

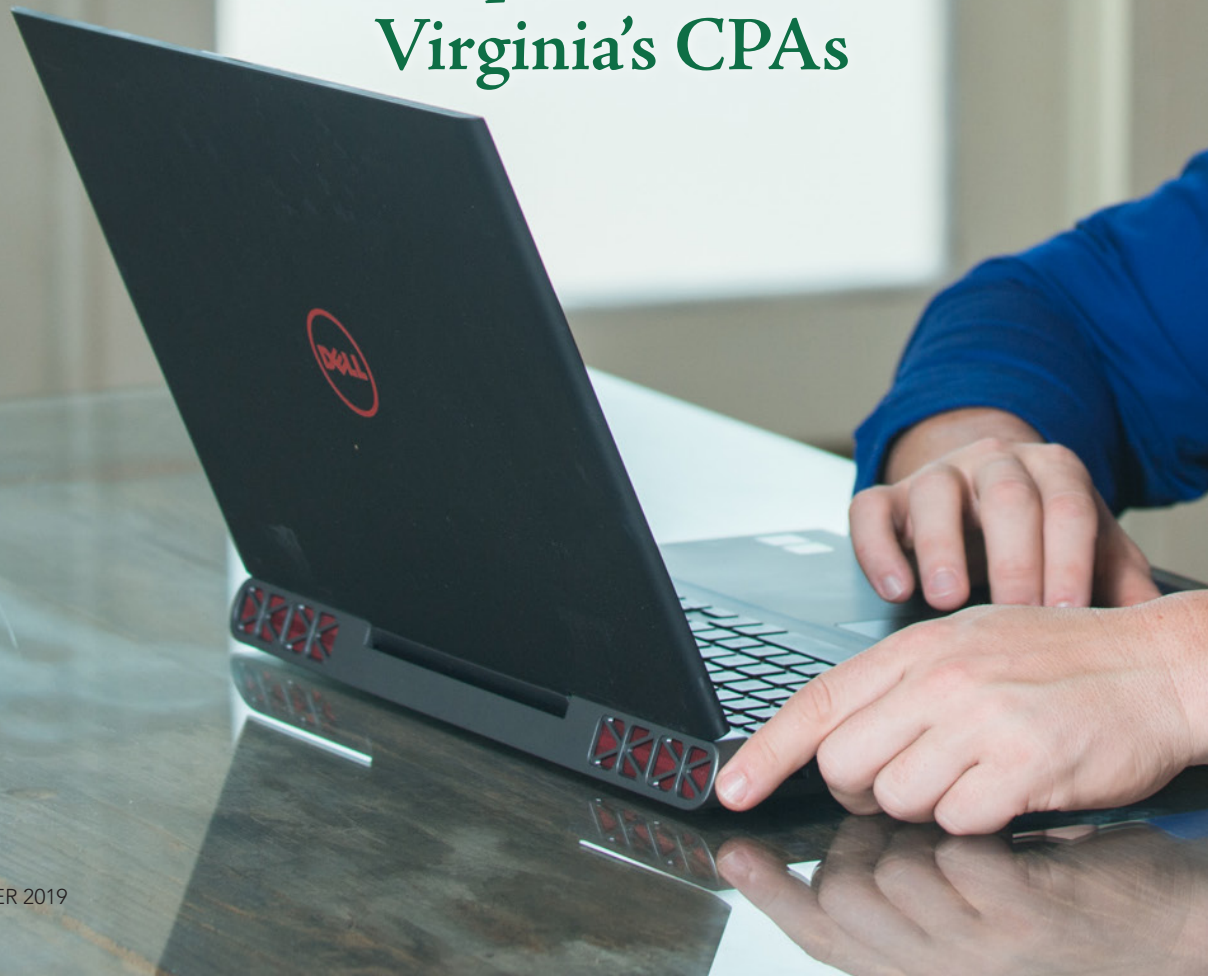
Virginia Society of CPAs'

**2020**

**VIRGINIA ECONOMIC  
EXPECTATIONS SURVEY**

# A strong defense

Cybersecurity is  
a top concern for  
Virginia's CPAs





Cybercriminals have begun targeting smaller businesses for ransomware attacks, says Joe DePlato, CTO for Charlottesville cybersecurity firm Bluestone Analytics.

Photo by Caroline Martin

## SPECIAL REPORT: VIRGINIA SOCIETY OF CPAs' 2020 VIRGINIA ECONOMIC EXPECTATIONS SURVEY

by Joan Tupponce

**S**an Francisco-based cryptocurrency exchange Coinbase learned the effectiveness of its cybersecurity plan this May when it had to thwart off a cyberattack.

It was a well-thought-out attack, “potentially from a criminal organization,” says Joe DePlato, co-founder and chief technology officer for Charlottesville-based Bluestone Analytics, a cybersecurity consulting firm.

“It was a spear phishing attack,” he explains, a type of cybercrime in which the attacker emails a specific user base within an organization seeking potentially valuable access or information. “Nothing appeared malicious. When they opened the emails, they didn’t notice anything wrong.”

The opened emails allowed the attackers to leverage an unpatched vulnerability in the Firefox browser. Once the user clicked on a link, the intruders had access to the employee’s machine.



**"All businesses are at risk" of cyberattacks, says Virginia Society of Certified Public Accountants President and CEO Stephanie Peters, and accountants are acutely aware of the financial risks these crimes pose.**

Firefox started another program that it should not have started. "That's what alerted them to the issue," says DePlato, allowing Coinbase to successfully defend against that attack. "What Coinbase did right was they took a security-first mindset to the way they deployed their security architecture," DePlato says, noting that its employees were trained in best practices and the company had a dedicated security team.

Cyberattacks can happen to anyone at anytime. "All businesses

are at risk," says Stephanie Peters, president and CEO of the Virginia Society of Certified Public Accountants (VSCPA).

In a 2019 survey conducted by the VSCPA in partnership with Virginia Business to gain insight into current economic conditions, 100% of 282 Virginia CPAs who responded said cybersecurity is of significant or moderate concern to them.

And 18.79% of those CPAs said their businesses had been the victims of cybercrimes. Anecdotally, some said their clients had also suffered breaches, and many said they experience frequent attempted cyberattacks. "My monitoring system tells me that attempts are being made each hour of the day. It is only a matter of time that someone gets through. I try to limit what might be available," one CPA wrote.

## Risky to business

"CPAs are tuned into cybersecurity because of their clients," Peters says. "A lot of the work they do is related to financial security. They have a heightened awareness of the risks that are out there for anyone."

CPA firms aren't at a greater risk than other companies, Peters says, but VSCPA members are "doing more to advise customers about these risks," she says. "CPA firms can also go in and audit a company's cybersecurity risk management program."

The society conducted its own cybersecurity assessment, looking at all of the organization's processes. "We made so many changes to how we do remote work," Peters says. "Now when we go into the network, we use multifactor authentication security. We have at least two additional levels of security to get into our data."

Employees are also trained on best practices. "A lot of small businesses don't realize how much risk they have," she says.

Computers and networks are getting attacked by malicious hackers at a rate of one attack every 39 seconds, according to a Clark Study at the University of Maryland. Most attacks (69%, per the Verizon Data Breach Investigations Report) are perpetrated by outsiders, while 34% involve internal hackers.

Most breaches (52%) in the report featured hacking, while 33% included social attacks, and 28% involved malware.

"We have seen an increase in cyberattacks and attempted cyberbreaches," says Bartosz Wojszczyk, co-founder and CEO of SPARQ Global, a Virginia Beach-based cybersecurity firm. Damages from cybercrimes worldwide amounted to \$600 billion in 2017 and it's estimated to reach \$6 trillion by 2021, he adds. "There is a growing intensity of cybercrime, and the resultant damages to companies and institutions, both private and public, will only escalate."

## 2020 VSCPA Economic Expectations Survey

For more survey results and CPAs' economic predictions for the commonwealth, see Page 47.



Organizations that collect clients' personal information, such as financial services and health care companies, are frequent targets of cyberattacks, says Colleen Johnson with Suffolk-based cybersecurity firm Sera-Brynn.

There has been a large uptick in ransomware threats, as well as phishing attempts and compromised email accounts. "In both cases threat actors are financially motivated," says DePlato. "We have seen a decrease in the overall cost of unlocking ransomware. Five years ago, you would hear about larger organizations compromised and [held ransom for] exorbitant fees. Now we are seeing many small organizations targeted" for less money each.

Earlier this year a mid-Atlantic organization's computer systems were shut down for about two weeks while it was held hostage by a ransomware attack, DePlato says. "They didn't have a dedicated security team or a user base with training," he explains. "They didn't realize the risks from a security perspective. They didn't follow best practices."

The organization had to rebuild from scratch. "You can imagine the cost," he says, adding that if the right measures were in place, "they would have been able to successfully defend the attack."

Industries frequently targeted by threat actors range from financial services and health care to public institutions and professional services firms. All are good targets because they contain "a treasure trove of personal information," says Colleen Johnson, senior cybersecurity legal analyst at Suffolk-based cybersecurity firm Sera-Brynn.

One of the biggest threats to a company is an insider threat. An employee, "not necessarily for malicious intent but unknowingly, clicks on a link or email phishing attack," says Anthony Russo, SPARQ Global's chief information security officer.

Or sometimes, it's because they mistakenly think they're communicating with someone from within their organization. "A CFO, for instance, received a phone call from someone posing as the company's CEO, asking for a money transfer," Russo recalls. "The CFO ignored the controls."

That's why it's critical for businesses to establish cybersecurity protocols and enforce the rules they put into place.

Cybersecurity needs to be a mindset, he adds. "That allows you to recognize new threats that are coming. There always needs to be a process. You have to advance your cybersecurity protections as technology advances."

### Putting the right measures in place

Businesses need to be proactive about cybersecurity. "We know that people don't always do that," says Wojszczyk. "Don't skimp or save on cybersecurity protection. A successful cyberbreach can irreversibly impact its victims."

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Wojsczyk

Stealing or tampering with a company's data and information can impact its performance and critical day-to-day operations. "Regardless of how small or big or what type of business, data security has to be from the top down," Wojsczyk says. "It can't be managed as an afterthought. It has to be strategic and it has to be part of the discussion."

DePlato recommends that all businesses train employees on cybersecurity and follow best practices.

"You'll also want to clean up your network," DePlato says, using sophisticated antivirus and cybersecurity monitoring software developed by companies like Carbon Black or CrowdStrike.

He also recommends having a centralized logging location. "There are a number of different items that can compromise a firewall, network switches, wireless access points, servers, laptops and mobile devices," DePlato says.

Each device by default logs what is going on in those systems to the device. "If we are doing an investigation and trying to determine point of detection, we go through log data," DePlato says. "You want to have all your devices log to one location so your security team has everything in one place."

Businesses also need to perform daily or weekly systems backups to a secure offsite server. "The best defense against ransomware is to have a robust backup system," Russo says. "When we buy a house, we all buy the same thing first: homeowners' insurance. We are protecting the asset against loss, with an ability to recover. The same thought is true in cybersecurity — protect your valuable data assets and have an ability to recover."

Companies also need to be cognizant of their legal obligation regarding evolving cybersecurity laws. "On the legal side, you may be required to report an incident that you don't know you are required to report," Johnson says.

It's also important for businesses to have an incident response plan in place, she adds. "Don't wait until something happens." ■

# exploring resolutions, investigating solutions



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# Hampton Roads

We asked five Certified Public Accountants for their take on the state of their region. This is what they had to say. Answers have been edited for length and clarity.



## Amanda Phelps, CPA

Recruiting manager  
Robert Half International  
Norfolk

### How is the economy faring in your part of the state?

The economy in Hampton Roads is thriving. As a staffing manager, I have seen a demand for skilled talent. Unemployment is low, and the market for skilled labor is tight.

### What local industry/sector do you think has potential for growth?

Opportunities are available for growth in the logistics and supply-chain management industry. We are responsible for delivering goods to consumers across the nation and globe. Expansion and automation of the [Port of Virginia's] terminals are necessary. Mental health care is another opportunity. More companies are offering ben-

efits that include access to mental health care and our health care facilities will need to meet demands.

### What's the biggest challenge to doing business in your area?

Finding and retaining a talented workforce is challenging. It is a [job] candidate's market right now, and candidates have their choice of employment. The Hampton Roads area is working hard to lure many Virginia college grads to remain or move to the Hampton Roads area. Sea-level rise is another threat to infrastructure in Hampton Roads and may discourage business.

### What impact would a recession have on businesses in your area?

A recession could negatively affect Hampton Roads, since our economy is heavily dependent on federal spending. Defense spending cuts could slow down business.

### How did the 2018 tax reform laws affect returns in 2019?

The 2018 tax reform resulted in a higher standard deduction and eliminating personal exemptions. As a tradeoff for ease, some taxpayers may have been less inclined to take advantage of previous tax incentives like charitable contributions and mortgage interest deduction. Many businesses have reported benefiting from the tax reform, leading to a thriving economy. ■



# Shenandoah Valley

## What local industry/sector do you think has potential for growth?

The advanced manufacturing sector, in terms of both employment and wages, as manufacturers continue to improve their efficiency through the use of automation. Growing up, I remember visiting my dad when he worked at a General Electric plant. The manufacturing plants today look nothing like that plant; they are significantly cleaner, sleek and highly automated.

## What's the biggest challenge to doing business in your area?

The mismatch of skills between the individuals looking for employment and the skills required for the job openings. To overcome this, our organization assists businesses with work-based learning, pre-screening and recruitment, creation of apprenticeship programs, soft-skills training to address the lack of basic work skills and workforce upskilling.

## What impact would a recession have on businesses in your area?

Some businesses would struggle with weak cash flows and declining profitability. Those that continue to invest while looking forward rather than focusing solely on cost cutting will be the most successful during times of economic downturns. All



## Cathryn Michie, CPA

Chief financial officer

Shenandoah Valley Workforce  
Development Board Inc.

Harrisonburg

businesses should have a recession plan in place to focus on the future health of the organization.

## What are the top two factors that have had the biggest impact on attracting business to your region?

The availability of a skilled workforce is the top factor; the region has embraced providing funding for training and skills development that aligns the needs of the businesses with the needs of individuals to ensure a pathway for career development. The second factor is the proximity to transportation, as the region is well connected to the U.S. and international markets. ■

# Central Virginia



## Gary R. Thomson, CPA

Managing partner

Thomson Consulting LLC  
Richmond

Chairman

Virginia Society of Certified Public  
Accountants board of directors

### What local industry/sector do you think has potential for growth?

I see those best chances in biotechnology, cybersecurity, data analytics, general technology, health care, advanced manufacturing and logistics.

### What's the biggest challenge to doing business in your area?

It's a good problem to have — a decreasing availability of qualified labor due to very low unemployment. This presents challenges to employers ... in terms of finding the human capital needed, in paying competitive wages to attract/retain your valuable people and feeling comfortable with growth/expansion in terms of having the people necessary to support growth.

### What impact would a recession have on businesses in your area?

Most businesses don't operate well in uncertainty, and recessions create uncertainty. The impact, beyond the obvious challenges of maintaining revenue levels and supporting personnel levels, is the impact on investments in the future. It's difficult to "broad brush" this answer, as some industries lead a recession and others trail. But uncertainty impacts everyone.

### What impact do you think U.S. trade policy has had on businesses in your area?

Clearly our manufacturing base is impacted. Agricultural, forest and paper products keep our ports very busy, and trade policies can have both a positive and negative impact, depending on the country with which we are changing policies. With the recent trade policy discussions with China, we are seeing consumer goods being more and more impacted.

### What are the top two factors that have had the biggest impact on attracting business to your region?

Our region is home to a well-skilled and trained group of talented workers. ... Secondly, an attractive cost of doing business ... not only the direct business costs of taxes, natural resources and personnel, but also our pro-business environment mitigates some of the other business risks costs associated with some of our neighboring states. ■

# Northern Virginia

## How is the economy faring in your part of the state?

In the D.C. area, there's always a concern around what happens with the government, but in general, it's faring very well, and one of the areas of significant growth and opportunity is in small business, which is where I spend most of my time.

## What local industry/sector do you think has potential for growth?

The technology space in this area has a huge opportunity. We're definitely not Silicon Valley or New York yet in that aspect, but we have a highly educated population and a young workforce that can really make a huge impact.

## What's the biggest challenge to doing business in your area?

I've have to say that regulation is really stifling on local businesses — with people who cross from D.C./Maryland/Virginia each day, businesses are often responsible for administration in the three jurisdictions, as well as many localities that also have requirements (and costs) for businesses.

## What impact would a recession have on businesses in your area?

Small businesses are dependent on demand — they can often



## Aaron L. Peters, CPA

President and CEO

Peters & Associates PC  
*Falls Church*

create it through innovation, but a recession in an area such as ours that has such a high cost of living could make it really tough for businesses to survive and would likely have a negative impact on the growth of businesses and innovation.

## What are the top two factors that have had the biggest impact on attracting business to your region?

This one is pretty simple to me — 1) tax policy/incentives and 2) availability of an educated workforce. ■

# Southwest Virginia



## Hope F. Cupit, CPA

President and CEO

Southeast Rural Community  
Assistance Project Inc.  
Roanoke

### How is the economy faring in your part of the state?

In Southwest Virginia, we have many challenges. We have the weakest economic growth of all the regions in the state. We have declining populations ... not to mention [that we] have lost jobs in certain industries, e.g., coal. ... We are [also] losing jobs in the water and wastewater sector as well. This makes it hard for us to find qualified workers.

### What local industry/sector do you think has potential for growth?

Strong private-sector growth is needed, and several industries

come to mind. We can't put our eggs in one basket because having a diverse economy is essential for Southwest Virginia. Industries with growth potential are information technologies, energy, minerals, manufacturing, agriculture, and food and beverage. ... The craft beer industry has exploded in our region.

### What's the biggest challenge to doing business in your area?

We live in such a rural and remote area that finding a job close by that pays enough to support your family is not happening for most [people who] live here. It is also difficult to find skilled workforces for any industry.

### What are the top two factors that have had the biggest impact on attracting business to your region?

The top two factors that have the biggest impact on attracting business to Southwest Virginia are having existing skilled labor or a pipeline of skilled labor ready to work and having a tax structure that entices businesses to operate in the area. The other consideration for attracting business is to make sure that there is adequate housing for the workforce. ■

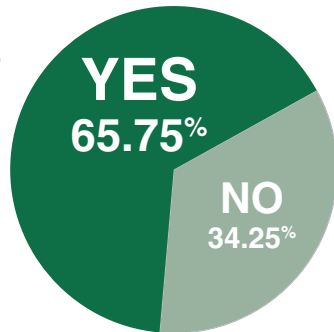
# The results

The Virginia Society of Certified Public Accountants' (VSCPA) Economic Expectations report highlights several key issues impacting Virginia businesses, ranging from the economy to taxes and workforce. The

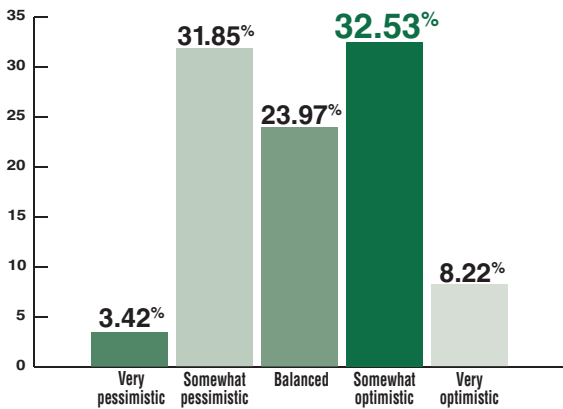
survey was sent to 8,439 VSCPA members in August. The survey had 292 respondents, yielding a 3.5% response rate. About 44% of the respondents work in public accounting. The rest work in corporate finance and

other sectors. A majority of people taking the survey (48%) represented businesses with 51 or more employees; 40% represented companies with two to 50 workers; and the rest had sole proprietorships.

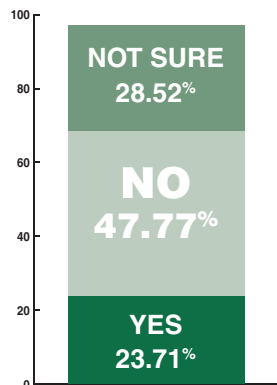
**Q1** Do you believe the U.S. economy is moving in a positive direction?



**Q2** Describe your economic outlook on the \*national\* economy for 2020.



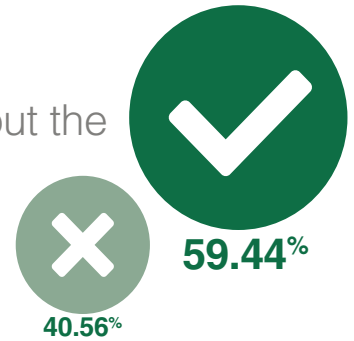
**Q3** Do you expect a recession in the next twelve months?



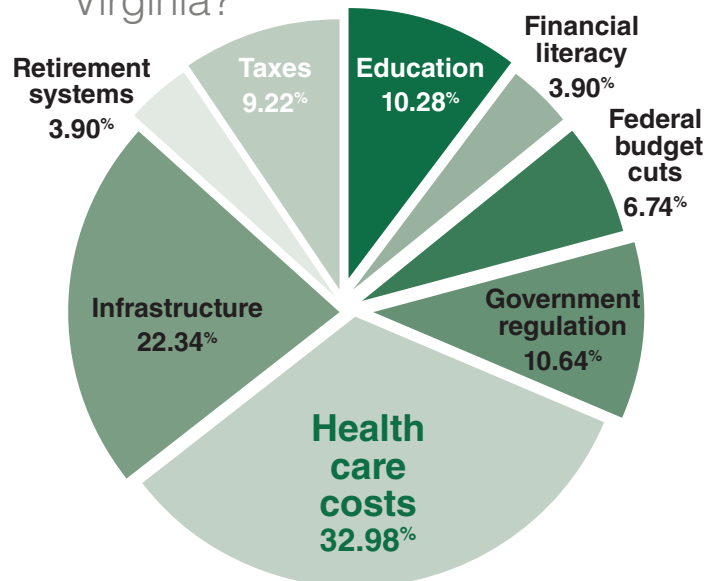
**Q4** U.S. trade policy will have the following effect on the economy:

**Positive: 29.41%**  
**Negative: 64.36%**  
**Neutral: 6.23%**

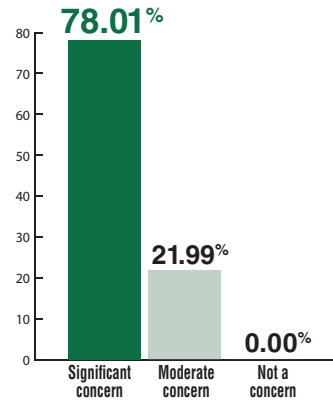
**Q6** Do you have concerns about the impact of U.S. trade policy?



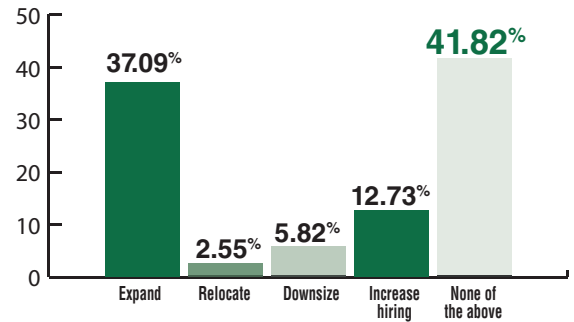
**Q9** Which issue, in your opinion, is the most pressing issue for Virginia?



**Q10** How much of a concern is cybersecurity for the accounting profession?

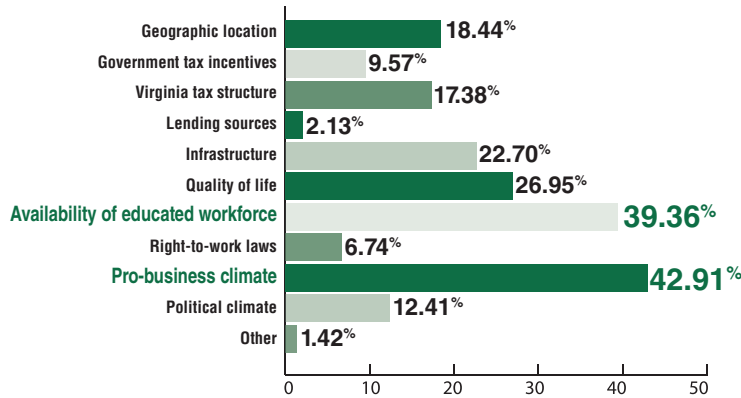


**Q17** In 2020 will your business or company...?

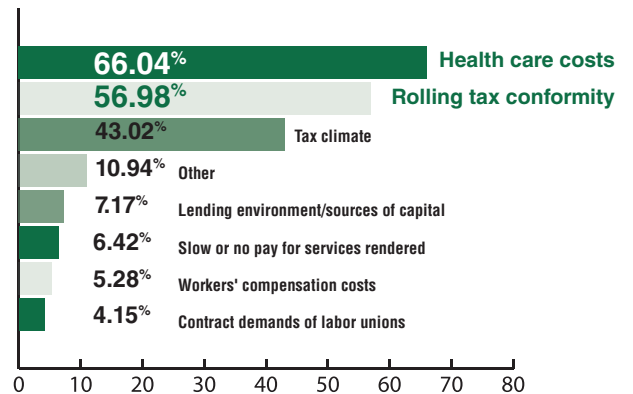


**Q11** Has your organization been a victim of a cyberattack in the last year? **Yes: 18.79%**  
**NO: 81.21%**

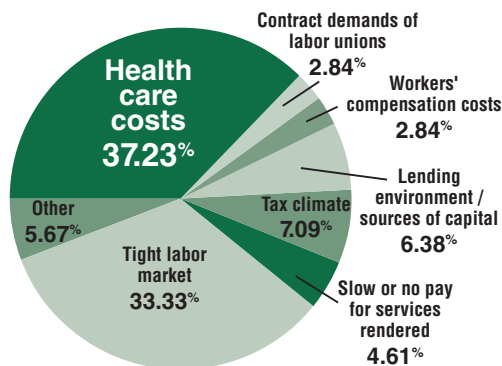
**Q14** Please select the TOP TWO factors that have the greatest impact in retaining or attracting new business to Virginia.



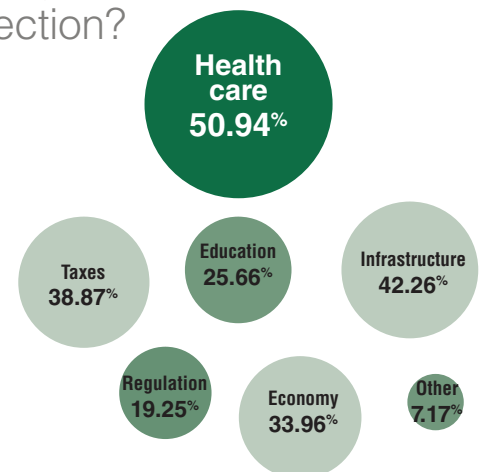
**Q20** Which TOP TWO issues need to be addressed in the 2020 session of the Virginia General Assembly?



**Q15** What would you cite as the TOP financial problem experienced by Virginia businesses?



**Q21** What are the major issues facing Virginia in the 2020 state election?





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