



Approaches to Immigration Policy and their Impacts on Boston

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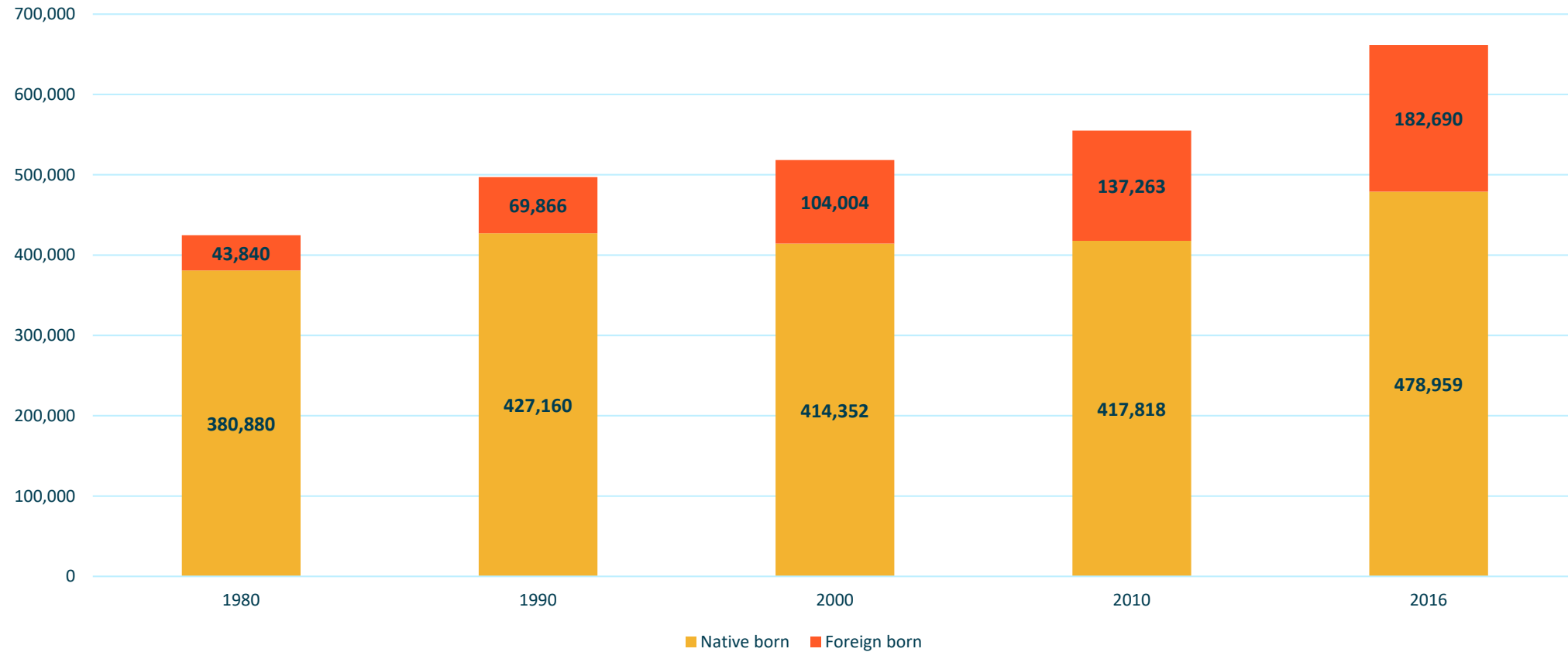


**boston planning &
development agency**

Outline

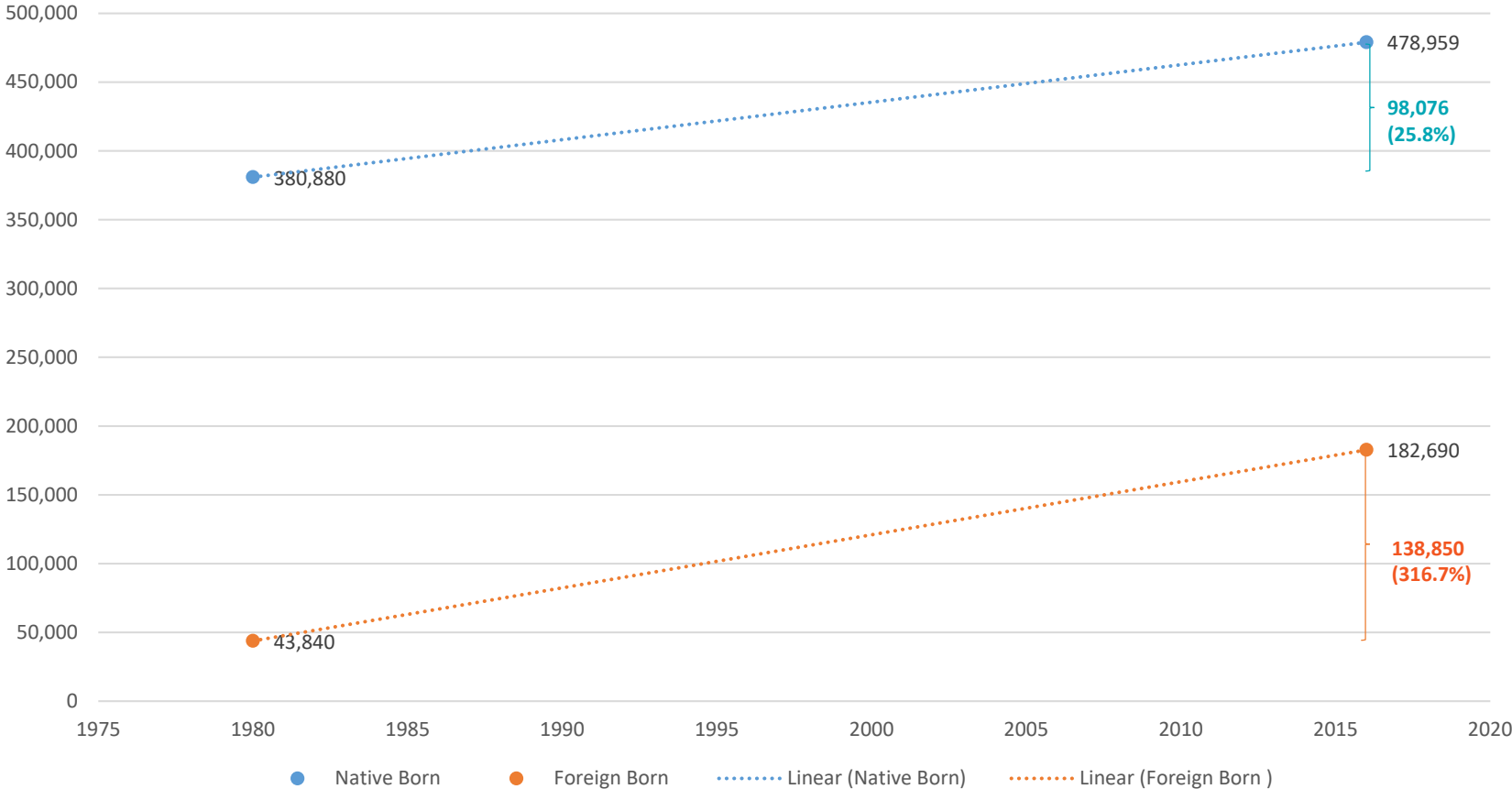
- Research Motivation/Background
- Labor Supply
 - REMI Analysis
- Educational Value
- Policy Implications for Boston's economy

Jobs in Boston by Nativity of Workers 1980-2016

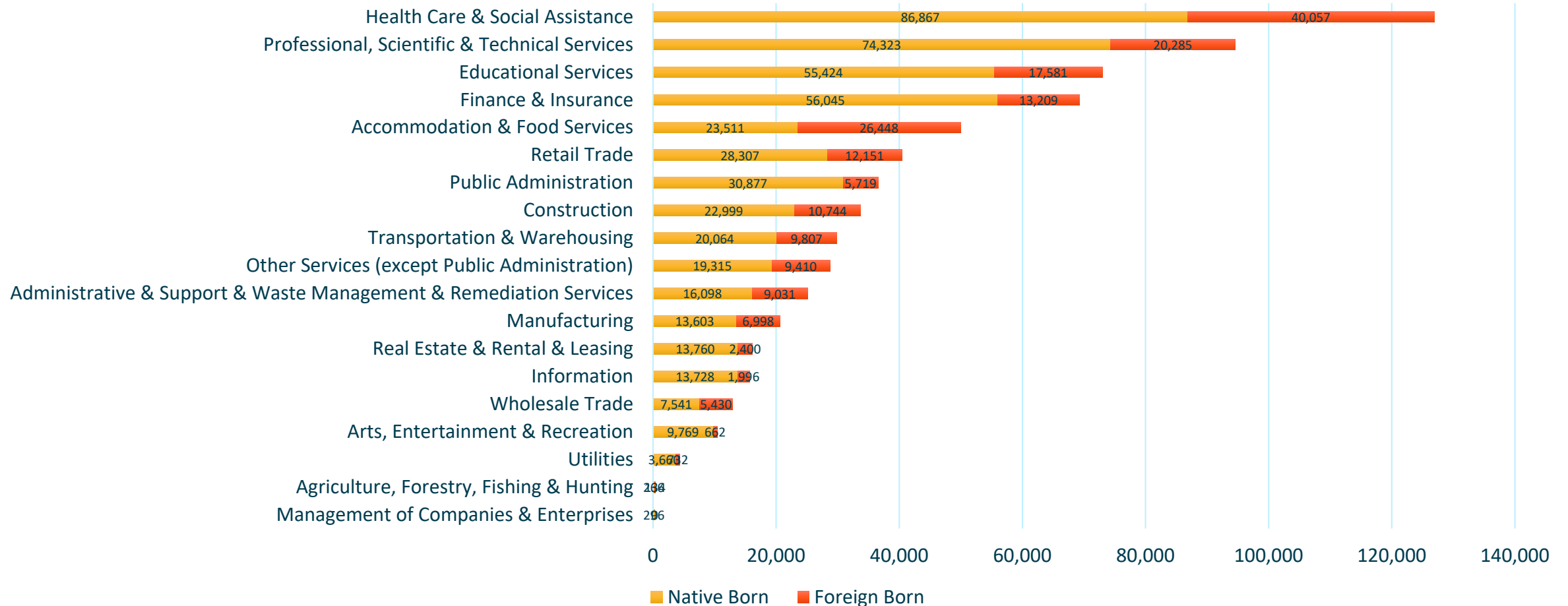


Source: 1980, 1990 & 2000 Decennial Census (IPUMS) & 2010 and 2016 American Community Survey (Workforce Geography), BPDA Research Division Analysis

Employment Growth by Nativity, 1980-2016

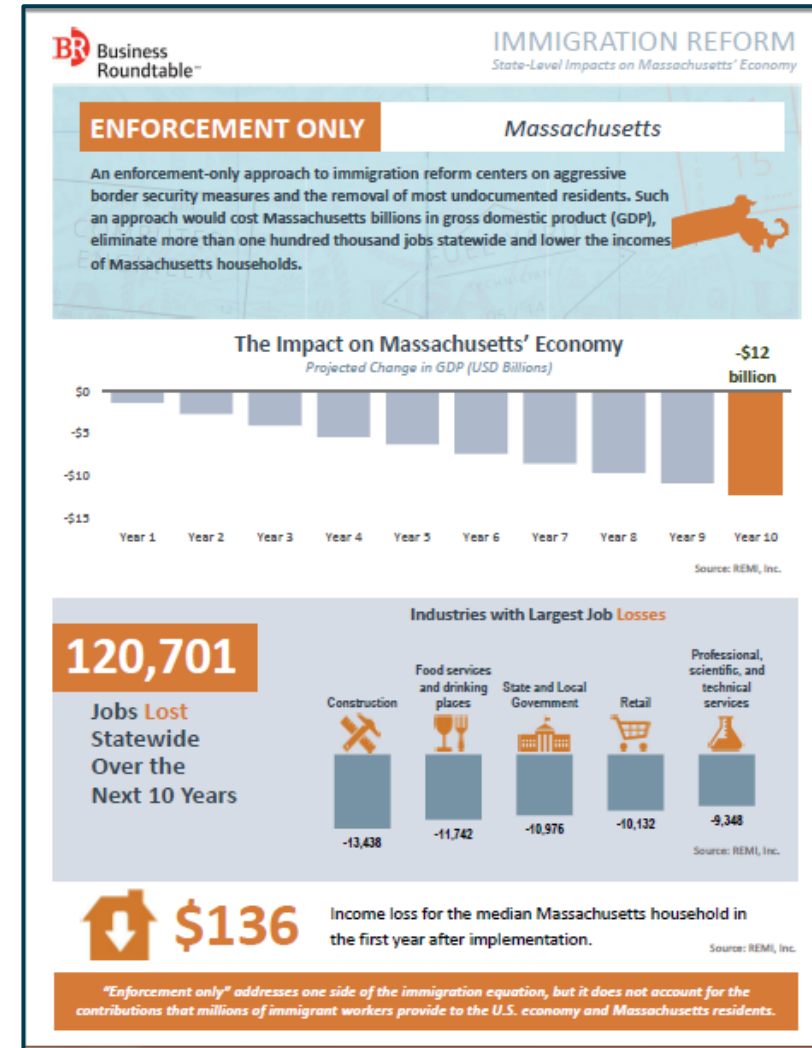
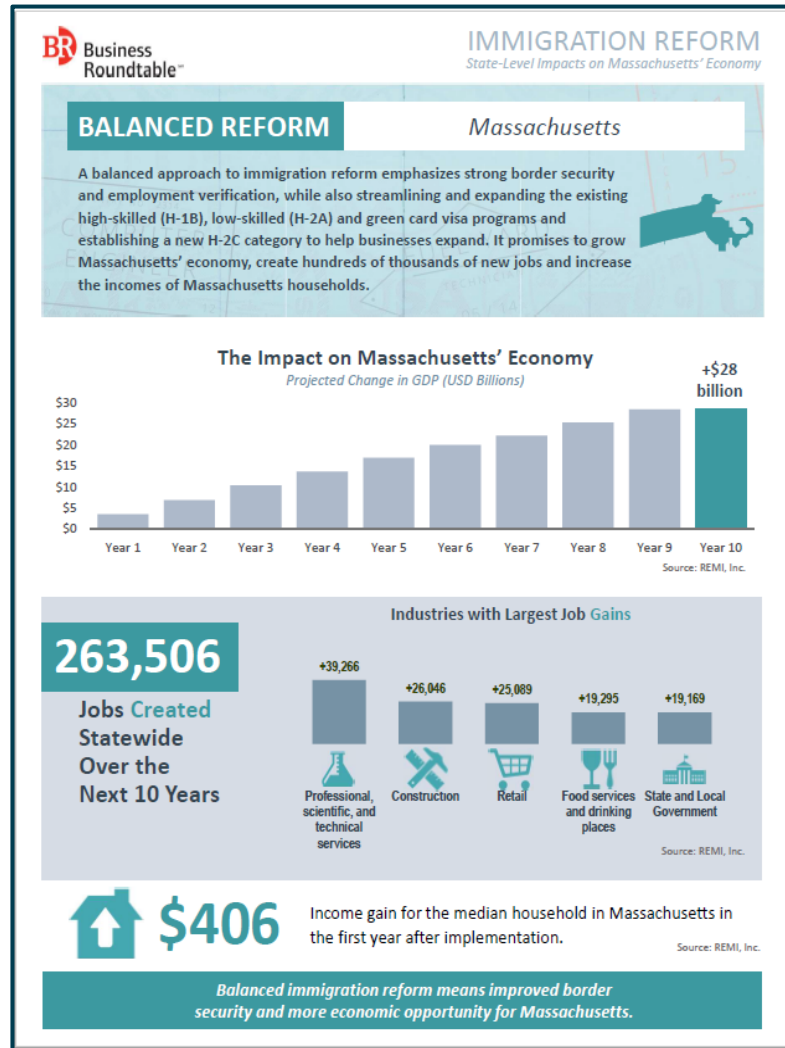


Boston's Employment by Industry 2016



Source: 2016 American Community Survey (PUMS), BPDA Research Division Analysis

Business Roundtable Immigration Analysis



Research Question

- Boston's labor force since 1980 has benefitted from immigration.
- The H-1B visa program cap of 65,000 has not been updated since 1990, though in 2004 the first 20,000 with master's, professional, or doctoral degree exempted from the H-1B annual cap.
- To what extent would Boston's output growth rate increase if more H-1B visas were available?
- What would be the educational value of these additional workers?

Possible Changes to Immigration Policy—H-1B and STEM-Exempted Green Card

Labor Supply



H-1B Visas and Green Card - STEM Exempted

Immigration Innovation Act of 2018 (I-Squared)

- Increase H-1B visas

Congress / Bills / S. 2344 (115th)

S. 2344 (115th): Immigration Innovation Act of 2018

Call or Write Congress Tweet Share 3

Overview Details Text

A bill to amend the Immigration and Nationality Act to authorize additional visas for well-educated aliens to live and work in the United States, and for other purposes.

The bill's titles are written by its sponsor.

Sponsor and status



[Orrin Hatch](#)

Sponsor: Senator for Utah.
Republican.



[Read Text »](#)

Last Updated: Jan 25, 2018
Length: 66 pages

Introduced Jan 25, 2018
115th Congress, 2017–2019

Status **Died in a previous Congress**
This bill was introduced on January 25, 2018, in a previous session of Congress, but was not enacted.

Source [Congress.gov](#)

Border Security, Economic Opportunity, and Immigration Act of 2013 (S.744)

- STEM exempted from employment-based green card cap

Congress / Bills / S. 744 (113th)

S. 744 (113th): Border Security, Economic Opportunity, and Immigration Modernization Act

Call or Write Congress Tweet Share 222

Overview Summary Details Text

A bill to provide for comprehensive immigration reform and for other purposes.

The bill's titles are written by its sponsor.

Sponsor and status



[Charles "Chuck" Schumer](#)

Sponsor: Senator for New York.
Democrat.



[Read Text »](#)

Last Updated: Jun 27, 2013
Length: 1198 pages

Introduced Apr 16, 2013
113th Congress, 2013–2015

Status **Died in a previous Congress**
This bill was introduced in a previous session of Congress and was passed by the Senate on June 27, 2013 but was never passed by the House.

Source [Congress.gov](#)

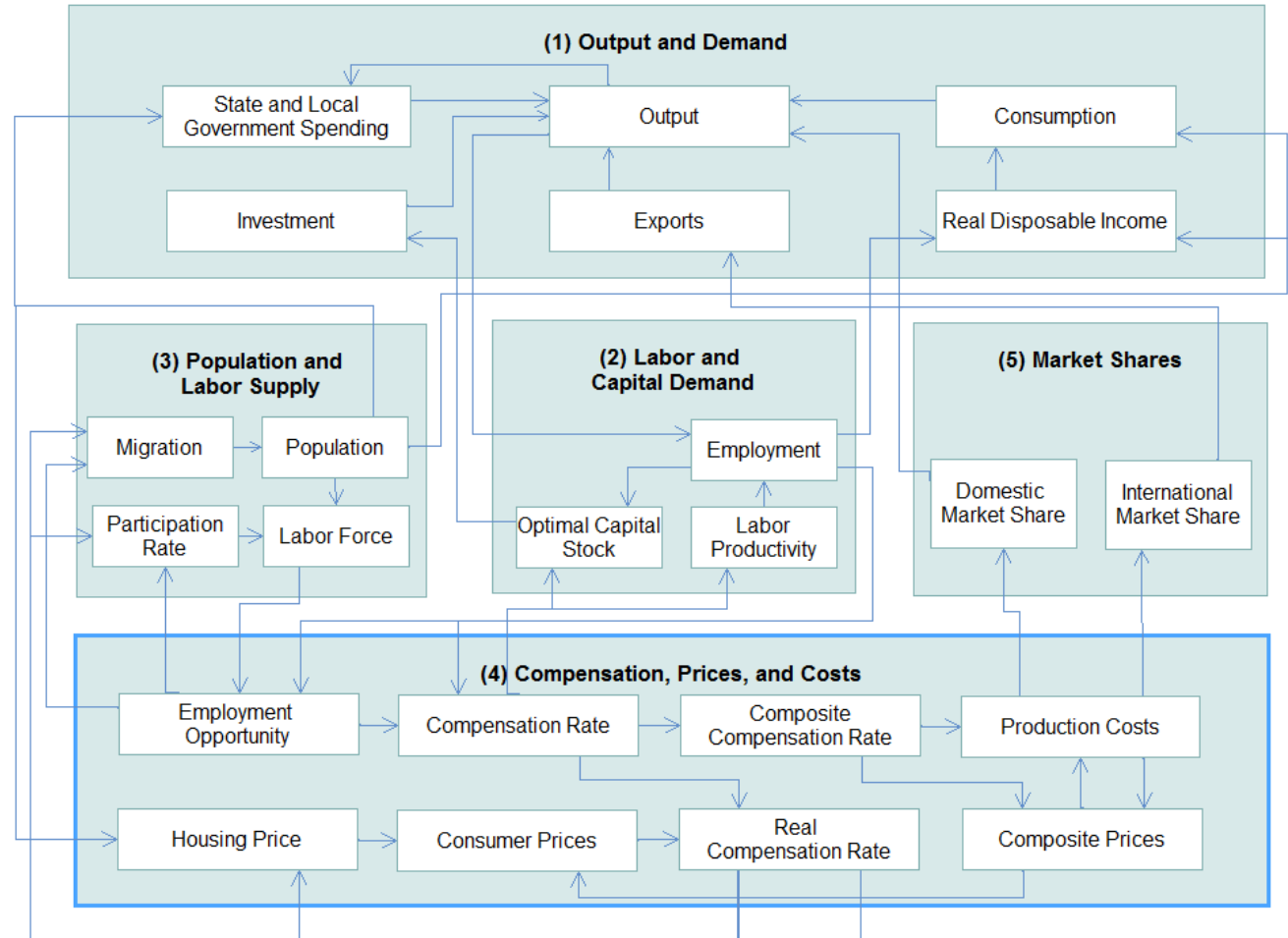
H-1B Visa

- Background
- Temporary working visas
 - 3 years, renewed one time = 6 years
- Annual cap: 65,000
 - with 20,000 master's, professional, or doctoral degree exempted
- Qualification
 - Bachelor's or higher Degree
 - Nature of the specific duties is specialized and complex

REMI Model

- The REMI model is a dynamic model that responds to regional changes in a time series manner to a local economy, such as
 - employment, income, sales, population, etc.
- The model runs simulations and performs forecast
- BPDA Research uses REMI's PI+ Massachusetts Regions
 - Limitation: Unable to measure national impacts on Boston

REMI Model Linkage



H-1B Visas and Green Card - STEM Exempted

- Increase H-1B visas
- STEM exempted from employment-based green card cap

= More STEM related jobs

REMI Input Variable

- **Industry Employment (Exogenous Production)**
= “related to exogenous non-export sources of demand”

Labor Supply = Labor Demand

Assumption:

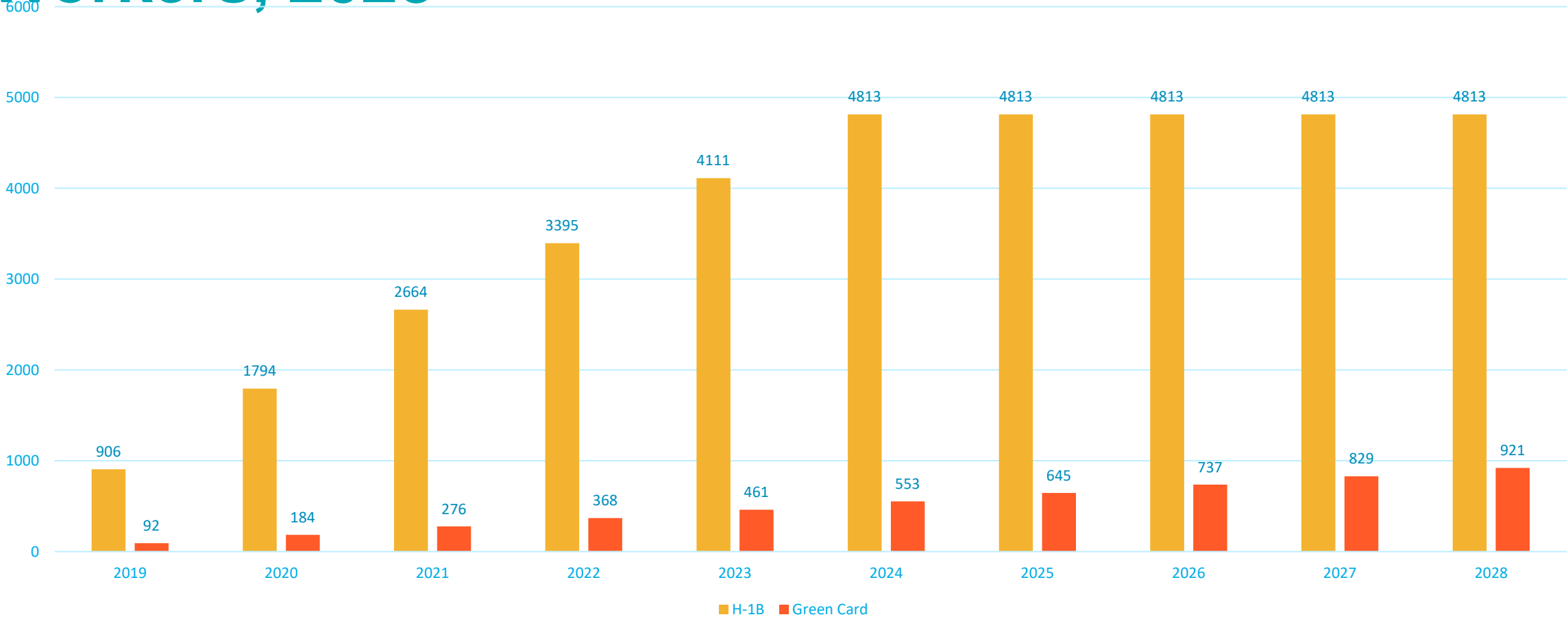
H-1B/Green Card workers “bring their own labor demand”

Employment Industrial Distribution (Top 5)

H-1B & Green Card Workers

- Custom Computer Programming Services (32.8%)
- Computer Systems Design Services (10.3%)
- Colleges, Universities, and Professional Schools (4.6%)
- Engineering Services (2.1%)
- Other Computer Related Services (2.0%)

Boston Labor Force Increase—5,734 Additional Workers, 2028



Economic Impact

Place of Work	Increased Output (yearly average 2019-2028)	Direct Jobs in 2028	Indirect and Induced Jobs In 2028
Boston	\$1.2 Billion	5,734	3,549

Source: Regional Economic Models, Inc. (REMI), PI+ Massachusetts Regions, BPDA Research Division Analysis

Direct, Indirect, and Induced Jobs

Category	Direct jobs	Indirect and induced jobs	Total
Professional, Scientific, and Technical Services	3,347	512	3,859
Health Care and Social Assistance	490	317	807
Educational services; private	438	60	498
Finance and Insurance	418	26	444
Information	183	74	257
Manufacturing	165	23	188
Accommodation and Food Services	137	459	596
Retail Trade	99	133	232
Administrative and Waste Management Services	86	451	537
Other Services, except Public Administration	75	95	170
Real Estate and Rental and Leasing	74	184	258
Transportation and Warehousing	58	158	216
Management of Companies and Enterprises	50	84	134
Construction	45	149	194
Arts, Entertainment, and Recreation	35	47	82
Wholesale Trade	27	58	85
Utilities	3	10	13
Natural Resources and Mining	1	2	3

Source: Regional Economic Models, Inc. (REMI), PI+ Massachusetts Regions, BPDA Research Division Analysis

Possible Changes to Immigration Policy—H-1B and STEM-Exempted Green Card

Educational Value



Educational Attainment Benefit - Method

- Foreign-born workers distributed to levels of educational attainment by USCIS H-1B Petitions in 2017
- National Center for Education Statistics, Integrated Postsecondary Education Data System provided a cost per year of education
 - Each year of education was multiplied by this estimate
- A share of people with each degree earn abroad is estimated by their age at year of entry
 - BA aged 23, MA aged 25, Professional and doctoral aged 29

Total Cost Estimate Per Year

Educational Attainment	Immigrant Workers	Distribution (USCIS 2017)	School Year	Cost per year per Student (2016–17 constant dollars)	K-12 Years	Associate's Degree Years	Bachelor's Degree Years	Master's Degree Years	Professional and Doctoral Degree Years
Elementary and Secondary Education	-	-	2014-15	\$13,119	-	-	-	-	-
Associate's Degree	-	-	2015-16	\$13,548	-	-	-	-	-
Bachelor's Degree	2,423	42.2%	2015-16	\$45,653	13	0	4	0	0
Master's Degree	2,798	48.8%	2015-16	\$23,732	13	0	4	2	0
Professional and Doctorate's Degree	514	9.0%	2015-16	\$27,024	13	0	4	0	5
Total	5,734	100.0%	-	-	-	-	-	-	-

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS)

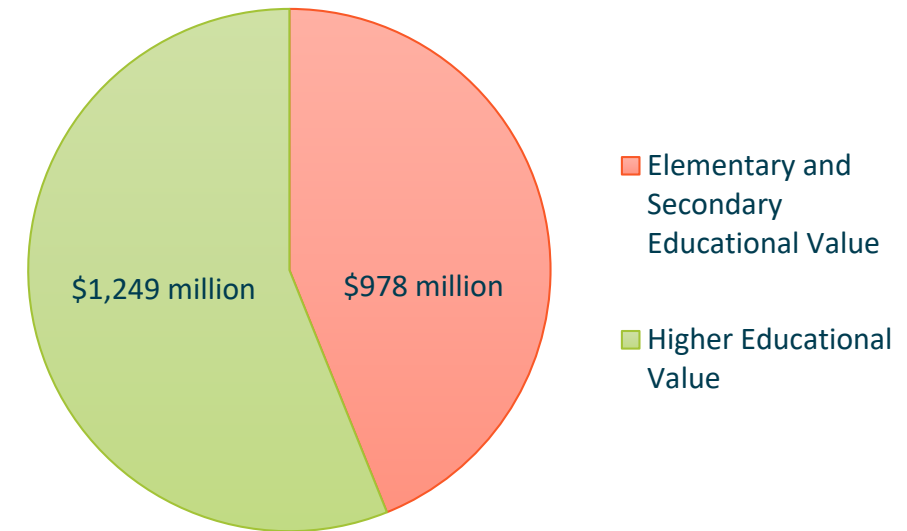
Educational Value for Workers Holding H-1B and Green Card (STEM Exempted) in 2028

Educational Attainment	Immigrant Workers	K-12 Total Cost (millions of 2016-17 \$)	Bachelor's Degree Cost (millions of 2016-17 \$)	Master's Degree Cost (millions of 2016-17 \$)	Professional and Doctorate's Cost (millions of 2016-17 \$)	Total Cost (millions of 2016-17 \$)
Bachelor's Degree	2,422	\$413	\$442	\$0	\$0	\$856
Master's Degree	2,798	\$477	\$511	\$133	\$0	\$1,121
Professional and Doctoral Degree	514	\$88	\$94	\$0	\$69	\$251
Total	5,734	\$978	\$1,047	\$133	\$69	\$2,227
Share Earned Abroad		100%	44%	41%	32%	
Value of Educational Attainment from Abroad		\$978	\$455	\$54	\$22	\$1,509

Results – Potential Human Capital Gained

Balance Reform Scenario (H-1B and Green Card STEM Exempted)

- 5,734 workers after 10 years (cumulative)
- \$2.2 billion total value
 - \$1.2 billion in higher educational value
 - \$978 million K-12 educational value provided outside US
 - \$1.5 billion is accumulated outside of the U.S.



Implications for Boston's Economy—2019-2028

Implications for Boston's Present and Future Economy

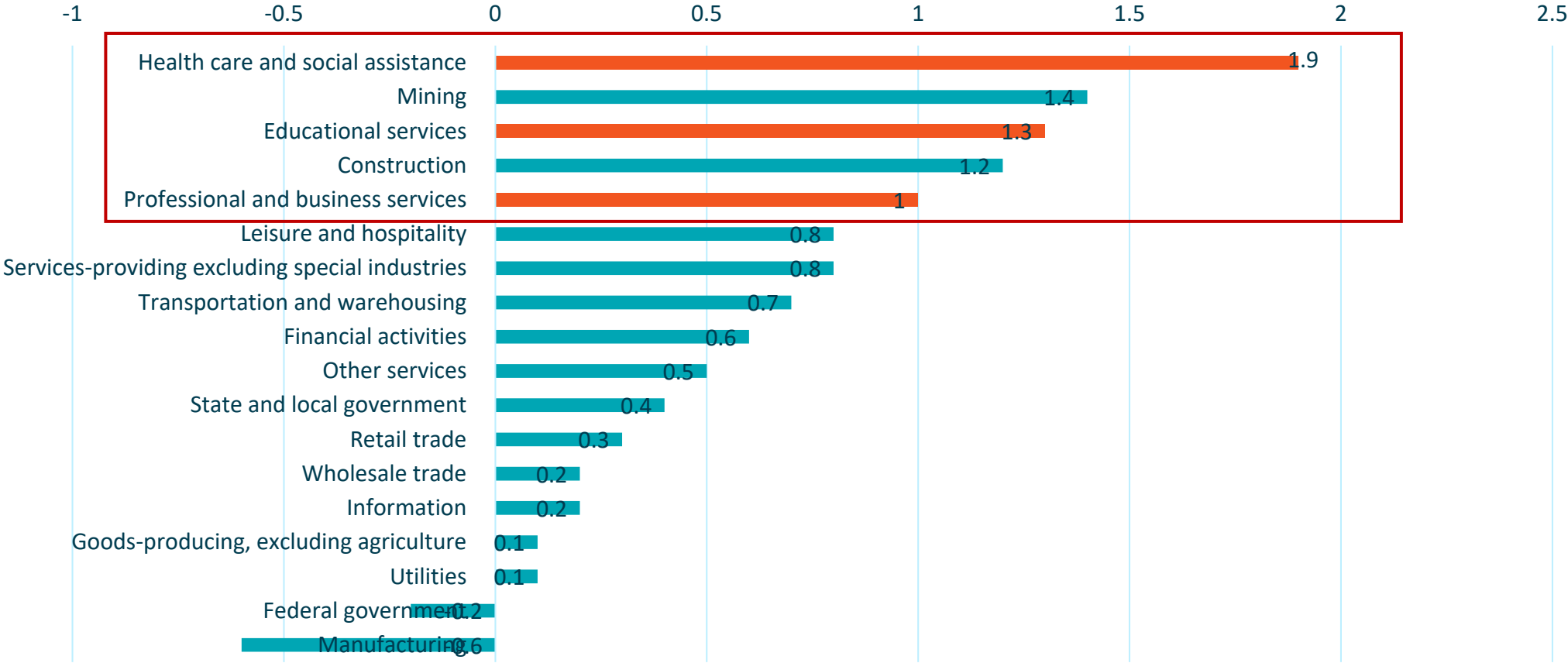
Massachusetts economy (NEEP, 2017)

- At or near full employment at 3.7% in 2017, (3.3% in 2018)
- Slower labor force growth in Massachusetts
 - Aging population into lower labor force participation cohorts
 - Low domestic migration

Boston consists of 24% of Massachusetts economy

Implications to Future Economic Growth

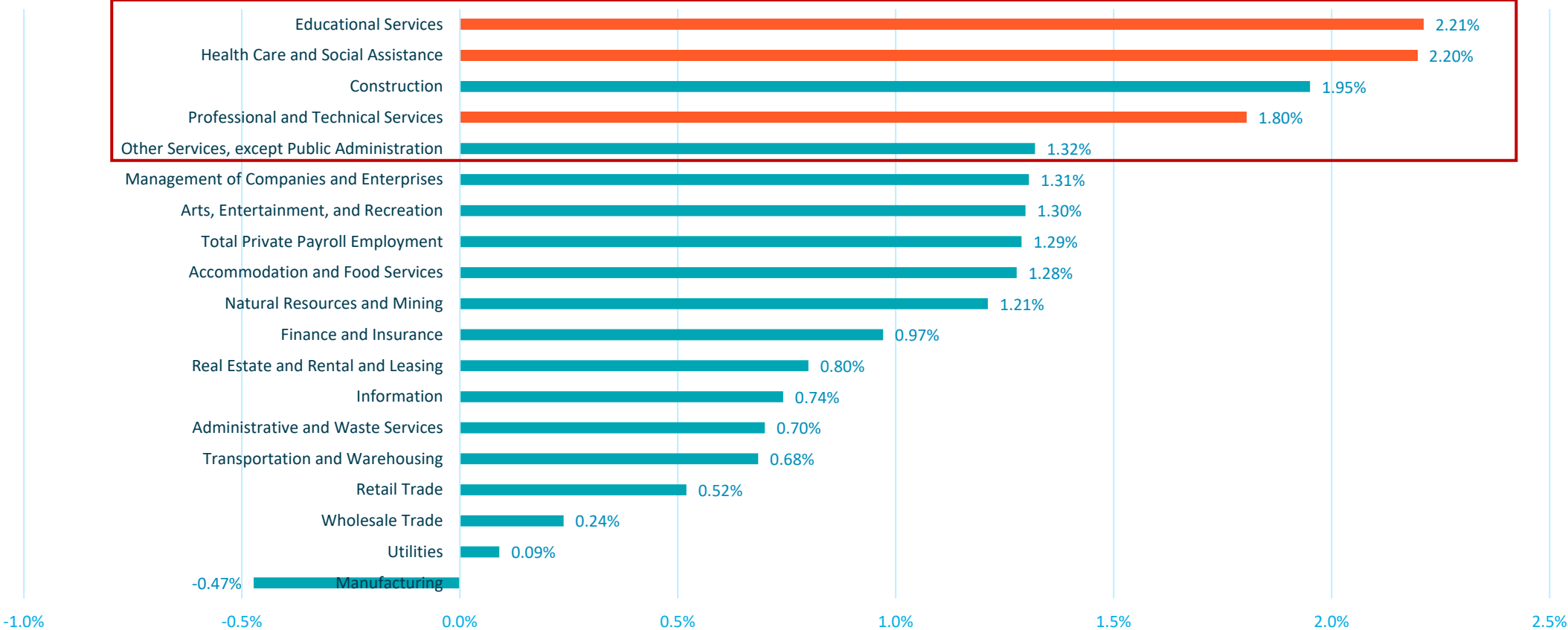
BLS: US Employment Projection by Industry, 2016-2026 (Compound Annual Growth Rate)



Source: BLS Employment Projection, 2016-2026

Implications to Future Economic Growth

BPDA: Projected 10-Year Compound Annual Growth for Private Payroll Employment, Boston MSA, 2016-2026 (Preliminary Result)



Economy Growth Challenges Next 10 Years

- Potential labor supply shortage in key industries in Boston
 - Migration is needed to fill labor market demand
 - International migration
 - H-1B and Green Card holders find Boston attractive
 - Domestic migration
 - NEEP projections raise concerns

Summary

Explicit

- Fill labor demand in some industries and increase productivity

Implicit

- Broader benefit of creating indirect and induced jobs
- Educational cost saving

Thank You

Questions?