It is 2025. Imagine that everyone around the world is using a broad range of affordable financial services that meet their various needs—full financial inclusion. This has contributed to a new wave of prosperity that is bringing greater economic and social progress. Financial services are central to the lives of everyone, allowing people to participate in the economy, access services, seize opportunities, build resilience, and pursue their dreams.

That’s one scenario; here are a few others.

In 2025, financial inclusion has become a victim of its own success. Providers are aggressively offering products and services that are not well suited for poor people. These products and services are actually harming them and adversely affecting their ability to participate in the economy and society—leading to further exclusion.

Or maybe, in response to new risks such as hacking and identity and data theft, governments have implemented policies that drastically dampen private-sector innovation and leave most people either excluded from financial services or poorly served.

Or maybe, the rise of social networks leads people to find new ways to engage with each other and to participate in the economy—all interactions, including financial ones, are conducted through these networks.

All of these scenarios are plausible. They could happen. Can we influence the outcomes?

Today, governments, development organizations, and private-sector players worldwide recognize the importance of financial services for poor people. As a result, more people are gaining access to financial services. However, relatively few people in developing countries use these services. This may reflect the perception that financial services on offer are of limited value for customers. Low use leads to lower gains for providers, thus putting the sustainability of financial inclusion solutions into question.

Important challenges remain for our industry; financial inclusion is only a means to an end. A growing body of evidence shows that people who can access and use financial services are better able to support their livelihoods, improve their well-being, and better deal with risk. It also shows that financial access can improve the local economy (Cull, Ehrbeck, and Holle 2014).

Global development trends indicate that the number of people living in extreme poverty is likely to continue to decline as incomes continue to rise in many parts of the world. Globally, the well-being of individuals seems to be improving. Yet, inequality has become a new challenge. A majority of poor people work in the informal sector. This plays a vital role in economic growth, but many of these workers do not have social protection and job security. Over the next decade several major forces will fundamentally shape most countries’ economic, social, and political conditions, including financial services for the poor.

To get a good sense of what the future may hold for poor people and financial inclusion, CGAP organized a scenario thinking exercise that aimed to examine plausible, divergent futures (see Figure 1). We conducted four global workshops in Accra,
Bangalore, London, and Washington, D.C., between October 2016 and February 2017. More than 100 thought leaders, innovators, development actors, and academics participated in these workshops. The goal was to generate possible future scenarios—not predictions—for financial inclusion, taking into account driving forces such as digital technologies, globalization, migration, and the changing world of work. In particular, participants explored the driving question: “In what ways will financial services influence inequality and economic participation for poor people by 2025?”

This Focus Note summarizes the insights gained through this exercise. It also identifies the main opportunities to ensure financial services better serve the needs of poor people in a rapidly evolving context for organizations working to advance financial inclusion.

The State of Financial Inclusion

To explore possible futures, we look first at the situation today. Based on extensive reviews of existing research, this section aims to offer a high-level description of the present landscape in financial inclusion.

More people are gaining access to financial services, but low use remains an issue

According to the World Bank’s Global Financial Inclusion (Findex) Database, globally, the number of accounts grew by 700 million from 2011 and 2014. The number of individuals without an account dropped 20 percent to 2 billion adults, while the percentage of adults with an account increased from 51 percent to 62 percent (Findex 2014).

Technology and mobile money have contributed to the rise in account ownership, particularly in sub-Saharan Africa (SSA). In SSA 29 percent of adults owned an account at a financial institution in 2014, but this increases to 34 percent when mobile money accounts are added (Findex 2014).

Despite the headline gains, data show persistent gaps in key regions and among certain client segments, such as women, youth, rural poor, and the poor at large. For example, the gender gap in account ownership is not significantly narrowing: in 2014, only 58 percent of women had an account compared to 65 percent of men (Findex 2014). Similarly, the Middle East and North Africa (MENA) had the lowest penetration, with 14 percent of adults with an account, followed by SSA with 34 percent, and South Asia (SA) with 46 percent (see Figure 2).

Despite improvements in access, account use remains an issue in developing countries. According to Findex, approximately 30 percent of bank accounts globally are underused or dormant in countries that are not in the Organisation for Economic Co-operation and Development (OECD) (see Figure 3). Furthermore, 68 percent of mobile money accounts are inactive on a 90-day basis, according to GSMA. Mobile money is still dominated by narrow use cases such as person-to-person (P2P) transfers and airtime top-ups (GSMA 2015).
In addition, access points for financial services, such as bank branches, automatic teller machines (ATMs), and agents, are still concentrated in urban centers, and the number of access points varies widely among countries. In Tanzania, for example, there were more than 900 access points per 100,000 adults in 2015, whereas in Egypt there were nearly 55 access points per 100,000 adults (IMF 2015). The type of access points beyond traditional brick-and-mortar bank branches and ATMs is becoming more diverse globally. Technology and regulation have enabled the use of agents to deliver financial services in many parts of the world.

Despite the momentum of increased access, the low use and lack of convenience reflect limited value for customers, thus representing lower gains.

Figure 2. Bank Account Penetration, by Region

Global Account Penetration: Adults with an account (%), 2014

Source: Findex 2014.

Figure 3. Bank Account Activity, by Region

Intensity of Use of Account at a Financial Institution
Adults with an account by level of account use (as % of all adults)

Source: Findex 2014.
for providers. Diverse population segments also remain excluded from access to and use of financial services. The private sector and governments will need to continue to work hand in hand to achieve meaningful progress on financial inclusion.

**Increased private-sector innovation leading to diversification of providers and business models**

In recent years, the space of opportunity for the private sector has expanded. Digitization lowers transaction costs and creates data trails that enable firms to innovate by developing new business models that serve poor consumers. Providers now include entities such as banks, microfinance institutions, mobile network operators (MNOs), payments services providers, merchant aggregators, retailers, financial technology companies (FinTechs), energy services providers, and social networks. Different players have taken the lead in expanding access to financial services across regions. In SSA, for example, MNOs have played a significant role in expanding access to financial services, whereas in East Asia e-commerce companies and social networks have accelerated financial inclusion (Faz and Moser 2013). In India, the government and state banks have been heavily involved along with a surge in FinTechs (Dickerson, Skan, and Gagliardi 2016). This increased diversity of providers offers a tremendous opportunity for new partnerships to be formed to explore new and innovative solutions to serve the poor.

**Important progress achieved in key markets through targeted state-led interventions**

In conjunction with the private sector, some policy makers are creating incentives for broader and interconnected market systems to achieve safe and more efficient product delivery. National policy goals, state infrastructure, and competition regulation are a few areas of government involvement where policies appear to contribute to broader access to and use of financial services. (Figure 4 depicts governments’ roles to drive financial inclusion.) Furthermore, many countries are incorporating financial inclusion strategies into their regulatory legislation. In India for example, the government-led Aadhaar program has provided digital identification to over 1 billion citizens and has been a key pillar of the country’s inclusive finance infrastructure. In another example, Sweden is piloting a cashless economy from which other countries can glean financial inclusion insights and incorporate these into their own fiscal policies.

**Figure 4. Policy Drivers of Financial Inclusion Ecosystem**

- National policy goals
- Increased volume
- State Infrastructure
- New financial accounts/services for the poor
- Financial sector stability/safety
- Enabling Regulation
- Adapting identity requirements for the poor
- Capital requirements, industry monitoring
- Deposit insurance/Consumer protection
- Allowing agents to perform key transactions
- eMoney
- Competition
- National ID systems
- Adapting KYC regulations
- “No-frills” accounts with low entry requirements and low cost
- Digitalization of P2G and G2P
- Incentives for users and providers to participate
- Physical: Post Offices, State-owned Banks, etc.
- Financial: Credit Registries, Clearinghouses, National Switch, etc.
Trends Shaping Emerging Economies

Financial inclusion can also be a means to an end. To better understand the potential for financial inclusion to contribute to poor people’s ability to participate in the economy and society, it is important to consider broad trends that affect how emerging markets develop and are considered relatively predictable. This section offers a high-level summary of these trends.

The world’s population is becoming more urban, with a youthful population in the South and an aging population in the North

As shown in Figure 5, the world’s population of over 7 billion people is expected to reach close to 8 billion by 2025 (UNFPA 2013). While more than half of the world’s population live in cities today, this share is projected to reach close to 60 percent in the next decade, with a particular acceleration in Africa and Asia (UNFPA 2013). Urban centers will be increasingly challenged to expand infrastructure to support growing populations, and might face new challenges, such as higher unemployment and increasing urban poverty.

Elderly populations will increase rapidly during this time, influenced by increasing life expectancy. However, over half of the world’s population will still be under 35 in 2030 (Euromonitor Research 2015). Figure 6 illustrates the population distributions by age group in select countries. The youth “bulges” in Latin America and India, and an even younger population in SSA, pose strikingly different age demographics than in North America, Europe, Japan, and China. This will most likely come with greater risks of youth unemployment, education challenges, and concern for the future workforce of these regions.

Global poverty has declined, well-being is improving, but inequality is on the rise

Over the past 40 years, global poverty has decreased: today fewer than 1 billion people live in poverty compared to nearly 2 billion people in 1975 (World Bank 2016b). Globally, poor people

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Footnote:
2 The World Bank defines poverty as living on less than US$1.90 per day.
are predominantly rural, young, poorly educated, and mostly employed in the agricultural sector; they live in larger households with more children. As global poverty has declined, gross domestic product (GDP) per capita has increased from less than US$2,000 in 1975 to about US$10,000 today (World Bank 2015a).

However, improvements in global poverty rates and income levels have not been equal across all regions. China’s economic growth over the past 40 years has been the largest contributor to reducing global poverty. In 1990, nearly half of the world’s poor lived in China. Today, just 12 percent of the global poor are Chinese. More recent progress in Indonesia and India has also contributed to overall poverty reduction. Today, the concentration of poverty has shifted to SSA, where half of the world’s poor now reside (World Bank 2016a).

Globally, well-being of individuals seems to be improving. For example, according to the 2015 Human Development Report, the world has made major progress with human development over the past two decades. Today people are living longer, more children are in school, and more people have access to clean water and basic sanitation. More people are connected across local and global markets because of digital technologies (UNDP 2015). But much more progress needs to be achieved, particularly in SA and SSA, among women and young people.

In fact, inequality has become a new challenge—data show that inequality continues to rise in many countries in terms of both income and assets. This lessens the pace at which growth enables poverty reduction (Ravallion 2004). Economist Branko Milanovic (2012) published a global analysis of the changes in real incomes across different population segments between 1988 and 2008 (see Figure 7). His analysis shows that the middle segments and highest earners saw significant income gains, while the poorest are only slightly better off than in the past. It also provides evidence that those earning between the 75th and 90th percentiles of the global income distribution have seen very little increase in income. These earners are the global upper-middle class. They include many from Eastern Europe and Central Asia (ECA) and Latin America, as well as from rich countries (e.g., the United States and countries in western Europe) whose incomes stagnated (Kawa 2016). In addition, comparison of data with and without China shows the large impact that Chinese economic growth has had in driving these trends.

**Poor people continue to work in the rural and informal economy**

Work is central to many elements of economic and social integration in society. At a minimum, it enables people to earn a livelihood and to gain some level of economic security. It also gives them a sense of dignity and worth (UNDP 2015). Work also strengthens societies: it can build social
cohesion and bonds. By working together, people can accumulate knowledge, which is the basis for cultures (UNDP 2015).³

Although the importance of agriculture to economies may be lessening, it remains an important source of work. According to the Food and Agriculture Organization (FAO) (2016), 1.34 billion people globally are working in or seeking work in agriculture, and most of this work is on family farms. The International Labour Organization (ILO) estimates that about two-thirds of the poor were employed in the agriculture sector in 2012 (Figure 8). Most of this work is on small- and medium-sized family farms, which—as is often the case in developing countries—have limited access to resources and lower productivity (UNDP 2015). Thus, many agriculture workers need to supplement their income with off-farm work. CGAP research on smallholder farmers in SSA confirms that these farmers earn income from multiple sources. For example, over 20 percent of Ugandan smallholder farmers derive income from remittances, 8 percent from retail/manufacturing, 5 percent from services businesses, and 12 percent from other wages.⁴

In addition, most people working in developing countries are employed in informal jobs.⁵ This accounts for more than half of nonagricultural employment in most regions of the developing world (WIEGO 2014).⁶ However, regional estimates hide great diversity within a region: informal employment represents 82 percent of nonagricultural employment in SA, compared to 66 percent in SSA and 45 percent in MENA or 10 percent in ECA. Women are more likely to be employed in the informal economy than men (WIEGO 2014). And while new evidence shows that the informal economy correlates positively with growth (Loayza 2016), it leaves many workers without social protection or job security, which poses challenges to combating inequality and poverty.

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³ According to anthropologist E. B. Tylor, culture includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society (https://en.wikipedia.org/wiki/Culture).
⁵ ILO defines the informal economy as all economic activities by workers and economic units that are—in law or in practice—not covered or insufficiently covered by formal arrangements.
⁶ For practical data collection reasons, the 15th International Conference of Labor Statisticians has recommended that agricultural and related activities be excluded from the scope of informal sector surveys.
Labor markets have increased the number of low-skilled and high-skilled jobs, leaving the poor with fewer opportunities to move up.

Poor people tend to hold jobs that require medium and low skills. According to ILO, in 2012, 53 percent of the poor were employed in occupations that typically require middle skills and 43 percent were employed in low-skilled jobs. However, because of advances in technology, globalization, urbanization, and other structural factors like the decline of unions, the labor market is increasingly polarized, potentially leading to greater inequality. Machines, computers, and the internet are contributing to the decline in the number of middle-skilled jobs in developing countries, while the number of low-skill and high-skill jobs has increased (Figure 9). Middle-skilled jobs are often near the top of the income distribution in many low-income countries (World Bank 2016e).

In summary, a lot of progress has been achieved in the lives of poor people over the past decade. Poverty is declining, well-being of individuals is improving, and more poor people are able to work than a decade ago. Many have increased access to financial services. However, a few trends persist or are emerging that could negatively affect progress. Most poor people continue to be employed in agriculture, which is often not a sustainable source of income in itself. Their employment continues to be informal without offering much security. The labor market is also becoming polarized, putting a large part of the workforce at risk. And use of financial services remains low. All of these components risk exacerbating the inequality that is already quite visible in many parts of the world. Rising inequality may also have implications for financial inclusion, because the focus on improving access to financial services may not adequately address it.

In light of these concerns, the new development priorities with the United Nations (UN) Sustainable Development Goals (SDGs) have extended the focus beyond poverty to tackle additional broader development challenges including inequality. These broader priorities underscore the need to understand how financial services can enable achievement of broader development goals. There is already some evidence that financial services are important enablers for some of the SDGs (Klapper, El-Zoghbi, and Hess 2016).

**Forces Shaping the Future of Poor People**

CGAP’s driving question for the scenarios thinking exercise is: “In what ways will financial services influence inequality and economic participation for poor people by 2025?”

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7 According to ILO, middle-skilled occupations require post-secondary, nontertiary education, upper secondary level of education, or lower secondary level of education (9 to 12 years). Examples of middle-skilled occupations include clerks, craft and related trades workers, plant and machine operators and assemblers, service workers and shop and market sales workers, and skilled agricultural and fishery workers.

8 According to ILO, low-skilled occupations require a primary level of education (6 years) or less.
The goal of the scenarios thinking exercise is to determine how poor people participate in society and the economy and how financial services will influence their participation over the next 10 years. The exercise considers many forces that already can be seen today. However, the degree to which a force will impact the livelihoods and well-being of poor people, and the effect of that disruption are uncertain. We identified four forces that are likely to have a substantive effect on how we answer the driving question (see Box 1). The forces were distilled from a much longer list arising from research and scenarios workshops.

Box 1. Four Forces Identified for Scenarios Thinking Exercise

By 2025 . . .
1. Will the spread of digital technologies and the digitization of information flows benefit poor people?
2. Will the globalization of capital, information, and ideas change the way poor people engage in society?
3. Will poor people continue to move domestically and internationally?
4. Will the changing world of work affect poor people?

1. Will the spread of digital technologies and the digitization of information flows benefit poor people?

The internet, mobile phones, and a diversity of tools that collect, store, analyze, and share information digitally have spread quickly. The number of internet users has tripled over the past 10 years—at the end of 2015, there were 3.2 billion internet users (World Bank 2016e). On average, 8 in 10 individuals in the developing world own a mobile phone, including those at the base of the pyramid (World Bank 2016e). In fact, more households in developing countries own a mobile phone than have access to electricity or improved sanitation (Figure 10).

Digital technologies have dramatically expanded the information base, lowered information costs, and created information goods. They have helped to reduce information asymmetries and increase trust and transparency, thereby influencing how firms operate, how people seek opportunities, and how citizens interact with their government (World Bank 2016e).

The volume of data in the world is increasing exponentially. According to the UN (2014a), 90 percent of the data in the world have been
created in the past two years. New technologies have spurred the volume, level of detail, and speed of making data available. Mobile phones, social media, SMS, emails, internet search data, and financial transactions provide accrued sources of “big data” that reveal new insights that businesses and governments can use to more accurately market to and serve people.

The potential of data also creates new challenges. For consumers, data present risks around privacy, anonymity, consent, security, discrimination, and so forth. Data are often in the hands of companies such as MNOs, internet providers, and digital platforms that might be reluctant to share data out of fear of threatening customer privacy or their competitive advantage. Companies might also decide to sell data without client consent.

In addition, a large portion of the population remains untouched by digital technologies. According to the World Bank (2016), nearly 2 billion people do not own a mobile phone, and nearly 60 percent of the world’s population does not have internet access. Disparities also exist across income distribution, gender, location, and age. For example, in SSA, women are less likely than men to use or own digital technologies. A similar gap exists between the elderly and youth. Access costs for consumers also differ greatly: for example, the cost of a typical mobile phone service can vary as much as 50 times from one country to another (World Bank 2016e). Some consumers who do not have a large data footprint might be at risk of exclusion.

Finally, the growth opportunity that digital services offer comes with risks. For example, as large companies increasingly own data on customers, there is a threat of excessive concentration of market power and rise of monopolies. A threat of greater inequality also exists as digital technologies automate tasks, which in turn might exacerbate competition for low-skill jobs and push salaries to lower levels. And, there is a threat to citizens’ engagement and empowerment if governments leverage technology to control information (World Bank 2016e).

In summary, digital technologies offer exciting potential for poor people to be more connected with markets, services, and information. They also offer the potential to break down geographical, cultural, and social barriers. However, certain associated risks, such as the risk of marginalizing certain segments, are important to consider, particularly for the poor. While it is clear that the creation of new technological connections will
accelerate in the future, there are a few noteworthy unknowns:

- Will the private sector make the necessary investment to connect people in underserved communities? Will the government provide incentives for the private sector to do so?
- Will connectivity become more affordable for all segments?
- Will interfaces become more adapted to consumers’ needs, capabilities, and behaviors?
- Will government regulation promote a competitive environment?
- How will governments regulate data privacy and ownership?
- Will firms be able to monetize data, and will regulations enable them to do so?
- Will citizens demand greater control of their privacy and data?

2. Will the globalization of capital, information, and ideas change the way poor people engage in society?

The world has never been more connected by commerce, communication, and travel than it is today. But, the pattern of globalization is shifting (Manyika et al. 2016).

After 20 years of rapid growth, global traditional flows of goods, services, and finance are slowing down. They reached similar levels in terms of dollar value before the 2009 recession but represented just 39 percent of world GDP in 2014, compared to 53 percent in 2007 (Figure 12) (Manyika et al. 2016).

Although these traditional flows continue to be an important part of the global economy, the volume of data being transmitted across borders has surged. According to Manyika et al. (2016), use of cross-border bandwidth\(^9\) increased by 45 times between 2005 and 2014 (Figure 13). Use is projected to increase by an additional nine times over the next five years.

Data flows, in particular through digital platforms (e.g., social networks, e-commerce websites, etc.),

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\(^9\) Used cross-border bandwidth serves as proxy to measure the volume of data transmitted as it correlates to internet traffic.
enable the movement of goods, services, finance, and people, expanding the realm of opportunities for local economies. Small businesses can leverage these platforms to connect with customers and suppliers around the world. Individuals can learn, find work, and showcase their talent with these platforms. However, digital globalization is still a recent phenomenon, and it is currently concentrated in advanced economies.

For the past decades, globalization compounded by digital technologies has contributed to a shift in the authority of states, with a few exceptions. The notion of “territory” has, indeed, become less meaningful and less constraining. People and organizations are interacting beyond national borders—sharing ideas and finding solutions to challenges with or without the involvement of states—and they often are free of any kind of control (Coursera 2017). This has
resulted in the empowerment and engagement of nonstate actors, such as multinational corporations, nongovernmental organizations (NGOs), regional bodies, etc., in addressing development challenges and making power more distributed and diffuse. One key emerging concern in the new global world is the dominance of digital platforms and their ability to redefine a wide range of political and societal realities (Ghez 2016). As U.S. National Security Administration whistleblower Edward Snowden put it: “When you get a Google in place, a Facebook in place, a Twitter in place, they never seem to leave . . . . We should be particularly cautious about embracing this . . . . To have one company that has enough power to reshape the way we think— I don’t think I need to describe how dangerous that is” (Conger 2016).

Overall, the digital era of globalization is expected to have an increasing impact on the lives of poor people in the next decades. Consumers will be able to access global goods, services, and information. Companies will operate in more globalized value chains. However, it raises a number of uncertainties:

- How will states respond to globalization with regard to controlling information, capital, and ideas?
- How will the rise of nonstate actors influence the power of the state? How will they influence consumers’ decision-making?
- Will there be a backlash to globalization from governments?
- Will crypto currencies and distributed ledger technologies enable services that are not tied to any country or central authority?

3. Will poor people continue to move domestically and internationally?
Better and more global economic opportunities, more jobs, and the promise of a better life will continue to prompt people to relocate. Forces such as climate change and conflicts will accelerate people’s drive to migrate in search of safer communities, employment, dependable income, and access to education. For example, in 2014, close to 20 million people fled their homes because of disasters (IDMC 2015). In 2015, around 65 million people were forcibly displaced as a result of persecution, conflict, generalized violence, or human rights violations (Edwards 2015).

Arguably, the biggest global demographic trend is urbanization. In fact, “the world is experiencing the largest migration from the countryside to the city in history” (Dobbs, Manyika, and Woetzel 2015). Globally, more than half of the population lived in urban areas in 2014 compared to 30 percent in 1950. Today, the most urbanized regions include Northern America (82 percent), Latin America (80 percent), and Europe (73 percent). Africa and Asia remain mostly rural today, with 40 and 48 percent of their respective populations living in urban areas (Figure 14). By 2050, the urban population is expected to reach two-thirds of all people on the planet, with the fastest growth in

**Figure 14. Urban and Rural Population as Proportion of Total Population, by Major Areas, 1950–2050**

![Graph showing urban and rural population as proportion of total population by major areas from 1950 to 2050.](source: UN 2014b.
Africa and Asia. Over the next four decades, the urban population of Africa is likely to triple, and in Asia it is likely to increase by 61 percent (UN 2014b).

The impact of climate change will also interact with urbanization and accelerate its growth (UNHCR 2011). Indeed, it has become widely accepted that climate change will result in large-scale migration, generally within countries (Brookings Institution 2014). According to the Internal Displacement Monitoring Centre (IDMC), mass displacements are frequent in countries most exposed and vulnerable to natural hazards, which are often developing countries. Between 2008 and 2013, more than 80 percent of displacement took place in Asia. But, given Africa’s fast population growth, it is expected that its population will be increasingly exposed to natural hazards and displacements (IDMC and NRC 2014). Figure 15 shows countries’ vulnerability to climate change, including 33 countries facing extreme risks; 27 of them are in Africa.

According to the World Bank (2017b), more than 80 percent of global GDP is generated in cities, highlighting the potential of urbanization to improve economic well-being by contributing to economic growth. In Kenya alone, data show that Nairobi contributed 20 percent of GDP even though it hosts just 9 percent of the country’s population (Runde 2015). In addition to economic benefits, urbanization offers the opportunity to connect people to basic but essential services such as water, health, electricity, education, and information. As such, cities can contribute to improving people’s well-being.

Yet, urbanization has the potential to be destabilizing and even to amplify existing challenges. It puts pressure on cities’ infrastructure and resources. According to UNDP (2015), nearly 40 percent of the world’s urban expansion may be in slums with inadequate sanitation and unsafe drinking water. Urbanization creates disparities among socioeconomic groups in cities, boosting social tensions.

Migration does not stop at cities; it extends across borders. In 2015, the international migrant population reached 244 million (UN 2016). According to the UN, a majority come from middle-income countries and move to high-income countries. A large number of international

Figure 15. Climate Change Vulnerability Index 2017

Source: Maplecroft 2016. Note: Maplecroft’s Climate Change Vulnerability Index evaluates the sensitivity of populations, the physical exposure of countries, and governmental capacity to adapt to climate change over the next 30 years.
migrants come from India, Mexico, Russia, China, and Bangladesh (Connor 2016). Two-thirds live in 20 countries, with the United States, Germany, and Russia serving as the top three destinations for migrants (UN 2015).

Because of new and festering conflicts, refugees are an increasingly important segment of the cross-border movement of people. According to the UN High Commissioner for Refugees (UNHCR), although refugees represented about 8 percent of all international migrants in 2015, their total number has increased from 1.7 million refugees worldwide in 1960 to close to 16 million in 2015 (Figure 16).

According to the UN, migrants contribute to the economic growth and income generation of destination countries. They often fill labor shortages, create jobs as entrepreneurs, and pay taxes. They also forge new paths in science, medicine, and technology and enrich their host communities by promoting cultural diversity (UN 2016). For example, with aging populations in the North, many advanced economies want to promote international migration to slow down the effect. Between 2000 and 2015, positive net migration contributed to 42 percent of population growth in North America and 32 percent in Oceania; in Europe, the population would have declined in the absence of positive net migration (UN 2016).

International migrants also contribute to economic development in their home countries, in particular with remittances. In 2014, global remittances reached $583 billion, including $436 billion to developing countries, which far exceeded official development assistance (UNDP 2015). According to the UN (2016), remittances are often used to improve the livelihoods of families and communities through investments in education, health, sanitation, housing, and infrastructure.

However, migrants are among the most vulnerable segments of the population. According to the UN (2016), “they are often the first to lose their job in the event of an economic downturn, often working for less pay, for longer hours, and in worse conditions than national workers.” And, they often face abuse, persecution, exploitation, and discrimination. Recently, the effect of globalization and digital technologies on advanced economies and the surge of the number

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**Figure 16. Total Number of Refugees Worldwide Living outside of Their Birth Countries**

![Graph showing the total number of refugees worldwide from 1960 to 2015. The graph indicates a significant increase from 1.7 million in 1960 to close to 16 million in 2015.](image)

Sources: UNHCR and Pew Research Center. Note: Does not include Palestinians refugees (Connor 2016).
of refugees have garnered mixed responses by governments from the North. For example populist movements in the United States and Europe have instigated protectionist policies that pin joblessness woes on immigrants, while countries like Canada have welcomed immigrants and refugees because, in part, they recognize the potential to integrate society and to reap economic gains.

Given that globalization, climate change, conflicts, changing demographics, and people’s aspirations to seek improved livelihoods, urbanization and cross-border migration will become much more important by 2025. These changes will affect poor people’s lives both positively and negatively. Migration also raises a number of uncertainties:

• How will governments respond to more demand for infrastructure, public goods, and basic services in urban centers?
• Will the power of the state strengthen or diminish under immigration? Will governments from the North embrace immigration as part of their own growth strategies?
• What will be the impact of migration on the job market in countries of origin and destination countries?

4. Will the changing world of work affect poor people?

According to the World Bank, current demographic trends require the creation of 600 million new jobs globally in the next 15 years to keep the share of employment constant. This will be particularly important for SSA and SA, where many young people will be entering the labor force (World Bank 2017a).

The other forces highlighted in this paper are affecting the labor market in developing economies, creating new or additional employment opportunities. As more people are moving to cities, they will be looking for jobs in nonagricultural types of work. The increased importance of global integrated value chains may provide more work opportunities, for example, with the development of service and knowledge industries or the outsourcing of services and manufacturing to developing countries.

Digital technologies enable firms and workers to operate, connect, and access more information and services (World Bank 2012). They may also provide alternatives for organizing the informal sector, creating some of the same advantages that normally come with formal labor, such as choice of working times and tracking of hours worked and wages earned. But these changes are also affecting the demands for new ways of working and skills. Globalization can put pressures on workers’ wages and working conditions. Developing countries might end up not benefiting from globalization if skill development and technology are not in step with technological advances. Technological changes tend to favor people with higher skills while hollowing out many middle-skilled jobs with less specialized skills that can be automated.

In 2017, the McKinsey Global Institute estimated the number of employees whose work could be affected by automation in developing countries. For example, 51 percent of employees in China are potentially automatable; similar percentages were estimated for counties like Ethiopia, Thailand, Egypt, Peru, Morocco, and many more (see Figure 17). Sectors that have the largest variation in potential for automation employ many poor people today. These sectors include agriculture, manufacturing, and trade (Manyika et al. 2017). Digital technologies are also disrupting work patterns with more irregular contracts and short-term work, blurring the lines even further between informal and formal, and limiting job security and protection (UNDP 2015).

The future of job creation will depend on making the transition toward more skilled modes of production. In developing countries, workers will continue to be individual microentrepreneurs, freelancers, online workers, or small business owners as service sectors grow. However, this kind of work is not a good fit for everyone. People have aspirations related to their work. Evidence suggests that many seek more permanent and stable work (see Figure 18).

In summary, the world of work is poised to change in the next decade, including in developing economies. This is partly driven by globalization,
digital technologies, and urbanization. The service sector will grow at the expense of the manufacturing and agricultural sectors. Increasingly, jobs will be occasional and short term. Transitions into new skills will be key for people to participate in the economy. However, these changes bring about a few questions:

- Will the education sector and skills development adapt, and will people be able to use the new skills quickly enough to participate in the new economy?

- How will social protection policies evolve to address the needs of the workforce that is unable to adapt to this new form of work? How will social protections adapt to address the large number of people in the increasingly digitized and informal economy?

- How will governments regulate and tax the new forms of jobs in the digital economy?

- How will these changes affect job opportunities for poor people?

**Figure 17. Worldwide Potential for Automation: Employees**

![Map showing worldwide potential for automation](image)


**Figure 18. Preferred Jobs among Adults in MENA for Sets of Alternative (% of Respondents)**

![Graph showing preferred jobs among adults](image)

Implications for the Financial Inclusion Industry

The pace and magnitude of change coming in the next decade can have a profound impact on the lives of poor people. Globalization, digital technologies, migration, and the changing world of work combined with demographic trends will affect how poor people take part in society, including the economy, and ultimately their well-being. Poor people will continue to move to new cities or countries, transition into new jobs, and adapt to new realities. The realm of opportunities for the poor will expand, but so will the potential for more risks and further exclusion.

This section synthesizes discussions and takeaways from the four workshops. It also builds on four scenarios that reflect possible futures for financial inclusion (see Annex). The scenarios are set in different contexts and draw on the forces discussed in this paper to illustrate different trajectories and outcomes from the present until 2025. Figure 19 depicts dynamics that can affect the current state of play and highlights the forces used in each of the four scenarios. Across all workshop locations, the spread of digital technologies was identified as a force that will continue to pave the way for more accessible and affordable services; it is therefore used across all four scenarios.

Financial services as an enabler to improve poor people’s lives will continue to be central

As we are projecting ourselves into the future, it is obvious that poor people’s lives will continue to change. Financial services have a clear role in helping poor people adapt through these changes to seize opportunities, protect assets, create new livelihoods, cope and mitigate risks, build resilience, and plan for the future. Yet, today there is still a disconnect between the supply of financial services and poor people’s financial needs. As such, organizations that are focusing on financial inclusion must ensure that financial services enable poor people’s inclusion by doing the following.

Improving people’s well-being. Education, water, sanitation, electricity, healthcare, information, and housing are all essential for poor people’s inclusion and well-being (World Bank 2013). Financial services can contribute to giving more choices to poor people.

Figure 19. From Current Reality to Plausible Futures: A Simplified Picture

Dynamics informed by:
- Trends
- Forces
- Uncertainties
- Interactions

Forces Highlighted in Scenarios

- Scenario 1: Bharatia Digital Disruption of Finance & Employment
  - Urbanization
  - Digital technologies
  - Globalization
  - Changing world of work

- Scenario 2: Kasania Digital Boom/Bust Cycle
  - Urbanization
  - Digital technologies
  - Globalization

- Scenario 3: Eurolandia Integrating Refugees
  - International migration
  - Digital technologies

- Scenario 4: Telmar Social Credit Score
  - Urbanization
  - Digital technologies
by making those services more available. Innovative financing schemes and payment mechanisms to access those services at scale are key to the solution moving forward. While financial services cannot affect the quality of these basic services, basic services must be viable: innovative financial solutions will need to be paired with viable services.

Moving forward, these solutions will need to be tailored to meet the needs of groups that face barriers to fully participating in the economy and society. Understanding the reasons why specific segments are excluded and the interplay between financial and social inclusion should be integral to identifying and designing solutions.

**Better supporting livelihoods.** Today, we know that financial services are used for many different purposes, not just for livelihoods investments as assumed in early microfinance models. However, their overall use has not created significant changes at the income or asset level. To see more meaningful changes in people’s lives, better understanding is needed on how financial services can be used to improve how people make a living and accumulate wealth. This begins by better understanding what the poor do for a living, how financial services can be used to improve these livelihoods, and how these incomes can lead to improved asset accumulation (El-Zoghbi 2017).

**Adapting to changes and building resilience.** Poor people’s lives are poised to change, for better or for worse, and for all sorts of reasons. We need to better understand these changes so that financial services are able to help people to adapt, seize opportunities, and enhance their resilience, including being able to anticipate and plan accordingly. For example, as the world of work evolves, financial services can enable access to education and retooling and skills training, which is key for enabling people to adapt and advance. Another example is migration. Migrants are not a monolithic population; they face different events, such as planning to migrate, initial settling, and transitioning to a more stable settlement (Anderloni and Vandone 2008). Financial services can support individuals or families throughout this journey with solutions ranging from remittances to the ability to invest, build assets, and even plan for their migration.

Social protection is likely to continue to be a key priority in the face of looming inequality and vulnerabilities of poor people. Distributing social protection through financial services providers offers potential benefits over traditional cash, voucher, or in-kind methods, such as more efficient delivery and providing a gateway to financial inclusion. In recent years, low-income recipients of cash transfers have increasingly received their payments digitally. However, recent research suggests that recipients face several risks such as the inability to transact because of unreliable service, insufficient agent liquidity, complex user interfaces and processes, and fraud (Zimmerman and Baur 2016). As such, more work will be needed, both with governments and providers, to ensure that the distribution of social protection is reliable, convenient, and safe.

**Diversification of providers will change the financial services ecosystem**

In parallel to the emerging changes in poor people’s lives, globalization and digital technology will also affect the delivery of financial services. Large multinational technology companies such as Google, Facebook and others are predominant digital platforms that could disrupt the financial services industry. Poor people trust their existing networks more than organizations for information, products, and services. Social networks can amplify this and might even become trusted financial services providers. This is already happening in China—Alipay and WeChat are leveraging Chinese people’s strong links between social media and how they use their money (Shrader 2014).

Other factors, such as the changing architecture of innovation and the shift of power away from MNOs and banks, might converge and will

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10 According to CGAP’s research, digital social payments are estimated to have more than tripled in the past few years.
It is expected that FinTechs will continue to push the boundaries of innovative tools and solutions for poor people. At the same time, many may struggle to compete with bigger players. This will require either collaboration or consolidation. Additionally, new players entering the space will most likely challenge the competitive advantage of MNOs and traditional financial institutions in serving poor people. Unless they are able to adapt to these disruptions, they will continue to lose relevance to end customers and become “dumb pipes” that provide mainly the backend functions of the communications and financial services infrastructure. Banks may evolve into more limited services like holding deposits, complying with regulations, and moving money between newly trusted financial services providers, such as social media companies and FinTechs. Similarly, the role of MNOs might evolve to focus more on network infrastructure and serving as the “rails” for customers to access financial services.

The potential “unbundling” of the financial services value chain will bring increased specialization and efficiency and, therefore, presents a big opportunity to better serve poor people. It will also demand further attention because it creates new risks, such as the concentration of power of large nonstate actors who “own” the consumer though global technology platforms. Engaging and partnering with these new players will be important in the future.

**Broad use of data will enable transformative solutions for poor people, but also create risks**

Data will be distributed across many players: banks, MNOs, social networks, internet operators, and more. Financial data will be combined with social connections and messaging data to build more complete digital profiles. Providers will be able to mine these data to create innovative financial services and increase use. The application of large volumes and multiple sources of data to financial services has the potential make services more accessible, better suited, and affordable to customers. Customers may become empowered if they are able to manage and monetize their own data by distinguishing themselves from other consumers to reap financial rewards.

However, the increased use of data raises important issues. For customers, on the one hand, data privacy and protection risks exist when the safety of data is compromised, data privacy is inadequate, or customers have a poor understanding of the use of their personal data. If these risks are not managed adequately, they can lead to low customer trust—making customers less likely to use formal financial services (Medine 2016). Customers who are still excluded from digital technologies will have thin data footprints and will be at risk of further exclusion. On the other hand, financial services providers’ willingness to invest in data and their capacity to analyze data are not a given. It is unclear whether they will develop models to monetize real-time financial information about clients that other businesses can use to offer products and services that may benefit poor people.

Governments will have an increasingly important job of regulating data ownership, use, control, and security. However, they may struggle to handle these regulatory needs in a rapidly changing environment, especially in light of capacity limitations.

**Risk of growing the digital divide**

Over the past decade, the number of people who have gained access to financial services through digital channels has grown exponentially, and there is no reason to believe that this trend will stop. However, the lack of connectivity and infrastructure in certain areas, the high cost of services and devices, and social norms and demographic characteristics put certain segments at risk of further exclusion. These segments include women, rural dwellers, the elderly, refugees, and the poorest.

More investments are needed to address these gaps and alternative solutions need to be devised. The cost of serving these segments is high. In fact, the business case for serving them is not always clear. Public-private solutions are need to address more complex problems, because it is unlikely that commercial approaches will be sufficient.
Role of government will remain critical

There is a strong consensus that governments will continue to play a key role in driving financial inclusion. However, they face capacity and governance challenges. It is particularly important to convince poor people to trust the formal financial system and to enable healthy market development with fair competition and responsible practices.

Governments face important limitations with setting policy and enforcement, especially in a rapidly changing environment. Regulators and supervisors will need to be included early on to ensure that policy does not get in the way of innovation and market development. Government corruption can also influence trust, which players are helped, the ease or complexity of the process, and appropriate solutions.

Finally, given the increasing complexity of the industry, other parts of governments may need to be involved to address how to handle issues beyond national boundaries. For example, competition authorities or telecom regulators may need to be brought in early to ensure a healthy development of financial services. With globalization and urbanization, policies may be increasingly driven by nonfederal government actors, such as cities, provinces, or regional bodies. At the global level, leading governments will continue to play a key role in setting global incentives. However, their future role with international cooperation on banking regulation is uncertain (Davies 2017).

Regardless of how the future unfolds, the lives of poor people will evolve in ways we can only begin to imagine. By allowing ourselves to explore and rehearse divergent and plausible futures and their implications for the financial inclusion industry, not only will we find ourselves more prepared for any future, but we can also help shape it for the better.

References


Annex. Scenarios

Scenarios do not predict the future, but rather they illustrate plausible stories arising from the interaction of multiple forces and uncertainties over time. A good scenario usually is one that is plausible and insightful.

CGAP has developed four scenarios that synthesize the workshops’ discussions. Readers can use the scenarios to test the robustness of their own strategies.

Scenario 1. Bharatia: Digital Disruption of Finance and Employment

Bharatia has previously pushed the roll-out of low-cost bank accounts for the poor, and it has introduced a leading digital identity system that has achieved widespread adoption. Poverty remains high, and over 90 percent of workers are employed in informal jobs that offer little protection. The country is undergoing significant rural to urban migration as farm families are increasingly sending primarily male family members to cities to find work, leaving women to raise crops and manage the home. Climate change is also disrupting the agriculture sector with increasing incidences of droughts and flooding.

Bharatia is undergoing a rapid digital transformation. While many rural areas remain underserved by connectivity networks, the population is rapidly adopting mobile phones and mobile payments. Smartphone adoption is taking off because they are becoming available for less than $50. Global internet giants have dominant positions in search, online advertising, social networking, and messaging. Local technology firms are rapidly increasing their footprint in services like ecommerce, ride sharing, and mobile payments. Global leaders in these areas are competing with local players and, in some cases, are partnering or acquiring them. The Bharatian government looks to foster innovation to lead the digital economic transformation, while maintaining strong regulatory oversight, especially in financial services and telecommunications. The increasingly dominant role of the global internet leaders remains an open question, especially as they manage more and more of the country’s digital transactions and communications.

The digital transformation drives a surge of economic growth by companies disrupting the traditional economy. E-commerce startups grow quickly, following in the footsteps of leading players in the United States and China. This disrupts the livelihoods of small shop owners and drivers, putting more power into the hands of the technology companies that are managing the networks. Phone-based ride sharing and digitally managed transport services grow quickly and begin to disrupt the taxi, bus, and shipping industries. Digital agriculture services transform rural farms through improved use of inputs and availability of shared equipment services for tractors, harvesters, and processors.

In parallel, local financial startups disrupt the payments and banking sectors by creating new digital models for credit scoring, leveraging the increasingly available digital data stream of citizens. Bharatians are encouraged to sign up for instant-access loans through their mobile accounts, which are much more convenient and available than traditional lending approaches. These models quickly expand into peer-to-peer lending models and new forms of community lending. All of these services rely heavily on digital data, integrated from across many sources, including mobile use and social networking. Although, citizens are wary of sharing data with so many technology companies, they feel they have no choice, because the new services are viewed as essential, and they are driving increased productivity and new sources of income.

The government struggles to keep up with the rapidly evolving technology landscape. It is successful, however, in fostering competition by preventing the technology giants from gaining too much influence across the economy.

The ride sharing and e-commerce industries are successful in gaining widespread adoption, but under the competitive drive to reduce costs, they begin to push down the wages of drivers and
delivery people. Seeing that they are not sharing in wealth created by the new services they are delivering, the employees organize protests that are widely supported by the public.

Recognizing this as a leadership opportunity, the government steps in to allow the informal workers to organize. The employee groups bargain for a fairer distribution of wages and fairer use of their data, enabling drivers and delivery people to take their digital performance and reputation data from one employer to the next. This spurs even more competition, as leading networks are more effectively able to match up employees to job openings. Seeing the success of this example leads other informal professions to adopt the same techniques. This results in rapid economic growth and advances in livelihoods across the economy.

Scenario 2. Kasania: Digital Boom/Bust Cycle

Kasania is a small developing country where the government has struggled to provide leadership in financial inclusion. It has a history of mismanaged development programs, and private-sector initiatives are negatively influenced by government corruption. In recent decades, the youth population has continued to grow, with over 50 percent of the country currently under age 18. Poverty remains high, but recent economic growth has created optimism about the future. The country is undergoing rapid rural to urban migration, but the large cities are struggling to support the increased population, and infrastructure is too weak to keep up with demand. Most migrants move to the cities to pursue economic opportunity, because of low productivity in the agriculture sector.

Mobile phone services and mobile money have been widely adopted even in rural areas, and remittances from family members in the city is a growing source of income for rural families. The increasing contact between rural and urban populations is driving youth to migrate to cities. Large donors are investing heavily in digital agriculture programs in the hopes that doing so will improve rural livelihoods. These programs have been hampered by government bureaucracy, and they lack sufficient coordination to make a solid impact along any particular value chain.

In urban areas, 3G infrastructure is widely available, and low-cost smartphones are taking over from basic phones. Most of the nation’s internet users are members of the largest global social networking provider, which also gives them access to free text and voice communications services. Internet messaging use has become so dominant that the local mobile operators are seeing decreases in revenue from traditional voice and messaging services. Mobile operators are under pressure either to expand into new service areas like mobile money or to evolve into “dumb pipes,” providing only basic infrastructure. Over the top (OTT) services, which provide basic communications and digital identity services, are increasingly dominating the user experience of the connected population. For the most part, the Kasanian government and local industry leaders do not realize the significance of these OTT services. The government is supporting network operators by having them team up with banks so they can jointly provide a wide range of mobility and financial services.

Global internet players will eventually help to build out the digital economy, starting with agriculture. They invest heavily in digitizing key agriculture value chains, and gain permission to include financial services. They provide pay-as-you-go financing of internet and smartphones. The smartphones come equipped with sophisticated agriculture apps that enable significant productivity gains, driving new income streams that Kasanian farmers use to cover the financing cost. These apps have been designed via a user-centric approach, including machine learning features and voice translation into local dialects, so they are easily adopted by poor people who have limited literacy and numeracy.

The initial success of this model drives a host of imitators, who use venture capital to start up similar ventures in other value chains. These startups are overly optimistic about growth, and they end up giving credit to too many marginal borrowers. After a year or so, many of these borrowers begin to default on their loans and get shut out of their internet access. This cuts off a significant portion of
their livelihoods, and they are unable to get further credit because of their digital trail of defaults. The resulting fall in economic activity threatens even the most solid customers, whose livelihoods are also severely impacted. The economy falls into recession—known as the digital recession—and widespread protests erupt. The Kasanian government steps in and creates new regulations that cut off all financial services within the digital agriculture platforms. This ends up crippling the growth of the platforms, resulting in failure of most of the technology companies involved. Innovation in the digital agriculture sector moves to other countries in the region, and Kasania loses its leadership position.

**Scenario 3. Eurolandia: Integrating Refugees**

By 2025 many refugees had entered the workforce of Eurolandia, but the process had been slow, highlighting the limitation of specific integration policies and the role the private sector can play to address gaps. Although refugees were required to attend language classes in their local communities, the pool of language teachers was too small to meet demand, resulting in long waitlists. In 2016, a language-learning company stepped in to offer refugees language courses through mobile app services at no cost. Initially, the service was available only to those who knew English, but the language company soon introduced courses in the two main languages spoken by refugees. The mobile app was updated in 2019, and it remains the main source of affordable basic language courses for refugees, with 350,000 people taking these courses by 2020.

The manufacturing sectors in Eurolandia evolved to require higher-skilled labor, and with that, specialized jargon of the industry had become increasingly important to refugees’ economic participation. Initially, a few small- and medium-size enterprises (SMEs) designed and launched programs to support refugees’ integration and education. After experiencing positive results in 2016–2018, other SMEs incorporated assessments into their recruitment processes to understand workers’ qualifications and background, internships, and language lessons focusing on industry jargon. The government supported these efforts and developed distribution formulas for refugees that enabled smaller cities to take on more immigrants and companies to address workforce shortages.

Another aspect of refugees’ economic integration was access to banking services. While requirements to open a bank account were eased in 2016, data collected in 2018 showed that only 30 percent of adult refugees opened a bank account, and that these accounts were opened mostly to receive salaries and government benefits and to pay rent. Some of the data revealed the need to send money home, save, and access credit to start businesses. Although bureaucracy and slow integration can explain the low account numbers, financial institutions—besides some savings banks, which had been more responsive—made little effort to engage with this new segment. Most financial institutions continued to perceive refugees as too risky. Also, they had not invested in developing speaking capacity in the languages used by refugees nor had they adapted services, thus making it difficult for refugees to become regular customers. This was compounded by strict recommendations in 2019 from the Financial Action Task Force on money laundering for banks in reaction to increased global terrorist threats.

While banks were reluctant to engage with this segment, a global internet giant capitalized on the 2016 regulatory changes by challenging the status quo. After obtaining an e-money license, it started serving immigrants and expats across Europe. Its customers use a mobile app to access a basic payment account interface, international money transfers, and debit cards. The app is available in all major languages. The company made account opening almost instant by using a snapshot of an accepted identification document, a “selfie,” and other data points from customers’ online social networking and purchasing history.

Soon after, the internet giant increased its support for refugees by providing international money transfers. In partnership with a bank, it launched
a social payment app in 2019. Using blockchain technology, it specialized in international money transfers. Customers could send money in their own currency instantly and for free to someone in another country who could then cash out. With convenient, affordable, and easy-to-use services, the refugee population embraced the offering. By 2021, 60 percent of adult refugees had an account. The increased volume of remittances to families back home made significant improvements to their economic situation. Many refugees even made investments in their home countries, anticipating their eventual return; this helped to maintain social networks between refugees and their home communities.

Traditionally, interpretation and enforcement of Eurolandia’s data privacy and protection laws have been quite strict. At the time, the internet company CEO reported that “unlike most citizens, the refugee population is less concerned about data protection issues. All they want is access to affordable credit and no bank is willing to offer this service now. Banks are only now waking up to the potential of serving this segment.” The company worked closely with authorities to ease interpretation of the regulations, while ensuring basic data privacy and protection. Since the introduction of the 2018 General Data Protection Regulation, Eurolandia had been keen on promoting big data projects. By focusing on a segment that is less concerned about data protection, authorities viewed the launch of the new product as an opportunity to demonstrate a less strict approach to data privacy and protection.

The effort was successful. Refugees were able to access and use credit services to their satisfaction, thus contributing to the deepening of their integration into the economy. More banks are now exploring opportunities to better serve refugees. But one of the surprising consequences of this effort is the shift in the local population’s attitudes toward data privacy. Indeed, citizens are becoming more open to using big data to access improved services, including financial services. Several consumer associations are currently working with regulators and the private sector to unleash the potential of big data.

Scenario 4. Telmar: Social Credit Score

Telmar is a developing country with an authoritarian government that has recently consolidated power after decades of instability. The country is primarily agricultural, but Telmar’s three major cities are growing rapidly as people migrate away from rural areas as they look for opportunities. Mobile phones are used by most of the rural and urban population, and smartphones are rapidly being adopted in the cities where 3G network coverage is available. The urban economy in Telmar cities is evolving rapidly. Many migrants live in slums and have difficulty finding jobs. The government is investing in large infrastructure projects to create jobs to alleviate tensions caused by urban migration. Previous incidents of urban unrest were put down by force, leaving the government open to unwanted criticism by the international community.

In addition to infrastructure investments, the Telmar government is looking to modernize the country’s financial system to increase economic activity and to improve the livelihoods of citizens. Currently, many people are adopting mobile money, but bank account use is low and access points are widely available only in cities. Telmar previously tried to build a national identity system, but the effort never achieved scale and was abandoned. The government wishes to maintain control of basic economic data and infrastructure, so systems like credit bureaus and identity services remain underdeveloped. The government also censors online activity and prevents citizens from accessing various international information sources.

To further control information, the government announced the creation of a new social credit system that applies a social credit score to each citizen. It will include a national database that will capture a wide variety of information on every citizen. The government says it will “forge a public opinion environment that trust-keeping is glorious.” This new system will also enable a rapid modernization of Telmar’s credit and identity systems.

Initially, the system roll-out went smoothly. Urban citizens were interested in learning about their social credit score, and people with high scores
often displayed them prominently as a status symbol. People were able to use the system to access credit from finance companies, and it became the default digital identity service. It helped to accelerate the growth of Telmar’s digital economy, as many companies developed new services around the system. The system was used even by online dating sites, whose users were looking for partners with high social scores. Most of the initial users of the system were people with high scores, because the rural and poor populations remained relatively unconnected. Few people understood that not everyone had a good score, and that a bad score could hurt them. The government did not clearly communicate that the social score could be negatively impacted by posting political speech online or by unsanctioned activities of someone’s social connections. Also, there was no way for citizens to review, dispute, or correct data in the system.

Over time, as the migrant and rural populations started to learn about the system, many of them started to turn against it. People felt that the system was rigged in favor of the elites, especially as data on school performance and social connections were included in the scoring. People who had financial troubles saw their scores falling and felt that the system gave them no opportunities to work their way out of their problems. People with low scores were effectively shut out of economic activity, and were often rejected in job applications based on their scores. Many of these people ended up being forced into the growing informal economy to survive. Eventually, a group of technology-savvy people in the informal economy started developing an alternative system based on a secure, peer-to-peer technology. This system enabled people to manage their own social networks and data and allowed them to control who had access to the data. Over time, the system added digital trust networks that could be verified through the peer-to-peer system without a central organization in control. New startups took advantage of the system to provide services to groups that were left out. These startups also developed reward programs to pay people for the use of their personal data, driving increased interest and use.

The new system became more and more popular, and eventually, even people with high social scores within the government system started to join the peer-to-peer system. The government tried to shut it down, but it had become too popular, and massive protests forced the government to back down. The government tried reforming its social credit system by providing relief to low-score people and by copying some of the features of the peer-to-peer system, but it failed to stop the system’s decline. Eventually the government capitulated and decided to formally recognize the new system. The social credit system was finally shut down, and all the data were deleted in an effort to regain the public’s trust. The peer-to-peer system remained independent from the government and engendered a new movement fighting for digital rights and privacy.
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