

Bill & Melinda Gates
Our 2019
Annual Letter

Things We Didn't See Coming

February 12, 2019





Bill Gates and Paul Allen, Bellevue, Washington 1982

Dedication

We're dedicating this year's letter to our dear friend and Bill's Microsoft co-founder, Paul Allen, who died of cancer last October. Paul was a brilliant man with a wide-ranging mind and a special talent for explaining complicated subjects in a simple way. He loved to share his passion for music, science, the arts, sports, philanthropy, and so much more. He supported homeless shelters, brain research, and arts education.

He helped us see how much good innovation could do in the world. He deserved more time in life, and his passing left a big hole in our hearts. We'll think of him every time we hear Jimi Hendrix.

How would you describe 2018? Was it what you expected?

We'd probably say no. From especially devastating natural disasters on the one hand to record numbers of women campaigning for office on the other, 2018 felt to us like a series of surprises. The world looking backward from today is very different from what we pictured a couple years ago looking forward.

A benefit of surprises is that they're often a prod to action. It can gnaw at people to realize that the realities of the world don't match their expectations for it. Some surprises help people see that the status quo needs to change. Some surprises underscore that transformation is happening already.

Twenty-five years ago, we read an article that said hundreds of thousands of kids in poor countries were dying from diarrhea. That surprise helped crystallize our values. We believe in a world where innovation is for everyone—where no child dies from a disease it's possible to prevent. But what we saw was a world still shaped by inequity.

That discovery was one of the most important steps in our journey to philanthropy. We were surprised, then we were outraged, then we were activated.

There have been good surprises, too. When we first started learning about malaria, we thought the world would never make real headway on the disease until someone invented a long-acting vaccine. But thanks to bed nets and other measures, malaria deaths are down 42 percent since 2000.

In this year's annual letter, we're highlighting nine more things that have surprised us along this journey. Some worry us. Others inspire us. All of them are prodding us to action. We hope they do the same for you, because that's how the world gets better.

“From especially devastating natural disasters on one hand to record numbers of women campaigning for office on the other, 2018 felt to us like a series of surprises.”

BILL:
We sent it to my dad and said, “Maybe we can do something about this.”

Africa is the youngest continent.

BILL: The world keeps getting older, but Africa stays (nearly) the same age. It sounds confusing, but it makes sense when you break it down.

“Young Africans will shape the future of not only their own communities but the entire world.”

The global median age is on the rise. In every part of the world, people are living longer. As more children survive to adulthood, women are having fewer kids than ever before. The result is a global population that’s creeping slowly toward middle age.

Except in Africa. The median age there is just 18. In North America, it is 35. And the number of young Africans is expected to rise in the decades to come.

There are a lot of reasons for this. One is that the annual number of births is going up in the poorest parts of sub-Saharan Africa, even as it goes down in other parts of Africa. This can be either an asset or a source of instability. Melinda and I believe that the right investments will unlock the continent’s enormous potential. Young Africans will shape the future of not only their own communities but the entire world.

MELINDA:
Leave it to economists to come up with such a dry term.

MELINDA: When economists describe the conditions under which countries prosper, one of the factors they stress is “human capital,” which is another way of saying that the future depends on young people’s access to high-quality health and education services. Health and education are the twin engines of economic growth.

If sub-Saharan Africa commits to investing in its young people, the region could double its share of the global labor force by 2050, unlocking a better life for hundreds of millions of people.



Elementary student, Solwezi District, Zambia.

Girls’ education, especially, is among the most powerful forces on the planet. Educated girls are healthier. They are wealthier. (If all girls received 12 years of high-quality education, women’s lifetime earnings would increase by as much as \$30 trillion, which is bigger than the entire U.S. economy.) And their families benefit, too. The more education a woman

has, the better equipped she is to raise healthy children. In fact, UNESCO estimates that if all women in low- and middle-income countries finished secondary school, child mortality in those countries would fall by about half.

A healthy, educated, and empowered African youth boom that lifts girls instead of leaving them behind would be the best indicator of progress I can imagine.

At-home DNA tests can find serial killers—and could also help prevent premature birth.

BILL: When police used genetic test results to catch the Golden State Killer last year, the story made headlines around the world. But it's not the only discovery to come out of at-home DNA tests. By looking at more than 40,000 samples voluntarily submitted by 23andMe users, scientists discovered a potential link between preterm labor and six genes—including one that regulates how the body uses a mineral called selenium.

Some people have a gene that prevents them from processing selenium properly. The 23andMe study (which our foundation helped fund) found that expectant mothers who carry that gene were more likely to give birth early. This suggests that selenium plays a role in determining when a woman begins labor.

“Scientists discovered a potential link between preterm labor and six genes.”

Understanding what causes prematurity is hugely important. Fifteen million babies are born premature every year, making it the leading cause of death in children under age five. Preterm birth affects mothers in every part of the world—although some groups experience it at a higher rate (which Melinda will talk about), and premature babies in low-income countries are much more likely to die than ones in richer countries.

Researchers won't know until later this year how exactly the mineral affects preterm birth risk. But if the link proves substantial, selenium could one day be a cheap and easy solution to help women extend their pregnancy to full term.

This connection is one of several breakthroughs we've made in recent years. Better tools and more data sharing mean that we're finally starting to

understand what causes babies to be born early—and what we can do to keep them in the womb longer. I'm particularly excited by the simple blood test for prematurity being developed by a team at Stanford. It can tell a woman how soon she'll give birth, so she can work with her doctor to minimize risks.

BILL:
This is a big puzzle
that we really
need to solve.

MELINDA: Despite all the promising discoveries Bill just described, what's just as amazing to me is how little we know about prematurity. I can't think of anything else that affects 10 percent of people in every part of the world but gets so little attention.

For the vast majority of preterm births, we can't identify the cause, nor do we know why some groups of women are more prone to delivering their babies early. For example, it's a mystery why taller women have longer pregnancies. And in the U.S., it's a mystery why African-American women deliver prematurely more often than women who emigrate here from African countries. One theory is sociocultural—that the racism and discrimination African-American women have faced their whole lives leads to stress that damages their health. Another is that the mix of micro-organisms in women's bodies may be different when they are raised here. We just don't know.

MELINDA:
African American
women are 49
percent more likely
to deliver their
babies preterm
than white women.

But here's one thing we do know: Prematurity is not binary. It matters a lot how early a baby is born; a baby born at 36 weeks is much better off than a baby born at 34 weeks. Our goal should not be to prevent prematurity categorically, which may be impossible anyway. Instead, it should be to extend pregnancies closer to full term for everyone. And we're finally starting to fill the gaps in our knowledge about how to do so.

The world will build an entire New York City every month for 40 years.

BILL: I wish more people fully understood what it will take to stop climate change.

You have probably read about some of the progress on electricity, as renewables get cheaper. But electricity accounts for only a quarter of all the greenhouse gases emitted around the world.

Manufacturing isn't far behind, at 21 percent. When most people think of manufacturing, they picture widgets on assembly lines, but it also includes the materials used in buildings. Making cement and steel requires lots of energy from fossil fuels, and the processes involved release carbon as a byproduct.

As the urban population continues to grow in the coming decades, the world's building stock is expected to double by 2060—the equivalent of adding another New York City monthly between now and then. That's a lot of cement and steel. We need to find a way to make it all without worsening climate change.

Manufacturing isn't the only big emitter. Agriculture accounts for 24 percent of greenhouse gases. That includes cattle, which give off methane when they belch and pass gas. (A personal surprise for me: I never thought I'd be writing seriously about bovine flatulence.)

The larger point is that if we're going to solve climate change, we need to get to near-zero emissions on *all* the things that drive it—agriculture, electricity, manufacturing, transportation, and buildings. I call these five areas the grand challenges in climate change.

It's not realistic to think that people will simply stop using fertilizer, running cargo ships, building offices, or flying airplanes. Nor is it fair to ask developing countries to curtail their growth for the sake of everyone else. For example, for many people in low- and middle-income countries, cattle are an essential source of income and nutrients.

Part of the solution is to invest in innovation in all five sectors so we can do these things without destroying the climate. We need breakthrough inventions in each of the grand challenges.

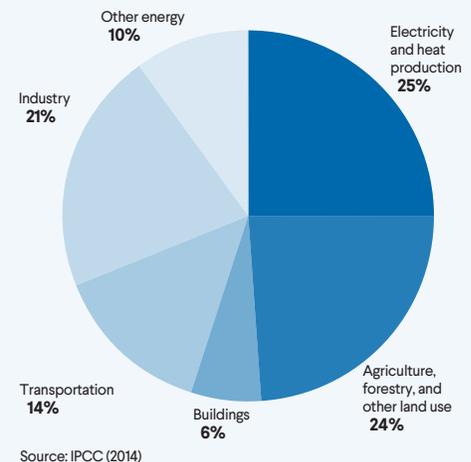
I can report some progress. The European Commission recently committed to invest in research and development on the five areas. And the \$1 billion private fund I'm involved with, Breakthrough Energy Ventures, is using the five grand challenges to guide all our investments in clean-energy companies. (My BEV work is separate from what our foundation does to help farmers adapt to climate change.)

But we need to do a much better job of informing people about the challenges. It would help if media coverage matched the breadth of the problem. Solar panels are great, but we should be hearing about trucks, cement, and cow farts too.

BILL:
"Buildings" here actually refers to things like insulation and HVAC systems. Confusing, I know!

BILL:
Including helping them get better seeds and fertilizer.

Greenhouse gas emissions



Data can be sexist.

BILL: I spend big chunks of my day studying data on health and development. I'm amazed at how little data we have on women and girls. I think the main reason is that we create this artificial divide where some issues are "women's" issues and others aren't, and the women's issues don't get as much in-depth study. That blocks progress for everyone. You can't improve things if you don't know what's going on with half the population. There's no good reason for that, now that technology makes it so much easier to gather data.

MELINDA: How much income did women in developing countries earn last year? How much property do they own? How many more hours do girls spend on household chores than boys?

I don't know. Neither does anyone else. The data just doesn't exist.

Bill and I could easily spend our whole annual letter talking about the role data plays in driving progress for the world's poorest people. Data leads to better decisions and better policies. It helps us create goals and measure progress. It enables advocacy and accountability.

That's why the missing data about women and girls' lives is so harmful. It gets in the way of helping them make their lives better.

The problem isn't only that some women are missing from the record altogether. It's also that the data we do have—data that policymakers depend on—is bad. You might even call it sexist. We like to think of data as being objective, but the answers we get are often shaped by the questions we ask. When those questions are biased, the data is too.

For example, what little data we do have about women in developing countries is mostly about their reproductive health—because in places where women's primary role in society is being a wife and mother, that's what researchers tend to focus on. But we have no idea how much most of these women earn or what they own, because, in many countries, income and assets are counted by household. Since the husband is considered the head of the household, everything a married woman brings in is credited to him.

When such flawed data is all you have to go on, it's easy to undervalue women's economic activity—and difficult to measure whether women's economic condition is improving.

Three years ago, our foundation made a big investment to start filling some of these data gaps. We are part of a network of organizations working to accelerate a gender data revolution—from empowering data collectors with new tools and training to breaking down existing datasets by gender to mine them for insights.

This work to collect and analyze data can sound—let’s face it—boring. But what’s not boring is using data to empower millions of women and girls.

When I was in Kenya a few years ago, a data collector named Christine let me accompany her as she went door to door surveying women in one of the poorest parts of Nairobi. She told me that many of the women she meets through this work have never been asked questions about their lives before. Christine says that when she knocks on a woman’s door and explains that she’s there to learn more about her, it sends a message to that woman that she matters—that someone cares about her.

I think her point is a powerful one. What we choose to measure is a reflection of what society values. That’s why when it comes to understanding the lives of women and girls, the world can’t accept “I don’t know” as an answer.

You can learn a lot about processing your anger from teenage boys.

MELINDA: Two autumns ago, Bill and I spent an afternoon at a Georgia state prison. We were there to learn more about the link between poverty and mass incarceration. (As we wrote about in last year’s letter, our foundation is beginning to expand our work in the U.S. beyond our investments in public education, so we’ve been studying U.S. poverty from lots of angles.)

The most memorable part of the day was a conversation we had with a small group of inmates. If we had any preconceived idea of what a violent offender would be like, the men we met didn’t fit it. During our time together, they were funny, friendly, and reflective.

We talked about their plans for life after release and the circumstances that led to their convictions. While we didn’t go deeply into the specifics of their crimes (some of which were serious violent offenses), most of them said something about considering themselves to be generally good people who fell in with a bad group and, during a heated moment, did something terrible. They take responsibility for what happened, and, given the chance to go back in time, they would do things differently. But in the moment that mattered, their decision was the wrong one.

“Even though the circumstances were very different, learning to deal with your anger was something we all related to.”

Every day, there are young men across the country finding themselves in similar situations—high-stakes interactions that could turn violent or deadly. A growing body of research suggests that interventions that work with young people to improve their impulse control may help them more safely navigate these situations—keeping them in school and out of trouble. That’s where programs like Becoming a Man come in.

BAM helps young men in neighborhoods with a lot of crime and gang activity explore their emotions and hone their decision-making skills. It’s drawn a lot of attention for its success: A study by the University of Chicago found that BAM reduces its participants’ violent crime arrests by almost half.

Last year, Bill spent time with BAM and joined a small group of high school students for a meeting. When he got home, I could tell right away how much the experience had touched his heart. “I didn’t just see a BAM circle,” he told me. “I participated in it.”

BILL: I heard about BAM because our foundation is starting to invest in programs that help kids with social and emotional growth, I was surprised that its approach could be so effective, and I wanted to see it in action. I had no idea how moving it would be.

I sat in on one of the small meetings that students in the program have with a counselor twice a week. After the students asked me to join—you have to be formally invited by the group—I sat in a circle with five young men, a mix of sophomores and juniors. They started by going around the circle and letting each person share something about the topic of the day. When I was there, the subject was anger. When was the last time you were angry? How did you handle it and what could you have done differently?

Although some of the guys talked about typical teenage frustrations—a teacher was treating them unfairly, or they kept dying in a video game—others had tragic stories. One had just watched a family member go to jail. Another spoke about a friend who had been shot. (I’m leaving out some details of the visit to preserve the participants’ confidentiality.)

When it was my turn, my answer was not like everyone else’s. I talked about getting mad at a meeting where I learned that the number of polio cases was going up. I am lucky to be able to worry about problems like that. The things that troubled the young men in the circle that day were a lot closer to home. Polio was hardly on their list of top concerns, and I understand why.

BILL:
I've had to work
at it myself.

But even though the circumstances were very different, learning to deal with your anger was something we all related to. It's an important life skill, part of becoming a mature adult. Growing up, if I thought my parents were being unfair, I could be pretty harsh with them. When I was at Microsoft, I was tough on people I worked with. Some of it helped us be successful, but I'm sure some of it was over the top.

So it was inspiring to see these young men in such tough circumstances working on this skill much earlier than I did. They were deeply engaged in the conversation, asking each other thoughtful follow-up questions. They were facing big challenges with incredible resilience.

After the session was over, I stayed around to chat a while. We posed for selfies and joked about the Xbox versus PlayStation debate. (I said we're an Xbox family, which surprised no one.)

This particular BAM group had been together for a year, and it showed. I was touched by the respect they had for each other and the intimacy they allowed themselves. I left thinking: This is how every classroom in the world should feel.

There's a nationalist case for globalism.

MELINDA: Nationalism is a word we've been hearing a lot more often these days. It's also one of the most loaded words in our 21st-century politics. While it's come to mean different things to different people (and carry different connotations and insinuations), at its core, nationalism is the belief that a country's first obligation is to itself. There's an element of that that I think many of us would agree with.

Bill and I love our country. We believe in what it stands for. We agree that our leaders have a duty to protect it. And for all of those reasons, we consider global engagement our patriotic duty.

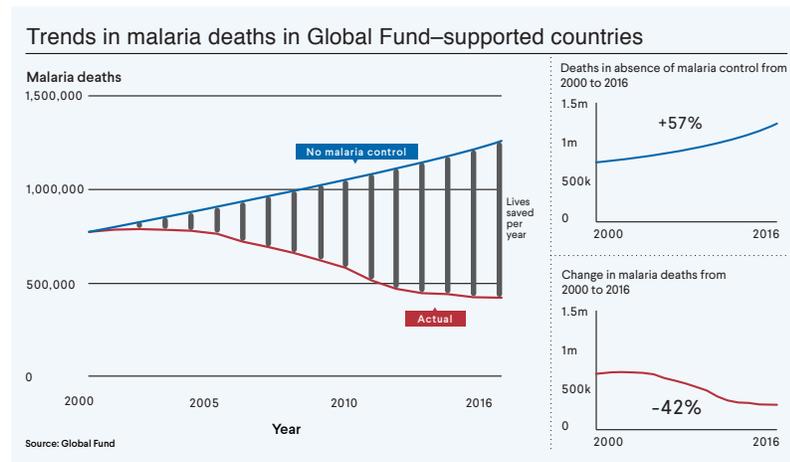
We're not alone. You may remember that both times the White House threatened to make severe cuts to America's foreign aid budget, some of the loudest voices of protest came from members of Congress and U.S. military leaders who argued that these investments are vital to protecting American interests.

The reason that countries like the U.S. invest in foreign aid is that it increases stability abroad and security at home. Strengthening health systems overseas decreases the chance of a deadly pathogen like Ebola becoming a global

MELINDA:
Quote from General
Mattis: "If you don't
fund the State
Department fully,
then I need to buy
more ammunition."

epidemic. And ensuring that every parent everywhere has the opportunity to raise safe, educated, healthy kids makes it less likely that they will embark on desperate journeys to seek better lives elsewhere.

There is nothing about putting your country first that requires turning your back on the rest of the world. If anything, the opposite is true.



BILL: We're going to be making this case over and over in the next couple of years, because this is a crucial time in global health, and the kind of go-it-alone approach Melinda described could cause a major setback.

In 2019, governments will need to recommit to funding for the Global Fund, one of the biggest health efforts in the world. And Gavi, the Vaccine Alliance, will need to raise money in 2020.

It's hard to overstate how much good these projects have done in the world. Since 2002, when it was created to combat AIDS, TB, and malaria, the Global Fund and its partners have saved 27 million lives. Since 2000, Gavi has provided basic vaccines to more than 690 million children. That's like vaccinating nearly every person in Europe.

To me these results are astonishing. They show what's possible when we act on the idea that all of us have a stake in the health and well-being of the poorest. It's also incredibly cost-effective: Rich countries spend around 0.1 percent of their budgets on health aid.

But I worry that wealthy countries are turning inward and will take such a limited view of their own self-interest that they'll decide these efforts aren't worth the cost. Or that even if everyone agrees in principle that aid is important, they'll be so polarized that their political allegiances will keep them from taking action.

That would be a disaster. Today more than 17 million people living with HIV get medicine from the Global Fund. Without it, they will die.

That's one reason why Melinda and I are always talking about success stories. At a time when new outrages seem to dominate the headlines every day, we want to keep reminding people that life is getting better for millions of people in the world's poorest countries, thanks in part to smart investments in health. Even if you only care about the welfare of your fellow citizens, these investments are overwhelmingly smart things to do. Progress benefits everyone.

Toilets haven't changed in a century.

BILL: Nearly eight years ago, Melinda and I challenged engineers and scientists around the world to reinvent the toilet. More than 2 billion people around the world lack access to a decent toilet. Their waste often ends up in the environment, untreated, killing nearly 800 children every day. And exporting rich-world sanitation solutions isn't an option, because they require sewer systems that are too expensive to build and need a lot of water.

BILL:
We really know how
to throw a party.

Last year we organized a toilet fair in Beijing, where I got to check out a number of next-gen toilets in person and even shared the stage with a beaker of human feces.

MELINDA:
Every party has
a pooper. :)

Several companies are business-ready. Their inventions check almost all the boxes: They kill pathogens, can keep pace with the needs of fast-growing urban areas, and don't require sewer infrastructure, external water sources, or continuous electricity to operate. The only area where they currently fall short is cost—which is why our foundation is investing in more R&D to help make them affordable for the poor.



The toilet of the future may look a lot like this one, but it will work very differently.

So what does the next generation of toilets look like? At first glance, not that different. They don't exactly look like something out of a sci-fi novel.

The real magic happens out of sight. Unlike today's commodes, the toilets of the future are self-contained. They're essentially tiny treatment plants capable of killing pathogens and rendering waste safe on their own. Many of them even turn human feces and urine into useful byproducts, like fertilizer for crops and water for handwashing.

They might not be the sexiest innovations in the world, but the toilets of the future will save millions of lives.

MELINDA: They'll also improve lives—especially for women and girls. Life without a toilet is hard for anyone, but it tends to be women and girls who suffer most.

MELINDA:
Can you imagine
having to fear for
your safety every
time you had to go
to the bathroom?

Bill and I have both met women who have suffered kidney damage from holding in urine all night to avoid a risky trip to dangerous public facilities. We've met others whose only place to defecate is in an open field, so they restrict their food intake all day and wait for cover of darkness to relieve themselves in relative privacy. One in ten girls in sub-Saharan Africa and one in four girls in India miss school during their periods, most often because their schools don't have anywhere they can go to change or dispose of menstrual hygiene products. (When you learn just how entrenched stigma around periods still is in many places, you can start to understand why someone would rather fall behind on her studies or miss wages than risk humiliation.)

If you're anything like me, I'm guessing toilets aren't your favorite topic of conversation. But if you care about keeping girls in school, expanding women's economic participation, and protecting them against violence, then we have to be willing to talk about toilets.

Textbooks are becoming obsolete.

BILL: I read more than my share of textbooks. But it's a pretty limited way to learn something. Even the best text can't figure out which concepts you understand and which ones you need more help with. It certainly can't tell your teacher how well you grasped last night's assigned reading.

But now, thanks to software, the standalone textbook is becoming a thing of the past. Suppose you're taking high school algebra. Instead of just reading a chapter on solving equations, you can look at the text online, watch a super-engaging video that shows you how it's done, and play a game that reinforces the concepts. Then you solve a few problems online, and the software creates new quiz questions to zero in on the ideas you're not quite getting.

“In short, we now have the tools to redesign higher education so that it meets the needs of today’s students.”

All of this is a complement to what teachers do, not a replacement. Your teacher gets a rich report showing what you read and watched, which problems you got right and wrong, and the areas where you need more help. When you come to class the next day, she is equipped with a ton of specific information and suggestions to help her make the most of her time with you.

When I told you about this type of software in previous letters, it was mostly speculative. But now I can report that these tools have been adopted in thousands of U.S. classrooms from kindergarten through high school. Zearn, i-Ready, and LearnZillion are examples of digital curricula used by students and teachers throughout the U.S. More than 3,000 schools are teaching a free digital course that I fund called Big History, which uses software to give students immediate feedback on their writing assignments.

BILL:
This approach isn't as far along as the math and science tools, though.

What's next? The same basic cycle you go through for all software: Get lots of feedback on the existing products, collect data on what works, and make them better. This cycle is picking up steam as more states and districts gain confidence about using digital curricula in their schools. I hope this growing momentum will inspire more of the big textbook publishers, which have been slow to offer these kinds of tools.

In the meantime, I haven't heard from anyone who misses their heavy, expensive textbooks.

MELINDA: In addition to adapting to what students know, these online tools also facilitate a new approach to teaching and learning that adapts to who these students *are*.

In 2019, the typical college student is no longer the stereotypical student who lives in a dorm and graduates in four years after a few spring breaks somewhere warm. Almost half of today's college students are 25 or older; well over half have a job; more than a quarter have kids of their own.

These “nontraditional” students often don't have the time or resources to effectively navigate an inefficient, inflexible learning environment designed to meet other people's needs. That's a big reason why two out of every five students who enroll in higher education will either withdraw for a while or drop out altogether.

Digital learning tools can help students meet these challenges—by making college more affordable, more convenient, and more effective.

One study found that using open courseware saved students an average of \$66 to \$121 per course. (Over an academic year, that can add up to \$1,000, which can be the difference between staying in school or having to drop out.) Another found that students who used digital learning tools for introductory classes got better grades than students who learned in the traditional way. And, of course, those students had a lot more flexibility. Not having to show up to a physical classroom at a specific time makes a big difference to students who are balancing school with working and raising a family.

Put it all together, and you have students spending less for more convenient classes in which they perform better. In short, we now have the tools to redesign higher education so that it meets the needs of today's students.

Mobile phones are most powerful in the hands of the world's poorest women.

Melinda: In rich countries, mobile phones make it easier to do things we were already doing—send email instead of snail mail, navigate the world without wrestling with a map, hail a ride without standing outside in the rain. But for the world's most marginalized women, a mobile phone doesn't just make their old life more convenient; it can help them build an entirely new life. That's because connectivity is a *solution* to marginalization.



Ketteline Pierre, a high school student in Haiti, texts her friends.

If you're a woman who has never stepped into a bank, mobile banking offers you a foothold in the formal economy and a chance at financial independence. If you're expected to do all the cooking, cleaning, and child-rearing, your income potential improves dramatically as you gain opportunities to connect with customers, trainings, and professional organizations—all from your home. If you're worried about the stigma you'll encounter when you ask for contraceptives at your local clinic, an e-commerce delivery platform can help you reassert control over your body and your future.

In other words, women are not only using their mobile phones to access services and opportunities. They're using them to change social norms and challenge the power structures that perpetuate gender inequality.

The catch is that the gender gap in both mobile phone ownership and mobile internet use remains significant. A recent study of ten countries across Africa, Asia, and South America found that—regardless of their age, education, wealth, or location—women are almost 40 percent less likely than men to have used the internet.

There are a lot of reasons why this gap exists. Cost, literacy (both digital and otherwise), and social norms are three of the big ones. In response, mobile phone companies who are eager to tap into this market are creating business strategies that target women customers. In Kenya and Nigeria, gender and development programs are putting new focus on teaching women digital literacy skills. We've partnered with an initiative at the Harvard Kennedy School to begin testing solutions to the social norms barrier.

When I think about why it's so important to get more mobile phones in the hands of women, I think about Nikmah, a woman I met in Indonesia last October. Nikmah told me she'd tried for years to support her three children by selling vegetables, but she never could seem to make ends meet. Her situation became even more untenable after she had to flee an abusive husband.

Today, Nikmah is one of more than a million Indonesians making a living through Go-Jek, a popular mobile platform for rides, food deliveries, and other services. The app connects her to a steady stream of customers and income, and she is paid through a mobile bank account, so she has total control over the money she earns. She can now afford to provide for her children without having to depend on a man who mistreats her. And through her phone, she's formed a network with other women service providers, who pool their savings to support each other through accidents or health emergencies.

Nikmah told me, "Life is like a wheel. Sometimes you're under, sometimes you're on top." For women like her who have spent so much of their lives trapped on the bottom, mobile technology creates new opportunities to fight inequity and lift themselves up. We can help women seize these opportunities by ensuring that inequity doesn't keep them from having access to technology in the first place.

One last surprise (maybe)

We get asked a lot these days whether we're still optimistic about the future. We say: Absolutely. One reason is that we believe in the power of innovation. But an even bigger reason is that we've seen firsthand that for every challenge we've written about in this letter, there are people devoting their ideas, their resources, and even their lives to solving them.

When we're feeling overwhelmed by negative headlines, we remind ourselves that none of us has the *right* to sit back and expect that the world is going to keep getting better. We have a *responsibility* to do everything we can to push it in that direction.

In that way, we've found that optimism can be a powerful call to action. And it has a multiplier effect: The more optimists there are working for a better future, the more reasons there are to be optimistic.

Bill & Melinda

P.S. What surprises have inspired you to take action? We would love to hear from you.