

# EXHIBIT 134



# Admissions and Financial Aid at Harvard College

For Discussion

February 2013

- Nationally, there has long been interest in issues surrounding college access and affordability. In the last decade, the conversation has expanded to focus on college outcomes and achievement. Harvard College has a long tradition of promoting these goals.
- In order to signal its commitment to these goals, Harvard has made a series of public changes that amplify the scrutiny and attention already paid to its admissions and financial aid practices. These include:
  - The recent reintroduction of early action admissions
  - Financial aid initiatives aimed at improving the affordability for most US families
- Externally, many continue to raise questions about Harvard's commitment to access and achievement.
- Internally, we are concerned about the effects of public and non-public changes on our ability to recruit students to Harvard, their experience at Harvard, and whether our investments are financially sustainable.

*Part I: Access*

1. What is the effect on our applicant pool and yield of reintroducing early action?
2. Is the shift in the gender balance at Harvard College due to increased interest and recruitment for SEAS?
3. Does the admissions process disadvantage Asians?

*Part II: Affordability*

4. What is the effect of our financial aid policies on our applicant pools and yields?
5. How affordable is Harvard to the “typical” family?
6. How much growth in the aid budget can the FAS sustain?

*Part III: Achievement*

7. How can we measure achievement among Harvard College graduates?

- Review OIR work related to Part I: Access
- Discuss next steps
- Clarify priorities and timing
- Discuss additional data needed

## Part I: Access

A first look at the return of early action

Shift in the gender balance and impact of concentration choice

Evaluating factors that play a role in Harvard College admission

## Appendix: Data Tables

## Part I: Access

A first look at the return of early action

Shift in the gender balance and impact of concentration choice

Evaluating factors that play a role in Harvard College admission

## Appendix: Data Tables

How do early action pools at Harvard compare to the regular action pools for the class of 2016 and the classes of 2007-2011?

How do the two early action pools compare to each other?

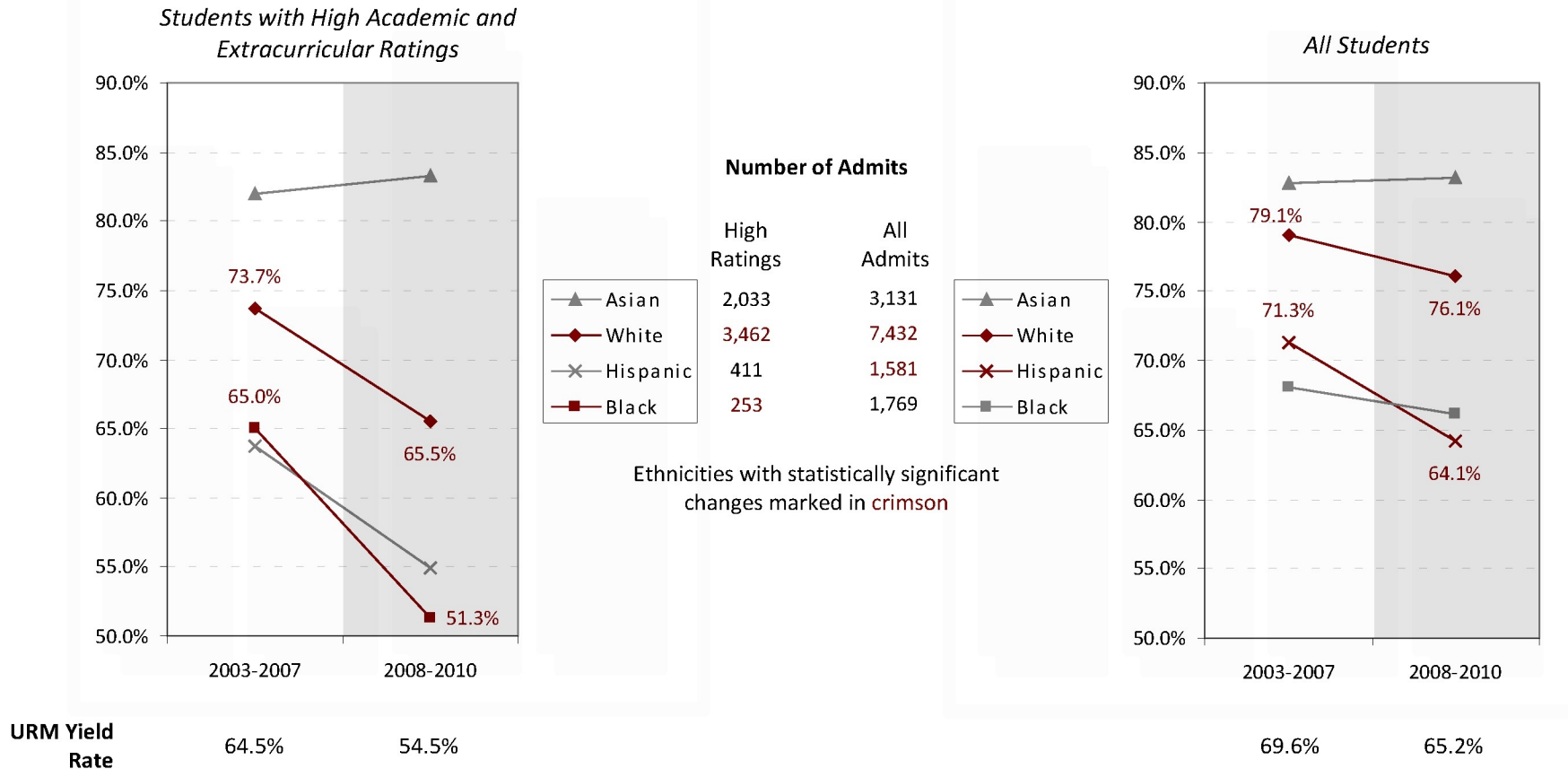
What is the relationship between early action and yield rates?

How much can we learn from only one admissions cycle with early action back in place?



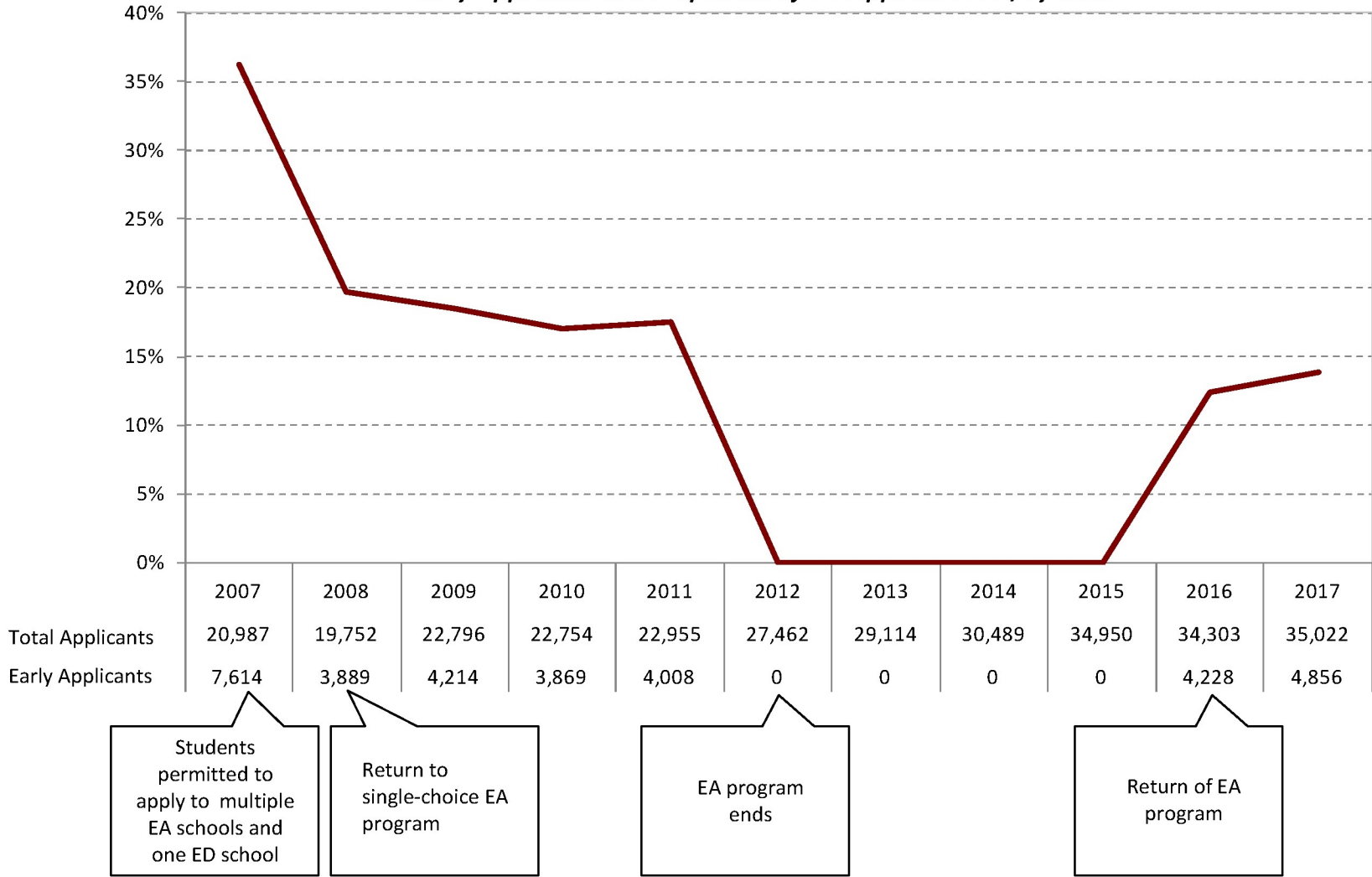
- Yield rates for the most highly rated Hispanic, Black and White students declined after the end of early action.
- Yield rates for all Hispanic and White students declined after the end of early action.

### Yield Rates by Race Ethnicity, Fall 2003 to Fall 2010



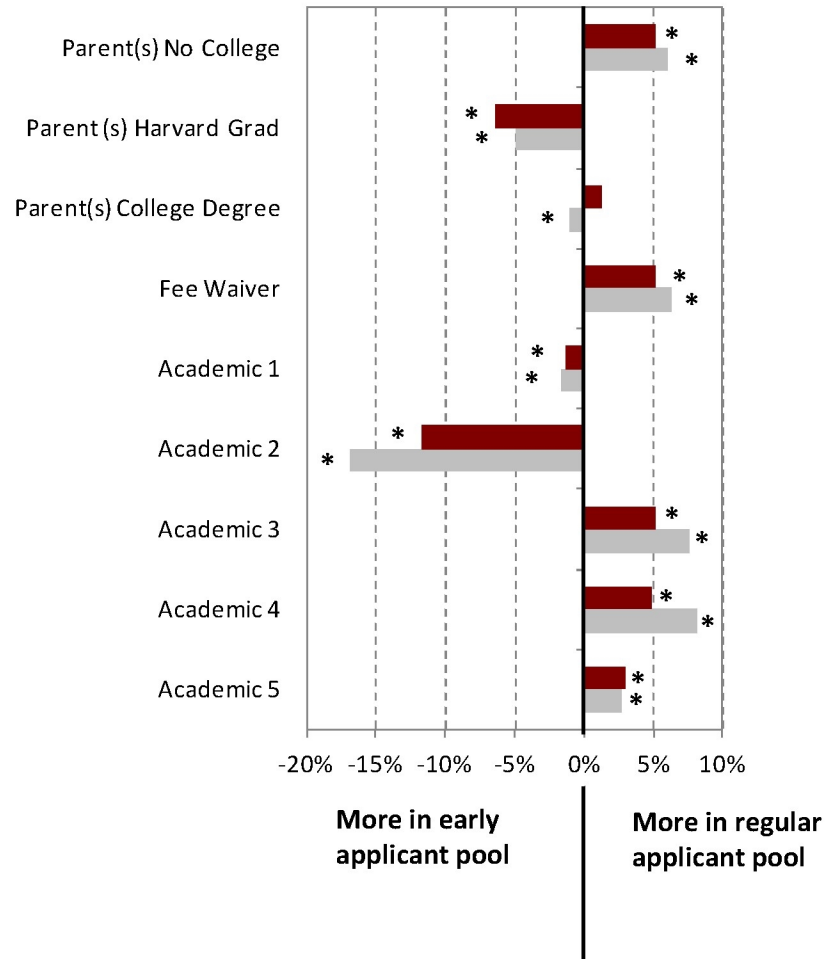
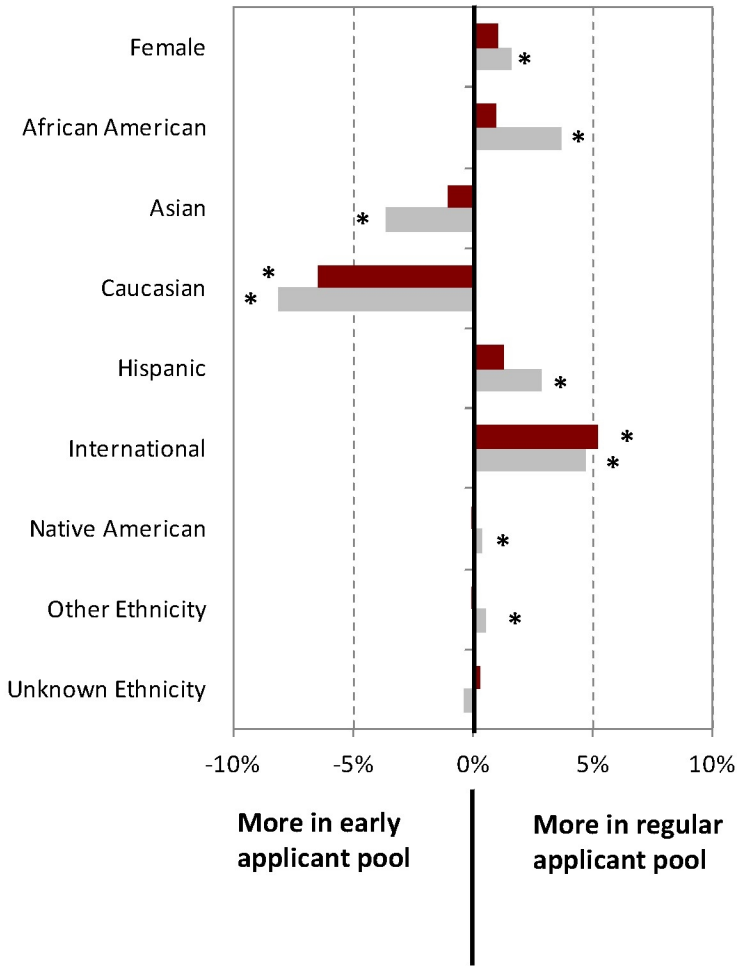
# The new early applicant pools are smaller than prior early applicant pools in relative terms

*Early Applicants as a Proportion of the Applicant Pool, by Class*



Source: Office of Admissions  
 Application from previous admits counted in total applicants.  
 The class of 2007 is the only year that allowed students to participate in multiple early action programs in addition to one early decision program.  
 HARV00031695  
 Highly Confidential - Attorney's Eyes Only

■ 2016 ■ 2007-2011



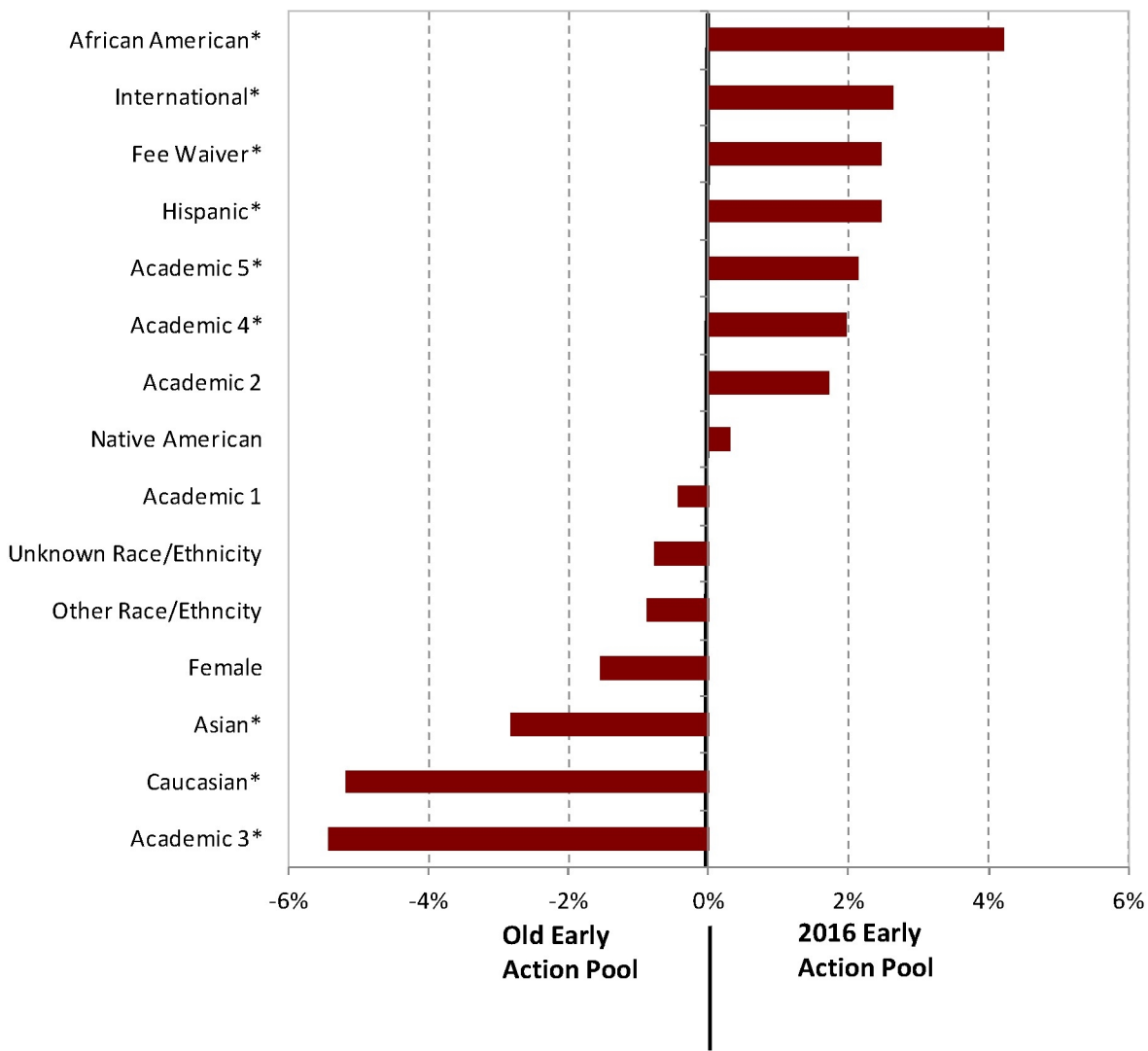
\*Significant difference  $p < 0.001$

Highly Confidential - Attorney's Eyes Only

HARV00031696

The bars in these graphs represent differences for these years of early action as compared to the regular action pool. See Appendix.

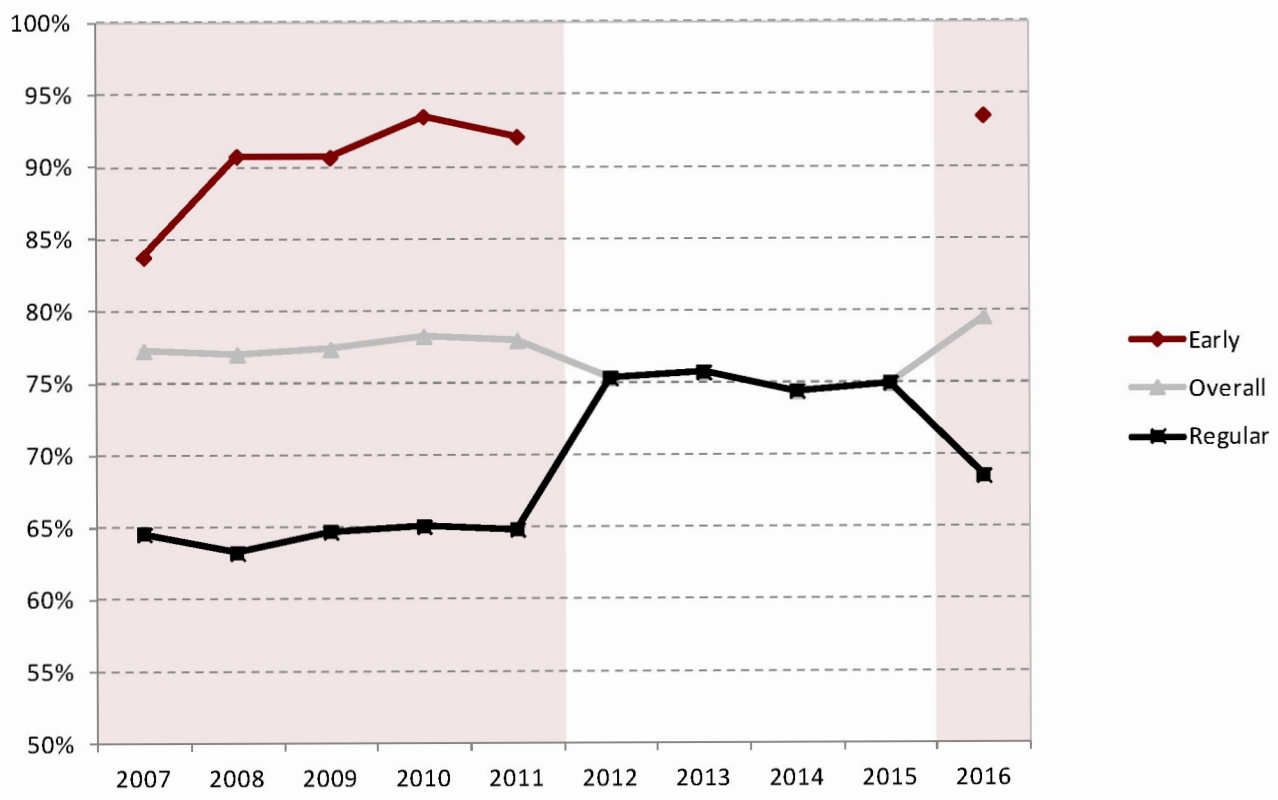
*Demographic Differences Between Early Applicant Pools*



\*Significant difference  $p < 0.001$

Figures in the chart above are the differences between the two early action pools. See Appendix. Early action was not in place for the classes of 2012-2015.

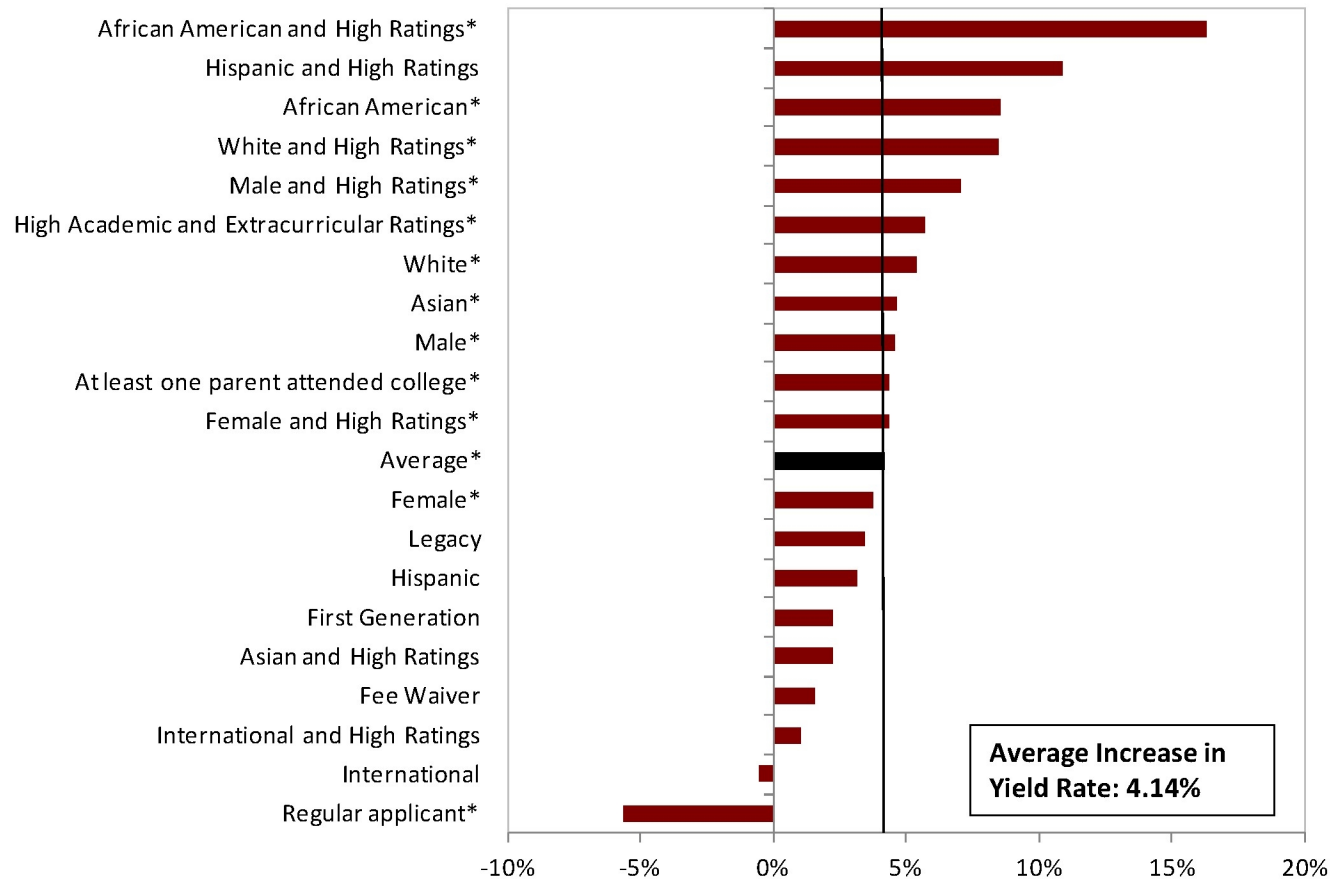
### Yield Rates by Applicant Type



Early admissions was not in effect for the classes of 2012-2015.

Previous admits, who represent a small proportion of the overall applicant pool, are excluded.

*Change in Yield Rates Between Classes of 2016 and 2012-2015*



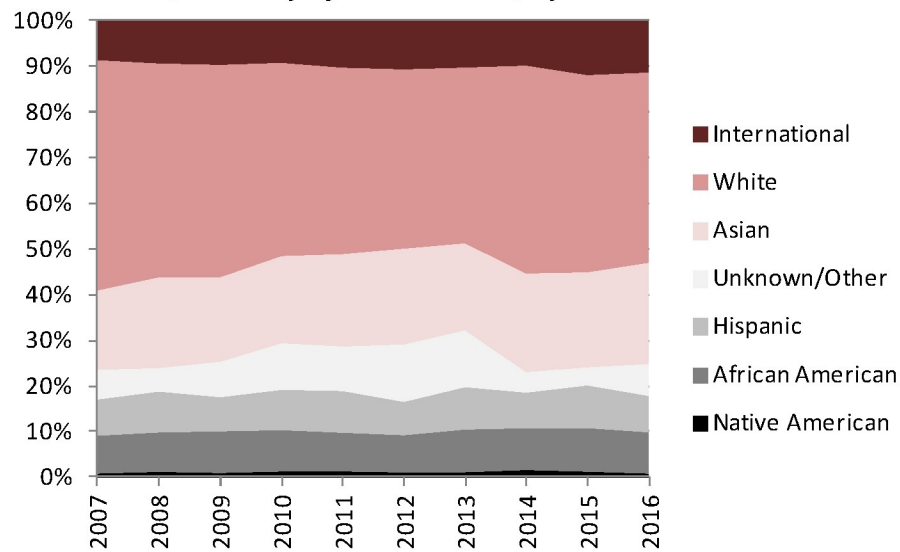
High ratings defined as having 1 or 2 for both academic and extracurricular admissions ratings

2016 yield rates for early action applicants = 93.5%

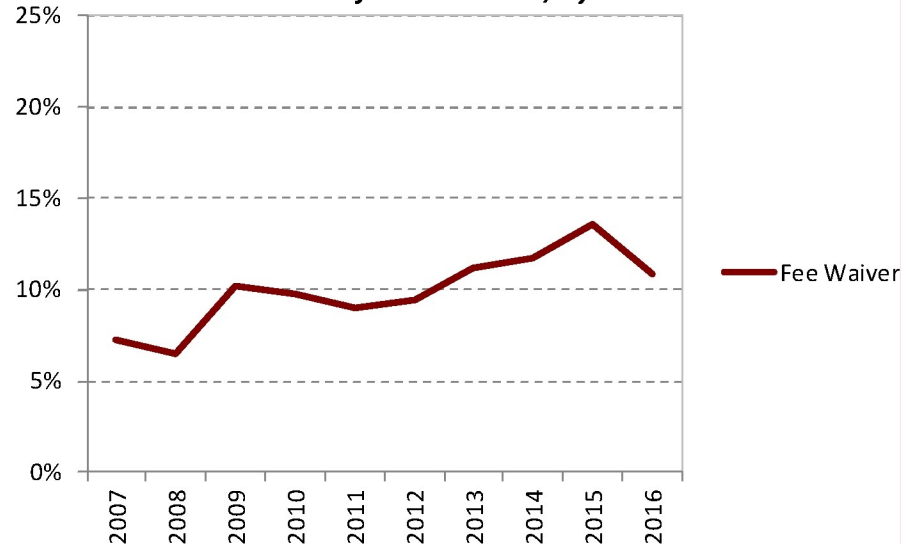
\*Significant difference  $p < 0.05$

Highly Confidential - Attorneys Eyes Only

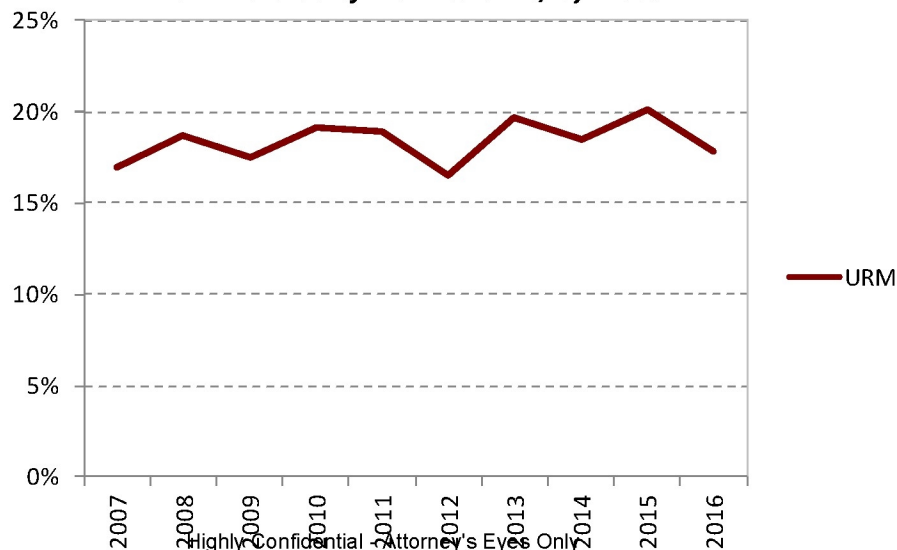
**Race/Ethnicity of Matriculants, by Class**



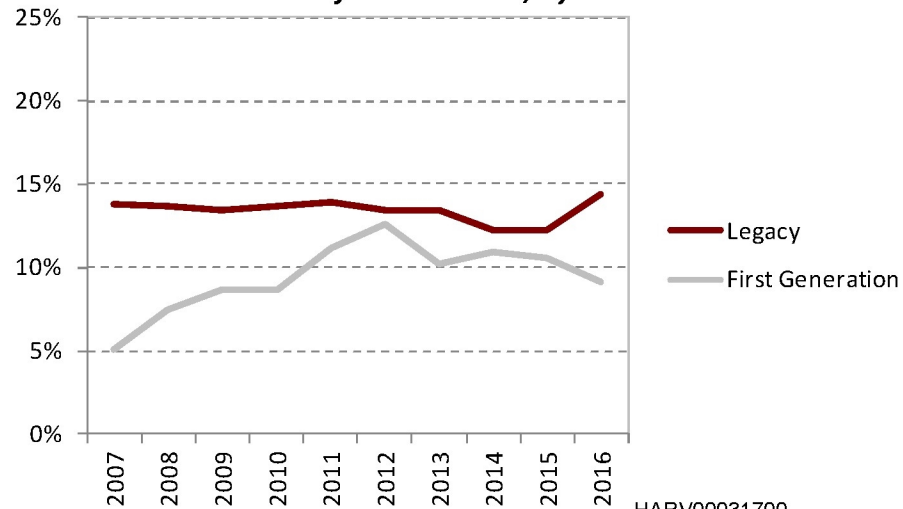
**Fee Waiver Status of Matriculants, by Class**



**URM Status of Matriculants, by Class**



**Parent Education of Matriculants, by Class**



**How do early action applications at Harvard compare to regular action applicants?  
Are patterns similar for the class of 2016 and the classes of 2007-2011?**

- Both early action populations look demographically similar to one another, compared to the regular action populations. Compared to regular action, early action applicants have higher academic ratings, and include more male, Caucasian and Asian applicants.

**Are there any noticeable differences in the two early action populations?**

- The new early action applicants appear to be more diverse than the previous early action population, with higher percentages of African American, Hispanic, and International students.

**What is the relationship between early action and yield rates?**

- Yield rates are higher for early action applicants.
- African American and Hispanic applicants with high admissions ratings appear in this 2016 year to have had the largest increase in yield rates.

**How much can we learn from only one year of having early action back in place?**

- Not enough to be statistically confident in trends – it is worth revisiting the data annually, particularly in light small demographic shifts in the matriculating class of 2016.



## Part I: Access

A first look at the return of early action

Shift in the gender balance and impact of concentration choice

Evaluating factors that play a role in Harvard College admission

## Appendix: Data Tables































## Part I: Access

A first look at the return of early action

Shift in the gender balance and impact of concentration choice

**Evaluating factors that play a role in Harvard College admission**

## Appendix: Data Tables



**Goal:** Using various admissions ratings, how well can we approximate admit rates by race/ethnicity and the demographic composition of the admitted students pool?

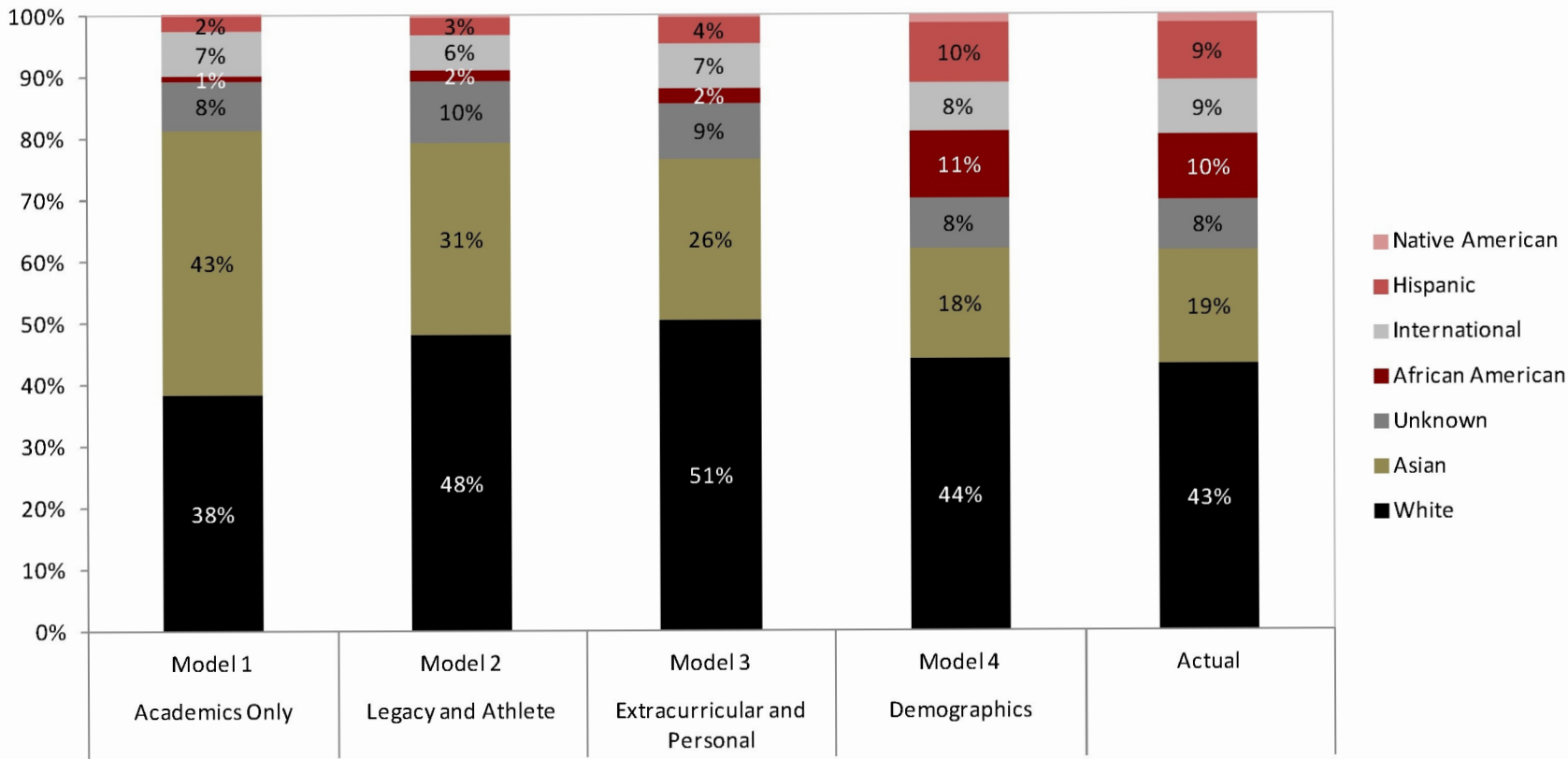
**Strategy:**

- Fit a series of basic logistic regression models using data from classes of 2007-2016.
- Generate fitted probabilities of admissions - given an applicant's characteristics how likely are they to be admitted (0-1)?
- For each class, select the 2100 applicants with the highest probability of admissions as our simulated admitted class.
- Examine resulting demographics and admit rates by ethnicity.

**Notes:**

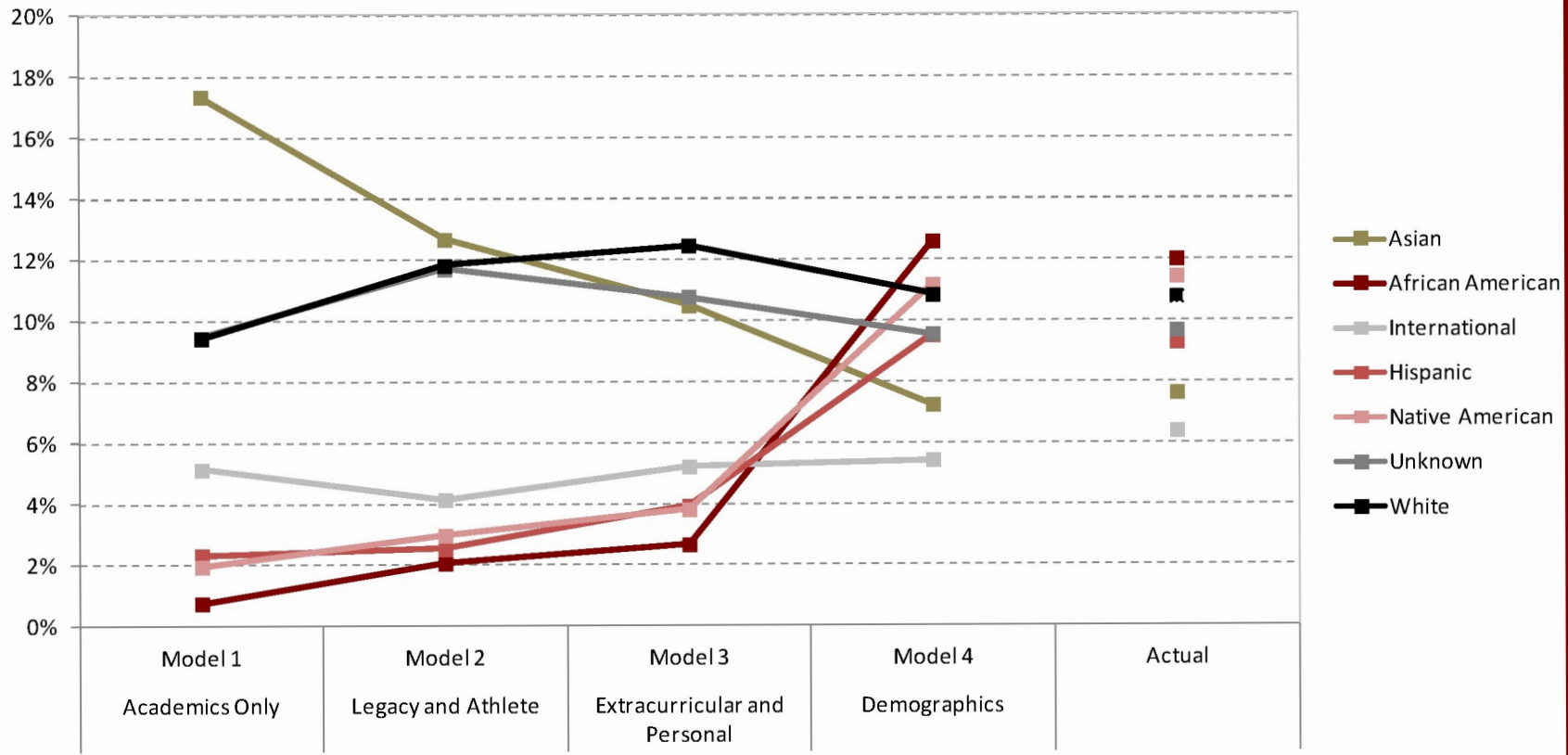
- Students with no academic index are excluded from this analysis.
- The following analysis is preliminary and for discussion.

| <b>Model 1: Academic only</b> | <b>Model 2: Add Legacy and Athlete</b> | <b>Model 3: Add Personal and Extracurricular</b> | <b>Model 4: Add Demographics</b> |
|-------------------------------|--|--|----------------------------------|
| Academic Index                | Academic Index                         | Academic Index                                   | Academic Index                   |
| Academic Rating               | Academic Rating                        | Academic Rating                                  | Academic Rating                  |
|                               | Legacy                                 | Legacy   | Legacy                           |
|                               | Athlete                                | Athlete  | Athlete                          |
|                               |  | Personal Rating                                  | Personal Rating                  |
|                               |  | Extracurricular Rating                           | Extracurricular Rating           |
|                               |  |  | Gender                           |
|                               |  |  | Ethnicity                        |



|                  | Academics Only | Legacy and Athlete | Extracurricular and Personal | Demographics   |               |
|------------------|----------------|--------------------|------------------------------|----------------|---------------|
|                  | <b>Model 1</b> | <b>Model 2</b>     | <b>Model 3</b>               | <b>Model 4</b> | <b>Actual</b> |
| Asian            | 43.04%         | 31.40%             | 25.99%                       | 17.97%         | 18.66%        |
| African American | 0.67%          | 1.83%              | 2.36%                        | 11.12%         | 10.46%        |
| International    | 7.27%          | 5.86%              | 7.39%                        | 7.68%          | 8.90%         |
| Hispanic         | 2.42%          | 2.62%              | 4.07%                        | 9.83%          | 9.46%         |
| Native American  | 0.21%          | 0.32%              | 0.41%                        | 1.21%          | 1.23%         |
| Unknown          | 8.02%          | 9.93%              | 9.14%                        | 8.11%          | 8.09%         |
| White            | 38.37%         | 48.03%             | 50.63%                       | 44.08%         | 43.21%        |

HARV00031720



|                  | Academics Only | Legacy and Athlete | Extracurricular and Personal | Demographics   |               |
|------------------|----------------|--------------------|------------------------------|----------------|---------------|
|                  | <b>Model 1</b> | <b>Model 2</b>     | <b>Model 3</b>               | <b>Model 4</b> | <b>Actual</b> |
| Asian            | 17.35%         | 12.66%             | 10.48%                       | 7.24%          | 7.63%         |
| African American | 0.75%          | 2.07%              | 2.67%                        | 12.59%         | 12.00%        |
| International    | 5.13%          | 4.14%              | 5.22%                        | 5.42%          | 6.37%         |
| Hispanic         | 2.34%          | 2.53%              | 3.94%                        | 9.51%          | 9.27%         |
| Native American  | 1.97%          | 2.98%              | 3.81%                        | 11.17%         | 11.43%        |
| Unknown          | 9.45%          | 11.70%             | 10.77%                       | 9.56%          | 9.67%         |
| White            | 9.43%          | 11.81%             | 12.45%                       | 10.84%         | 10.77%        |

HARV00031721

- Once we account for ratings and demographic factors, we can closely predict what the admitted class will look like.
- With current data, we explain a significant amount of the variation in admission, but further details (especially around the personal rating) may provide further insight.
- There are a variety of factors that quantitative data is likely to miss or ratings do not capture. We'd like to better understand:
  - Exceptional talent (music, art, writing)
  - The role of context cases
  - The role of the personal statement/essay
  - Measures of socio-economic status (HFAI Flag, Low Income Flag)

- Determining priorities, timing, and audiences
  - Should this work be shared with additional audiences (e.g. President Faust, Dean Smith, Dean Hammonds)?
  - What are your priorities?
- The Finance Committee has expressed interest in a number of questions related to Harvard's affordability initiatives.

## Research Question

### *Part I: Access*

1. What is the effect on our applicant pool and yield of reintroducing early action?
2. Is the shift in the gender balance at Harvard College due to increased interest and recruitment for SEAS?
3. Is there bias against Asians in college admissions?

### *Part II: Affordability*

4. What is the effect of our financial aid policies on our applicant pools and yields?
5. How affordable is Harvard to the “typical” family?
6. How much growth in the aid budget can the FAS sustain?

### *Part III: Achievement*

7. How can we measure achievement among Harvard College graduates?

## Next Steps

- Who else should see this work?
- To further address the question of bias, is there more data to elaborate our understanding of the role of the personal essay and other factors?
- These questions were raised by the Finance Committee of the Corporation.
- How do we think about affordability in the current budget climate?
- Who are the audiences, beyond the Corporation?
- OIR has gathered a variety of options for outcomes including National Student Clearinghouse data, AA&D data, and student surveys.
- How would you prioritize this question relative to others?

## Part I: Access

A first look at the return of early action

Shift in the gender balance and impact of concentration choice

Evaluating factors that play a role in Harvard College admission

## Appendix: Data Tables



# Compared to regular applicant pool, new and old early action pools look similar

|                         | 2007-2011    |         |       | 2016         |         |       |
|-------------------------|--------------|---------|-------|--------------|---------|-------|
|                         | Early Action | Regular | Total | Early Action | Regular | Total |
| <b>Gender</b>           |              |         |       |              |         |       |
| Female                  | 49.0%        | 50.6%   | 50.2% | 47.4%        | 48.5%   | 48.3% |
| Male                    | 51.0%        | 49.4%   | 49.8% | 52.6%        | 51.5%   | 51.7% |
| <b>Parent Education</b> |              |         |       |              |         |       |
| Some College            | 85.1%        | 84.1%   | 84.3% | 83.7%        | 85.0%   | 84.8% |
| Harvard Grad            | 7.1%         | 2.1%    | 3.2%  | 8.1%         | 1.7%    | 2.5%  |
| No College              | 7.8%         | 13.8%   | 12.5% | 8.2%         | 13.3%   | 12.7% |
| <b>Race Ethnicity</b>   |              |         |       |              |         |       |
| African American        | 4.7%         | 8.4%    | 7.6%  | 8.9%         | 9.9%    | 9.8%  |
| Asian                   | 24.2%        | 20.5%   | 21.3% | 21.4%        | 20.3%   | 20.4% |
| Hispanic                | 6.5%         | 9.4%    | 8.8%  | 9.0%         | 10.3%   | 10.1% |
| International           | 11.3%        | 16.0%   | 15.0% | 14.0%        | 19.1%   | 18.5% |
| Native American         | 0.8%         | 1.1%    | 1.0%  | 1.1%         | 1.0%    | 1.0%  |
| Other                   | 0.9%         | 1.5%    | 1.3%  | 0.0%         | 0.0%    | 0.0%  |
| Unknown                 | 7.7%         | 7.4%    | 7.4%  | 7.0%         | 7.2%    | 7.2%  |
| White                   | 43.9%        | 35.8%   | 37.5% | 38.7%        | 32.2%   | 33.0% |
| <b>Academic Rating</b>  |              |         |       |              |         |       |
| Academic 1              | 2.1%         | 0.5%    | 0.8%  | 1.6%         | 0.3%    | 0.5%  |
| Academic 2              | 48.1%        | 31.2%   | 35.0% | 49.8%        | 38.1%   | 39.6% |
| Academic 3              | 41.3%        | 48.9%   | 47.2% | 35.9%        | 41.1%   | 40.4% |
| Academic 4              | 7.6%         | 15.8%   | 14.0% | 9.6%         | 14.5%   | 13.9% |
| Academic 5              | 0.9%         | 3.6%    | 3.0%  | 3.1%         | 6.0%    | 5.6%  |
| <b>Fee Waiver</b>       |              |         |       |              |         |       |
| No                      | 95.2%        | 88.9%   | 90.3% | 92.7%        | 87.6%   | 88.2% |
| Yes                     | 4.8%         | 11.1%   | 9.7%  | 7.3%         | 12.4%   | 11.8% |

HARV00031726

|                         | 2007-2011 | 2016  | All   |
|-------------------------|-----------|-------|-------|
| <b>Gender</b>           |           |       |       |
| Female                  | 49.0%     | 47.4% | 48.7% |
| Male                    | 51.0%     | 52.6% | 51.3% |
| <b>Parent Education</b> |           |       |       |
| Some College            | 85.1%     | 83.7% | 84.9% |
| Harvard Grad            | 7.1%      | 8.1%  | 7.2%  |
| No College              | 7.8%      | 8.2%  | 7.9%  |
| <b>Race Ethnicity</b>   |           |       |       |
| African American        | 4.7%      | 8.9%  | 5.4%  |
| Asian                   | 24.2%     | 21.4% | 23.7% |
| Hispanic                | 6.5%      | 9.0%  | 6.9%  |
| International           | 11.3%     | 14.0% | 11.7% |
| Native American         | 0.8%      | 1.1%  | 0.8%  |
| Other Race/Ethnicity    | 0.9%      | 0.0%  | 0.8%  |
| Unknown Race/Ethnicity  | 7.7%      | 7.0%  | 7.6%  |
| White                   | 43.9%     | 38.7% | 43.1% |
| <b>Academic Rating</b>  |           |       |       |
| Academic 1              | 2.1%      | 1.6%  | 2.0%  |
| Academic 2              | 48.1%     | 49.8% | 48.3% |
| Academic 3              | 41.3%     | 35.9% | 40.5% |
| Academic 4              | 7.6%      | 9.6%  | 7.9%  |
| Academic 5              | 0.9%      | 3.1%  | 1.2%  |
| <b>Fee Waiver</b>       |           |       |       |
| No                      | 95.2%     | 92.7% | 94.8% |
| Yes                     | 4.8%      | 7.3%  | 5.2%  |

| Admit Rates      |         |        |            |
|------------------|---------|--------|------------|
|                  | Model 4 | Actual | Difference |
| Asian            | 7.24%   | 7.63%  | -0.39%     |
| African American | 12.59%  | 12.00% | 0.59%      |
| International    | 5.42%   | 6.37%  | -0.95%     |
| Hispanic         | 9.51%   | 9.27%  | 0.23%      |
| Native American  | 11.17%  | 11.43% | -0.26%     |
| Unknown          | 9.56%   | 9.67%  | -0.12%     |
| White            | 10.84%  | 10.77% | 0.06%      |
|                  |         |        |            |
| Entering Classes |         |        |            |
|                  | Model 4 | Actual | Difference |
| Asian            | 17.97%  | 18.66% | -0.69%     |
| African American | 11.12%  | 10.46% | 0.66%      |
| International    | 7.68%   | 8.90%  | -1.22%     |
| Hispanic         | 9.83%   | 9.46%  | 0.37%      |
| Native American  | 1.21%   | 1.23%  | -0.02%     |
| Unknown          | 8.11%   | 8.09%  | 0.02%      |
| White            | 44.08%  | 43.21% | 0.87%      |

|            | Difference in Projected vs. Actual Admit Rate                  |          |          |          |          |          |          |          |          |          |
|------------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|            | 2007   | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 2014     | 2015     | 2016     |
| Asian      | 0.002412   | 0.004282 | 0.002479 | 0.005113 | 0.012497 | 0.007495 | 0.004567 | 0.002473 | 0.000407 | 0.000752 |
| African Am | 0.019531   | -0.00496 | -0.00075 | 0.003436 | -0.01049 | -0.01558 | -0.00816 | -0.01232 | 0.000682 | -0.01331 |
| Internatio | 0.015547   | 0.014264 | 0.010059 | 0.009594 | 0.002495 | 0.014182 | 0.011458 | 0.009821 | 0.006937 | 0.006522 |
| Hispanic   | 0.003422   | 0.002778 | -0.01048 | -0.0116  | -0.00537 | -0.0097  | 0.00521  | -0.00038 | 0.00736  | -0.00927 |
| Native Am  | 0.037838   | 0        | -0.00588 | -0.01415 | 0.031674 | 0.02381  | -0.00893 | 0.009494 | -0.0069  | -0.02667 |
| Unknown    | -0.00079   | -0.00096 | -0.00564 | -0.00755 | -0.00792 | 0.007795 | -0.00067 | 0.038691 | 0.011152 | 0.00307  |
| White      | -0.01003   | -0.00613 | -0.00169 | 0.001581 | -0.00476 | 0.002299 | 0.002692 | 0.005373 | 0.00121  | 0        |
|            |  |          |          |          |          |          |          |          |          |          |
|            | Difference in Projected vs. Actual Admitted Class Demographics |          |          |          |          |          |          |          |          |          |
|            | 2007   | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 2014     | 2015     | 2016     |
| Asian      | -0.0056  | -0.0083  | -0.0059  | -0.009   | -0.0272  | -0.0107  | -0.0054  | 0.0023   | 0.0063   | -0.0055  |
| African Am | -0.01  | 0.0023   | 1E-04    | -0.0012  | 0.0078   | 0.0176   | 0.0122   | 0.0193   | 0.0037   | 0.0156   |
| Internatio | -0.0151  | -0.0134  | -0.0117  | -0.0096  | -0.0036  | -0.0175  | -0.014   | -0.0113  | -0.0108  | -0.0149  |
| Hispanic   | -0.0028  | -0.002   | 0.0078   | 0.0106   | 0.0045   | 0.013    | -0.0025  | 0.0049   | -0.007   | 0.0119   |
| Native Am  | -0.0034  | -0.0001  | 0.0005   | 0.0016   | -0.0034  | -0.002   | 0.0014   | -0.0005  | 0.0015   | 0.0037   |
| Unknown    | 0.0001   | 0.0004   | 0.0049   | 0.0083   | 0.0069   | -0.0056  | 0.0053   | -0.0103  | -0.0042  | -0.0045  |
| White      | 0.0369   | 0.021    | 0.0045   | -0.0006  | 0.0148   | 0.0052   | 0.0029   | -0.0044  | 0.0106   | -0.0063  |