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EXPANDING KNOWLEDGE NETWORKS THROUGH DIGITAL INCLUSION

The Internet and its digital reach are generally viewed as an avenue for deepening knowledge and making it more widely available.

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EIGHT IN TEN PEOPLE
IN THE DEVELOPING WORLD OWN A MOBILE TELEPHONE

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The roundtable discussed three ways in which digital inclusion can expand knowledge: first, by providing access to a vast repository of online ideas, information and networks that helps to lessen information asymmetries; second, by generating new kinds of information and knowledge derived from digital products themselves in the form of big data; and third, by expanding access to skills and training through digital learning tools.

The rapid rate of progress towards universal digital inclusion—the removal of the digital divide—itself represents an important step in removing information asymmetries and expanding access to knowledge. Already eight in ten people in the developing world own a mobile telephone, and smartphone penetration is rising rapidly even in the world's poorest region, sub-Saharan Africa. As the digital divide is closed, it is reasonable to think that there will be greater equality in knowledge. Yet one of the persistent themes in the roundtable discussion was how the educated, the wealthy, the skilled, the powerful, and the urban dweller are best positioned to take advantage of connectivity to expand their knowledge and act on it. Why might this be the case?

The 2016 World Development Report puts this down to differences across people and places in the quality of competition, education, and institutions, which it refers to as the digital world's "analog foundations". These factors are pivotal in allowing individuals and economies to harness digital data and technology and transform it

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into knowledge. The low quality of these analog foundations in many developing economies can partially account for the disappointing impact of digital connectivity described in the previous section. Investing in these analogs at the same time as taking steps to close the digital divide therefore represents the only sustainable way of reducing the knowledge gap between and within countries.

The roundtable showcased several examples of the potential use of big data to support developing economies and their low-income populations. Digital connectivity leaves a "digital exhaust" that allows the tracking of behavior, markets, and the world around us. A record of individual bill paying can be used to establish a credit record for someone who hitherto lacked a bank account or identification card or credit, thereby now making that individual eligible for a loan. A record of market activities can be analyzed to better understand market dynamics: to predict and identify episodes of economic distress, to verify official data, and to make more informed business and investment decisions. Satellite data can be used to determine when insurance should be paid on weather insurance, when crops should be fed, and where atrocities have taken place.

THERE IS A TREMENDOUS OPPORTUNITY TO EMPOWER POOR PEOPLE BY ENABLING THEM TO USE THEIR OWN DATA. . .

A key question for the roundtable was how to maximize the benefits of big data for the poor. There is a tremendous opportunity to empower poor people by enabling them to use their own data—for example, telephone records to generate credit scores and insurance products, or browsing habits to inform retailers. However, seizing this opportunity depends on regulatory decisions regarding the ownership of data, for which global norms have yet to be established, and digital privacy.

Other ways to maximize the benefits of big data are to combine it with other sources of data and to establish protocols and platforms for how data should be organized, anonymized, and formatted,

and where it should be made public, where this is feasible. The open data community can offer some useful lessons here, as evidenced by the International Assistance Transparency Initiative standards for data on development assistance. Big data and open data suggest that the world is awash in data, but that data are in sore need of becoming more complete, accurate, organized, and up to date to keep up with the demands of global change and to identify new solutions to global problems.

Participants at the roundtable working in the developing world argued forcefully that traditional education systems in many low and middle income economies were failing to perform their role both to identify talent and to nurture skills. This poses an enormous challenge for economic development.

The emergence of online learning options—including massive open online courses—promises to upend the status quo and suggests failing education institutions could soon face dramatic disruption. Digital learning is already reaching millions of people who otherwise could not afford or access a high quality education. It allows individuals to proceed at their own pace, and at any time in their life, thereby facilitating lifelong learning. Yet the roundtable discussion stressed the ongoing need for fostering soft skills beyond the technical skills learnt in most courses. That suggests an ongoing need for that learning in a classroom that includes in-person interaction with others, beyond remote Internet-based solutions.

One of the common problems in education, at both the secondary and tertiary levels, in both developed and developing countries, is the difficulty in educating and training people today for tomorrow's jobs when we lack the knowledge of the real nature of those jobs and the required skills. The onus is on teaching people how to learn so they can adapt to different jobs. That is what firms are looking for.

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