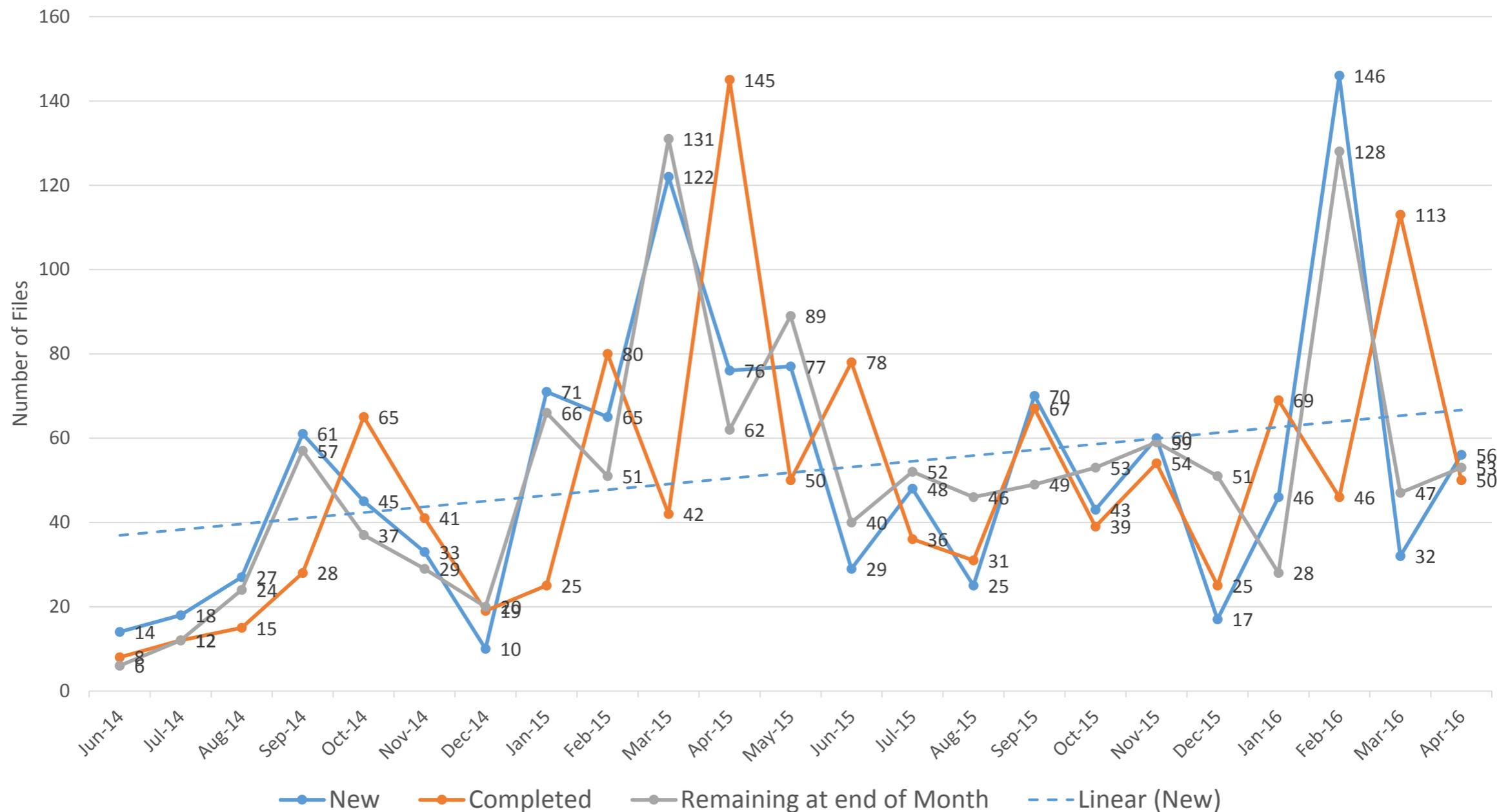
VPR Portfolio Metrics

Research Grants and Contracts

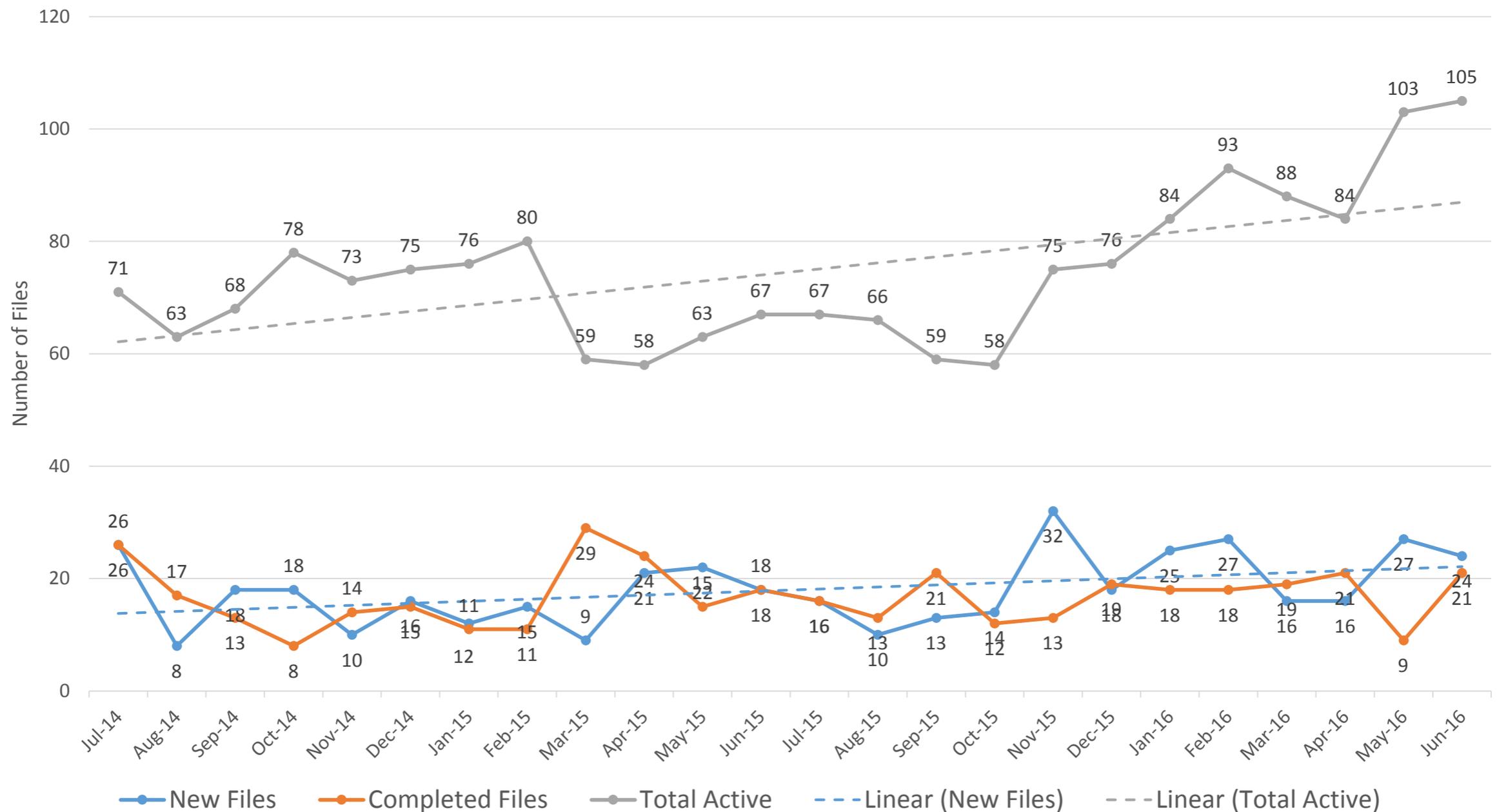
New and Completed Files per Month: External Grants



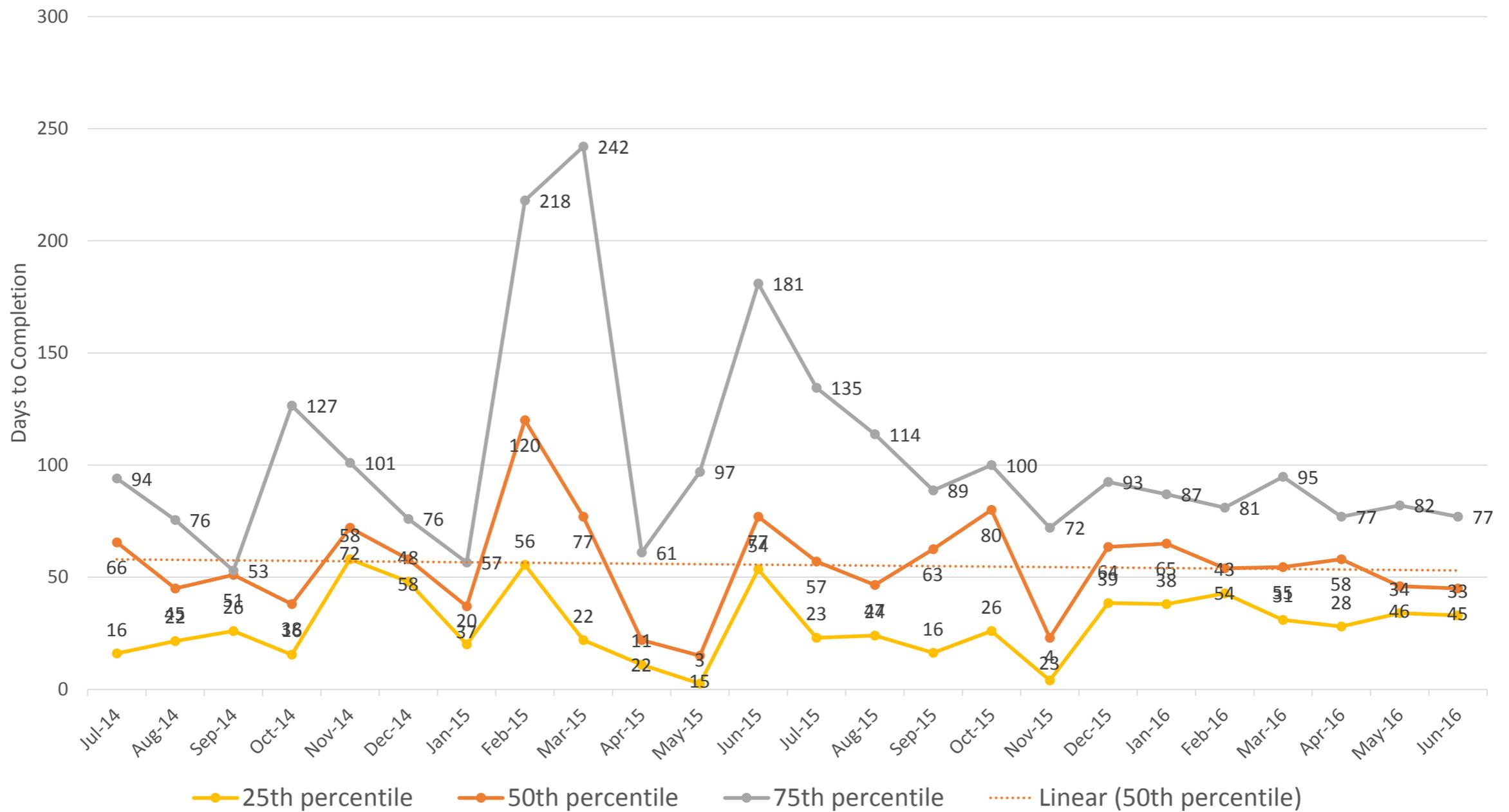
New and Completed Files per Month: Internal Grants



New and Completed Files per Month: Contracts



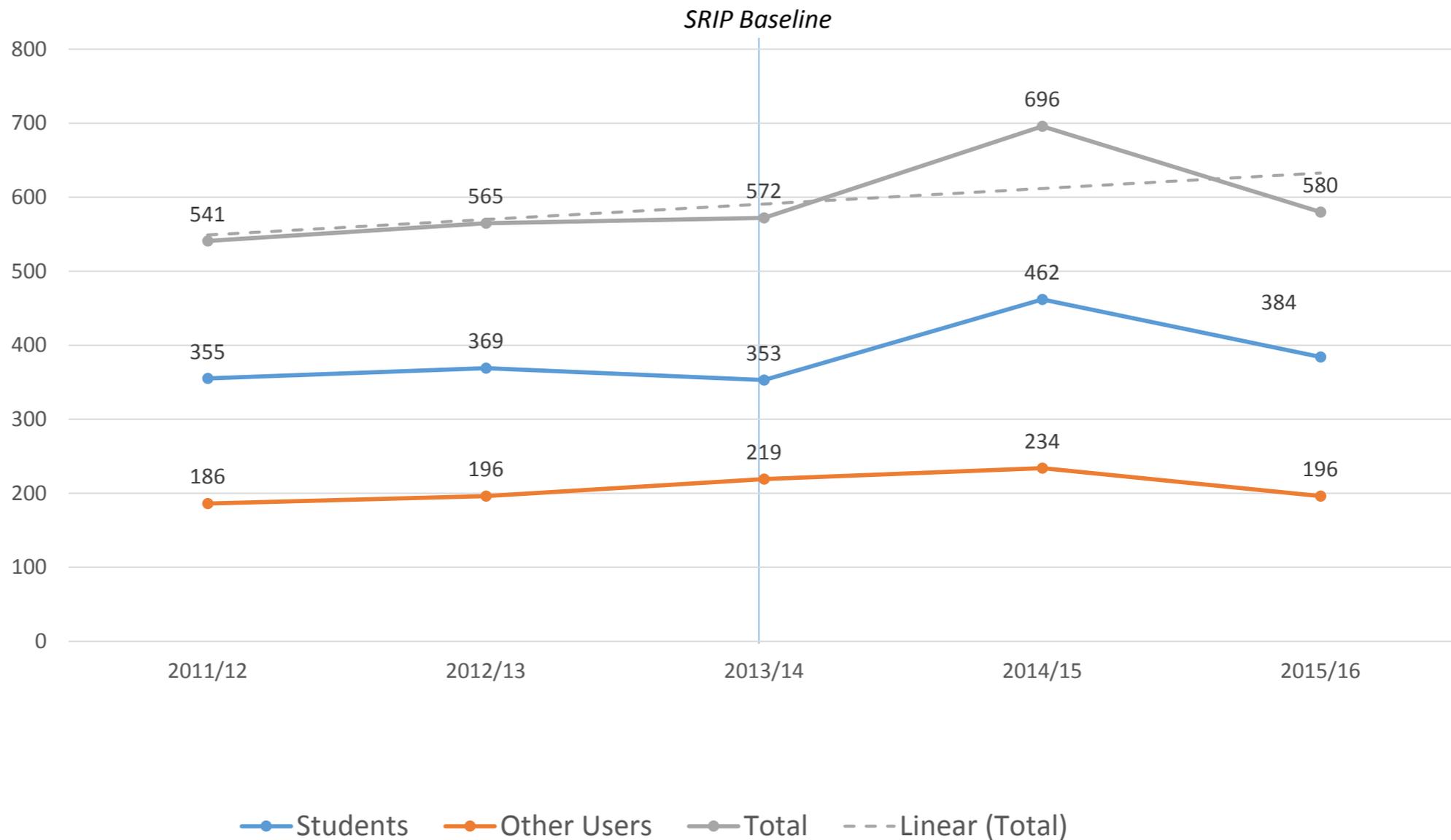
Average and Percentile Time to Completion (Contracts) per Month



CREAIT Network

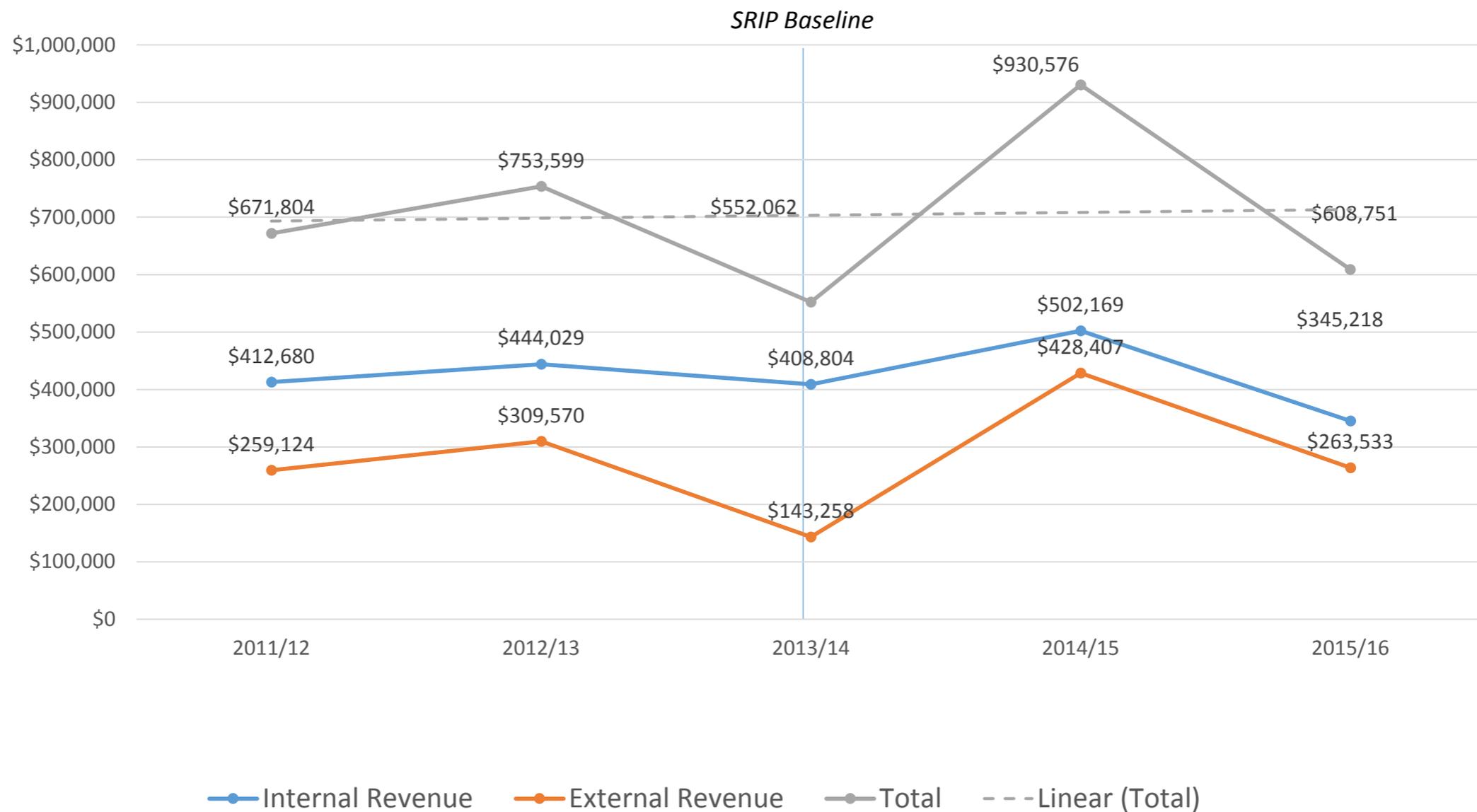
CREAIT Laboratory Users

Students: +0% in prior years; +8.8% from SRIP Baseline; Externals: +17.7% in prior years; -10% from SRIP Baseline;
Total: +5.7% in prior years; +1.4% from SRIP Baseline



CREAIT User Fee Revenues: Internal and External Revenues

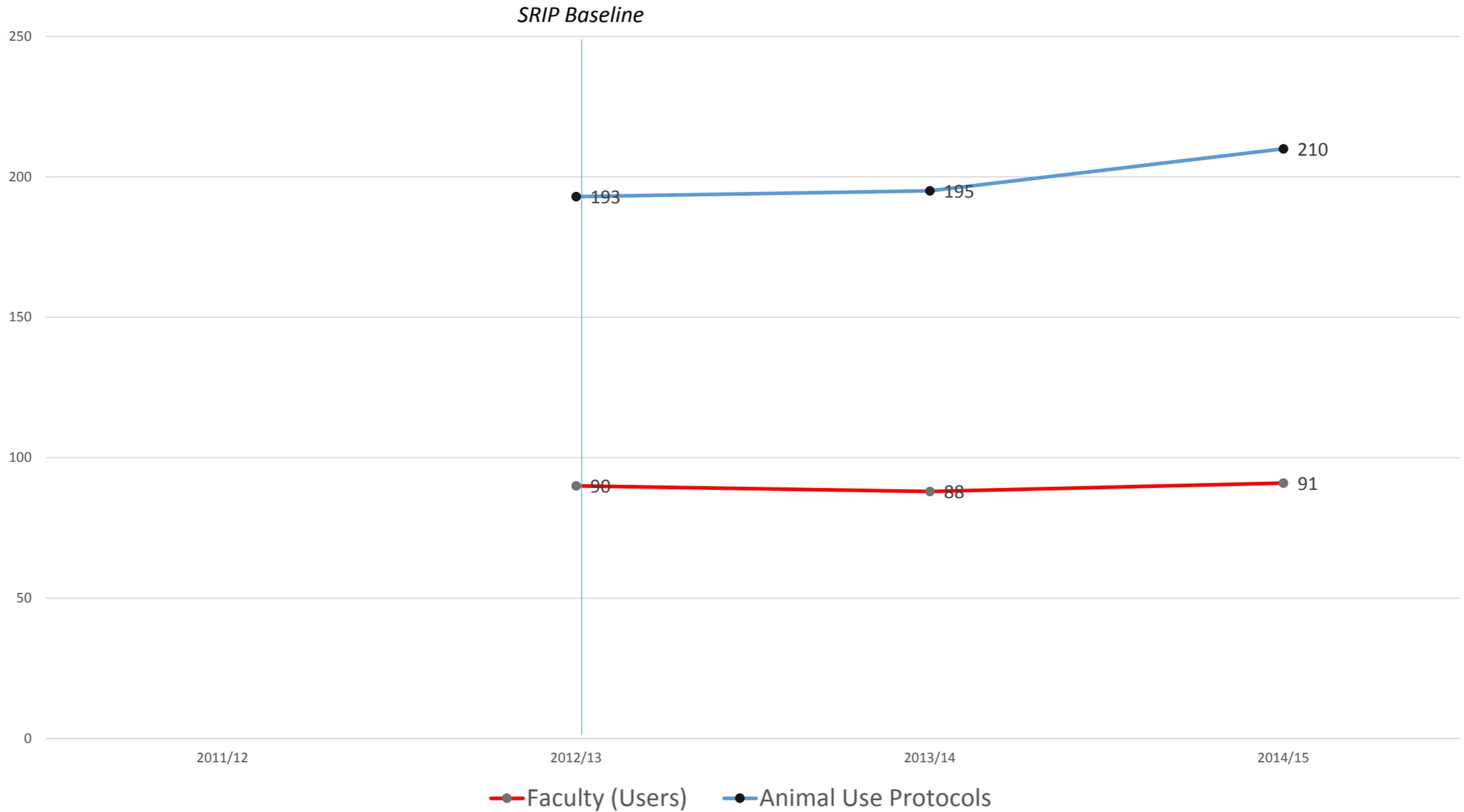
*Internal: +0% in prior years; -15% from SRIP Baseline; External: -45% in prior years; +84% from SRIP Baseline
Total: -18% in prior years; + 10% from SRIP Baseline*



Animal Care

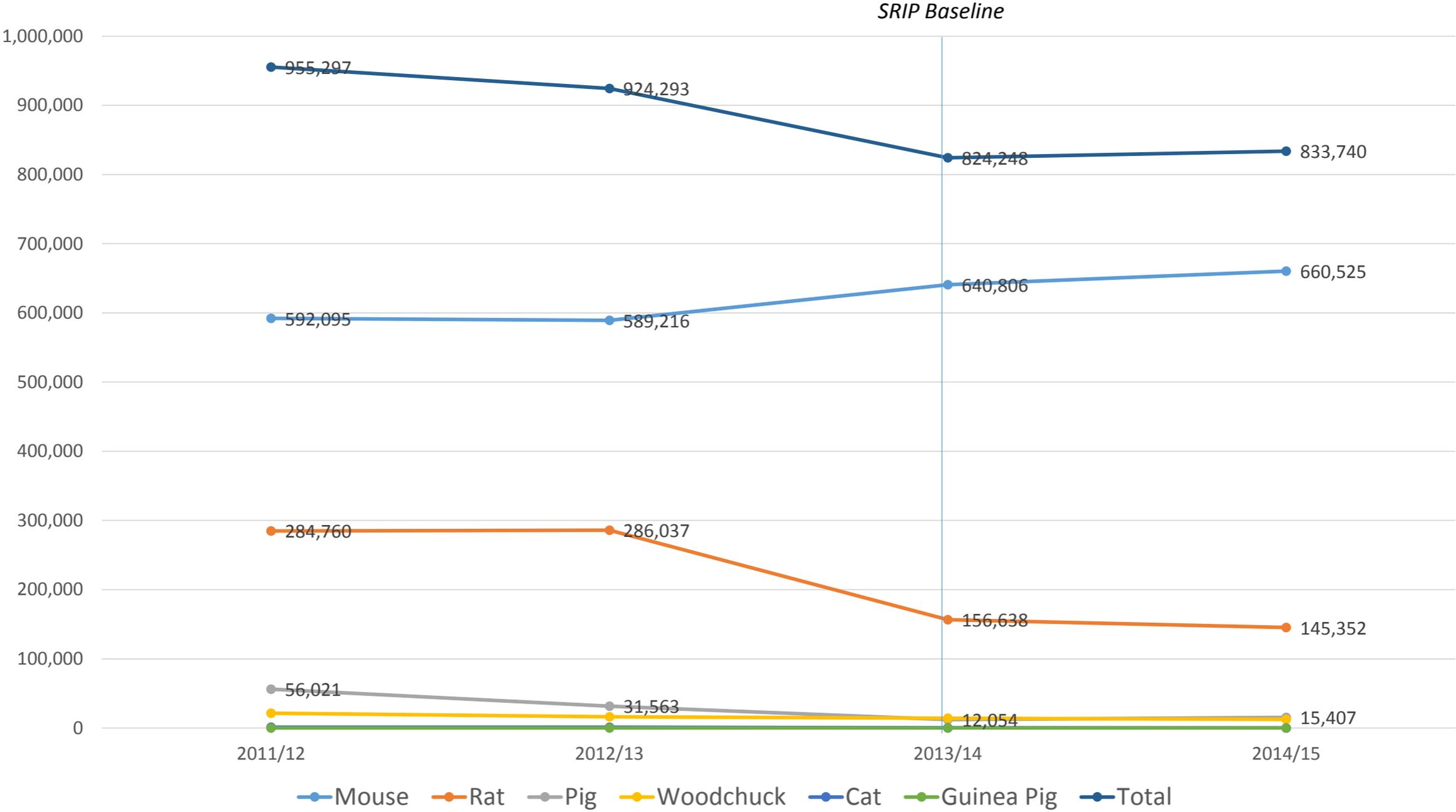
PI Users of Animal Care Services

Faculty +9%; Protocols +1% from SRIP Baseline



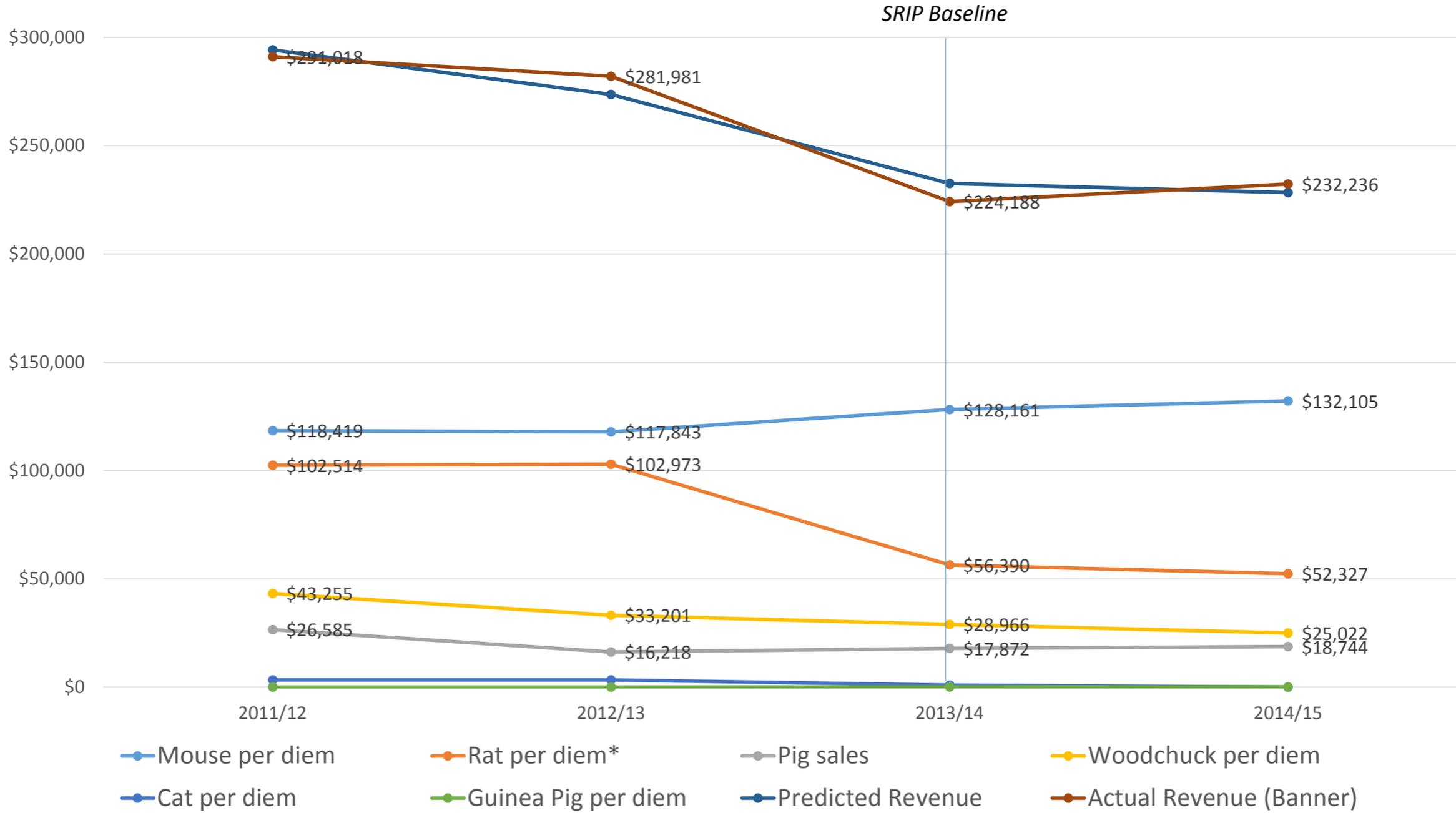
Animal Days in Animal Care Facilities

Total -14% in prior years; +1.1% from SRIP Baseline



Animal Care User Fee Revenue

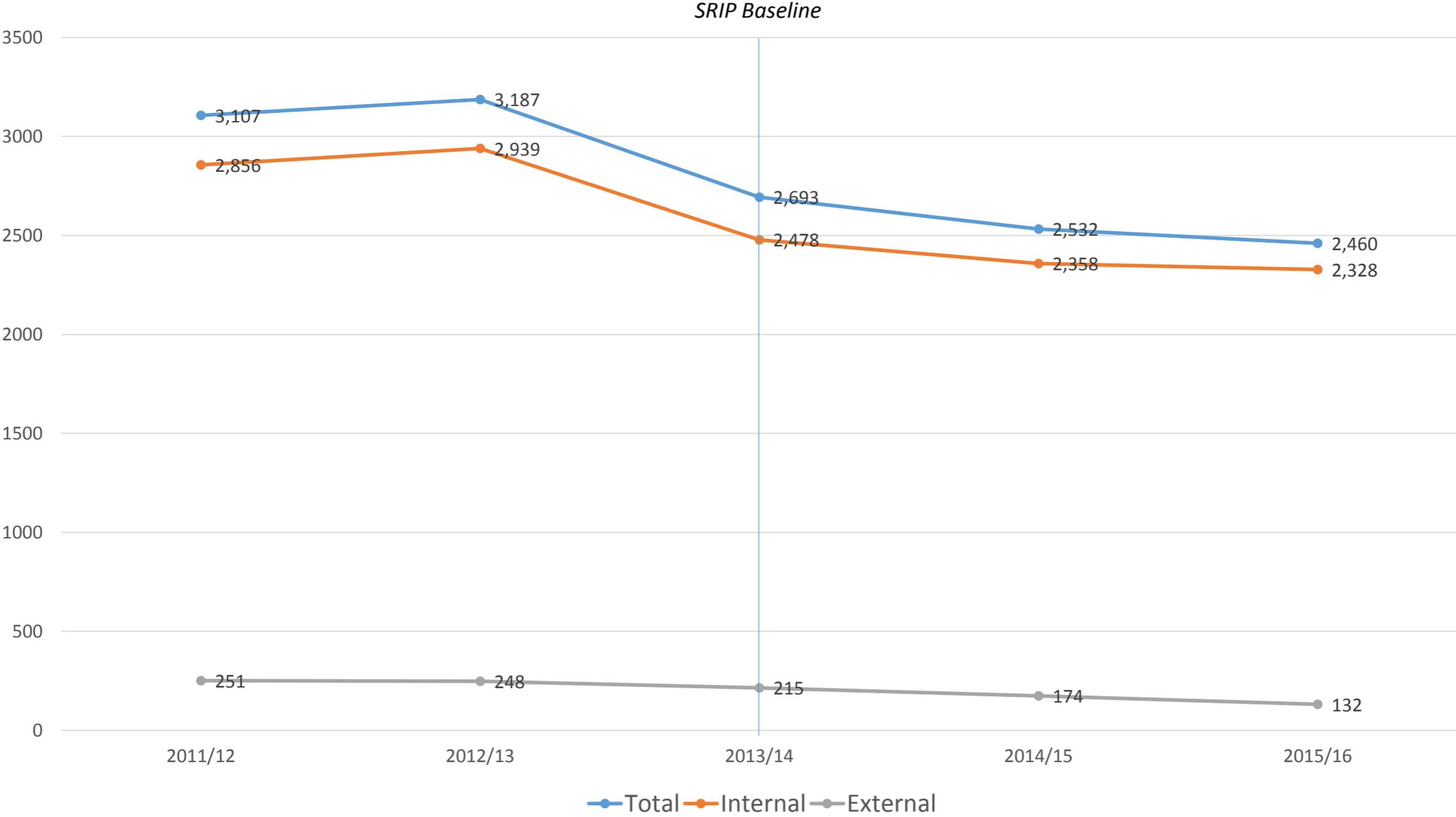
Total -23% in prior years; +3.6% from SRIP Baseline



Technical Services

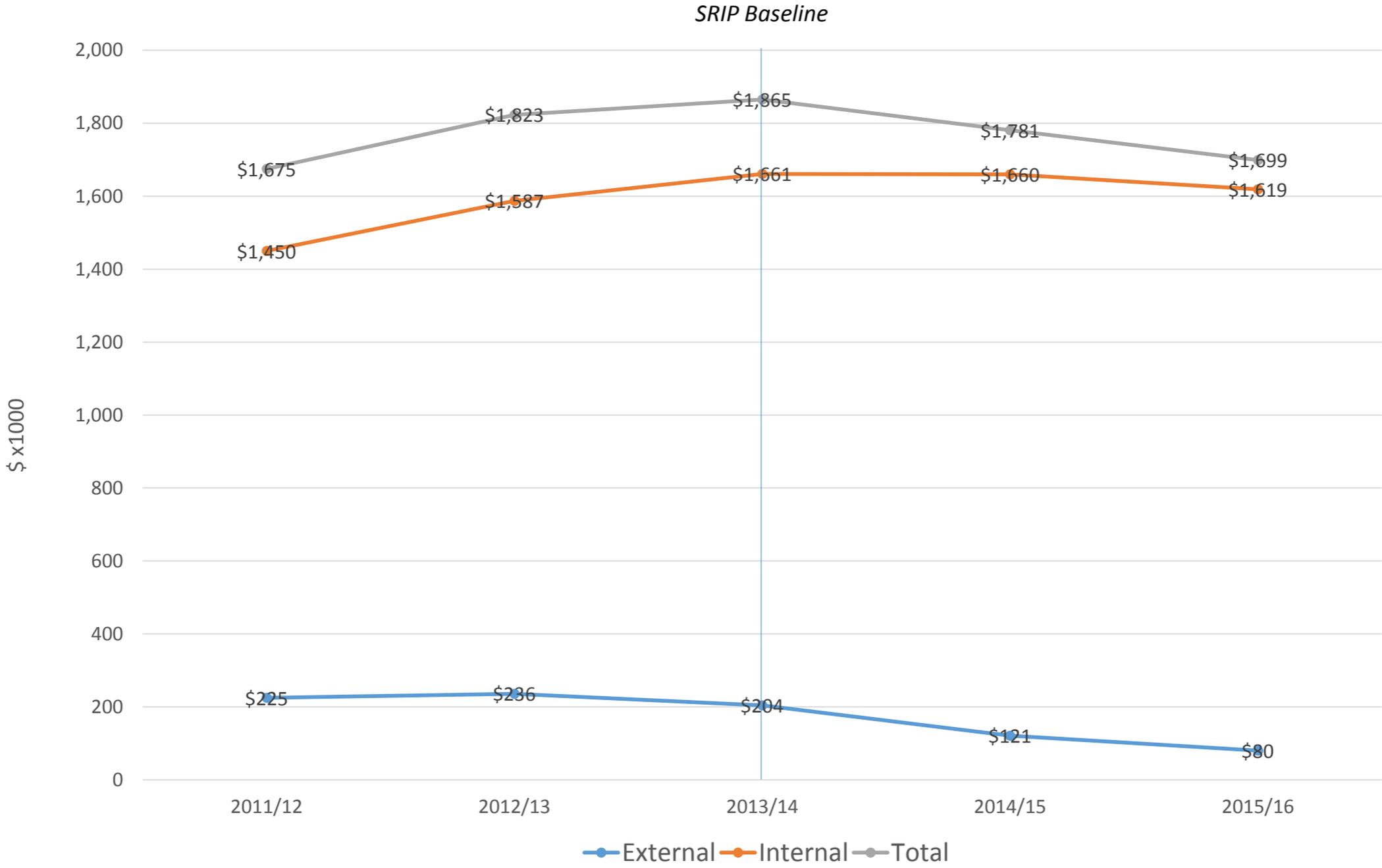
Technical Services Work Orders

Total -13% in prior years; -9.1% from SRIP Baseline



Technical Services User Fee Revenues

Total +11% in prior years; -9% from SRIP Baseline



Key Research Enablers

Key Research Enablers

1. VPR Portfolio Review (2013)

- Created a “one stop shop” for grants and contracts
- Streamlined processes, improved customer service, improved turn-around time (e.g., start-up funding, etc.)

2. White Paper: “Strengthening Research Through Graduate Studies at the Marine Institute” (2013)

- In partnership with Glenn Blackwood, an ambitious proposal for developing new academic programs and industrial research chairs at the Marine Institute (including an Action Plan for implementation)

Key Research Enablers

3. Strategic Research Intensity Plan (2014)

- A comprehensive suite of actions, fully integrated within academic unit activities, aimed at increasing research intensity

4. Tri-Agency Research Support Fund (2014)

- 25% of all Tri-Agency Research Support funding is now distributed to Faculties, Schools and Campuses
- A significant enabler of research in academic units

Key Research Enablers

5. COASTS Partnership (2014)

- Partnership between Public Engagement, all Faculties, Schools and Campuses, and the VPR Portfolio
- Created traction for the successful multi-partner CFREF through effective public engagement and advocacy

6. Integration of Genesis Research to the VPR Portfolio (2014)

- A partnership with the VP Finance and Administration
- Strengthens the management of disclosures and patents

Key Research Enablers

7. Renewed Financial Architecture of Memorial's Canada Research Chairs (2015)

- Provides 95% of CRC funding for research (not 20%!)
- Is the most attractive CRC funding package in Canada

8. Strategic Internationalization Plan (2015)

- A partnership of VPR and former “International Office”
- Supports recruitment and retention of international students and faculty, and a superior learning environment
- Contributes to the integration of international students and faculty within Newfoundland and Labrador

Key Research Enablers

9. Technology Transfer and Commercialization Strategy (2015)

- A “sea change” in Memorial’s approach to IP and bringing it to market
- At no cost to Memorial: all external funding

10. Renewed Indirect Costs Policy (2016)

- Indirect Costs Policy at Memorial sets “overheads” at 25%, and can be as low as 12.5%
- Is the most attractive in Canada for industry partnerships

Key Research Investments

Key Research Investments

1. Research Start-up/Matching Fund – 1 M\$ per year (2010)

- ~400 k\$ per year for faculty member start-up funding
- ~600 k\$ per year for 1) matching of federal programs (e.g., CFI) and 2) matching internal initiatives (e.g., Harris Centre, Innovation Ecosystem report, SafetyNet, SSHRC 4A submissions, NEXUS, etc.)

2. Research Portfolio Support Fund – 500 k\$ per year (2010)

- Base funding to grow portfolio personnel due to growth (from 34.9 M\$ in 2003 to 72.6 M\$ in 2010)

Key Research Investments

3. Labrador Institute – 605 k\$ per year (2011)

- Base funding to grow Labrador-specific research activities
- Used to leverage an ACOA grant averaging ~500 k\$ per year since 2011-2012

4. Scholarship in the Arts Fund – 405 k\$ per year (2014)

- For supporting research in the arts, humanities and social sciences

Key Research Investments

5. Research Framework Funding – 900 k\$ and SRIP Funding – 750 k\$ per year (2014)

- University Student Summer Internship Program (USSIP)
- Memorial Undergraduate Career Experience Program (MUCEP) for Research
- Seed, Bridge and Multidisciplinary Fund
- Fogo Island Research Fellowship Pilot Program
- New Faculty Member award
- VPR Portfolio Service Improvement
- Researcher Portal / Grants Facilitation Network

Key Research Investments

6. Stabilization of past Canada Research Chair financials – 800 k\$ per year (2014)

- Required to eliminate deficits related to past Canada Research Chairs due to inadequate financial architecture

7. Grenfell Boreal Ecosystems Research Initiative (BERI) – 9.3 M\$ (2014)

- Strengthens agriculture, forestry and environmental studies
- 5 new faculty members

Key Research Investments

8. Stabilization of CREAT – 400 k\$ per year (2015)

- Serves over 750 students per year
- Downsizing of 1 admin FT, 12 FT and 1 PT positions
- Foundation for sustainability: new fee structure
- CREAT instrumental in the 2016 creation of the “Canadian Network of Scientific Platforms” for obtaining new operating grants in partnership with other universities

9. Dobbin Genetics Research Centre – 29 M\$ (2015)

- For research in genetics patterns and diseases
- Included CFI (~17 M\$) and provincial (~12 M\$) funding

Key Research Investments

10. Holyrood Marine Base – 20 M\$ (2015)

- For research, education and testing in ocean tech industry

11. Animal Resources Centre – 30 M\$ (2016-2018)

- For strengthening research and maintaining accreditation
- 15 M\$ obtained in the Strategic Infrastructure Program

12. Core Science Facility – 325 M\$ (2015-2020)

- Major infrastructure investment (over 400,000 ft²)
- **Key to creation of the Oceans Frontier Institute (2016), a 220 M\$ project funded by CFREF (93 M\$) in partnership with Dalhousie and UPEI**

Key Research Partners

Key Research Partners

- Federal Government
- Provincial Government
- Tri-Agency: NSERC, SSHRC, CIHR
- Atlantic Council Opportunities Agency (ACOA)
- Research & Development Corporation (RDC)
- Genome Canada
- Canada Foundation for Innovation (CFI)
- Compute Canada
- Petroleum Research Newfoundland and Labrador (PRNL)
- Oil and Gas Industry in NL (Chevron, Exxon-Mobil, Hibernia, Husky, Suncor)
- Other industry partners (INCO, Vale, VMT, IOC)
- Philanthropists
- Dalhousie University
- ACENET universities

VPR Objectives 2016-17

VPR Objectives 2016-17:

Main Focus

- Continue to implement all approved plans and initiatives (i.e., TTCS, SRIP, VPR Portfolio Renewal)
- Stimulate and support new research chair and major grant proposals
- Partner with all VPs and Deans in renewing research infrastructure and assist in their priorities
- Work with the University's Senior Executive Team to find operational efficiencies

VPR Objectives 2016-17: Specific Actions

1. Technology Transfer and Commercialization Strategy:

- Implement actions committed for delivery by May 31, 2017 and track progress

2. Strategic Research Intensity Plan:

- Implement actions committed for delivery by May 31, 2017 and track progress

3. VPR Portfolio Renewal:

- Implement actions committed for delivery by May 31, 2017 and track progress

VPR Objectives 2016-17: Specific Actions

4. Research Chair and Major Grant Proposals:

- **Oversee implementation and track progress of the Oceans Frontier Institute NL funded by CFREF**
- Nurture new NSERC Industrial Research Chairs
- Nurture a new Bio-refinery initiative
- Nurture a new Agriculture initiative

5. Scholarship:

- Publish at least one publication (Target: May 31, 2017)

6. VPR Research Metrics:

- Identify suitable metrics and track progress (Target: August 30, 2016)



**Post SRIP,
all metrics are positive!**

Grants and Contracts

Overall:

- Funding: -2.1% to -0.8% per year
- Funding per Application: -6.3% to -5% per year

Tri-Agency (CIHR, NSERC, SSHRC)

- Funding: from -6% to +8.2% per year
- Funding per Application: -6.7% to +9.4% per year

Technology Transfer

- Disclosures: from 12.3 to 14.3 average per year
- Patent Applications: from 3.3 to 9.3 av. per year
- Patents Issued: from 1 to 3.7 average per year
- Licenses: from 2 to 12.3 average per year
- Start-ups: from 3.3 to 4.3 per year
- Patents per M\$: from 0.03 to 0.087 av. per year

Other Research Metrics

- Research Chairs: from +2.3% to 6.1% per year
- Grad Programs: from +1.6% to 2.6% per year
- Research Students (FT, PT): +6.3% to 7.5% per year
- Publications Index: from +5% to +6.1% per year

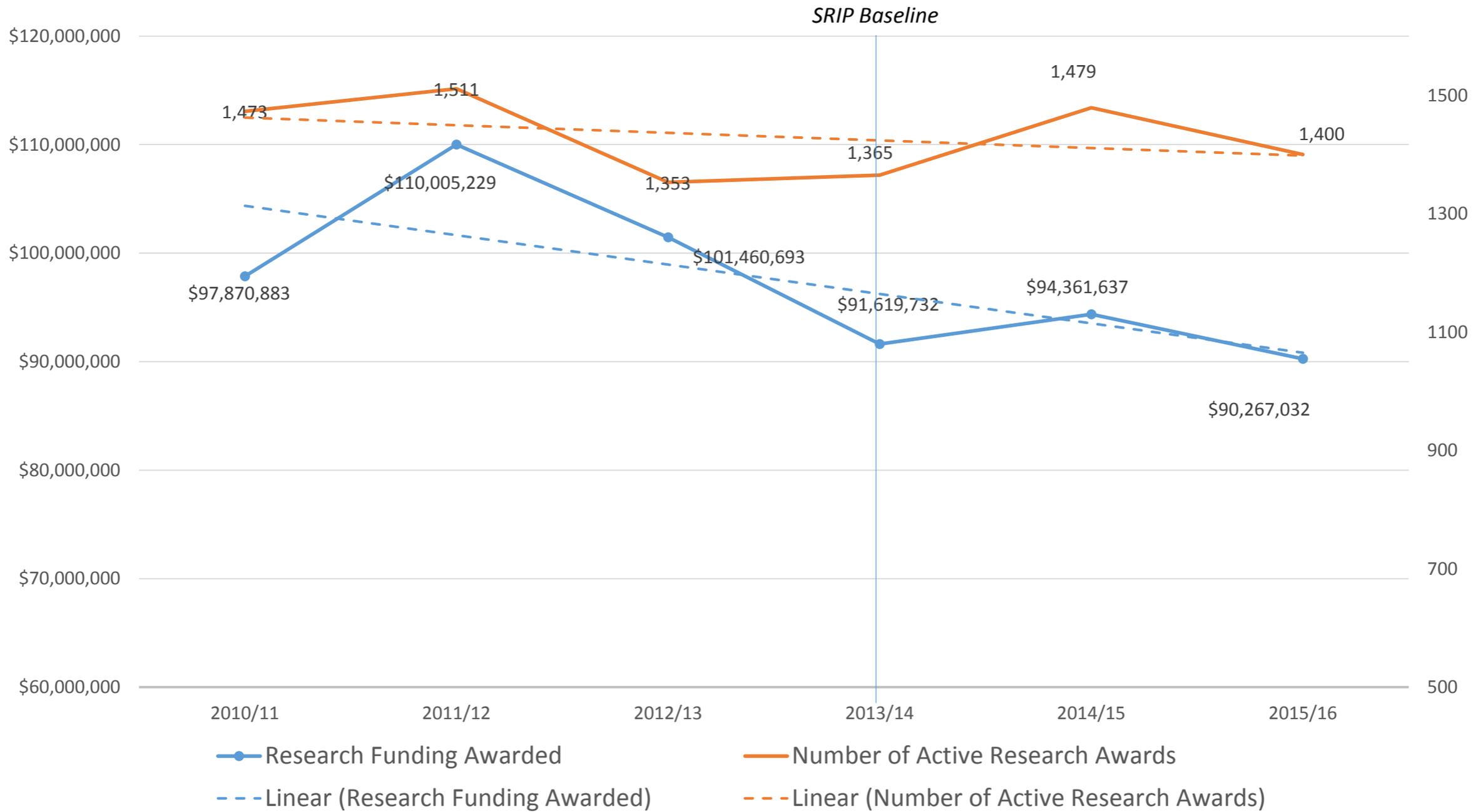
The best is yet to come!

**Thank you for your kind
attention!**

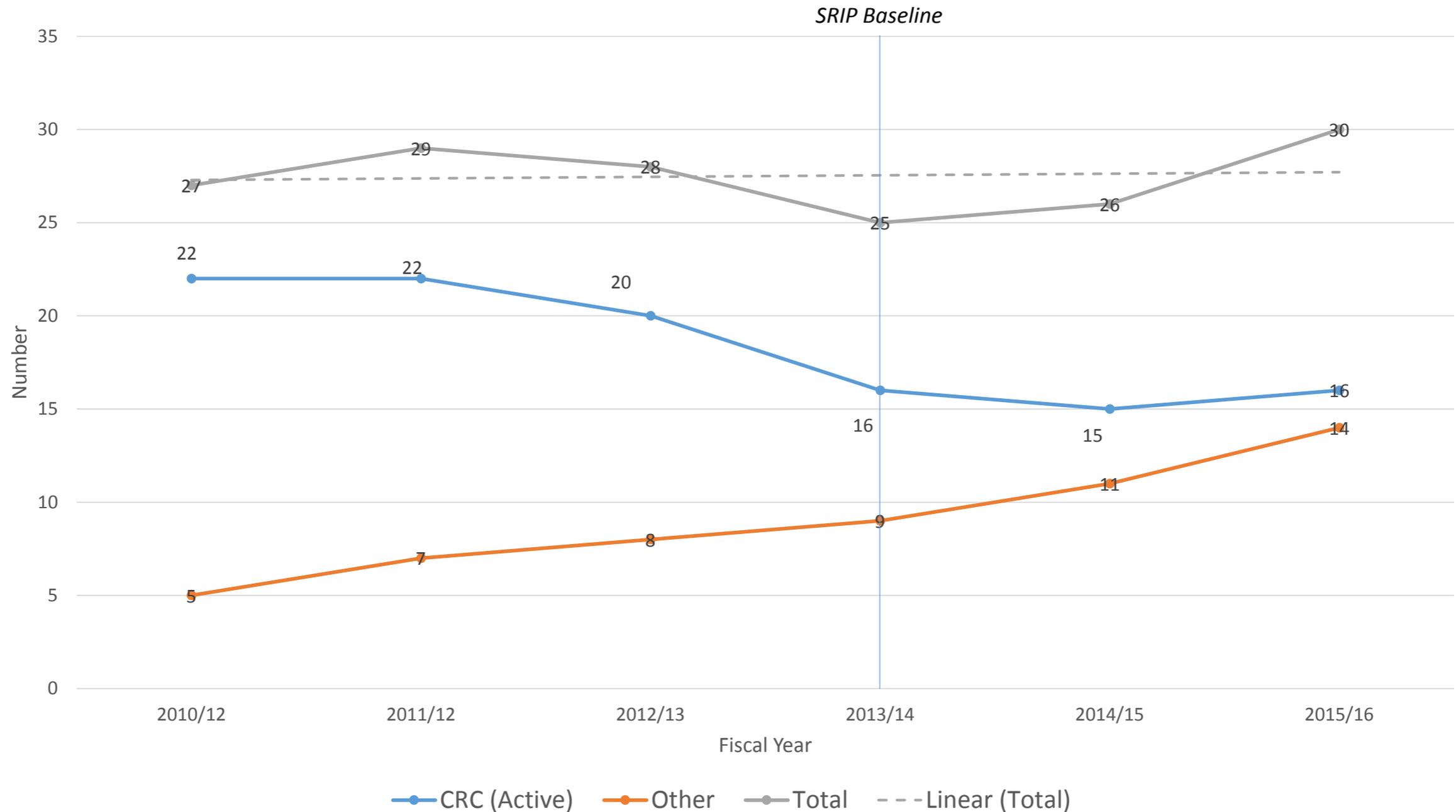
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Appendix

Grants and Contracts: Active Projects vs Funding



Canada Research Chairs (Active) and Other Research Chairs



Genesis Centre: New Start-ups

Start-ups: from average of 3.3 to 4.3 per year post SRIP

