



America's Racial Gap & Big Tech's Closing Window

Digitization and the Racial Gap

The exponential growth of the digital economy is going to leave large chunks of minorities with little or no access to jobs. We conduct a bottom up societal study and it shows that 76% of Blacks and 62% of Hispanics could get shut out or be under-prepared for 86% of jobs in the US by 2045. If this digital racial gap is not addressed, in one generation alone, digitization could render the country's minorities into an unemployment abyss.

Minorities & Tech Connectivity

We went into the study expecting a gap, but the data is far more glaring. Due to the structural and infrastructural inequities, Blacks and Hispanics are 10 years behind Whites in levels of broadband access and almost 4 times more Blacks have poor Tech connectivity than Whites.

Is Data privacy the Seminal Tech question of our time?

Contrary to the national conversation on Privacy and Big Tech, just over 1 out of 20 Blacks feel privacy is a primary concern as it relates to Tech.

November Elections & the Shift from China to Big Tech

We believe that regardless of who wins in November, national scrutiny is going to turn away from China and onto Big Tech & Digital Inequality. Only 1 in 3 Americans now hold a positive view of Big Tech. The window for Big Tech is rapidly closing.

What should Big Tech Do?

Can Big Tech given its windfall of recent success post Covid, pre-emptively step in and help reduce the digital gap? With a cost of \$15 Billion over the next five years, Big Tech could start to make an impact on the racial digital divide. That is less than 1% of the \$2 Trillion increase in Big Tech 5's market cap during Covid. We believe such an initiative could create a decisive precedence, dramatically increase goodwill, and position Big Tech as part of the solution instead of being increasingly seen as part of the problem. In essence, this could reduce or mitigate the potential costs of ongoing and upcoming scrutiny of these companies.

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Digitization and the Racial Gap

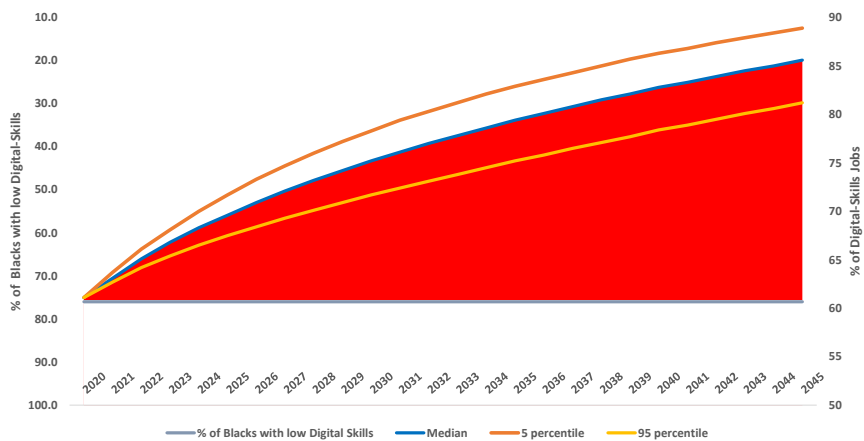
We conduct a bottom up societal study speaking with Technology managements, HBCU professors, policy makers, minority business owners and several representatives of minority and BIPOC leadership.

We ran a Monte Carlo and job web-scrape data based study on digitization of the workforce and its impact on minorities with the passage of time.

It shows that 76% of Blacks and 62% of Hispanics could get shut out or be under-prepared for 86% of jobs in the US by 2045. If this digital racial gap is not addressed, in one generation alone, digitization could render the country's minorities into an unemployment abyss.

The current inequity in positions of influence when intersected with mass unemployment among minorities in one generation will have many spill-over effects. Asset price volatility is a powerful energy, and when it is suppressed in markets due to central bank liquidity or buybacks, it needs to find a home, and that can be outside the market in society, especially a very inequitable society. That vicious loop can then turn back into asset prices.

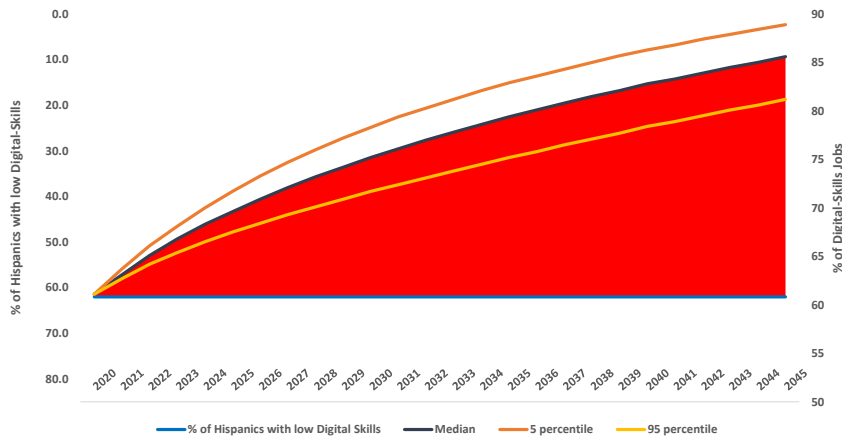
Figure 1: Employment Skill Gap for Blacks



Source : BLS, Deutsche Bank Research



Figure 2: Employment Skill Gap for Hispanics



Source : BLS, Deutsche Bank Research

Bootstrap Modeling Methodology

- We project the diffusion of demand for digital skills in the US workforce utilizing a bootstrap Monte Carlo simulation study, BLS skill statistics, labor turnover statistics and demand for digital skills to arrive at our estimates and calibrate our models.
- We estimate that at present close to 69% of new jobs require mid to high level digital skills whereas close to 61% of current jobs require mid or high level digital skills.
- The two key ingredients to understanding diffusion of skills in the workforce are labor turnover and demand for digital skills.
- We model diffusion as: $\% \text{ low digital skill workforce next year} = (1 - \text{labor turnover}) * (\% \text{ low digital skill workforce this year}) + \text{turnover} * (\% \text{ demand for low digital skill workers this year})$.
- The demand for low digital skill workers in the economy is modeled as a diffusion with iid log normal shocks. The distribution is calibrated from labor turnover and other data about evolution of percentage of the workforce requiring minimal digital skills.
- In our simulations, we bootstrap the labor market turnover statistics using BLS employee tenure survey and labor turnover data. The two shocks combined yield the diffusion of overall workforce employed in low digital skill jobs.
- The simulations are run for a period of 25 years and 90% confidence bands are presented. Based on our estimates, close to 86% (up from current 61%) of the workforce would be employed in jobs requiring non trivial digital skills. Demand for workers with low level digital skills would also decline to about 12% (from current estimated 31%).
- High-Level skills: Coding, Higher order Math, Specialized STEM education, Masters Degree or Higher
- Mid-Level skills: Productivity software, CRM specialized software, occupation specific technology and software skills (Healthcare, Engineering, Digital Media, Social Media, Energy etc)
- Low level skills: Email, smartphone apps, online communication, no digital skills.

The Racial Gap in Tech Connectivity

We went into the study expecting a gap, but the data has been far more glaring. Due to the structural and infrastructural inequities, Blacks and Hispanics are 10 years behind Whites in levels of broadband access. In the era of Tech innovation, a year can be a lifetime. The impact of being 10 years behind is a staggering manifestation

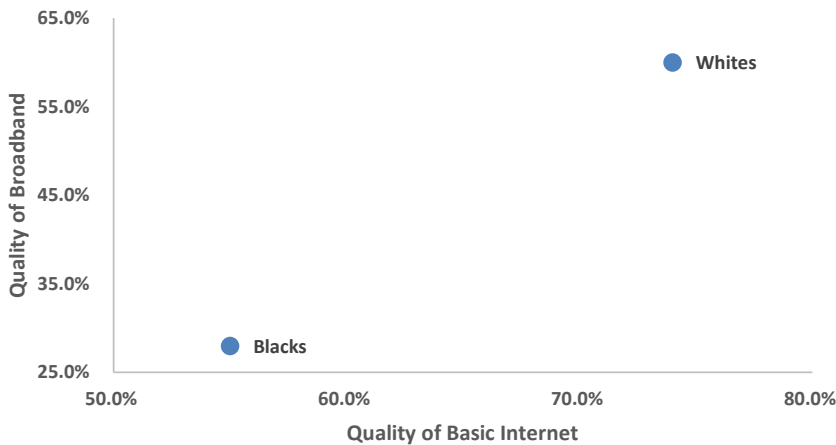


of multiple aspects of economic and societal development. We coordinated with DbDIG to conduct surveys and they show close to 4 times more Blacks have poor Tech connectivity than Whites.

Following charts show the gap in Tech runs wide among racial lines. The inequity permeates quality of internet access, ownership of Tech gadgets hardware and basic levels of broadband access. Minorities, especially Blacks and Hispanics seem to be playing catchup year after year.

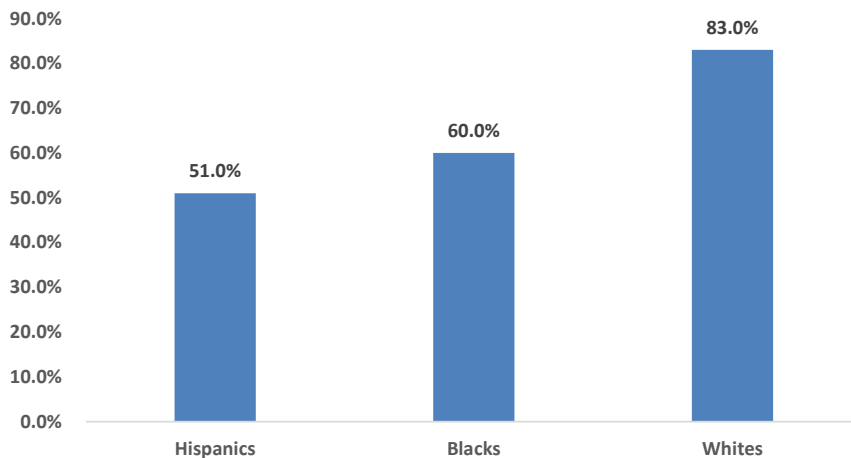


Figure 3: Quality of Internet Access versus Quality of Broadband by Race in US



Source : dbDIG

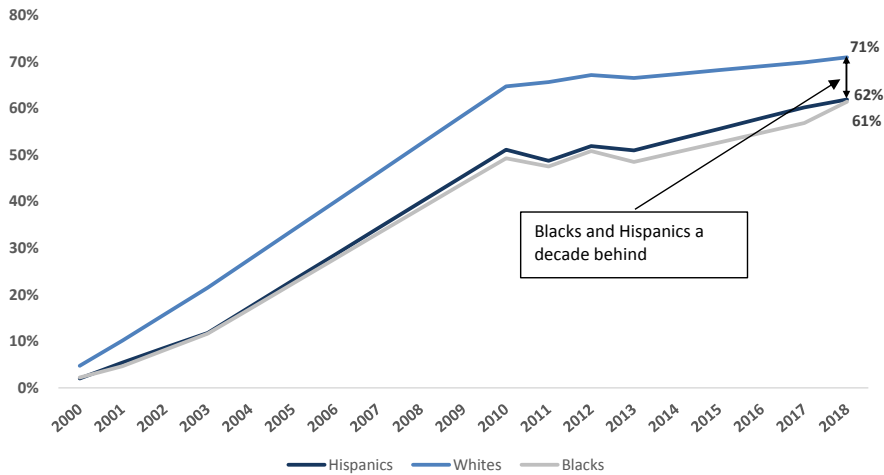
Figure 4: Personal Computer Ownership in US



Source : dbDIG



Figure 5: Broadband penetration among US households by Race



Source : NTIA

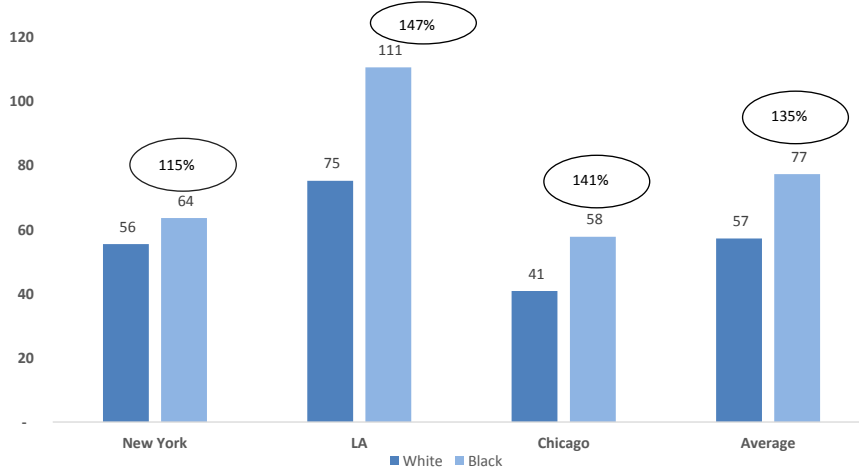
Covid put the Mirror to the Digital Reality

The racial digital gap was given a reality test by the onset of Covid. Geolocation data across major cities confirms the striking disparity we see in our anecdotal and quantitative studies. Using machine learning and analyzing hourly cellphone mobility & activity in coordination with DbDIG, we examined the movements in majority Black areas versus majority White areas across the 3 major cities in the country – New York, Los Angeles and Chicago. These cities have large diverse populations and neighborhoods and we believe should serve as good proxies on the movement of the varying populace groups in the country. We focused on the months before Covid and peak Covid.

Across all 3 cities, we see significantly higher mobility during peak Covid lockdowns in Black neighborhoods than in White neighborhoods. The average of the three is a breathtaking figure for the month of April, the peak of Covid lockdowns. Blacks had to venture out of their homes 135% more than Whites compared to pre Covid levels, during the riskiest of times across the cities. We believe this is an accurate representation of the state of the racial digital divide in the country. Clearly, poor access to Tech connectivity & work-from-home jobs rendered minorities with few choices but to venture out of home to make a living, even with peril to their lives.



Figure 6: Mobility levels of Blacks vs Whites in April 2020 (vs. Pre Covid)



Source : dbDIG, Deutsche Bank Research

A Big Tech Consensus Narrative Not So?

Meanwhile, the national conversation on privacy as it relates to Tech and the global focus with GDPR and CCPA remain front and center. The recent Tik Tok ban due to espionage fears resonates the privacy concerns in the country. Contrast that to just over 1 out of 20 Blacks citing privacy as their primary concern when it relates to Tech and one wonders if one is living in two different countries.

Clearly, there is complete disconnect with the policy makers understanding of minority community issues and what is largely discussed in the national discourse when it comes to Big Tech. Our understanding of this glaring inconsistency is that it's not that privacy is not important for Blacks and minorities. But, if one is concerned about basic Tech connectivity, access to Tech training, ability to muster Tech skills and other several structural and infrastructural inequities for survival, then the issue of privacy becomes a luxury. In the pecking order of what is important, the ability to have better connectivity and Tech skills rank much higher for Blacks and minorities than issues such as privacy and seemingly other priorities of Big Tech.

Meanwhile, study after study shows that access to Tech connectivity and Tech skills improve one's earnings and net worth significantly. Our quantitative studies and surveys show a clear relationship between Tech Expertise and Higher Training with an increase in income levels across all races, with minorities seeing the biggest jump.

Can the Racial Digital Gap be Addressed?

So now we have identified the problem, seen a possible solution, why is then so difficult to solve it? The most important aspect of fixing the digital racial divide would be to address it in a bottom-up, holistic and ecosystem based approach. Address the inequity at the roots, so the 10 years Technology connectivity race gap one see nationally is mitigated earlier in the journey of life. Almost every professor we spoke to cited the digital divide during childhood as the cause of so many societal imbalances in today's digital age.



The inequity is spread across three spheres - access to Tech, Tech Training and Hardware. A simple 5-year program that seeks to reduce the gaps in the three areas targeting the underprivileged households among the Black and Hispanic communities would cost approximately \$15BN.

Racial Digital Gap Initiative

We look at Black and Hispanic households with an annual income of <\$30K, or about 10 million households as the target group for this program. More than half the households do not have a fixed broadband connection. Affordability is a major constraint and while there are ongoing Federal programs that provide a subsidy on telecom services, they have not gained momentum due to various factors including lack of awareness, affordability, inherent bureaucracy and lack of mentorship.

The first part of the program would be to offer broadband connections to these currently unconnected households. Major broadband service providers currently offer a basic broadband plan for underprivileged households \$10-\$20/month (plus taxes). That would entail an annual cost of \$1BN or \$5BN over the duration of the program.

A similar proportion of households do not own a computer. The second part of the program would be to provide a basic computer to these households. We estimate that the program supply a computer with basic specifications for a cost of around \$150, one-time cost of \$1BN.

The provision of connectivity and hardware for these households would go some way in bridging the gap. However, the most consequential part of the program would be the third part - a one year tech training module targeting middle and high school students from all Black and Hispanic households with annual income below \$30K. The training module could start to provide a foundation to tech skills, covering range of topics from basic computer literacy to professional computer applications to coding skills.

Over the 5 year duration of the program, one would expect to cover nearly 6 million students. Given the scale of the program – one would expect more than a million students undertaking the training annually – the mode of training would be online with active teaching and mentorship from qualified tutors. For adults, the program would provide a large repository of online self-learning resources with guidance on skillsets relevant to their career. We estimate the cost of training program to be around \$9BN and model annual administrative costs of running the program at around \$50M. The three parts would come to a cost of \$15 Billion spread over five years.

Such an initiative would be by no means be exhaustive or help reduce so many other structural issues that hinder societal equity. But given Technology's role in current day growth dynamics, an early start in Tech to communities that are 10 years behind in connectivity could cascade into many other growth propellants of economic development. There are many programs that currently exist in principle which aim to address the digital racial divide, but one that is sustained, committed and backed by cash rich companies is still conspicuous by its absence.

So why should Big Tech help?

The common wisdom for a powerful industry with a windfall of success is to fund super PACS and individually lobby lawmakers to shape public policy. That is the K street way. The Net Present Value of that strategy seems to be higher than other lobbying methods, or so is conventional wisdom?

We believe that regardless of who wins the elections in November, scrutiny is going to turn away from China and onto Big Tech & Digital Inequality, especially Digital Racial inequality. Our study shows that only 1 in 3 Americans now hold a positive view of Big Tech. If one contrasts this to Americans anger towards China, our report in July ([The \\$3.5 Trillion Tech Cold War Fallout](#)).showed 41% of Americans stating

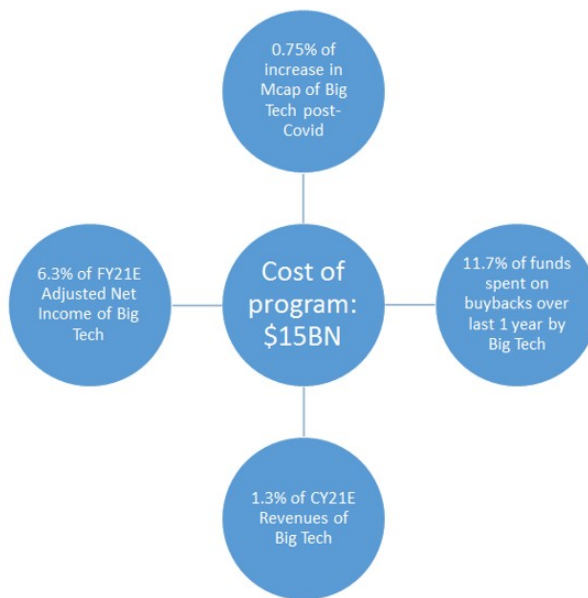


they won't Buy Made In China products.

The striking disparity Covid has showed between the haves and have nots and how that intersected the racial disparities of the country has given many a look on how digitization may impact society in the future. As we emerge out of Covid, the shift in the national sentiment on Big Tech is occurring faster than current market expectations and it seems to span party lines and political affiliations. It is only a matter of time that the political winds will accelerate and different steps of Anti-trust enforcement, Platform Utilities designation, Digital Tax, Annual Revenues Tax, ESG multiple compression and other fines may be coming Big Tech's way. The window for Big Tech is closing rapidly.

We believe Big Tech can do it differently to what previous industries have done at such a juncture of their growth cycle. It can step in and make a sustained effort to reduce the digital racial gap and by doing so, create a decisive precedence, dramatically increase goodwill, and position itself as part of the solution instead of being increasingly seen as part of the problem.

Figure 7: How much is \$15 Billion to Big Tech



Source : Bloomberg, Deutsche Bank Research

The \$15 Billion initiative we envision is under 1% of the increase in the \$2 Trillion market cap the Big Tech 5 have had since Covid. What we envision is by no means a Robin Hood measure, but rather a nuanced approach that we believe weighs the risk-reward of such an initiative. In recent months, we have seen an upsurge in Big Tech individual commentary toward the racial gap but have not seen a cohesive effort, akin to their solidarity in the joint panel before the Hill hearings.

There are no guarantees in life or investing, but for Big Tech to come together and find a solution or a small step in the direction of the solution to one of the most egregious divides in our society could change the national discourse on these companies. And that would only boost their long term prospects and returns.

Acknowledgements: I would like to thank my Black & BIPOC friends, family and



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Appendix 1

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