Transcript of IMF podcast:

**Digitalizing Sub-Saharan Africa**

Preya Sharma:

The pace at which people in sub-Saharan Africa are joining the internet is one of the quickest in the world. It's equivalent to about 106 new internet users every second and because that rate is so quick, it means that the region as a whole is beginning to close the gap in terms of internet connectivity with the rest of the world.

Bruce Edwards:

But the gap is large, only around a quarter of sub-Saharan Africa's population had access to the internet in 2017 compared to 65% in other regions. So in this program, we look at the benefits of closing the digital gap in sub-Saharan Africa and how they're doing it.

Preya Sharma:

What's interesting in the region is how people are accessing the internet and it's through mobile rather than fixed line. And that, actually we've seen, has had implications for the way that countries are dealing with the COVID pandemic at the moment.

Martha Tesfaye Woldemichael:

Despite disruptions to economic activity, some businesses were actually able to maintain operations through teleworking, thanks to digital connectivity. Governments are also using their online platforms to continue delivering public services during the conduct. For instance, in Togo, the government launched this cash transfer program that's based on mobile money technology to support vulnerable individuals. Many countries are using digital solutions to fight COVID-19, but greater digital readiness could have allowed the region to do even more.

Martha Tesfaye Woldemichael:

My name is Martha Tesfaye Woldemichael, and I am an economist in the African Department of the International Monetary fund.

Preya Sharma:

My name is Preya Sharma. I am a senior economist working in the African Department where I am the Special Assistant to the Director.

Bruce Edwards:
And welcome to this podcast produced by The International Monetary Fund. I'm Bruce Edwards. While connectivity in sub-Saharan Africa lags behind other regions. Digitalization is advancing fast and being embraced by those countries that do have access. In fact, some are now global leaders in mobile money transactions, for example, with a share of GDP average, close to 25% compared to just 5% in the rest of the world. In a region where infrastructure is often lacking, digital technologies offer ways to break down or leap over those barriers. Preya Sharma and Martha Tesfaye Woldemichael, were coauthors of the latest analytical chapter for the regional economic outlook for sub-Saharan Africa, which examines how digitalization can transform economies and people's lives. So how does one measure digitalization and how does the region measure up in comparison to others?

Preya Sharma:

Digitalization really is a new topic. And so when we started thinking about this work for the chapter, we also had to think about how is it can we measure digitalization? So we took a step back and tried to think about it, conceptually. So from an economic aspect, what is it that we want to really capture? So the way that we decided to approach it was on two fronts. So one is in terms of digital connectivity, and that's the idea of how able are people to actually connect to the internet and get online. And then the second aspect that we looked at was digital depth. And that's trying to understand to what extent have economic activities actually become more digital, how much more is happening online. So on the first front, in terms of digital connectivity, there's actually huge amounts of indicators that are available. So we tried to take a systematic approach to this and we developed here with fund staff, a new indicator called the Enhanced Digital Access Index.

Preya Sharma:

So that's an index that looks at five different aspects of getting online. So one, an important part is actually the physical infrastructure. Are there enough internet connections, either fixed line or mobile? Is it affordable? Is there a sufficient level of education within each country that people have to be able to access the internet? And then also we looked at quality of the internet and internet usage. So that really was one aspect of digitalization of getting people online. The second aspect in terms of digital depth, and that's where we tried to capture the extent to which economic activities had actually turned digital. So there we're thinking about how many transactions happen online, how much of government policy is actually becoming digital. Now, here there's less comprehensive, less systematic data. So we looked at measures like e-commerce, mobile money, and other types of government services that are available online. And when we compare these indicators from sub-Saharan Africa, compared with other countries, we came up with some quite interesting findings.

Martha Tesfaye Woldemichael:

So sub-Saharan Africa is still lagging other regions in terms of internet penetration. Affordability is also an issue because the cost of accessing digital technologies is high relative to the income levels of the population. Another example is the poor quality of mobile connection. So just to give you a figure, the average mobile download speed is more than three times slower in sub-Saharan Africa than in the rest of the world. And beyond gaps relative to the rest of the world, there are also disparities across Sub-Saharan Africa and within countries in sub-Saharan Africa. For instance, we find that higher income and coastal countries tend to be more digitally connected and within countries, rural areas and women appear to be less connected.

Bruce Edwards:

So digital tools are very practical on many levels. And what surprised me a little bit while reading through your research was how little governments adopted some of these digital tools, like for example, e-filing of taxes and e-procurement processes. It seems like those are low hanging fruit, given the challenges in tax collection and corruption for that matter. Why is it that there is so little adoption of these digital tools by governments?
Martha Tesfaye Woldemichael:

Well, there are different ways of looking at digital technology adoption. One can look at digital take up by businesses, but also households or the government. So in the case of the government, the adoption of digital tools is relatively low in sub-Saharan Africa. And this is in part related to lower digital connectivity in the region, including lower internet penetration. But more generally, complimentary policies need to be in place for adoption to take off because digitalization does not happen by itself. So governments will be more likely to develop online platforms for public services. Not only if the appropriate IT infrastructure is available, but also if businesses and households are digitally ready to pay taxes or to participate in public procurements online. In other words, investing in digital skills is as important as investing in digital infrastructure.

Bruce Edwards:

So do countries have the resources to invest in that infrastructure and how realistic is it really to think that widespread internet connectivity is possible in a region where universal access? I mean, we're still working on universal access to basic things like drinking water and electricity.

Preya Sharma:

Infrastructure is a super important aspect of getting online. And it's one of the factors that we look at in terms of the new indicator that we put together. We see two layers to this. So one is the foundational layer where reliable electricity is critical and then the second layer of infrastructure is the IT infrastructure. So that's the submarine cables that are used to connect the region with the rest of the world and also all of the national connections that are needed. And what we've seen in sub-Saharan Africa as in the rest of the world is that the private sector really does see this investment as profitable and so we've seen a lot of private sector activity in there. But that's not to say that the government doesn't have a role to play. As Martha was saying, access needs to be affordable for people. You want the internet to reach as many people as possible and so there is a role for the government there to play in ensuring that access is available to as many people.

Preya Sharma:

And I think the juncture that we're in at the moment with the COVID pandemic is, in one way, it's actually could be a push to accelerate the investment in digital capital. Because as countries begin to manage the process and start thinking about policies for the recovery, you're beginning to increasingly hear much more about a green recovery and also a digital recovery. And so there's a pathway that you can see that investment in digital infrastructure can actually help to create more resilient growth, but also stronger growth going forward. And actually that question about, can digitalization increase growth? Was one of the most important questions that we wanted to look at in this chapter. And we were able to do some quite interesting analytical work around that question of what are the potential economic gains.

Bruce Edwards:

And so what are those potential economic gains?

Martha Tesfaye Woldemichael:

Well, there are different ways of looking at these potential economic gains from digitalization. In our country level analysis of sub-Saharan Africa, we used the deployment of submarine cables as a natural experiment to identify the causal impact of digitalization on economic growth. And we find that a one percentage point increase in internet penetration in the region can raise per capita GDP growth by up to 0.4 percentage points.

Bruce Edwards:

Wow.

Martha Tesfaye Woldemichael:
And we also conducted a firm level analysis. And from that the sales of businesses that use digital communications are almost three times higher than many users. So from an economic policy perspective, I can give you three examples to illustrate the potential gains from digitalization. First digitalization is helping to accelerate financial development and inclusion, since sub-Saharan Africa, the spread of mobile money has improved access to finance, it has opened up the financial sector to populations that were previously excluded. Digitalization has also the potential to improve government spending efficiency. And this is because digital tools such as biometric technology or digital ID can be used to better target public benefits and services. And this also helps limit leakages related to fraud or corruption. And finally, digitalization can strengthen domestic revenue mobilization. Our analysis shows that countries that adopt digital tools such as e-filing enjoy improved tax revenue collection.

Bruce Edwards:

So as with any major transformation, there are winners and losers. How will this digitalization process play out in the labor market?

Martha Tesfaye Woldemichael:

Well, on the one hand, there's this debate on how automation is destroying jobs, but on the other, there is this pressing need to create 20 million jobs per year over the next two decades to absorb Sub-Saharan Africa's young and growing workforce. Our research shows that digitalization, presents opportunities for much needed job creation. We find that higher internet penetration can increase the share of jobs in the services sector. And interestingly, this effect is more pronounced for women probably because those sectors and services that benefit most from increased digital connectivity are also those that are employing more women. So in addition to this, our firm level analysis shows that businesses that are digitally connected, tend to employ more workers. More importantly, they tend to create higher skilled jobs and they tend to hire more workers on permanent, full time positions. So all of this does not mean we dismiss concerns about automation and job losses, but we believe that the extent to which digitalization creates more jobs than it destroys will depend on whether there're smart policies that can help maximize the benefits while minimizing the risks.

Preya Sharma:

And I think that last point is a very important one, because as much as we find these results, we also stress the importance of having policy frameworks in place, which enable digitalization to happen, which actually benefits the people within countries. And just one of the important aspects of that is to continue to invest in skills and education. So that's both in terms of basic education so that people are able to be consumers of the technology, but also in terms of supply. And one of the exciting things that we found while doing this work is that there is a huge amount of innovation going on within the continent in terms of using digital tools to actually develop new business models and new startups. And so this covers a whole range of different areas such as in health and education or in agriculture.

Bruce Edwards:

So indeed technology offers many benefits as you just described there, but there are risks associated with digitalization and technology moves very quickly. How do you ensure the benefits from digitalization outweigh those risks?

Preya Sharma:

So an important part of the policies that they want to think about when promoting digitalization. One of the core pillars that we talk about in the chapter is specifically about risk management. And so creating resilience both on the economic side, but also on the IT side is an important part of the overall policy approach to digitalization. And here it is really important to have risk management frameworks in place that allow early and preventive action so that there are considerations made for things like cybersecurity and also to ensure the security and privacy of
people’s data. And so these risk frameworks need to take account of the fact that the underlying technology itself is rapidly evolving. And so these, you need to have a very agile approach to that risk side as well.

Martha Tesfaye Woldemichael:

The good news is that about half of the countries in sub-Saharan Africa have already passed laws on cybersecurity and beyond that many countries have already in place digital strategy. So this shows that policy makers in the region are conscious that capitalizing on digitalization is the way forward for building more resilient firms.

Bruce Edwards:

Martha, Preya, thank you very much.

Martha Tesfaye Woldemichael:

Thank you.

Bruce Edwards:

That was.

Martha Tesfaye Woldemichael:

Martha Tesfaye Woldemichael.

Bruce Edwards:

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Preya Sharma:

Preya Sharma.

Bruce Edwards:

Talking about the latest analytical chapter for the regional economic outlook for Sub-Saharan Africa, which examines the role of technology in the region's development. You can read it at imf.org. And if you like this podcast, subscribe on Spotify or Apple podcasts or wherever you get your podcasts and follow us on Twitter @imf_podcast. Thanks for listening.

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