Can addressing inequality unleash economic growth?

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Abstract

Barriers to entering the field of invention have led to negative outcomes for individuals and for the economy. We built a vibrant middle class in the post-war era because we started to tear down many of the barriers that had kept women of all races and men of color from contributing their full talents. A quarter of the growth in aggregate output from 1960 to 2010 can be explained by improved allocation of talent. We didn't finish the work. We allowed barriers to opportunity to return, or new ones to grow up. This turned out to be a tragedy, not only for those people who lost their livelihoods, but also for the economy. Policy can make a difference. The Civil Rights Act really did make a huge difference in the opportunities and gains for Black Americans and for women. Subsequent advancements in automation and trade, which left a lot of workers behind, were not accompanied by changes in policy to help those workers adapt. One thing that we know is that, especially in laboratories or patent teams where people are working together, equality of opportunity is much more than just getting things like as many job interviews. Women and underrepresented minorities are not pulled in and kept in the same way as others. We may, in fact, as a society be underinvesting in the people who could be creating the companies that would be creating the jobs that put those people to better use. A key concern now is that this could be a recession that would harm pathways to the middle class for a long time.

Keywords Innovation · Patents · Discrimination · Inequality

DR. LISA D. COOK:

Thank you, Nela, and thank you all for the opportunity to speak to NABE this afternoon. In my research using patent data from 1870 to 1940, I find that barriers to entering the field of invention led to negative outcomes for individuals and for the economy.

That is, not only were African-American inventors discouraged from participating in the field of invention, but all of us miss out on the free flow of ideas that undergirds innovation, higher growth rates, and higher living standards. Specifically, I find that this amounted to losing the same

number of inventions as a medium-sized European country during that period.

In macroeconomics, we are learning more about the historic misallocation of talent. Hsieh, Hurst, Jones, and Klenow, in a 2018 paper, analyzed gender and racial distributions for higher skilled occupations in the last 50 years. They show that a change in occupational distribution since 1960 suggests that substantial pools of innately talented women and African-Americans in 1960 were a result of not pursuing their comparative advantage.

So misallocation of talent, in their view, affects aggregate productivity in the economy. A quarter of the growth in aggregate output from 1960 to 2010 can be explained by improved allocation of talent. My coauthor, Yanyan Yang, and I find that GDP per capita could be 0.6% to 4.4% higher, again, if more women and minorities participated in the innovation economy. Indeed, the evidence is mounting that addressing inequality can unleash the economy. Thank you.

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JIM TANKERSLEY:

I am just delighted to be talking to you about this topic, because I feel very strongly about it. I think it is one of the great emerging lessons of economic research, so this is a particular pleasure.

I wrote a book, *The Riches of This Land*, about exactly the sorts of trends that Dr. Cook was just talking about. I started off trying to figure out what has happened to the great American middle class that we built after World War II?

Why has it not continued to flourish in the way I think all Americans hope and expect that it will? And in fact, why have so many millions of Americans been left behind and not entered the middle class over the last several decades, including through the course of what are now two once-in-a-lifetime recessions in just a little more than ten years?

I started off with that question, what happened to the middle class? And the answer turns out to be a lot of inequality. Not so much about the inequality that so many politicians talk about, about the very rich and everyone else, but about the inequality of opportunity for, very bluntly put, white men and everyone else in this country. Guys who look like me who went to college, and everyone else. And it turns out, as Lisa was saying, that the research is very clear. We built an amazing, strong, vibrant middle class in the post-war era because we finally started to tear down many of the barriers that had, for generations, for the duration of American history, kept women of all races and men of color from contributing their full talents to our economy.

In 1960, something like 19 out of every 20 American doctors and lawyers were white men. And not 19 out of every 20 Americans were white men, nowhere close to it. That's an incredibly inefficient distribution of talent. In the course of the opening opportunities of the war effort and its aftermath, and much more so resulting from the hard work of civil rights, women and men of color started to rip down those barriers.

They started to fight their way into higher, better paying jobs, into more education, more opportunity. The good news is that is a huge part of why we built that great middle class. The bad news is we didn't finish the work. We allowed those barriers to opportunity to return, or in some cases, new ones to grow up over the ensuing decades.

Today we are faced with both the challenge of an economy that's not nearly as productive as it should be because so many people are still held back by discrimination, whether that's overt or not in our, in our institutions. But we also have the opportunity to make use of this enormous storehouse of American talent that is just waiting to be fully realized, fully unleashed, upon our country. When it does, I think the research is really clear, we can have the sort of productivity boom again that we had in the post-war era. I think racial and gender equality really does contribute to economic growth.

NELA RICHARDSON:

In both of your research, you go backwards to go forward. Jim, you go back to World War II and you start from there.

Dr. Cook, you go back much further. You're an economic historian, and you talk very emphatically about the emotion tied to violence and innovation in the late 19th century and early 20th. Your groundbreaking research shows that arc between African-American innovation at that time and violence.

It really sets the stage, especially this year, when so much of the social upheaval has also been tied to violence against African-Americans. It sets the stage for this relationship between innovation and inclusion now. Could you walk us through that foundational work in terms of innovation and violence back in that time period?

LISA D. COOK:

Certainly, I can. What I noticed in the patent data was that all inventors in the US were living in the same place. African-American inventors had moved to these places, like the Midwest and the Mid-Atlantic region, just like the other inventors,

They were all motivated by ideas, by the notion that inventors had something to contribute to the economy. They were highly mobile, and they responded to incentives. If there were more engines that needed to be created, they had them ready. More light bulbs, had them ready.

One thing that I found extremely interesting was that in 1899, well, 1900 to be precise, you see these trends diverging. You see them converging, but then you see them diverging after 1900. And it's really striking because they have so many of the same skills.

Why would one set start doing something and others start doing something else? What we see is a dramatic drop in the inventors and inventions among African-Americans. 1899 is still the peak per capita for African-American invention.

It recovered a bit during the period of extreme violence. The measures of violence I use are riots, lynchings, and segregation laws. So patenting started coming back a little bit, but then there was Tulsa. And then you don't see this full recovery.

Again, using 2010 data, 1899 still turns out to be the peak per capita for African-Americans. And like I said, this turns out to be a tragedy not only for those people who lost their livelihoods, but also for the economy. This is equivalent to losing a small, medium-sized European country.

During that time, think about it, some of the best-known inventions were created. The gas mask, that was Garrett Morgan. The street light, that was also Garrett Morgan. And he was absolutely adept at changing his method of being and operating to adjust to growing consumer-side discrimination.

He pretended to be a Native American chief. He had white men pretending to be him to sell his gas mask. He knew that once anybody found out that a Black person was the inventor, that the sales would fall.

He had an experience with this after a tragedy under Lake Erie. After this big accident under Lake Erie, his picture appears in the paper with his brother, and the gas mask. Southern fire departments canceled these orders.

But think about who actually took it up? The British. The British bought the gas mask and started testing it in the field, before and during World War I. So while we were over here playing around and making sure that this wasn't disseminated, this life saving device wasn't disseminated, the British were trying to figure out how it could save lives.

That's what I mean by unleashing the economy. We can do this, and we've seen it before. And like Garrett Morgan, we can be resilient. But we can also figure out ways to channel positive energy and make sure that everybody can participate in the innovative process.

NELA RICHARDSON:

Does disregard for patents and property rights, owned or invented by African-Americans, show up in the present day? Is that something we're still dealing with, or have we put to bed that concern about institutional protection for minority innovation?

DR. LISA D. COOK:

It depends on which institutions you're talking about. Now, if you're talking about the patent office, I would say that that's probably the case. I think that it would be quite difficult to know the race of an inventor, because race isn't recorded on a patent. So nobody should know that.

But there are other institutions whereby property rights might be violated. If you feel insecure in your neighborhood, you might invest less in your neighborhood. You might not talk to your neighbors as much. And in 1890, it was imperative that people talk to their neighbors. Because their neighbors were also inventors. They were showing up at the library together. If you feel alienated from your communities and your networks, then that can be an impediment to participation in the innovative process.

Certainly, institutions like banks have a history of systemic racism. And we see that now with the PPP. One reason that a lot of African-American businesses weren't able to access the PPP is because of this existing, longstanding systemic racism in big banks. So I would say that property rights, depending on how you define them, might still be in play, and might still be an impediment to robust participation in the innovative process.

NELA RICHARDSON:

Jim, I'd like to bring you in here, because you date back to World War II. So not quite as far back. My grandfather was a World War II vet. When he came back, he didn't enjoy the GI Bill, and there wasn't a low-cost mortgage waiting for him, and a job. Those benefits that were conferred and built the white middle class were often denied to African-Americans and other minorities. I'd like to bring you in to discuss your view of how inclusion actually built the middle class.

JIM TANKERSLEY:

I think the story is maybe a triangulation of the things you've just said. I think there was a lot of inclusion that happened in the post-war era, in spite of the policy impediments. It is remarkable the gains that Black men made in that era given the disadvantages they had coming back with the lack of access to the GI Bill, for example.

Interestingly, I think that what we saw, in both the cases of women of all races and then men of color, was a real innovative ability to take advantage of the opportunities the economy did give them. So during World War II, there's obviously a big war effort. Women were pulled into the workforce fairly dramatically, to power the factories and the office jobs and everything else, while men were off fighting. They didn't all recede after the war ended. In fact, women kept making gains and between 1950 and 1980, almost 30 million women joined the workforce.

That was largely white women, by the way. Black women had been working outside the home in huge numbers throughout history. But they were also able to fight their way into better jobs because they had shown they could do it. In the same way, Black families were able to fight their way into middle class neighborhoods, in part because white families were leaving them.

Part of my book is set in Queens in the '60s. A lot of white families, with the benefits of the GI Bill, were leaving for Long Island. In their place, a lot of Black families built up a middle class in Queens. They did that without those same benefits. But what we saw, though, was that the Civil Rights Act really was this incredibly impactful piece of economic legislation. It really did make a huge difference, at least briefly, in the opportunities and gains for Black Americans, and again, for women across the board.

So policy really can matter. Policy can make a difference. That doesn't always mean policy is fair, or that it doesn't perpetuate more discrimination.

To this day, I think as a legacy of redlining and other things that came after the war, you see that it's much harder for Black families to build wealth in their homes. In a majority Black neighborhood the homes in it are worth

less than in a comparable majority white neighborhood. There's great research from Brookings on that a couple years ago. It's nothing short of a failure of policy that compounds over time.

I agree with you that the policy improvements that helped build the middle class were totally unfair to Black Americans. It's also true that Blacks powered middle class growth with their own advancements in spite of that. I think that's remarkable, and actually just shows even more how much potential we have for unleashing this second wave boom, by reducing more of the barriers of discrimination against them.

NELA RICHARDSON:

One more problem question for you. What changed? When did that resilience of the middle class and building the middle class, both by white America and by minorities, stop its momentum? What happened there?

JIM TANKERSLEY:

I think a bunch of things happened. In journalism, you always are trying to find that one perfect turning point. Like, in 1981, in November, some guys huddle in a parking lot and they..., no. Most of the time that's not true. This is the case here. But I think there are some very important sign posts along the way. The short way of saying it is policy changed, and the nature of the economy changed, and policy didn't keep up. Both those things in tandem.

The Reagan administration rolled back some of the work of the Civil Rights Act. It challenged affirmative action in court. It launched a war on drugs that was very much stacked against Black men, and led to real setbacks for the economic fortunes of Black America for a generation. Then the work of civil rights was not completed.

We did not equalize opportunity of education or of work in this country. Then the economy starts to change, and it starts to change in pretty profound ways, away from a production economy toward a service economy, toward a more globalized economy. I think the advancements in automation and trade, which left a lot of workers behind, were not accompanied by changes in policy to help those workers adapt, or to take advantage of the skills of the workforce that we have.

I think the example I like to cite the most here, because I think it's just a crucial misstep by policymakers for years now, is that women in this country are, hands down, are like a secret weapon, our skilled labor force. They are more educated. They are more skilled. And yet, they have had declining labor force participation in recent years, and they are not nearly as well-represented or as well-compensated as you would expect, given their education levels. And some,

if not much of that, stems from the way we handle childcare policy in this country.

For women with children, we make it difficult for them to have affordable access to childcare, and we make it very difficult for them to stay on their career tracks and continue to earn high wages. They just pay a huge penalty. I think that's a policy failure.

Let's not get into the solutions about that. But if we're asking about what went wrong, I think we have to look at the ways in which we started closing doors of opportunity, the ways in which we did not finish the work of opening new doors to opportunity, and we have to look at the ways in which just the entire landscape changed and policy didn't keep up from the standpoint of those workers who were being left behind.

NELA RICHARDSON:

Dr. Cook, I've heard you talk about hidden figures. So I want to combine these two worlds, about an inclusive, a resilient middle class, and then innovation. And to do that, I want to piggyback on Jay Powell's comments at the beginning of the conference, when he said that for those low income workers, the number of front-line service sector jobs is 20% lower than February, compared to a 4% decline in other jobs.

He also said that that holders of low income jobs are more likely to be minority and women. I'm one of those women now where my kids are at home, as we video conference this. Some women are having to drop out of the labor market because of COVID-19 and what that has meant for schools.

I also want to just pull in that we're seeing, to Jim's point, more women going into STEM fields, but we're not seeing the correspondent growth in female-owned patents. In this moment of such a just uneven economic recovery that is still in the early stages, how does innovation help us as an economy grow, and pull women into the front line of innovation and technology?

DR. LISA D. COOK:

I can offer one initial thought. One of the biggest solutions that I have been proposing in various policy papers that I put forward recently is improving the workplace environment for women and minorities. That means reducing discrimination, overt or otherwise, and improving, say, childcare policies.

One thing that we know is that, especially in laboratories or patent teams where people are working together, women and underrepresented minorities are not pulled in and kept in in the same way. Certainly in the visits that I used to have, annual visits to Silicon Valley to talk to my friends about my work, to try to understand some of the results I was getting, they would tell me that, and these were all guys.

All of them went to Berkeley (or Stanford) with me at some point. They would tell me that women were disadvantaged because if they left the team, say at 7:00 p.m. to go take care of their families, they didn't get the Fruit Loops at 9:00. They didn't get the workplace gossip.

They weren't able to have these chance meetings in the hallway that progressed some of their work. And they said, flat out, that was a detriment. They didn't tell me their role in advancing that, or trying to stop that, but anyway, that's beside the point.

I'm saying that this seems to be fairly regular phenomenon, that women and underrepresented minorities aren't supported once they get into these roles. We know that they're often not in technical roles, say in tech firms. So there's just got to be a broader thinking about who can contribute. That's the whole point of my research. You want to make sure that you have maximum flow of ideas. And you also want to make sure that you're not leaving money on the table. This is what I was struck by: I have some research that says that coed patent teams or mixed gender patent teams are more productive than single sex male or single sex female. Why on Earth would you ever not have diverse teams? It means that you're not being a good steward of the resources of the firm.

If I were a shareholder, I would question your abilities as a manager if you're leaving money on the table. I would suggest that we reassess how we're holding accountable our shareholders, and our managers at every level. We've got to change the environment from top to bottom, from CEOs, from founders who are trying to get money from these CEOs and are being underfunded, to those who are just trying to be graduate students on patent teams at the graduate level. We've got to do it everywhere.

NELA RICHARDSON:

Fantastic. Jim, could you weigh in?

JIM TANKERSLEY:

I actually would love to riff on her tech and innovation response, because I think it's crucial. It's the missing piece of what's made this particular era of the middle class so disappointing. At past times in American history, the destruction of good jobs for a particular class of workers has ended up leading to the creation of better jobs that make better use of those workers, the move from farm to factory being the most notable of those.

What we've had in this destruction of, in particular manufacturing, but other sorts of middle skill jobs in offices, or in blue collar fields, is a devaluation of workers. They have not, for the most part, gone on to better jobs. Better jobs have not appeared. I think there's an innovation reason for that.

I think that we may in fact as a society be underinvesting in the people who could be creating the companies that would be creating the jobs that put those people to better use.

I'm a human labor optimist, and think that there are still wonderful higher callings for people who lost those jobs over time. And I think in this case that the answer is clear who we're underinvesting in. I mean, women are criminally underinvested in by venture capitalists.

I mean, whether it's female only firms or founding teams, or mixed gender teams, they are, like, 15% of all venture capital. And the rest just goes to teams of all dudes. And that doesn't, again, doesn't seem like a normal distribution of funding to me.

And I think if we look across at other types of funding for startups, or just small businesses, it is still disproportionately going to white men. I think that that is a lost opportunity for the sort of job and industry creation that would put those workers back to work, and in a way that is positive and growing for the middle class.

NELA RICHARDSON:

There's a question from our viewers. Does addressing inequality focus on addressing equality of opportunity? Or does it try to create equality of outcome? And it's to either of you.

DR. LISA D. COOK:

I think as an economist I have been trained to think mostly about equality of opportunity. We have watched what that has produced. It hasn't produced equality of outcomes, of equity of outcomes. Because if you're providing the opportunity, what you're saying is that the pipeline is fine. The path to getting there is fine. And that's the opposite of what I heard from Black inventors, Black founders, Black employees in tech companies when I have been investigating them. They speak to barriers at each stage. You know, a leaky pipeline in the first place.

We have this well-known research whereby, it's an audit study, students inquire with professors about doing a PhD in that person's field. And you can only guess what happens. And this is the issue, we're socialized in a certain way.

Not only were, predictably, women and minorities' emails not answered, they weren't taken seriously.

But there wasn't much difference between the white professors and the women and minority professors. So this is a systemic problem. I would say that we have to work first on the equality of opportunity, but we've got to understand where that breaks down. And I would argue that representation actually matters. I am elated that there are four women and one man who've been elected to help lead the American Economic Association as of yesterday.

I see that everywhere, because what I understand is that role models make a difference. What the State of

California has said, for example, is one woman on a board should actually make a difference, at least one woman on a board should make a difference, because it's made a difference in Europe. I would like to see more of this. And what that is saying is that equality of opportunity is not enough. That is an outcome, they're targeting specifically an outcome. And I would agree with that.

I'll let Jim talk, but since he and I went to the premier universities in the State of California, there's something specific about Prop 209 that has had generational effects in terms of deterring. And these are the places where there is the most recruitment of people in the tech sector.

JIM TANKERSLEY:

And I would like to point out that I only have a bachelor's degree. It's not like I got a doctorate from one of the premier institutions. But I appreciate the chance to be able to talk about this as well.

I think equality of opportunity versus equality of outcome is a thing that often gets tossed around in the political discourse by people who want to shut down the talk of equality. The idea is oh, if you're insisting on equality of outcome, you're basically saying everyone has to make the same amount of money all the time.

Obviously that's not how a capitalist system works, where people should be rewarded for producing more or doing better or whatever. But I think equality of opportunity is a really easy way to get out of a lot of difficult conversations.

Too many people just treat it as, "Well, if you're already in the door, then that is equality of opportunity." In high school I played on the basketball team, and I used to play a lot of pickup basketball in the summers. There were a couple of games where you'd go to play basketball and you'd get into the game. Everybody who'd wait in line would get into the game. But there were a bunch of guys out there who were really good friends and they wouldn't pass you the ball. So is that equality of opportunity? I got in the game, but I just ran up and down the court for ten minutes, and then that was that.

I think for women and for workers of color in America, equality of opportunity is much more than just are you getting, as many slots at a university? Are you getting as many job interviews?, which in so many cases they're still not. Are you getting promoted? Are you getting trained? Are you getting the same investment from your manager? And are you getting the same opportunities to climb all the way up the ladder?

Are you getting the same meetings with venture capitalists, and the same amount of funding? You know, that's just not the case. So I think if we had true equality of opportunity, not only to get in the door but to work your way all

the way through the system and succeed, then that would produce what I think a lot of people would consider a sort of equality of outcome, or something much closer to that.

NELA RICHARDSON:

I love that analogy, of you running back and forth on the court and having little to show for it. I think that's really resonant. At a time when corporations are starting to step up, or at least verbally announcing their commitment to improve minority hiring, female hiring, we also see an administration that has recently decided to go to these firms, Microsoft, Wells Fargo, even Yale University, and kind of challenge these new commitments to diversity. And so that's why sort of going back to Prop 209 in California is a good next place to go. Dr. Cook, I know you wanted to say a few words on that. Why is it so important? What role does it play in the discussion we're having right now?

DR. LISA D. COOK:

So first I'd like to say to Jim, most patents come from B.A. holders, right? So I'm not excluding you! So they're recruiting at every level from Berkeley and Stanford. And that turns out to be important for Prop 209, which banned affirmative action in California. It was a travesty at the time. It sent a lot of talented African-Americans and Latinos to elite universities on the East Coast. So California actually lost out on that talent.

There's a graduate student, Zach Bleemer, at Berkeley, who's looked at the long-term effects of Prop 209. What we see is fewer people completing college. And then earning much less, earning much less than they would've earned had they had they completed college or had they gone to an elite university like Berkeley.

Other colleges in the UC system have adopted the top 10% rule, top 10% of the class in high schools in California. So they have a lot more diversity. Berkeley decided not to do that. I'm going to talk to my alma mater. Because what we see is this dramatic, dramatic change. This is where tech folks are being recruited from. So they don't have the pipeline. So they don't even have the equality of opportunity. I think that's one of the things that needs to be changed, along with adding underrepresented minorities to boards as we're adding women to boards. And I'd like to see that kind of law that is present in California in all states in the country. Because we've seen better outcomes with respect to opportunity and outcomes when women are on these boards in Europe.

NELA RICHARDSON:

How does the digital divide impact education, and how would that widen inequality in the middle class? While

giving you some time to think, I saw this *Wall Street Journal* article yesterday on tricks for helping your kids learn online. They included things like having two monitors, having the kid have both his computer and his iPad in order to facilitate learning, and setting timers on his Alexa so that Alexa can help remind him to log in to class. I'm like, "Wow, this is a wealthy, connected family who has an Alexa, two monitors, an iPad, and a computer to give to their child." So when we talk about the digital divide, it's real and it's present. So just throwing that in. But if either of you want to take that question.

DR. LISA D. COOK:

I certainly will. You know, I taught this summer. I direct the AEA summer program and we had to quickly get online. It does start at the end of May and goes through the end of July. And we quickly had to learn how to go online. And our students are from underrepresented minority communities.

These are places where the digital divide can be large. What we know is that African-Americans and Latinas disproportionately use their phones for broadband at home. If they are using their phones for broadband, they aren't using two computer monitors. They're not using the fastest cable available. You know, I'm from the country. I was in 4-H. I can only imagine being in my hometown and having to do homework from any university in my hometown. I'd have to drive up to McDonalds or drive up to Shoney's or the library and hope that the WiFi actually worked there.

I think this is going to have lasting ramifications. And this pandemic has exposed some of the underinvestment that we've done in this country. We have not invested in rural broadband, and we have not invested in closing the digital divide within cities. We've got a lot of work to do. This has exposed us. Hopefully we'll do something about it and do something about it quickly.

JIM TANKERSLEY:

I would just add to that that I think if you were to design a recession to hurt both the most vulnerable Americans and the ones who are the most critical to the future of our middle class, you've designed basically this one. You would have a virus that has health impacts that disproportionately affect Black and brown communities across the country.

You would have job losses that disproportionately affect the front line, low wage, workers in the economy who can't work from home. And then you would have long-term detrimental human capital effects of just radically upending school in a way that in particular disadvantages lower income kids of color.

At every single level the recession has just been brutal for those workers. And I think that that is, it's

unfortunately been predictable. We were writing about this back in the spring, that this is already shaping up and that it was going to keep being like that depending on how policy played out.

Policy has not been responsive enough to prevent or mitigate those disasters. I worry about that a lot. I mean, it's not just sort of a temporary setback for all the Americans who have been knocked off their feet by this recession. But the long-term setbacks that we can't even imagine right now, I think could be really, really damaging, and were entirely foreseeable, which is really unfortunate.

DR. LISA D. COOK:

If I can just add one more historic statistic to this, women are back where they were in 1987, with respect to labor force participation. We had the most dramatic drop since the post-World War II period in women's participation. And this is across the board.

So we're talking about pathways to the middle class, I completely agree with Jim, that this would be a recession that would harm pathways to the middle class for a long time. And that would include small businesses. You know, entrepreneurship is a tried and true path to the middle class and to wealth accumulation.

What we see is this, first of all, there are 50 white entrepreneurs for every Black entrepreneur. But for all entrepreneurs, all small entrepreneurs, this is having a devastating effect. And if we talk about long term, long-term growth, a lot of our innovative ideas come from the smallest firms and from the newest firms.

And if they didn't have access to PPP, then what we're doing is shutting down ideas prematurely. They don't have access to these big banks. They don't have access to PPP in the way others did. So this is definitely the perfect storm for the worst outcomes for the middle class.

NELA RICHARDSON:

I want to leave you both with your best policy outcome given the moment.

JIM TANKERSLEY:

The short-term answer is very easy. I think we've got to get the virus under control. You a much more comprehensive national testing system along with therapeutics. Everything for the middle class right now depends on getting this pandemic under control to a much greater degree than it is, and giving people confidence to have a real, fully functioning economy again.

Medium term, I think it's childcare. I think that solving the childcare crisis and getting widely available affordable

childcare is critical to reversing that decline back in the female LFP levels.

DR. LISA D. COOK:

I don't have a moon shot.

I just have, could we address the workplace environment, from top to bottom, from the CEO level down, recruiting more women and African-Americans and other underrepresented minorities at every single level, and making sure that they are mentored? That they are promoted? That they wind up in these positions that they serve as role models for others, so that we unleash these ideas. Unleashing ideas is the way to unleash the economy. We need to do everything we can to make sure that that happens.

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