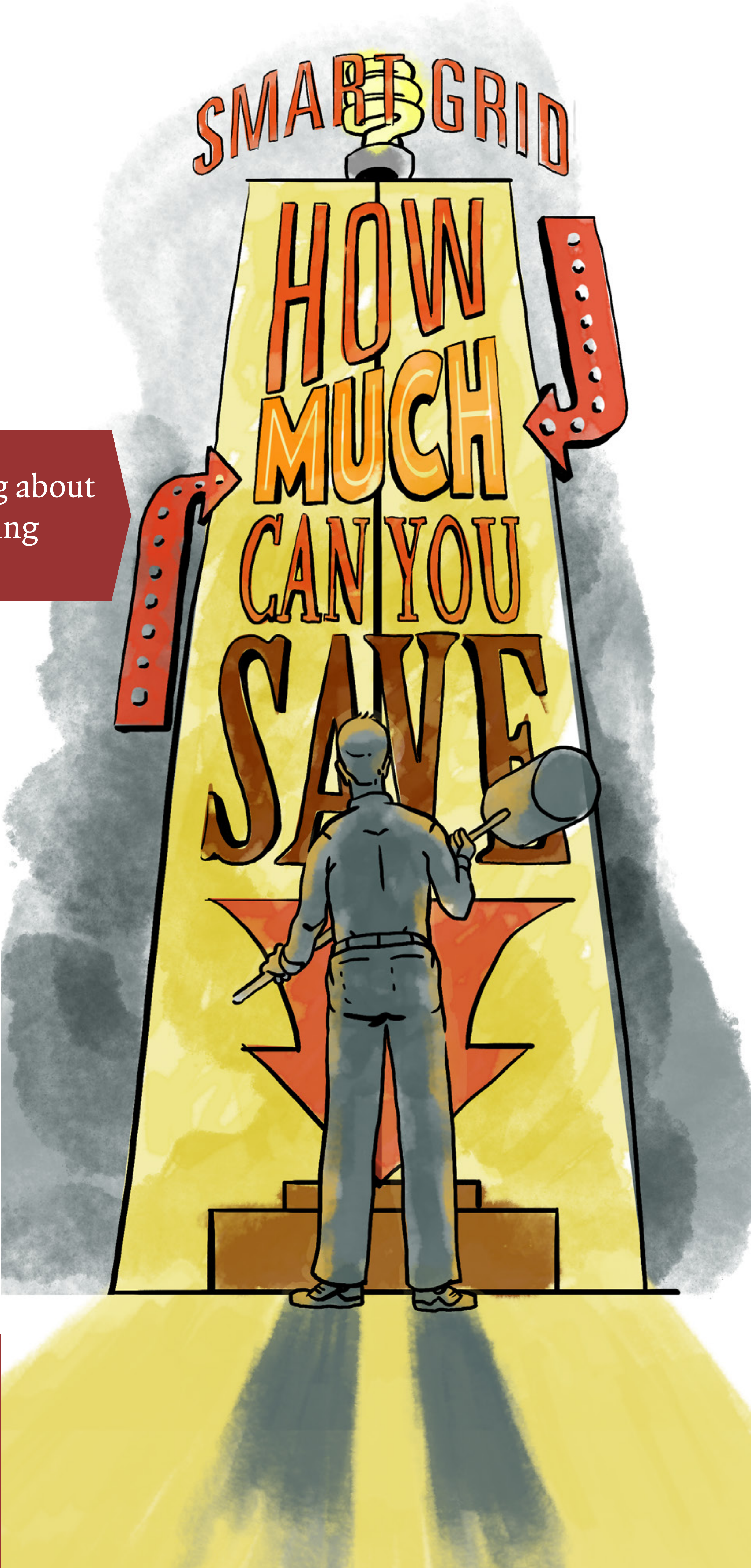
Consumers' Research

established 1929

Bulletin • Spring 2015



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Consumers' Research is an independent educational organization whose mission is to increase the knowledge and understanding of issues, policies, products, and services of concern to consumers and to promote the freedom to act on that knowledge and understanding.

Consumers' Research believes that the cost, quality, availability, and variety of goods and services used or desired by American consumers—from both the private and public sectors—are improved by greater consumer knowledge and freedom.

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Blasting the Past, *Preserving* the Present

Nutrition Labeling: From Unwelcome to Unavoidable

Over forty years ago, CR reported that nutrition labeling had just become a legal requirement, setting in motion a decades-long movement for consumer awareness of food content. What is simply considered as a given in today's food culture was initially met with skepticism. The lengthy and expensive process of getting nutrition labels reviewed and approved troubled food manufacturers, while doubt as to whether nutrition labeling would result in a shift in consumer preferences concerned researchers. (Calcium disodium ethylenediaminetetracetic acid, anyone?) The U.S. has since instituted strict labeling requirements alongside severe penalties for mislabeling. Most dieting regimes revolve around nutrition labels, welcoming an entire industry based on calorie counting and waist watching. Bread is no longer chosen purely for its brand or taste, but for its nutritional content. The success of companies, such as Whole Foods, demonstrates that awareness of nutrition is an essential ingredient to consumer buying habits.

"Get the Picture": From Cartridge Cams to DSLR

For 200 years photography has been considered an enduring art for which the technology continuous to advance. In 1975, CR reported cartridge cameras were the "next big thing," hailed as simple but sophisticated. Though the option for color prints existed, black and white photography continued as the norm, while color remained a luxury. Color photography has since replaced "vintage" black and white Kodak moments, though many photo editing tools can easily create a "blast from the past" appearance. Ranging from $20 ($90 in today's currency) to $160 (a little over $700 today) the cost of cameras 40 years ago is comparable to that of cameras today, despite today's obvious technological advancements. Of course, photography has become much more ubiquitous in contemporary culture – most cell phones now take photos. With the advent of digital photography, an image can be captured with just the touch of a button, empowering the average consumer to be a bit of an artist.

Volumes of Information: From Encyclopedia to Wikipedia

Gone are the days of amassing volumes of books to "enhance the decor" of homes; encyclopedias still exist, but since the emergence of the Internet, information has truly become all-accessible. Door-to-door salesmen selling encyclopedias was a hot-off-the-presses pursuit in 1975. Heckling salesmen (telemarketers of the past) would often convince families it was necessary for their children to be educated at the low-low cost of just $390, or 12 easy installments of $32.50. Students no longer need a twelve-volume edition to find out what Lemurs eat – a quick Google search will suffice. Wikipedia is just one of many wesites that have supplanted volumes of books with a seemingly infinite source of information. Encyclopedia Britannica, one of the most published encyclopedia series produced, ceased production in 2012 after years of falling sales due to much of the information being free and accessible via the Internet. Perhaps the death of the encyclopedia had been long overdue?

Operation Choke Point: *Illegitimate Actions against Legitmate Actors*

Editorial

Joseph Colangelo

American consumers are facing a new threat to the availability, diversity, and affordability of goods. Its name is "Operation Choke Point" and it works just like it sounds. Operation Choke Point is a program run by the U.S. Department of Justice (DOJ) that, without written regulation or legislation, encourages banks to discriminate against what the government considers unsavory businesses by creating burdensome reporting requirements to prove that these businesses are in compliance with local, state, and federal regulations. Often times the effect of this demand for additional regulatory compliance serves to cut legitimate businesses and entire industries off from the financial system.

The industries targeted by the government in Operation Choke Point may not seem important to the reader. Some are illegal to begin with, such as online gambling and Ponzi schemes. The average consumer may be unsympathetic to other industries, such as purveyors of racist materials, pornography, and drug paraphernalia. Finally, there are a number of businesses such as coin dealers, dating services, ammunition sellers, payday lenders, and many more that sell products which are popular with consumers though possibly unpopular with the current administration.

In early March the director of the Consumer Financial Protection Bureau (CFPB), Richard Cordray, was called before the U.S. House Financial Services Oversight and Investigations Subcommittee. The subcommittee's chairman, Congressman Sean Duffy, questioned the CFPB director on the implications of Operation Choke Point. Congressman Duffy addressed the federal government's use of Operation Choke Point and, very usefully, separated the policy objectives from the process by which those policy objectives were obtained.

Director Cordray responded to the initial line of questioning on Operation Choke Point stating, "I don't think we should be in the business of distinguishing between different types of economic activities that are legal merely because someone may favor or disfavor one or another."

Operation Choke Point is controversial both in its intended results (POLICY) and the methods used to achieve those results (PROCESS).

The impact of the policy of Operation Choke Point on the American consumer is to limit consumer choice through the operation's stated goal of degrading the ability for legal businesses to maintain banking relationships. As a corollary, this reduces affordability to consumers by imposing additional legal and compliance costs on legitimate businesses.

Congressman Duffy began his questioning on policy by conceding that the goals of the CFPB of "stopping fraud, deceit, and misrepresentation" are righteous goals that public servants should wish to advance. On the process of Operation Choke Point, Duffy asked whether Cordray believed that those at the Federal Deposit Insurance Corporation (FDIC) and DOJ who, without due process, worked to terminate the banking abilities of legal businesses should retain their jobs. On this point, the Director backtracked and said that he wasn't sure that this is what happened with Operation Choke Point.

It is the process behind Operation Choke Point, however, that is most detrimental to the American consumer. The process of using unelected bureaucrats in the FDIC, DOJ, and possibly CFPB to implement policy through administrative programs creates a government that is less accountable to its citizens and less transparent to the public by violating the fundamental principles of rule of law and due process. Additionally, it creates an

Targeted Merchant Categories

Ammunition Sales	Home-Based Charities	Surveillance Equipment
Fireworks Sales	Pornography	Drug Paraphernalia
Payday Loans	Credit Repair Services	Telemarketing
Cable Box De-scramblers	Life-Time Guarantees	Escort Services
Get Rich Products	Pyramid-Type Sales	Money Transfer Networks
Pharmaceutical Sales	Dating Services	Tobacco Sales
Coin Dealers	Life-Time Memberships	Firearms Sales
Government Grant Writing Services	Racist Materials	On-line Gambling
Ponzi Schemes	Debt Consolidation	Travel Clubs
Credit Card Schemes	Scams	Mailing Lists/ Personal Info Sales
	Lottery Sales	

Source: U.S. House of Representatives Committee on Oversight and Government Reform environment where consumers can no longer assume that legal products will continue to be available in the future.

Congressman Duffy is wholly correct in believing that we need not be sympathetic to the industries discriminated against by Operation Choke Point in order to be concerned with the process of discrimination itself. It's an important point to continue to make. One must not embrace the content of all speech in order to logically support the protection of free speech in a free country, just as one must not support all legal industries in order to support the protection of legal industries afforded by due process of law.

Timeline of Key Operation Choke Point Activities

March 20, 2013: Federal prosecutor Michael Bresnick speech in which he said that that DOJ planned to crack down on banks that allowed online scammers to access the payments system.

- Justice Department sent more than 50 subpoenas to banks and payment processing firms, according to a presentation made by federal prosecutors in September.
  - Banks that received subpoenas have not been identified.
  - Some have disclosed their involvement.
    - $220 billion-asset PNC Financial Services Group (PNC).
    - $343 million-asset National Bank of California.

August 2013: NYDFS Superintendent Benjamin Lawsky instructed 117 banks to develop safeguards aimed at preventing unlicensed online lenders from accessing the payments system. Lawsky also filed suit against online lenders that he said were violating New York's interest-rate cap.

- Meanwhile, the FDIC also stepped up its reviews of banks' relationships with online lenders and other businesses that might pose heightened risk for banks.

September 2013: The Online Lenders Alliance launched a public-relations campaign pushing back against the stepped-up scrutiny from federal and state authorities. Although the probe was focused on lenders that do not comply with the laws of the states where their borrowers reside, Lisa McGreevy, the group's executive director, argued that fully licensed lenders were also being harmed by the government crackdown. "It's an across-the-board attack," McGreevy said.

- Justice Official said: "The system is working, and as a result, banks are cutting off processors, processors are cutting off scammers, and scammers are starting to get desperate for a way to access consumers' bank accounts."

Autumn 2013: DOJ pressured banks that had received subpoenas to settle with the government. The strategy was to reach a settlement with one of the banks that could then be used as a template in talks with other banks, according to sources.

January 2014: DOJ filed first proposed settlement as part of Operation Choke Point.

- Deal called for the $809 million-asset Four Oaks Bank in North Carolina to pay a $1.2 million fine and to accept tight restrictions on its ability to do business with Internet consumer lenders.

January 2014: Rep. Darrell Issa wrote to Attorney General Eric Holder in January, requesting a slew of documents and suggesting that the probe was a veiled effort to eliminate even legal online lending. Around the same time, an anonymous online campaign, "Stop the Choke," sought to persuade conservative lawmakers to attack the DOJ's investigation.

February 2014: Rep. Elijah Cummings of Maryland, the top Democrat on the House Oversight Committee, and 12 other congressional Democrats wrote to Holder urging the DOJ not to cave in the face of Republican opposition.

April 7, 2014: FDIC's Acting General Counsel, Richard J. Osterman, testified at a House Financial Services Committee hearing on federal financial regulatory policy. Over the course of the hearing, Mr. Osterman repeatedly disclaimed any substantive involvement by the FDIC with Operation Choke Point.

April 17, 2014: American Banker reported that Fifth Third Bank and Capital One have terminated their accounts with all payday lenders.

July 15, 2014: At a hearing before the Subcommittee on Oversight and Investigations of the House Financial Services Committee, Mr. Osterman revised his earlier testimony to concede that FDIC staff closely cooperated in the execution of Operation Choke Point.

January 28, 2015: FDIC sent letter that has been reported in many media outlets as one that "effectively ends Operation Choke Point." In fact, it is only the FDIC that has backtracked on the program, and DOJ has not signaled any intent to slow down its enforcement.

March 19, 2015: Sen. Mike Crapo proposed a budget amendment that would strip the DOJ's Operation Choke Point program of its funding.

March 23, 2015: Crapo's amendment was adopted by the Senate Budget Committee.

March 24, 2015: FDIC representatives testified about Operation Choke Point in House Financial Services Oversight and Investigations Subcommittee hearing led by Rep. Duffy.

The Rise of Automation: Advanced Technology *and the* Future of Jobs

Shannon Perry

In just 14 years, this millennium has already seen remarkable technological advances. America's relationship with technology has grown closer and more complex as digitalization pervades nearly every corner of daily life. Consumers can shop online, check in with social media, and pay bills before getting out of bed in the morning. Smarter cars help drivers stay in their lanes, and smarter thermostats can warm up the house before commuters arrive home from work. With instantaneous access to boundless information, incalculable hours are saved each day. It would seem that modern technology is drastically improving worker efficiency.

But the darker side of these technological advances is their tendency to replace American employees. The supermarket's automated checkout lanes are convenient and fast, but they eliminate employment opportunities for the American workforce. Online media caters to individuals' interests and is usually free, but the declining interest in printed material has challenged brick-and-mortar news providers everywhere. Examples are plentiful and raise reasonable concerns over the future of the American workforce in a highly digitized, automated society.

Do improvements in automation, robotics, and artificial intelligence simply displace American workers, or will technology create more jobs than it destroys? The answer is as nuanced as it is important.

The Skeptical Take on Automation

Skeptics argue that automation has and will displace American workers. This displacement is observable in restaurants and supermarkets, manufacturing and banking, even in our hospitals and classrooms. If businesses can be expected to maximize profits, and human workers cost more than robots, then businesses can be expected to choose automation. Jobs requiring a human touch – lawyers, doctors, consultants, artists, designers – will be spared; everything else may be threatened. Future generations will witness higher rates of unemployment when automation results in widespread layoffs.

Moreover, technological improvements can facilitate outsourcing jobs overseas. In the past, customer service representatives lived and worked in the United States; today, consumers often speak with company representatives who live thousands of miles away. As automation simplifies manufacturing, factories can be placed overseas, where wages are lower and less stringent regulation allows for increased productivity. While consumers often consider products "Made in the USA" to have a higher quality than imported goods, technological advances simplify foreign manufacturing and may narrow the quality gap between domestic and imported goods, removing a significant disincentive for outsourcing.

Technological advances also threaten to aggravate existing economic inequality in the United States. Improvements in robotics and artificial intelligence capabilities will most immediately affect low-skill, low-wage jobs. Whereas, automation will not displace higher paid professional services workers, like investors and lawyers. In an economic system where most unskilled jobs are completed by machines, displaced workers have much more difficulty finding employment. If automation displaces large numbers of American jobs, those workers will find themselves in a very unfavorable job market.

The Optimists on Automation

Automation proponents frequently identify the historical relationship between jobs and technology advances as cause for confidence in the future of American workers. Disruptive technologies have replaced workers for thousands of years. Scribes and copyists, for example, lost their jobs to the printing press; telecommunications improvements rendered switchboard operators obsolete, but in modern America there are not large groups of unemployed scribes or switchboard operators. Workers transition into other jobs. While technological advances can present challenges to workers in the short term, displacement from technology is part of a long-term progression toward increased productivity and efficiency.

In fact, technological improvements often result in job creation. Consider the example of the Internet's implications for American retailers. As we increasingly shop online, turning a profit has become more and more difficult for brick-and-mortar stores, which causes layoffs for salespersons and cashiers. However, the popularity of online shopping has encouraged businesses to develop more interactive websites and social media accounts, and the development and execution of social media strategies frequently requires full-time workers. Today, there is high demand for web designers and programmers, and similar employment opportunities can be expected to emerge as digitalization penetrates further into American culture.

The need for a human touch in many jobs is a third argument for remaining positive about technology's impact on American employment. Sure, a machine in a doctor's office can greet patients, notify doctors of arrivals, and schedule follow-up appointments, but can a machine have empathy for a sick patient or treat an embarrassing situation with sensitivity? In a classroom, artificial intelligence can present information and successfully answer questions, but can a computer program develop creative solutions to connect with students? There are many jobs that are not appropriate for automation, because machines do not show compassion, feel empathy, exercise creativity, make subjective judgments, or innovate the way humans do.

Others feel that regulatory frameworks and governments can prevent many negative consequences of automation before they occur. High rates of employment are essential to a flourishing American economy, and governments have good reason to address the possible downsides of technological advances for employees. Increasing requirements for severance packages and developing retraining programs have been suggested as means to mitigate technology's threats to American workers.

A Changing Concept of Work

In any case, modern technological developments will probably change the concept of work. It has been said that automation and artificial intelligence technologies will provide an unprecedented amount of leisure time for Americans. In a 2014 interview concerning technology and unemployment, Google co-founder Larry Page said, "If you really think about the things that you need to make yourself happy – housing, security, opportunities for your kids ... It's not that hard for us to provide those things." Mr. Page suggests that the value placed on work has caused Americans to pursue career paths that are unnecessarily time-consuming and stressful, and he is hopeful that the next generation will have a shorter work week and more leisure time.

While the accuracy of Mr. Page's forecast remains to be seen, his prediction demonstrates the extent of the transitioning American understanding of work. If machines can be taught to complete menial and repetitive tasks, shouldn't humans enjoy all, or at least some, of that saved time?

Bottom Line: It's Complicated

The impact of modern technological improvements on American employment is multifaceted and controversial. There is legitimate cause for concern. Already, automation has displaced American workers, and improvements in automation can be expected to increase job displacement – at the very least, in the short run. New artificial intelligence capabilities threaten many unskilled, lower paying jobs, which could contribute to greater income inequality in the United States and higher rates of outsourcing. Disruptive technologies can enable incredible improvements in efficiency and productivity – at the cost of rendering workers obsolete.

Others believe that an automated future will have overall benefits for American workers. Throughout human history, technological changes have displaced workers and created new jobs; they will continue to do so. As technology penetrates all corners of American life, new opportunities for employment will be identified and filled. The importance of a human touch for many jobs should not be underestimated, and human agency will prevent technological improvements from having extensive negative consequences for the American workforce. Whatever happens, understanding the future of technology and American employment is incalculably important.

Corporate Energy Spent *on* Renewables

Ethica Burt

Contrary to popular belief, corporate America has put significant investment into renewable energy. It makes sense for sustainability-centric Swedish companies like IKEA to be at the forefront of corporate adoption of renewable energy – due to its home country's culture of being committed to sustainability – however, distinctly American corporations are now following suit as well. Today, the majority of Fortune 100 companies have renewable energy targets. From Google to Walmart, the shift to renewables has become pervasive; yet, the question remains as to why.

One explanation for why companies are increasing the rate at which they invest in renewable energy is customer preference for renewables and the associated marketing value of corporate social responsibility. However, customer preference only goes so far, failing to fully justify why major corporations spend billions of dollars on renewables. While marketing benefits carry some weight, corporations put most of their efforts into improving their bottom line and as it turns out, investing in renewables can help them achieve this.

There are several ways renewables are beneficial to corporate bottom lines. First and foremost is cost reduction. This can take the form of increased focus on energy efficient company practices alongside the use of renewable energy. Simply put, costs are reduced because less energy is used. In some states, wind and solar power have reached grid parity; these energy sources have less price volatility and have met the market price of more mature competitors like oil and natural gas. As the cost of wind and solar power becomes increasingly more affordable and stable compared to the volatile cost of non-renewable energy, investment in these renewables may become the logical long-term energy choice for corporations. After all, predictability and reliability are essential when budgeting a corporation's long-term financial plan. Moreover, high-margin companies like Google and Walmart cite an "investment in the future" as one of their reasons for purchasing renewable energy.

The Tech Giant, the Retailer, and the Car Manufacturer

Google has invested over $1.5 billion in renewable energy projects, fueling energy intensive data centers with wind power. The tech company is just one of many which have signed on to power purchase agreements to cut costs and create a long-term plan for energy. By signing power purchase agreements, a company ensures the price it pays remains stable for the period of the agreement. Walmart maintains a number of on-site projects, from fuel cells to solar and wind power. The company is aiming for 7 billion kilowatt hours (kWh) of renewable energy production or procurement by 2020, which is enough to power over 600,000 average-sized American homes for a year. As the largest retailer in the U.S., the company not only holds leverage over consumers but also other businesses, potentially influencing them to invest in renewables as well. General Motors Company (GM) has invested over $1 billion in renewable energy via solar and hydropower at its facilities. As another leader in its industry, GM has the potential to influence its competitors and peers in the same way Walmart can.

The Pros

In the past few decades the price of solar and wind energy has decreased significantly to compete with traditional sources of grid energy (such as oil, coal, and natural gas), allowing for many corporations to take note of the marketing value of renewable energy. It should not go unnoted that these lower prices are achieved in part with the assistance of subsidies. Customers serve as an impetus for corporations to invest in renewable energy; customer-facing companies find these investments are successful for environmental stewardship and corporate social responsibility measures. With increased corporate demand there is a chance the cost of renewables can be driven down without subsidies. Conversion to renewables diversifies the energy system by reducing risk, contributing to energy security, and reducing carbon emissions. Energy capacity is also being built on renewables, with over 40 percent of new generation capacity sourced from wind.

The Cons

Increased competition drives down prices, resulting in the potential instability of non-renewable energy generation. Many renewable energy sources, like solar and wind, also rely on the weather which is unpredictable and unreliable. However, research shows that locations with sufficient sunlight and wind gusts to support solar and wind infrastructure mitigate these problems. Wind patterns and sun "hot spots" are tracked to maximize the value from renewable resources. For example, a solar panel in New Mexico will receive more solar hours per day than a solar panel in Maine. Environmental restrictions result in pressure on corporations to break the correlation between economic growth and energy demand. By investing in alternative energies, companies are also achieving government standards for energy efficiency and sustainability.

Though solar and wind energy have reached grid parity in some states, pricing at the market rate for energy remains an issue for select consumers and businesses. It is often in a corporation's interest to find energy investments with swift payback periods in order to achieve short-term goals and appeal to shareholders with tangible timelines. Longer payback periods may be less attractive, as the certainty of a company's longevity is unknown. Furthermore, in order to achieve competitive or affordable rates, many renewables rely on tax credits which have an expiration date.

Consumer Implications

Corporate investment in renewable energy has piqued consumer interest, creating greater demand for electric utilities to provide renewable energy. By the end of 2013, over 5.4 million residential customers consumed nearly 62 million Megawatts of renewable energy. Consumers will be affected by the resulting price decrease from an increased renewables supply. The price of solar and wind have decreased by over 40 percent each year since 2010. This decrease in price alongside tax credits for residential renewables has increased demand for renewables as well. With a continually decreasing price complemented by increasing accessibility, renewable energy may have increased its leverage among both consumers and corporations.

Emerging Infections *and the* Cost *of* Carelessness

Millan Bederu

Modern medicine has provided marvelous solutions to many of the world's most gruesome diseases. However, as the world becomes a "smaller," more interconnected planet, some of those solutions are beginning to fail. Some diseases that are newly introduced to a certain population or have undergone significant increases in incidence, known as emerging infectious diseases, pose a unique risk to existing health infrastructures. The triumphs brought by antibiotics and vaccines may no longer be enough to safeguard against emerging global health threats, even as developing nations make progress on enhancing and strengthening their health systems.

Infectious diseases, as seen with Ebola last year and measles this year, are not the problem of other nations alone. Domestic practices, in addition to U.S. policies abroad, may be putting Americans and those affected by U.S. action as well as inaction at exaggerated risk. In addition to the diseases themselves, some perceived solutions to bacterial and viral infections can actually pose a danger to global health. Beyond the medical damage wrought by overlooking emerging infections, these diseases can have great economic costs that may result in problems even after medical solutions have been found.

Infectious Diseases in the Age of Globalism

The SARS outbreak in 2003, the influenza pandemic in 2009, the Ebola outbreak in 2014, and the measles outbreak earlier this year have all taught the lesson that an infectious medical emergency has no borders. In addition to the recent Ebola outbreak in West Africa, the beginnings of a Yersina pestis outbreak, the bacterium responsible for the bubonic plague, have recently been recorded in parts of Africa and Asia. While neither Ebola nor the plague are particularly difficult to cure if regular strains are treated in time, poorly established health systems in developing regions, as well as delayed responses from international institutions are threatening to the strength of the global health landscape. Made evident by Ebola's blow to West African economies, emergent infections risk unbalancing progress in developing regions by reducing the workforce of affected nations and by creating doubt in markets with stakeholders that would otherwise have invested in these regions.

Globalism in the form of interconnected markets, increased international travel and migration, and increased urbanism are all contributing factors to the spread of infectious diseases across populations. Globally, independent governments and international institutions have developed strategies to combat emerging medical threats, but some are not as effective as planned. Research conducted by public health officials has shown that strategies like border screenings are not effective in containing infectious diseases and may prove detrimental to the overall health situation, as health workers are deterred from doing meaningful work in other sectors.

Linda A. Selvey, Catarina Antao, and Robert Hall discuss the benefits and costs of border screenings instituted as a result of the 2003 SARS outbreak and the 2009 influenza pandemic in their article for the Emerging Infectious Disease Journal produced by the Centers for Disease Control and Prevention (CDC). In this article, the authors find that border screenings were not effective in preventing the spread of infectious diseases. The article argues that border screenings require public health professionals to be directed away from work that is often more beneficial to preventing the spread of disease. They also argue that border screenings tend to result in high numbers of people being examined with very few of those people presenting the targeted disease.

Completely closing borders, albeit aggressive, may be more effective in terms of containing the international spread of infections as well as the direct financial costs and misallocated resources (including skilled-workers) associated with containment efforts – although individuals and businesses worldwide would suffer in other ways from such a policy. On the more practical side, increasing the availability of preventative health care is essential to preventing the spread of infectious diseases. Widespread access to vaccinations and early disease testing could dramatically decrease the incidence of numerous emerging infections.

Antibiotic/Antimicrobial Resistance

Antimicrobial resistance presents itself in industrialized nations as well as in developing countries, making the risk of resistance a threat to all. Diseases such as tuberculosis, gonorrhea, malaria, and HIV/AIDS can develop as a result of drug-resistant strains of bacteria, viruses, and other microbes. Drug-resistant strains are usually more vigorous and harder to treat than regular strains of the same disease. Treatments for drug-resistant diseases are often complicated, sometimes taking longer to remedy than first-option drugs. Bacteria that can resist current pharmaceutical intervention are already presenting problems in the medical field, compromising the safety of current medical treatments and facilities.

Since 2012, numerous hospitals in cities across the U.S. have experienced cases of drug-resistant bacterial infections that were spread through contaminated medical equipment – contaminated, but cleaned. Worryingly, all of the medical equipment implicated in the spread of the bacteria was sanitized according to manufacturer guidelines, most of which were approved by the U.S. Food and Drug Administration (FDA). This suggests current institutional regulations are not completely effective in protecting the American public when it comes to drug-resistant bacteria. To combat this impending threat, the CDC has presented an action plan for an "Interagency Task Force for Antimicrobial Resistance."

As government agencies and scientific institutions research methods to respond to drug resistance, patients can take steps to slow the prevalence of drug resistance. Unfortunately, drug resistance is not a problem patients can avoid entirely on their own. Drug and antimicrobial resistance can happen as a result of drug overuse or misuse within the population as a whole. On an individual level, patients ought to be sure to follow physician instructions for antibiotic prescriptions. Failure to complete the full antibiotic prescription could result in the proliferation of harder to kill strains of bacteria. High levels of self-medicating with antibiotics can also prove detrimental to the population as a whole. Not all antimicrobials are created equal. An antibiotic that treats one infection may prove useless for another type of infection. Moreover, while some doctors will prescribe antibiotics as a preventative measure in particular situations, this is not a suitable strategy for all situations.

Agriculture, Animals, and Disease

While certain infectious diseases have been curtailed, if not eliminated, as a result of vaccination and other public health initiatives, infections that are able to leapfrog from humans to animals are harder, if not impossible, to control. New or mutated infections are able to enter humans after taking up residence in wild and farm animals. In these cases vaccinations and treatments must be constantly updated to keep abreast of changes that occur in non-human hosts. This is true for parasitic and microbial infections that are harbored in wild animals, insects, or farm animals.

Mosquitoes, ticks, and other insect vectors have been known to cause outbreaks in the U.S. including Dengue fever in the Florida Keys, Lyme disease in the Northeast, tick-borne relapsing fever in Montana, and many others. Prevention and control of insect borne infections is particularly difficult as the small creatures that carry them are hard to eradicate. These insect vector-borne infections are more prevalent in tropical regions and in the summer months of temperate regions. The best ways to avoid these vector-borne diseases is to limit potential interactions with ticks, fleas, and mosquitoes. For example, vigilant yard maintenance may be enough to discourage ticks from hanging around the home. The CDC recommends keeping a three-foot-wide barrier of mulch between lawns and wooded areas and ridding the home of anything that may attract rodents, which in turn carry ticks and fleas.

Personal Precaution is Key

Emerging infectious diseases were once thought to be on the brink of extinction, yet today they affect millions of people all over the globe. While health professionals work to curtail the detriment infectious diseases pose to numerous populations, individuals can take precautions to limit their exposure to risks.

Be Wise Before *you* Jumbo-Size (*your* Loan)

Olivia Ferguson

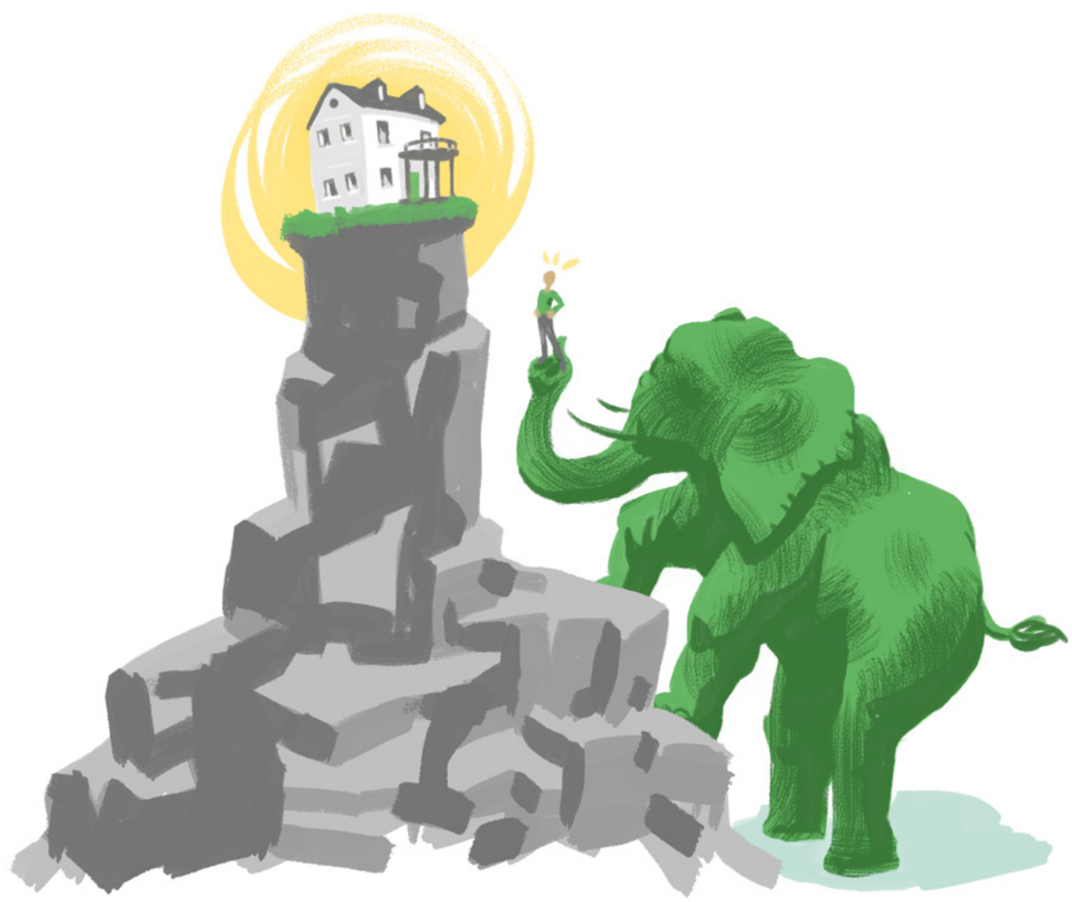
Borrowers weren't the only ones chafed by the strict fall-out regulations of the 2008 housing crisis. The heightened credit standards have shut many Americans out of the housing market, and lenders are likely to face a low supply of borrowers. In 2014, total mortgage lending declined, reaching its lowest level since 2008. The decline in lending reflects low demand among consumers and a drop in borrower refinancing, which significantly contributed to lenders' revenues in 2013. Analysts suggest this is due to hikes in borrowing rates. However, amidst these industry challenges, jumbo loans have appeared as a bright spark in the market for lenders and wealthy borrowers alike, bringing the promise of large assets to lenders and offering those who can afford a luxury home a new and improved mortgage option.

What is a jumbo loan?

A jumbo loan is a mortgage of over $417,000 most often acquired in order to purchase large, single-family homes ranging from $750,000 to $10 million. The loans are non-conforming, meaning they are above the regulated limit for loans set by Fannie Mae and Freddie Mac, and are considered high risk due to the difficulty of reselling should the home face foreclosure. For these reasons, a borrower must typically have a credit score of at least 700 to qualify for a jumbo loan. In the past lenders have required higher scores, but many today accept as low as 680 in hopes of widening the scope of potential borrowers.

What was the role of jumbo loans in the 2008 housing crisis?

In 2008, with housing prices rising due to the swelling bubble, the number of jumbo loan applicants rose, as more and more consumers took on jumbo loans in order to buy moderately-sized homes. Essentially, many were qualifying for loans they could not afford. When prices subsequently fell, lenders upped their interest rates significantly, precluding many borrowers from being able to fund expensive homes, putting additional pressure on housing prices and further perpetuating the decline of the real estate market.



Moreover, the rate of delinquency on jumbo mortgage owners sharply increased during this time and the years that followed. In January 2010, Bloomberg reported jumbo mortgages had reached a 9.6 delinquency rate, up from 9.2 percent the previous month, and further increased to 10 percent by February that year.

Role Today?

In the aftermath of the housing crisis, jumbo loans remained difficult to obtain. However, in recent years such loans have once again become more affordable and are appearing in the market more and more. In 2014, jumbo loan interest rates were lower than those of comparable conforming loans for 5 weeks in August and September. This, along with a growing economy, has spurred affluent consumers to once again take on jumbo loans for both primary and vacation homes. Inside Mortgage Finance reported that the jumbo share of the mortgage market grew to 19 percent in 2014 from 14.4 percent in 2013. This is the highest growth rate since 2002.

According to lenders, part of this growth is due to new, lower down payment jumbo offerings which allow a larger number of first-time buyers to qualify for a loan. Many banks today offer jumbo loans with down payments of less than 20 percent (the industry standard).

Who uses them and how has that changed?

Geographically speaking, jumbo loans are most used in areas with high-paid professionals and housing markets with corresponding high-priced homes. Such areas include New York City, Washington, D.C., Silicon Valley, and Los Angeles. The largest market for jumbo loans is California (thanks, especially to Silicon Valley and Los Angeles), with Texas following in a close second due to heavy concentrations of high-priced homes in Houston, Dallas, and Austin. Who is borrowing these loans? The average borrower is 46 years old – two years older than in 2013 – and is likely to have a high-paying career. Jim Angleton, president of Aegis FinServ Corp., says, “Our typical jumbo loan is about $2.5 million and higher, and so the typical borrower is either going to be a corporation or is going to be the president, CEO or a high executive of a company.”

How to Qualify for a Jumbo Loan?

As mentioned, due to the high risk associated with jumbo loans, a high credit score is needed to acquire one. While some sources identify the minimum as 680, others require a better score. Mary Beth Rapice, real estate attorney for Pullman and Comley, says, “There is no [private mortgage insurance] with a jumbo mortgage, so the down payments are larger and, usually, the credit score can be no lower than 700… If you are going to apply for a larger mortgage amount, of course you’re going to have to be able to show the income and the assets in order to pay that.” For this reason, the maximum debt-to-income ratio required for these loans is 45 percent and borrowers must prove they have six months-worth of reserves in their bank account. But despite the strict requirements, rates are at historic lows and the interest on jumbo loans can lead to a $1 million tax-deductible.

Competitive Lenders

The growth in the jumbo loan share of the mortgage market is not just due to higher disposable incomes. Banks, seeking the income that comes from issuing loans, are creating the demand by pushing interest to the aforementioned low rates, as well as reducing the percentage demanded for a down payment. The industry standard is 20 percent, but many of the biggest banks, including Wells Fargo, JPMorgan Chase & Co., and Bank of America will allow customers to use assets, such as investment accounts, to reduce the down payment amount. Paul Miller, analyst at FBR Capital Markets Corp., notes, “Jumbos are growing while almost everything else is dead… Big banks need loan growth. If they were getting decent commercial loan growth, they wouldn’t be so aggressive on competing for jumbos.” Furthermore, the push by lenders for jumbo loans is in part because they do not have to pay high guarantee fees to Fannie Mae and Freddie Mac to ensure bonds, as they would for conforming loans.

For Now, the Smartest Thing *about the* Smart Grid *is its* Marketing

Editorial

Kyle Burgess

In the previous issue of the Consumer's Research Bulletin, CR covered a story on the use of analytic software by water utilities. The article concluded that analytic technologies could dramatically impact and improve the revenue capture of water utilities, while fostering the reduction of burdens on the water infrastructure *and* without increasing the cost burden to the average consumer. Although the use of analytic software seems advantageous for water utilities and their customers, the implementation of the smart grid (which is a more advanced and integrated technological system than analytic software) does not seem to hold the same level of promise for the customers of electric utilities – at least not in the way it's being marketed.

The cost savings for water utilities provided by analytic software has to do with improving inadequacies in billing, identifying and addressing leaks, and coordinating water consumption (i.e. providing incentives to use less water during peak use times or increasing rates for "bad actors"). Smart grid technology does this as well, however unlike smart grid technology, analytic tools for water utilities rely on billing data to identify areas for improvement and greater revenue capture. In other words, such tools do not come with onerous infrastructure improvement costs. Improving the aging electrical infrastructure and upgrading to smart grid technology comes with significant costs – ones that will not be as readily offset by cost savings as suggested and marketed by the government, electric companies, and the green energy movement. To be sure, upgrades are desperately needed to meet demand, avoid brown and black outs, and keep long-run costs to consumers manageable. However, shrouding the truth in false promises will only lead to frustration and mistrust.

The Aging U.S. Electrical Infrastructure

Given that the foundation of today's power grid was conceived more than a century ago, much of the nation's electrical infrastructure is dated, outdated, and may eventually qualify to be carbon dated if necessary upgrades continue to be overlooked. According to the U.S. Energy Information Agency,

"The age of most electrical transmission facilities in the United States ranges from several years to many decades old. Investments in U.S. electrification began in the early 1900s and were driven by the increased use of new transmission technology, the growing use of central station generating plants to serve large areas, and growing electricity demand following World War II. Given its age, some existing lines have to be replaced or upgraded and new lines will need to be constructed to maintain the electrical system's overall reliability."

Some of the major problem areas of the U.S. electrical infrastructure are identified in the figure to the right. Failure to sufficiently repair, maintain, upgrade, and expand electrical infrastructure across the nation has left the system vulnerable to surges, bottlenecks, malfunctions, and interruptions that can result in costly power outages. Despite nearly $63 billion average annual expenditures on infrastructure improvements over the last decade, a significant investment gap exists today. Furthermore, years of inadequate infrastructure improvements have resulted in an investment gap that is estimated to reach $107 billion by 2020, putting cumulative investment needs at $673 billion by 2020. At projected rates of investment, the investment gap is expected to rise to $732 billion by 2040. In other words, the cost incurred from not sufficiently investing where needed may result in nearly seven times the current gap – a much deeper hole to climb out of.

There are varying investment gaps at the generation, transmission, and distribution levels – the lowest gap being in generation (i.e. creating energy at power plants) and the highest being in distribution (i.e. getting electricity from power substations to consumers). Moreover, the need to close the gap in the rate of investment is compounded by deficiencies in meeting increasing energy demand.

Furthermore, there are several indirect costs associated with outdated infrastructure that go underreported or misattributed. For example, severe weather is most often credited as the cause of power outages. While this may be true, many of these outages would not occur if dilapidated infrastructure was replaced, repaired,

Key Issues with the Current U.S. Electrical Infrastructure

Lack of consistency – Because the U.S. electrical infrastructure is a makeshift system of interconnected grids that evolved in different ways over time and by region there is no standardization in terms of capacity, equipment, structures, durability, function, etc.

Power plant irregularity – The age, generation/transmission capacity, and fuel type, mix and need of existing power plants tend to determine their function (i.e. base load, peak load, or backup), as opposed to actual energy/function needs in the region.

Variances in transmission line voltage and capacity – Transmission lines have a variety of different voltage (power) and capacity (electricity) characteristics that lead them to serve different functions in the movement of electricity from generation plants to local load (distribution) centers.

AGE! – Older equipment can result in intermittent failures in power quality and availability due it its limited capacity. Congestion resulting from issues with older equipment sometimes causes brownouts and occasionally even blackouts.

Source: American Society of Engineers

or updated when prudent. This was a big problem last year in West Virginia when the girders of three electrical towers, designed to withstand winds much stronger than the near-70 mph winds that hit them, snapped and collapsed.

Clearly there are many improvements that need to be made to the power grid as well as several accompanying challenges to making these improvements, including uncertainty regarding who will be responsible for burdening which costs, how to equitably divide and recover certain costs, and how to cost-effectively integrate renewable energy generation sites (which are typically far from electricity demand hubs). This is where the smart grid comes in.

The "Smart Grid"

The "smart grid" is not a replacement of existing grid infrastructure, but the modernization of existing infrastructure to incorporate technological advancements and improvements. Its installation essentially involves taking the existing electrical grid, which is a system of networks that carry electricity from the plants where it is generated to consumers via wires, substations, transformers, switches, etc. and integrating components and systems that enable this infrastructure to effectively and efficiently communicate information and automate functions. According to the U.S. Department of Energy (DOE),

> *"Smart grid refers to technologies that modernize the electricity utility grid and improve how electricity is delivered to consumers. It uses computer-based remote control and automation with sensors to gather data (power meters, voltage sensors, fault detectors, etc.), plus two-way digital communication between the device in the field and the utility's network operations center. A key feature of the smart grid is automation technology that lets the utility adjust and control each individual device or millions of devices from a central location."*

Of course, the "big brother" language about controlling millions of devices from a central location has been removed since it was originally posted on Energy.gov in 2011. The description now reads more like an advertisement than an explanation. The DOE rightly asserts that if done well, the implementation of the smart grid (along with much needed infrastructure improvements), will "bring utility electricity delivery systems into the 21st century," enabling greater efficiency through two-way communication technology and computer processing that will decrease many of the problems outlined in the previous section.

Below is a detailed outline of some of the more consumer-centric goals and benefits of the smart grid:

Smart Grid Goals
- Identify and localize disruptions through two-way communication between grid components, devices, and systems in order to maintain reliable service with better contained, more quickly repaired outages.
- Provide real-time information through smart devices or online dashboards/systems that will enable consumers to make cost-saving decisions on energy consumption.

- Allow for integrated self-regulating appliances and devices to adjust activity based on automatic two-way communication with smart grid system.

Smart Meter Benefits

- Save costs on metering and meter reading (downside: costs jobs)
- Avoid costly power outages – including loss of revenue to electric company, loss to affected businesses, and cost to affected consumers
- Enable remote connection and disconnection of electricity service via smart meters (downside: costs jobs)

Customer Benefits

- Lower generation capacity costs due to more even distribution of energy demand and less strain on generation (includes cost savings on fuel for generation and extraction/delivery of that fuel)
- Decreased costs due to less capacity strain and energy loss on transmission and distribution systems due to more even distribution of energy demand
- Cost-savings due to shifting energy demand away from critical peak and peak times to off-peak times
- Lower carbon dioxide emission rate and associated costs resulting from shifting energy demand times from critical peak and peak times to off-peak times

The Implementation of the Smart Grid

The American Recovery and Reinvestment Act of 2009 (also known as the Stimulus) earmarked $2.5 billion for the smart grid initiative, but so far Congress has paid little attention to the allocation or effectiveness of smart grid spending. Much of the earmarked funds have been designated to programs that focus on advanced metering infrastructure (AMI). The majority of the remaining funds have been portioned out to systems upgrades that enable two-way communication between electric utilities and grid components as well as enable the automation of many functions. Some of the funds have also gone toward research efforts to test the effectiveness of smart grid improvements.

Better managed distribution allows for electric utilities to run power lines at lower voltages, which results in energy savings that could translate into cost savings for consumers. Automated grid systems have faster blackout restoration times and require less fuel to conduct their operations, saving electric utilities millions of dollars. For example, Oncor, a Texas power company serving 3.2 million customers, reduced its mileage by 39 percent by installing smart meters. Over a five and a half year period, Oncor completed over 13 million service orders remotely, instead of dispatching personnel and vehicles to perform these tasks. This automation has eliminated the need to drive an estimated 65 million miles, saving nearly 5.4 million gallons of fuel, and preventing over 52,650 tons of carbon dioxide from being released into the environment.

Of course, this kind of automation also means fewer jobs, which defeats one of the major purposes of the Stimulus. According to Michael Langford, president of the Utility Workers Union of America, "[Smart meters] eliminated literally thousands of meter readers across the country, and no way has it created any type of permanent work."

There is much talk about the potential cost savings to consumers as a result of the smart grid, but in researching projected cost savings or demonstrated savings from fledgling programs/systems, resources are sparse, difficult to interpret, and lack corroboration. William F. Fields, a senior assistant in the Maryland Office of People's Counsel calls these undemonstrated assertions into question stating, "I've never seen an analysis that shows that shifting my dishwashing, clothes-washing and clothes-drying load is going to make a significant impact on my monthly bill. It's just not that much electricity."

Both the direct and indirect costs of upgrading the energy grid will need to be recovered. It won't happen all at once – in many cases, costs will be spread over a twenty year period to lessen the financial burden on consumers – but it will happen and consumers will ultimately be the ones who pay for it. This is not the problem though. As with any good or service, electricity has a price and those who consume it should be prepared to pay that price. The issue, however, is that consumers are being told how much they will save once the smart grid is up and running – a veritable win-win-win for consumers, utilities, and the environment. However, power rates are rising independent of the smart grid initiative.

Improving the aging electrical infrastructure, building new power plants, and accounting for the incentive-based renewable energy feed-in tariffs all diminish the value proposition of the smart grid. Given all the costs associated with improving the aging electrical infrastructure as well as those incurred from the smart grid initiative, it simply doesn't seem feasible that all this investment will be offset by shifting and distributing energy demand/use, improving efficiency, and automating certain functions. Not to mention that once all these improvements are made and costs are incurred, the cycle will come full circle and new improvements and upgrades will be needed and their costs will likely not have been planned for.

Dynamic Pricing and Demand-Side Management

Smart grid technology can enable electric companies to disaggregate usage data and implement dynamic pricing. As outlined in CR's previous article on water utilities, dynamic pricing can serve to single out consumers who put stress on the system at peak usage times to discourage or prevent overloading the system as well as help utilities plan when to schedule energy generation at plants. Smart grid technology may also permit two-way communication between electric utilities and smart meters and appliances in order to regulate electricity usage.

In theory, smart grid technology is supposed to help keep energy costs down, improve inefficiencies, and guard against overburdening the electrical system. Consumers should be able to utilize smart meters and their online or mobile app dashboards to monitor their energy consumption and adjust their usage. If consumers are being wasteful or stressing the system, the software enables them to be more conscious of this. If they are running their appliances, such as dishwashers, washing machines, and clothes dryers at peak energy times with higher rates they can shift these activities to lower usage times to save money and unencumber the system.

This concept is referred to as demand-side management. Some argue that demand-side management – where consumers are empowered to be more active in the management of their energy consumption – will result in "demand responses" that will lower overall consumption and reduce energy bills. In theory, this is a promising prospect, however, there are several issues with this premise. Most notably, in places where demand-side management has been implemented, rate hikes and dynamic pricing have also been implemented.

Shifting peak-time energy use where possible is valuable in lessening the strain put on the grid and better distributing the load throughout the day, but not all peak-time energy use can be avoided or redistributed. For example, in a city like CR's hometown Washington, D.C., it's nearly unbearable not to run the air conditioning night and day when the swampy metropolis experiences ninety plus degree temperatures during half of July. In cases such as this, consumers have little choice but to use energy during critical peak and peak-pricing hours unless electric utilities account for this and adjust rates down (which is counterintuitive to the incentives-based model of load-shifting).

There are alternative pricing structures that could allow for a set amount of energy to be consumed at a flat rate before dynamic pricing or time-of-use pricing would take effect, but there's still no guarantee that consumers won't see significant increases on their bills, especially those with larger families who may have a harder time burdening the economic impact of rate hikes and dynamic pricing. Furthermore, something else that frequently comes up in smart grid literature is how "smart homes" or "smart appliances" can be managed through the smart grid as well as user-controlled interfaces, but these appliances and the smart phones and computers needed to manage them are not affordable to those who likely need their benefits the most (in terms of cost savings).

Honesty is Still the Best Policy

It's undeniable that the U.S. electrical infrastructure could use more than just a make-over. It needs an overhaul. Along with that overhaul, smart grid technologies should be integrated to improve the system. What the electrical infrastructure does not need, however, is to be blanketed in false marketing of cost savings to consumers. Consumers shouldn't be underestimated. They don't need to be tricked into what's good for them. They can make the costly but necessary choices without being misled. False promises will only make consumers angry and distrusting of those who lead them into a false sense of security – which in this case appears to be electric utility companies, the government, and the green energy movement which all advertise the smart grid as a cost-saving initiative. Instead, these actors should work to educate consumers about the necessity of system upgrades and be honest about costs. Consumers know very well that nothing is free.

Myth: Hands-Free Devices Prevent *Distracted Driving*

Shannon Perry

The dangers of drunk driving are well-known and well-understood. With impaired motor skills, decreased depth perception, slowed reaction times, and poor decision-making, drunk drivers threaten life and property whenever they get behind the wheel. Public awareness campaigns have communicated these dangers with a fair amount of success, and understanding the risks of drunk driving is an important part of driver's education today. Right now, a growing concern among health experts is the danger posed to American drivers not by alcohol, but by cell phones and distracted driving.

Americans love their smartphones, and with good reason – never before has a single person had the ability to check the weather forecast, send emails, and read the news with a pocket-sized supercomputer that is always at hand. Millions enjoy the conveniences and benefits of modern cell phones, but these devices have their downsides, especially the difficulty of putting them down. While distractedness at the office annoys coworkers and may get one in trouble with the boss, distractedness on the road can be deadly.

According to the Insurance Institute for Highway Safety, texting or talking on the road has become a primary concern for the country's state governments. Texting while driving, which requires eyesight and one or both hands, constitutes the biggest distraction for drivers on cell phones. It has already been outlawed in 44 states and in the District of Columbia. Talking on hand-held phones, which requires drivers' attention but does not interfere with their visual focus on the road, presents a slightly lesser risk to drivers and has been outlawed in 14 states. Talking on hands-free devices has not yet been banned, but researchers have found evidence that drivers who talk on the phone are still dangerously distracted, even if they use a hands-free device.

Cognitive Distraction

That evidence led the National Safety Council to publish a report about the dangers of hands-free devices, Understanding the Distracted Brain: Why Driving While Using Hands-Free Cell Phones is Risky Behavior. Many Americans consider hands-free devices a no-compromise solution to talking and driving, because the devices remove the manual and visual distractions of using a cell phone. That belief, however, is unsupported. Talking on the phone through a hands-free device provides a tertiary (but no less dangerous) problem, cognitive distraction.

Cognitive distraction occurs when drivers take their minds off the road. The cause of cognitive distraction may be a thought-provoking question, a surprising statement, or a joke – all of which come through the phone. Although the concept of multi-tasking is a familiar one, the human brain actually does not perform two tasks at the same time. Our ability to quickly switch between tasks simply gives the illusion of performing two mental activities at the same time. For drivers on the phone, this attention-switching comes in the form of alternately focusing on conversation and the task of driving. The resulting distraction can inhibit drivers from perceiving important visual information, like a light turning red or a pedestrian walking in the road.

The tricky thing about cognitive distraction, the report says, is drivers' inability to identify the distraction itself. Because talking on the phone distracts the mind instead of the senses, drivers often do not notice that they are being inattentive until it is too late. Despite their inattention to the road, drivers may feel like they are driving safely, which amounts to a false sense of security that may even increase the risk of accidents. Additional risks for drivers on the phone include impaired decision-making, longer reaction times, and difficulty remaining within lanes.

Questioning Bans on Hand-Held Cell Phones: The Case in California

California responded to the distracted driving threat from cell phones almost ten years ago, when lawmakers passed legislation in 2006 that banned hand-held cellular phone use while driving, which became effective July 1, 2011. The decision was motivated largely out of a desire to decrease motor vehicle accidents, the most costly and tangible consequences of distracted driving. First-time violations carry a $20 fine, with subsequent offenses resulting in $50 fines. Devices "specifically designed and configured to allow hands-free listening and talking" are permitted.

Without the threat of driving penalty points, some argue that the established violations do not constitute enough of a disincentive to put down the phone. In the not-so-likely event of being pulled over for talking on a cell phone, one can expect little more than a relatively small fine. Driver penalty points can lead to higher insurance rates for individual drivers, and accruing enough of them can result in the suspension of a driver's license. Fines do not carry such long-term consequences, and neither does California's hand-held ban.

Researchers have applied significant efforts to evaluate the effectiveness of the California legislation, as the efficacy of such a ban has implications for policymakers, business leaders, and consumers around the country. If banning hand-held devices significantly decreases accidents on the road, then legislators should be informed, along with insurance providers, first responders, and consumers.

A recent study from Transportation Research found no evidence of a decrease in the number of statewide accidents under the new ban. Researchers applied advanced statistical methods to California traffic data, modeling for accidents as if the new law was an experiment. The change in the number of accidents before and after the legislation took effect was statistically insignificant.

That being said, a non-decrease in accidents following the California ban does not necessarily support the National Safety Council's claim that hands-free devices are dangerous. Perhaps drivers in California simply ignored the ban. Perhaps accident risk is an aggregate danger spread across all drivers, and a few cell-toting drivers caused accidents for everyone else. Perhaps the drivers who used hand-held devices are predisposed to seek distractions and they found alternate sources of entertainment while driving. Without further research, there's no way to know for sure.

The safest conclusion to draw is that banning hand-held cell phones does not necessarily result in safer roads. Risks on the road are many and multi-faceted. Driving always presents the risk of an accident – driving in a state like California is no exception. On roads plagued by distracted driving, banning hand-held cell phones is not a panacea for accident prevention.

Although the study does not directly support the National Safety Council's report, the study's findings are consistent with the report. In other words, if the study had found that banning hand-held cell phones resulted in lower accident rates, then it would appear that hands-free devices might actually lower risks for drivers. Given the failure of the California ban to decrease accidents and the National Safety Council's findings, drivers should be attentive to the road while speaking on their hands-free devices.

Caution is Key

In terms of convenience, hands-free devices are a godsend, making it possible to comfortably fold laundry, wash dishes, and make the bed – all while seamlessly maintaining a conversation on the phone. However, using the devices on the road does not always make for safe, distraction-free driving.

Consumers should use caution while driving and using hands-free devices. Cognitive distraction affects the human brain in attempts to multi-task, and it can threaten lives on the road. With a joke or a bit of surprising news, any conversation can lead drivers to take their minds off the road. Hands-free devices are not a comprehensive solution for distracted driving, and a false sense of safety from using the devices could actually increase a driver's risk of getting into an accident. Always drive defensively, but exercise extra caution while using hands-free devices.

Doctors *on* Decline: *Addressing the* U.S. Physician Shortage

Olivia Ferguson

Troubling Trends

There is a general consensus among health care experts that the United States will be facing a physician shortage within the next two decades. Atul Grover, chief public policy officer for the Association of American Medical Colleges, confirms, “We think the shortage is going to be close to 130,000 in the next 10 to 12 years.” While there are many factors at play, economists point to an aging population and the expansion of health care coverage as culprits of the impending physician shortage. Specifically, an estimated 10,000 Baby Boomers are becoming eligible for Medicare daily, creating a top-heavy system with more members that have higher medical needs. Furthermore, the establishment of the Affordable Care Act in 2012 has expanded coverage to a wider array of individuals, adding to the demands of the current health care system.

While these two factors are increasing demand for health care, there is a disparity between the types of doctors the U.S. is producing and the types of doctors the nation needs. Due to the high cost of medical school, students are more likely to specialize in order to pay off loans faster. Primary care practitioners, who are paid less than specialists and therefore receive a lower rate of return on their education, are being produced at lower rates than before. In addition, studies have shown that where students attend medical school is a strong indicator of where they will later practice medicine. For this reason there is an oversupply of doctors in urban areas and a shortage elsewhere, especially in highly rural areas. However, as noted by health economist Uwe Reinhardt, “My view is whatever the physician supply is, the system will adjust. And cope with it. And if it gets really tight, we will invent stuff to deal with it.” In other words, a physician shortage is not the disaster many see it as. Rather, it is an opportunity to innovate.

Alternatives

A study published by Health Affairs called, “Primary Care Shortages Could Be Eliminated Through Use of Teams, Nonphysicians, and Electronic Communications” explains that predictions of physician shortages in the future assume a traditional model of health care in which a single physician cares for each patient. However, the study argues the predicted shortage could be partially, if not completely, relieved if the U.S. adopts alternative approaches to patient care. Such approaches also take into account the concerns of insufficient accessibility to timely physician appointments. The proposed tactics have the potential to increase the volume of patients received by physicians without hurting the overall quality of care.

The first of such changes is reducing the number of single-physician practices in the U.S. in favor of groups of physicians who can share administrative costs as well as patients. Such practices are already underway. The 2008 National Ambulatory Medical Care Survey reported the proportion of primary care physicians in solo practices dropped from 39% in 2003 to 33% in 2008. Converting patient files to an electronic records system would support a group physician model by allowing for more coordination and higher availability. A part of this new model includes the increased use of non-physicians to handle nonemergency and routine care.

Non-physician Providers

The Medical Group Management Association (MGMA) defines non-physician providers (NPPs) as “trained and licensed professionals able to provide medical care and billable services.” NPPs, such as physician assistants and registered nurses, are often used to extend the reach of practices by allowing physicians to delegate tasks to their support staff. This results in increased patient satisfaction and clinical revenue. MGMA’s “DataDive 2013: Physician Compensation and Production Module” shows single-specialty practices with NPPs have higher compensation than those without NPPs across specialties. David Gans, senior fellow for MGMA Industry Affairs says, “In primary care practices, [NPP’s] can provide 80 percent or more of services with equal or better patient satisfaction at a lower cost than a physician. Many times, NPPs have fewer demands than physicians and are more readily available to patients.”

Day-to-day tasks of NPPs may include:

- Obtaining patient histories and performing physical exams
- Ordering and/or performing diagnostic and therapeutic procedures
- Making appropriate patient referrals
- Providing patient counseling, education, and coordination of care
- Providing on-call and hospital care

Becoming a physician assistant requires a master's level of education, while special certification is required to become a registered nurse. The Bureau of Labor Statistics (BLS) estimates that nurse practitioners make up 19 percent of the primary care workforce in the U.S., while physician assistants account for 7 percent. Both fields are growing. The BLS projects that by 2022, physician assistant positions will have grown by 38%, while that for registered nurses will have grown by 19 percent. BLS reports the average growth rate for all occupations in the U.S. by 2022 is 11 percent, indicating that both fields are growing rapidly.

Concierge Medical Services

Another new structure within the health care industry is the introduction of concierge medical services in which patients pay a monthly fee for unfettered access to their physician. This subscription-like service is typically well-liked by members, as it allows them to bypass the lengthy wait – both in terms of calendar days and time spent in the waiting room – often endured for an appointment at a traditional physician's office. For those whose medical needs require frequent physician face time, the quick response and unbridled access to care offered by concierge medical services is an attractive option.

When the service first appeared, the cost of an on-call doctor was exorbitant to the average consumer. Interestingly, when researching "cost of concierge care" today, results include everything from "Concierge Medicine for the Super Rich" to "Doctor on Demand: Not just for the Rich Anymore." So which is it? The cost of the service can range from $50 per month to $25,000 annually, with the national average ranging from $135 to $150 per month. Depending on insurance coverage and state laws, some of these costs can be covered by insurance, but the rest, along with the cost of lab testing, is often out-of-pocket. If the most appealing and utilized feature of concierge medicine is simply reduced wait times, the expenses for these services will likely be lower than the cost of, say, requesting a physician to make a house call at two o'clock in the morning.

The medical service industry is changing. The influx of new Medicare patients, the high cost of student loans, and the demand for better access to care are driving physicians to adopt new care models that are likely to influence the future of the U.S.'s medical industry as a whole. But, as aptly put by Reinhardt, whether the pressures result in a shortage or a surplus of physicians, the market will simply adjust.

Credit Reports: *What You* Don't Know *Might* Hurt You

Ethica Burt

When buying a big-ticket item, such as a house or a car, there is one number that matters almost as much as the item's price – your credit score! A consumer's FICO credit score, a nationally recognized credit score model which ranges between scores of 300 and 850, is actually the composite of many smaller scores determined by credit reporting agencies. The score, which is based on your credit history, represents the risk a seller would be taking by lending to you. The lower the score, the lower the guarantee that the desired item will be paid for on time, and the less likely a potential buyer will qualify for a loan to make the purchase. Credit scores affect everyone with a credit history. Even those without a credit history can be affected by their lack of a credit score.

Components of a Credit Score

Credit reporting agencies determine a credit score based on account information such as prior loan accounts (automobile, student, mortgage, etc.) and credit card repayment history. This information indicates how well you handle your financial responsibilities over time. When a lender extends a line of credit, the debtor agrees to pay back the amount owed plus any financial charges. Whether this debt is paid back on time affects a large portion, approximately 35 percent, of credit score determination.

Public records, including bankruptcies, foreclosures, and tax liens, are another major factor which can impact credit scores. Bankruptcies and foreclosures can decrease a credit score by as much as 250 points and can be very hard to reconcile. Most public records remain in the credit report for seven years though some unpaid records, such as tax liens, may remain indefinitely.

The length of your credit history is another sizable factor, determining approximately 15 percent of the credit score. The longer the history of on-time payments, the higher the score and the more reliable a debtor will seem when determining lending agreements.

The number of inquiries and accounts in use each make up approximately 10 percent of the final score. When a lender, landlord, or other authority requests your credit report, the inquiry is recorded. Multiple credit report inquiries during the same time period can jeopardize future applications to borrow. If you do not have a credit history, you may have a difficult time securing a lease with a landlord, as you have no record demonstrating your ability to pay bills in a timely manner. Additionally, if you have too many credit card accounts, regardless of whether you use them, your score may be negatively impacted. Having several credit cards puts a borrower at risk for utilizing too much credit and increases the probability of a late payment.

Each credit reporting agency weighs these factors differently, causing minor discrepancies in credit scores from the three major national credit reporting agencies – Experian, Equifax, and TransUnion. Despite standardized information, the credit score from each of the three bureaus varies, as each organization employs its own algorithm to determine credit scores.

The national credit reporting agencies each compare data from millions of borrowers using statistical models to predict the risk of future credit behavior. These reporting agencies receive and evaluate consumer credit information, individual applications for credit (such as credit cards and loans), and public records. It was not until the Fair Credit Reporting Act of 1971 that U.S. citizens gained the right to access their credit reports and scores in order to understand why they were denied credit or to check for mistakes.

Why Should you Check your Credit Report?

Checking your credit report is important to ensure that the information is accurate and to know your risk level relative to other borrowers. A Federal Trade Commission study reported that at least one in every 20 people has a significant credit report error, with some studies showing as much as 20 percent of all credit reports containing errors. Ensuring credit report information is accurate guards against identity theft. Furthermore, knowing your credit score helps you predict if you will be able to afford a house mortgage or car payments as well as understand how your score compares to everyone else's. Your credit score can also affect your chances of getting hired; many companies look at a prospective employee's credit history before making a final hiring decision.

The Proof is in the Numbers

A higher credit score can result in a higher likelihood of qualifying for a loan, more favorable interest rates when borrowing, and lower loan payments. A good score can also result in better terms when signing up for services like cell phone contracts or rental agreements. A score of 700 and above is generally considered good and those with a score above 800 are in the top 10 percent of borrowers nationwide.

For borrowers with a credit score below 600, higher interest rates and extra finance charges are common and sometimes even double that of consumers with a good score. The lower the credit score, the higher the probability of getting rejected for a loan. So what can you do if your credit score needs improvement?

Improving your credit score takes time; negative credit history can follow you for seven years after the date of delinquency. In order to increase your credit score, you must build a more reliable credit history. The following tips can help you regain control of your credit score:

- Set up payment reminders to remind you to pay bills on time
- Pay off the debts you owe and begin a dialogue with creditors to establish repayment plans if you cannot pay them off immediately
- Keep credit card balances low
- Set up a monthly budget and consider using a management tool, such as Intuit's MINT app for smartphones, to help you stick to this budget
- Cut down on the number of credit cards in your name

In 2003, the Fair and Accurate Credit Transactions Act (FACTA) gave U.S. citizens the right to one free comprehensive credit report from the three national credit reporting agencies per year. The credit report is only free via Central Source (www.annualcreditreport.com) which is a joint venture of the three major credit reporting companies. The three companies do not provide free reports via their individual websites. The report also does not include a final credit score. Credit scores can be purchased separately from the three national agencies or from other private credit reporting agencies.

How to access your free credit report:

Utilize the Central Source credit report processing service online:
www.AnnualCreditReport.com

Request by phone:
1-877-FACT-ACT (1-877-322-8228)

Complete a request form and mail it to:
Annual Credit Report Request Service, P.O. Box 105281, Atlanta, GA 30348-5281

To buy your credit score or credit report, visit any of the three national credit reporting agencies' websites or choose one of several free credit score sites (taking note that free sites require credit card information and will charge you after an initial grace period):

Experian: http://www.experian.com/
TransUnion: http://www.transunion.com/
Equifax: http://www.equifax.com/home/en_us
Credit Karma: https://www.creditkarma.com
Credit .com: https://www.credit.com/free-credit-score/

Consumers' Research
Internet Privacy Tips

Kyle Burgess

Passwords!

Step 1: Use them! Password protect all of your devices and networks. This seems obvious, but many people still don't secure their phones or Wi-Fi networks with passwords or codes. Maybe it's because they think it's annoying to "log in" every time their device is turned on or comes out of "sleep mode," however, it's considerably more annoying to have personal information stolen and used to support some cyber criminal's shoe fetish – particularly if it could have been avoided. You wouldn't leave your house or car door unlocked if the contents of your bank account were in them, would you?

Step 2: Use lots of them! Use multiple passwords for your various devices and user accounts. Having one account hacked may result in some frustration, but having all your accounts hacked in one go could be devastating. If it's likely you'll forget your various passwords, consider using a password manager, such as LastPass, to access your accounts.

Step 3: Use good ones! Make sure your passwords and passcodes are strong. Seriously, DO NOT use the names of your pets, spouses, children, etc. in your passwords. AND do not use street address numbers or birthdays (dates or years) in your passcodes. After years of being told not to, people are still doing this. For your own sake, please stop! Also, consider using a *password meter*, such as Ask the Geek, to ensure password strength if the account you're signing up for doesn't provide its own meter.

Variety is the Soul of Cyber Wit

Just as you should vary the passwords you use for different accounts, you may want to *vary the email addresses you use to sign up for different user accounts*. Again this will prevent a domino effect of multiple accounts being hacked as a result of one account being hacked.

You may also want to *consider having multiple user accounts for the same social media site* (each with different user names and contacts) in order to maintain a professional online presence (i.e. work Twitter and Facebook for work colleagues, professional networks, and potential or current employers) as well as a personal online presence (i.e. personal Twitter and Facebook for friends and family). Furthermore, avoid using your work email for personal communications and personal email for work communications.

Personally Identifiable Information (PII)

Keep your date of birth, telephone number, and social security number private. Never post them publically on social media or other websites, as they are often used to verify your identity by service providers. Additionally, safeguarding the last four digits of your social security number is just as important as guarding the entire number. Providing this number freely is tantamount to inviting identity theft, so avoid sharing it unless it is for something official, such as employment, taxes, banking, etc. The people who you would want to know your birth date, email address, home address, and phone number either already have them or can get them through you or trusted mutual acquaintances.

Ambiguity is Your Friend

Consider using a pseudonym with user accounts and social media accounts unless there is a compelling reason to use your full name. Furthermore, utilize the privacy settings provided by social media sites to limit how public your profile is. Even if you're hoping that your long lost significant other will try to find you via the Internet, you do not need to keep your social media profiles public. If your privacy settings are limited but allow messages from people who are not your connections, your true love could still find you and reach out to you with the PII they should have if they actually know you – such as your name and where you're from or what high school you went to. Speaking of where you're from… **avoid filling out online profiles with more than the basics.** The more information you share online, the easier it is for bad actors to get their hands on it. Just because there's a box for your employment history, doesn't mean you need to fill it out. Plus, do you really need to share everything about yourself online?

GPS & Wi-Fi

Disable GPS and Wi-Fi on your mobile devices (and PC if it is GPS enabled) unless you are actively using services that require them. This will safeguard your location information (i.e. daily routine) and prevent unintended broadcasts of your personal information (including your location, information about your mobile device, which apps are on your device, etc.) to random Wi-Fi networks you may happen by.

Privacy Policies

We know better than to tell you to read the fine print; however, when downloading mobile apps, if you read nothing else, **read the access privileges** before accepting the terms of use. Apps aren't just selling your usage data to marketing firms. Some apps request access to your mobile device's contacts, camera, and microphone despite those features not being integral to the apps purpose or function. Before granting access, ask yourself if the app really warrants those privileges. Access to these features can give companies a front row seat into your personal life, which they can then sell to agencies that will be able to send highly-targeted (read: really creepy) advertising your way.

Encryption is for Everyone!

Although encryption sounds like a complicated term that belongs locked away in the world of IT folks and hackers, it's actually very simple to ensure that you take advantage of encryption protections even if you don't understand how they work. Web addresses that contain "https://" are encrypted, those that only contain "http://" (with no "s") are not. The "s" represents "secure" and the rest stands for "Hyper Text Transfer Protocol." Essentially, the HTTP communications protocol (which apparently isn't really a standalone protocol) is layered over SSL or TSL protocols to encode information and only share it with the authenticated and intended web addresses. Whatever that means! **All you need to know is that when you visit a website with an address that begins with "https://" the site is secured end-to-end (i.e. the information shared between you and the site does not pass through a third party or unauthorized party).** You should only share sensitive information (particularly credit card information) over encrypted connections, otherwise your communications may be vulnerable to what are known as "man-in-the-middle" attacks. There are plug-ins you can install on your web browser that bring you to secure sites wherever encryption is supported. Furthermore, depending on which browser you're using, you may see a padlock symbol or some other certification symbol, which further simplifies your understanding of when you're protected by encryption. Although, we shouldn't have to say it, even if your email account offers encryption NEVER send your credit card or bank account information via email. Encryption isn't guaranteed on the receiving end of an email and it's just generally unwise to give your credit/banking information to others.

Other General Tips

- Use "multi-factor" authentication" on websites that offer it, especially banking sites. It may be slightly annoying to have to wait an extra ten seconds to get a text message with a code or pass key, but it's a lot less annoying than having your bank account hacked.
- Turn off "auto-complete" to prevent having your PII or credit card info stored (and possibly taken advantage of).
- Use "private browsing" to prevent the storage of cookies and temporary internet files or the creation of a web history of the sites you visit.
- Create and use a "throwaway" email address you can use to sign up for things without sharing your personal information. If you're signing up for something that may spam you or share your PII with a third party, a throwaway email account is great for keeping spam out of your life.
- If you're really hardcore, you can use a Virtual Private Network (VPN) or Tor to surf the web without being tracked.

However you chose to protect your privacy online is up to you, but it's important to be aware of the risks you may not have known you were taking. Surf smart!

Oil Prices Update: Contemporary Determinants

Millan Bederu

As oil and gas prices have declined, there have been both winners and losers. Producers have taken hit after hit while consumers, including airlines, trucking companies, and households across the nation, have reaped the benefits. Most industry speculators predict prices will continue to decrease even as refineries switch to spring/summer oil blends in the warmer months. Though the warm-weather blends are generally more costly, the slump in oil prices will likely only be increased by a few cents per gallon. The continued low prices are hitting producers hard, resulting in oil rig closures and poor returns for investors. In response to the decreasing prices, Wall Street has become skittish toward investment in the oil industry.

As both, one of the world's largest energy producers and one of the world's largest energy consumers, declining energy costs are a mixed bag for the U.S. economy. Generally consumers benefit from lower oil and gas prices, but those who depend on the energy industry for work are in a precarious situation as oil rigs shut down in certain parts of the country. While other high-producing nations benefit from the lower costs of oil exploitation, the U.S. does not enjoy that advantage. U.S. producers have borrowed with expectations of selling at high prices, resulting in low returns ultimately forcing many rigs to close. The decline in the number of American rigs is predicted to result in a decline in American production which could, in turn, increase prices. As is, the current price slump has increased the Consumer Price Index, indicating the dollar has a higher purchasing power as people are spending less on gas. This has required the Federal Reserve to rethink plans of increasing the inflation of the dollar – a continuation of the Fed's winding down of a stimulus economy. A delayed increase in inflation may mean the Fed will also wait to increase interest rates for banks, cutting out revenues that would have gone to decreasing the nation's deficit.

Besides the effect on American consumer prices, the Fed's policies, and Wall Street's bottom line, the decline in gas and oil prices has had major impacts on foreign economies and global conflicts. In any market, price declines are often attributed to either high supply or low demand. In the case of oil prices, supply is certainly up. The international oil collective, OPEC, decided in November not to limit their production of crude oil. The decision came on the heels of large decreases in oil prices throughout September and October, which served to exaggerate the drop. Earlier in the fall, market prices for oil had declined due to high levels of production in the U.S., a result of innovations that allowed for the extraction of oil that was previously unreachable. OPEC's decision comes as a result of Saudi Arabia's attempts to stimulate demand, according to Mohammed Al Sabban, senior advisor to the Minister of Petroleum of Saudi Arabia. Decreased demand would mean bad news for oil-dependent economies and the world's largest oil producer is very concerned about a global trend.

As mentioned, nations dependent on oil revenue have taken hard hits as a result of the decline in prices. While OPEC made the decision to maintain production, less economically stable member countries, like Nigeria and Venezuela, are losing large portions of expected revenue. Russia has also faced economic hardship of late, with the collapse and continued decline of the ruble. Russia's economic decline has been affected in equal measure by the decline in oil prices and the sanctions taken against it in response to the armed conflict in the Crimean Peninsula. The European Union and the U.S. have taken issue with Russia's support of Russian separatists fighting against the Ukrainian government – support Russia denies. Russia's precarious economic standing has in no way lessened the conflict in Crimea; instead numerous cease-fire agreements have been broken in the region. Iran's economy is also facing instability as oil revenue has decreased in the nation. The U.S. has shaky relationships with both Russia and Iran, with each nation playing a role in numerous conflicts in Central Asia and Eastern Europe. The economic challenges faced by both nations as a result of the sanctions and low oil prices fuel some of the local resentment aimed at foreign nations, including the U.S. and its ally Saudi Arabia.

Generally oil prices can be expected to increase as conflicts flare up in oil producing regions. However, current oil prices do not seem to reflect the hostilities and political instability in many of the world's oil-rich regions. The continued conflict in Iraq and Syria, Northern Nigeria, Crimea, and the threat of increased sanctions against Iran should all result in increasing oil prices. While recent dips in oil prices buffer the potential impact of conflicts in the Middle East, the prolonged threat ISIS poses to some of the world's greatest oil producers could throw off production in the region. The self-declared Islamic State harbors animosity towards the Kingdom of Saudi Arabia, keeping Saudi Arabia on high alert and destabilizing trust in the oil market. Saudi rigs and refineries have been threatened in the past causing spikes in oil prices. The 2006 failed Al Qaeda attack on Saudi's largest refinery, the Abqaiq refinery, caused a 3.4 percent increase in oil prices as a result of fear in the market. A successful attack to a Saudi refinery would have dire consequences that the current price slump would not be able to mitigate.

For oil consuming nations, the IMF predicts lower oil prices have more potential to increase global GDP compared to a situation where oil prices had not decreased. While the GDP growth linked to oil prices has been limited in emerging countries, it could serve to bolster stagnant European economies that are threatened by a looming recession. Some oil importing nations, like Indonesia, have been able to divert energy subsidies toward spending on infrastructure. Overall, the fluctuations in oil prices represent a crossroads in the global political and economic relationship with oil. The days of oil as the fulcrum of global events may be passing, yet the fuel maintains its importance to today's conflicts.