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AVOIDING THE PROSPERITY PARADOX:

How to build economic resilience in a post-COVID world

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JULY 2020

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EXECUTIVE SUMMARY

Although the ramifications of COVID-19 have been swift and indiscriminate, people living in poverty have been disproportionately impacted by the deadly disease. By some estimates, the economic fallout from the pandemic could push as many as half a billion people into extreme poverty, putting decades of progress in emerging economies at risk.[1]

Understandably, global efforts have focused largely on providing near-term relief in the form of healthcare and economic aid, but it's equally important to help emerging economies build a strong economic foundation that fortifies their resiliency in good times and bad. Unfortunately, conventional development strategies, which often employ stopgap measures aimed at the most conspicuous issues like low-quality education and nonexistent infrastructure, have failed to create a sustainable path for people to escape poverty. A prosperity paradox is at play: efforts to solve visible signs of poverty don't actually lead to lasting prosperity.

Instead, the most viable way to help economies become prosperous and build long-term resiliency is through investment in a specific type of innovation that more deeply sows the seeds of widespread opportunity: market-creating innovation.

Market-creating innovations transform complicated and expensive products into products that are simple and affordable, making them accessible to a whole new segment of people—known as nonconsumers—for whom there was always underlying demand, but no accessible solution. These innovations are particularly powerful because they create an abundance of jobs to serve the vast new market, and generate taxable revenue to help fund public services such as education, infrastructure, and healthcare. Equally important, the successful markets trigger an entrepreneurial culture that leads to more innovation—and by extension, development.

It turns out that many of today's prosperous countries such as Japan and Korea escaped poverty and weathered economic shocks by prioritizing market-creating innovations. Japan, for instance, was in dire economic straits after World War II but ultimately became one of the world's wealthiest countries thanks to local innovators including Canon, Panasonic, Sony, and Toyota.

Today's innovators have a similar opportunity to create new growth engines for their organizations and the countries that have been most devastated by the pandemic. While successful market-creation has traditionally been attributed to luck, this paper provides innovators with a predictable roadmap to:

1. **Discover market-creating opportunities.** By identifying barriers to consumption, looking for workarounds to common problems, considering aversions to situations, and reflecting on personal experiences, innovators can unlock the oceans of demand found in nonconsumption.
2. **Estimate the market for nonconsumption.** Nonconsumers are often discounted based on their inability to purchase existing solutions, however there is enormous untapped potential when innovators come up with affordable and accessible solutions to everyday struggles.
3. **Develop a new value network.** To profitably serve nonconsumers, innovators must fundamentally rethink which upstream suppliers, downstream channels to market, and ancillary providers enable a cost structure that keeps nonconsumers' needs in mind.

Whether it comes in the form of a global pandemic, a natural disaster, or a real estate bubble, periodic economic crises are inevitable, and they will always hit poor countries the hardest. However, when countries become prosperous, their ability to withstand and bounce back from a crisis is significantly strengthened. For many emerging economies, investing in market-creating innovations is the critical missing piece in the prosperity puzzle.

INTRODUCTION: THE IMPACT OF COVID-19 ON EMERGING ECONOMIES

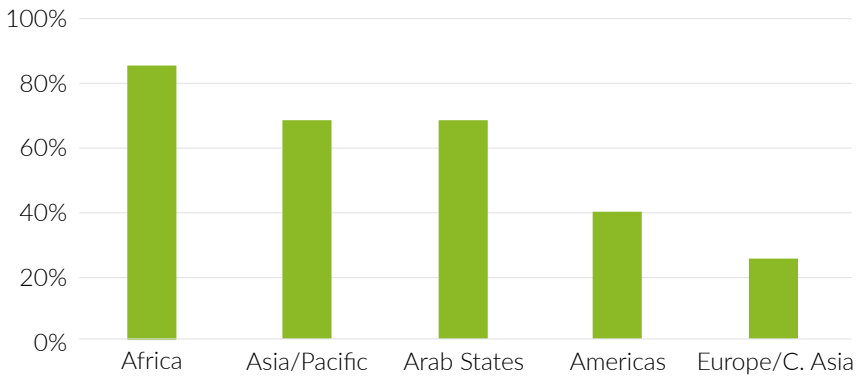
There's a simple, undeniable truth: during times of crisis, those least fortunate are disproportionately impacted. Whether it be a natural disaster, war, or a pandemic like the one that's currently ravaging many countries across the globe, those who have less often get hit the hardest.

Unfortunately, the current COVID-19 crisis has only exacerbated the inequity in emerging economies, which have been uniquely devastated by its impact.[2] By some estimates, the economic fallout could put "decades of progress at risk," and push as many as half a billion people into extreme poverty, defined as those living on less than $1.90 a day.[3]

In many African countries where the vast majority already struggled to access care, the pandemic is further stretching resources, with health systems reporting a shortage of ventilators and trained personnel.[4] Likewise, in countries like Peru, residents are fleeing crowded cities for less dense, rural areas that lack the healthcare infrastructure to care for COVID-19 patients.[5]

Seeking to prevent a public health disaster, many emerging economies moved quickly to impose full lockdowns of their populations, including some who imposed them before having a single confirmed case. However, these lockdowns are causing economic damage that threatens the daily survival of vulnerable populations. Many of the poor in emerging economies are part of the informal economy and rely on daily sales of goods at marketplaces for most of their income (see Figure 1). In Paraguay, for instance, two-thirds of the population work in the informal sector and, as a result, don't have access to the unemployment benefits the government has created to offset the impact of the virus.[6]

Figure 1. Percent of population employed in the informal economy

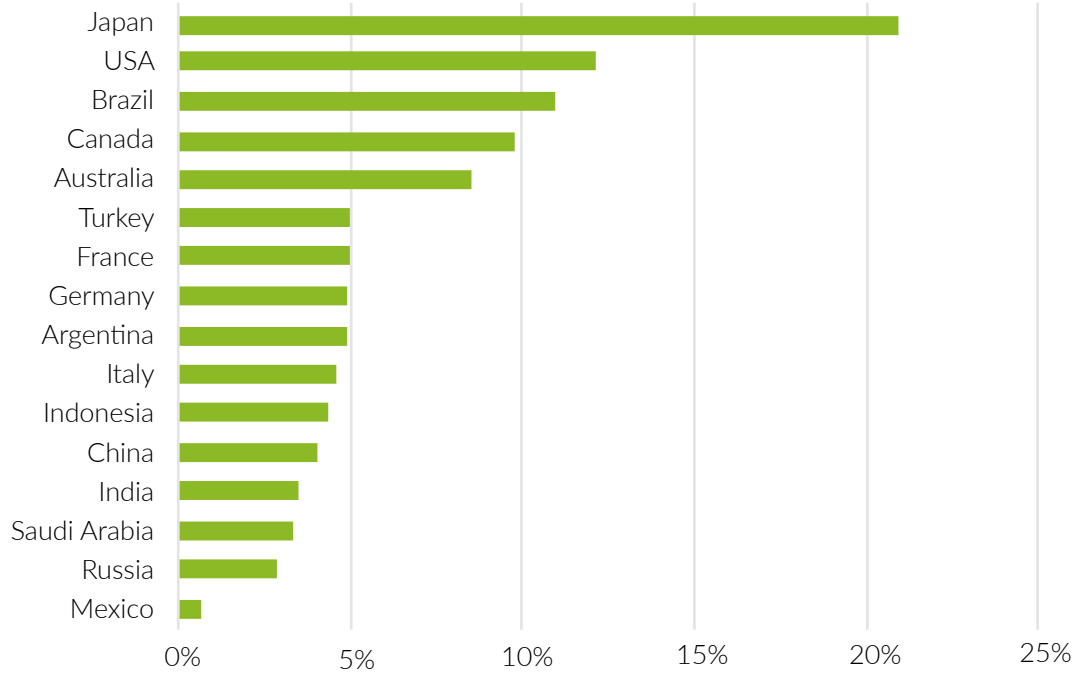


Source: International Labor Organization, "More than 60% of the world's employed population are in the informal economy," April 30, 2018.

The economic downturn in the broader global economy has several spillover effects that impact emerging economies more specifically. Oil prices have fallen dramatically, depriving some governments of a key source of revenue. Remittances, a significant source of income for many in these economies, have fallen dramatically as foreign workers have lost their jobs. The curtailing of air transportation has deprived farmers of opportunities to export products such as cut flowers to Europe and the

United States, while tourism has collapsed in places like Kenya, Peru, and Tanzania.[7] All of this means that while wealthy governments are enacting stimulus programs sized at roughly 5%–20% of their GDP, emerging economies have only been able to mount responses averaging 0.8% of their much smaller GDP (see Figure 2).[8]

Figure 2. COVID-19 fiscal stimulus as a share of GDP



Source: Erin Duffin, "Value of COVID-19 fiscal stimulus packages in G20 countries as of June 2020, as a share of GDP," Statista, accessed July 9, 2020.

In an effort to mitigate the health and economic effects of the pandemic in many emerging economies, global development institutions, foreign aid organizations, and philanthropies have committed billions of dollars in aid.[9] While it is important to focus on providing near-term relief in the form of healthcare and economic aid, the only way to help countries recover and build long-term resiliency to this kind of shock is through robust economic growth. Unfortunately, traditional ways of helping emerging economies, which have focused primarily on providing resources to alleviate poverty, have not created the strong foundation that's needed to ride out good times and bad. Understanding the prosperity paradox is the first step to solving this problem.

THE PROSPERITY PARADOX: WHY FOCUSING ON POVERTY DOES NOT FIX POVERTY

The prosperity paradox describes a simple phenomenon that countries don't create lasting prosperity by trying to solve acute signs of poverty—instead, they solve poverty by creating prosperity. This paradox explains why many programs designed to fix visible signs of poverty (such as low-quality education, subpar healthcare, ineffective governance, and nonexistent infrastructure) have failed to create a sustainable path for people to escape poverty.[10]

For most countries, prosperity begins to take root when both the public and private sector prioritize a particular type of innovation—market-creating innovation.

Since 1960 for instance, wealthy countries have spent trillions of dollars trying to help poor countries alleviate poverty, but many remain poor.[11] Although the global poverty rate has declined from around 35% in 1990 to approximately 10% today, that dramatic decline gives a false sense of progress.[12] The majority of people who have escaped poverty are primarily in China and, to a lesser extent, India. Interestingly, both countries have received little aid from major development organizations relative to their success in reducing poverty.[13] On the other hand, despite receiving billions of dollars in foreign aid, many countries that were poor in the 1960s are still poor today, and some are even poorer.[14]

Our research suggests that pouring resources directly into poor countries does not reliably create lasting prosperity.[15] For most countries, prosperity begins to take root when both the public and private sector prioritize a particular type of innovation—market-creating innovation.[16]

THE POWER OF MARKET-CREATING INNOVATION

Market-creating innovations transform complicated and expensive products into products that are simple and affordable, making them accessible to a whole new segment of people for whom there was always underlying demand, but no adequate solution on the market. We call this segment of the population "nonconsumers." In many emerging economies, the population of nonconsumers for most products and services far surpasses that of consumers. As a result, when entrepreneurs develop market-creating innovations, the societal impact can be immense.

For example, in the late 1990s mobile phones were deemed too expensive for a majority of people in Africa, and the severe lack of infrastructure made setting up a mobile telecommunications market seem implausible. But in 1998, Mo Ibrahim built Celtel and developed a business model that made inexpensive mobile phones accessible to millions of people in several African countries.[17] In addition to helping people lead more productive lives, Celtel triggered significant development across the continent by creating thousands of jobs, generating millions of dollars in taxes, and ultimately catalyzing an entrepreneurial boom in the telecommunications industry.

Market-creating innovations such as Ibrahim's Celtel are powerful because they don't exist in isolation, but rather create entire industries—thus igniting the economic engine of a society. For example, from just a handful of mobile telecommunications operators in Africa a few decades ago, today there are more than 100. As a result, the $200 billion telecommunications industry now hosts close to half a billion cell phone subscriptions in Africa, supports roughly four million jobs, and adds around $20 billion in taxes annually.[18]

Successful market-creating innovations have three distinct outcomes. First, they have an outsized impact on job creation because many more people are required to make, market, distribute, and sell the new innovations to the vast new market (see Figure 3). The jobs created by market-creating innovations build economic resilience as they are often better paying and more secure than many jobs in the informal sector.[19]

Figure 3. Economic impact of sample market-creating innovations

Market-creating innovator	Region, Founding year	Revenue	Jobs created
Airbnb (hospitality)	USA, 2008	$4 billion[a]	5,000+[b]
Grupo Bimbo (baked goods)	Mexico, 1945	$12.8 billion	148,638
M-Pesa (mobile money transfer)	Sub-Saharan Africa, 2007	$704.7 million	167,000+
Narayana Health (eye care)	India, 2000	$380 million	10,877

Note: Unless otherwise noted, all figures are from 2019 annual company reports.
Sources: [a]Annual revenue estimated based on reported 2019 Q4 revenue; [b]This figure includes full-time employees of Airbnb as of 2020. Airbnb, "A Message from Co-Founder and CEO Brian Chesky," May 5, 2020.

Second, market-creating innovations generate profits that not only make the innovations and new markets sustainable, but also provide taxes to help fund public services such as education, infrastructure, and healthcare. This is critical since most governments in emerging economies are severely under-resourced and struggle to provide the level of infrastructure they need in order to thrive. In times of economic crisis, such as now, access to better infrastructures and institutions help nations recover more swiftly.

Third, successful market-creating innovations trigger an entrepreneurial culture that values innovation. As entrepreneurs, investors, and governments experience the benefits of successful new markets, they become inspired to invest more heavily in market-creating innovations. The sheer prosperity generated by subsequent market-creating innovations enables nations to respond more boldly during economic crises.

By fostering a culture of market-creating innovations, organizations contribute to sustainable economic development that has the potential to not only lift millions out of poverty, but also to create prosperity. When entire countries prioritize this type of innovation, the impact is transformational as it builds resilience, especially in the face of sudden economic crises. Consider the case of Japan.

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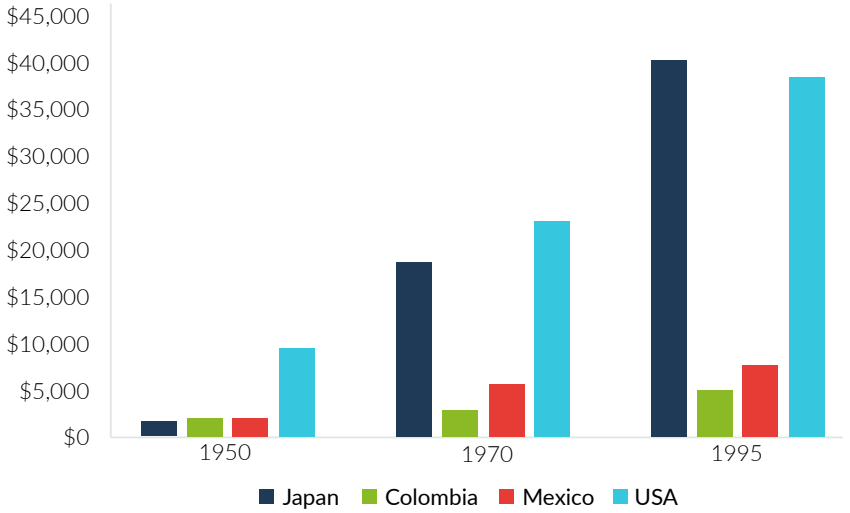
From poverty to prosperity: When market-creating innovations go mainstream

In the years after the end of World War II, Japan was in dire economic straits with most of the country's industry destroyed during the war. Japan's per capita income was lower than that of Mexico and Colombia, and just 20% of that of the United States.[20] It experienced a severe food shortage that lasted several years after the war, causing millions of poor Japanese to starve. Japan's economic situation was so bad that raw materials necessary to jumpstart production, such as rubber, magnets, electric motors, and other metals, were virtually impossible to come by. In addition to these severe economic difficulties, Allied Forces occupied the country from 1945 to 1952 and dictated manufacturing and industrial policy. Not unlike many emerging markets today, Japan faced an enormous uphill battle to rebuild.

Although the prospect of Japan's economy recovering swiftly from the shock of war seemed unlikely, Japan did recover and has since become the third largest economy in the world. Barely 50 years after World War II, Japan's GDP per capita of $40,368 has eclipsed those of the United States and the United Kingdom (see Figure 4). This is in large part due to innovators like Sony, Toyota, Toshiba, Panasonic, Honda, Nintendo, Canon, and Suzuki—all of which launched market-creating innovations (see Figure 5).

Sony, for instance, began operations in a bombed-out factory and sold electric heated cushions that often caught fire, scorching blankets and other furniture. Despite these humble beginnings, the company's founders, Akio Morita and Masaru Ibuka, focused on developing simple and affordable products and services for nonconsumers in Japan. By 1982, Sony had successfully built 12 different new markets largely without government support. These included the original battery-powered pocket transistor radio, the first portable solid-state black-and-white television, the video cassette player, the portable video recorder, the 3.5-inch floppy disk drive, and the now-famous Sony Walkman, the portable cassette tape player that sold more than 400 million units from 1979 to 2009.

Figure 4. GDP per capita



Source: World Bank, "GDP per capita (constant 2010 US$)," accessed May 15, 2020.
Note: GDP per capita is listed in constant 2010 $USD.

Today, Toyota produces more than 10 million cars a year and has become one of the world's largest automakers. In fact, its low-cost, compact Corolla owns the title as the world's best-selling car of all time. Founded in 1937, Toyota's strategy of targeting nonconsumption was captured in a statement by its then president, Kiichiro Toyoda, when he noted that Toyota cars should be "economical vehicles that can withstand poor roads and are more practical for the peoples of East Asia."[21] To reach nonconsumers, the company not only made cars simple and affordable, but also developed a driving school, auto dealerships, and a trade school for training middle-rank employees. It's important to note that Toyota's approach differs from organizations that primarily invest in low-wage manufacturing to export to wealthier nations, which often leads to less robust development. That's because these low-wage jobs create a race-to-the-bottom scenario where countries attract foreign direct investment by relaxing labor and wage standards.[22] It wasn't until 1980 that Toyota exported as many cars to North America as it sold in Japan.

Figure 5. Economic impact of market-creating innovations in Japan

Market-creating innovator	Industry	Revenue	Jobs created
Canon	Office equipment	$32.7 billion	187,041
Honda	Automotive	$14.9 billion	242,397
Nintendo	Consumer electronics	$10.9 billion	5,944
Panasonic	Consumer electronics	$69.6 billion	259,385
Sharp	Consumer electronics	$22.3 billion	54,156
Sony	Consumer electronics	$78 billion	114,400
Suzuki	Automotive	$36 billion	83,152
Toyota	Automotive	$280.8 billion	370,870

Note: All figures from 2019 annual company reports.

The culture of innovating and targeting nonconsumption spread through Japan as other firms such as Panasonic, Sharp, and Nintendo in consumer electronics and Canon, Kyocera, and Ricoh in office equipment developed market-creating innovations that catapulted Japan's economy from poverty to prosperity. These firms often targeted local nonconsumption first because they were well positioned to understand the needs of these nonconsumers before targeting global nonconsumption. Focusing on nonconsumption ultimately unleashed a domino effect of sustainable economic development in Japan by forcing innovators in the country to develop not just its manufacturing capabilities, but also its sales, distribution, marketing, and R&D capabilities. The end result was the creation and expansion of multiple industries, along with an increase in much-needed jobs.

Perhaps unsurprisingly, as Japan became more prosperous, the country also became infinitely better equipped to weather economic storms. For example, Japan spent more than $150 billion on a myriad of economic stimulus packages to help reboot its economy after the 2008 financial crisis. And at the time of this writing, the country's prime minister hopes to commit close to $2 trillion to stabilize the economy from the impact of the COVID-19 pandemic.[23] Japan's fiscal stimulus as a share of its GDP ranks the highest of all countries (>20%). If Japanese leaders had focused their efforts on fixing the visible signs of poverty after World War II rather than innovating to serve nonconsumption, it is unlikely Japan would be the prosperous and resilient country it is today.

A FRAMEWORK FOR DEVELOPING INNOVATIONS THAT TARGET NONCONSUMPTION

"The real voyage of discovery consists not in seeking new landscapes, but in having new eyes."—Marcel Proust

Instead of looking at the way the world is and assuming that's the best predictor of the way the world will be, great innovators push themselves to look beyond entrenched assumptions to wonder if there is a better way. And there often is.

Market-creating innovators intuitively understand the power of targeting nonconsumption even when all consumption data points to no opportunity. Nonconsumption is often invisible when analyzed through the lens of existing consumption, but with the right framework, entrepreneurs, investors, and managers can identify and evaluate nonconsumption opportunities.

Instead of looking at the way the world is and assuming that's the best predictor of the way the world will be, great innovators push themselves to look beyond entrenched assumptions.

Although there's no formula that can guarantee perfect innovation success, the following three-step framework provides a guide for those looking for new growth engines for their organizations and society.

Step 1: Discovering market-creating opportunities

How should potential innovators go about looking for opportunities to unlock the oceans of demand found in nonconsumption? How can we "see" nonconsumption when, by definition, it is composed of invisible needs that exist but for which no formal market has developed? In fact, there are four techniques entrepreneurs and investors can use to surface these hidden but exciting new markets.

Identify common barriers to consumption. One way innovators can identify pools of nonconsumption is to observe existing products and services and ask, "What are the barriers preventing the average person from consuming this?" It's a simple question, but one that can fundamentally change how innovators identify opportunities for growth. The most common barriers to consumption are money, access, time, and skill.[24] It's the innovator's task to find unique and creative ways to reduce these barriers to tap into the latent demand from nonconsumers. See Figure 6 for examples of innovations that succeeded by reducing one or all of these barriers.

Figure 6. Innovators overcoming barriers

Market-creating innovator	Money	Access	Time	Skill
Bank of America Designed a banking model that served smaller customers other banks viewed as unprofitable	✓	✓		✓
Celtel Made mobile telephones affordable and accessible for average people in Africa to own and use	✓	✓	✓	
Clínicas del Azúcar Created a simple, affordable treatment system for diabetes in Mexico	✓		✓	✓
Indomie Noodles Sold and distributed instant noodles throughout Nigeria, providing an affordable means of nutrition	✓	✓	✓	
Jamalon Made Arabic books accessible to many who previously had to travel long distances to buy them		✓		
Kia Introduced simple vehicles for Korean consumers who previously couldn't afford their own cars	✓	✓		
Kodak $1 Brownie camera made photography accessible to nonprofessional photographers	✓	✓	✓	✓
M-Pesa Used mobile technology to make financial services available for those who didn't previously have access	✓	✓	✓	✓
MAX (Metro Africa Xpress) Harnessed mobile technology to make transportation quicker and more affordable in Nigerian cities	✓	✓	✓	
MicroEnsure Developed a cheap, simple insurance product for individuals who couldn't access traditional insurance	✓	✓	✓	✓

Look for workarounds. When commercial products are unavailable to consumers looking to make progress, people will sometimes cobble together homemade solutions and compensating behaviors. For example, in the absence of financial services such as affordable loans, millions of people practice Osusu. It's a form of microfinance where a group of roughly 10 people pull money together daily, weekly, or monthly, and then rotate who takes the money in the pot. In situations like this, once an innovator identifies the struggle in people's lives that prompts them to use the workaround and then designs a commercial product that meets the same need in a more efficient way, market-creation is likely in the works.

Consider common aversions. Many people like the idea of being healthy, but how many avoid seeing a doctor or visiting a hospital, even when they're sick? Situations that expose aversions are excellent sources of inspiration for innovative solutions because the built-in desire to avoid a costly or painful alternative creates a natural pull to the new product.

Examine your life and experiences. Innovators can identify opportunities for nonconsumption by noting the products and services they enjoy that aren't available to as many people, as well as the things they don't enjoy that are shared experiences. For example, when the weather gets hot, many enjoy the cool breeze that comes from an air conditioner. However, billions of people who live in hot climates don't have access to cooling. And it's not because they enjoy the heat and love to sweat uncontrollably. It's because there isn't a product or service on the market they can afford.

None of these strategies in isolation is sure to surface a winning idea for a market-creating innovation, but they provide fertile ground for potential opportunities.

Step 2. Estimating the market for nonconsumption

One of the reasons it's hard to see nonconsumption as a viable opportunity is that nonconsumers are often evaluated based on their ability to purchase existing solutions on the market. For example, when Richard Leftley decided to develop insurance products for millions of people who earned less than $5 a day, his colleagues ridiculed him.[25] Average health insurance premiums in the United States, for instance, cost around $350 a month. How could there possibly be a market for people who barely earned $200 a month? Yet today Leftley's MicroEnsure provides a variety of insurance products including life, accident, health, micro assets, and others to more than 65 million customers—85% of whom had never purchased insurance before. Unlike many tech unicorns in wealthy countries, Leftley's MicroEnsure is profitable in more than 80% of countries where it operates.

Although it's difficult to predict the size of nonconsumption and how a newly created market will evolve, especially in emerging economies where there's a dearth of data, the following back-of-the-envelope calculation can provide a clue.

Process for estimating the market for nonconsumption

1. Select a few economies in which a product or service has widespread consumption.[26]
2. Calculate the percent of income spent on consuming the solution in these economies. This gives you a reasonable "percent-of-income" estimate for the average consumer.
3. Approximate what a nonconsumer in an emerging market can spend on the solution using the "percent-of-income" estimate calculated in step 2.
4. Estimate the number of nonconsumers in the emerging market.
5. Multiply the dollars represented by the approximate percent-of-income (step 3) by the number of nonconsumers (step 4). The result is the size of the nonconsumption market.

See the Appendix on page 21 for a detailed example of this process for estimating the size of the mobile telecommunications market in several emerging economies, which yields a result that is in-line with actual per capita spending of consumers today.

After estimating the size of nonconsumption, the next step is to develop a value network that targets nonconsumers at a price point and with the experiences that will convert them into consumers.

Step 3. Developing a value network for nonconsumers

Intuit co-founder Scott Cook is famous for not spending a lot of time creating complex financial models for novel business opportunities, noting, "For every one of our failures we had spreadsheets that looked awesome." Although estimating the size of a nonconsumption market is helpful, to capture that value, innovators must fundamentally rethink how to serve nonconsumers.

In our research, we have found that in order to serve nonconsumers profitably, market-creating innovators must develop a new value network.

A value network represents the collection of upstream suppliers, downstream channels to market, and ancillary providers that support a shared business model within an industry. It's called a value network because each activity adds value to the end product; it becomes the context within which a firm identifies and responds to customers' needs, solves problems, procures input, reacts to competitors, and strives for profit.

For the purposes of market-creation, what's most important about a value network is that it defines a firm's (or an industry's) cost structure. That is, the combination of the fixed and variable costs it incurs in order to run its business, or how much an organization must spend to design, make, sell, and support a product.

Because nonconsumers look different from existing consumers, new value networks that target nonconsumption necessarily look different. To develop new value networks, organizations must first seek to understand the value network and cost structure used by organizations targeting existing consumers, and then figure out which components must be changed to make their products more affordable and accessible. Instead of waiting for nonconsumers to become wealthy enough to afford existing products and services, market-creating innovators develop value networks with nonconsumers in mind. Consider the following example.

At the height of its success, movie rental company Blockbuster Video had more than 9,000 stores worldwide and employed around 84,000 people. But even with all those stores and employees, millions of people around the world were nonconsumers of movie rentals due to barriers like access and cost.

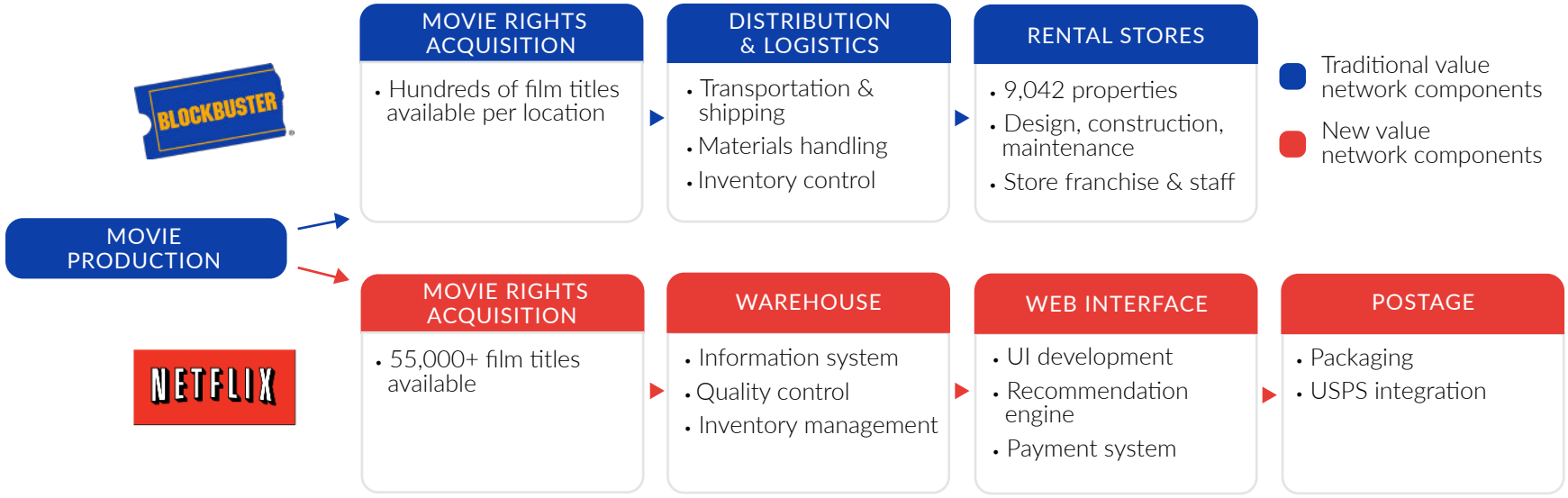
Blockbuster's value network was designed in a way that caused consumers to travel to its stores, rent movies, and then return them. Embedded in this value network were activities such as movie acquisition from production companies, distribution and logistics to get movies to Blockbuster stores, sales and marketing, store design and construction, and so on. Each of these activities added *value*, but they also added a *cost*. For instance, included in the price of video rentals were the costs of content acquisition, rent, and employee salaries at Blockbuster's 9,000-plus stores. In 2004, these costs alone accounted for more than 87% of Blockbuster's revenues.[27]

Instead of waiting for nonconsumers to become wealthy enough to afford existing products and services, market-creating innovators develop value networks with nonconsumers in mind.

In 1997, Netflix, a fledgling startup at the time, created an entirely different value network to serve nonconsumers of movie rentals and many consumers who were dissatisfied with Blockbuster's service. Rather than build thousands of stores across the world and employ tens of thousands of people, founders Reed Hastings and Marc Rudolph built a handful of warehouses, invested in efficient logistics technology, and leveraged the postal service to send and receive rentals. Even though the end result—customers sitting in front of their television sets enjoying a rented video—was the same, the difference in how these companies delivered the product to the customers couldn't be starker. By employing a different value network, Netflix was able to reduce the cost and access barriers that kept millions from renting from Blockbuster. This ultimately enabled Netflix to become the global powerhouse it is today, while Blockbuster went bankrupt in 2010.

Now more than ever innovators have a unique opportunity to create new-growth businesses that can help undo some of the devastation caused by the recent pandemic. By following this three-step framework for discovering, evaluating, and developing market-creating innovations, they can help catapult poor countries into prosperity—creating more resilient nations in the process. The following case study demonstrates how a market-creating innovation has successfully tapped into the unmet needs of many patients in Mexico.

Figure 7. Value networks for Blockbuster and Netflix (2005)



Sources: Blockbuster and Netflix 2005 annual reports.

Note: The above value network isn't inclusive of all the activities both organizations undertake, but it gives an idea of where and how the value networks deviate. This deviation led to a different cost structure for both companies.

APPLICATION: A MARKET-CREATING SOLUTION FOR DIABETES IN MEXICO

Mexico has one of the highest rates of diabetes globally, and it continues to increase. More than 14 million people are estimated to have the disease, but another 40 million people are believed to be living with diabetes without knowing it. It is not only the leading cause of death in many parts of the country, but it is also among the main causes of blindness, amputations, and suicide nationwide. Regrettably, only 25% of Mexicans have their diabetes under control, in contrast with 60% of people in the United States.[28]

Figure 8. Socioeconomics and diabetes in Mexico

GDP	$1.221 trillion
GDP per capita	$9,673
Population	126.2 million
People diagnosed with diabetes	14 million
People with undiagnosed diabetes	40 million (estimated)
Population below national poverty line	41.9% (roughly 52.9 million)
People employed in informal jobs	58% (30 million+)
Government spending per capita	$2,470

Sources: World Bank, "GDP per Capita (Current US$). Accessed May 27, 2020; AP News, "58 percent of Mexicans work in the informal economy," December 13, 2016; Ann M. Casanova, "A Retail Approach to Diabetes Care," International Finance Corporation, June 2019.

Note: All monetary amounts are USD.

Step 1. Discovering market-creating opportunities in diabetes care

The number of nonconsumers of diabetes care in Mexico is vast, with conventional solutions to diabetes failing to address the many barriers to consumption. For instance, the average diabetes patient will make up to 21 visits a year to either a clinic, doctor's office, or diabetes specialist just to manage the disease. At a cost of around $1,000, this amount is too high for a majority of Mexicans. Skill and access are barriers people with the disease struggle to overcome, since patients are expected to coordinate care with a number of specialists at multiple sites that may be far from home. As a result, too many Mexicans go without receiving the medical care they need to lead productive lives.

In addition to these barriers, there are several other signals that confirm nonconsumption of diabetes care. It's easy to assume that many diabetics are averse to multiple visits to doctors' offices, another clue that nonconsumption exists. Personal experience and struggle with the disease, such as blindness, amputation, and depression, also reveal diabetes is a problem many nonconsumers want solved.

Step 2. Estimating the market for nonconsumption of diabetes care

On the surface, diabetes and other chronic healthcare diseases may seem too expensive to manage for a middle-income country like Mexico. Cost of care in high-income countries with better funded, more efficient healthcare systems runs in the thousands of dollars. But using our back-of-the-envelope calculations outlined as follows, the opportunity to serve this growing nonconsumption begins to look attractive.

Figure 9. Markets for diabetes care

	Australia	France	Singapore	Switzerland	UK	USA	Average
GDP per capita	$57,374	$41,464	$64,582	$82,797	$42,950	$62,795	$57,833
Annual cost of care	$4,025	$3,093	$1,576	$3,603	$2,485	$9,601	$2,956
Out-of-pocket expenditure (% of health expenditure)	18.2%	9.4%	32.1%	29.0%	16.0%	11.0%	19.3%
Out-of-pocket diabetes cost	$731	$290	$506	$1,043	$397	$1,055	$569
% of GDP per capita spent on care	1.27%	0.70%	0.78%	1.26%	0.92%	1.68%	**0.98%**

Sources: The World Bank, "Out-of-Pocket Expenditure (% of Current Health Expenditure)," accessed May 25, 2020; Baker IDI Heart and Diabetes Institute, "Diabetes: The Silent Pandemic and its Impact on Australia," March 14, 2012; Bernard Charbonnel et al, "Direct Medical Costs of Type 2 Diabetes in France: An Insurance Claims Database Analysis," PharmacoEconomics Open 2, no. 2 (July 2017): 209–19; Charmaine Shuyu Ng et al, "Direct Medical Cost of Type 2 Diabetes in Singapore," Plos One 10, no. 3 (March 27, 2015); Ramsey Zarifeh and Vanessa Mock, "Treatment of diabetes costs SFr1 billion per year," Swissinfo.ch, February 7, 2002; Diabetes.co.uk, "Cost of Diabetes," January 15, 2019.

Note: In place of average income, which can be difficult to find especially in emerging economies, we use GDP per capita as a proxy.

Process for estimating the market for nonconsumption

1. **Select a few economies in which a product or service has widespread consumption:** Diabetes care in Australia, France, Singapore, Switzerland, United Kingdom, and United States (see Figure 9).
2. **Calculate the percent of income spent on consuming the solution in these economies. This gives you a reasonable "percent-of-income" estimate for the average consumer:** Average = 0.98%[29]
3. **Approximate what a nonconsumer in an emerging market can spend on the solution using the "percent-of-income" estimate calculated in step 2:** Multiply GDP per capita (row 2 from Figure 8) by 0.98% (from step 2). ($9,673 * 0.98%) = $95
4. **Estimate the number of nonconsumers in the emerging market:** 27 million[30]
5. **Multiply the dollars represented by the approximate percent-of-income (step 3) by the number of nonconsumers (step 4). The result is the size of the nonconsumption market:** $2.6 billion

Because nonconsumers in emerging economies often pay a higher percentage of their income on products and services than consumers in wealthy nations, the $2.6 billion calculation underestimates the true size of the diabetes care market. In addition, this market size takes into consideration only out-of-pocket costs. If the calculation were made using the cost of diabetes care, which includes insurance and out-of-pocket costs, the market for diabetes care in Mexico skyrockets to $17.8 billion. This is an incentive to further develop the health insurance industry in the country.

Step 3. Developing a new value network for nonconsumers of diabetes care

Building a business for nonconsumers of diabetes care requires innovators to reimagine how care is currently provided. Diabetes is an incredibly complex disease for which no known cure exists. As such, this disease must be managed throughout a patient's life. Because of the nature of the disease, patients typically need to see different healthcare professionals including a primary care doctor, an endocrinologist, a foot doctor, an eye doctor, a nutritionist, a psychologist, and a diabetes educator. This alone can cause immense struggle. Because few hospitals and clinics are organized around one particular disease, average diabetes patients in Mexico, who are often middle- or low-income, have to travel to see multiple specialists depending on how the disease affects them. This fragmented value network inadvertently increases the cost of care and causes it to be too expensive for the average Mexican.

An alternative solution requires a new value network where all diabetes care specialists are located under one roof and focused on treating diabetes. This has several benefits. First, the specialists improve their ability to treat the disease as they get to see more diabetes patients. Second, the cost structure of this solution decreases because of economies of scale and standardization. Third, diabetes-specific clinics are able to leverage their focus to negotiate better deals from suppliers. As a result, this solution indirectly saves the customers money, and directly saves them time, as they now have a one-stop clinic for their diabetes care.

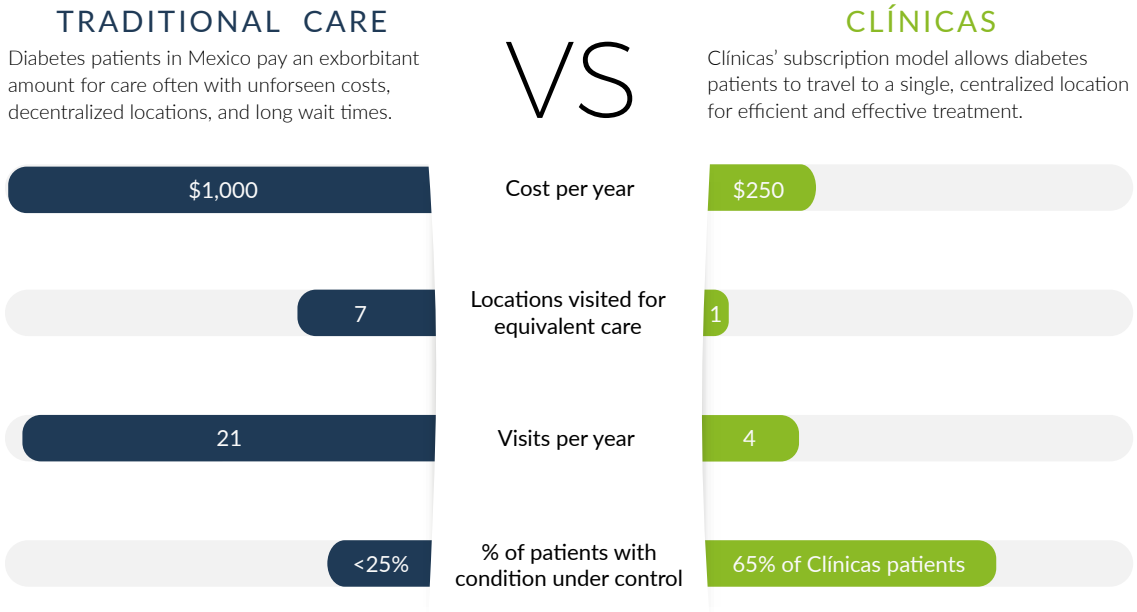
While this solution may sound too good to be true, it's not. Clínicas del Azúcar (Clínicas) is a low-cost, one-stop-shop chain of diabetes clinics in Mexico. In creating a new value network to serve nonconsumers of diabetes care, Clínicas has been able to cut the price of treating diabetes in Mexico by more than 70%. The company charges patients an annual subscription fee of roughly $250 and provides specialized diabetes care with ample benefits. The $250 amount is in line with our calculations, considering that nonconsumers in emerging economies spend a higher percent of their income on most products and services. (See the Appendix for more details on this research.)

In creating a new value network to serve nonconsumers of diabetes care, Clínicas has been able to cut the price of treating diabetes in Mexico by more than 70%.

Since its founding in 2010, Clínicas has grown to become the largest private diabetes treatment clinic in Mexico. In addition to its economic and social impact (see Figure 10), Clínicas has inspired copycats.

The new market created by Clínicas has the ability to transform not only diabetes but also other chronic diseases that need to be managed. If Clínicas serves just 10% of the market in Mexico, it will reach revenues of $1 billion annually, create thousands of jobs, and provide millions of dollars in tax revenue for the government to improve institutions, infrastructure, and other systems in the country. All these benefits are combined with the added gains of Mexico becoming a much healthier and happier society.

Figure 10. Diabetes care in Mexico



Source: Ann M. Casanova, "A Retail Approach to Diabetes Care," International Finance Corporation, June 2019.

Significantly, organizations like Clínicas also enable countries to become more resilient in times of crisis. Javier Lozano, Clínicas' founder, recently noted that "the pandemic has created tremendous need and awareness about the importance of diabetes care, and since the government is preoccupied with the COVID crisis, we [Clínicas] have seen a lot of new patients in our clinics."[31] Clínicas' ability to affordably care for diabetes patients, especially at this critical juncture, is building a strong foundation for socioeconomic development in Mexico. This model could be taken to other Latin American, African, and Asian countries.

Now imagine this framework—identifying nonconsumption and developing a new value network to serve nonconsumers—being used to solve other problems in emerging economies. The socioeconomic impact would be exponential. And although it remains difficult to prevent or predict economic crises like the one caused by the COVID-19 pandemic, fostering a culture of market-creating innovations can help nations be better prepared.

Organizations like Clínicas enable countries to become more resilient in times of crisis.

CONCLUSION

For transformative development to happen, innovators must first imagine a different world, one that is filled with possibilities that many others can't begin to imagine, and then work to build that world. While there's no silver bullet for prosperity, market-creating innovations such as Clínicas and Celtel play an integral role in helping to develop economies and catalyze growth. As noted by economist Nathaniel H. Leff, "Revisionist economic history has displaced the entrepreneur from his central role as determinant of a country's economic performance and placed greater emphasis on structural macroeconomic conditions."[32]

Whether it comes in the form of a global pandemic, a natural disaster, or a real estate bubble, periodic economic crises are inevitable, and they will always have a devastating effect on many in society. However, when countries become prosperous, their ability to withstand and bounce back from the crisis is significantly strengthened. Our research suggests that investing in market-creating innovations is the critical missing piece in the prosperity puzzle for many emerging economies.

APPENDIX

On page 16 we provide an example of how to estimate the market size of nonconsumption of diabetes care in Mexico. In addition, we have completed the same process for mobile telecommunications. Since most emerging economies already have a thriving mobile telecommunications sector, this enables us to compare our estimates with data from the existing markets and validate the process.

To begin our calculations, we first compiled data on mature markets for mobile telecommunications (see Figure A1). Then we followed the same five steps to estimate the nonconsumption market for mobile telecommunications in emerging markets.

Figure A1. Mature markets for mobile telecommunications

	Canada	Chile	Germany	Italy	South Korea	USA	Average
GDP per capita	$46,233	$15,923	$47,603	$34,483	$31,363	$62,795	$39,733
Average Annual Revenue Per User (ARPU) [a]	$509	$151	$237	$206	$341	$529	$329
ARPU/GDP per capita	1.10%	0.95%	0.50%	0.60%	1.09%	0.84%	0.85%
Mobile penetration (adult population)	88%	92%	89%	97%	98%	96%	**93%**

Sources: Economist Intelligence Unit, "The Inclusive Internet Index 2020," accessed May 5, 2020; World Bank, "GDP per Capita (Current US$). Accessed May 27, 2020.

Note: We use GDP per capita as a proxy for income.

[a] ARPU represents the average amount a person in these countries spends on mobile telecommunications annually.

Process for estimating the market for nonconsumption

1. **Select a few economies in which a product or service has widespread consumption:** Mobile telecommunications in Canada, Chile, Germany, Italy, South Korea, and the United States.
2. **Calculate the percent of income spent on consuming the solution in these economies. This gives you a reasonable "percent-of-income" estimate for the average consumer:** Average = 0.85%
3. **Approximate what a nonconsumer in an emerging market can spend on the solution using the "percent-of-income" estimate calculated in step 2:** Multiply GDP per capita (row 1) by 0.85% (from step 2). See row 2 in Figure A2 for the results for each country.
4. **Estimate the number of nonconsumers in the emerging market:** See row 3 in Figure A2 for estimates in each emerging market.
5. **Multiply the dollars represented by the approximate percent-of-income (step 3) by the number of nonconsumers (step 4). The result is the size of the nonconsumption market:** See row 4 in Figure A2 for estimates in each emerging market.

Figure A2. Estimated emerging markets for mobile telecommunications

	Ghana	India	Kenya	Laos	Nigeria	Pakistan	Uganda
GDP per capita	$2,202	$2,010	$1,711	$2,542	$2,028	$1,482	$643
Estimated ARPU (0.85% of GDP per capita)	$18.65	$17.02	$14.48	$21.53	$17.17	$12.55	$5.44
Estimated number of nonconsumers (mil)	15	675	26	3.5	100	105	21
Estimated market size of nonconsumption	$280M	$11.5B	$376M	$75M	$1.7B	$1.32B	$114M

Source: World Bank, "GDP per Capita (Current US$). Accessed May 27, 2020.

Note: Nonconsumption is a function of population, but not every nonconsumer is a possible consumer. Children, for instance, would fall into this category. We estimate that a conservative 50% of the population will be consumers of mobile telecommunications.

From this relatively simple calculation, we see that the market for nonconsumption is vast. But even these numbers underestimate the nonconsumption opportunity because we've assumed a similar percentage of income for both consumers in wealthy countries and nonconsumers in emerging economies. In fact, after analyzing expenditures in several sectors, we learned that nonconsumers in emerging economies often spend a greater percentage of their income on solutions that can help them make progress. That's because, in addition to having very low incomes, they don't have as many options on the market.

In our research, we used GDP per capita as a proxy for income. We looked at what the average consumer in a handful of emerging economies spends on certain products and services (see Figure A3). Specifically, we investigated the percent of income the average consumer spends on the following: beef, chicken, Coca-Cola, daycare, eggs, internet, mobiles, and taxis. We found that consumers in these economies spend anywhere from 1.4 to 13.4 times more of their income on these products. The average was around 2.2 times in upper-middle income countries and 7.6 times in low- and lower-middle income countries. Not surprisingly, the more democratized a product is, the less of a percentage of income people spend on it.

Figure A3. Expenditure on products as a percent of income

Product	High income countries	Upper-middle income countries	Low & lower-middle income countries
Beef (1 kg)	0.035%	0.092%	0.304%
Chicken (1 kg)	0.021%	0.044%	0.198%
Coca-Cola (0.33 liters)	0.005%	0.009%	0.024%
Daycare (private; full day)	1.603%	2.551%	4.927%
Eggs (12)	0.007%	0.019%	0.069%
Fixed-line broadband internet (ARPU)	1.269%	2.693%	17.024%
Mobile (ARPU)	0.754%	1.027%	1.995%
Taxi (1 km)	0.004%	0.011%	0.041%

Sources: Numbeo, "Prices by Country," accessed May 5, 2020; Economist Intelligence Unit, "The Inclusive Internet Index 2020," accessed May 5, 2020.

If we estimate that the average nonconsumer in an emerging market will spend more of a percentage of their income on a particular solution, the size of the nonconsumption market increases significantly. The real numbers for mobile telecommunications support this assumption, as shown in Figure A4.

Figure A4. Actual markets for mobile telecommunications

	Ghana	India	Kenya	Laos	Nigeria	Pakistan	Uganda
GDP per capita	$2,202	$2,010	$1,711	$2,542	$2,028	$1,482	$643
Actual ARPU	$34.00	$19.00	$60.00	$8.40	$35.00	$21.00	$26.40
ARPU/GDP per capita	1.54%	0.95%	3.51%	0.33%	1.73%	1.42%	4.11%

Sources: World Bank, "GDP per Capita (Current US$). Accessed May 27, 2020; Economist Intelligence Unit, "The Inclusive Internet Index 2020," accessed May 5, 2020.

NOTES

1. William Worley, "COVID-19 threatens decades of progress on global poverty, report says," *Devex*, April 9, 2020, https://www.devex.com/news/covid-19-threatens-decades-of-progress-on-global-poverty-report-says-96965.

2. For the purposes of this paper, we define emerging economies as any economy not categorized as high-income by the World Bank. High-income economies have a Gross National Income per capita of more than $12,376.

3. Worley, *Devex*.

4. Ruth Maclean and Simon Marks, "10 African Countries Have No Ventilators. That's Only Part of the Problem," *The New York Times*, April 18, 2020, https://www.nytimes.com/2020/04/18/world/africa/africa-coronavirus-ventilators.html.

5. Rosa Chavez Yacila and Julie Turkewitz, "Highways of Peru Swell With Families Fleeing Virus," *The New York Times*, April 30, 2020, https://www.nytimes.com/2020/04/30/world/americas/20virus-peru-migration.html.

6. Tony Kirby, "South America Prepares for the Impact of COVID-19," *The Lancet Respiratory Medicine* 8, no. 6 (April 29, 2020): pp. 551-552, https://doi.org/10.1016/s2213-2600(20)30218-6.

7. Andres Shipani, "Threat of Catastrophe Stalks Developing World," *Financial Times*, April 3, 2020, https://www.ft.com/content/3c5d83d2-7595-11ea-95fe-fcd274e920ca.

8. Shipani, "Threat."

9. International aid in response to the COVID-19 pandemic exceeded $10 billion USD as of April 2020. See Ben Parker, "Coronavirus Emergency Aid Funding," *The New Humanitarian*, April 23, 2020, https://www.thenewhumanitarian.org/news/2020/04/23/Coronavirus-emergency-aid-funding.

10. In a large-scale 2009 World Bank study, researchers interviewed more than 60,000 people living in 500 communities in 15 different countries to understand how they escaped poverty. Only 0.3% of people credited the antipoverty programs of NGOs while 71% of people assigned their progress to economic transformation such as jobs, new income sources, and new businesses. See Deepa Narayan et al., *Moving Out of Poverty: Volume 1*, Cross-Disciplinary Perspectives on Mobility (Washington, D.C.: World Bank and Palgrave Macmillan, 2007).

11. Organization for Economic Cooperation and Development (OECD), "Official Development Assistance 2018 - Preliminary Data," accessed May 15, 2020, https://www2.compareyourcountry.org/oda?cr=20001&cr1=oecd&lg=en&page=1.

12. World Bank, "Poverty Overview," accessed May 15, 2020, https://www.worldbank.org/en/topic/poverty/overview.

13. The number of people living in poverty fell from 1.7 billion to 580 million between 1990 and 2013, with China (730 million) and India (170 million) together responsible for more than 80% of that reduction. See Ananya Bhattacharya, "India's pulled at least 170 million out of poverty since 1990," Quartz India, September 12, 2018, https://qz.com/india/1385642/after-china-india-pulled-most-people-out-of-poverty-since-1990/.

14. "World Economic Outlook Database," International Monetary Fund, accessed May 15, 2020, https://www.imf.org/external/pubs/ft/weo/2020/01/weodata/index.aspx.

15. Just 20% of Official Development Assistance to emerging markets goes toward "economic infrastructure" projects, while the bulk of funds go toward education, health, social infrastructure, humanitarian aid, and other conventional development projects. OECD, "Development aid at a glance: statistics by region," accessed May 27, 2018, http://www.oecd.org/dac/financing-sustainable-development/development-finance-data/World-Development-Aid-at-a-Glance-2019.pdf.

16. The process we describe in this paper does not explain how every prosperous country has emerged from poverty. For example, some countries, such as Singapore, started out with a government that prioritized economic development and wealth creation, while others, like the United States, began their march toward prosperity a long time ago, and more gradually. See Clayton Christensen, Efosa Ojomo, and Karen Dillon, *The Prosperity Paradox* (New York: HarperCollins, 2019), 9.

17. One of the ways Mo Ibrahim made the mobile phone accessible was to develop "scratch cards" with unique pin numbers that unlocked mobile minutes. Because of this technology, previous nonconsumers could purchase mobile minutes for as little as $0.25—and they only paid for the minutes they used. Christensen, Ojomo, and Dillon, *Prosperity Paradox*, 12.

18. "Number of Unique Mobile Subscribers in Africa Surpasses Half a Billion, Finds GSM Study," GSMA, July 26, 2016, https://www.gsma.com/newsroom/press-release/number-of-unique-mobile-subscribers-in-africa-surpasses-half-a-billion-finds-new-gsma-study/.

19. In The Prosperity Paradox, Christensen, Ojomo, and Dillon describe how market-creating innovations create local jobs. These are jobs that must be created in order to serve the local market. Local jobs are not easily transferable or outsourced to other countries, and they are also less vulnerable to the allure of lower wages elsewhere. Christensen, Ojomo, and Dillon, *Prosperity Paradox*, 27.

20. NationMaster, "GDP per capita in 1950: Countries Compared," April 6, 2010, https://www.nationmaster.com/country-info/stats/Economy/GDP-per-capita-in-1950.

21. "Resumption of automobile exports and Toyota in Okinawa," 75 Years of Toyota, Toyota, accessed May 15, 2020, http://www.toyota-global.com/company/history_of_toyota/75years/text/taking_on_the_automotive_business/chapter2/section9/item2.html.

22. "Racing to the bottom," *The Economist*, November 27, 2013, https://www.economist.com/free-exchange/2013/11/27/racing-to-the-bottom.

23. Sherisse Pham and Yoko Wakatsuki, "Japan's economy just got another $1 trillion shot in the arm," *CNN*, May 27, 2020, https://www.cnn.com/2020/05/27/economy/japan-economic-stimulus-coronavirus/index.html.

24. In the book *The Innovator's Guide to Growth: Putting Disruptive Innovation to Work*, the authors describe in more detail how each of these barriers impede consumption. Money is often seen as the primary barrier, but other barriers play a significant role in fueling nonconsumption. See Scott D. Anthony et al., *The Innovator's Guide to Growth: Putting Disruptive Innovation to Work* (Boston: Harvard Business Press, 2008), 45-60.

25. Christensen, Ojomo, and Dillon, *Prosperity Paradox*, 46.

26. These economies are typically high-income countries where there's high consumption of many products and services.

27. Blockbuster Inc., Consolidated Statements of Operations, Form 10-K 2004, retrieved from http://getfilings.com/o0001193125-05-063510.html#tx93708_20.

28. Ann M. Casanova, "A Retail Approach to Diabetes Care," International Finance Corporation, June 2019, http://documents.worldbank.org/curated/en/863211567679824647/pdf/A-Retail-Approach-to-Diabetes-Care-Clínicas-del-Azúcar-Bringing-Disruptive-Innovation-to-Chronic-Disease-Management-in-Mexico-Case-Study.pdf.

29. This is a conservative estimate; in Mexico, this percentage is likely to be at least two times this calculation. See the Appendix to learn more about our research investigating the percent of income the average consumer spends on products and services in emerging economies. We found that consumers in these economies spend anywhere from 1.4 to 13.4 times more of their income on these products. The average was around 2.2 times in upper-middle income countries and 7.6 times in low- and lower-middle income countries. As a result, it's reasonable to expect that the average person in Mexico would spend more than 0.98% of their income on diabetes care.

30. Even though around 54 million Mexicans struggle with diabetes, in order to be conservative, we've assumed only 50% of the 54 million-plus diabetics will become part of the new market created. In the diabetes care market, not all who are diagnosed seek care. If using this methodology in other markets, a different percentage could be used given the unique dynamics of that market.

31 . Javier Lozano (founder, Clínicas del Azúcar), in discussion with the author, May 2020.

32. Nathaniel H. Leff (1979). Entrepreneurship and economic development: The problem revisited. Journal of Economic Literature, 17, 46-64.

Acknowledgements

We would like to thank Lincoln Wilcox who contributed some of the research and performed data analysis that helped increase our understanding of how to size nonconsumption economies.

About the Institute

The Clayton Christensen Institute for Disruptive Innovation is a nonprofit, nonpartisan think tank dedicated to improving the world through Disruptive Innovation. Founded on the theories of Harvard professor Clayton M. Christensen, the Institute offers a unique framework for understanding many of society's most pressing problems. Its mission is ambitious but clear: work to shape and elevate the conversation surrounding these issues through rigorous research and public outreach.

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