

Invent Together Public Comment

RE: Comments in Response to 86 FR 24029 “Methods and Leading Practices for Advancing Equity and Support for Underserved Communities Through Government,” Docket No. OMB-2021-0005

Responsive to Areas 1, 2, 4, and 5

Invent Together is an initiative supported by organizations, universities, companies, and other stakeholders dedicated to understanding the gender, race, and other diversity gaps in invention and patenting, and supporting public policy and private initiatives to close them.

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RE: Comments in Response to 86 FR 24029 “Methods and Leading Practices for Advancing Equity and Support for Underserved Communities Through Government,” Docket No. OMB-2021-0005

To Acting Director Young:

Invent Together appreciates the opportunity to submit comments to assist the Office of Management and Budget (OMB) with its effort to assess whether federal agency policies and actions equitably serve all individuals and communities, including those who have been historically underserved.

Invent Together is an initiative supported by organizations, universities, companies, and other stakeholders dedicated to understanding the gender, race, and other diversity gaps in invention and patenting, and supporting public policy and private initiatives to close them. We believe that everyone should have an opportunity to invent and patent, but that is unfortunately not the reality today. The federal government has an important role to play in ensuring that the support and services it provides to inventors and entrepreneurs are accessible to everyone, including those from underrepresented communities.

The United States Patent and Trademark Office (USPTO) and leading researchers have found that women, people of color, and lower-income individuals patent inventions at significantly lower rates than their representation in the population:

- Less than 13 percent of all inventors who hold a U.S. patent are women.¹ Women hold only 5.5% of commercialized patents.²
- Inventing activity by Black inventors peaked in 1899 and has not recovered.³ Black and Hispanic college graduates patent at half the rate of White college graduates.⁴

¹ USPTO, PROGRESS AND POTENTIAL: 2020 UPDATE ON U.S. WOMEN INVENTOR-PATENTEES (July 2020) at 3, <https://www.uspto.gov/sites/default/files/documents/OCE-DH-Progress-Potential-2020.pdf>.

² Jennifer Hunt et al., *Why Don't Women Patent*, National Bureau of Economic Research Working Paper No. 17888 (2012), at 1, <https://www.nber.org/papers/w17888>.

³ Lisa D. Cook, *Violence and Economic Growth: Evidence from African American Patents, 1870 to 1940*, J. ECON. GROWTH (June 2014), at 221–257, https://lisadcook.net/wp-content/uploads/2014/02/pats_paper17_1013_final_web.pdf.

⁴ INSTITUTE FOR WOMEN'S POLICY RESEARCH, EQUITY IN INNOVATION: WOMEN INVENTORS AND PATENTS (2016), <https://iwpr.org/wp-content/uploads/2020/12/C448-Equity-in-Innovation.pdf>.

- Children in families in the top one percent of income are ten times more likely to patent as adults than children in the entire bottom half of family income.⁵

Closing these large and persistent patent gaps is both an economic and moral imperative. These disparities impair economic growth, threaten U.S. leadership in innovation, and deny individual members of underrepresented groups the benefits and opportunities that patent ownership creates. Increasing participation in inventing and patenting by underrepresented groups would quadruple the number of American inventors⁶ and increase annual U.S. GDP by almost one trillion dollars.⁷

Women, people of color, and other underrepresented groups face numerous barriers to equitable participation in the patenting of inventions, including a lack of: exposure to innovation, access to STEM and invention education, mentorship opportunities, and capital; as well as entrenched cultural issues, such as discrimination and unconscious bias.

- **Exposure:** Lack of exposure to inventors inhibits invention and patenting. According to a study by Harvard researchers, “Children who grow up in areas with more inventors—and are thereby more exposed to innovation while growing up—are much more likely to become inventors themselves.”⁸ Indeed, children whose parents are inventors are nine times more likely to become inventors,⁹ and “children who grow up in a neighborhood or family with a high innovation rate in a specific technology class are more likely to patent in *exactly the same* class.”¹⁰
- **Education:** Access to high-quality invention education is critical to help people develop the mindset necessary to become inventors. Invention education “is a term that refers to deliberate efforts to teach people how to approach problem finding and problem solving in ways that reflect the processes and practices employed by accomplished inventors.”¹¹ While STEM education helps students develop technical skills, invention education helps students develop problem-identification and problem-solving skills, as well as an invention mindset. Access to STEM education is also important for developing technical skills and interest in patent-intensive fields.
- **Social Networks and Mentorship:** Social networks are key to helping inventors “evaluat[e] whether it would be worthwhile to pursue a patent” in the first place since an inventor is likely to first seek advice from his or her own peers.¹² Moreover, the relative “exclusion from STEM fields” of women, people of color, and other underrepresented groups has led to limited available mentorship opportunities and networks.¹³ Because inventors tend to seek mentors who share similar backgrounds, and there are fewer

⁵ Alex Bell et al., *The Lifecycle of Inventors* (June 2016),

https://scholar.harvard.edu/files/ambell/files/2016_06_14_patents.pdf.

⁶ Alex Bell et al., *Who Becomes an Inventor in America? The Importance of Exposure to Innovation* (Nov. 2018), http://www.equality-of-opportunity.org/assets/documents/inventors_paper.pdf.

⁷ Lisa D. Cook, *Economic and Social Implications of Racial Disparities* (June 8, 2020), <https://bcf.princeton.edu/wp-content/uploads/2020/11/Combined-Slides-10.pdf>.

⁸ Alex Bell, COMMENTS BEFORE THE USPTO, SUCCESS ACT HEARINGS 7 (2019).

⁹ See Alex Bell et al., *Who Becomes an Inventor in America?*, *supra* note 6, at 17–18.

¹⁰ *Id.* at 1.

¹¹ Stephanie Couch et al., RESEARCHING INVENTION EDUCATION: A WHITE PAPER 1 (2019).

¹² *Id.* at 22.

¹³ See *id.* at 23.

women and people of color in positions to act as mentors for inventors, it is harder for underrepresented inventors to find inventors to mentor them.¹⁴

- **Capital:** According to estimates, female founders receive only 1 percent of all venture capital (VC) funding, and Black founders receive less than 2 percent.¹⁵ This massive funding gap penalizes women inventors and inventors of color, who are less likely to receive venture backing for their ideas than their White, male counterparts. Funding helps inventors research and develop their ideas, and eventually bring them to market. Patents are also important assets for attracting investment capital in potential businesses. Disparities in patent rates, therefore, lead to disparities in investment rates, and vice versa.
- **Workplace Culture:** Discrimination against women, people of color, and other underrepresented groups in the workplace, cultural inertia in academia and industry, and unconscious bias from gender and racial stereotypes all contribute to the patent gaps.

Over the past several years, Invent Together has worked with inventors, academics, industry representatives, advocacy groups, and others to make progress on these issues, including by:

- Supporting research by leading academics and think tanks to quantify the patent gaps;
- Supporting the successful passage of the SUCCESS Act, which required the USPTO to study and report on the number of patents applied for and obtained by women, minorities, and veterans, and to make recommendations for legislative and executive actions to reduce disparities in patenting;
- Convening two roundtable workshops, bringing together academics, practitioners, organizations, universities, companies, policymakers, and other stakeholders to discuss these issues;
- Launching a public website—www.inventtogether.org—to provide a platform and additional tools for educating and informing stakeholders about the importance of diversity in invention and patenting, and advocating for public and private initiatives to close the patent gaps; and
- Supporting the inclusion of the Inventor Diversity for Economic Advancement (IDEA) Act in the United States Innovation and Competition Act (USICA)—passed by the Senate on a bipartisan basis—which would allow the USPTO to collect demographic information, including on gender, race, and veteran status, from inventors on patent applications on a voluntary basis.

Invent Together applauds the Administration for shining a light on the inequities that underrepresented communities face in accessing agency programming and activities. The federal government offers a number of programs and services designed to assist inventors and entrepreneurs with accessing and navigating the patent system and securing their intellectual

¹⁴ See *id.* at 22.

¹⁵ See, e.g., Emma Hinchliffe, *Female Founders' Share of Venture Capital Funding Shrank to 2.2% in 2020*, FORTUNE (Feb. 8, 2021), <https://fortune.com/2021/02/08/female-founders-venture-capital-funding-2020/>; James Norman, *A VC's Guide to Investing in Black Founders*, HARV. BUS. REV. (Jun. 19, 2020), <https://hbr.org/2020/06/a-vc-s-guide-to-investing-in-black-founders>.

property. However, diverse inventors face structural and institutional barriers in accessing these services, and therefore do not benefit equally from the full range of support that is available.

Within the Executive branch, concrete actions can be taken in the short- and long-term that will help close the patent diversity gaps and broaden participation in the innovation economy. Below, we provide recommendations for the Executive Office of the President, the Board of Governors of the Federal Reserve, the Department of Commerce (USPTO and Minority Business Development Agency), and the Small Business Administration (SBA) to consider as they conduct their equity assessments and continue working to enhance their engagement with underrepresented populations, including diverse inventors and entrepreneurs. Our comments focus on the following Areas identified by the Notice: (1) Equity Assessments and Strategies; (2) Barrier and Burden Reduction; (4) Financial Assistance; and (5) Stakeholder and Community Engagement.

Recommendations for the Executive Office of the President and the Board of Governors of the Federal Reserve

These recommendations are responsive to Notice Areas (1) and (2).

The Administration of President Biden and Vice President Harris has a crucial leadership role to play in ensuring that our nation's diverse inventors have access to the full range of programs and services designed to support and uplift participants in the innovation ecosystem. In addition to its central role in coordinating agency efforts and overseeing a whole-of-government approach to expanding American innovation, there are a number of specific steps that the Administration can take to help address the challenges facing diverse inventors.

Support Data Collection and Research on Patent Gaps: The Administration should commit to deepening our understanding of the patent gaps and the impact that a more inclusive innovation ecosystem will have on our economy. As it stands, the USPTO and private researchers do not have comprehensive demographic data sets on the inventor-patentee population, which severely hinders research efforts to quantify and close the patent gaps.

- **Support the IDEA Act:** Invent Together supports the IDEA Act, a bipartisan, bicameral bill that would direct the USPTO to collect demographic data—including on gender, race, and veteran status—on inventors from patent applicants on a voluntary basis, and make this information available for research.¹⁶ The bill would require the USPTO to keep this information separate from the patent application to mitigate implicit bias in the patent examination process. The USPTO does not currently collect data on race, gender, or income from patent applicants, requiring researchers to use inexact and time-intensive name-matching software and other techniques to study disparities in patenting. Reliable studies of both the patent gaps and their remedies require a current and comprehensive data source that the USPTO can create and publish to maintain accountability for equity

¹⁶ S. 632/H.R. 1723, 117th Cong. (2021).

in patenting. The IDEA Act has been successfully passed in the Senate and we encourage the Biden-Harris Administration to support its passage in the House.

- **Designate the USPTO as a Data-Sharing Agency:** The OMB should designate the USPTO as a data-sharing agency under the Confidential Information Protection and Statistical Efficiency Act (CIPSEA), as recommended in the SUCCESS Act.¹⁷ This will allow the USPTO to share demographic data with other federal agencies, provide access to critically needed information on the inventor-patentee population, and support cross-agency efforts to create linkages between disparate data sets.
- **Direct a Study by the Council for Economic Advisors (CEA):** The CEA should study and report on the patent gaps among women, people of color, and other underrepresented groups, and quantify the positive impact that greater access to invention and patenting would have on individual income, wage gaps, national GDP, and U.S. technology leadership.
- **Direct a Study by the Federal Reserve:** President Biden has said the Administration will strengthen the Federal Reserve’s focus on racial economic gaps.¹⁸ As part of this initiative, the Federal Reserve should study and report on the positive impact that expanding the number of inventors of color and patents granted to inventors of color would have on existing racial economic gaps and U.S. economic growth and recovery in the wake of the pandemic.

Support the NCEAI: The Administration should continue to support the ongoing work of the National Council for Expanding American Innovation (NCEAI). As announced in the SUCCESS Act report, the NCEAI will “develop a national strategy for promoting and increasing the participation of underrepresented groups as inventor-patentees, entrepreneurs, and innovation leaders.”¹⁹ Led by the Department of Commerce and the USPTO and composed of leaders from academia, private industry, as well as individual inventors, the NCEAI underscores the national importance of building a more inclusive innovation ecosystem. Invent Together strongly supports the NCEAI’s development of a detailed National Strategy that provides recommendations for both programmatic adjustments and deeper structural changes in both the public and private sectors. We urge the Administration to continue its support of the NCEAI, ensure that the National Strategy is released as planned this year, and continue to publicly emphasize the importance of an inclusive innovation economy.

Support Legislative Proposals to Promote Diversity in STEM and the Innovation Ecosystem: Recent legislative proposals—including the United States Innovation and Competition Act (USICA)²⁰ and the NSF for the Future Act²¹—contain provisions designed to broaden participation in science, technology, engineering, and mathematics (STEM) education

¹⁷ USPTO, REPORT TO CONGRESS PURSUANT TO P.L. 115-273, THE SUCCESS ACT (Oct. 2019) (“SUCCESS Act Report”), at 3, <https://www.uspto.gov/sites/default/files/documents/USPTOSuccessAct.pdf>.

¹⁸ Joe Biden, *The Biden Plan to Build Back Better by Advancing Racial Equity Across the American Economy* (last accessed June 24, 2021), <https://joebiden.com/racial-economic-equity>.

¹⁹ SUCCESS Act Report, *supra* note 17, at 23.

²⁰ S. 1260, 117th Cong. (2021).

²¹ H.R. 2225, 117th Cong. (2021).

and the innovation ecosystem more broadly. For example, the USICA, recently passed by the Senate, contains a number of provisions that will support diverse inventors, including: grants to non-profits to provide hands-on STEM learning opportunities; scholarships and fellowships to broaden participation in STEM among underrepresented communities; awards to build institutional research capacity at minority-serving institutions (MSIs); and the creation of a Chief Diversity Officer at the National Science Foundation. Invent Together encourages the Administration to support these efforts to strengthen the pipeline of diverse students in STEM education and promote a more inclusive invention economy.

Recommendations for the Department of Commerce

These recommendations are responsive to Notice Areas (1), (2), (4), and (5).

The Department of Commerce plays a key role in providing support and guidance to our nation's diverse inventors through the USPTO and the MBDA. These agencies are responsible for implementing a number of programs to support small business owners and patent applicants as they seek to protect their intellectual property, including the Pro Bono Assistance Program, the Law School Clinic Program, and the Inventors Assistance Center. Invent Together supports the continuation and expansion of these programs and offers recommendations on ways that they can be even more effective at addressing the needs of diverse inventors.

Support the NCEAI: As noted above, the NCEAI is in the process of developing its National Strategy for Expanding American Innovation to ensure that inventors from all backgrounds have the opportunity to innovate and contribute to our invention economy. Invent Together encourages the Department of Commerce to continue its leadership of the NCEAI as it works toward the release of its National Strategy later this year. The Department can also play an important role in providing the resources to promote and publicize the National Strategy after it is released to spread awareness among industry leaders, educational institutions, and diverse communities across the country.

Improve Data Collection on Inventor Population: Collecting accurate demographic data on inventors and patent holders is essential to strengthening the federal programs designed to serve the innovation ecosystem. In addition to the IDEA Act, discussed above, Invent Together also supports the SUCCESS Act report recommendation to conduct a voluntary, confidential, biennial survey of individuals named in patent applications that have been filed with the USPTO to gather demographic data.²² Separate from the IDEA Act's voluntary data collection, conducting a survey would allow the USPTO to gain additional insight into the characteristics of inventors who have applied for U.S. patents.

Within Notice Area (2), the RFI asks for data on whether requesting demographic information has any impact on program participation rates. Researchers who have experience

²² SUCCESS Act Report, *supra* note 17, at 26.

conducting surveys and interviews with the general public have found that “[n]o matter the topic, people still overwhelmingly volunteer their demographic information” and that “rarely do researchers report having difficulty getting respondents to answer demographic questions.”²³ According to one such researcher, less than 5% of respondents refuse to answer demographic questions on a typical survey.²⁴ The importance of data collection to understanding how, and how many, diverse inventors participate in our innovation ecosystem far outweighs any potential hesitation that a select few may have about volunteering their demographic information.

Expand Financial Assistance Programs to Lower the Cost of Obtaining Patents:

Obtaining a patent can be a very expensive process. The cost of preparing and filing a utility patent application for even a relatively simple invention can be as much as \$10,000—this cost only continues to grow as the invention increases in complexity, potentially reaching up to \$25,000 or more for certain biotechnology or software inventions.²⁵ Research has shown that these costs can be disproportionately prohibitive to women and people of color due to lower earnings.²⁶ Women and people of color also have less access to capital when they start businesses.²⁷ This makes it difficult for them to afford the costs associated with filing a patent application, especially the costly expense of hiring a patent attorney.

The USPTO should expand and build upon existing financial assistance programs designed to address the high costs of patenting. Programs like the USPTO Pro Bono Assistance Program, which matches qualified low-income applicants with volunteer patent attorneys who practice at private firms or in solo practices, and the USPTO Pro Se Assistance Program, which provides advice to inventors who wish to pursue patents without the help of an attorney, can help mitigate the high costs of patenting an invention, but they should be expanded to help those for whom attorneys’ fees are a major barrier to entry. Invent Together supports a comprehensive evaluation of the effectiveness of the Pro Bono Assistance Program to determine whether it is adequately reaching underserved inventors and to provide recommendations to better serve these communities. The USPTO should also continue to expand its Law School Clinic Certification Program. Today, students at more than 60 participating law schools provide pro bono assistance to independent inventors seeking patent advice under the supervision of their law school clinical

²³ *Enhancing Patent Diversity for America’s Innovators Before the H. Comm. on Small Bus.*, 116th Cong. (2020) (statement of Rashawn Ray, Brookings Institution), https://www.brookings.edu/wp-content/uploads/2020/01/1.15.20_Congressional-Testimony_Ray_Rashawn.pdf.

²⁴ *Id.*

²⁵ Louis E. Fogel & Shaun Van Horn, *In brief: Patent prosecution in USA*, LEXOLOGY (May 29, 2020), <https://www.lexology.com/library/detail.aspx?g=08f84c85-7e5b-4917-a9cd-d4ddaf145557>.

²⁶ INSTITUTE FOR WOMEN’S POLICY RESEARCH, *CLOSING THE GENDER GAP IN PATENTING, INNOVATION, AND COMMERCIALIZATION: PROGRAMS PROMOTING EQUITY AND INCLUSION 11* (2020), <https://iwpr.org/iwpr-general/closing-the-gender-gap-in-patenting-innovation-and-commercialization-programs-promoting-equity-and-inclusion>.

²⁷ *See supra* note 15.

faculty.²⁸ Invent Together encourages the USPTO to continue to grow its network of law schools that participate in this program.

Enhance Outreach and Training Programs to Underrepresented Communities: The USPTO should improve their outreach to underserved communities that historically access federal services at lower rates. To do this, outreach programs should focus on meeting underrepresented communities where they are. For example, the USPTO could hold events at Historically Black Colleges and Universities (HBCUs) and MSIs to promote awareness of the agency's services designed to assist inventors in navigating the patent process. The USPTO should also use online tools, like social media, to better reach younger inventors in particular, and spread awareness about the value of invention and patenting and how to access the agency's services.

Congress has already expressed support for stronger local outreach to better serve small business owners looking to protect their intellectual property. Through the Small Business Innovation Protect Act (SBIPA), passed in 2018, Congress directed the USPTO and the SBA to work together to develop and provide training on intellectual property protections through the SBA's Small Business Development Centers (SBDCs).²⁹ By providing trainings on a local level, the USPTO and SBA can ensure that small business owners from all communities have access to the information and support they need to pursue patents. For the same reasons, the USPTO should also coordinate programming with Women's Business Centers and MBDA Business Centers to train women and inventors of color on IP protections at the local level.

Increase Patent Examiner Diversity: President Biden recently issued an Executive Order (EO) directing all federal agencies to assess the state of diversity within their workforces and identify ways to break down barriers in recruitment, retention, and professional development.³⁰ This EO recognizes the importance of ensuring that federal hiring practices are equitable and barrier-free for historically underrepresented communities. In keeping with this EO, and in evaluating the accessibility of the patent examination process, the USPTO should consider ways to increase the diversity among patent examiners. Researchers have found that only 28% of patent examiners are women.³¹ Hiring more female patent examiners will not only create a more equitable work environment, but may also have positive implications for the patent examination process as well. Research suggests that gender bias may exist in the patent examination process. For example, researchers found that inventors with common female names

²⁸ See *USPTO Adds Additional Schools to Law School Clinic Certification Program*, USPTO (Jun. 20, 2018), <https://www.uspto.gov/about-us/news-updates/uspto-adds-additional-schools-law-school-clinic-certification-program>.

²⁹ 15 U.S.C. § 648c.

³⁰ Exec. Order on Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce (June 25, 2021), <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/06/25/executive-order-on-diversity-equity-inclusion-and-accessibility-in-the-federal-workforce>.

³¹ Deepak Hedge and Manav Raj, *Does Gender Affect Work? Evidence from U.S. Patent Examination*, NYU STERN SCHOOL OF BUSINESS (February 21, 2019).

had an 8.2% lower chance of getting their patents approved.³² Relatedly, they also found that patents that listed common female names were cited 30% less frequently than those held by inventors with common male names.³³ As further evidence of implicit bias, this disparity was reversed when women inventors had less common female names—patents in those cases were cited approximately 20% more frequently than patents listed with less common male names.³⁴

To mitigate these implicit biases, Invent Together encourages the USPTO to increase the gender and racial diversity among patent examiners. We also support the completion of an independent study to examine the presence of implicit bias in the examination process and recommend ways that the process could be reformed to address these issues. As one example, some researchers have advocated for a semi-blind review process whereby inventors are identified by their initials or only their last name.³⁵ Approaches like this would help prevent implicit biases from entering the examination process and ensure that patent applications are reviewed solely for their technical merit.

Increase Patent Counsel Diversity: The USPTO should consider ways to improve diversity within the patent bar. Researchers approximate that only about 18-22% of the patent bar are women,³⁶ less than 6% are people of color,³⁷ and less than 2% are women of color.³⁸ A recent study found that among patent cases considered by the U.S. Court of Appeals for the Federal Circuit, women presented oral arguments only 12.6% of the time; and of the 151 oral arguments in patent cases in front of the United States Supreme Court, women argued only 15 of them (9.9%).³⁹ The lack of diversity among patent practitioners has a concrete effect on inventors and patent applicants in many ways. For example, women patent practitioners can bring substantive expertise to products that cater specifically to women, which benefit the inventors hoping to patent these products.⁴⁰ Women practitioners may also develop more effective client relationships with women inventors, which can in turn help the inventors feel more comfortable seeking patent prosecution assistance.⁴¹ This extends to inventors of color as

³² Kyle Jensen et al., *Why Do Women Inventors Win Fewer Patents?*, YALE INSIGHTS: RESEARCH (April 9, 2018), <https://insights.som.yale.edu/insights/why-do-women-inventors-win-fewer-patents>.

³³ *Id.*

³⁴ *Id.*

³⁵ Jaelyn Alcantara, *The Impact of Implicit Bias on Female Patent Applicants in an Age of Increasingly Vague Patent Standards*, 88 UMKC L. REV. 161, 173 (2019).

³⁶ Saurabh Vishnubhakat, *Gender Diversity in the Patent Bar*, 14 J. MARSHALL REV. INTELL. PROP. L. 67, 72 (2014); Elaine Spector & LaTia Brand, *Diversity in Patent Law: A Data Analysis of Diversity in the Patent Practice by Technology Background and Region*, 13 LANDSLIDE 32 (2020).

³⁷ Spector & Brand, *supra* note 36.

³⁸ *Id.*

³⁹ Paul R. Gugliuzza & Rachel Rebouché, *Gender Inequality in Patent Litigation* (June 2021), at 4, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3871975.

⁴⁰ Eric Goldman & Jess Miers, *Boosting Patentee Diversity By Relaxing the Technical Barriers to Patent Bar Membership* (June 30, 2019), <https://www.uspto.gov/sites/default/files/documents/SUCCESSAct-Goldman-et-al.pdf>.

⁴¹ *Id.*

well who may feel more comfortable working with a practitioner who shares their understanding of the barriers in the innovation ecosystem.⁴²

While the lack of diversity in the patent bar is somewhat reflective of the fact that fewer women and people of color pursue degrees in science and engineering—background which is required to sit for the patent bar examination—many have attributed the small number of diverse patent practitioners, in part, to the scientific and technical qualifications set out by the USPTO. There are three categories by which an applicant can demonstrate the necessary qualifications to sit for the examination: (1) Category A: a bachelor’s degree in specified scientific and technical disciplines; (2) Category B: a bachelor’s degree in an unlisted subject and have taken a combination of technical and scientific courses with a lab component; or (3) Category C: pass the Fundamentals of Engineering exam.⁴³

To take one example of how this process indirectly disadvantages women, the undergraduate degrees that automatically qualify an applicant for exam eligibility under Category A favors majors that are more commonly chosen by men, such as engineering and physical sciences. In contrast, women have greater representation in advanced degree programs, which are not granted automatic eligibility even in those same Category A fields, and undergraduate design-related degrees, such as mathematics, psychology, nursing, and biological sciences.⁴⁴ By expanding the list of degrees eligible for Category A automatic qualification, the USPTO could diversify membership in the patent bar, while also broadening the expertise of the patent bar.⁴⁵

Invent Together was pleased to see the USPTO’s recent Request for Comments on proposed changes to examination eligibility.⁴⁶ Echoing the call from Senators Hirono (D-HI), Tillis (R-NC), and Coons (D-DE) for the USPTO to reevaluate patent bar eligibility criteria,⁴⁷ we support both near-term reform and regular review of the patent bar examination requirements to ensure that they do not exclude qualified individuals from membership in the patent bar.

⁴² Matthew Bultman, *For Black Inventors, Road to Owning Patents Paved with Barriers*, BLOOMBERG LAW (July 14, 2020), <https://news.bloomberglaw.com/ip-law/for-black-inventors-road-to-owning-patents-paved-with-barriers>.

⁴³ See USPTO, OFF. OF ENROLLMENT & DISCIPLINE, GENERAL REQUIREMENTS BULLETIN FOR ADMISSION TO THE EXAMINATION FOR REGISTRATION TO PRACTICE IN PATENT CASES BEFORE THE UNITED STATES PATENT AND TRADEMARK OFFICE (2021).

⁴⁴ Mary T. Hannon, *The Patent Bar Gender Gap: Expanding the Eligibility Requirements to Foster Inclusion and Innovation in the U.S. Patent System*, 10 INTELL. PROP. THEORY 1, 13 (2020).

⁴⁵ *Id.*

⁴⁶ ADMINISTRATIVE UPDATES TO THE GENERAL REQUIREMENTS BULLETIN FOR ADMISSION TO THE EXAMINATION FOR REGISTRATION TO PRACTICE IN PATENT CASES BEFORE THE UNITED STATES PATENT AND TRADEMARK OFFICE, 86 Fed. Reg. 15467, <https://www.federalregister.gov/documents/2021/03/23/2021-05940/administrative-updates-to-the-general-requirements-bulletin-for-admission-to-the-examination-for>.

⁴⁷ U.S. Senate, Letter to USPTO (Dec. 11, 2020), <https://www.ipwatchdog.com/wp-content/uploads/2020/12/2020.12.11-Letter-to-PTO-re-Patent-Bar-Gender-Gap.pdf>.

Recommendations for the Small Business Administration

These recommendations are responsive to Notice Areas (2), (4), and (5).

The Small Business Administration plays a critical role in ensuring that entrepreneurs and individual inventors have the support they need to commercialize their inventions and succeed in the marketplace. Invent Together strongly supports SBA's efforts to engage with underrepresented communities through their outreach and education programs, as well as their work in overseeing the Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) programs. The SBIR and STTR grant programs enable small businesses to determine whether their inventions can be commercialized. This opportunity is critical for small business owners, particularly women and people of color, who lack funding to support their R&D. Invent Together also supports the passage of the bipartisan, bicameral Research Advancing to Market Production (RAMP) for Innovators Act, which would require each agency participating in the SBIR/STTR programs to designate a Technology Commercialization Official to help awardees commercialize their projects and to conduct an annual commercialization impact assessment.⁴⁸ With the SBIR/STTR program set to expire in September 2022, Invent Together supports the reauthorization of the program. Invent Together offers the following recommendations to expand SBA programs and better tailor services to underserved communities.

Expand Technical Resources for Underrepresented Inventors with Small Businesses: SBA should ensure that its small business technical resources, including the SBA Learning Center, the SBA Business Guide, and the SBA Emerging Leaders curriculum, include courses on IP protection to ensure that diverse small business owners have access to information about the benefits of patenting to them and their businesses.

Expand Outreach to Underrepresented Populations: SBA and all SBIR/STTR participating agencies should develop outreach and education programs focused specifically on expanding the participation of underrepresented populations. Building on the success of the SBIR Road Tour and Regional SBIR Weeks, these programs should include a regular "road tour" of SBIR/STTR program managers to minority-serving institutions, such as HBCUs and other organizations that serve underrepresented entrepreneurs. SBA and SBIR/STTR participating agencies should also recognize diverse awardees in success stories and other public communications to encourage broader program participation from diverse communities.

As directed by Congress in the SBIPA, SBA should also continue to work with the USPTO to develop and implement local IP trainings.⁴⁹ These on-the-ground trainings will provide a key opportunity to connect with inventors and entrepreneurs in their own communities and spread awareness about the other resources available to help support their businesses.

⁴⁸ H.R. 652, 117th Cong. (2021).

⁴⁹ 15 U.S.C. § 648c.

Provide Greater Assistance to First-time and Underrepresented Applicants: First-time and underrepresented SBIR/STTR program applicants at all participating agencies should receive “Phase 0” assistance, similar to the support offered by the Department of Energy, to assist applicants with developing competitive Phase I SBIR/STTR applications. SBA could administer this assistance to support agencies with smaller budgets and fewer program personnel. As an incentive to participate in Phase 0 assistance programs, the Administration could offer a longer application timeline to program participants.

Engineer Bias Out of the SBIR/STTR Program Application Process: For a more equitable application review, participating agencies should increase the diversity of application review pools and conduct blind reviews of technical merit sections of applications when feasible. The National Academy of Science should also study the SBIR/STTR program application and appeals processes, including the demographics of SBIR/STTR program applicants and awardees, to identify potential biases or barriers to participation and ways to mitigate them.

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Thank you for the opportunity to share our views on how to make federal agency programs and services more responsive to the needs of America’s diverse communities. Invent Together looks forward to continuing to work with the Administration to advance diversity and inclusion among patented inventors, and ensure that inventors of all backgrounds can participate fully in inventing and patenting.

Sincerely,



Holly Fechner
Executive Director
Invent Together