HARVARD AND THE MASSACHUSETTS ECONOMY

FACTS & IMPACT 2017
The academic and research expertise of universities attracts talent from all over the globe and fuels Massachusetts’ knowledge-based economy. As its students, faculty, and staff pursue ideas to improve the world, Harvard continues to strengthen the region through educational investment, innovation pipelines, job creation, and local spending.

—DREW GILPIN FAUST
PRESIDENT OF HARVARD UNIVERSITY
LINCOLN PROFESSOR OF HISTORY
Harvard University is proud to call Massachusetts home. The Harvard community teaches, learns, and lives in Massachusetts and the discoveries and knowledge it produces fuel the regional economy, providing jobs, generating purchasing, and attracting companies.

How does Harvard contribute?

**EDUCATION**  |  2
Supporting traditional and nontraditional students with generous financial aid, making education available to the most talented students, regardless of their ability to pay.

**RESEARCH**  |  4
Attracting more than three-quarters of a billion dollars in research funding to Massachusetts, fueling science, medical discoveries, health improvements, and spending in our local economy.

**INNOVATION**  |  6
Making discoveries that attract private investment and launch new ventures, sparking our region’s entrepreneurial spirit.

**EMPLOYMENT**  |  8
Serving as one of the largest employers in the state, providing jobs that help employees grow and advance their careers.

**IMPACT**  |  10
Purchasing from local vendors provides companies with stable work, and Harvard alumni invest locally through leadership of companies and nonprofits.

For more information about the facts and figures contained in this document, please visit community.harvard.edu/sources.
EDUCATION
Supporting traditional and nontraditional students with generous financial aid, making education available to the most talented students, regardless of their ability to pay.

STUDENT POPULATION

34,807
TOTAL STUDENTS

6,876
undergraduates

13,929
professional and graduate students

14,002
Extension School students

PROFESSIONAL AND GRADUATE SCHOOLS

HARVARD EXTENSION SCHOOL
The Harvard Extension School is designed to serve the educational interests and needs of Greater Boston residents. The Extension School allows students to take classes taught by a combination of Harvard faculty, adjunct faculty, and experienced professionals in a wide variety of academic disciplines. Students may apply to master’s, undergraduate, associate degree, or professional certificate programs. Online courses are also available.

UNDERGRADUATE CLASS OF 2021: WHERE ARE THEY FROM?

17.3%
Mountain/Pacific

11.8%
Central/Midwest

21.9%
Mid-Atlantic

18.3%
South

17.2%
New England

13.5%
International & territories
I can say that all of the opportunities I was able to take advantage of have been extremely valuable to me, and that Harvard’s resources and financial support have made it possible for me to perform independent research, travel abroad, present at conferences, and afford tuition.

—Sahar Ashrafzadeh
Harvard College
Class of 2017

FINANCIAL AID

One in five Harvard undergraduates is from a family with an annual income of $65,000 or less. In fact, nearly 60 percent of undergraduates receive need-based Harvard scholarship aid, and 100 percent of Harvard College students can graduate debt-free.

$179m in institutional need-based scholarship support was budgeted for use by Harvard College students (2016–2017)

$48,480 average award to Massachusetts students receiving aid in the 2016–2017 academic year

1,108 Massachusetts students enrolled in Harvard College (2016–2017)

501 Massachusetts students enrolled received need-based scholarship assistance

TYPICAL FRESHMAN UNDERGRADUATE AID PACKAGE

$53,100 Harvard, federal, and outside scholarships

$12,900 parent contribution

$2,250 student term-time job

$1,200 student summer work and asset contribution

EDX AND HARVARDX

In May 2012, Harvard joined forces with MIT to form edX, a not-for-profit, open-source online learning platform that features interactive and innovative tools for teaching and studying via the web. Backed by a shared $60 million commitment, edX allows 95+ educational partners to distribute course content and other academic materials through 80+ open courses. The goals of edX are to expand access to education worldwide, improve teaching and learning on campuses and beyond and advance teaching and learning through educational research.

HarvardX

Founded in tandem with edX, HarvardX enables faculty to build and create open online learning experiences for residential and online use, and advances research in the learning sciences.

5.55m+ global course registrations*

of which 128,000+ were in Massachusetts*

3m+ global unique course participants*

of which 58,000+ were in Massachusetts*

* As of summer 2017
Attracting more than three quarters of a billion dollars in research funding to Massachusetts, fueling science, medical discoveries, health improvements, and spending in our local economy.

FUNDING

$842.5m

RESEARCH FUNDING: EXPANDING KNOWLEDGE, BENEFITING MASSACHUSETTS (FY16)

Nearly 70 percent of Harvard’s research activities were funded by federal research dollars.

From NIH GRANTS

$415m

The single largest source of research dollars is the National Institutes of Health (NIH).

From NSF, DOD, HHS, DOE, NASA, and others

$178.4m

Nearly 30 percent of Harvard’s research funding came from nonfederal sources including corporations, research institutes, and foundations such as the Gates Foundation.

Between FY15 and FY16, research funding from non-federal sources increased by more than 14 percent.

FY15

FY16

+14.1%
We took a game-changing advance in microengineering made in our academic lab, and in just a handful of years, turned it into a technology that is now poised to have a major impact on society.

—DR. DON INGBER
WYSS INSTITUTE FOUNDING DIRECTOR, JUDAH FOLKMAN PROFESSOR OF VASCULAR BIOLOGY AT HARVARD MEDICAL SCHOOL AND THE VASCULAR BIOLOGY PROGRAM AT BOSTON CHILDREN’S HOSPITAL, AND PROFESSOR OF BIOENGINEERING AT THE HARVARD JOHN A. PAULSON SCHOOL OF ENGINEERING AND APPLIED SCIENCES

LOCAL SUPPORT, LOCAL HIRES, LOCAL PURCHASES

$335.7m
of the research dollars received were spent on purchases and salaries in Massachusetts (FY16)

$293.7m
supports researchers and staff

$42m
of the research dollars received were used to purchase goods and services from companies located in Massachusetts

$4.4m
supported companies in Cambridge

$13m
supported companies in Boston
INNOVATION
Making discoveries that attract private investment and launch new ventures, sparking our region’s entrepreneurial spirit.

AN ENGINE OF INNOVATION

The Office of Technology Development is charged with protecting, supporting, and advancing the development of new discoveries and inventions arising from Harvard’s research enterprise.

2,587
issued patents*

509
innovations
FY16

294
new patent applications
FY16

100+
startups launched**

390
industry partners*

2,500+
visits since opening

5,963+
events have been held

159
Experts-in-Residence hold regular office hours to mentor and advise Harvard student entrepreneurs

1,000
community-partner sponsored events held at the i-lab

70–100
Harvard Ventures in Residence at any given time

THE HARVARD INNOVATION LABS
The Harvard Innovation Labs is a vibrant, cross-disciplinary ecosystem in which the Harvard community explores innovation and entrepreneurship. The Innovation Labs host public events and provide opportunities for innovators and entrepreneurs from across Greater Boston to interact. All numbers are as of summer 2017:

390
industry partners*

728
active licenses*

325,000+
visits since opening

1,000
community-partner sponsored events held at the i-lab

509
innovations FY16

2,500+
visits since opening

5,963+
events have been held

159
Experts-in-Residence hold regular office hours to mentor and advise Harvard student entrepreneurs

THE BLAVATNIK BIOMEDICAL ACCELERATOR

$17m in grants were awarded to 92 projects between 2007 and 2017. These projects have, in turn, attracted an additional $28 million in industry-sponsored research funding and resulted in new Massachusetts based companies such as Magenta Therapeutics and Macrolide Pharmaceuticals.

PHYSICAL SCIENCES & ENGINEERING ACCELERATOR

$1.7m in grants were awarded to 19 projects between 2014 and 2017. These projects have so far resulted in eight Harvard-launched startups that have collectively raised more than $32 million in follow-on financing.
In 2015 and 2016, young Massachusetts companies received nearly $11 billion in venture capital funding, and more than half of those companies have a strong connection to Harvard.

2016

$5.6bn received by MA companies

- 306 companies received funding
- 71% (217) of those have a Harvard connection
- 14% (44) have a connection to a Harvard affiliated teaching hospital

$1.8bn in venture capital funding was received by 41 companies in Massachusetts

$1.7bn of which was received by 37 companies with connections to Harvard (95% of the funding awarded)

2015

$5.5bn received by MA companies

- 321 companies received funding
- 72% (232) of those have a Harvard connection
- 16% (59) have a connection to a Harvard affiliated teaching hospital

Selected Harvard Connections

Venture Capital Backed Massachusetts Companies that Received Funding in 2016

Some companies are still in “stealth mode,” making it impossible to assess possible Harvard connections. In addition, the amount of venture capital funds some companies received is not yet publicly available.

At the NEVCA, we support, promote, and develop the entrepreneurial ecosystem. Our goal is to raise the profile of opportunities that already exist, improve upon the region’s many strengths, and identify new vehicles for growth. Leveraging New England’s unique blend of industry and academia is core to that mission, and Harvard is a tremendous driver of that synergy.

– Jody Rose
Executive Director
New England Venture Capital Association (NEVCA)

To learn more about Harvard’s connections to Massachusetts venture funded companies visit: harvard.edu/ecosystem
## EMPLOYMENT
Serving as one of the largest employers in the state, providing jobs that help employees grow and advance their careers.

### PEOPLE DIRECTLY EMPLOYED BY HARVARD IN MASSACHUSETTS

<table>
<thead>
<tr>
<th>TOTAL PEOPLE IN MASSACHUSETTS DIRECTLY EMPLOYED BY HARVARD*</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC</td>
</tr>
<tr>
<td>5,413</td>
</tr>
<tr>
<td>3,392 faculty</td>
</tr>
</tbody>
</table>

Staff members, including faculty and research assistants, lab technicians, and student services workers, supporting Harvard’s teaching, learning, and research mission, in addition to carrying out the day-to-day operations of the University.

### RESIDENCE OF HARVARD EMPLOYEES IN MASSACHUSETTS*

Harvard has been the largest employer in the city of Cambridge for 18 consecutive years.

<table>
<thead>
<tr>
<th>Residence</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnstable</td>
<td>33</td>
</tr>
<tr>
<td>Berkshire</td>
<td>2</td>
</tr>
<tr>
<td>Bristol</td>
<td>162</td>
</tr>
<tr>
<td>Dukes</td>
<td>2</td>
</tr>
<tr>
<td>Essex</td>
<td>713</td>
</tr>
<tr>
<td>Franklin</td>
<td>14</td>
</tr>
<tr>
<td>Hampden</td>
<td>2</td>
</tr>
<tr>
<td>Hampshire</td>
<td>18</td>
</tr>
<tr>
<td>Middlesex</td>
<td>10,883</td>
</tr>
<tr>
<td>Nantucket</td>
<td>0</td>
</tr>
<tr>
<td>Norfolk</td>
<td>2,111</td>
</tr>
<tr>
<td>Plymouth</td>
<td>353</td>
</tr>
<tr>
<td>Suffolk</td>
<td>3,542</td>
</tr>
<tr>
<td>Worcester</td>
<td>269</td>
</tr>
<tr>
<td>Outside of MA</td>
<td>636</td>
</tr>
</tbody>
</table>

*As of Dec. 31, 2016
What surprised me most is that Harvard has opportunities for people with all types of skills and backgrounds. I started at Harvard as a part-time evening custodian and today, after three promotions, I’m a manager that oversees nearly 50 people. The Bridge Program helped me improve my computer and communication skills. Furthermore, I gained the tools and confidence to pursue a college degree and seek out promotions within Harvard that have helped me to succeed. — Elson Callejas
Manager of Facilities Maintenance Operations

PROFESSIONAL DEVELOPMENT

Harvard offers its employees an array of professional development opportunities, and we partner with our host communities to establish strong internship programs for high school students.

SUMMER JOB PLACEMENT HIGH SCHOOL STUDENTS

Harvard has provided 779 jobs for Cambridge and Boston high school students over the past five years.

CENTER FOR WORKPLACE DEVELOPMENT

In 2016, the Center for Workplace Development (CWD) offered numerous career and skill development classes and workshops to help employees at all levels grow and advance in their careers, at Harvard and beyond. One of the best known CWD programs is the Harvard Bridge Program, which allows Harvard staff to take classes on the following topics: academic and business writing, college preparation, career exploration, computer skills, English for speakers of other languages (ESOL), high school diploma preparation, U.S. citizenship test preparation, and more.

2,200 employees participated in a workshop or program run by the Center for Workplace Development or Employee & Organization Development teams.

245 employees have become U.S. citizens through the Bridge Program since 2007.

16 employees participated in the inaugural Harvard Bridge Career & Development Program. The program equips hourly employees with the skills to advance in their careers and was launched based on responses to a University-wide employee engagement survey.
IMPACT

Purchasing from local vendors provides companies with stable work, and Harvard alumni invest locally through leadership of companies and nonprofits.

### ALUMNI

A Harvard alumni or faculty member serves on the board or in management of 24 of the 25 largest nonprofits in Massachusetts (as measured by total assets according to the Boston Business Journal).

- **279,000**
  - estimated alumni living in the United States

- **2,430**
  - alumni hold senior leadership positions in or were the founders of Massachusetts companies

- **50,300**
  - estimated alumni currently living in Massachusetts

- **50**
  - Harvard alumni are members of the 115th Congress

### VISITORS

- **57,826**
  - people visited the Harvard Information Center in 2016

### EMPLOYEES

- **18,740**
  - employees allowed Harvard to be ranked the fourth largest employer in Massachusetts in 2016

### DOCTORS

- **10,400**
  - doctors at Boston-area hospitals hold academic appointments at Harvard Medical School

### AWARDS AND RECOGNITIONS

- **96**
  - Nobel laureates and Pulitzer Prize winners have been members of the Harvard faculty

- **AAA**
  - Harvard’s stable presence has been cited by bond rating agencies as contributing to Cambridge’s triple-A bond ratings
In FY16, Harvard spending totaled $5.3 billion; Harvard personnel expenses totaled $2.3 billion. The majority of Harvard spending went to purchase supplies, maintain and expand the physical plant, and run the University. These activities cost $3 billion.

**FACTS & IMPACT**

**Impact of local spending**

I think it’s important for Harvard to be part of the lives of the young people in the community. To use our resources to help inspire the next generation of scientists, and also to inspire the next generation. It's not just to become a scientist or to become a doctor, it's to become the most effective adult you can be.

—DR. NANCY ORIOL
FACULTY ASSOCIATE DEAN FOR COMMUNITY ENGAGEMENT IN MEDICAL EDUCATION AND THE FOUNDER OF THE MEDSCIENCE PROGRAM HARVARD MEDICAL SCHOOL

**Construction spending**

$484m
spent on construction

$422m
spent in Massachusetts

$812m
spent in Boston

$146m
spent in Cambridge

**Supplies and services spending**

$2.5bn
spent on supplies and services

$1.1bn
spent in Massachusetts

$653m
spent in Boston

$121m
spent in Cambridge