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Investments in HBCUs are Down Payments On Economic and Social Growth in the United States*

Testimony Submitted to U.S. House of Representatives Committee on Education and Labor

Subcommittee on Higher Education and Workforce Investment

"Homecoming: The Historical Roots and Continued Contributions of HBCUs"

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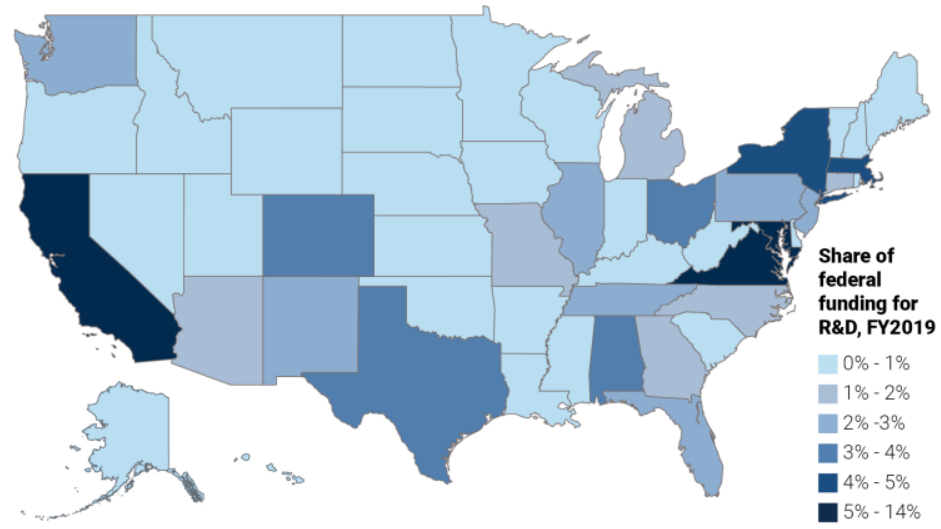
Technological advancements across many sectors have been inimitable drivers of economic and social growth in the United States. Innovation has been synonymous with Americana. From the earlier Industrial Revolution in the 18th and 19th centuries, to the post-WWII boom in the mid-20th Century to the tech boom throughout the last few decades, contributions from a wide swath of Americans—across industries and sectors new and old—have helped make the United States a sustained global power. However, exploitation and racism also characterize the United States. Many innovators are overlooked and devalued because of the color of their skin, and quite often never given a robust chance to contribute to our innovation economy.

Except for a few notable inventors who are regularly elevated during Black History Month—e.g., George Washington Carver (peanut products) and Madam C. J. Walker (hair products), the history of Black people's contributions to the catalog of inventions has been largely muted, particularly during the Industrial Revolution. The notable disregard of many of the era's Black inventors not only whitewashes the historical record, but biases who we perceive to be innovators in the present. For instance, Jonathan Rothwell of Gallup, Mike Andrews of the University of Maryland Baltimore County and I found that with 50,000 total patents, Black people accounted for more inventions during the Industrial Revolution than immigrants from every country except England and Germany. In our database, 87% of inventions were traced to people born in the United States, and 2.7% of the U.S. total were invented by Black Americans, which is a larger share than nearly every immigrant group. After accounting for patents during non-decennial years, we estimated that Black people accounted for just under 50,000 total patents during this period. The data is clear: Black Americans have contributed strongly to America's innovation economy, albeit with little fanfare and despite a plethora of structural barriers to overcome.

Not investing in Black talent has always been a harmful moral failure, robbing individuals and the country of goods and services in the name of what society deems economic growth. However, an economy built on exclusivity is proving to be a house of cards. The lack of recognition and investment in Black innovators runs alongside less investment in the innovation economy overall. Federal R&D investment has been in decline for 60 years, sapping educational, health, and science institutions of the resources needed to introduce new products and services to the public. Declining investments overall spotlights and exemplifies the country's sordid history around race. Racial and regional imbalances threaten the overall security and financial wellbeing of the country. As my colleagues have shown in our research, nearly half of federal R&D spending flow to just six states.

Map 1. Federal obligations for total R&D funding for selected agencies
By state, FY, 2019



Source: Brookings analysis of NSF data.

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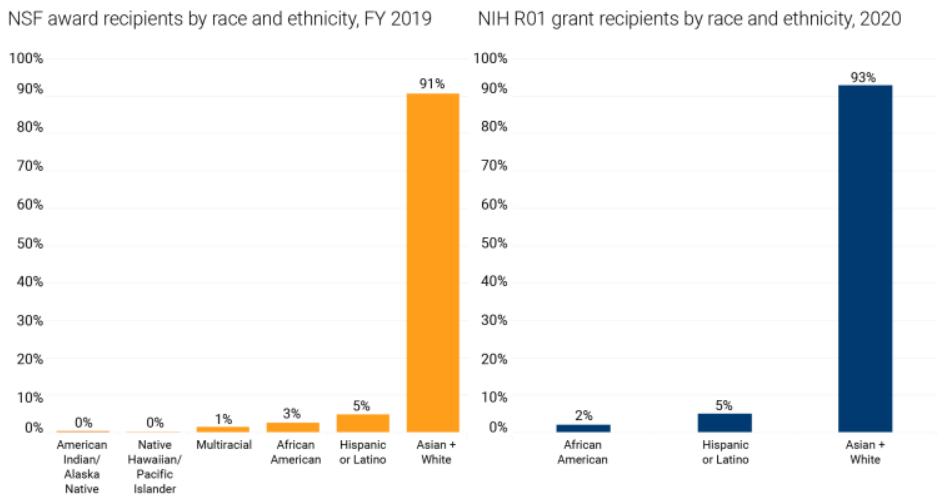
In addition to these geographic disparities, there are also stark racial disparities. According to the National Science Foundation, less than 1% of federal R&D expenditures went to historically Black colleges and universities (HBCUs) in 2019. And our research (depicted below) likewise finds that only about 7.4% and 6.6% of National Science Foundation (NSF) and National Institutes of Health (NIH) grant awards, respectively, flow to Black and Latino or Hispanic innovators—far below those groups' share of the population.

Figure 1. NSF award and NIH R01 grant recipients by race and ethnicity



Note: Demographic data is based on voluntarily self-reported information by the grant recipient.
Source: Brookings analysis of NSF and NIH data.

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The quality of our social, economic and political futures is inextricably linked to how inclusive the innovation economy can become. The country can easily slip into a recession and concede our position as a leader on the global stage if we're not careful to maximize the talents of all Americans, especially millennials (those currently aged 18-34) who represent a quarter of the total population and demographically are 44% minority. The nation's unbalanced innovation investments reinforce preexisting spatial and demographic disparities. This amounts to a structural distortion of the nation's innovation ecosystem, with real costs to individual people, communities, and the economy.

Ensuring a more equitable allocation of resources and investment is vital to creating a more dynamic innovation economy. But as the debate over what counts as "infrastructure" continues to unfold, too many people ignore the fact that the real undergirding of 21st-century infrastructure — including upgraded power grids, sustainable transportation, renewable energy — is knowledge and science. Therefore, if we want to jump start innovation, we must invest in the underappreciated people, places, and institutions that can yield significant growth – and that means investing in higher education, and especially in historically Black colleges and universities – HBCUs.

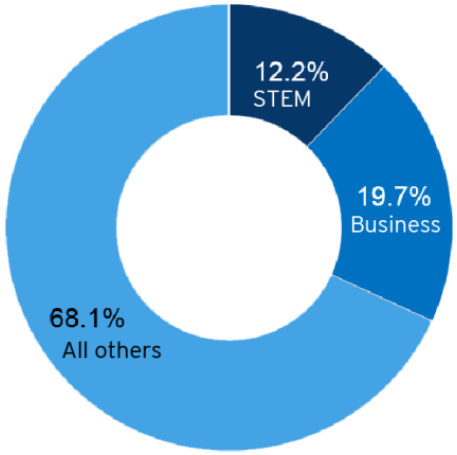
HBCUs Punch Above Their Weight, But Face Structural Barriers in Funding:

Since their beginnings prior to the Civil War, HBCUs have prepared their students to be leaders. They have imbued students with a unique set of academic skills, an acute sense of justice, a passion for public service and the confidence to achieve beyond their walls. Today, these institutions continue to produce a high share of the nation's Black doctors, judges, engineers, and other professionals. And according to a recent McKinsey report, even though HBCUs make up just 3% percent of colleges and universities in the U.S., they account for 10% of all matriculating Black students, and award 17% of all bachelor's degrees and 24% of all STEM-related bachelor's degrees for the nation's Black students. About one-third of all Black collegians earn degrees in either a STEM-related (science, technology, engineering and math) field or in business, according to my analysis of integrated post-secondary education data system (IPEDS), the national dataset of college outcomes. Black colleges are well suited to develop the talent needed in a knowledge economy.

FIGURE 1

Black Bachelor's degrees earned, by field of study

US postsecondary institutions, 2015-2016



Source: Brookings analysis of IPEDS data

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The success of HBCUs in educating future STEM workers has led the National Science Foundation to invest $9million toward the creation of a research center that will "study and model the successful practices of HBCUs." In addition, to promoting HBCUs as community assets, the center will also "strengthen national STEM capabilities through research training and education of thousands of college STEM majors, hundreds of faculty members, the nation at large, and the legacy of HBCUs in STEM education."

The ability of HBCUs to successfully educate future STEM workers should be viewed as an opportunity in the face of national trends. Across the country, the share of STEM jobs has expanded significantly, with STEM employment increasing from 9.7 million to 17.3 million from 1990 to 2018 (a 79% increase). Data suggests that this trend will continue, particularly in comparison to non-STEM positions. STEM jobs are expected to grow by 13% from 2017 to 2027 as opposed to 9% for non-STEM work. HBCUs are well situated to meet the demands of this growing STEM economy, and to so in a way that ensures Black workers are not left behind.

Nevertheless, despite their impressive track record and continued relevance, HBCUs are often treated like second-class institutions. HBCUs are chronically underfunded due to state underinvestment, lower alumni contributions (related to lower Black incomes and Black wealth), and lower endowments. And while both public and private HBCUs rely more heavily on public dollars and tuition than predominantly white institutions (PWIs), according to the American Council on Education, "Public and private HBCUs experienced the steepest declines in federal funding per [full-time equivalent] student between 2003 and 2015."

In many cases, the underfunding of HBCUs is a deliberate political choice to rob these institutions of what they are legally owed. For example, earlier this year, a committee

established in the Tennessee legislature determined that the HBCU Tennessee State University never received an estimated $500 million it had been entitled to from the state's funding scheme. Similarly, in Maryland, after a 13-year legal battle, the General Assembly recently agreed to give $577 million to HBCUs Morgan State University, Coppin State University, Bowie State University, and the University of Maryland Eastern Shore. The universities were part of a lawsuit that sought damages because the state failed to sufficiently implement a plan to desegregate higher education, create an equitable funding structure, and eliminate duplicative academic programs that place HBCUs at a competitive disadvantage.

But even when states do pay what is owed, many HBCUs struggle to fully realize their R&D potential, particularly in the face of economic shocks, because their endowments are substantially smaller than their predominately white counterparts. All together, the 10 largest HBCU endowments in 2020 totaled $2 billion, compared to $200 billion across the top 10 PWI endowments. The combined endowment for every HBCU in the country through 2019 was just over $3.9 billion. For context, New York University alone had an endowment of $4.3 billion that year.

We cannot therefore expect endowments and alumni giving alone to fully seed and sustain R&D at HBCUs, particularly in the context of a recovering pandemic economy where Black recovery continues to lag. Instead, we need federal investment dollars to flow to these institutions in ways that can allow them to expand their capacity, and fully maximize their potential, which will in turn unlock more growth for the nation's innovation economy.

Why Investing in HBCUs Matters:

When it comes to the racial wealth gap, many preach the gospel of college degrees as a means to build individual assets and create multi-generational wealth. But Black students pursuing higher education often end up saddled with debilitating debt even as they face systemic barriers in the hiring and promotion pipelines in high-wage industries. Debt has inspired anti-college rhetoric that preaches entrepreneurialism as a means to achieving economic prosperity. But without the social networks and technical skills that colleges provide, Black aspiring entrepreneurs can't connect with deep-pocketed investors who sponsor tech startups, which means that their ideas never get to see the light of day.

Investing in HBCUs can help address many of those problems simultaneously. In particular, federal investments should flow toward supporting research capacity and business incubation capacity at these institutions, with an eye toward maximizing STEM and business programs that can support valuable basic scientific research, drive the innovation economy with applied research and commercialization efforts, and all while providing necessary on-ramps for Black workers who have historically been left out of the innovation economy.

As my colleague and I discuss in a recent article, investments in HBCU research and development can address leaks in the talent pipeline by supporting the hiring and promotion of more Black faculty, who can correct underrepresentation on college campuses thereby leading

to higher retention rates and better academic performance. In addition, investments can dramatically improve colleges and universities physical plants, which are riddled with deferred maintenance issues from years of devaluation and under-investment. Also, investments in HBCUs can help create an adequate supply of trained workers to fulfill the lofty goals of greening the economy and reclaiming our place as the world leader in emerging technologies. As detailed later in the policy recommendations section, the recent availability of recovery funds combined with the likely dollars made available by the Build Back Better agenda (including bot the infrastructure and reconciliation bills) are providing a once-in-a-generation opportunity that we would be foolish to squander.

In addition to investing in the basic STEM education and R&D capacity of HBCUs, the federal government should invest in their capacity to serve as business incubators. As our society speeds toward the usage of transformative technologies such as artificial intelligence, machine learning, quantum computing, augmented reality, virtual reality, and blockchain, investing in Black tech startup ventures that can quickly grow in size and profitability will help promote a more inclusive economy, create multi-generational wealth among Black families and validate the overlooked and devalued production of STEM graduates at HBCUs.

As regions seek job creation, economic growth, and community development, they should not overlook HBCUs as catalyst for neighborhood and regional growth. The Alabama Chamber of Commerce notes that the state is a leader in innovation economy industries including everything from aerospace and aviation to bioscience and chemical engineering to steel and advanced metals. And according to the National Association of Manufacturers, Alabama's manufacturing industries account for just over 17% of the state's total output (upwards of $37 billion in 2018). These industries employ 13% of the state's workforce (an average of 271,000 workers) with average annual compensation of $68,000. However, the presence of these industries have not led to shared prosperity throughout the state, which post the seventh highest poverty rate among all states in 2019, according to *U.S. News and World Report*.

Alabama is also home to 14 HBCUs—more than any other state—and our research shows that in the 2016-2017 academic year, STEM and business-related fields comprised 31% of degrees at Alabama's HBCUs. But despite the large number of HBCUs producing STEM and business graduates, there are still far fewer Black-owned firms in these sectors than makes sense. For example, our research finds that of the 4,000+ trade sector firms in Alabama's Birmingham metro area, including businesses that tackle manufacturing, information, finance, and insurance, and professional, scientific, and technical services, a mere 3% are Black-owned.

Two likely contributors to this lack of Black-owned firms are the Black wealth gap (in which white families have 10-times the wealth of Black families) and a lack of investments due to drags of racism in capital markets, banking, as well as government and corporate procurement. But Brookings' analysis shows that if the Birmingham metro area could achieve parity in Black-owned firms, that would mean an increase of 720 firms that could help to drive innovation. Leveraging the states 14 HBCUs must be central to improving outcomes as well as changing a

culture that would seemingly cut its nose to spite its face instead of recognizing the talent within.

We must invest in the people, places and institutions whose contributions and potentials have been have devalued. When we talk about the innovation economy, we should foreground institutions like Bishop State Community College, one of the nation's few two-year HBCUs. Located in majority-Black, Mobile, Alabama, Bishop State has partnered with other nearby colleges and universities, as well as key businesses in the region, to prepare students for STEM careers including in cutting-edge industries like biotech and robotics.

Efforts to fund and support business incubation at HBCUs can draw from successful models such as Opportunity HUB, an Atlanta based multi-campus co-working space, pre-accelerator, and incubator that works with HBCUs to support tech entrepreneurs. OHUB works with more than 4,000 student members and early professionals at 319 colleges and universities, including 100 HBCUs, and provides "early exposure, skills development, job placement, entrepreneurship support programming, net new job creation and alternative capital formation via geographically placed technology hubs."

Investing in HBCUs is also About Community Development and Regional Growth:

Beyond simply being the right thing to do, investing in HBCUs - both in terms of R&D and business development - can also help develop entire communities, unlocking dramatic economic growth at the local and regional level.

According to a study by the United Negro College Fund, "the nation's HBCUs generate $14.8 billion in economic impact annually; that's equivalent to a ranking in the top 200 on the Fortune 500 list of America's largest corporations." In addition, "every dollar spent by an HBCU and its students produces positive economic benefits, generating $1.44 in initial and subsequent spending for its local and regional economies." Finally, UNCF reports that each year "HBCUs generate 134,090 jobs for their local and regional economies," with every $1million spent by HBCUs and their students producing 13 new jobs.

This research is further supported by McKinsey analysis which finds that "a strong HBCU network could increase Black worker incomes by around $10 billion in addition to strengthening the economy with $1.2 billion in incremental business profit, $300 million in decreased student-loan debt, and $1 billion in additional consumer expenditures."

Given that about 50% of the nation's 100-plus HBCUs reside in Black-majority cities, the local and regional benefits of this investment in HBCUs as community assets could prove instrumental in lowering racial wage and wealth gaps while ensuring that we are fully realizing the potential of talent across the nation rather than only in superstar cities.

Ultimately, the vision is of a world in which postsecondary institutions benefit the entire community, actively working against stratification, rather than catering to and automatically

rewarding those with wealth, privilege, and status. Understood this way, investing in HBCU research and development capacity is not "charity" or catering to "special interests" but is rather an important affirmation that a broad and inclusive middle class supports the development of human capital, entrepreneurship, and economic growth which benefits everyone.

Opportunities for investment in HBCUs through the Build Back Better agenda

Congress has already begun to act to simultaneously address lags and inequities in the innovation economy. Most notably, the Senate's recent U.S. Innovation and Competition Act (USICA), which passed with a bipartisan 68-32 vote in June, includes valuable provisions to counter both geographical and demographic imbalances. On the former front, the bill provides $10 billion for "regional technology hubs" to build innovation capacity in new regions and would set aside 20% of new funds allocated to the NSF and the Department of Energy to support the EPSCoR program, which builds research capacity in states that historically receive low R&D funding. And on the broader demographic front, the USICA creates a chief diversity officer at the NSF; establishes an $150 million per year capacity-building program for MSIs and other institutions promoting STEM education for underrepresented populations; and would reserve $5.2 billion for STEM scholarships, fellowships, and other awards, with a focus on underrepresented populations.

The USICA is a praiseworthy first step toward creating an inclusive innovation economy that achieves maximum economic growth. But there is much more that needs to be done, including bold action by the federal government. Current proposals and pending legislation in the Senate and House, which are part of the Build Back Better Act, spell out promising responses to inequality in the U.S. innovation system. These efforts go farther than ever before in seeking to reform the system's imbalances in both their geographic and demographic forms.

The geographic response begins with the Biden Administration's call for the creation of at least 10 regional innovation hubs to reorient the nation's innovation landscape by catalyzing innovative activity in regions "beyond the current handful of high-growth centers." Other proposals involve new investments that will channel flows of R&D and research infrastructure money into additional places, including rural areas, HBCUs, and minority-serving institutions (MSIs), which have their own underserved geographies. On this front, the Build Back Better Act includes $2 billion to fund a competitive grant program explicitly designed to support and improve research capacity and underlying infrastructure at HBCUs (as well as tribal colleges and institutions and other minority serving institutions.)

The Build Back Better agenda also allocates $1.45 billion in mandatory funding supporting HBCUS, TCIs, and other MSIs. This funding is flexible and can be applied to a variety of institutional needs including academic programming, facilities and infrastructure, and basic administration costs. These funds compliment the more than $6.5 billion in supplemental federal aid including Covid relief funds and loan forgiveness through the HBCU Capital Financing program.

Beyond the money specifically reserved for HBCUs, the Build Back Better Act also includes provisions that HBCUs would be eligible for and benefit from as part of the innovation economy. This includes billions of dollars in House committee appropriations including everything from supporting agricultural research capacity ($1.32 billion) to medical and health ($1.05billion) to science, space, and technology ($1 billion.) On the startup side of things, the proposed legislation includes funding for business incubators and accelerators ($1.8billion) as well as for rural business centers ($250 million.)

Finally, in addition to supporting HBCUs directly, the Build Back Better Act also includes provisions directly aimed at helping undeserved students. This includes both broad measures such as increasingly the Pell Grant by $500, as well as targeted measures including $27 billion toward reducing tuition costs for low-income students attending HBCUs. The proposed legislation also includes $9 billion to support a student success grant program which will enable states and institutions to enact best practices, especially for underserved students.

The policies outlined above would go a long way toward addressing systemic underfunding of HBCUs. As a result, these policies could be transformative in creating a more inclusive innovation economy. To achieve this vision requires the political courage to insist that these initiatives are not simply a progressive wish list, but are in fact strategic choices to invest in underutilized people, places, and assets in ways that will unlock new growth and ensure that we remain a world leader in emergent technologies.

In the end, we will only succeed as a nation when we succeed together – and that means ensuring opportunity for people and places across the entire United States. Investing in HBCUs can help decrease the racial wealth gap, it can strengthen the vitality of local and regional economies, and it can unlock new opportunities for invention, innovation, and development. As I like to say, the next Zuckerberg, Jobs, or Gates is out there; very possibly in a dorm room at an HBCU like Bishop State. We just need to give those future innovators the financial and institutional support they need to succeed.

*Content for this written testimony was derived from several pieces that were authored or co-authored by the witness.