THE BROOKINGS INSTITUTION

WEBINAR

HUMAN WORK IN THE AGE OF SMART MACHINES:
A CONVERSATION WITH JAMIE MERISOTIS

Washington, D.C.

Thursday, December 3, 2020

PARTICIPANTS:

JAMIE MERISOTIS
President and Chief Executive Officer
Lumina Foundation

AMY LIU, Moderator
Vice President and Director, Metropolitan Policy Program
The Brookings Institution

* * * * *

PROCEEDINGS

MS. LIU: Good morning, everyone. I'm Amy Liu and I want to welcome you this morning's program, which is featuring our friend, Jamie Merisotis, and his latest book "Human Work in the Age of Smart Machines." And, in fact, I have a copy of it right here.

This is Jamie's second book. In fact, his first book, which I believe is "America Needs Talent," it was fabulous and it was named among the top 10 best business books of 2016 by Book List. So, I have no doubt that this latest book on human work will do just as well or even better.

Now, as many of you know, Jamie is the president of the Lumina Foundation, which I am grateful is also a supporter of our program. And at Lumina Jamie has been a national thought leader, he's been a change agent in helping workers find meaningful careers after high school. And that is what this book on human work is all about. It is about the importance of harnessing the uniquely human attributes among all workers so they can find purpose and earn a good living at a time when new technologies are supplanting many jobs once performed by men and women, jobs from those in production floors to grocery stores.

With COVID-19 and a bunch of large corporations and small businesses now accelerating their adoptions of new technologies, such as touchless capabilities and online marketing and customer outreach, I have no doubt that Jamie's book is even more important and a must read today.

Now, the other reason I really like this book is that it's practical and it is optimistic. At a time when we read about the callousness of Big Tech or we feel the weight of the world from so many crises, Jamie makes the idea of human skills tangible. He tells stories about real workers and real people who have successfully thrived in human work alongside machines. And he offers concrete solutions for every sector, including public policy.

Now, in a moment Jamie will join us and he's going to provide about 10 minutes of opening remarks before I moderate a conversation with him. And at that point I'll also open some time for audience Q&A. And I have to say the audience for today's event and program is just perfect. You all reflect the actors that are critical to making the transition to human work possible. We have

representatives from advanced scientific industries, workforce and higher education, economic development, government, philanthropy, at the national and local levels too. So if you have questions that you want to throw into this discussion, please feel free to send them to us via Twitter. Write it towards @BrookingsMetro and use #HumanWork.

Now, before I turn things over to Jamie, I want to add why our program at Brookings Metro cares about this topic. Now, we have been advancing a vision of inclusive economic growth in the digital age and our team has chronicled how much this era has starkly concentrated wealth and opportunities in the hands of too few people and too few places. So, to achieve an inclusive dynamic future means that we have to understand that people and talent are at the center of the digital economy. This is something that Jamie has long well argued. And so, if people and talent are the center of future growth, we also have to examine and remove all the barriers, including systemic bias, that has prevented people from achieving their fullest human potential.

All of the ways we get there require bottom up regional action because it's at that level where we can forge the best tailored responses that meet the unique conditions in the different local labor markets that make up the U.S. economy. And the solutions themselves are hyper interdisciplinary to get to the power of human work as our scholars are working on. They are constantly thinking about the interplay between business activities, the role of skills providers and educators, the role of infrastructure and broadband, and how all these come together in place to create better conditions for people and the economy.

All of this comes at a really urgent time when every region around the country is focusing on re-implement strategies and equitable recovery in the COVID-19 recession.

So that is what is on our mind and this is why we share Jamie's vision about what's needed and what is possible if we work together.

So, with that, I am pleased to introduce Jamie Merisotis.

MR. MERISOTIS: Well, thank you very much, Amy, and thank you for your leadership. The work that you and your colleagues in the Metropolitan Studies Program do is just so important and

timely at this time of incredible change for our nation and I'm really grateful.

And I want to say good morning to everyone. I'm really delighted to be with all of you. And I think what I'd like to do is preview our discussion by talking about the changing nature of work. But before I do that let me just say maybe a word about Lumina Foundation.

For those of you who might not know a lot about the organization that I've had the privilege of leading for more than a decade, Lumina is a large national foundation. There's an old joke in philanthropy that if you've seen one foundation you've seen on foundation. But I think Lumina is unusual in some ways, which is that both in our scope and purpose we have set ourselves on a somewhat different path. We are governed by a time limited quantitative goal. Lumina is trying to be a catalyst for the country to ensure that 60% of Americans have a high-quality degree, certificate certification, or other credential by 2025. Interestingly, that proportion has increased significantly in the last decade, from about 38% to 51%. And hopefully our work as a catalyzing organization has helped to create some of that change.

Our interest, therefore, as a foundation is in systemic change, not in tinkering on the margins, as I said, being a catalyst and really an investor in scalable change. And I make that point because I think my view of organized philanthropy — our view at Lumina of organized philanthropy, and particularly private foundations, is that it's best in serving societies needs when it's focused on that large-scale change. In other words, aim less at symptoms and more on root causes. My view is that philanthropy should be systemic, not episodic. You know, maybe proactive rather than reactive. In short, the goal of organized philanthropy to be not so much to provide assistance or service — we've had lots of charitable people and organizations to do that, but rather it should aim to permanently alter the conditions that make assistance necessary.

And what that means is that in order to effect, you know, significant and lasting change a philanthropic organization has to be a leadership organization, it has to set an agenda for change, and then work purposefully and consistently to produce results. So that's what we've endeavored to do at Lumina. And at Lumina we've been advocating for learning that's accessible, that takes place over the

course of a lifetime, and that prepares everyone for a global future. We have a deep focus on racial equity at Lumina. Well, we call it equity first agenda.

And to realize this vision, we see education and training as complimentary. In other words, both education and training are essential for our nation's postsecondary education attainment goals. So when we talk about that national 60% goal, for example, we're talking about all types of credentials that cut across the education and training dichotomy, what I would call a false dichotomy. So short-term credentials, certificates, industry recognized certifications, as well as degrees. That's always been true since we've really first undertook this work beginning back in 2008.

In fact, both at Lumina, and before, you know, I've spent my life at the intersection of learning and work. I ran a bipartisan federal commission, I founded a nonpartisan think tank in D.C. in the early '90s. And I've always focused on trying to make this idea of learning after high school and the intersection of learning and work more inclusive, to help it serve more people, to help it serve more diverse people, and generally to make it better for individuals and society. And, you know, I think in that work I and others in the education and the ed policy fields have increasingly been asked an important question, one that I think has become especially insistent this year, which is: so what's education for? Education for what? And I think pondering that question started me on this exploration of the future of work, or really the work of the future.

Now, I've been quibbling with people over this difference between future of work and work of the future only because I think we have to acknowledge that learning is important and that work actually matters. You know, I think sometimes when people say future of work, they are talking about questioning the basic idea of work itself. And I think they're wrong. And it was at least one of the motivations for writing the book. And let me say why that is. If you do a quick Google search for the phrase the future of work, it will yield about 100 million hits. Now, most of those fall into what I call the robot zombie apocalypse camps. The dominant narrative is one of massive job loss fueled by rapid advances in AI. Some are even predicting the end of work. That's the title of a famous book by Jeremy Rifkin on the subject.

Now, I don't think either of these vies, the idea that somehow the robots are going to take all of our jobs, or that work will end as we know it really has much to do with reality or, frankly, has much to do with what people fundamentally want from work. Indeed, I think there's plenty of evidence to support the view that technology might create millions of new jobs, just as it's done in the past. But that doesn't mean that things aren't different this time because I think they are different and we need to pay attention to how and why they're different. The work of the future will change almost everything we take for granted about jobs and employment and it has enormous implications for higher education.

Just look at what happened to jobs in the U.S. and around the world before COVID. For decades, we've seen an enormous increase in the demand for skills across almost all occupations. And in the U.S. this shift was accelerated by the Great Recession of 2008 and its aftermath, and is really continuing until today. I think the most obvious impact of that has been an increase in the value of degrees.

Now, according to the economist Tony Carnevale in the Georgetown Center on Education and the Workforce, more than 5 million jobs for people with a high school education or less disappeared in that recession and never came back. But meanwhile, jobs requiring some college or an associate degree took a hit during the recession, but have grown steadily since. And during the recession, during that 2008-2010 recession, those jobs requiring a bachelor's degree actually went up and have continued to increase ever since. Added to that is that the number of good jobs in the U.S., those that pay meaningful wages and offer healthcare, retirement, or other benefits, have been shifting to people with higher levels of education for a long time. So while the number of good jobs has increased, not everyone is benefitting. Those with only a high school education are being left behind.

So, you know, I think these statistics explain why our economy can look so strong on average even in these rough times that we're facing because of COVID, but leaving many people feeling like they're standard of living is deteriorating. They feel that way because it's true. Most of the conversations about the work in the future largely overlook or understate how less skilled workers, including particularly workers of color, are going to be disproportionately impacted in industries like

healthcare, retail, and hospitality. Of course, these are the very people who have been hardest by COVID and this economic downturn that we're currently experiencing.

Now, Amy and her colleagues have pointed this out with research showing that last year 53 million workers, 44% of all workers ages 18-64, earned barely enough to live on. Their median earnings were $10.22 per hour, about $18,000 per year. Now, while there will I believe be many good jobs to be had, as I said before, they're going to be different jobs and they're going to require higher levels of knowledge and skills across the board. All jobs are changing and people need to change along with them or they'll be left behind.

Now, there's another perhaps even more important aspect of the work of the future because I realize that it might sound like this discussion is just about jobs and the economy, but work is and has always been about more than making a living. Talking about money and financial security is obviously very important to individuals, but it fundamentally misses what people want from work. As technology advances we should assume that any task that's repetitive and predictable, mental tasks as well as physical ones, will eventually be performed by a machine. So at its simplest, human work is the work that only humans can do. It's work in which the people performing it are actively engaged in responding to their environments. Because the landscape of human work is dynamic, it isn't repetitive and it's much more difficult to automate. Now AI gives machines the ability to learn through repetition, but frankly, the harder it is to discern patterns and nuance, the more likely it is that humans will be needed to do it.

The most unpredictable of these environments are those that are created by other humans, like the one we're in now, which is why so much human work involves interacting with people. Human works is rooted in our intelligence, it's rooted in our drive and our values, all things that are different than what machines possess. And human work is driven by how we learn.

Now much of the progress in robotics and AI is based on the development of a concept called deep learning. I'm sure many of you are familiar with this. It's a technique in which computers learn through algorithms that methodically drill down deeper into large data sets. But humans learn in a

very different way, what I call in the book wide learning. Now wide learning has three fundamental dimensions. One is time, the notion that learning has to take place in a wide time context over the course of people's entire lifetimes is essential to human work. It's a virtuous cycle that has to be repeated many times over a worker's life cycle. Not simply once, like we used to believe — first you learn, then you work — but over the course of your entire lifetime.

The second dimension of wide learning is the people doing the learning. Human work has to serve a wide range of people, diverse in terms of their race, their ethnicity, their gender, their immigration status, and a host of other factors. Human workers must represent the totality of society for all of us to share in the benefits of their human work.

And the third dimension is the content of the learning itself. What people have to learn to be successful in the human work ecosystem represents a wide array of human traits and capabilities. Here we're talking about the breadth of human traits and capabilities. For wide learning the content we need to focus on are the skills that human work requires. And, as I said earlier, for humans work matters. It's something that distinguishes us in a very basic way from the machines. People work not only because it helps them economically, but because it offers them social mobility and things like personal satisfaction. And at the end of the day, things like meaning, dignity, and purpose — rewards that are almost impossible to describe.

Most workers say that having real meaning in their work is essential to happiness and life satisfaction. Indeed, Gallup surveys show that even the lowest income workers are willing to trade off some money if it means greater fulfillment and happiness. In other words, contributing to a greater whole.

Now, in the book I also discuss what we need to do to bring more people into the system and how our current education and training systems need to change and accommodate human work. Clearly, COVID-19 and the murder of George Floyd have upended our beliefs about the society we live in and how it works. COVID has already transformed both our education and employments systems. And while there might be a few people out there that think things will eventually get back to normal, I certainly don't. Frankly, I hope they don't because so called normal was pretty terrible for a lot of people before

COVID. Instead, I hope that we take advantage of this pivotal moment to assure that everyone has the opportunity to develop their own unique abilities throughout their lives. This will prepare people not only for the work of the future, but I think just as importantly it will instill hope and confidence for the future of our society.

So that's what human work is really all about, but there's so much to discuss. And rather than to continue with my monologue here, I'm going to stop there, bring Amy back into the conversation. And I'll look forward to our discussion and to taking your questions.

Thanks very much.

MS. LIU: Great. Thanks, Jamie. That was really comprehensive and a great way to kick off our conversation. And for those of you who are tuning in, I just want to remind you that if you want to ask questions as part of this dialogue and for me to get to, is go ahead and either tweet @BrookingsMetro using #HumanWork or email events@brookings.edu, which is part of the event page and we will get to your questions.

Now, let me turn to Jamie. I really appreciate the fact that you are reminding all of us about the fact that job quality matters, that the dignity of work matters, and that for people to feel — to no longer toil in essentially — or maybe get stuck in low wage work. We do need to find ways to increase the level of knowledge needed and at the same time maybe rethink some of those partnerships.

So I want to start first about unpacking a little bit about the human work and the work of the future. You talked about all these dimensions, but what struck me most about the book is you actually walk through four occupations of human work. And I think all of us want to understand what is exactly — what do we mean when we say there are things that humans can do that machines cannot do. And one of things that you had a whole chapter dedicated to unpacking what that looks like. So can you walk through what are those four occupations of human work? And can you give an example of how that shows up in the workplace?

MR. MERISOTIS: Yeah, you know, what I try to explain in the book is that this idea that as human workers we are different than the machines is to say human work isn't what's left over after the

machines do what we can or have done in the past. The point is that human work reflects our unique traits, our unique capabilities, our value system, our ethics, our empathy, all of these things that matter to us as humans. And I try to describe these archetypes in the book as examples of the kinds of categories that we might think about human workers now and in the future. And to be clear, these are not a hierarchical set of categories. You know, the first is not necessarily better or different or less or different than the fourth. They're really sort of buckets in which we can describe these human workers.

The first one I call helpers. Helpers are essentially people who are engaged in occupations that involve deep personal interaction with people. These are people who are directly engaged in that personal interaction in a way that a machine couldn't do. So think of a job like a therapist, someone who is helping you work through your issues. Or even someone who's working maybe in retail, customer service, things like that — people who are engaged in that personal interaction to help you get from point A to point B in whatever it is you're doing. So those are the helpers.

The second is what I call bridgers. Bridgers are people who work in occupations that involve the connection between people and technical tasks and systems. This obviously would include some people who are doing work in what we might call the traditional IT occupations, but it also might include people who are doing things like being a sales manager, which again involves connecting people with these very technical tasks associated with the sale of the product or service that's being sold.

The third is what I call the integrators. The integrators work in occupations that involve a much deeper integration of knowledge and skills from frankly a wide range of fields and then applying them in a highly personal way to other people, to other human workers, or to other humans. So that might be things like social workers or teachers, both of which I think are going to be extraordinarily important in the human work ecosystem.

And then the last bucket is what I call creators. The creators are doing work that involves both highly technical skills and, for lack of a better term, pure creativity, pure human creativity. So think people who are doing things like game developing or choreographers. Lots of people who are in the human entertainment business would fit into this category of creator.

So these four buckets, these four categories I think are a useful archetype for describing the human work ecosystem, the helpers, the bridgers, the integrators, and the creators are in effect the ways in which we can see ourselves in the work now and in the human work of the future.

MS. LIU: That's really helpful. I kept thinking about the work that we do at Brookings and how we fall into that category of integrators and creators, and so on.

Tell me how the pandemic has accelerated or affected the trends you identified in the work of the future. You already talked about some of the occupations that are going to be impacted, but say more about how the last six-nine months have really shed light on the themes in your book?

MR. MERISOTIS: I mean it's pretty clear that COVID has revealed things that we saw were coming and has accelerated them. The two obvious examples would be that it has accelerated the change that we were going to see in terms of the nature of work that is going to need to be done by humans going forward. So COVID has shown us that there are certain essential occupations that require human interaction. So think about the important role that we now understand of people at all kind of job levels in healthcare that maybe we didn't fully understand before that has been revealed as a result of COVID.

COVID is also showing us that in fact what will happen as the economy returns is an acceleration of what we saw in the last several recessions, which is that many of those jobs that were lost will not come back because employers will take advantage of the opportunity to automate, to use artificial intelligence, to create different models for the way in which we live and work.

So I think you're going to see changes in retail, changes in hospitality, changes in some of the other industries.

The other thing that's obviously happened in the COVID environment is that COVID has laid bare the racial difference that we've seen in terms of American society in a very stark way. You know, I mentioned the murder of George Floyd as a sort of moment for the country. That moment I think was made possible by the fact that COVID gave white people an opportunity to see racial injustice in a different way that they hadn't maybe seen it before because of COVID, because of the fact that many

people were not doing the things that they were doing before. These things certainly existed well before George Floyd, well before COVID, but because of COVID people actually paid attention.

And, you know, what we've seen in COVID is the fact that African American death rates and the death rates of Black Indigenous and people of color in general have been higher as a result of COVID. African Americans are also more likely to work in those essential occupations and fields that we were talking about earlier. And, you know, there's an intersection, Amy, between that and this issue of education attainment and the skill level of the population because keep in mind that intersection of race and education level is very important. So educational attainment rate, post high school educational attainment rate for African Americans, Latinos, and Native Americans are dramatically lower than they are for whites. And this is played out in COVID in a very specific way. We know that more than 50% of the people with bachelor's degrees have been able to work from home. So they're literally safer. Those people are going to be disproportionately skewed towards whites because African Americans, Latinos, and Native Americans have lower levels of educational attainment. You compare that to the fact that less than half of those with people with a high school credential or less are able to work from home, and so you can see that the differential effect in which COVID and racial injustice have come together in this environment to frame human work in a different way going forward.

MS. LIU: Jamie, I want to transition now to a question that a lot of folks who are tuning in are asking about, which is: how do you actually acquire or deepen or strengthen these uniquely human skills and attributes? And I want to start by focusing — using Indiana, your home state, as the backdrop for this. You already mentioned that COVID has already eliminated jobs that will be permanently gone. And Indiana, per work, that work that my colleagues here at Brookings have done, is the state that had the — is ranked number one in its vulnerability to more automation in the workplace. And I think a bulk of that vulnerability comes from Indiana's high concentration of manufacturing jobs. It is still very much an industrial community and you can find that in the large cities and the smaller communities across the state.

So when you think about that as context, there is a lot of folks who would argue that a

dislocated manufacturing worker can't just adopt coding and transition to this digital world. That that transition for a mid-career industrial worker, asking them to make that transition is not realistic and, in fact, could be elitist.

Tell me, especially through the stories of folks you interviewed for your book, how does someone from an industrial workplace or working class worker make this transition to the work of the future?

MR. MERISOTIS: Yeah, it's a wonderful question and it's important to underscore something you said, which is that it's been accelerated, right. Again, it's been brought to the fore as a result of COVID. So Indiana in fact, according to your research, is the most vulnerable state in the country to automation and AI. And so we are a very good example of what I think is likely to come here.

You know, look, first of all we have to focus on the fact that you have to develop your human traits and capabilities, so your ability to be empathetic, to be compassionate, to have ethics, to be a collaborator, to be someone who can communicate effectively. All of these things have to be developed. Maybe these are things that you have some innate capability in each of them, but they have to be developed and they have to continue to be developed. That's really important. So that's one thing.

The second is we have to do it in as many different contexts as possible. So we have to do it at work, in post-secondary learning institutions, in workforce training programs, in community based organizations, in whatever way that we can find possible. Part of what I've been trying to underscore here is this idea that learning and earning and serving other — this sort of this virtuous cycle that I've talked about of human work — has to take place continuously over the course of your lifetime, but it's not going to happen simply in learning institutions, traditional learning institutions. It might happen in libraries, it might happen in lots of places in which you interact as a human worker. And, yes, we have to be proactive about the fact that we've got to find opportunities for people that are adjacent to what they know.

I was dismayed before COVID by how much, you know, every — you know, it's the hammer and nail question, right, which is that coding seemed to be the solution to every problem we

could think about when we thought about human society. Of course, coding is important, but coding is important for reasons that have to do with very short-term needs in society, not to serve our long-term needs. My view also is that many people who've been dislocated as a result of COVID, as a result of automation and AI, the kind of work that they will be willing to do is not work that will take them from a field that is so distant from things like coding that they can't find any relevance to it.

So, you know, there was a big push a few years ago about the idea that with automation taking over truck driving and self-driving vehicles, that we should be teaching the truck drivers to code. This is a bad idea. There's very little evidence that truck drivers are going to see themselves as coders. However, truck drivers can see themselves as people who can work in an industry that is adjacent to what they do, and that is very much a field that's growing, which is logistics. Logistics requires their experience in understanding how you move goods and services and this idea that we can use technology to actually help make that go better. So you still have to learn some things as a truck driver who's been knocked out of your job, but you have to learn in and do so and apply it in a field that is adjacent to what you know. And there's lots of other examples I think. Customer service — I think we should be thinking about people in those fields and things like retain and hospitality, making sure that they can bring them into fields, you know, like healthcare where those people skills are going to be really important. But again, they have to be developed because you need skills that help you be a better human worker in the healthcare field.

So those are the kinds of things I think we need to do, not just in states like Indiana, but across the country because I think that's going to be the kind of work that humans are both going to be best suited for and which we need to prepare them for through our different learning systems.

MS. LIU: And so the other group that is also super vulnerable to automation are young people and Black and Hispanic workers. As you have already talked about in your opening remarks, these are workers that tend to work in retail, in hospitality, in positions, like even some warehouse positions, that are going away, at least in their traditional sense. And there's also this prevailing notion that it's not just about a skills gap for these workers, there is systemic bias and racism in the workplace or

in the employment ecosystem that limits their ability to access employment.

So tell me how do you think about human work and the transitions these workers need to make. What do we need to do differently to make sure they succeed?

MR. MERISOTIS: You know, there is a moment here, and again I think the horrible death of George Floyd can be a moment where as a society to reflect and actually act on what's being done. We have to acknowledge that racial inequity and racial injustice exist and we have to acknowledge it at every level of society. So, for example, as an employer at Lumina Foundation, I need to understand the future of human work in terms of the work that we do. And that means I have to embrace the diversity of my employees, or the people that we interact with who are our partners, our grantees, etc., and the communities in which we work.

So, you know, we as employers have to do a better job of defining the knowledge, skills, and abilities that our workers need as human workers, but we have to acknowledge the context that they're coming from. Being explicit not just about the sort of generic diversity of our employees, but being very specific about the fact that African Americans, Latinos, and Native Americans have been systemically discriminated against over a period of decades and centuries is something that you have to acknowledge as an employer, as someone who is working in the field. It's really important.

Now, we have lots of regulatory conversations we can talk about, but I'm talking about the initiative that we as employers should take irrespective of what happens in the regulatory environment. So doing a better job of serving those individuals as employers, obviously the educators need to do a better job putting the success of their students at the center. Higher education has long argued that it is a place where you can create greater opportunity and narrow the gaps in educational attainment and therefore societal well being by race. But yet those gaps exist to a significant degree today and in some cases they've actually grown.

So we've got to put our thumb on the scale of actually narrowing those racial equity gaps to our policies, our strategies, our approaches in education in order to make a difference.

MS. LIU: Let's talk specifically about the institutions that are now on the hook to help

extract and deepen human skills.

You've already talked a little bit about employers. Talk about the role of higher education, talk about the role of postsecondary education, and other skills providers that are — what do they need to do to be part of the systems change here?

MR. MERISOTIS: I think there's a handful of things that will be really important. And, again, this is a continuation of what was happening before COVID. COVID has, you know, accentuated these things. You know, I already mentioned one, which is putting equity first. I think that's going to be really important. Acknowledging the lack of access to the strong academic, financial, and social supports that white students have gotten in the post high school learning context, you know, is going to be really important. We have to acknowledge that and address it in the learning system. We have to focus on what people know and can do. I mean that sounds sort of obvious, but all of these credentials that are issues, short-term training credentials, certificates, certifications, badges, the licenses that people get, the degrees that are offered, they actually have to focus on what people know and can do as human workers, those human traits and capabilities. Those should reflect both content and generalizable knowledge, skills, and abilities. In other words, you should know something about graphic design or chemistry, but you should also demonstrate that you are a critical thinker or a problem solver or a communicator, or someone that has an ethical framing, or what have you, by emphasizing that in the learning system.

And we really do have to break this cycle that we've been in of assuming that the system is first you learn, then you work. That virtuous cycle that I keep talking about of learning, earning, and serving others, eroding distinctions among them is really important. So we've got to do a better job of thinking about work integrated learning, learning integrated work. So, you know, things like internships, apprenticeships, lots of opportunities to break down the barriers and actually connect people in the learning and working ecosystem so that the rewards of gaining more human skills as you proceed to a working lifetime are matched both on the learning side and on the working side. In other words, that the systems that produce the workers and the systems that produce the learners are much more interconnected, much more integrated, and are providing benefits to people as they move throughout

their working lifetimes.

MS. LIU: I'm going to pull a question that came out from one of the audience members, because I think it's really relevant here, which is: does this naturally translate to credentialing? You know, teamwork, collaborative problem solving, integrated thinking. Is there an implication here for credentials themselves and the credentialing system? And, obviously, Jamie, you've been at the forefront of credential engine and thinking about (technical inaudible).

MR. MERISOTIS: Yeah, I think it's really important, first, to acknowledge that as much as we might believe that credentials have been over used, over stated, the reality is that credentials are a critical part of you being able to demonstrate as the worker your relevance, your currency in the labor market. You know, in some ways that word currency, maybe we can use it in a different way. It is the way that you move your way through that system. Now, the problem with the system — I want to be candid about — which is that we haven't done a very good job in the education system in being explicit about what you know and do with these credentials. We've got to do a better job of actually articulating that, which is why I think that we need to actually focus on this idea that the system has to do a better job of addressing those needs.

But, you know, I think that we have this cacophony of credentials that's been developed in recent years and in many ways the labor market, both the employers and the workers, are confused. You know, we have invested in this effort that you mentioned called credential engine. Credential engine is essentially a way of helping the system do a better job of creating an understanding across the different types of credentials. So it allows computers, platforms, and systems to speak the same language about credentials. And the sort of guts behind this thing is called the credential registry. But essentially, it's a way of expressing what you need to know and can do and what these credentials mean in terms of the learning schools, who award them, and how the credentials can actually be used in the marketplace.

Creating better interconnections, what people have called historically stackability of credentials, is really important. But we need to make sure that there is much more throughput for people so that they continue to develop credentials that build their human skills over the course of their lifetime,

again not simply possess a single sort of high stakes credential, but that credentialing will need to continue over the course of their lifetime.

MS. LIU: Really helpful.

And I want to now transition to just thinking about local actions and then I want to talk about Washington. And so let's do the easy one first, which is about local action. Your book chronicles I think some really good examples about how local and regional leaders come together. And so much of the systems change we need is about these cross-sector collaborations that together can match both the goal of helping a postsecondary education worker achieve good work and quality jobs and a lifelong, you know, career. So the burden of that is not on one system. So it comes together in place.

Are there examples of certain regions or initiatives that you think really embody this new work of the future approach?

MR. MERISOTIS: Yes. I want to underscore your — I don't want to give away too much of the book, Amy. I want people to read it. But I do want to underscore your point here about the fact that local action is really important. Again, this is work that you have help bring to the fore in my opinion, which is to help people understand that while government policy, federal policy, and state policy, top down pressure is really important, at the end of the day people live and work in communities. And making sure that we actually focus on that as a matter of metropolitan strategy, as a matter of local community strategy, is really important.

And so, you know, some of this has to do with these collaborative efforts that bring philanthropy, workforce entities, employer groups, and the educational organizations together in a collaborative platform where you set out to set goals together to build the economic and the social capital in those communities and then develop a plan for actually implementing it.

So, you know, we've seen this in some of these efforts that people may know about strife, things like that. But I'm talking about much more robust partnerships. Lumina has invested in this idea called talent hubs, as one example, but there are many others where you actually bring the partners together to create the change in a collaborative way. The mistake I think we've made in the past is that

we've tended to think that this is either — it's an either-or phenomenon. Either the employers have to do something or the educational institutions have to do something. Frankly, the educational institutions are the entities that have the most trouble with leadership, they have a self-interest. So the kind of partnerships that we've seen in communities, you know, like Louisville and Denver and different places around the country where they've developed these collaborative partnerships are places where employers are at the center, where educational institutions are playing a very important role in meeting needs, but also helping to transform the community and where the different stakeholders, the mayors, the city or regional councils, the philanthropic organizations, the community foundations, etc., are actually rowing in the same direction, saying what are our education attainment goals, how do they relate to the work that's happening now in our community, how is that going to change as human work becomes more and more a part of what happens in our community. Those are the kind of models that I think we need to be focusing on and double down on, so that the federal policies, which are a much blunter instrument, can actually compliment what's happening in those communities.

MS. LIU: So let's go there, Jamie, and — because we not only have a moment now where we will be transitioning to new presidential leadership and a new congress, but that we are really aware at the local level that federal leadership, federal policies, even certain federal funding flows, matter, whether it's the debate we're about to have about the stimulus package or, as you have written recently, who gets hired to lead some of these cabinet agencies.

So give our audience here — what are the one or two critical federal policy opportunities that you see in the horizon on this agenda and what are the prospects of that happening under a Biden-Harris administration and a GOP congress?

MR. MERISOTIS: It's been interesting to observe in the last year the debate, the conversation that has been pressed, particularly by Democrats I this case, around things like free college, debt forgiveness, those kinds of conversations. And in thinking about the sort of, you know, what we historically have called the workforce side, but as I've been arguing, I think education and training need to be seen in much more cohesive ways.

You know, look, I think that we've got to actually focus on federal policies that are going to create the large-scale change that's necessary. So some examples of that, you know, first, in the near-term we really do need stimulus that is actually going to be invested in helping to build this new human work infrastructure. One of the things I worry about is that we will use the money the way we did in the stimulus that happened in the 2008-2010 recession, which is essentially to prop up the existing systems. And I think the lesson learned from that is those existing systems weren't serving a particularly — weren't doing a particularly good job of serving our needs then and we actually used resources that we could have used to transform the systems. So I would focus on that.

You know, what does that mean? I think we're going to need to go big on Pell Grants, using Pell Grants to focus both on the traditional role, but also focusing on the idea that Pell Grants are a critical part of our workforce system. Stop trying to pretend that education and training are different things. People use their Pell Grants to get credentials in community colleges that are very much oriented toward what we historically have called workforce oriented credentials. Let's not try to be coy about that. It's a good thing that we can do that.

The second thing I think we need to do is that we need to have a bigger conversation about investment in the new infrastructure of learning. So technology really is transforming what we're doing. We've had this large scale national experiment because of COVID and we've learned both what technology and can't do. So we do know that these platforms can serve large numbers of people, and in some cases can do it well, but we also know what the barriers are. So investing in these more human oriented technologies I think will be a really important thing.

But at the end of the day if I were putting my money on what we need to invest in, I would invest in the community colleges and I would invest in ensuring that as part of that strategy racial equity is a specific component of those efforts. The incoming Biden-Harris administration has talked about this as a core part of their goals and, you know, we'll do all that we can — the Lumina Foundation can't lobby as a private foundation — but we'll do all that we can to support those efforts in a bipartisan way because we think they're hugely important to the prosperity and the well-being of society going forward.

MS. LIU: And just on that point I was going to say to our listeners and our watcher is that Brookings as a whole will be releasing a set of blueprints for American renewal and prosperity aimed at federal policy makers. And that's going to be — the first tranche of that will be released on December 9. And you will see ideas around how to scale earn and learn, invest in a high quality public sector workforce, a lot of the things that Jamie has mentioned here. So do look for that.

I want to turn to a couple of questions now that have come to us through our listeners and viewers. And I'm going to start with one that I think a couple of people have acknowledged, which is that our democracy itself is at stake right now, that what we have in an AI world and capitalist structure is lots and lots of people who've lost jobs while very few people and companies have seen their stocks and incomes grow.

And what's interesting here — and they're just raising really concerns about that, because your reliance on technology — I think what's interesting is your book actually closes with a chapter on human work in a democratic society. So what do you say to those viewers right now about the role of technology in democracy and how human work can maybe be a bridge to some of those challenges?

MR. MERISOTIS: Yeah, it's a great question and it is — you know, it's one of the things that in the short period now since the book has been out people have asked me a lot about. You know, look, authoritarianism, antidemocratic tendencies were emerging well before COVID and COVID has accentuated those. So, you know, when we think about authoritarianism, what do we know about authoritarian tendencies? We know that authoritarianism prefers conformity. Part of the way in which authoritarians win is they stoke fear, they stoke fear of change, fear of advantage, fear of the other. And, you know, in my view this has long been a threat not only to liberal democracy and to our ability to express our beliefs, but it also is a threat to our way of living, particularly in this human work ecosystem.

So, you know, we tend to see these authoritarian tendencies spike when people lose opportunity or, frankly, if they've never had it and they've just had enough. Now, in the era that we're in, this technology mediated era, these information bubbles that your questioners are asking about I think

reinforce these antidemocratic tendencies. You know, we know that false information about COVID has been a big, big problem. Now, who has it most impacted? Well, it's most impacted people with lower levels of education. So, you know, we know from survey research that existed, again before COVID, being able to use the knowledge, skills, and abilities that you develop through high quality postsecondary learning can be a bulwark against these antidemocratic tendencies.

There's something called the World Values Survey, and it's issued both in the U.S. and in other parts of the world. And in recent years it has showed that almost a third of Americans who haven't gone to college believe that having a strong leader, which is sort of code language for authoritarian leadership, is a good way to govern the country. Actually, about a quarter of Americans say that — of Americans who have a high school credential or less say that military rule would be a good way to govern our country — a quarter — whereas the percentage of people who have these postsecondary credentials and degrees are much lower. And the reason is that we know that you develop — you know, we know that people who have these credentials tend to develop more of these human work skills, this interest in serving others. They're also more likely to vote, to volunteer, to contribute.

So, you know, at the end of the day, Amy, I think we have to cultivate the critical thinking and the ethical decisions making and all the other things that I was talking about earlier today because they're democracy enhancing traits and capabilities. And, you know, I think we need to engage in this notion that others have talked about, about active citizenship, free expression of ideas, to not only combat threats to our shared desire for freedom of opportunity and expression of ideas, but to ensure that we develop as human workers, because human work offers meaning and purpose and gives people a chance for that individual and share prosperity that's possible in a democratic context.

MS. LIU: I apologize if there's some noise in the background. But I want to stick to this point, Jamie, about the treats to our democracy and some of the reflections I think a lot of people are having post-election. There's no doubt for a program like ours that focuses on cities and metropolitan areas and places that people are recognizing that there is a huge geographic divide in our country too between urban and rural areas and that the rural areas who voted for Trump, for instance, are the places

that have experienced the deepest economic dislocation or isolation. And so there's a lot of desire for figuring out how, if we're going to bring the country together or bridge our divides, is how do we ensure that we see opportunities across our different types of communities.

So I want to talk about how the future of the work of the future, what that means for smaller communities. And I think about that going back to the State of Indiana, which I think is very typical of the country, where we have one large capital city and then a lot of smaller cities around the country. In fact, even from our own Brookings work, there's like nine older industrial cities and then a lot of smaller towns around that.

How does this agenda work in large cities and small places? And how do workers in those communities connect to this agenda?

MR. MERISOTIS: Yeah, it's a really important question and I want to say a couple of things. This is just sort of my perspective on this, which is that the rural-urban divide is real, that there are differences in terms of opportunity that exist between rural people and people who are in more urbanized context and we should not conflate that with issues of race. By that I mean that the disadvantage that people have in rural communities is because they have lack of access to opportunities, learning opportunities, job opportunities, health, well-being factors, things like that. It is not an issue of conflating race and rurality. We have done that unfortunately. Unfortunately, we tend to assume that rural people are white people, but as the Joint Center on Political and Economic Studies as shown, the Black rural South looks very, very similar to what we see in white rural communities across the country. So conflating it with race I think has exacerbated this issue of getting past it and bringing people together that we need to focus on.

You know, look, I think that we've got to be intentional about these human work strategies. You know, one of the stories that I tell in the book, it actually starts the book you may recall, is a guy named Joel Lewis who works at Cummins Engine here in Indiana. Cummins is the largest diesel engine manufacturer in the world. And, you know, he spent several years of his life stuffing pistons into diesel engines for Dodge Ram pickup trucks, but automation and AI changed his world. It didn't take

away his job, it changed the job that he does. So as the assembly process has changed, he developed his abilities. He even says in the book, you know, I see change as a good thing because change has allowed me to work smarter, not harder.

So Cummins has these things called cobots, collaborative robots, that Joel has been trained to worth with. They are his colleagues, right, so they are complementing his human traits. And he has been able to work with these smart machines to help him do his job better. Those are the kinds of approaches that I think we need to take. You go through this ongoing education and training, you do your job better, and you use your human traits and capabilities in ways that are not about the machine taking over what you did and you having sort of not very interesting things to do, but you working with the machines in order to be more productive, to be happier, and to be a better contributor to society.

MS. LIU: So, Jamie, we have two more minutes, and if we were sitting in our auditorium and everyone has got their hands up, this is the point where I call on two questions and to have them pose their question right away and have you take two at the same time. So that's what I'm going to do with our remaining few minutes here.

I have one question, which is really about how do we think about or how do we train work of the future human skills in a telework environment and how do you think about that.

And then second, what is the implication for voc ed?

MR. MERISOTIS: Yeah. Well, first of all, the telework is a really good example. And, you know, ironically, we've been able to see examples of where we can use technology to actually improve the kinds of human interaction I'm talking about. Another example from the book, if I can use one more, is Katie Albright. Katie runs an organization in San Francisco called Safe & Sound, which is an organization dedicated to serving people who've been victims of child abuse and neglect. Now, their workers obviously have to be highly, highly skilled social workers, those integraters that I talked about. It's hugely, hugely important. But they've been able to use in this environment technology to provide the support, because often times the first interaction with people who have been subject to this, children or the family members who are the parents and guardians of the children, they call or they text or they send

an email. So they're using the technology to interact with people and in helping them work through the problems, the issues, getting them the counseling and support they need, getting them to a safe place, getting them to a better environment. But those people who work at Safe & Sound are not only using technology to serve other people, they're using it to continue to develop their own human traits and capabilities, because this is not a static work environment. The nature of, you know, sadly of abuse and neglect changes. Technology has made the abusers more successful at what they do. So these individuals continue to have to use technology to build their human skills.

So my point simply is that using technology to help build these human traits, it might seem counterintuitive, but in fact we can use it both to develop our own human traits, but also to serve others through this human work that we're doing.

MS. LIU: Well, Jamie, this was a fabulous conversation and I walk away again feeling just really hopeful that there's just a lot of demand and growth and opportunities for these uniquely human traits and attributes. And I really thank you for that.

You said I want to make sure that people in the audience buy this book, so I'm going to close by saying please do. It's definitely the holiday times too, so I would encourage everyone to go out and purchase this book. Normally we would have a book signing event with Jamie, so this is one of our adjustments that we would do when we go online, but that shouldn't stop you from getting the opportunity to go out and purchase the book too.

So, again, I want to thank Jamie for this wonderful conversation. Congratulations on a wonderful book. And to all of you who have tuned in, thank you for joining us this afternoon — this morning.

MR. MERISOTIS: Thank you very much.

* * * * *

CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

Carleton J. Anderson, III

(Signature and Seal on File)

Notary Public in and for the Commonwealth of Virginia

Commission No. 351998

Expires: November 30, 2020